

Appendix D  
Cultural Resources Technical Report

**CULTURAL RESOURCES REPORT FOR THE  
MOJAVE SOLAR ~~ONE~~ PROJECT  
SAN BERNARDINO COUNTY, CALIFORNIA**

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USGS Quadrangle: Lockhart and  
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## EXECUTIVE SUMMARY

Mojave Solar, LLC proposes to develop the Mojave Solar Project (Project) that would be located near Harper Dry Lake, San Bernardino County, California. The proposed Project would use parabolic trough technology to collect solar thermal energy for a combined nominal electrical output of 250 megawatts (MW) from twin 125-MW power blocks. The primary solar energy facilities and associated construction and operations footprint are located within a 1,765-acre plant site (Project area). Project facilities would include a solar array field, steam turbine generator, cooling tower, and a variety of ancillary equipment and facilities. Natural gas for the Project's ancillary purposes will be supplied by a SoCal Gas-owned pipeline that runs to the Project boundary. No offsite pipeline facilities are proposed as part of this Project. The Project would use groundwater for cooling. The Project interconnection is proposed to connect to the Southern California Edison-owned Kramer-Coolwater 230-kilovolt (kV) transmission line located adjacent to the southern border of the Project. Offsite linear facilities would not be required for this Project (e.g., pipelines for water or gas, or transmission lines); therefore, no offsite linear facilities are currently planned.

EDAW AECOM (EDAW) was retained to conduct cultural resources studies, including archaeological and historic architectural surveys in support of preparation of an Application for Certification, which is required by the California Energy Commission (CEC) for power generating plants that produce an excess of 50 MW of energy. In accordance with applicable laws, ordinances, regulations, and standards, an archaeological resources survey and a historic architecture field survey were conducted for the Project area and buffer areas as specified in CEC regulations. A portion of the study area within the required buffer was conducted on lands managed by the Bureau of Land Management (BLM) under EDAW's Cultural Use Permit (CA-06-21) and Fieldwork Authorization dated June 18, 2009. Because so many of the archaeological and built resources appear to be potentially associated, a single, integrated report has been prepared documenting archival and survey results. This integrated report addresses the inventory and significance of both archaeological and historic architectural cultural resources identified within the Project, and identifies potential impacts on cultural resources as a result of this Project.

Field work was conducted by EDAW between May 27 and June 22, 2009. A pedestrian archaeological survey was undertaken to determine what cultural resources are present in the Project area and a 200-foot buffer area as specified by CEC. A historic architecture field survey was conducted in the Project area and a 0.5-mile buffer area, also specified by CEC. Resources located in the study areas that would be 45 or more years old at the completion of the Project were identified and documented.

Prior to field work, archival research was conducted, including a records search to identify any previously recorded sites present within a 1-mile radius of the Project area. The records search identified 15 previously recorded cultural resources within a 1-mile radius of the Project area. Of the previously recorded sites, three sites (P-36-006556, P-36-006557, and P-36-006558) were located within the Project area boundary, three sites (P-36-007429, P-36-007430, and P-36-

006553) were located within the 200-foot archaeological survey buffer area, and an additional nine sites with built resources (P-36-001025, P-2084-99, P-36-006348, P-36-006552, P-36-006555, P-36-006877, P-36-006880, P-36-006881, P-36-006882) were identified within the 0.5-mile historic architectural survey buffer area. The 15 previously recorded cultural resources that were identified in the Project area and buffers included two historic refuse deposits, and 13 historic sites associated with farming or residential structures or complexes that date to the early to mid-20th century. Many of the historic sites had standing structures at the time that they were recorded.

Research also included a review of historical maps, literature, and collections pertaining to the region and focusing on the proposed Project area and its 5-mile vicinity. In addition, the Native American Heritage Commission, local tribal representatives, and local historical societies were contacted regarding information and concerns about cultural resources in the area.

The archaeological survey identified a total of 27 sites and 39 isolates. Five sites and 25 isolated finds were located within the Project area, and an additional 22 sites and 14 isolated finds in the 200-foot buffer area (outside the Project area). The five sites in the Project area that could be impacted by the Project include one prehistoric archaeological site (MS-P-250) and four historic archaeological sites (P-36-007429, MS-H-207, MS-H-246, and MS-H-252). The 22 sites identified in the buffer include two previously recorded historical sites that were relocated (P-36-007430 and P-36-006553), one multi-component site (MS-M-225), and 20 newly identified historic sites. The newly identified historical sites are primarily refuse scatters or dumps that contained combinations of cans, glass, metal, and ceramics. Historic artifacts include solder top, evaporated or condensed milk cans; square cans; side seam cans; church key-opened, or knife-opened, sanitary, food cans; Prince Albert tobacco cans; and amethyst bottle shards. The newly identified prehistoric cultural resources consisted of a flake scatter site and a number of isolated artifacts of various types including ground stone tools, flaked-stone biface fragments, worked flakes, and unmodified flakes. The lithic materials of the flaked stone artifacts included obsidian, chalcedony, chert, jasper, and basalt. The only dual component site contained a historic trash scatter with a single prehistoric obsidian flake. Based on surface materials and condition, the evaluation of the archaeological sites indicates that two sites that are potentially eligible for the National Register of Historic Places (NRHP) and the California Register of Historical Resources (CRHR) are located within the Project area.

The historic architecture field survey identified a total of 19 resources. Six resources are located within the Project area, eight resources within the 0.5-mile buffer area, and five resources that were previously recorded no longer exist. The six resources in the Project area that could be impacted by the Project include three previously recorded historic sites (P-36-006556, P-36-006557, and P-36-006558) and three newly identified resources (MS-B-1002, MS-B-1003, and MS-B-1004). The eight sites identified in the buffer included three relocated previously recorded historic sites (P-36-001025/P-2084-99H, P-36-006555, and P-36-006882) and five newly identified resources (MS-B-1001, MS-B-1005, MS-B-1006, MS-B-1007, and MS-B-1008). Five previously recorded historic architectural resources located within the buffer area (P-36-006348, P-36-006552, P-36-006877, P-36-006880, and P-36-006881) could not be relocated. Evaluation

of the historic architectural resources within the study area identified one significant resource that is eligible for listing in the NRHP and CRHR.

For the purposes of the California Environmental Quality Act (CEQA), there are four historical resources in the Project area. Table ES-1 summarizes the identified cultural resources. Two potentially significant archaeological sites are located within the Project area and would be subject to potential impacts. One significant and one potentially significant historic architectural resource are located within the Project area and would have potential impacts.

**Table ES-1. Summary of Mojave Solar Project Cultural Resources and Impact Assessment**

<b>P-Number/ Temporary Number</b>	<b>Type</b>	<b>Date</b>	<b>Significance</b>	<b>Project Impact</b>
<b>Archaeological Sites</b>				
P-36-006553 (CA-SBR-6553H)	Debris scatter and concrete foundation/historic occupation	Early to mid-20th century (1922–1950)	Potentially eligible for CRHR under Criterion 4	No impact
P-36-007429* (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century	Not significant	No impact
P-36-007430 (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century	Not significant	No impact
MS-H-001	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-004	Debris scatter/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-005	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-011	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-013	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-017	Debris pile/historic occupation	Mid-20th century	Not significant	No impact
MS-H-023	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-024	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-025	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-026	Debris dump/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-207*	Reservoir/foundations/debris scatter	Mid- to late 20th century	Not significant	No impact
MS-H-210	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact

**Table ES-1. (continued)**

<b>P-Number/ Temporary Number</b>	<b>Type</b>	<b>Date</b>	<b>Significance</b>	<b>Project Impact</b>
MS-H-211	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-214	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-216	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-217	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-218	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-221*	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-M-225	Lithic artifact scatter/ prehistoric occupation; Debris scatter/historic occupation	Prehistoric and Mid- 20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-238	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-245	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-246*	Refuse dump/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	Less than significant with mitigation No impact with avoidance
MS-P-250*	Lithic scatter/prehistoric occupation	Prehistoric	Potentially eligible for CRHR under Criterion 4	Less than significant with mitigation No impact with avoidance
MS-H-252*	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
<b>Historic Architectural Resources</b>				
P-36-001025/ P-2084-99H	Farming and residential complex/adobe structure	Early to mid-20th century (circa 1920– 1960)	Not significant	No impact
P-36-006348	Farming and residential complex	Early 20th century	Demolished	No impact
P-36-006552	Farming and residential complex	Early 20th century	Demolished	No impact
P-36-006555	Farming and residential complex	Mid-20th century (after circa 1946)	Not significant	No impact
P-36-006556*	Farming and residential complex	Early to mid-20th century (circa 1911– 1959)	Potentially eligible for CRHR under Criteria 1 and 4	Less than significant impact with mitigation

**Table ES-1. (continued)**

<b>P-Number/ Temporary Number</b>	<b>Type</b>	<b>Date</b>	<b>Significance</b>	<b>Project Impact</b>
P-36-006557*	Farming and residential complex	Mid- to late 20th century (circa 1922–1950)	Not significant	No impact
P-36-006558*	Ranching, farming, commercial, and residential complex; Lockhart General Merchandise Store	Mid-20th century (circa 1922–1950)	Eligible for CRHR under Criterion 1	Less than significant impact with mitigation
P-36-006877	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006880	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006881	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006882	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1001	Residential building	Mid-20th century	Not significant	No impact
MS-B-1002*	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1003*	Wells/water conveyance system	Mid-20th century	Not significant	No impact
MS-B-1004*	Residential/Storage building	Mid-20th century	Not significant	No impact
MS-B-1005	Farming and residential complex	Early 20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-B-1006	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1007	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1008	Residential buildings	Early to mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact

\*Indicates sites and resources located within the Project area.



# **CHAPTER 1**

## **INTRODUCTION**

EDAW AECOM (EDAW) was retained by Mojave Solar, LLC to provide cultural resources studies including archaeological and historic architectural field surveys for the proposed Mojave Solar Project (Project), a combined nominal electrical output of 250-megawatt (MW) from twin 125-MW power blocks. This report was prepared to support an Application for Certification (AFC) submitted to the California Energy Commission (CEC), which must license all thermal power plants over 50 MW proposed in California. This report will also support Federal permits or conditions of certification associated with Federal and State cultural resource agencies. The current investigation was undertaken to identify cultural resources that may be affected by the Project. Although cultural resources studies in support of an AFC are typically separated into archaeological studies and historic architectural studies, this integrated report addresses both the archaeological and architectural resources identified within the Project area due to their symbiotic nature and origins.

### **PROJECT LOCATION**

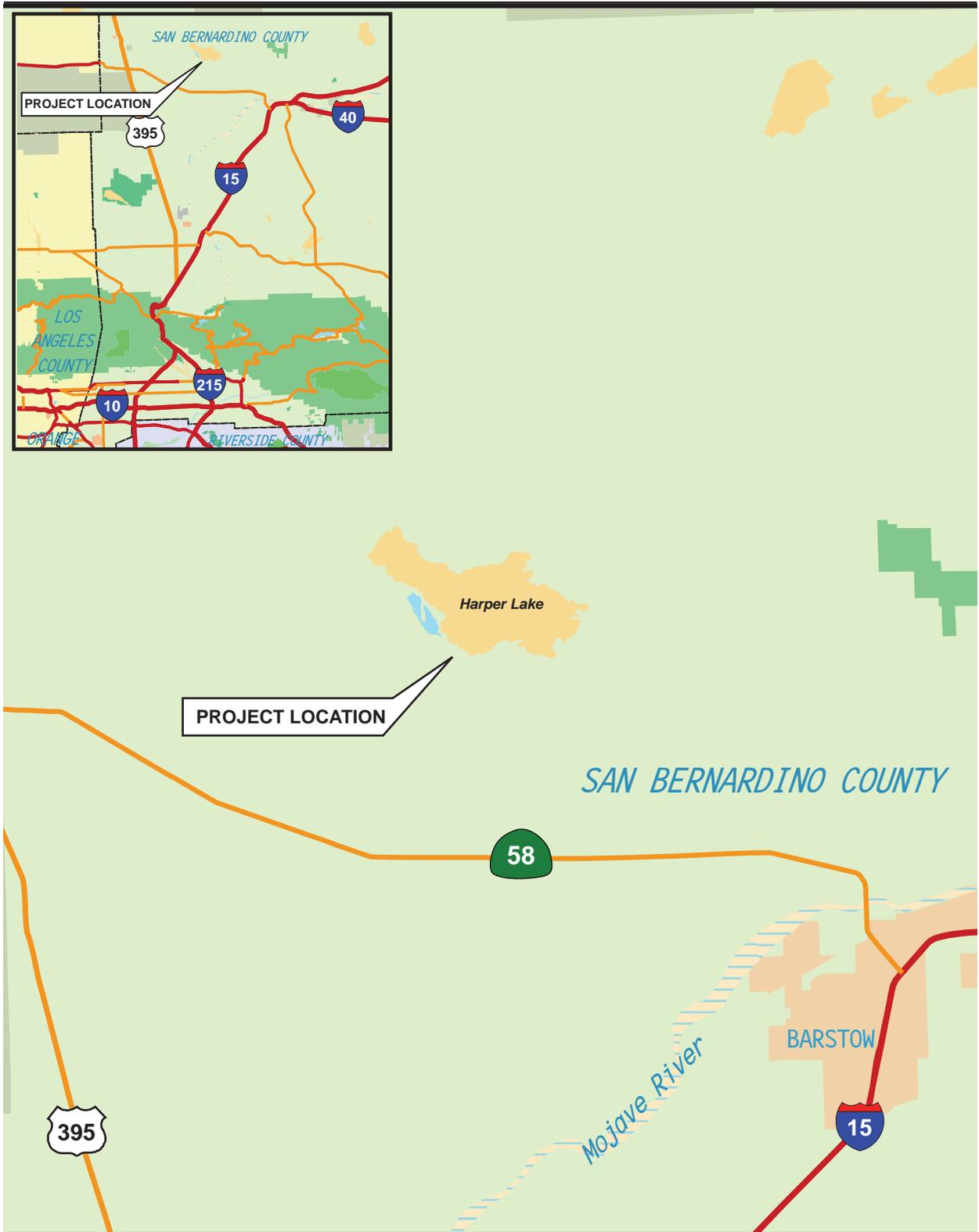
The Project is located approximately 15 miles northwest of Barstow, California, and approximately 9 miles northwest of Hinkley, California, in an unincorporated area of San Bernardino County (Figure 1). The Project is situated near the southwest corner of Harper Dry Lake, an ephemeral alkali lake bed, in the southern section of the Lockhart U.S. Geological Survey (USGS) 7.5" topographical map and the northern section of the Twelve Gauge Lake USGS 7.5" topographical map. The Project area is generally southwest of Harper Dry Lake, surrounding the intersection of Harper Lake Road and Lockhart Road (Figure 2). The extent of the Project area is approximately 1,765 acres and consists of contiguous parcels of private property.

### **SITE DESCRIPTION**

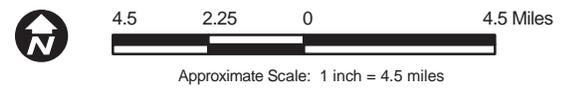
The Project area has a flat topography with elevations ranging from approximately 2,100 feet at the southwest corner to approximately 2,030 feet at the northeast corner. Soils within the Project area were characterized by Ninyo and Moore Geotechnical and Environmental Sciences Consultants (Ninyo and Moore 2006). The Project area is covered in older alluvium consisting of dry, loose-to-medium dense, silty fine-to-coarse sand with occasional gravel. Ninyo and Moore hypothesizes that layers of silt and possibly clay are likely present within the older alluvium.

### **PROJECT DESCRIPTION**

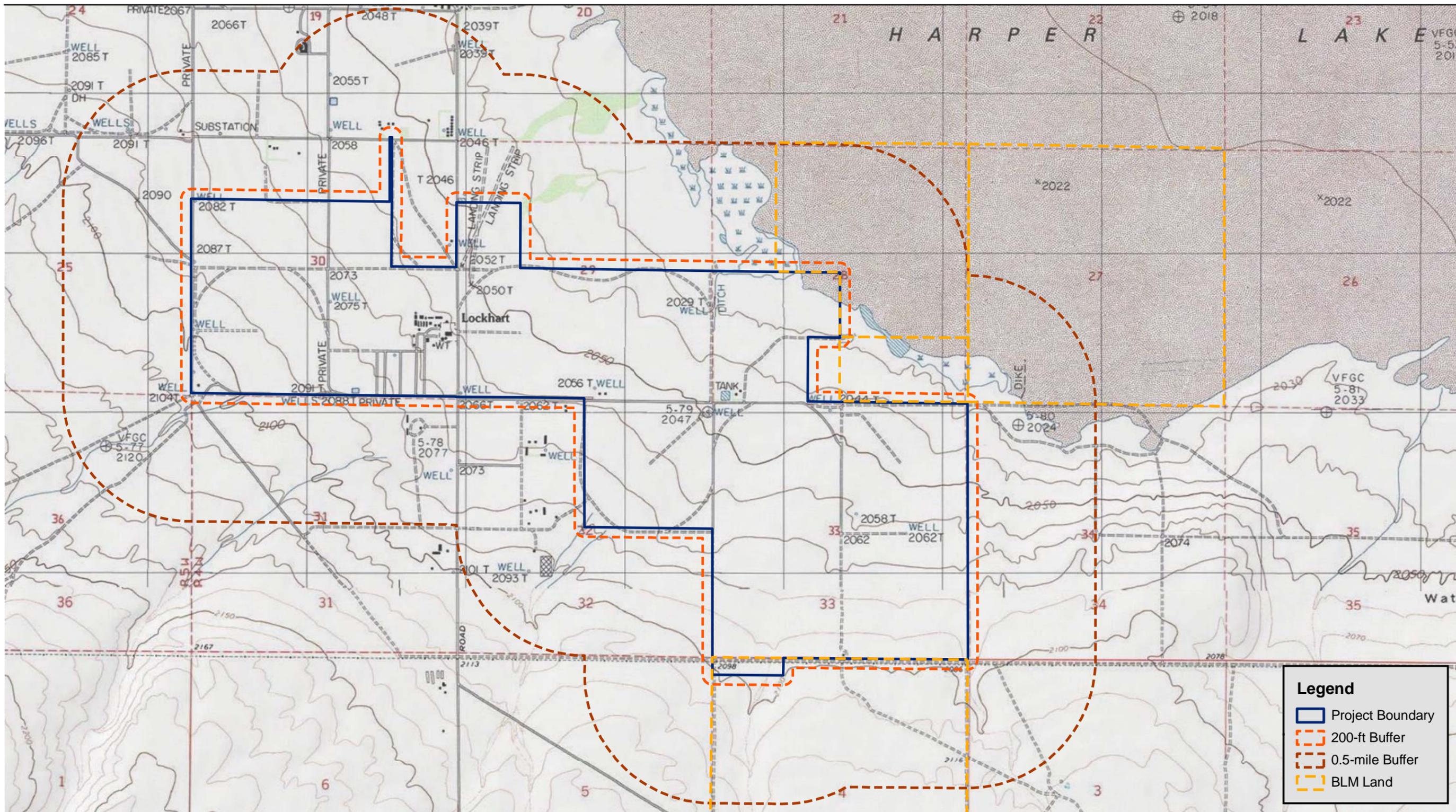
Mojave Solar, LLC proposes to develop approximately 1,765 acres for a 250-MW solar energy plant. The Project will use parabolic trough solar thermal technology to produce electrical power,



Source: Thomas Guide, 2007



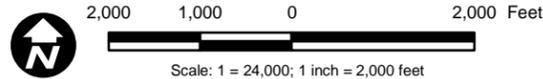
**Figure 1**  
**Regional Map**



**Legend**

- Project Boundary
- 200-ft Buffer
- 0.5-mile Buffer
- BLM Land

Source: USGS 7.5' Topo Quad Lockhart 1986, Twelve Gauge Lake 1973; San Bernardino County May 2009



**Figure 2**  
Cultural Resources Survey Areas



which uses a steam turbine generator fed from a solar steam generator (SSG). SSGs receive heat transfer fluid (HTF) from solar thermal equipment composed of arrays of parabolic mirrors that collect energy from the sun. This is based on the technology that has been successfully used for nearly 20 years at the nine existing Solar Energy Generating System (SEGS) facilities located at Harper Lake, Kramer Junction, and Daggett in the Mojave Desert. This technology involves a modular solar array field composed of many parallel rows of solar collectors normally aligned in a north-south horizontal axis. Each solar collector has a linear parabolic-shaped reflector that focuses the sun's radiation on a receiver located at the focal point of the parabola. The solar collectors track the sun from east to west during the day to ensure that the sun is continuously focused on the linear receiver. The linear receiver contains HTF, a synthetic oil that heats up to approximately 740 degrees Fahrenheit (°F) as it circulates through the receiver and returns to a series of heat exchangers where the HTF is used to generate steam that drives a turbine, which generates electrical power.

The Project will have a combined nominal electrical output of 250 MW from twin 125-MW power blocks. The power blocks will be joined to a transmission line to form one full-output transmission interconnection. Start of commercial operation is subject to timing of regulatory approvals and Applicant achievement of Project equipment procurement and construction milestones. The solar-thermal technology will provide 100 percent of the power generated by the plant; no supplementary energy source (e.g., natural gas to generate electricity at night) is proposed to be used for electric energy production. Each power block will have an auxiliary boiler fueled by natural gas to reduce startup time and for HTF freeze protection. The auxiliary boiler will supply steam to the HTF freeze protection heat exchangers as required during nighttime hours to keep the HTF in a liquid state when ambient temperatures are not sufficient to keep the HTF above its relatively high freezing point (54°F). Each power block will also have a diesel-fueled firewater pump for fire protection and a diesel-driven backup generator for power plant essentials.

The Project interconnection is proposed to connect to the Southern California Edison (SCE) owned Kramer-Coolwater 230-kilovolt transmission line located adjacent to the southern border of the Project. The Interconnection Facilities (IF) Study details the on-the-ground improvements associated with the proposed IF, which are located within the boundaries of the southern portion of the Project area. SCE will lead the permitting effort for the transmission improvements past the Project-specific interconnection to the statewide system as a separate process. All Project-related transmission facilities are within the Project boundaries.

The Project proposes to use wet cooling towers for power plant cooling. Water for cooling tower makeup, process water makeup, and other industrial uses such as mirror washing will be supplied from onsite groundwater wells, which also will be used to supply water for employee use (e.g., drinking, showers, sinks, and toilets). A package water treatment system will be used to treat the water to meet potable standards. A sanitary septic system and onsite leach field will be used to dispose of sanitary wastewater.

Project cooling water blowdown will be piped to lined, onsite evaporation ponds in a common Project area. The ponds will be sized to retain all solids generated during the life of the plant.

However, if required for maintenance, dewatered residues from the ponds will be sent to an appropriate offsite landfill as nonhazardous waste. No offsite backup cooling water supply is planned at this time; the use of multiple onsite water supply wells and redundancy in the well equipment will provide an inherent backup in the event of outages affecting one of the onsite supply wells.

Natural gas for the Project's ancillary purposes will be supplied by a SoCal Gas-owned pipeline that runs to the Project boundary. No offsite pipeline facilities are proposed as a part of this Project.

## **PROJECT PERSONNEL**

Rebecca Apple, M.A., R.P.A., is the Principal Investigator of the Project cultural resources studies. M.K. Meiser, M.A., conducted the archival research, field survey, and evaluation of historic architectural resources, and is the primary author of this report. Theodore Cooley, M.A., R.P.A., acted as field director for the archaeological survey, evaluated archaeological sites, and contributed to the content of this report. Research and content were contributed by Julie Donofrio, M.S., M.C.P. Jamie Cleland, Ph.D., R.P.A., provided senior review for this report. Resumes of key personnel are provided in Attachment A.

## **REPORT ORGANIZATION**

Chapter 1 of this report provides an introduction, the Project description, and information on Project personnel.

Chapter 2 provides the background regulatory, physical, and cultural setting of the Project. The regulatory setting includes summaries of Federal, State, and local laws, ordinances, regulations, and standards that affect the treatment of cultural resources, specifically historic architectural resources. The physical setting includes a description of the climate, hydrology, geology, flora, and fauna in the Project area. The cultural setting includes a narrative on the prehistory and history of the Project vicinity, specifically focused on a 5-mile radius of the Project area, to provide a historical context for any identified historic architectural resources in the study area (Project area and 0.5-mile buffer).

Chapter 3 documents the archival research conducted for the current study, including results from records searches conducted at the San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California, and the Native American Heritage Commission (NAHC). This chapter also summarizes EDAW's contact program with Native Americans identified by NAHC and local historical societies and museums.

Chapter 4 outlines the determination of an Area of Potential Effects (APE), field methods, results, reporting methods, and evaluation eligibility criteria for the California Register of Historic Resources (CRHR) and the National Register of Historic Resources (NRHP), and the results of fieldwork. It provides a summary of each site, and its significance recommendation for inclusion to the NRHP and CRHR.

Chapter 5 provides a summary and management considerations for the Project, including impact assessments for cultural resources within the survey area.

Attachment 1 includes resumes of key personnel on the Project. Attachment 2 includes the results of the records search undertaken at the SBAIC. Attachment 3 is the results of the Native American contact program. Attachment 4 includes Project maps. Attachment 5 contains the California Department of Parks and Recreation (DPR) site forms for cultural resources identified during the cultural resources surveys.



## CHAPTER 2 PROJECT SETTING

### REGULATORY SETTING

#### Laws, Ordinances, Regulations, and Standards (LORS)

The Project will comply with applicable Federal, State, and local LORS throughout construction and operation. Applicable LORS are summarized in Table 1 and briefly discussed below.

**Table 1. LORS Applicable to Cultural Resources**

Laws	Applicability
<b>Federal</b>	
Antiquities Act of 1906, Title 16 United States Code, Sections 431–433	Federal legislation for protection of cultural resources on Federal land.
National Historic Preservation Act (NHPA), Title 16 United States Code Section 470 et seq.	Establishes national policy of historic preservation; requires that Federal agencies consider significant cultural resources prior to undertakings.
Archaeological Resources Protection Act of 1979, Title 16 United States Code Sections 470aa–470mm	Provides protection for archaeological resources on public lands and Indian lands.
Executive Order 11593 of May 13, 1971, 36 Federal Register 8921	Provides for protection and enhancement of the cultural environment.
Secretary of Interior’s Standards for Archaeology and Historic Preservation 48 FR 44716-42	Establishes guidelines for technical reports and standards for evaluation for State Historic Preservation Officer.
Federal Land Policy Management Act of 1976 Sections 1710 (a)(8) and 1740	Establishes that public lands be managed in a manner that will protect the quality of scientific, scenic, historical, and archeological values.
Native American Graves Protection and Repatriation Act, Title 25 United States Code Sections 3001–3013	Provides for ownership of Native American graves and grave goods on Federal lands.
American Indian Religious Freedom Act, Title 42 United States Code Section 1996	Establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. Federal agencies issuing permits are required to comply with this Act if Native Americans identify issues regarding their right to exercise traditional religious practices.
<b>State</b>	
California Environmental Quality Act (CEQA), Public Resources Code Section 21083.2	Requires public agencies to evaluate impacts to cultural resources; provides guidance for evaluating and mitigating impacts.

**Table 1. (continued)**

<b>Laws</b>	<b>Applicability</b>
CEQA Guidelines, Title 14 California Code of Regulations Sections 15064.5, 10564.7, 105126.4(b)	Addresses reburial options for Native American remains and provides for treatment of archaeological discoveries. Encourages agencies to develop thresholds of significance to determine the significance of environmental effects. Outlines mitigation measures related to impacts on historical resources.
CEQA Guidelines, Title 14 California Code of Regulation Sections 15064.5 Appendix G Section V Public Resources Code Sections 5024.1	Environmental checklist for identifying potential disturbances to cultural resources. Establishes the California Register of Historical Resources.
Public Resources Code Section 5097.98	Discusses the procedures that need to be followed upon discovery of Native American remains. Mandates that it is policy of the State to repatriate Native American grave artifacts.
AB 2641	Modifies the process that private land owners follow after discovering Native American human remains (set forth in California Public Resources Code 5097.98).
Public Resources Code Section 5097.99, 5097.991	Establishes that removal of Native American grave artifacts or remains is a felony.
Public Resources Code Section 21084.1	Provides a definition of historical resources and states that projects that cause a substantial adverse change in the significance of a historical resource are projects that may have a significant effect on the environment. Historical resources not listed on the CRHR or other local list may still be considered historical resources at the discretion of the lead agency on the project.
Health and Safety Code Section 7050.5	Establishes procedures for notification in the event of the discovery of human remains. Requires construction to be halted and the County Coroner to be contacted if human remains are encountered. Makes it a misdemeanor to disturb or remove human remains found outside a cemetery.
Health and Safety Code Sections 8010-8011	Provide consistent State policy to ensure that all California Indian remains are treated with dignity and respect. Extends policy to non-federally recognizes tribes, as well as recognized groups.
<b>Local</b>	
San Bernardino County General Plan, Section V.4 – Conservation Element	Provides that the County will preserve and promote its historic and prehistoric cultural heritage.

## **Federal LORS**

### ***Antiquities Act of 1906, Title 16 United States Code Sections 431–433***

This Act establishes criminal penalties for unauthorized destruction or appropriation of “any historic or prehistoric ruin or monument, or any object of antiquity” on Federal land.

***National Historic Preservation Act, Title 16 United States Code Section 470 et seq.***

The National Historic Preservation Act (NHPA) sets in place a program for the preservation of historic properties. Section 106 of the NHPA requires Federal agencies to take into account the effects of projects on historic properties (resources included in or eligible for the National Register of Historic Places). It also gives the Advisory Council on Historic Preservation and State Historic Preservation Offices (SHPO) an opportunity to consult. Federal agencies issuing permits for the MSP would be required to comply with NHPA requirements.

***Archaeological Resources Protection Act of 1979, Title 16 United States Code Section 470aa–470mm***

This Act provides protection of archaeological resources from vandalism and unauthorized collecting on Federal land.

***Executive Order 11593 of May 13, 1971, 36 Federal Register 8921***

This Executive Order focuses on the protection and enhancement of the cultural environment. It outlines responsibilities of the Federal agencies and Secretary of the Interior with regard to cultural resources.

***Archeology and Historic Preservation: Secretary of Interior’s Standards and Guidelines 48 FR 44716-42***

This document establishes standards and guidelines regarding professional qualification requirements for archaeological and historic preservation professionals, technical report format and content, and standards for resource evaluation required by the State Historic Preservation Officer.

***Federal Land Policy Management Act of 1976 43 United States Code Section 1701 et seq.***

The Federal Land Policy Management Act (FLPMA) declares that it is the policy of the United States that public lands be managed so as to protect historical and archaeological resources, and that the Secretary of Interior shall establish rules and regulations regarding resource protection on public lands.

***Native American Graves Protection and Repatriation Act, Title 25 United States Code Sections 3001–3013***

This law provides for ownership of Native American graves and grave goods on Federal lands.

***American Indian Religious Freedom Act, Title 42 United States Code Section 1996***

This measure establishes a national policy to protect the right of Native Americans and other indigenous groups to exercise their traditional religions. Federal agencies issuing permits are required to comply with this Act if Native Americans identify issues regarding their right to exercise traditional religious practices.

## State LORS

### ***California Environmental Quality Act (CEQA), Public Resources Code Section 21083.2***

Under CEQA, the lead agency is responsible for determining whether a project may have a significant effect on historical and archaeological resources. Section 21083.2 states that if the lead agency determines that the project may have a significant effect on “unique” archaeological resources, an environmental impact report shall address these resources. A unique archaeological resource is an artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets one of the following criteria: 1) Contains information needed to answer important research questions and that there is a demonstrable public interest in that information; 2) has a special and particular quality such as being the oldest or best example of its type; or 3) is directly associated with a scientifically recognized important prehistoric or historic event or person.

If it can be demonstrated that a project will cause damage to a unique archaeological resource, the lead agency may require that reasonable efforts be taken to preserve these resources in place or provide mitigation measures. CEC licensing is a CEQA-equivalent process.

### ***CEQA Guidelines, California Code of Regulations Title 14 Section 15064.5***

State CEQA Guidelines define a “historical resource” to include the following:

- Resource(s) listed or eligible for listing on the California Register of Historical Resources (CRHR) (14 California Code of Regulations [CCR] Section 15064.5(a)(1)); resource(s) either listed in the National Register of Historic Places or in a “local register of historical resources” unless “the preponderance of evidence demonstrates that it is not historically or culturally significant” (14 CCR Section 15064.5(a)(2)); resources identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code (14 CCR Section 15065.5(a)(2)). Subdivision (g) provides that:

resource identified as significant in an historical survey may be listed in the CRHR if the survey meets all of the following criteria:

The survey has been or will be included in the State Historic Resources Inventory.

The survey and the survey documentation were prepared in accordance with...procedures and requirements [of the (California) Office of Historic Preservation].

The resource is evaluated and determined [by the Office of Historic Preservation] to have a significance rating of Category 1 to 5 on [the Department of Parks and Recreation Historic Resources Inventory Form].

If the survey is 5 years or more old at the time of its nomination for inclusion in the California Register, the survey is updated to identify historic resources which have become eligible or ineligible due to changed circumstances or

further documentation and those which have been demolished or altered in a manner that substantially diminished the significance of the resource.

Resources identified by such surveys are presumed to be historically or culturally significant unless the preponderance of evidence demonstrates otherwise.

- The final category of “historical resources” is discretionary with the lead agency:

Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, education, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency’s determination is supported by substantial evidence in light of the whole record (14 CCR Section 15064.5(a)(3)).

When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission (NAHC). The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by NAHC (14 CCR Section 15064.5(d)).

#### ***CEQA Appendix G Section V***

This appendix is a checklist that identifies potential impacts to historical, cultural, or paleontological resources. The checklist includes four questions. Would the Project:

- a. Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5?
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5?
- c. Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?
- d. Disturb any human remains, including those interred outside of formal cemeteries?

Questions on the checklist are asked to assess if project impacts would be potentially significant, less than significant with mitigation, less than significant, or have no impact. The final determination of project impacts is made by the lead agency on the project.

#### ***Public Resources Code Section 5024.1***

This section establishes the California Register of Historical Resources (CRHR). A resource may be listed as a historical resource in the CRHR if it meets National Register of Historic Places criteria or the following State criteria: 1) is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; 2) is associated

with the lives of persons important in our past; 3) embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or 4) has yielded, or may be likely to yield, information important in prehistory or history.

***Public Resources Code Section 5097.98***

This section discusses the procedures that need to be followed upon the discovery of Native American human remains. NAHC, upon notification of the discovery of human remains by the coroner, is required to notify those persons it believes to be most likely descended from the deceased Native American. It enables the descendant to inspect the site of the discovery of the Native American human remains and to recommend to the land owner (or person responsible for the excavation) means of treating, with dignity, the human remains and any associated grave goods.

***AB 2641***

This section provides procedures for private land owners to follow upon discovering Native American human remains. Land owners are encouraged to consider culturally appropriate measures if they discover Native American human remains as set forth in California Public Resources Code Section 5097.98. AB 2641 further clarifies how the land owner should protect the site both immediately after discovery and into the future.

***Public Resources Code Sections 5097.99, 5097.991***

These sections establish that it is a felony to obtain or possess Native American artifacts or human remains taken from a grave or cairn and sets penalties for these actions. They also mandate that it is the policy of the State to repatriate Native American remains and associated grave goods.

***Public Resources Code Section 21084.1***

This section sets forth that a project that may cause a significant adverse change in a significant historical resource is a project that may be considered to have adverse effects on the environment. Historical resources not listed in the CRHR or other local lists may still be considered historical resources at the discretion of the lead agency on the project.

***Health and Safety Code Section 7050.5***

This code establishes that any person who knowingly mutilates, disinters, wantonly disturbs, or willfully removes any human remains in or from any location without authority of the law is guilty of a misdemeanor. It further defines procedures for the discovery and treatment of Native American remains.

***Health and Safety Code Sections 8010–8011***

This code is intended to provide consistent State policy to ensure that all California Indian human remains and cultural materials are treated with dignity and respect. The code extends policy coverage to non-federally recognized tribes, as well as federally recognized groups.

## Local LORS

### *San Bernardino County General Plan, Section V.C.2 Policies CO 3.1-5*

Section V of the County of San Bernardino General Plan provides a goal of preserving and promoting its historic and prehistoric cultural heritage. It outlines five policies regarding cultural resources (CO 3.1-5). These include identifying and protecting important resources in areas that have known cultural resource sensitivity and in areas of previously undisturbed ground; establishing programs to preserve the information and value of cultural resources; consulting with tribes as identified by the California Native American Heritage Commission in compliance with California Senate Bill (SB) 18; and ensuring that cultural resources associated with Native American beliefs and traditions be avoided or minimized.

## NATURAL SETTING

### Physiography and Geology

The Project area is located in San Bernardino County, west of Barstow and Harper Dry Lake, in the western portion of the Mojave Desert. The Mojave Desert is the southwestern-most extension of the physiographic Great Basin and forms part of the larger Basin and Range province, which extends south to include the Sonoran and Chihuahuan deserts of Arizona and Mexico. As such, the natural environment of the Mojave Desert is characterized by isolated mountain ranges, low valleys, and internally drained basins. In the western Mojave Desert, the geological boundaries are the Garlock fault to the north and the San Andreas Fault to the south. The mountain ranges are visible throughout the Mojave Desert and the floor is primarily alluvial fill eroded from the surrounding mountains (Schoenherr 1992). Elevations are high enough for annual snowfall.

Within the Project area, there are alluvium, lake, playa, and terrace deposits. The Project area is in proximity to Harper Dry Lake. The once pluvial lake, which is now a playa, formed during the Pleistocene (Cox et al. 2003; Grayson 1993; Snyder et al. 1964 in Apple 1993), and eventually drained internally. During the Pleistocene, lower temperatures and greater annual precipitation levels resulted in pluvial lakes throughout the Great Basin (Grayson 1993). Current evidence suggests that Harper Lake served as the terminal lake of the ancestral Mojave River prior to 500,000 years ago and that it continued to receive periodic inflow from the Mojave River system after the river cut further eastward into the Manix basin. Relict shorelines of at least two late Pleistocene deep water lakes have been documented in the Harper Lake basin, most recently about 25,000 years before present (B.P.) (Cox et al. 2003). It is possible that shallower lakes formed periodically thereafter during major flood events. The last glacial maximum occurred about 18,000 B.P. and deglacial climatic change occurred by 14,000 B.P. (Koehler et al. 2005). Studies of ancient packrat middens in the eastern Mojave Desert demonstrate that the vegetation changes during the Late Holocene are indicative of much cooler and wetter conditions than today (Koehler et al. 2005). The final desiccation of another dry lake in the area, Lake Mojave, occurred between approximately 8,350 ± 300 and 9,160 ± 400 B.P. (Wallace 1978). Today, the southern coast of the lakebed contains protected marshlands (Bureau of Land Management n.d.). The last wet sections of the lake dried up in the 1990s when a main source of water (nearby

alfalfa farming) closed down (Donovan 2003). Due to its dry state, there is currently no interaction with other lakes in the area.

Within the Project area, only alluvium and lacustrine sedimentary deposits of late Cenozoic age are present at the surface. The oldest identified rock formations in the Mojave Desert consist of metamorphosed sedimentary rocks, including gneiss, marble, quartzite, mica schist, gabbro, and conglomerates of pre-Cambrian age. Rock types of the Paleozoic era (230 to 620 million years ago [mya]) include scattered sedimentary and carbonate rock, chert, limestone, sandstone gypsum, and dolomite. Materials of this nature typically formed at the bottom of an ocean and yield fossils ranging from Cambrian to Permian in age. These rock materials are not abundant in the western Mojave, but small outcrops are present within 3 to 5 miles of the Project area, and substantial sections of Paleozoic rock do occur within the El Paso Mountains (Hewett 1954).

While there are no pre-Cenozoic, non-sedimentary formations exposed at the surface within the Project area, there are outcrops of older rock formations within 5 miles of the Project area. Approximately 5 miles to the southeast are outcrops of Mesozoic rocks, including several types of granitic rocks including quartz, and Paleozoic rocks that include gneiss, marble, shale, sandstone, conglomerate, limestone, dolomite, chert, hornfels, marble, and quartzite (Jennings 1977). Mesozoic and Paleozoic rocks also outcrop approximately 3 miles northwest of the western extent of the Project area. The Mesozoic rocks are granitic and the Paleozoic rocks consist of marine sedimentary and metamorphic rocks including conglomerate, shale, limestone, dolomite, marble, gneiss, hornfels, and quartzite (Jennings 1977). While the sediments within the Project area could have provided cobbles that were useful for prehistoric tool manufacture (some of which may have originated from these outcrops), these formations are the closest potential bedrock sources for lithic raw materials for the prehistoric manufacture of ground stone and flaked stone tools.

## **Flora**

The Mojave has a typical mountain-and-basin topography with sparse vegetation. Although a large portion of the Project area is marked by creosote bush (*Larrea tridentate*) which is the dominant plant species of the Mojave Desert (Warren 1984), extant vegetative resources are characterized by moderate species diversity. Lower elevations are dominated by creosote bush, while higher elevations contain yuccas and agaves and then pinion-juniper habitats (Warren 1984). Plant communities within proximity of springs, marshes and streambeds produce tules, cattail and various grass species (Warren 1984).

The majority of the Project area has low vegetative cover, with large expanses of barren areas and some patches of desert scrub dominated by Atriplex (saltbush) species that exhibit an aerial cover ranging from 5 to 50 percent (EDAW 2009). Desert saltbush scrub growing within the Project Area is mainly the result of re-colonization of saltbush species into areas left barren and disturbed following decades of agricultural practices.

In the vicinity of the Project area there are three dominant vegetation communities that include, in order of abundance, desert saltbush scrub, Mojave creosote bush scrub, and Mojave desert

wash scrub. Desert saltbush scrub is most abundant in the vicinity of the Project and is dominated by allscale (*Atriplex polycarpa*) and spinescale (*Atriplex spinifera*). Other shrub species found associated with desert saltbush scrub in the vicinity of the MSP include winter fat (*Krascheninnikovia lanata*), horsebush (*Tetradymia canascens*), and spiny senna (*Senna armata*). Mojave creosote bush scrub in the vicinity of MSP is dominated by creosote bush (*Larrea tridentata*) that are spaced on average 15 to 25 feet apart, with subdominant species mainly represented by white bursage (*Ambrosia dumosa*). Mojave desert wash scrub is present in the vicinity of the MSP within dry washes that lead from all directions to Harper Dry Lake. The dominant species in Mojave desert wash scrub include cheesebush (*Ambrosia [Hymenoclea] salsola*), water jacket (*Lycium andersonii*), and peachthorn (*Lycium cooperi*). Other shrub species found associated with Mojave desert wash scrub in the vicinity of MSP include Johnson's indigo bush (*Psoralea argophylla* var. *minutifolia*), and white bursage (EDAW 2009).

## Fauna

Large fauna species are rare in the Mojave Desert. Rodents, reptiles and birds are more common and are found along the desert floor. Rodent species include various pocket mice (*Perognathus spp.*), whitetail antelope squirrel (*Ammospermophilus leucurus*), and kangaroo rats (*Dipodomys spp.*). Reptile species present include the desert tortoise (*Xerobates agassizii*), desert iguana (*Dipsosaurus dorsalis*), common king snake (*Lampropeltis getulus*), and the Mojave rattlesnake (*Crotalus scutulatus*). More than 300 species of birds are found in the Mojave Desert. A few species more common to the open desert are the prairie falcon (*Falco mexicanus*), burrowing owl (*Athene cunicularia*), roadrunner (*Geococcyx californianus*), and horned lark (*Eremophila alpestris*). Other species found in the Mojave include the blacktail jackrabbit (*Lepus californicus*), desert cottontail (*Sylvilagus audubonii*), and coyote (*Canis latrans*).

Marginal habitat in the form of regrowth desert saltbush scrub exists in areas previous used for agricultural practices or livestock production; however there is a great expanse of relatively undisturbed desert scrub habitat exterior to the project boundary which would provide ample food and shelter for animal species. Due to the conditions described above, animal presence within the project area is thought to be limited to transient movement across the site to reach areas where higher quality habitat exists.

Within the Project area, common animal species observed during project surveys include that zebra-tailed lizard (*Callisaurus draconoides*), side-blotched lizard (*Uta stansburiana*), turkey vulture (*Cathartes aura*), rock dove (*Columba livia*), red-tailed hawk (*Buteo jamaicensis*), horned lark (*Eremophila alpestris*), common raven (*Corvus corax*), sage sparrow (*Amphispiza belli*), house finch (*Carpodacus mexicanus*), Brewer's blackbird (*Euphagus cyanocephalus*), Say's phoebe (*Sayornis saya*), European starling (*Sturnus vulgaris*), ash-throated flycatcher (*Myiarchus cinerascens*), barn owl (*Tyto alba*), coyote (*Canis latrans*), desert cottontail (*Sylvilagus audubonii*), black-tailed jackrabbit (*Lepus californicus*), Merriam's kangaroo rat (*Dipodomys merriami*), and white-tailed antelope squirrel (*Ammospermophilus leucurus*) (EDAW 2009). There were no fish or amphibians detected or expected to occur within the Project area of the vicinity.

## Hydrology

There are no perennial streams in the Mojave Desert west of the Colorado River and east of the Transverse Ranges. The Mojave River, originating in the San Bernardino Mountains approximately 30 miles to the south, and located approximately 12 miles from the Project boundary, is, and has been for several millennia, the primary water source in the area. The groundwater hydrology of the region is principally by subsurface flow from the Mojave River. The Mojave River groundwater basin, beneath the greater Mojave River surface-water drainage basin, is bounded by the San Bernardino and San Gabriel Mountains to the south, extends to Afton Canyon to the northeast, and is bounded by the Lucerne Valley to the east, and the Antelope Valley to the west. As recently (1996) defined by the Mojave Water Agency, the surface-water drainage basin encompasses about 3,800 square miles, and the groundwater basin covers about 1,400 square miles of this area. Generally, the groundwater basin boundary coincides with the contact between nonwater-bearing consolidated bedrock and unconsolidated sedimentary deposits (Stamos et al. 2001). Historic groundwater flow into Harper Valley was through these unconsolidated sediments northward from the Mojave River into the playa lake in the valley. Historically the depth to the groundwater table was shallow with scattered artesian springs more common prior to the advent of Euroamerican land use practices. Prehistorically, such springs may have offered water sources in the vicinity of Harper Lake. While the Mojave River is the main source of recharge to the groundwater system in the valley, in historic times the river only flowed intermittently. During this period, precipitation has also not been a significant source of recharge, as the average annual precipitation has only been 5 inches per year (Andrews and Neville n.d.).

## Climatic History

Knowledge of the paleoenvironment is essential in understanding prehistoric human occupation patterns on the landscape. Climatic changes through time, influenced by temperature and moisture variations, would have determined the distribution and subsistence practices of these human populations. Evidence of paleoenvironmental change for the Great Basin, Mojave Desert and Sierra Nevada region has been well documented (Anderson 1990, Anderson et al. 1985, Mehringer 1986). Through these studies a general picture of environmental change has emerged for the last 10,000 years.

During the late Pleistocene (25,000–10,000 B.P.), temperatures in California were cool and moist resulting in widespread glaciations and the creation of numerous pluvial lakes (Antevs 1955). The climatic conditions in the Mojave Desert and Great Basin reflect cooler and wetter conditions that supported several pluvial lake systems and associated lacustrine resources (Sutton 1996). Archaeological evidence has shown that early sites are often found in association with fluvial shorelines, possibly reflecting a dependency on lacustrine resources (Sutton 1991). After 13,000 years ago, climatic conditions began to change and reflect similarities to those of the present day (Weide 1982). There was a general aridity in the Mojave Desert, resulting in a gradual decline of lacustrine resources.

The Holocene epoch (10,000 years ago to present) saw a general rise in temperatures, bringing warmer conditions to the desert valleys and less precipitation to the surrounding mountains (Chartkoff and Chartkoff 1984). Conditions during the early Holocene (circa 10,000 to 7500 B.P.) were, however, still somewhat cooler and moister than today. Evidence from the central Mojave has shown that water routinely traveled the entire course of the Mojave River. Although climatic conditions were becoming more arid during the early Holocene, a series of shallow lakes formed within the area of Lake Mojave (Grayson 1993). These mesic conditions would have provided exploitable resources such as waterfowl, fish, and some plant species for prehistoric populations. As conditions became more arid, lakes retreated and woodlands began to withdraw to higher elevations, being replaced by desert scrub (creosote bush) (Grayson 1993).

The middle Holocene (circa 7500 to 4000 B.P.) saw a much warmer and drier climate than modern times. Evidence from packrat middens (Koehler and Anderson 1995) suggest that throughout much of the Great Basin, a period of high temperatures and low precipitation was evident during the middle Holocene (Grayson 1993).

The late Holocene (circa 4000 B.P. to present) is characterized by moderately cooler and wetter conditions with punctuated periods of drought (Sutton et al. 2007). Evidence from the Great Basin suggests that there was much environmental variability, including periods of rapid and severe climatic change during the past 3,000 years (Grayson 1993).

## **Modern Climate**

The Mojave is a warm-temperature desert situated between the subtropical Sonoran Desert to the south and the cold temperature Great Basin to the north. The Mojave Desert is characterized by extreme variations in daily temperatures and more arid conditions than other American desert regions. Freezing temperatures occur during the winter, particularly in higher elevation regions. Summers tend to be hot, dry, and windy. Precipitation in the region is highly variable from one year to the next (ranging from 3 to 5 inches per year). Almost all precipitation arrives in the winter, but the region also experiences rare, intense summer thunderstorms. It is during these rare flood events that some of the most dramatic changes take place on the desert landscape.

## **CULTURAL SETTING**

Prehistoric human settlement patterns in the Mojave Desert have been influenced by environmental change. Major climatic periods influenced prehistoric spatial settlement patterns and resource exploitation. In the terminal Pleistocene (circa 18,000 to 10,000 years ago), conditions in the Mojave Desert were relatively cool and wet, and although variable, the early Holocene (circa 10,000 to 7,500 years ago) remained, generally, cooler and moister than today. The middle Holocene (circa 7,500 to 4,000 years ago) saw a much warmer and drier climate than that of modern times, and the climate became moderately cooler and wetter during the late Holocene (circa 4,000 to present), with punctuated periods of drought (Sutton et al. 2007).

Chronologies for the Mojave Desert have been proposed by a number of researchers (Basgall 2000; Bettinger and Taylor 1974; Lanning 1963; Rogers 1939; Sutton 1996; Wallace 1962, 1977; Warren 1980, 1984; Warren and Crabtree 1986, Sutton et al. 2007). There continues to be considerable discussion about each of these chronologies and the dates assigned to the various stages. The Warren and Crabtree (1986) chronology has been one of the more commonly used sequences in the recent archaeological literature. The more recent Sutton (1996, Sutton et al. 2007) revised Warren and Crabtree (1986) in minor respects, adding a Paleoindian period (12,000 to 10,000 B.P.) by reducing the length of the Lake Mojave period; he renamed the Saratoga Springs period to the Rose Spring period and shortened it by 250 years, thus expanding the succeeding late Prehistoric period. None of the recent chronologies, however, differ in critically significant respects from the Warren and Crabtree (1986) chronology, which forms the basis for the following summary.

### **Lake Mojave (circa 12,000–7000 B.P.)**

The Lake Mojave period is considered to be one of extreme environmental change, where the relatively cool and moist conditions of the terminal Wisconsin geological period changed to the drier and warmer climate of the Holocene. The artifact assemblages considered typical of the period include fluted points, leaf-shaped points, and long-stemmed, narrow-shouldered points of the Lake Mojave series as well as crescents, abundant bifaces, and various large, well-made scrapers, and other flake tools. York (1995) states that the use of obsidian is relatively common, with the majority of the material derived from the Coso source. Basgall and Hall (1992) also indicate that there is an apparent preference for using cryptocrystalline silicate for flake tools and basalt for bifaces at Fort Irwin, and Apple and York (1993) found the same phenomena at Silver Lake. Milling equipment is rarely found at Lake Mojave sites.

From the available evidence, it appears that Lake Mojave period groups had settlement patterns focused on pluvial lake shorelines (Hester 1973, Warren 1991, Willig 1988, York 1995). Tool assemblages are consistent with a subsistence system based on hunting, particularly of large game (Cleland and Spaulding 1992, Kelly and Todd 1988, Warren 1986), but not exclusive of other smaller mammals and reptiles (Basgall 1990, Simms 1988, Warren 1990, Willig and Aikens 1988, York 1995).

### **Pinto Period (circa 7000–4000 B.P.)**

Climatic change to increasingly arid conditions occurred during the middle Holocene. Warren (1984) sees this as the beginning of cultural adaptation to extreme desert conditions. There is an ongoing debate on whether the central Mojave was abandoned at this time (Donnan 1964, Kowta 1969, Wallace 1962) or whether occupation continued (Jenkins 1987, Jenkins and Warren 1984, Susia 1964, Sutton 1996, Tuohy 1974, Warren 1984) but with changes in population density, subsistence practices, and technology (Warren 1986). The artifact assemblages associated with this period include Pinto points; heavy-keeled scrapers; choppers; small, flat milling stones; and manos (Warren 1986). Warren (1986) postulates that the Pinto culture evolved from the hunting complex of the Late Mojave period representing “a small population dependent upon hunting and gathering, but lacking a well-developed milling technology.” He also suggests that the

population moved to the desert margins and oasis sites such as water holes, springs, and streams where the occupations tended to be temporary and seasonal.

### **Gypsum Period (circa 4000–1500 B.P.)**

The Gypsum period corresponds to the onset of late Holocene neoglacial cooling, sometimes referred to as the Little Pluvial. In the Mojave, this was a time of increased effective moisture and was marked by a significant increase in the occupation of the area, especially new streams (Elston 1982, Sutton 1996). The artifact assemblage diversified, including several Projectile point types (Elko Eared and Corner-notched, Gypsum Cave and Humboldt Concave Base), increased use of manos and metates, and the introduction of new technologies such as the mortar and pestle and the bow and arrow. In addition, evidence of contact with other cultural areas, such as the California coast, is indicated by *Haliotis* and *Olivella* shell beads (Warren 1986). Warren (1984) also suggests that mesquite processing was first exploited during this period and that the greater productivity of this period, coupled with the refinement of hunting and seed processing technologies, increased the ability of the region to support increased population growth (Warren 1986).

### **Saratoga Springs Period (circa 1500–750 B.P.)**

The Saratoga Springs period is one of strong regional developments according to Warren (1986), including the Northwestern Mojave, the Eastern Mojave, and the Southern Mojave. The artifactual assemblage is characterized by Eastgate and Rose Spring Projectile points in the northwestern and northeastern areas, while to the south along the tributaries of the Colorado River, Anasazi influence is seen in Cottonwood and Desert side-notched Projectile points and the introduction of paddle-and-anvil brown and buff ceramics (Lyneis 1989). Subsistence appears to rely more heavily on small fauna such as rabbit and tortoise and less on deer (Warren 1986). There is an intensified use of vegetal resources as evidenced by the high frequencies of ground and battered stone, and the milling assemblages contain larger numbers of nonportable, expedient milling slabs and utilized handstones (Basgall and Hall 1992).

### **Late Prehistoric Period (circa 750–200 B.P.)**

It has been suggested that Numic-speaking Paiute and Shoshone groups entered and occupied the area at this time (Bettinger and Baumhoff 1982, Fowler 1972, Miller 1986, Warren and Crabtree 1986), based on a widely distributed artifact assemblage that included Desert side-notched points and brownware ceramics, as well as linguistic evidence.

### **Ethnographic Background**

Ethnographic evidence suggests that the Vanyume, a subgroup of the Serrano Indians (Hopa 1980, Macko et al. 1993) were the prehistoric occupants of the region. By 1900, the group was largely extinct as a result of pressures from the Euroamerican settlement. As early as 1776, Father Francisco Garcés found several small villages of Vanyume along the Mojave River. Three miles west of Afton Canyon, he found a village of 25 and, a few days later, near Barstow, his

party was fed rabbits and acorn mush in a village of 40 people. He also found villages of Vanyume near present-day Helendale and 15 miles farther on a village of 70 people. As he continued west, he encountered a small settlement of five huts and a village of 80 people (Black 1986). Although little is known of the Vanyume (Bean and Smith 1978, Strong 1929), it is believed that they primarily occupied the areas around the Mojave River where water and plant resources were available.

In addition to the Vanyume, this portion of the Mojave Desert was visited by members of several native groups. Sutton et al. (2007) indicate the Project area to be marginal to three groups: the Serrano (Vanyume), the Kitanemuk, and the Desert Kawaiisu. As Earle (2003) discusses in his study of native use and occupation of the Fort Irwin area, the Central Mojave Desert has been reportedly exploited by people from a number of groups, including the Chemehuevi/Southern Paiute, Mohave, and perhaps the Desert Kawaiisu.

## **Historical Background**

### ***Regional History***

As early as the 1770s, when the Spanish explorers came through the area utilizing existing Native American trails, the region began to play a large role in the development of a western transportation corridor. Most who wished to travel into or out of southern California passed through the Barstow area. This travel route remained a major link between Los Angeles and points east until the railroad arrived in the desert in the 1880s.

Development in the area was directly connected to the arrival and growth of the railway lines. The Southern Pacific Railroad tracks reached Waterman Junction (later named Barstow) in 1882. Southern Pacific selected Calico Junction (now known as Daggett) for its depot, telegraph office, and eating establishment (Moon 1980). The arrival of the Southern Pacific Railroad contributed to a growing number of miners, merchants, and professionals in the area (Keeling 1976). In addition, the discovery of silver and borax in the Calico mines drove the construction of branch railroads.

As the influence of the railroad declined, Route 66, which runs through downtown Barstow, brought visitors to the area via automobile. The popularity of the automobile and the construction of the Interstate Highway System contributed to the growth of the area as well as transformed Barstow into a transportation hub.

### ***Agriculture in California***

The following information is taken from *A Historic and Archaeological Context for Agricultural Properties in California* and *Water Conveyance Systems in California* created by the California Department of Transportation (Caltrans 2007, JRP and Caltrans 2000). These contexts provide the framework for identifying rural development in California.

Agricultural production has always had a strong role in the development of California. However, it was large-scale agricultural production that had the greatest impact on the political, environmental, and economic prognosis of the state (Pincetl 1999). The event that officially gave

rise to large-scale agriculture in California was the discovery of gold in 1848 and the subsequent Gold Rush. This brought a wave of entrepreneurial settlers looking to make a new life and means to an income, and bringing experimental ideas for agricultural production (Caltrans 2007).

This coincided with the end of the Mexican-American War and the passage of large tracts of land from the previous rancho pattern of ownership into new hands (Caltrans 2007). The subdivision of large tracts of land for private ownership was facilitated again through the Homestead Act of 1862. This act made millions of acres of public domain available for private purchase and ownership. Although this practice had been unofficially underway for many years, this act spurred increased land ownership among enterprising citizens, known as “homesteaders.” The ability to own land fit into the American ideal of that day of hope, freedom, laissez-faire economics, and manifest destiny. California was the land that epitomized these principles, yet also bred an environment of competition and the constant challenge for the next innovation (Caltrans 2007). California at the turn of the century was an epicenter of urbanization, population growth, industrialization, and innovations in technology. Urban areas exhibited these trends more so than the outlying areas, but populations were simultaneously also seeking property in the countryside, hoping to return to the agrarian life (Caltrans 2007). This sole proprietary style of farming was short-lived, however, as irrigation played more of a role in farming. As development spread at a greater pace into arid regions, mass irrigation was necessary and it became beneficial for farmers to form farming communities to make irrigation methods more efficient. Communities became irrigation districts once these were enabled by the Wright Act of 1887 (Caltrans 2007). The Wright Act provided the right for these publicly held irrigation districts to gain access to water resources and rights of way above the rights of private landholders. This gave them the power of eminent domain. From the late 1800s onward, irrigation and the availability of water would change the face of California and its development patterns.

The area that experienced the most growth during the initial growth period of the late 1800s was the Central Valley, advantageously situated near the Sacramento-San Joaquin River Delta, formed by the confluence of the Sacramento and San Joaquin Rivers. Second to this region was Los Angeles and San Bernardino County, which in 1888 had 21 percent of the irrigated land in the state (JRP and Caltrans 2000). Formation of irrigation districts proliferated, especially in the Central Valley. The peak of district formation was during the World War I (WWI) boom of 1917 through 1925. Many districts partnered with power companies like Pacific Gas and Electric and San Joaquin Valley Light and Power to gain the necessary financial backing. This union of power companies with water companies was prophetic for the future of water rights in the state. Areas with the greatest access to irrigation and power held the highest value, had the greatest growth, and became economic powerhouses for agriculture from that day forward. The largest and most influential of these were in the San Joaquin Valley, the Sacramento Valley, and the Imperial Valley (JRP and Caltrans 2000).

In Southern California, dryer conditions and geographic isolation made commercial agriculture less promising. However, the arrival of the Southern Pacific Railroad in the 1870s and the discovery of the agricultural potential of citrus in Los Angeles and Orange counties allowed this region to thrive. Irrigation districts were not as common for agriculture in this region. In San

Bernardino County, gravity-fed irrigation systems were the norm. The structure of the soils and water features coming out of the mountains led to the capping of buried river channels that created large subsurface flows. Although it was important for growth, agriculture was not as important to the Southern Counties of California as in the north and the Central Valley. This especially became true after World War II (WWII), when mass suburbanization overtook prime agricultural land (JRP and Caltrans 2000).

The Mojave Desert, which encompasses parts of San Bernardino, Riverside, Inyo, and Kern Counties, has a climate and geomorphic characteristics that made access to water and agricultural development challenging. Regardless, the region became a primary producer of alfalfa early on. In the southernmost portion of the desert, the Imperial Irrigation District was formed in 1911 through the acquisition of smaller water companies. The district became the largest irrigation district in the state through this acquisition of several smaller districts. Its success was based on its proximity to the Colorado River, and a vast network of canals and pipelines, which continued to expand for decades. Other attempts at mass irrigation in the county were relatively unsuccessful due to the lack of major rivers and harsh climate (JRP and Caltrans 2000).

### ***History of the Project Area***

The history of the early Harper Lake homestead community and its transition into the Lockhart ranching community has been comprehensively documented in previous studies conducted by Greenwood and Associates. Most notably of these is Mark T. Swanson's *History of the Harper Lake Community*, researched and written in 1988. In that study and in subsequent studies, Swanson interviewed several local long-term residents and compiled a baseline history for the area. The following narrative relies on much of the research conducted in the Greenwood and Associates studies.

San Bernardino County surveyors measured the section lines of the rectangular grid system for the Harper Lake area in 1856. At that time there were no land improvements in the area. In 1872, C.S. Black established a cattle ranch just east of Harper Lake. Black built an adobe house, and the Black Ranch was the only settlement within the Harper Lake Valley for decades. The west side of Harper Lake was not settled until the early part of the 20 century. The first homesteaders on the west side were Henry and Emma Spenker, who arrived in 1911 and filed for a homestead patent on the southwest quarter of Section 28 (Township 11 North, Range 4 West). The Spenkers hoped to create a small farming community based on irrigation. Spenker maintained an alfalfa ranch by creating irrigation ditches and building an irrigation reservoir. The Spenkers also planted orchards and raised chickens and turkeys (Swanson 1988).

Eleven additional homestead patents were issued by the Bureau of Land Management (BLM) between 1921 and 1929. A patent for the southern half of Section 30 (Township 11 North, Range 4 West) was awarded in 1921 to James M. Maclachlan, who in turn sold portions to William A. and Elsie Davis and James T. Weatherald (Hampson 1990). The Davis and Weatherald families constructed homesteads on this land. In 1921, a two-room school was constructed from the lumber of an abandoned homestead. This building was also used as a community center and a church (Swanson 1988). Although BLM listed all homesteaders as residents of Hinkley, local residents considered themselves a separate community. Underground water was most accessible

at lower elevations near the lake bed. Each homestead installed its own well, and irrigation ditches were constructed to permit year-round farming. However, many homesteaders were not permanent residents.

In 1925, business partners Victor York and L.M. (Lester) Lockhart obtained a desert land entry patent to the north half of Section 24 (Township 11 North, Range 4 West) (Hampson 1990). This area became the core of the York Ranch, with the York house and reservoir located on this land. York served as president of the York-Smullin Oil Company that operated the ranch, and Lockhart served as the secretary. The York Ranch used diesel pumps to dig deep wells for flood irrigation. Likewise, the Evans Ranch, established by Hugh Evans in 1930, developed an extensive irrigation system. Evans had obtained the former Davis property and established a ranch and alfalfa farm that included his residence and several new buildings. Evans constructed a water tower, reservoir, two hay sheds, and a horse barn. Together, the enterprises of the Lockhart and Evans ranches dominated the area, eventually edging out smaller farms, including the Spenser farm. By the end of the 1930s, alfalfa was only grown on the York and Evans ranches.

During Prohibition in the early 1930s, the York Ranch became a local center of moonshining until it was raided in 1932. The property then changed ownership several times until it reverted to the sole ownership of L.M. Lockhart in 1937. Three years later, Lockhart also acquired the Evans Ranch, giving Lockhart the vast majority of land holdings in the community. Lockhart's influence was widespread, and the community began to be known as Lockhart. Lockhart's land holdings increased in the early 1940s. However, he sold the York Ranch and made an effort to sell the Evans Ranch (Hampson 1990).

The introduction of electricity into the valley after World War II had a tremendous impact on ranching and farming activities. The first California Electric substation was constructed in Harper Lake in 1947. Once electricity was available, the area developed as more settlers arrived. Among those to arrive, the Most family purchased the York Ranch in 1946 and lived in the old York house until 1955 when the family sold the property back to Lockhart. With this purchase, Lockhart again owned the largest cattle ranch and farm complex in the area. In 1949, Lockhart invested the money from the sale of an oil company into expanding and improving the cattle ranch. By 1951, it was one of the largest farming industries in the Mojave Desert (Hampson 1990).

Lockhart Ranch was projected to have the potential to accommodate up to 5,000 cattle and six sub-industries, including alfalfa farming, a mixing plant, a dehydrator, a general store, a poultry ranch, and a hog farm. Only three of these industries came to fruition as the failure of the dehydrator did not allow for the establishment of a poultry or hog farm (Hampson 1990). In 1951, the ranch had seven wells and a large flood irrigation system, and plans for installing seven additional wells. In 1953, with the opening of the General Merchandise Store, Lockhart became a destination. The building cost \$365,000 to construct and was one of the largest buildings in the valley (Hampson 1990). Visitors came from places as far away as China Lake to shop and buy prize cuts of meat. Though Lockhart became more visible, the community remained a small enclave of approximately 200 people, most of whom worked for the Lockhart Ranch. The social life of the ranch revolved around the Lockhart family. L.M. Lockhart almost always traveled by

plane; he owned a DC-3 and a twin Beech (Hampson 1990). The Howard Hughes airstrip located on the dry lake bed provided access to and from the community. The decline of Lockhart Ranch in the late 1950s can be attributed to several factors, including the fact that the ranch never really returned a profit (Hampson 1990). Other factors included Lockhart's divorce settlement from his second wife, a number of bad oil investments, the failure of the dehydrator to function properly, and the fact that the ranch was overstaffed. Lockhart parted with the ranch in 1958.

Boys Town International, a corporation operated by Arnold J. and Willie Mae Dittmar, briefly owned the ranch. The Dittmars ran the ranch in the same manner as Lockhart, though there were rumors they were going to convert it to a boys' ranch. However, they sold off all the movable goods acquired by Lockhart. When the Dittmars failed to pay Lockhart, the ranch reverted back to Lockhart. Lockhart in turn sold the ranch to the Orita Land and Cattle Company in 1962 (Hampson 1990).

Milton Most managed the ranch for the Orita Land and Cattle Company and lived in Lockhart's large ranch house from 1963 to 1972. Most made some changes to the ranch, tearing down unnecessary structures, including the dehydrator and 16 houses for married employees (Hampson 1990). The mill complex was abandoned, and only a minimal crew worked the ranch. Most also introduced the pivot system of irrigation, which allowed the watering of nearly an entire quarter section from one horizontal pipe revolving in a circular motion from a center point in the field. The use of the pivot irrigation system reduced the need for employees and also deemphasized cattle ranching. The Orita Land and Cattle Company operation reached its peak in the late 1960s and early 1970s with 2,800 acres farmed with 22 employees (Hampson 1990). It was a much more successful operation than the Lockhart operation. There were only 500 to 600 cattle on the ranch during this period (Hampson 1990). In 1977, the Orita Land and Cattle Company sold the ranch to Al Cotton. Cotton went bankrupt and in 1979 Milton Most purchased the ranch.

When Most purchased the ranch in 1979, he obtained the area south of Hoffman Road, which separates Sections 19 and 30 (Hampson 1990). This ranch was approximately 1,650 acres. Most continued to farm alfalfa with the pivot irrigation system, but he only raised cattle in the winter months. Alfalfa grown on the farm was sold on the open market. Most constructed the airplane hangar on the complex, but otherwise he left the buildings that were present during Lockhart's tenure. In 1986, surveyors updating the USGS quadrangle map offered to change the name of the community to Most as he had been associated with the ranch for so long. Most declined and the area is still known as Lockhart (Hampson 1990).

In June 1988, Luz Development and Finance Corporation purchased most of the ranch (Hampson 1990). The ranch was leased back to Most until the early 1990s. Luz installed solar energy panels within Sections 19 and 24 on the old ranch land. The remainder of the old ranch and the Project area changed hands before it was purchased by Abengoa Solar, Inc. in 2008 with the intent of installing more solar energy panels. Since the 1990s, the former York, Lockhart, and Most properties, as well as smaller farmsteads and associated buildings in the Project area, have been abandoned and have rapidly deteriorated. Currently, there are no ranching or residential activities in the Project area. The northwest quarter of Section 32 continues to be farmed, and is the only agricultural activity within the Project area.

### ***Groundwater Pumpage and Agriculture***

It has been postulated that Harper Lake's marginal farming success was caused by its limited access to adequate groundwater and lack of a larger network of irrigation. A number of studies have been conducted on the Mojave River groundwater basin. The Harper Lake community is located within the Centro subarea of the Mojave basin. Groundwater depletion is attributed to a number of natural factors, but pumpage is one of the major causes, which was exacerbated by the rise of agriculture in the area.

Pumpage of groundwater began in the 1880s with the colonization of the Mojave Desert by various groups. It escalated with the increased colonization of the region, especially in the more populated areas of Hesperia, Adelanto, and Apple Valley, and contributed to a decreased groundwater level as early as 1920. Drilling wells was the primary method for accessing groundwater, which was used mainly for agricultural irrigation. At least 30 wells were recorded in existence by 1917, which were used to irrigate fields for alfalfa, the main crop of the Mojave region at that time. Although no pumpage data existed prior to 1931, it is assumed that advanced groundwater depletion could have been occurring in Harper Lake by the 1920s (Stamos et al. 2001).

No official recorded statistics on wells or advanced groundwater pumpage in the Harper Lake community are available from before the 1950s, although other sources have indicated their presence. It is assumed that a number existed, but their pumpage was not statistically significant at the time, or they were not monitored because of their low number. Typically wells were constructed in close proximity to the Mojave River, and Harper Lake was more than 10 miles from this source. According to historic pumpage data, significant pumping did not occur in Harper Lake until 1951, peaked in 1971, and showed a significant decrease by 1994. The increase of pumpage has been attributed to the technological advancement of agricultural well pumps. These allowed deeper and more efficient pumping of groundwater, and accelerated depletion of the aquifer. The natural recharge of the aquifer occurred more slowly with the arrival of these deeper wells. As a result, the level of the Mojave aquifer has declined 100 feet since the 1960s (Stamos et al. 2001).

This may be partially a result of the passage of the Physical Solution of 1993. At its peak, the number of wells increased in the Harper Lake area, but the rate of pumpage never exceeded 1,000 acre/feet per year, which was relatively low compared to more dominant agricultural areas.



## **CHAPTER 3**

### **ARCHIVAL RESEARCH AND CONTACT PROGRAM**

As required under CEC siting regulations, archival research was conducted to encompass the Project area, a 1-mile radius for records searches, and an additional 5-mile radius for the focus of the Project's regional historical context. Archival research included a records search conducted at SBAIC to identify previous cultural resources surveys and previously recorded cultural resources within a 1-mile radius of the Project area. Results of the records search are provided in Attachment 2. EDAW also requested a records search of NAHC files for sites or pertinent information known concerning the records search area. EDAW also requested contact information from NAHC for tribal leaders who would be knowledgeable or concerned about the records search area. Copies of the letters of correspondence related to the Native American contact program and consultation are included in Attachment 3.

Additional archival research including the review of maps, literature, and historical collections was conducted to identify potential cultural resources within the survey area, to provide a background from which an appropriate field strategy could be designed, and to establish a historical context on which evaluations of resources could be based. EDAW initiated a contact program with local historical societies and museums requesting relevant historical information.

#### **RECORDS SEARCH**

A detailed records search of an area encompassing the Project area and a 1-mile radius was performed at the SBAIC in 2006. The search reviewed previously conducted cultural resources studies, site records, historical information, and maps. In 2009, EDAW requested an updated records search for the Project area and a 1-mile radius. In a letter dated April 27, 2009, the SBAIC responded that no new records or reports for the records search area had been received by the SBAIC since the 2006 records search. The following summary of the records search results includes only records that are located within the current Project area and a 1-mile radius.

#### **Previous Surveys**

The SBAIC files contained 15 previous studies that investigated cultural resources within the Project area and 1-mile buffer (Table 2). Of the 15 studies, seven (1061803, 1061827, 1061842, 1061910, 1062075, 1062099, and 1063070) investigated some portion of the Project area for a comprehensive survey of the entire Project area. Goodman (1988), Swanson (1988), Hampson (1988 and 1990), Hampson and Swanson (1989), and Hampson and Skinner (1990) document cultural resources assessments for a proposed solar plant with survey boundaries that encompass the Project area. These studies comprehensively covered the Project area and documented the majority of previously recorded cultural resources identified in the current study's Project area and survey buffers.

**Table 2. Summary of Previous Cultural Resources Studies within 1-Mile of the Project Area**

<b>Report Number</b>	<b>Author(s) (Date)</b>	<b>Title</b>
1060125	Southern California Edison (1972)	Environmental Report: Coolwater-Kramer 220 KV Transmission Line. San Bernardino County Museum Association.
1060422	Hearn and Burgess (1976)	Archaeological – Historical Resources Assessment of Section 25, T11N R5W, Fremont Peak Quadrangle, USGS. San Bernardino County Museum Association.
1060775	Sutton (1979)	Cultural Resource Clearance of Oil and Gas Lease Application. San Bernardino County Museum Association.
1061479	Dames and Moore (1985)	Mead/McCullough-Victorville/Adelanto Transmission Project Technical Report: Volume IV, Cultural Resources.
1061748	Brown (1987)	Cultural Resource Assessment: Solar Energy Generating System (SEGS) VIII, Harper Lake, San Bernardino County, California.
1061803*	Goodman (1988)	Cultural Resource Assessment: Solar Energy Generating System (SEGS) Site, Pipeline, and Transmission Line, Harper Lake.
1061827*	Swanson (1988)	History of the Harper Lake Community.
1061842*	Hampson (1988)	Cultural Resource Investigation: Solar Energy Generating System (SEGS) VIII-XII, Harper Lake Area, San Bernardino County, California.
1061910*	Hampson and Swanson (1989)	Cultural Resource Investigation: Five Sections West of Harper Lake, San Bernardino County.
1061911	De Munck (1989)	Archaeological Survey of Gas Pipeline and Transmission Line, Harper Lake Area.
1062075*	Hampson and Skinner (1990)	Site Assessment and Recordation for Solar Energy Generating System (SEGS) IX and X, Harper Lake, San Bernardino County.
1062099*	Hampson (1990)	Cultural Resources Survey: Luz Solar Energy Generating System (SEGS) XI and XII, Harper Lake, San Bernardino County.
1062211	Young (1990)	Archaeological Inventory of a 137.1 mi Long by 200 ft Wide (3316.9 AC) Segment of the Proposed Wycal Pipeline Corridor in San Bernardino County, California. Archaeological Research Services.
1063070*	York et al. (1995)	Class III Cultural Resources Inventory for Los Angeles Department of Water and Power Mead to Adelanto Transmission Line Project: Mt. General, Kramer, and Adelanto Divisions.
1063095	Whitley (1994)	Archaeological Survey, Los Angeles Regional Seismic Experiment, 1994 Route.

\*Indicates studies conducted within the Project area.

The records search identified 30 cultural resources previously recorded within the records search area (Table 3). These include one prehistoric site, 13 historic refuse deposits, and 16 historic sites associated with farming or residential structures or complexes. With the exception of the prehistoric site, the historic resources date to the early to mid-20th century. The refuse deposits primarily contain domestic items, including canisters, bottles, and ceramics. Many of the historic sites had standing structures at the time they were recorded.

**Table 3. Summary of Previously Recorded Cultural Resources within 1-Mile of the Project Area**

<b>Primary Number (P-36-)</b>	<b>Trinomial (CA-SBR-)</b>	<b>Site Type/Constituents</b>	<b>Time Period</b>
000673	673H	Small historic domestic refuse deposit including crockery and glass canning containers, and cooking related extract bottles; burning evident	Mid-20th century
000677	677H	Scattered historic refuse deposit	Early to mid-20th century
000704	704H	Small historic refuse deposit	Early to mid-20th century
000705	705H	Small historic refuse deposit	Mid-20th century (circa 1920–1960)
000926	926H	Historic ranch house complex of Victor York, partner of L.M. Lockhart, including residence, several outbuildings, and a large concrete-lined reservoir	Early to mid-20th century (circa 1920–1960)
001025	1025H	Adobe structure for housing poultry (chickens/turkeys); two residential structures adjacent	Early to mid-20th century (circa 1920–1960)
001227	1227H	Small historic refuse deposit	Early to mid-20th century (circa 1920–1930)
006343	6343	Small prehistoric lithic flake scatter	Prehistoric
006347	6347H	Small historic refuse deposit	Mid-20th century (circa 1931)
006348	6348H	Historical occupation site including a semi-subterranean residence, a possible chicken house, an incomplete residential structure, irrigation facilities, and a scatter of refuse	Mid-20th century (circa 1931–1950)
006552	6552H	Historical former residential complex location (Doane family) and refuse scatter	Early to mid-20th century (circa 1911–1931)
006553	6553H	Historical occupation site including a scatter of refuse, a wood lined well, adjacent concrete slabs, and a second locus containing another foundation made of loosely laid, broken, concrete blocks	Early to mid-20th century (circa 1922–1950)
006554	6554H	Historic refuse deposit containing mostly domestic or household-related materials	Mid- to late 20th century (after circa 1960)
006555	6555H	Historical occupation complex (Barrows family) including a residence, two poultry sheds, miscellaneous outbuildings, a well, and unidentified concrete slabs	Mid-20th century (after circa 1946)
006556*	6556H	Homestead/farm complex including residence, outbuildings, small animal pen, poultry coop, reservoir, and the remains of an irrigation system; automobiles and salvaged building materials also stored on the property	Early to mid-20th century (circa 1911–1959)

**Table 3. (continued)**

<b>Primary Number (P-36-)</b>	<b>Trinomial (CA-SBR-)</b>	<b>Site Type/Constituents</b>	<b>Time Period</b>
006557*	6557H	Homestead complex with residence, two outbuildings, a well, and remnants of an irrigation system	Mid- to late 20th century (circa 1922–1950)
006558*	6558H	Davis/Weatherill homesteads ca 1922–1930; Evans Ranch ca 1930–1940; Lockhart Ranch ca 1940–1962; and Orita Land and Cattle/Most Ranch 1962–present	Mid-20th century (circa 1922–1950)
006571	6571H	Small historic refuse scatter with aqua glass, sanitary can, circular head light rim, and fragments of crockery	Mid- to late 20th century
006735	6735H	Small historic refuse scatter with aqua glass and sanitary cans	Mid-20th century
006873	6873H	Small historic refuse scatter containing sun colored amethyst and aqua bottle glass, porcelain ware and stone ware shards, and a flat oval crimp tobacco tin can	Early to mid-20th century
006874	6874H	Small historical refuse scatter	Mid-20th century
006877	6877H	Rural occupation site containing four structures	Mid- to late 20th century
006878	6878H	Rural homestead site containing 10 structures and remains of an additional structure	Mid- to late 20th century
006879	6879H	Rural homestead site containing seven structures	Mid- to late 20th century
006880	6880H	Ranch headquarters complex including large residential structure for Lockhart Ranch	Mid-20th century
006881	6881H	Rural homestead site containing 16 standing or collapsed structures	Mid- to late 20th century
006882	6882H	Residential site containing 10 standing cement block residential structures and related features; location is also possibly the earlier site of the Harper Lake school house	Mid- to late 20th century
007429*	7429H	Small historic refuse scatter containing amethyst glass shards and wire and board fragments	Early to mid-20th century
007430	7430H	Historic refuse scatter with a variety of contents including crockery, tobacco tins, matchstick filler hole cans, wire, sanitary cans, and boards	Early to mid-20th century
2084 - 99H	99H	Standing adobe structure	Early to mid-20th century (circa 1920–1940)

\*Indicates sites and resources located within the Project area.

In addition to the previously recorded sites, 121 isolated archaeological finds were previously identified within the records search area. The 85 prehistoric isolates consisted of bifaces, other flaked lithics, and groundstone. The records indicate that several isolates were collected. The 36 historic isolates included metal cans, ceramic sherds, glass fragments/bottles, and automobile parts. The records search also identified several sensitive resources near, but not within, the records search area. These resources include rock art and a site with cremations.

## CONTACT PROGRAM

Consultation with local Native American groups and interested parties has been initiated. A letter was sent to the Native American Heritage Commission on June 1, 2009, requesting information on sacred lands and traditional cultural properties, and a list of Native American individuals and organizations that might have knowledge of or concerns with cultural resources within the Project area. A records search of the Sacred Lands File did not reveal any specific site information or specific sites in the Project area and 1-mile buffer. Thirteen Native American representatives were identified by NAHC (Table 4). Copies of correspondence are provided in Attachment 3.

**Table 4. Consulting Parties and Public Participation Contacts by Affiliation**

Name/Title	Affiliation	Dates of Contact	Response
Linda Otero, Director	AhaMaKav Cultural Society, Fort Mojave Indian Tribe	07/14/09	07/14/09 – initial letter sent.
		07/22/09	07/22/09 – left phone message.
		07/27/09	07/27/09 – Ms. Otero requested more information and additional time before she could respond.
		07/28/09	07/28/09 – forwarded response to Ms. Otero.
Charles Wood, Chairperson	Chemehuevi Reservation	07/14/09	07/14/09 – initial letter sent
		07/22/09	07/22/09 – left message. No response to date.
Tim Williams, Chairperson	Fort Mojave Indian Tribe	07/14/09	07/14/09 – initial letter sent.
		07/22/09	07/22/09 – spoke with Ms. Terri Medrano, Chairman’s Secretary, and she requested the information packet again, which was then emailed to her.
Esadora Evanston, Environmental Coordinator	Fort Mojave Indian Tribe	07/14/09	07/14/09 – initial letter sent.
		07/22/09	07/22/09 – left phone message.
Robert Robinson, Historic Preservation Officer	Kern Valley Indian Council	07/14/09	07/14/09 – initial letter sent.
		07/22/09	07/22/09 – Mr. Robinson stated that they are a non-recognized tribe and do not have the resources to gather enough information necessary to comment on this project. They are also concerned that the Project area and buffer evaluated for the Project are not large enough to determine the entire effect the Project would have on the area.
Ernest H. Silva, Tribal Elder	Morongo Band of Mission Indians	07/14/09	07/14/09 – initial letter sent.
		07/22/09	07/22/09 – left phone message.

**Table 4. (continued)**

<b>Name/Title</b>	<b>Affiliation</b>	<b>Dates of Contact</b>	<b>Response</b>
Michael Contreras, Cultural Heritage Program Manager	Morongo Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
Joseph Hamilton, Chairman	Ramona Band of Cahuilla Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – Spoke with Chairman Hamilton’s secretary and she requested the information packet again, which was then emailed to her.
John Valenzuela, Chairperson	San Fernando Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
James Ramos, Chairperson	San Manuel Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – referred cultural resource matters to Ann Brierty (see below).
Ann Brierty, Cultural Resources Coordinator	San Manuel Band of Mission Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – left phone message.
Goldie Walker	Serrano Band of Indians	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – Ms. Walker stated she would look further into this matter and requested a copy of the technical report when completed.
Ron Wermuth	Affiliated with the Tebatulabal, Kawaiisu, Koso, and Yokuts	07/14/09 07/22/09	07/14/09 – initial letter sent. 07/22/09 – Mr. Wermuth stated “No comment at this time.”

A letter was sent to historic societies and potentially interested parties on June 1, 2009, requesting any pertinent information regarding historic or other cultural resources within the records search boundary (Project area and 1-mile buffer). Those contacted were:

- San Bernardino County Museum
- Mojave River Valley Museum
- Mojave Desert Heritage and Cultural Association and
- City of San Bernardino Historical and Pioneer Society.

To date, there have been no responses. Copies of correspondence are provided in Attachment 3.

The Upper Mojave Historical Society was visited in May 2009; no reference library was available.

## **CHAPTER 4 METHODS AND RESULTS**

### **RESEARCH ORIENTATION**

Researchers are constrained with regard to the range of research questions that can be answered based on survey-level data. There are, however, pertinent research issues concerning site distribution, general function and complexity, and temporal placement that survey data can address. The Harper Lake playa area is a closed basin east of the Sierra Nevada. Prehistorically it could have provided food resources such as grass seeds and other plants, as well as some game. Available surface water would have been a limiting factor at least seasonally and through much of later prehistory and the historic periods. Evidence of prehistoric habitation is expected to be limited, and would likely occur near the base of the mountains or on the margins of the only playa in the valley. No substantial middens are expected, although buried cultural deposits have been found in regions where they were not expected (Gardner 2002), and ancient lakeshores have potential for buried cultural deposits (Sutton 1996). Any evidence of habitation is expected to reflect temporary activities of small numbers of people. No in situ lithic outcrops are expected in the Project area and lithic material in the area is generally limited. Small reduction sites focused on cobbles from the nearby mountains are the primary site type that is expected. Limited evidence of food processing (manos and metates) is also anticipated in the Project area.

The historic themes reflected in the context for the Project area suggest that sites associated with early 20th century homesteads, farming and ranching, and power and water conveyance could be encountered during the survey. Anticipated historic period archaeological sites include refuse scatters, farming features and equipment, and possibly early historic dwelling sites or camps associated with the construction of the railroad or the aqueduct. Due to the historical nature of anticipated cultural resources and the potential association between historic architectural and archaeological resources, a single, integrated report has been prepared documenting archival and survey results for both historic architectural and archaeological resources. This integrated report addresses the inventory and significance of both archaeological and historic architectural cultural resources identified within the Project, and identifies potential impacts on cultural resources as a result of this Project.

### **SURVEY METHODOLOGY**

#### **BLM Permit**

EDAW filed a Field Work Authorization Request under a statewide BLM permit (CA-06-21) for the portions of the buffer areas that are on lands managed by BLM. The request indicated areas to be surveyed, supervisory personnel, and survey dates. Maps of the survey areas accompanied the request. A Field Work Authorization was issued dated June 18, 2009.

## **Archaeological Pedestrian Survey**

An archaeological survey of the Project area was conducted by EDAW between May 27 and June 22, 2009. The survey was conducted to identify possible cultural resources that may be impacted by the Project's construction activities. The survey used both USGS 7.5" topographical maps and larger scale aerial photographs. Per CEC requirements, the survey area included a 200-foot buffer around the Project area boundary. Resources located in the study areas that would be 45 or more years old at the completion of the Project were identified and documented.

The Project area was typically surveyed by crew members walking at no more than 20-meter intervals. On BLM land, an interval of no more than 15-meters was maintained to meet BLM permit requirements. When archaeological sites were encountered, the survey crew determined the location of the site using handheld global positioning system (GPS) units and flagged the location for subsequent recordation by a recording team(s). An arbitrary distance of 30 m between artifacts and features was used to divide cultural material into individual sites. Archaeological sites were defined as a cluster of four or more artifacts located within a distance of 30 meters or less from each other. Isolates were defined as three or fewer artifacts within a distance of 30 meters or less from each other, but 50 or more meters from any other artifacts or cultural features. A non-collective strategy was employed during the survey and recordation.

The survey teams were supplemented by follow-up site recordation teams. Site recordation at newly identified sites included photographic documentation, site overviews and detail shots including diagnostic artifacts, site sketch maps, artifact and feature descriptions, and environmental context. Resource boundaries, features, and artifacts were recorded with GEO-XT and XH sub-meter Trimble Global Positioning System (GPS) units and sketch maps were produced. Identified sites and isolates were recorded on State of California Department of Parks and Recreation (DPR 523) forms. Previously reported resources within the survey area were also observed and updated on DPR Continuation Sheets.

## **Architectural Reconnaissance Survey**

Field work was conducted by EDAW between May 27 and June 22, 2009. A historic architecture field survey was conducted in the Project area and a 0.5-mile buffer area, also specified by CEC. Resources located in the study areas that would be 45 or more years old at the completion of the Project were identified and documented.

In May and June 2009, a qualified architectural historian conducted an evaluation of the Project area to determine whether historic buildings and structures were present. To comply with CEC requirements, a 0.5-mile area surrounding the Project area was surveyed for historic buildings and structures. Prior to the survey, available aerial photographs and historic maps of the Project area and 0.5-mile buffer area were reviewed to identify existing structures. Previously recorded resources and newly identified resources were recorded on State of California Department of Parks and Recreation (DPR 523) forms.

## **Documentation**

Sites identified during the survey were documented on appropriate DPR 523 forms. These included Primary Records (Form 523A) and Location Maps (Form 523J), at a minimum. More complex resources potentially required a Building, Structures, and Objects Record (Form 523B), Archaeological Site Record (Form 523C), Linear Feature Form (Form 523E), and/or a Sketch Map (Form 523K). Sketch maps included a site datum and features, artifacts concentrations, and other cultural elements. Isolated finds were noted and their location mapped. Resource locations were determined using a GPS. All completed DPR site forms will be sent to the SBAIC for the assignment of permanent numbers in the state inventory system. DPR forms are included in this report in Attachment 5.

## **SITE TYPES**

The archaeological survey was designed to identify and evaluate archaeological sites to the extent possible from observed surface conditions. The historic architecture field survey was designed to recognize and evaluate historic standing structures. Prior to field investigations, it was important to consider first the types of cultural resources that were likely to be encountered and second the relevance of such resources for the investigation of regional research issues. Based on records search data, sites types common to the Project area are listed below.

### **Prehistoric**

#### ***Lithic Scatters***

This resource category consists of prehistoric artifacts associated with flaked stone tool manufacture and maintenance. They can range from small and sparse scatters to large scatters that both often consist, principally, of flaked stone debitage. The debitage in the lithic scatters is can be as a result of either platform core or biface core reduction activities. Locally, however, these scatters rarely include either cores or tools. The tools that are found are usually expedient tools and the cores are often only fragments. Debitage size is usually associated with the size of the parent material and is variable. Material types vary considerably with the most frequently use materials usually cryptocrystalline silicates such as chalcedony, chert, and jasper. Also noted are obsidian, basalt, and rhyolite. Although lithic scatters are generally interpreted by archaeologists as places where toolstone acquisition, manufacture, and/or maintenance occurred, Native American representatives have pointed out that certain ritual activities also result in the production of scatters of flaked stone materials (e.g., Cachora 1994). Possibly due to either natural causes such as lacustrine and/or alluvial erosion and deposition, or to historic and modern agricultural activities, the context of these scatters often appear to be disturbed.

While lithic scatter sites are normally associated with flaked stone tool manufacture and maintenance, several of the sites in the area have also contained ground stone tools such as manos and metates. If ground stone is found in association with flaked stone materials, definition of an additional site type would be necessary, such as “complex artifact scatter.”

## **Historic**

### ***Farmstead Complexes***

These sites consist of the former locations of historic homesteads and farms. They can contain a variety of remains and features including building and structure foundations, building and structural rubble, wells, landscaping, farm equipment, corrals, water conveyance structures and facilities, and occupation debris and rubbish.

### ***Refuse Scatters and Dumps***

This feature type ranges from small discrete deposits to large sparse scatters. Often these are found along trails or roads, making associations difficult to establish. Historically, the Project area has been associated, principally, with agricultural and ranching activities. Consequently, refuse scatters dating between the mid-1920s to the late 1970s are likely representative of these agricultural and ranching activities through this approximately 50-year period.

## **Isolates**

Isolated finds consist of single, occasionally multiple, prehistoric or historic artifacts. Isolates have been found scattered across the entire project vicinity and may reflect disturbance of the area by natural causes such as lacustrine and/or alluvial erosion and deposition, and/or by historic and modern agricultural activities.

## **RESEARCH ISSUES**

### **Prehistoric Research Issues**

Human occupation in the Mojave Desert extends from the end of the Pleistocene until historic contact, spanning at least some 11,000 years. This substantial time depth provides the potential for research encompassing the entire prehistory and history of humans in the New World. At the end of the Pleistocene Epoch and the last ice age, the Mojave Desert area had a very different climate and habitat, with numerous large pluvial lakes, fed by both abundant rain and melt-water from adjacent glaciers to the north. This environment provided an abundance of resources for the first humans in the New World. By the onset of the Holocene Epoch, circa 10,000 B.P., this environment had begun to change, gradually becoming dryer, and with the eventual disappearance of the glaciers, the desiccation of most of the lakes in the area had occurred by the end of the early Holocene, circa 7500 B.P. The individual history, however, of each of these lakes has been the subject of considerable archaeological research as they apparently did not all disappear at the same time. Fluctuations in the climate through this time may have allowed several to temporarily revive subsequent to the end of the early Holocene. From the early Holocene and into the early middle Holocene, circa 9000 B.P. to 5000 B.P., archaeological sites along the prehistoric shorelines of these lakes show evidence of occupation at different intervals with a broad resource procurement strategy that included both small and large game, indicating that a range of habitats occurred through time (Sutton et al 2007). During this period, changes in the archeological assemblages indicate a subsistence transition from a mainly lacustrine focus to

a more diversified use of other habitats. This is signified by the new occurrence of ground stone and seed milling tools, indicating an increased use of vegetal resources during the late early Holocene and early middle Holocene (Warren and Crabtree 1986, Sutton et al. 2007).

During the latter part of the middle Holocene, from circa 6000 to 4000 B.P., an extremely dry period appears to have occurred in the Mojave Desert area that lasted at least 1,000 years and may have lasted as long 3,000 years in the western Mojave, to possibly 3000 B.P. During this time, human occupation of much of the Central Mojave Desert may have essentially ceased. Following this period, at the onset of the late Holocene, circa 4000 to 2000 B.P., a time of increased effective moisture occurred in the Mojave Desert. During the late Holocene, this increase in viable living conditions in the western Mojave allowed for an expansion of human activity to the area over the next 3,000 to 4,000 years, approximately. During this period, the exploitation of a variety of new habitats with a variety of new subsistence strategies occurred, accentuated by the use of several significant new technologies (Sutton et al. 2007).

The location of the Project area adjacent to an ancient pluvial lake bed (Harper Lake) provides the possibility of a contribution to on-going archeological research for the western and central Mojave Desert concerning the earliest period of human occupation of the area. The unique pluvial history of Harper Lake needs to be considered in this regard. The latest dated late Pleistocene pluvial lake occurred there approximately 25,000 B.P., which is before the earliest generally accepted date of human entry into the Mojave Desert. New World sites dating prior to 15,000 B.P. are all controversial, although sites as early as 30,000 B.P. cannot be discounted totally. Hence, the late Pleistocene shorelines of Harper Lake hold the potential to elucidate the question of whether humans were occupying the Mojave Desert as early as 25,000 B.P. Subsequently, Mojave River overflow could have created shallower lakes or wetlands of sufficient duration to have been of subsistence interest to Native American groups.

Chronology building continues to be a major research emphasis in the Mojave Desert. Consequently, one of the most important aspects of a prehistoric research program for the Mojave Desert should continue to be to aid in the refinement of the regional chronological framework. The occurrence of diagnostic artifacts, and artifacts made of obsidian, in the Project area and vicinity provides the opportunity to verify, and potentially expand, the known parameters of the various complexes defined for the Mojave Desert area. Harper Lake is one of the lesser known and archaeologically explored pluvial lakes in the Mojave Desert area, and so its potential for a contribution of new information could be considerable. While not currently verified by any known sites in the area, sites originally situated along ancient lake shores with the likely build-up of lacustrine sediments and sediments from the in-flow from the surrounding basin, creates the potential for buried resources along ancient shorelines. Such sites more often contain materials suitable for radiometric dating. Any site that contains organic cultural remains suitable for radiocarbon dating could prove useful to aid in the refinement of the regional chronological framework.

In general, the key chronometric topics that might be addressed include 1) the reliability of regional dating methods, 2) issues regarding the earliest phases of human occupation of the region, 3) problems related to the Archaic period occupation, and 4) refinements of the regional

ceramic sequence. Additional areas of research include lithic technology, site formation processes, and trade and travel.

Archaeological research in the Mojave Desert has also not fully answered questions regarding early occupation and subsistence adaptations to fluctuating, and eventual disappearance of, lacustrine environments (Sutton et al. 2007). The differences in the Lake Mojave and Pinto complexes archaeological assemblages of the Early Holocene suggest a period of transition in subsistence strategies from a pluvial lake subsistence focus to a more diversified one encompassing vegetal resources to a greater degree. Warren (1991) proposed that the two complexes are a single cultural tradition with adaptation to changing conditions resulting in a shift to a more broad-based economy over time. The occurrence of artifacts in the Project area dating from the Early Holocene, if associated with these early complexes, could indicate a potential to contribute information to this area of on-going research.

The Project area is located in an area that has been categorized as not containing a substantial human presence during the late Middle Holocene. This period, from circa 6000 to 4000 B.P., was an extremely dry period during which human occupation of the Mojave Desert may have essentially ceased. The Deadman Lake Complex, the only one associated with the latter part of the Middle Holocene, is currently only known from the southeastern area of the desert (Sutton et al. 2007). Following this period, at the onset of the Late Holocene, approximately 4,000 years ago, a period of greater precipitation and elevated lake levels began (Sutton et al. 2007). The Gypsum Cave Complex, the complex most associated with this period, is represented at several sites in proximity to the Project area (Sutton 1996). The proximity of these sites to the Project area suggests that additional information could potentially be gained from sites and artifacts from the Project area.

Beginning approximately 2,000 years ago, according to Sutton et al. (2007), “cultural systems changed dramatically across the Mojave Desert, most notably in the western part of the region.” The complex associated with this change is the Rose Spring Complex. Archaeological evidence from sites associated with this complex, especially in the western Mojave Desert area, include well-developed middens indicative of major population increases, and dramatic and distinctive changes in the artifact assemblages from previous complexes, indicating the presence of new technologies and tool inventories. Pre-eminent of these new technologies was the presence of small projectile points indicative of the use of the bow and arrow as a hunting tool. Recently, Sutton and others (Sutton et al. 2007) proposed a model for culture change in the western Mojave Desert during the Late Holocene. This model attempts to incorporate a number of variables, including “environmental data, linguistic prehistory, changing settlement patterns, and stylistic markers to argue for significant shifts in economic practices, mobility, and the distribution of cultural (i.e., linguistic) groups across the western Mojave between Late Gypsum and Late Prehistoric times” (Sutton et al. 2007). If resources associated with these Late Holocene complexes are discovered in the Project area, they could potentially contribute important information to this area of on-going research.

## Historical Research Issues

Recorded history of the Project area begins with the first homesteaders who arrived in the 1910s, and agricultural development of the arid Harper Lake basin would necessarily be the focus of historical research. Within this context, key research themes would address:

- The early homesteading period, including the introduction and development of family farming and development of initial irrigation systems.
- Subsequent consolidation of landholdings into larger enterprises, supported by larger irrigation systems.
- The mid-20th century development of a small desert community based on significant capital investment in a large-scale cattle ranching enterprise during the Lockhart era.
- The post-Lockhart era of specialized alfalfa production.

Material culture from the early homesteads permeates the landscape. A wave of settlement occurred in the 1910s and 1920s. Remains of historic residential and farm complexes have been previously documented in varying states of integrity. The materials used in construction inform the means by which settlers built and managed their homesteads. Methods of subsistence were an important factor in the success of the early homesteads, and the remains of ploughed fields, irrigation systems, animal pens, and corrals are indicative of historical farming methods. Historic debris and refuse deposits associated with the homesteads are also abundant in the area, and may indicate the availability of goods and the relative wealth of residents at particular dates.

The introduction of farming and ranching in this desert climate area required effective wells and irrigation systems. The technology used by early homesteaders that evolved to eventually accommodate a large-scale ranching and agricultural operation has not been comprehensively defined, and irrigation systems are a significant research issue. When the consolidation of properties under the York, Lockhart, and Most ranches dominated water sources, smaller farms suffered and many folded as a result of the reduction in water levels. Groundwater depletion has been a constant issue, particularly for the area surrounding Harper Lake. The remains of several wells, standpipes, and various related objects have the potential to yield information about the exploitation of limited water resources.

The graduated development of ranching into a hegemonic enterprise by the 1950s affected settlement patterns in the area. It also altered the types of buildings and activities located within the Project area. Material culture from that era informs the past community development associated with the Lockhart Ranch, its predecessors, and its successors. It also indicates the relative wealth and preferences of community members during a prosperous era.

## RESULTS

Project archaeologists performed pedestrian surveys of the Project between May 27 and June 22, 2009. The ground visibility was good, ranging between 60 and 100 percent. During the course of the survey, Project archaeologists identified 66 cultural resources. Twenty-seven are archaeological sites and 39 are isolated finds. Archaeological sites include three previously recorded sites and 24 new sites. The archaeological survey area, along with site and isolate locations are provided on USGS 7.5" topographical maps in Attachment 4.

Eleven previously recorded and eight new historic architectural resources were identified during archival research and the historic architectural field survey. Maps of the historic architecture field survey area and resource locations are provided on USGS 7.5" topographical maps in Attachment 4.

A summary of the identified cultural resources are provided in Table 5, and DPR 523 forms are included in Attachment 5. Resources located within the Project area are indicated with an asterisk (\*).

**Table 5. Identified Cultural Resources within the Cultural Resources Survey Areas**

Resource	Components	Type	Location
<b>Archaeological Sites</b>			
P-36-006553 (CA-SBR-6553H)	H	Debris scatter and concrete foundation/historic occupation	Buffer
P-36-007429* (CA-SBR-7430H)	H	Debris scatter/historic occupation	Project area
P-36-007430 (CA-SBR-7430H)	H	Debris scatter/historic occupation	Buffer
MS-H-001	H	Debris scatter/historic occupation	Buffer
MS-H-004	H	Debris scatter/historic occupation	Buffer
MS-H-005	H	Debris scatter/historic occupation	Buffer
MS-H-011	H	Debris scatter/historic occupation	Buffer
MS-H-013	H	Debris scatter/historic occupation	Buffer
MS-H-017	H	Debris pile/historic occupation	Buffer
MS-H-023	H	Debris scatter/historic occupation	Buffer
MS-H-024	H	Debris scatter/historic occupation	Buffer
MS-H-025	H	Debris scatter/historic occupation	Buffer
MS-H-026	H	Debris dump/historic occupation	Buffer
MS-H-207*	H	Reservoir/foundations/debris scatter	Project area
MS-H-210	H	Debris scatter/historic occupation	Buffer
MS-H-211	H	Debris scatter/historic occupation	Buffer
MS-H-214	H	Debris scatter/historic occupation	Buffer
MS-H-216	H	Debris scatter/historic occupation	Buffer
MS-H-217	H	Debris scatter/historic occupation	Buffer
MS-H-218	H	Debris scatter/historic occupation	Buffer

**Table 5. (continued)**

<b>Resource</b>	<b>Components</b>	<b>Type</b>	<b>Location</b>
MS-H-221*	H	Debris scatter/historic occupation	Project area
MS-M-225	M	Prehistoric lithic artifact; Historic debris scatter/historic occupation	Buffer
MS-H-238	H	Debris scatter/historic occupation	Buffer
MS-H-245	H	Debris scatter/historic occupation	Buffer
MS-H-246*	H	Refuse dump/historic occupation	Project area
MS-P-250*	P	Lithic scatter/prehistoric occupation	Project area
MS-H-252*	H	Debris scatter/historic occupation	Project area
<b>Historical Architectural Resources</b>			
P-36-001025/ P-36-002084-99H	H	Farming and residential complex/ adobe structure	Buffer
P-36-006348	H	Demolished	Buffer
P-36-006552	H	Demolished	Buffer
P-36-006555	H	Farming and residential complex	Buffer
P-36-006556*	H	Farming and residential complex	Project area
P-36-006557*	H	Farming and residential complex	Project area
P-36-006558*	H	Ranching, farming, commercial, and residential complex	Project area
P-36-006877	H	Demolished	Buffer
P-36-006880	H	Demolished	Buffer
P-36-006881	H	Demolished	Buffer
P-36-006882	H	Residential buildings	Buffer
MS-B-001	H	Residential building	Buffer
MS-B-002*	H	Residential buildings	Project area
MS-B-003*	H	Wells/water conveyance system	Project area
MS-B-004*	H	Storage building	Project area
MS-B-005	H	Farming and residential complex	Buffer
MS-B-006	H	Residential buildings	Buffer
MS-B-007	H	Residential buildings	Buffer
MS-B-008	H	Residential buildings	Buffer

\*Indicates sites and resources located within the Project area; H indicates historic component; M indicates multi-component; P indicates prehistoric component.

Cultural resources were assessed for eligibility for inclusion in the CRHR and NRHP. Cultural resources are defined as buildings, sites, structures, or objects, each of which may have historical, architectural, archaeological, cultural, and/or scientific importance. For listing in the CRHR, a historical resource must be significant at the local, State, or national level under one or more of the following criteria:

1. It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;

2. It is associated with the lives of persons important to local, California or national history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values;
4. It has yielded or has the potential to yield information important to the prehistory or history of the local area, California, or the nation.

For listing in the NRHP, a historical resource must be significant at the local, State, or national level under one or more of the following criteria:

- A. It is associated with events that have made a significant contribution to the broad patterns of our history;
- B. It is associated with the lives of persons significant in our past;
- C. It embodies the distinctive characteristics of a type, period, or method of construction, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction;
- D. It has yielded or may be likely to yield, information important in prehistory or history.

All resources nominated for listing must have integrity, which is the authenticity of a historical resource's physical identity evidenced by the survival of characteristics that existed during the resource's period of significance. Resources, therefore, must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association. It must also be judged with reference to the particular criteria under which a resource is proposed for nomination.

## **Site Descriptions and Significance Assessments**

### ***Archaeological Survey Results***

The three previously recorded resources (P-36-006556, P-36-006557, and P-36-006558) located within the archaeological survey area (Project area and 200-foot buffer) included standing structures associated with properties that were active into the 1990s. These resources were updated in the architectural historic resources study (see below). Three previously recorded historic archaeological sites (P-36-006553, P-36-007429, and P-36-7430) were updated as part of the current archaeological survey and recorded on DPR Continuation Sheets.

The systematic pedestrian survey of the Project area and 200-foot buffer identified 24 previously unrecorded archaeological sites. Temporary site numbers (MS-) and information such as general location, content, and condition were noted, and sites were returned to for formal recordation. Twenty-four new sites were recorded on DPR 523 forms (see Attachment 4). Nearly the entire survey area has been disturbed by 20th century activities that consist of agricultural and ranching operations, the construction of various farmstead buildings and irrigation systems, dirt road

formation, and refuse dumping. The Project area was primarily cleared for these activities, and its peripheries contain many concentrations of modern trash scatters.

Of the 24 newly recorded sites, one site was prehistoric (MS-P-250), consisting of a sparse scatter of prehistoric lithic debitage in a 36 m by 36 m area. Four pieces of debitage were tallied. Three of the pieces are flakes with the other piece is a flake fragment. All are cryptocrystalline silicate (CCS), with two of the flakes being a red translucent material, the third flake a brown translucent material, and the flake fragment an opaque brown material. At least two of the pieces appeared to derive from rodent extrusions, possibly indicating a subsurface source.

One multi- (dual) component site (MS-M-225) was recorded. This site consisted of a sparse, historic, refuse scatter and a single prehistoric obsidian flake, in a 37 m by 25 m area. Approximately 13 historic refuse items were tallied, the majority of which consist of cans. Historic materials include church-key-opened beverage cans. Also present are glass shards from a soda bottle, and from amber beer and wine bottles.

Twenty-two new historic archaeological sites (MS-H-001, MS-H-004, MS-H-005, MS-H-011, MS-H-013, MS-H-017, MS-H-023, MS-H-024, MS-H-025, MS-H-026, MS-H-207, MS-H-210, MS-H-211, MS-H-214, MS-H-216, MS-H-217, MS-H-218, MS-H-221, MS-H-238, MS-H-245, MS-H-246, and MS-H-252) were recorded. One of these sites consists of a cement-lined reservoir, several cement foundations and slabs, and the rubble from their demolition. Also present within the site area is a scatter of refuse and trash. The remaining sites contained varying quantities of debris and refuse scatters from the period of historic occupation in the early to late 20th century, but they did not appear to have a direct association with specific residential or agricultural activities. Typical historic material artifacts include church-key-opened beverage cans; knife-cut-opened, non-banded sanitary food cans; condensed milk cans; and floral print and white ware crockery fragments. Also present are various items of unknown antiquity, including pieces of sheet metal; butchered bone; round wire, cut nails; milled lumber fragments; coffee cans; window glass; metal hinges; pieces of metal plumbing pipe; combustion engine parts; amber bottle shards; motor oil cans; and various metal pieces of unknown function.

#### ***P-36-006553/Site CA-SBR-6553H***

Site CA-SBR-6553H was re-identified during the current survey and was found to be much as originally recorded. Within the Project boundary, it consists of a sparse, historic refuse scatter, and a large cement slab (Plate 1) and a contiguous wood and cement-lined well (Plate 2) in a 52 m (172 ft) by 48 m (158 ft) area. The site is partially within the Project buffer, but extends to the north, outside of the Project area and buffer. The original site form indicated the presence of an additional foundation, approximately 150 feet north of the project buffer boundary, and this was confirmed during the survey. Vegetation in the site area is principally saltbush scrub. Approximately 14 historic refuse items were tallied, consisting of sanitary food cans, church key opened beverage cans, white ware crockery sherds, ceramic coffee cup fragment, aqua glass shards, and red brick fragments. Also noted were several chunks or blocks of coarse-grained cement rubble. The slab is at least 26 by 14 feet, but is partially covered with soil. The well is approximately 8 feet long by 6 feet wide. It is open, but currently covered by boards supporting a wire mesh. It is also heavily over grown and is barely visible.



**Plate 1. Cement Slab at Site CA-SBR-6553H**



**Plate 2. Well/Cistern at Site CA-SBR-6553H**

Limited historic research indicates that this site could be associated with historic habitation on the property associated with the dates 1922 and 1939. While some disturbance of the site from erosion is evident, the potential for significant information to be acquired through additional

archival, and possibly archaeological, research for the period dating between 1922 and 1940 provides the basis for potential resource significance under NRHP Criterion D and CRHR Criterion 4.

***P-36-007429/Site CA-SBR-7429H***

Site CA-SBR-7429H was re-identified during the current survey and was found to be located at and to consist of the same materials as originally recorded. It consists of a sparse, historic, refuse scatter, in a 110 m (360 ft) by 68 m (225 ft) area. The original site area was indicated as 25 m (82 ft) by 15 m (50 ft). The incorporation of three, dispersed pieces of metal resulted in the larger boundary in the current survey. The site is situated within a transmission line corridor, within the Project buffer area along the southernmost edge of the property. Vegetation in the site area is principally saltbush and creosote. The site materials originally described were identified during the current survey. Approximately 12 historic refuse items were tallied, consisting of sun-colored, amethyst glass shards, aqua glass shards, hole-in-cap cans, and knife-opened cans. Also present are possibly modern items, including milled wood and several pieces of a wooden crate(s), a concrete block with metal attached, a piece of metal round bar, and a metal band. Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred that served to deform or crush some of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. The presence of several pieces of possibly modern trash also suggests a somewhat intermittent and variable source for these materials. Site CA-SBR-7429H does not meet any of the criteria for eligibility for the NRHP or CRHR.

***P-36-007430/Site CA-SBR-7430H***

Site CA-SBR-7430H was re-identified during the current survey and was found to be located at and to consist of the same materials as originally recorded. It consists of a historic refuse scatter, in a 95 m (310 ft) by 95 m (310 ft) area. The original site area was indicated as 75 m (246 ft) by 20 m (66 ft). The incorporation of a wider dispersal of, principally, cans resulted in the larger boundary in the current survey. The site is situated within a transmission line corridor, within the Project buffer area along the southernmost edge of the property. Vegetation in the site area is principally saltbush and creosote. Approximately 42 historic refuse items were tallied, consisting mostly of cans and of crockery sherds. Can types include Prince Albert tobacco tins; condensed milk cans; church key and knife-opened food and beverage cans; and sardine cans. Also present are clear glass soda and amber beer bottle shards and several pieces of metal and wood of indeterminate age and function. These artifacts are consistent with the types and quantities originally noted for the site. Their distribution, mostly, along an old dirt road is also consistent with the original recordation. Also noted in the current survey were likely modern items.

Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. The presence of several pieces of possibly modern trash also suggests a somewhat intermittent and variable source for these materials. Site CA-SBR-7430H does not meet any of the criteria for eligibility for the NRHP or CRHR.

#### ***Site MS-H-001***

Site MS-H-001 is a refuse scatter consisting mostly of historic artifacts with some modern materials, in a 100 m (330 ft) by 55 m (185 ft) area. Vegetation in the area is principally saltbush. This site is situated along the south side of Lockhart Road, between Harper Lake Road and Lockhart Ranch Road. The location of the scatter, adjacent and parallel to Lockhart Road, may indicate an association with the road. It should be noted, however, that materials were observed to continue to the south, beyond the edge of the Project buffer boundary, in some areas, so the current shape of the scatter area may be misleading in this regard. Three concentrations were noted, with a general scatter of materials in the surrounding area. Including concentrations and surrounding scatter, approximately 179 refuse items were tallied, most of which consisted of cans. Historic materials include solder-sealed, condensed-milk cans; church key opened beverage cans; non-crimped or ribbed sanitary food cans; tobacco cans; enameled metal pots and pans; metal stove pipe pieces; shards of aqua glass; broken glass ware; and white ware crockery. The modern, and likely modern, refuse includes aluminum beverage cans, crimped or ribbed sanitary food cans, and broken amber beer bottles. Also present are various metal pieces of unknown function. Subsequent to the original deposition, materials were moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

The materials found in site MS-H-001 may well be associated with one or more of four mid-20th century homestead sites, located along this section of Lockhart Road, recorded as CA-SBR-6552H, CA-SBR-6555H, CA-SBR-6557H, CA-SBR-6558H. Sites CA-SBR-6552H and CA-SBR-6555H are located south of the road, and CA-SBR-6557H and CA-SBR-6558H are located along the north side of the road. Site MS-H-001 consists of a variety of refuse, with cans and mostly broken bottles predominating. Small concentrations are present, possibly representing piles of discarded trash. Site MS-H-001 likely represents refuse discard and/or dumping from Lockhart Road, but the presence of some farm-related materials indicates that the local farmsteads may have also used this location for refuse discard. Some of the concentrations show evidence of burning, indicating purposeful trash elimination.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Lacking verifiable historical associations, site MS-H-001 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-004***

Site MS-H-004 is an extensive refuse scatter consisting mostly of historic artifacts with some modern materials in a 595 m (1,950 ft) by 60 m (190 ft) area. Vegetation in the area is principally saltbush. This site is situated along the south side of Lockhart Road. The apparent linear shape of the scatter may indicate an association with Lockhart Road. It should be noted, however, that materials were observed to continue to the south, beyond the edge of Project buffer boundary in some areas, so the linear shape may be misleading in this regard. While two concentrations were defined, a number of other less dense clusters are present, and several areas of higher density were noted within the general scatter of materials in the intervening areas. Including concentrations and surrounding scatter, approximately 658 refuse items were tallied, most of which consisted of cans. The most common historic materials include solder-sealed condensed milk cans, church key and knife-opened beverage cans; knife-opened non-crimped or ribbed sanitary food cans; and Prince Albert tobacco cans. Other historic items include a California 1947 license plate; a cone top can; a spice tin; a talcum powder or Borax soap can; a straight or brandy finished, long neck, brown glass, cork top, wine or brandy bottle; embossed "Eastside Cherry KeenO" soda pop bottle; white and decorated ware crockery; enameled metal pot and pans; aqua glass shards; and a large sanitary can made into a bucket/sieve with a baling wire handle and a number of small round holes punched into the bottom. Also present are items of unknown antiquity, including metal hinges; a metal dust pan; various kinds of wire, including baling wire and chicken wire; farm equipment pieces, including serrated cutter bar teeth; a lamp fixture part; a metal water cooler casing; and various other metal pieces of unknown function. The modern, and likely modern, refuse includes, all-aluminum and aluminum top beverage cans; crimped or ribbed sanitary food cans; and numerous, broken, amber beer bottles. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred that have served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

As noted above for site MS-H-001, the materials found in site MS-H-004 may well be associated with one or more of four mid-20th century homestead sites located along this section of Lockhart Road. Site MS-H-004, at its western end, gradates into the larger dump site, MS-H-26. Consequently, it seems probable that all or a portion of site MS-H-004 may be associated with the dump at site MS-H-26. The presence of a notable quantity of farm-related materials indicates that the local farmsteads may have also used this location for refuse discard. Some of the concentrations in this site show evidence of burning, possibly indicating purposeful dumping and trash elimination.

Site MS-H-004 is an extensive historic trash scatter situated along the southern edge of Lockhart Road. While some of the site may consist of the same general refuse discard from Lockhart Road as is encountered at other sites in the area, site MS-H-004, at least at its western end, appears to graduate into the larger dump site, MS-H-26. Consequently, it seems probable that all or a portion of site MS-H-004 may be associated with the dump at site MS-H-26. While the site, as such, does not qualify under Criteria 1, 2, or 3, this more substantial content means that it may have the potential to yield information important to the history of the local area under NRHP Criterion D and CRHR Criterion 4.

#### ***Site MS-H-005***

Site MS-H-005 consists of two small refuse piles and a sparse scatter consisting of both historic artifacts and modern trash in a 60 m (197 ft) by 20 m (70 ft) area. The site is situated east of Lockhart Ranch Road. Vegetation in the area is principally saltbush. Including both concentrations and surrounding scatter, approximately 62 refuse items were tallied, most of which consisted of punched-hole opened and condensed milk cans. Also present are a glass jar and a glass bottle, and two rusted metal buckets. Most of the remainder of the refuse appears to be modern, or likely modern, including aluminum beverage cans, crimped or ribbed sanitary food cans, and an aerosol can. Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-005 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-011***

Site MS-H-011 is a refuse scatter consisting of both historic and modern artifacts in a 60 (197 ft) m by 37 m (125 ft) area. Vegetation in the area is principally saltbush. The site is situated west of Lockhart Ranch Road within the Project buffer area. One area of concentration or higher density of refuse was delineated, and several other smaller areas of higher density were noted. Including concentration and surrounding scatter, approximately 65 refuse items were tallied, most of which consisted of cans. Historic materials include nine solder-sealed condensed milk cans, but 22 other cans were crushed and difficult to type accurately. Most of the remainder of the refuse appeared to be modern, or likely modern, including aluminum beverage cans and crimped or ribbed sanitary food cans. Also present are building construction materials including roofing sheets and milled boards, as well as pieces of bee hives. Subsequent to original deposition, materials may have been moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers or by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-011 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-013***

Site MS-H-13 is a refuse scatter consisting of both historic artifacts and modern trash in a 50 m (160 ft) by 27 m (90 ft) area. Vegetation in the area is principally saltbush. The site is situated west of Lockhart Ranch Road. Within this area, two small areas of higher density or concentration were noted. Including both concentrations and surrounding scatter, approximately 150 refuse items were tallied, most of which consisted of cans. Historic materials include several small fragments of purple glass, and numerous Prince Albert tobacco cans and condensed milk cans. The modern refuse includes crimped or ribbed sanitary food cans; hourglass Wesson oil bottles; and a large, rectangular, lantern-flashlight battery. Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-013 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-017***

Site MS-H-017 is a small refuse pile (approximately 1.5 by 1.5 m) and adjacent scatter of historic artifacts in a 10 m (32 ft) by 10 m (32 ft) area. Vegetation in the area is principally saltbush. The site is situated west of Harper Lake Road. Nineteen items were tallied, all of which consisted of church key opened beverage cans. Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Past farming activities may have also occurred, which served to deform or crush some of the cans. Some of the cans are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers. Limitations in content and association indicate that site MS-H-017 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-023***

Site MS-H-023 is a refuse scatter consisting mostly of historic artifacts with some modern materials as well, in a 45 m (145 ft) by 45 m (145 ft) area. Vegetation in the area is principally saltbush. This site is situated along the south side of Lockhart Road. The apparent linear shape of the scatter may indicate an association with Lockhart Road. It should be noted, however, as with sites MS-H-001 and MS-H-4, that materials were observed to continue to the south, beyond the

edge of Project buffer boundary, in some areas, so the linear shape may be misleading in this regard. One concentration was noted with a general scatter of materials in the surrounding area. Including the concentration and surrounding scatter, approximately 30 refuse items were tallied, most of which consisted of cans. Historic materials include church key opened beverage cans, and non-crimped or ribbed sanitary food cans. Also present are two metal buckets; a cast iron housing, probably from a farm implement; various metal pieces of unknown function (some also possibly from farm implements or vehicles); bundles of chicken wire; a metal bird or poultry feeder; and a box spring or vehicle seat spring frame. Modern, and likely modern, refuse observed (but not tallied) includes a few aluminum beverage cans, crimped or ribbed sanitary food cans, and broken amber beer bottles.

Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

As noted above for site MS-H-001, the materials found in site MS-H-023 may well be associated with one or more of four mid-20th century homestead sites located along this section of Lockhart Road. Site MS-H-023 appears to be the result of refuse discard and dumping from Lockhart Road. The presence of a notable quantity of farm-related materials indicates that the local farmsteads may have also used this location for dumping and refuse discard. Some of the piles, including the concentration in this site, show evidence of burning, indicating purposeful dumping and trash elimination.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-023 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-024***

Site MS-H-024 is a refuse scatter consisting mostly of historic artifacts with some modern materials as well, in a 195 m (645 ft) by 63 m (205 ft) area. Vegetation in the area is principally saltbush. This site is situated along the south side of Lockhart Road. The apparent linear shape of the scatter may indicate an association with Lockhart Road. It should be noted, however, as with sites MS-H-001, MS-H-4, and MS-H-23, that materials were observed to continue to the south, beyond the edge of the Project buffer boundary in some areas, so the linear shape may be misleading in this regard. Four concentrations were noted, with a general scatter of materials in the surrounding area. Including the concentrations and surrounding scatter, approximately 124 likely historic refuse items were tallied, most of which consisted of cans. Historic materials include church key opened beverage cans; knife cut opened, non-crimped or ribbed sanitary food cans; Prince Albert tobacco cans; paint cans; metal dishes; horseshoes; floral print and white ware crockery fragments; and a colored glass, purple "candy dish" fragment. Also present are items of unknown antiquity, including various metal pieces of unknown function; wire; two

horse shoes; three large wooden cattle troughs; a cone top can of rubber sealant; a 5-gallon broken blue glass water bottle; 1-gallon, clear or brown glass jug bottles; and chunks of concrete rubble. Modern, and likely modern, refuse observed (but not tallied) include a few aluminum beverage cans, crimped or ribbed sanitary food cans, a lighter fluid can, and broken amber beer bottles.

Subsequent to original deposition, materials have been moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

As noted above for site MS-H-001, the materials found in site MS-H-024 may well be associated with one or more of four mid-20th century homestead sites, recorded as CA-SBR-6552H, CA-SBR-6555H, CA-SBR-6557H, and CA-SBR-6558H. Site MS-H-024, along with other sites in the vicinity, appears to be the result of general refuse discard from Lockhart Road. However, the presence of some farm-related materials indicates that the local farmsteads may have also used this location for refuse discard. Some of the concentrations in this site show evidence of burning, possibly indicating purposeful dumping and trash elimination.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-024 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-025***

Site MS-H-025 is an extensive refuse scatter consisting mostly of historic artifacts with some modern materials, as well, in a 195 m (645 ft) by 65 m (215 ft) area. Vegetation in the area is principally saltbush. This site is situated along the south side of Lockhart Road. The apparent linear shape of the scatter may indicate an association with Lockhart Road. It should be noted, however, that materials were observed to continue, beyond the Project area, in some areas, so the linear shape may be misleading in this regard. Three concentrations were noted, with a general scatter of materials in the surrounding area. Including the concentrations and surrounding scatter, approximately 93 likely historic refuse items were tallied, most of which consisted of cans. Historic materials include church key opened beverage cans; knife cut opened, non-crimped or ribbed sanitary food cans; cone top cans; coffee cans; a "Mrs. Stewarts Bluing" pharmaceutical style bottle; floral print and white ware crockery fragments; a small ceramic "toilet" figurine; various colors of bottle glass shards; and a brown glass, possible vanilla extract, bottle. Also present are items of unknown antiquity, including wire and various metal pieces of unknown function. Modern, and likely modern, refuse observed (but not tallied) include a few aluminum beverage cans, crimped or ribbed sanitary food cans, and broken amber beer bottles.

Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Many cans have bullet holes and many bottles are shattered. Past

farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

As noted above for site MS-H-001, the materials found in site MS-H-025 may well be associated with one or more of four mid-20th century homestead sites recorded as CA-SBR-6552H, CA-SBR-6555H, CA-SBR-6557H, and CA-SBR-6558H. Site MS-H-025 likely represents general refuse discard and dumping from Lockhart Road, but the presence of some farm-related materials indicates that the local farmsteads may have also used this location for discard. Some of the concentrations in the site show evidence of burning, indicating some possibly purposeful trash elimination.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-025 does not meet any of the criteria for eligibility to the CRHR.

#### ***Site MS-H-026***

Site MS-H-026 is an extensive refuse dump and scatter containing both historic artifacts and modern materials in a 160 m (520 ft) by 110 m (360 ft) area. Vegetation in the area is principally saltbush. This site is situated along the south side of Lockhart Road. It should be noted that, as with the other historic trash sites located along the south side of Lockhart Road, site MS-H-026 were observed to continue outside the Project area. Within the dump area, seven concentrations were noted, with a less dense scatter of materials in the surrounding area. Due to the substantial density and extent of the refuse at the site, a total tallying of the materials present was infeasible. A sampling methodology was, therefore, implemented to gain a representative inventory of the site deposit constituents. The methodology involved defining a 1 by 1 meter area within a concentration and inventorying the materials within this defined area.

In the largest and most intense concentration area, Concentration 1, a rough estimate of its content indicated at least 3,000 cans, 100 glass vessels, and 40 ceramic vessels. Results from three samples inventoried in the concentration resulted in an inventory of 195 items consisting almost entirely of cans and glass containers. Approximately 80 percent of can types are food associated, 15 percent beverage associated, 2 percent condensed milk types, 2 percent coffee cans, and 1 percent associated with household products such as fuel, cleansers, soap, etc. Other items noted in this concentration, outside of the samples, included butchered animal bones, kitchen ware (glass mugs, broken drinking glasses), various broken glass bottles, tires, shoe parts, a rubber football, a motorcycle seat, a garden hose, a washing machine spindle, a telephone rolladex, a window frame, a head gasket, furniture parts, ceramic kiln parts, roof tiles, a paint roller, and a mattress. Also present are building materials such as wood planks, asphalt shingles, concrete blocks, tiles, bricks, and wire. Within this large concentration, a significant percentage of the domestic materials appeared to be of modern origin (i.e., less than 45 years old).

While smaller than Concentration 1, Concentrations 2, 3, 4, 5, and 7 produced similar types of materials, although some with less overall variety. General observation of these areas indicated that, while domestic materials such as cans and glass ware are present, building and/or construction materials are more prevalent. These materials include rolls of tar paper; concrete pipe; concrete slab fragments, some with re-bar; milled lumber, most containing round nails; chicken wire; asphalt shingles; tiles; and bricks and blocks of varying sizes and composition. Also noted in some of these areas were automotive-associated items such as tires, inner tubes, oil filters, air filters, tire chains, oil cans, and a fan belt and pulley. General inventory of Concentration 6 indicated that it contained mostly cans, including roughly 16 beverage cans, many of which appeared to be modern with aluminum tops; 11 food (sanitary) cans, six of which have ribbed bodies; an aerosol can; and a solder seamed can with an internal friction lid. Also noted in this concentration were modern items such as a plastic quart bottle, a cardboard box, a cardboard juice container, and a plastic measuring cup.

In the areas around the seven concentration areas, a rough tally of materials produced 553 items, the majority of which are cans and bottles. Modern, and likely modern, refuse observed (but not tallied) includes a few aluminum beverage cans, crimped or ribbed sanitary food cans, and broken amber beer bottles.

As noted above for sites MS-H-001, MS-H-004, MS-H-023, MS-H-024, and MS-H-025, four previously recorded historical sites associated with farmsteads dating from the mid-20th century are located along this section of Lockhart Road. Of these sites, site CA-SBR-6557H, a former residential farmstead complex, is located immediately across Lockhart Road from site MS-H-026. Consequently, it seems possible that some of the materials present in site MS-H-026 may have derived from this farmstead. Some of the construction rubble and debris observed may have recently derived from this complex, as all of the buildings have been demolished and removed within the last 20 years. While sites MS-H-001, MS-H-004, MS-H-023, MS-H-024, and MS-H-025 each likely represent loci of general refuse discard and dumping from Lockhart Road, the more substantial density of the materials at site MS-H-026 would seem to indicate that this location was a place where repeated dumping occurred on a more consistent basis. Some of the concentrations in this site also show evidence of burning, indicating purposeful dumping and trash elimination. It also appears that a greater proportion of the materials at MS-H-026 are modern (i.e., less than 45 years old), relative to the materials at nearby sites.

Site MS-H-026 is an extensive historic dump and trash scatter situated along the southern edge of Lockhart Road. While some of the site may consist of the same general refuse discard from Lockhart Road as is likely the case at sites MS-H-001, MS-H-004, MS-H-023, MS-H-24, and MS-H-25, site MS-H-026, appears to represent a larger dump site. While issues of disturbance and a significant quantity of apparently modern materials at the site exist, the potential for significant quantities of older historic materials to be present, provides the basis for potential resource significance. As such, the site likely does not qualify under NRHP Criteria A, B, or C, or CRHR Criteria 1, 2, or 3, but this more substantial content means that it does have the potential to yield information important to the history of the local area under NRHP Criterion D or CRHR Criterion 4.

### ***Site MS-H-207***

Site MS-H-207 is a cement-lined reservoir and attendant facility structures consisting of a well and pump, three cement slabs/foundations, and five cement stand pipes, in a 165 m (545 ft) by 105 m (345 ft) area. The three cement slabs are all located north of the reservoir, with two, and possibly a part of the third, lying beyond the edge of the Project buffer. The reservoir was constructed by mortaring square cement slabs and not by concrete poured into forms. The eastern wall of the reservoir was removed and several stacks of rubber tires are currently present on the floor of the reservoir. South of the reservoir, there are two large piles of rubble, probably representing the remnants of the eastern reservoir wall and the former buildings or structures that stood on the slabs/foundations north of the reservoir. A scatter of refuse is present in the area around the reservoir and slabs/foundations consisting of crockery, nails, pieces of metal, pieces of concrete, glass vessel shards, sanitary beverage and food cans, a Prince Albert tobacco can, bottles, and jars. One of the slabs has a number of remnant red floor tiles still adhered to it. Another foundation, located next to the well and pump, consists of a series of individual 3-foot concrete squares arranged parallel to each other. The third foundation is a large rectangular slab that has parallel concrete runners or footings atop it with wooden planks attached by bolts to the top of each one. Both of these latter foundations may represent supports for tanks. Vegetation in the area is principally saltbush scrub.

Site MS-H-207 is a cement-lined reservoir and attendant facility structures consisting of a well and pump, three cement slabs/foundations, and five cement stand pipe, situated along the eastern edge of Harper Lake Road. While visible on the 1986, USGS 7.5" topographical map, no association has been established for this resource with the regional historic development of ranching and agriculture in the 20th century. The structures within the resource have been either partially or totally demolished and, consequently, lack integrity. Little potential for subsurface archaeological content exists, and issues of disturbance and the presence of a significant quantity of apparently modern materials at the site are evident. These conditions provide the basis for little potential resource significance potential. As such, the site likely does not qualify for listing on the NRHP or CRHR.

### ***Site MS-H-210***

Site MS-H-210 is a refuse scatter consisting of both historic and modern artifacts in a 80 m (270 ft) by 35 m (115 ft) area. The site is situated east of Harper Lake Road. Vegetation in the area is principally saltbush scrub. Within this area, approximately 28 refuse items were tallied, most of which consisted of cans, principally condensed milk cans, with beverage and sanitary food cans, and Prince Albert tobacco cans also present. Present as well are fragments of glass, barbed wire, and pieces of iron of unknown function. Modern items include a Wesson Oil bottle with an aluminum screw lid, an aluminum fitting, and vehicle oil or air filters. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers or farm workers, or, given the assemblage content in

some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-210 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-211***

Site MS-H-211 is a small refuse pile and scatter consisting of both historic and modern artifacts in a 40 m (135 ft) by 12 m (40 ft) area. Vegetation in the area is principally saltbush scrub. The site is situated east of Harper Lake Road. Twenty-two items were tallied, most of which consisted of condensed milk cans. Historic materials include church key opened beverage cans. Also present are a coffee can and fragments of several broken glass bottles. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred which have served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers or farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-211 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-214***

Site MS-H-214 consists of two refuse concentrations and a sparse surrounding scatter consisting of both historic and modern artifacts in a 115 m (380 ft) by 40 m (130 ft) area. The site is situated east of Harper Lake Road. Vegetation in the area is principally saltbush. Approximately 24 refuse items were tallied in the scatter, most of which consisted of cans, including beverage and sanitary food cans, condensed milk cans, and coffee cans. Also present are a cologne bottle, fragments of glass jugs and jars, a soda bottle, pieces of bailing wire, pieces of milled wood, pieces of sheet metal, pieces of concrete, a 55-gallon metal drum, and several bed or furniture pieces. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-214 does not meet any of the criteria for eligibility to the CRHR.

#### ***Site MS-H-216***

Site MS-H-216 is a refuse scatter consisting of both historic and modern artifacts in a 95 m (310 ft) by 38 m (125 ft) area. Vegetation in the area is principally saltbush. The site is situated south of Lockhart Road. Approximately 31 refuse items were tallied, most of which consisted of

sanitary food cans or coffee cans. Also present are fragments of white ware crockery, aqua glass, auto parts, a canning jar and gasket, pieces of wire, a brass valve, corrugated roofing sheets, and bailing wire. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-216 does not meet any of the criteria for eligibility to the CRHR.

***Site MS-H-217***

Site MS-H-217 is a refuse scatter consisting of both historic and modern artifacts in a 52 m (175 ft) by 50 m (165 ft) area. The site is situated south of Lockhart Road. Vegetation in the area is principally saltbush. Within this area, approximately 30 refuse items were tallied, most of which consisted of cans, including beverage and sanitary food cans, condensed milk cans, and motor oil cans. Also present are fragments of glass jars, a metal furnace pipe segment, pieces of wire, pieces of milled wood, pieces of sheet metal, a piece of ornate brass trim, and a doorbell housing. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-217 does not meet any of the criteria for eligibility to the CRHR.

***Site MS-H-218***

Site MS-H-218 is a refuse scatter consisting of both historic and modern artifacts in a 105 m (345 ft) 68 m (220 ft) by area. The site is situated south of Lockhart Road. Vegetation in the area is principally saltbush. Within this area, approximately 23 refuse items were tallied, most of which consisted of cans, including beverage and sanitary food cans and three 5-gallon, rectangular fuel cans. Also present are pieces of wire, rubber tires, pieces of milled wood, a steel pole, a steel tub, and a 30-gallon barrel. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-210 does not meet any of the criteria for eligibility to the CRHR.

#### ***Site MS-H-221***

Site MS-H-221 is an extensive refuse scatter consisting mostly of historic artifacts with some modern materials, as well, in a 40 m (130 ft) by 58 m (190 ft) area. This site is situated on the property south of Lockhart Road. Vegetation in the site area is principally saltbush, but an agricultural field is located immediately to the east. Two concentrations were noted, with a general scatter of materials in the surrounding area. Including the concentrations and surrounding scatter, approximately 272 refuse items were tallied, the majority of which consisted of cans. Historic materials include church key opened beverage cans; knife-cut-opened, non-crimped or ribbed sanitary food cans; condensed milk cans; and floral print and white ware crockery fragments. Also present are items of unknown antiquity, including pieces of sheet metal; butchered bone; round wire, cut nails; milled lumber fragments; coffee cans; window glass; metal hinges; pieces of metal plumbing pipe; combustion engine parts; amber bottle shards; a motor oil can; and various metal pieces of unknown function. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-221 does not meet any of the criteria for eligibility to the CRHR.

#### ***Site MS-M-225***

Site MS-M-225 is a multi (dual) component site consisting of a sparse, historic, refuse scatter and a single prehistoric obsidian flake, in a 37 m (122 ft) by 25 m (85 ft) area. The site is situated east of Harper Lake Road. Vegetation in the site area is principally saltbush, but tamarisk bushes are present along the eastern edge of the site. Approximately 13 historic refuse items were tallied, the majority of which consist of cans. Historic materials include church key opened beverage cans. Also present are glass shards from a soda bottle and from amber beer and wine bottles. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Some cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a

convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. The historic component of site MS-H-225 does not meet any of the criteria for eligibility to the CRHR.

The single obsidian flake present at the site has the potential for information pertaining to lithic technology and chronology through lithic analysis and obsidian hydration and sourcing analyses. Consequently, the prehistoric component of site MS-M-225 is potentially significant under criterion 4 for eligibility to the NRHP or CRHR.

#### ***Site MS-H-238***

Site MS-H-238 is a sparse, historic, refuse scatter in a 35 m (120 ft) by 17 m (55) area. The site is situated north of Lockhart Road. Vegetation in the site area is principally saltbush. Approximately 10 historic refuse items were tallied, consisting of sanitary food cans, church key opened beverage cans, white ware crockery shards, and clear glass soda bottle shards, some with embossed lettering on them. Also present are several small pieces of cut bone and amber beer bottle shards. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. While an association could be posited with the possible historic habitation site, MS-H-337, to the east, its distance away (approximately 150 m) makes this unlikely. Given the lack of clear historic association and its limited content, site MS-H-238 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-245***

Site MS-H-245 is a historic refuse scatter consisting mostly of historic artifacts with some modern materials as well, in a 55 m (180 ft) by 100 m (330 ft) area. This site is situated south of Lockhart Road. Vegetation in the site area is principally saltbush. One concentration was noted with a general scatter of materials in the adjacent area to the north and east of the concentration. Including the concentration and scatter, approximately 70 refuse items were tallied, some of which were fragmentary. Historic materials include beverage cans, sanitary food cans, condensed milk cans, hand painted crockery saucer sherds, and a large number (16) of Prince Albert tobacco tins. Also present are items of unknown antiquity including, a metal box with a missing hinged lid (a possible bread box), bundles of baling wire, sections of chicken and other gauges of fencing wire, "C" size batteries, a Karo syrup bottle, several bottles of various shapes and sizes, and several amber bottle shards. Also noted were likely modern items including several clear glass jugs and other bottles with aluminum screw-on lids, and a plastic-handled steak knife. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles. Many of the cans and other metal items are also highly corroded.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by travelers or farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-245 does not meet any of the criteria for eligibility to the NRHP or CRHR.

#### ***Site MS-H-246***

Site MS-H-246 consists of a historic refuse dump and the remnants of a possible adjacent structure and corral, in a 60 m (195 ft) by 35 m (120 ft) area. This site is situated south of Hoffman Road. Vegetation in the site area is principally saltbush. One intense concentration (dump), measuring approximately 15 m by 12 m, was noted with a scatter of trash materials in the adjacent area to the east of the concentration and some in-place posts and a scatter of milled, wooden structure debris to the west of the dump. The substantial density of the dump deposit and the deteriorated condition of many of the materials precluded achieving an accurate estimate of trash items, but it can be assumed that more than 500 items are present. It also appears that the dump may have originally begun as a pit. Burning is also evident. Historic materials include beverage cans; sanitary food cans; condensed milk cans; a large quantity of crockery sherds of various wares and vessel functions; and bottles and jars of various types including soda, ketchup, liquor, bleach, and mason canning jars. The deposit did not appear to contain items clearly modern (e.g., aluminum items, pull tops), suggesting that it was not in use after the 1950s. The wood materials and posts to the west appeared likely to have derived from a wooden shed or small residence building(s). Some of the posts may represent the remnants of a livestock corral. Several kinds of disturbance were evident. Several holes in the deposit, and bottles laid out in groups at the edge of the deposit, indicated that bottle hunters had been at work in the deposit. Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans, mostly away from the deposit, have bullet holes and bottles are shattered. Past farming activities may have also occurred which have served to deform or crush many of the cans and other items, and break the bottles. Many of the metal items (cans in particular) are in a high state of deterioration due to corrosion. Despite these disturbances, it appears that the significant portions of the deposit may be intact.

Site MS-H-246 is a small but intensive historic dump and trash scatter (Plate 3). While possibility of disturbance of site exists, the potential for significant quantities of *in situ* historic materials dating between 1930 and 1960 to be present provides the basis for potential resource significance. As such, the site likely does not qualify under NRHP Criteria A, B, or C or CRHR Criteria 1, 2, or 3, but this substantial content in a possibly intact context means that it does have the potential to yield information important to the history of the local area under NRHP Criterion D or CRHR Criterion 4.



**Plate 3. Historic Dump at Site MS-H-246.**

***Site MS-P-250***

Site MS-P-250 consists of a sparse scatter of prehistoric lithic debitage in a 40 m (125 ft) by 35 m (120 ft) area. The site is situated along the shoreline margin of the Harper Lake bed, and consequently, the vegetation in the site area is principally marsh grasses with areas containing saltbush immediately adjacent. Four pieces of debitage were tallied. Three of the pieces are flakes with the other piece a flake fragment. All are cryptocrystalline silicate (CCS), with two of the flakes being a red translucent material, the third flake a brown translucent material, and the flake fragment an opaque brown material (Plate 4). At least two of the pieces appeared to derive from rodent extrusions, possibly indicating a subsurface source.



**Plate 4. Cryptocrystalline Flake at Site MS-H-250**

Site MS-P-250 is a prehistoric lithic scatter situated along the edge of the playa shoreline. While consisting of only four pieces of lithic debitage in a 37 m by 36 m area, two of the pieces appeared to originate from rodent extrusions, possibly indicating a subsurface deposit source. Site MS-P-250 does not qualify for criteria 1, 2, or 3, but does have potential to provide archaeological data relevant to addressing regional prehistoric research questions. If subsurface investigations are able to identify a component that has not been too severely disturbed by historic and/or modern activities such as plowing or flood control measures, information could be recovered pertaining to lithic technology and settlement, and perhaps even chronology if obsidian or organic materials suitable for dating are present. Site MS-P-250 is potentially eligible for the NRHP or CRHR under Criterion D and Criterion 4.

#### ***Site MS-H-252***

Site MS-H-252 is a historic refuse scatter consisting mostly of historic artifacts with some modern materials as well, in a 140 m (455 ft) by 52 m (175 ft) area. The site is situated south of Lockhart Road. Vegetation in the site area is principally saltbush, with a currently cultivated agricultural field adjacent to the north. The scatter contains, approximately, 26 refuse items. Historic materials include knife opened, sanitary food cans; pocket tobacco tins; lard buckets; and a baking powder can lid. Also present are items of unknown antiquity, including sheet metal, parts of an alarm clock, pieces of wooden crates, a galvanized bucket, and a metal thermos casing. Also noted was a likely modern item consisting of a 16-ounce beverage can with aluminum ends and ring pull-top opening.

Subsequent to original deposition, materials were moved around by erosion and by people using them for target practice. Cans frequently have bullet holes and bottles are shattered. Past farming activities may have also occurred, which served to deform or crush many of the cans and other items, and break the bottles.

There are no clear associations for the historic debris at the site. Given the site's location, this may be a debris scatter left by farm workers, or, given the assemblage content in some areas, a convenient location for trash disposal for local ranchers/farmers. A significant content of modern trash also suggests a somewhat intermittent and variable source for these materials. Site MS-H-252 does not meet any of the criteria for eligibility to the CRHR.

## **Historic Architectural Resources**

### **Previously Recorded Resources**

The records search indicated that 11 architectural historic resources were previously recorded as sites within the historic architectural survey area. These included P-36-001025 (also recorded as P-2084-99H), P-36-006348, P-36-006552, P-36-006555, P-36-006556, P-36-006557, P-36-006558, P-36-006877, P-36-006880, P-36-006881, and P-36-006882. The resources ranged from homestead structures to large cattle ranching facilities. Five previously recorded historic architectural resources (P-36-006348, P-36-006552, P-36-006877, P-36-006880, and P-36-006881), all located within the 0.5-mile buffer area, no longer exist. All previously recorded sites were updated on DPR 523 Continuation Sheets (see Attachment 5).

#### ***P-36-001025 (P-2084-99H)***

P-36-001025 was previously recorded as a 16- by 60-foot adobe poultry structure (Plate 5) that appeared to date to the early to mid-20th century (circa 1920s–1930s). Historic Resource P-2084-99H was recorded as a standing adobe structure, but no further descriptive information was included in the record. Based on location data, it is likely that it is the same adobe structure recorded in P-36-001025. After relocating and investigating the building, it appears that P-36-001025 and P-2084-99H are one in the same, and for the purposes of this study, these sites are considered one resource.



**Plate 5. P-36-001025, adobe turkey house, circa 1920s.**

Greenwood and Associates (Hampson and Skinner 1990) documented the structure as an adobe turkey house constructed of true adobe bricks on a concrete slab foundation. At the time of that recordation, the building was showing signs of deterioration, including stucco delamination and wall collapse. Also recorded were a residence to the west, potentially built in the 1930s but significantly altered, and a modern residence on a concrete slab foundation. The previous study claimed to have exhausted the archaeological and structural information potential at the site by detailed recordation. The adobe structure was determined not eligible for the NRHP due to its lack of integrity (Hampson and Skinner 1990).

The update of this record includes the buildings on the entire parcel which is located in the northwest portion of Township 11 North, Range 4 West, Section 30. This encompasses six structures of varying ages that appear associated with a farm or homestead. These include the adobe structure, the stucco Craftsman-style residence to the west (Plate 6), a masonry building, and a long animal pen in one cluster, and the residence to the east with a storage building. This study found all six structures in advanced stages of deterioration. The walls of the adobe structure have further deteriorated, and the alterations and conditions of the other buildings also compromised their integrity.



**Plate 6. P-36-001025, Craftsman-style residence/office.**

These buildings are located on the original homestead patent acquired by Clare E. Depue in 1922 (Swanson 1988). Oscar Daloin purchased a portion of the land from Depue later in the 1920s and developed this property, including the adobe structure (Swanson 1988). As an early homestead from the 1920s, the property is associated with an important period of development in the Harper Lake community. The property originally belonged to Clare Depue, and the Depue family was notable as early homesteaders, but the buildings were initially developed by Oscar Daloin, of whom there is little record. The adobe structure was a significant structure in that it was well constructed in quality adobe bricks, and now is a rare standing adobe structure in the area, but its condition detracts from its integrity. The frame and stucco residence to the west appears to have been constructed with Craftsman characteristics, which was a typical style for rural buildings from WWI through the 1920s, but it also appears to have had significant alterations that detract from its integrity. The condition of the remaining buildings, including the corrugated metal and frame animal pen and the masonry building, and the modern residence and storage building, is poor. The site does not appear to retain sufficient integrity for historical significance. It does not appear eligible for the NRHP or CRHR.

#### ***P-36-006348***

This site was previously recorded as a historical occupation site located in Section 32, including an incomplete residential structure, an in-ground foundation, a chicken coop, and irrigation facilities (Hampson and Swanson 1989). The homestead was associated with Ernest McClassen who built the structures in the 1930s. McClassen came to the area in 1925 and served for years as a teacher at the Harper Lake School. He constructed a semi-subterranean house himself, with some local help, fashioned out of poured concrete mixed by hand. There was no local electricity, but he had a functioning indoor sink (Hampson and Swanson 1989). Additionally, McClassen

commenced a separate structure and laid another concrete foundation, but never completed it. The site also has another foundation that may have been part of a chicken house, standpipes, a well, and a windmill. Another family briefly occupied the house, but by the 1950s, the roof had collapsed (Hampson and Swanson 1989).

When recorded in 1989, all that remained was the subterranean shell, foundations, agricultural irrigation features, and scattered domestic artifacts that dated after circa 1930. The previous evaluation recommended that it had the potential for significant archaeological information and that it had good integrity. Because this site is outside of the archaeological survey area, it was not reassessed for archaeological significance. Attempts to relocate the site for architectural evaluation were not successful. There are no remaining standing structures.

***P-36-006552***

P-36-006552 was previously recorded as a historical residential complex containing two structures, two small corrals or pens, a fence, and possibly the burnt remains of a third structure (Hampson and Swanson 1990). The Doane family homesteaded the property in the 1920s. The previous archaeological survey found several concentrations of artifacts, primarily trash dumps (Hampson and Skinner 1990). Because this site is outside of the archaeological survey area, it was not reassessed for archaeological significance.

No standing structures were relocated at the site. These may have collapsed due to deterioration or demolition. It no longer exists and is not eligible for the NRHP or CRHR.

***P-36-006555***

This site was previously recorded as a historical occupation complex including a residence (Plate 7), two poultry sheds, a shed, covered animal pens, a well, and three concrete slab foundations. Hampson and Swanson (1990) recorded the historical occupation complex as a poultry ranch built after WWII. Two incomplete modern structures and incomplete improvements to the poultry sheds (Plate 8) resulted from an attempt to convert the property for hog raising in the late 20th century. The site was evaluated as potentially eligible with further research, but noted that the buildings had been extensively modified.



**Plate 7. P-36-006555, residential buildings, circa 1950s.**



**Plate 8. P-36-006555, poultry shed with incomplete improvement, facing west.**

The site was relocated in May 2009. The update found that the structures remain but have continued to deteriorate. The poultry farm complex represents the continued development of the agricultural community of Harper Lake post-WWII, but it does not appear specifically associated

with a significant time period of development. Sybil Barrows Fitzwater, a long-term resident of the community, lived in the residence for many years, but the farm does not appear to be directly associated with any significant persons in the area's history. The buildings are modest and in a deteriorating state, and are not architecturally significant. The previous study (Hampson and Swanson 1990) did not observe any significant historic archaeological materials. Because this site is outside of the archaeological survey area, it was not reassessed for archaeological significance. P-36-006555 does not appear eligible for the NRHP or CRHR.

***P-36-006556***

Previously recorded as a homestead/farm complex, P-36-006556 includes a one-story residence (circa 1950s), a two-story unfinished garage, two outbuildings, animal pens, a large reservoir, and the remains of an irrigation system (Plate 9). Located at 16198 Lockhart Road, this was the site of the first homestead in the western Harper Lake area.



**Plate 9. P-36-006556, Hays Farm (formerly Spenker homestead) with two outbuildings (unknown date) at left, two-story residential unit, and residence (circa 1950) at right.**

Henry and Emma Spenker were the first established homesteaders in the Harper Lake community, arriving circa 1911. The Spenkers were also perhaps the only homesteaders who completely subsisted on their farm, while other settlers supplemented their incomes with other jobs or treated their homesteads as secondary residences (Hampson and Swanson 1990). Spenker built the first reservoir in the area, and cleared and irrigated 40 acres to raise alfalfa. He was also reported to have planted orchards and gardens, and to have raised chickens and turkeys.

The reservoir, remnants of the irrigation system, and the leveled field are the only discernible features of the site that may date to the Spenker homestead. The original residence was replaced circa 1950s with the current residence. Two outbuildings appear old enough to date to the Spenker period, but have been altered and do not indicate a reliable date of construction.

When first recorded in 1990, the site was known as the Hays farm and had been continuously occupied to that point. The configuration of buildings and operation remained intact. The site was evaluated as significant for being the location of the first homestead in the area, but that structural and archaeological potential had been exhausted by the survey (Hampson and Swanson 1990).

The property appears to be declining in condition since it was when recorded 1990. The site was relocated and the structures were unoccupied and in a deteriorating condition. The residence (Plate 10), a circa 1950s one-story, square-plan house with a low-pitch, pyramidal roof, clapboard siding, wood-framed horizontal sliding windows, and a substantial rock chimney, appears unaltered. It is a modest example of vernacular architecture with characteristics of the Minimal Traditional and Ranch styles. The modern two-story garage and residential unit is constructed of plywood and has aluminum-framed windows and doors, and appears unfinished and now deteriorating. Two gabled outbuildings on site appear to be the oldest structures, with board and batten siding and areas replaced with plywood. One outbuilding has a partial stone siding that is incomplete. These outbuildings, along with a large frame animal pen, are in poor condition.



**Plate 10. P-36-006556, Hays Farm residence (circa 1950s).**

The P-36-006556 farm complex represents the development of the agricultural community of Harper Lake from its inception to its heyday in the 1950s, but many of its features do not retain sufficient integrity to appear eligible for the NRHP or CRHR. The farm is significant as the site of the first Harper Lake community homestead and connected to the pioneering Spenker family, with the potential for significant elements associated with that period. The buildings are modest and in a deteriorating state, and are not architecturally significant. The previous study (Hampson and Swanson 1990) did not observe any significant historic archaeological materials. However, the presence of the original reservoir and irrigation system, as well as other ground features, has the potential to yield further information about the nascent history of the Harper Lake community. The site is recommended as potentially eligible for the NRHP under Criteria A and D, and for the CRHR under Criteria 1 and 4.

### ***P-36-006557***

Hampson and Swanson (1990) previously recorded this site as a homestead complex on a portion of former Lockhart/Most ranch land. The site included several structures: a residence, two outbuildings, a fountain/pool, and a well. It also had the remains of an irrigation system. The main residence historically appeared to have been one of the larger residential units within the study area. The structure was originally of Craftsman design, and had a large rock fireplace, a low-pitched roof with bracketed eaves and exposed rafter ends.

James M. Maclachlan established the small farm at some point prior to originally filing for the land patent in 1921, perhaps circa 1918. The Maclachlan family was noted as being one of the pioneer Harper Lake families. The farm subsequently changed hands several times. Hampson and Skinner (1990) supplemented information about this site through an interview with the then-current resident, Mrs. Sybil Fitzwater. She arrived in Harper Lake in December 1928, and a portion of the house was standing at that time, and then it was added onto several times since the 1930s. Research also found that other “pivotal” community members held numerous and “comparatively grand” community gatherings at this location in the early to mid-1930s (Hampson and Skinner 1990). It became part of the Most ranch and was lived in by various employees. Mrs. Fitzwater was in residence from the mid-1960s at least through 1990.

The previous evaluation determined that the residence was structurally altered at least twice, while the other structures were intact but deteriorating. Irrigation lines on the site were no longer used and probably incomplete. The integrity of the site was generally good, but alterations to the residence and the removal of agricultural equipment detracted from its overall integrity. The site was evaluated potentially eligible, but no intact or otherwise significant archaeological deposits were discovered (Hampson and Swanson 1990).

The residence and outbuildings located at this site are now in ruins (Plate 11). Due to a complete lack of integrity, P-36-006557 does not appear to be eligible for the NRHP or CRHR.



**Plate 11. P-36-006557, ruins of residence, circa 1918 and subsequently modified.**

***P-36-006558***

The community of Lockhart centered on this site previously recorded as P-36-006558 by Hampson and Swanson in 1990. The site was described as the central complex of the Lockhart and Most ranches at 41810 Harper Lake Road. Associated with farming and ranching activities from 1922 to 1990, the record identified 41 buildings and structures associated with the complex, including multiple residential buildings, a water tower, reservoirs, hay sheds, a general merchandise store, bunkhouses, warehouses, granaries, cattle sheds, various outbuildings, garages, and an airplane hangar. The site was largely intact when it was originally recorded, and it encompassed four broad periods of history: a) Davis/Weatherill homesteads circa 1922–1930, b) Evans ranch circa 1930–1940, c) Lockhart Ranch circa 1940–1962, and d) Orita Land and Cattle/Most Ranch circa 1962–1990s. Research suggested the site was significant as one of the earliest locations of permanent occupancy within the Harper Valley study area. William and Elsie M. Davis are among the first to be assessed for improvements, and the Davis house was still standing and was occupied in 1990. The transition from homesteads to town community occurred in the early 1950s, when Lockhart improved the Evans ranch with his cattle ranching facilities expansion and amenities for locals and employees. At the time of recordation, the central complex, or town of Lockhart, retained architectural integrity spanning from circa 1919 to the early 1950s, including a collection of buildings associated with the Davis, Weatherill, and Evans ranches. It represented the virtual development of the Harper Valley community and the inception of the Lockhart community.

The structures demonstrated various levels of occupation and deterioration, generally remaining structurally sound, but some demonstrating a lack of maintenance and vandalism. No significant archaeological deposits were located. The site was previously evaluated as significant.

The center of the Lockhart community and ranching activities, and one of the largest operations in the Mojave Desert in the 20th century, this site had widespread associations with the development in the region. The site was largely intact when it was recorded in 1990, but the majority of the buildings and structures have since been demolished. All that remains of these buildings are their concrete foundations (Plate 12). In addition, the Davis House and the Evans House (both present in 1990) no longer exist. As a whole, the complex recorded in P-36-006558 does not retain sufficient integrity to convey its importance as the community center of Lockhart. The removal of significant features has irrevocably altered the materials and setting of the complex.



**Plate 12. P-36-006558, the former Lockhart Ranch, facing south from the northwest corner of the site. Many buildings originally documented have been demolished.**

The General Merchandise Store (Plate 13), a concrete block structure built in 1953, has been and is still the primary feature on the site. Of the remaining buildings, only the General Merchandise Store appears to retain characteristics that represent its association with the period. The iconic building was once the center of a vibrant desert community and it remains one of the largest buildings in the valley, clearly visible from Harper Lake Road. During the 1950s, movies were projected onto the west wall, and the building served as a centerpiece for the community. As one of the remaining buildings of the Lockhart Ranch, the building is one of the only reminders of the past community. Although it is in a state of neglect, the building maintains sufficient integrity in appearance to demonstrate its significance as a historical resource, and is eligible for the NRHP under Criterion A and CRHR under Criterion 1.



**Plate 13. P-36-006558, Lockhart General Merchandise Store, 1951.**

***P-36-006877***

P-36-006877 was previously recorded as a rural occupation site containing four structures, including two residential buildings and two concrete block structures (Hampson and Skinner 1990). The main residence appeared heavily remodeled, apparently in the 1960s and again in the 1980s. It was evaluated as not eligible for the NRHP (Hampson and Skinner 1990).

The site could not be relocated as it was demolished for the existing solar panel facility at this location. It no longer exists and is not eligible for the NRHP or CRHR.

***P-36-006880***

The Lockhart family compound of the Lockhart Ranch, with a U-shaped ranch house and swimming pool, as well as several associated outbuildings, was previously recorded as a significant resource (Hampson and Skinner 1990). On land originally patented to Earl Depue in 1923, the residence was built by Lockhart in 1950, completed by 1952. Known locally as “The Big House,” Lockhart did not actually live there for any extended period of time. Reported as costing \$100,000 to construct, it was a massive and ultra-modern house, particularly extraordinary in the Lockhart community. The house was initially built as a retreat, and potentially a retirement home, in the Ranch style, reportedly with a dynamic relationship between interior and exterior spaces (Hampson and Skinner 1990). The architect was not ascertained. It was significant as an early application of the Ranch Style to desert architecture and design, and as perhaps the single largest single-family residence designed and built in this region of the desert.

The site could not be relocated as it was demolished for the existing solar panel facility at this location. It no longer exists, and is not eligible for the NRHP or CRHR.

***P-36-006881***

Previously recorded as a rural homestead with 16 structures, P-36-006881 was documented as the original site of the Depue homestead, which became the Hoffman ranch. Carl Hoffman purchased the property, replaced the original Depue residence, made several improvements, but never developed it as an actual ranch (Hampson and Skinner 1990). At the time of recordation, the site contained a number of building features, building components, and associated structural debris. Portions of four structures, frame and stucco buildings with no discernible architectural style, were still standing, including two residential units. The buildings appeared to have been altered, and were evaluated as not significant.

The history of Depue homestead has particular historical significance, associated with the early homestead development of the community and tied to one of the earliest pioneer families. Earl Depue acquired the land patent in 1922, but continued to work in Los Angeles while his wife Hazel, the sister of another notorious homesteader Luster Moore, lived by herself and established the homestead, reputedly clearing the land herself. Important for the annals of the Harper Lake community history, the founding of the Depue homestead is an example of the California pioneer spirit (Hampson and Skinner 1990).

P-36-006881 could not be relocated as it was demolished for the existing solar panel facility at this location. It no longer exists and is not eligible for the NRHP or CRHR.

***P-36-006882***

P-36-006882 was previously recorded as a residential site featuring 10 identical concrete block residential structures, a pump house, an antenna tower, a barbeque pit, a canopy, and an incinerator. The site was also the location of the former Harper Lake school house. The property was part of Earl Depue's 1922 land patent that he donated for the purposes of erecting a school. The schoolhouse had been a community focal point, and almost all major community gatherings, meetings, and all holidays and special events were held there (Hampson and Skinner 1990). It was assumed that the existing structures, built 1950–1951, replaced the schoolhouse and were “most likely built by Lockhart for ranch employees” (Hampson 1988). The workers' cottages were 10 identical concrete block houses, in parallel rows, with seven along the west side of Harper Lake Road and the three to the west. Nearly square in plan, they were evaluated as designed in a highly reductive version of International style. The structures were clearly designed as low-income or worker housing, and were “excellent and well-designed examples of workers' housing” (Hampson 1988). When recorded in 1988, six of the ten buildings remained.

The site was relocated and only two of the original 10 buildings remain (Plate 14). The remainder of the site was cleared for the existing solar panel facility. The remaining buildings appear in good condition. Associated with the developmental peak of the Lockhart Ranch in the 1950s, these buildings represent the prosperity and activity of that time and the need for increased housing. However, these buildings do not have the level of association that would make them eligible for the NRHP or CRHR. The simplified form of modern architecture does

not distinctively represent the characteristics of a particular style. The site as originally recorded is significantly altered, and does not have the potential for archaeological information. These buildings are not eligible for the NRHP or CRHR.



**Plate 14. P-36-006882, two of ten original workers' houses remaining, circa 1950. Located at the corner of Hoffman Road and Harper Lake Road, facing northeast, with solar plant at rear to the left.**

### **Newly Recorded Resources**

As a result of the survey, eight additional resources that were potentially historic (MS-B-1001, MS-B-1002, MS-B-1003, MS-B-1004, MS-B-1005, MS-B-1006, MS-B-1007, and MS-B-1008) were observed and recorded. These are primarily very modest residential buildings dating to the mid-20th century, with the exception of the extensive irrigation system (MS-B-1003) located throughout the survey area that was integrally associated with farming activities in the Project area. Four resources, including one small residential building (MS-B-1001), a residential complex including two houses and a storage building (MS-B-1002), and a concrete block garage/storage building (MS-B-1004), appear to be associated with the Lockhart/Most Ranch and date to the mid-20th century. The remaining four resources (MS-B-1005, MS-B-1006, MS-B-1007, and MS-B-1008) are all residential structures that date to the mid-20th century and are not located in the Project area. None of the newly recorded resources were determined eligible for the NRHP or CRHR, although the sites of two farmsteads (MS-B-1005 and MS-B-1008) are potentially significant under NRHP Criterion D or CRHR Criterion 4, but would require further investigation. The eight new resources were recorded on DPR 523 forms and evaluated for historical significance.

### ***MS-B-1001***

The residential structure on Harper Lake Road (Plate 15) is a one-story, rectangular plan building with a medium-pitch gabled asphalt over plywood roof and enclosed eaves; stucco exterior walls over plywood; and boarded windows and doors. This building does not appear to have a foundation, and may have been moved to this location. Its associations and built date are unclear.



**Plate 15. MS-B-1001, facing southwest**

Based on its materials and construction, it appears to date to the mid-20th century. Its location suggests an association with the operations of the Lockhart Ranch, but may date to the transitional period between homesteading and cattle ranch operations. It is probable that it was used for employee housing on the Lockhart Ranch. It does not appear to have any associations with significant historical figures. The modest architecture of this building is typical of vernacular desert homestead buildings, constructed of simple materials in a functional design. It is in poor condition and does not retain integrity. It is not eligible for the NRHP or CRHR.

### ***MS-B-1002***

The residential complex on Lockhart Road (Plate 16) includes two residential buildings and one storage building. The two residences were originally mirror-imaged along a north-south axis. Both houses have medium-pitch, side-gabled asphalt roofs with narrow overhangs and exposed rafter tails. The exterior walls are stucco. Both façades originally had a central front door flanked by one-over-one wood sash windows, and similar fenestration regularly distributed. Each house has a small, one-room wing that extends from the rear right corner. The house to the west (Plates 17 and 18) has also had additions at its southeast corner and its northeast corner. The house to the east (Plates 19 and 20) possibly had a covered front porch, now removed. The storage

building is located to the southeast of the eastern house. It has a board-formed concrete foundation, stucco walls, and exposed rafters at the roof. Also located on the site are a well and a large standpipe associated with the irrigation system.



**Plate 16. MS-B-1002, view facing north**



**Plate 17. MS-B-1002, Structure 1, facing north**



**Plate 18. MS-B-1002, view facing north**



**Plate 19. MS-B-1002, view facing north**



**Plate 20. MS-B-1002, view facing north**

The built date for this cluster of buildings is unknown, but it appears to be associated with the adjacent former agricultural fields of the Lockhart/Most Ranch. It is possible these buildings date to the period of transition between homesteading and Lockhart cattle ranching operations, but it seems likely that this residential site may have housed ranch employees at some point. Despite its association with a significant historical theme in the development of the Harper Lake community and Lockhart, the site does not appear to retain a level of association to make it significant. Likewise, it does not appear associated with a particular significant historical figure. The houses and storage building display Minimal Traditional-style architectural characteristics, a style that was popular circa 1935–1950. They are not distinctive examples of the style. These resources do not have archaeological potential. They do not appear eligible for the NRHP or CRHR.

### ***MS-B-1003***

This resource is the extensive irrigation system installed in the Project area during the 1930s and expanded throughout the 20th century. Features of this resource are an assortment of concrete stand pipes of differing sizes and dates. The exact number is not documented, but it is estimated to be 20. Most of the cylindrical standpipes are approximately 10 feet in height and approximately 2 feet in diameter. The older standpipes have connecting pipes and valves to in-line centrifugal pumps (Plate 21). Based on historical information, these are believed to be diesel pumps from the mid-20th century, but an exact date is unknown. The pumps are of metal construction with a bulbous cylindrical case with a curved concave cap situated on a metal stand, enclosing the entry of the pipe into the ground. Judging from metal visible on the top, they appear to be constructed of steel-reinforced concrete, which is faded and discolored from the sun. These pipes are found scattered around the site, usually adjacent to foundation ruins.



**Plate 21. MS-B-1003, example of standpipe, circa 1940s–1960s**

Newer standpipes are located at intervals along Harper Lake Road and Lockhart Road (Plate 22). These are of the same height as the older pipes, but stand on a 2-foot square concrete base and do not have the adjoining pipe or pump mechanism. The diameter of these pipes also appears to be narrower than the earlier standpipes. It is presumed that they replaced the older pipes with a technologically advanced pump system that could fit within the concrete base. The dates of these pipes are unknown. This resource has a significant association with the regional development of ranching and agriculture in the 20th century, but the resource has been altered and upgraded extensively. It does not retain sufficient integrity for listing on the CRHR.



**Plate 22. MS-B-1003, example of standpipe, circa post-1960s**

***MS-B-1004***

The concrete block structure (Plate 23) located in Section 33 adjacent to a transmission line, has a rectangular plan with multiple access openings along the north wall. The west side of the building has an extended concrete patio and evidence of an adjoining room or covered space that no longer exists. The structure does not retain its roof or doors; it has metal window casements with no remaining panes. Its associations and built date are unclear. Potentially built in the mid-20th century, it is possible that it was associated with the expansion of the Lockhart Ranch and the Most Ranch as they extended the irrigation of the adjoining lands to the circular pivot system. It does not retain sufficient integrity to convey any significance, and it is not eligible for the NRHP or CRHR.



**Plate 23. MS-B-1004, view facing west**

***MS-B-1005***

The farmstead “El Nogal” at 315 Roy Road (Plate 24) is a complex containing a residential building, two Quonset-style sheds, two mobile home units, various sheds, and a landscape feature that may potentially have been a water retention pond. The house is a one-story rectangular structure with a high-pitch, front-gabled asphalt roof (Plate 25). The gable has a pair of French doors installed in the attic story over a flat shed roof that wraps around the building at the main roof’s rake line. The exterior walls appear to be concrete block around the first story and boards in the upper attic story. The Quonset-style sheds are located to the southwest and southeast of the residence (Plate 26). Also scattered on the property are large tanks and mobile homes. The site has an iron entry gate with the name El Nogal above. El Nogal means pecan tree or walnut tree in Spanish, but there does not appear to be an associated grove of trees.



**Plate 24. MS-B-1005, entrance gate, view facing south**



**Plate 25. MS-B-1005, residential building, view facing south**



**Plate 26. MS-B-1005, residence with Quonset-style storage unit in background, view facing south**

In 1921, Charles F. Pomeroy filed for the homestead patent of this property (Hampson and Swanson 1989). This section (Section 32) was settled by some of the first homesteaders in the Harper Lake community, and was occupied throughout the development of the community. Pomeroy had constructed one of the most impressive houses in the area surrounded with shade trees by the late 1920s. The house originally had a wood shake roof, hardwood floors, a basement, and rare indoor plumbing. Originally, there were several chicken houses on the property made of stucco and tar paper, and Pomeroy raised alfalfa and watermelons. Pomeroy died in the 1930s, and his son eventually moved to Pasadena in the 1940s (Hampson and Swanson 1989). The property is currently occupied and gated.

Previous study of Section 32 (Hampson and Swanson 1989) did not conduct an evaluation of this property. The Pomeroy homestead is an early and significant example of the settlement in the Harper Lake community. Pomeroy and his family were active in the Harper Lake community, and among the earliest settlers. For its association with the early settlement of the Harper Lake community and its connection with the Pomeroy family, the Pomeroy homestead is locally significant. The house itself was special for its time period, a relatively grand house with specialized materials. However, modifications to the house appear extensive. Changes in fenestration and materials have significantly detracted from its integrity. The various storage buildings on the property date to a modern period. The structures on the site are not likely to yield archaeological information. However, the site has the potential for archaeological significance that may be determined with further research and investigation. Because this site is outside of the archaeological survey area, it was not assessed for archaeological significance. The farmstead has an interesting local history, but does not appear eligible for the NRHP under

Criteria A–C or CRHR under Criteria 1–3. It is potentially eligible under NRHP Criterion D and CRHR Criterion 4.

***MS-B-1006***

The farmstead complex at 41361 Edie Road (Plate 27) includes three residential buildings and several outbuildings/sheds. One building dates to 1949 (Plate 28). It appears to be a one-story, front-gabled rectangular plan structure with an open rake, corrugated metal roof, stucco exterior walls, and modest details. The remaining buildings appear more modern. One building, identified as 41311 Edie Road and located on the property, is a mobile home.



**Plate 27. MS-B-1006, view facing north**



**Plate 28. MS-B-1006, view facing north**

With the expansion of the Lockhart Ranch, the establishment of the community of Lockhart, and advancements in irrigation systems, more settlers developed lots in the 1950s and through the 1980s. This property dates to the expansion era of Lockhart. It does not appear to be significantly associated with developmental or historical themes related to Lockhart, nor to any significant historical figures. The structures are not representative of significant architectural styles, construction, or materials. The architectural resources are not likely to yield significant archaeological information related to prehistory or history. The farmstead complex is relatively modern and does not appear eligible for the NRHP or CRHR.

***MS-B-1007***

The house located at 41387 Edie Road (Plate 29) dates to 1958 and exhibits Ranch-style characteristics. It is a one-story structure that has a low-pitch hipped asphalt roof with a wide overhang and enclosed eaves, smooth stucco exterior walls, vinyl replacement windows, and an incorporated single-car garage. It is inhabited and appears in good condition.



**Plate 29. MS-B-1007, view facing north**

This house is located on a small corner parcel adjacent to the larger adjoining lot, 41361 Edie Road, in Section 32. This area was settled by some of the first homesteaders in the Harper Lake community in the 1920s. With the expansion of the Lockhart Ranch, the establishment of the community of Lockhart, and advancements in irrigation systems, more settlers developed lots in the 1950s and through the 1980s. This property dates to the expansion era of Lockhart. It does not appear to be significantly associated with developmental or historical themes related to Lockhart, nor to any significant historical figures. The building is not a distinctive example of the Ranch style and has been altered with replacement windows. The architectural resources are not likely to yield significant archaeological information related to prehistory or history. The farmstead complex is relatively modern and does not appear eligible for the NRHP or CRHR.

***MS-B-1008***

The farmstead located at 15563 Lockhart Road (Plates 30 and 31) has two residential buildings and associated outbuildings. One residential building dates to 1951. It is a one-story cross-gabled house with an asphalt roof, plank or paneled siding, replacement vinyl single-hung and horizontal sliding window sash, and a covered entry porch. The building has had significant alterations. The remaining buildings appear modern, or very recently remodeled.



**Plate 30. MS-B-1008, primary residence, view facing southeast**



**Plate 31. MS-B-1008, secondary residence, view facing southeast**

This is the former site of Frank Luster Moore's homestead and chicken farm, notoriously a cover for his lucrative bootlegging business (Hampson and Swanson 1989). Moore built two chicken houses on the property, one of stucco and one of adobe. When his original residence burned

down, Moore converted the stucco chicken house into a residence, where he lived until 1939. Moore's sister, Hazel Depue, and his brother-in-law, Earl Depue, moved their family into the house in 1939 and lived there until 1942. In 1989, it was noted that the stucco chicken house could possibly still be standing (Hampson and Swanson 1989). Several buildings are presently located on the parcel that may date to the 1940s and 1950s and the period of Lockhart's heyday.

Although the farmstead is significant as the location of Moore's original homestead, there are no features that seem directly related to the Moore homestead. The buildings appear modern, or altered to appear modern, and do not convey an association with the early homestead time period or historical figures. The buildings do not appear architecturally significant and do not appear likely to yield information about prehistory or history. However, the site has the potential for archaeological significance that may be determined with further research and investigation. Because this site is outside of the archaeological survey area, it was not assessed for archaeological significance. This farmstead does not appear eligible for the NRHP under Criteria A-C or CRHR under Criteria 1-3, but is potentially eligible under NRHP Criterion D and CRHR Criterion 4.

## DISCUSSION

The prehistory and history of the Project area are reflected in the range of types of archaeological resources present and their condition. Both prehistoric and historic sites were documented, along with one site exhibiting artifacts from both time periods. Few temporally diagnostic prehistoric items were observed. This may reflect the, perhaps, rather marginal or ephemeral use of the area prehistorically, or it could reflect substantial disturbance, or it might be that resources lie buried beneath lacustrine and/or alluvial sediments. It is also likely that the farming and ranching on what is now the proposed plant site and recreational use of other portions of the region fostered casual collection of artifacts such as projectile points and whole bottles.

Most of the Project area exhibits some level of ground disturbance. While only a one-quarter section of the property is currently being actively used for agricultural purposes, historic research and aerial photographs indicate that much of the area was extensively utilized for agricultural purposes during the 20th century. Such activities included the clearing of native vegetation, followed by the subsurface mechanical tilling of the soil. Several intermittent areas of the Project area are nearly devoid of vegetation as a result of the years of agricultural use. Ranching activities also occurred on many areas of the property during this same period. There are numerous dirt roads, fence lines, and subsurface pipelines evident on the property, most of which appear to be associated with 20th century farm and/or ranching operations. Other graded dirt roads on the property provide access to transmission lines. These activities have potentially significantly altered the setting, context, and condition of the site, especially of the prehistoric resources that may have originally been present on the property.

The Harper Lake area is likely affected by the rain shadow of the Sierra Nevada Mountains to the west. Consequently, the climate is semi-arid with low humidity, limiting the range of plant and animal life. During recent millennia, only the seasonal rainfall from the nearby mountains to

the north and east has been feeding drainages that terminate in the Harper Lake playa. Also noted, however, is the possible occasional contribution of water to the lake, prehistorically, by the overflow of flood water from the Mojave River to the south. Although the importance to prehistoric groups of the small seasonal drainages and the occasional partial filling of the lake is uncertain, known prehistoric habitation sites in the area are frequently likely to be located near more consistent water sources such as large drainages like the Mojave River, next to springs, or along the shorelines of lakes such as Harper Lake. For Late Holocene times, Sutton described settlement models for the western Mojave, reflecting shifts in settlement resulting from apparent variations in precipitation. These proposed shifts begin with a focus on stream and spring associated settlement, and then a shift to lake shore settlement, and then back to a stream and spring associated pattern (Sutton 1996:243). Not too surprising, then, for a desert environment, is that water availability has had a significant influence in determining the location of prehistoric habitation sites through time.

Within the Project area the only evidence of prehistoric activity is in the form of isolated artifacts and one low-density lithic scatter. The distribution of the prehistoric isolates equates to a very low-density artifact scatter across the property (see Map 3, Attachment 4). This scatter includes ground stone and flaked stone tools, flaked stone debitage, and at least one stylistically diagnostic artifact. The reason for this widely scatter occurrence, however, is unclear. Surface visibility in a majority of the property during survey was good. Agricultural tilling could be responsible for some of the scattering. Also a possible factor could be the likely fluctuation, through time, of the water level in the lake, and the consequent natural disturbance and/or obscuring of prehistoric sites along previous shorelines by erosion and/or by the deposition of lacustrine sediments. Also potentially contributing could be alluvial deposition and erosion, through time, from water flowing into the lake from the higher elevations surrounding the lake bed.

The Project area consists entirely of sedimentary units, primarily alluvial deposits. Ninyo and Moore (2009) delineate two geologic units: older alluvium and lake deposits. The older alluvium is described as consisting of “loose to very dense, silty to clayey fine to coarse sand with occasional layers of gravel, silt and clay, and wet, hard, fine, sandy and silty clay” (2009). The lake deposits were described as “loose to medium dense, silt and sand, and soft to firm clay” (2009). Hampson (1988) identified two periods of alluvial deposition described as older alluvium and younger alluvium, as well as lake deposits. The older alluvium is described as valley fill sediments derived from the surrounding highland areas. These sediments are indicated to be several feet in thickness and to consist primarily of coarse-grained pebbly sandstone beds with some interbedding of siltstone beds several inches in thickness. The younger alluvium is also described as valley fill from the surrounding highlands and consisting mostly of coarse-grained, pebbly sandstone. These younger alluvial sediments are indicated to grade laterally into the playa clay of Harper Lake and probably interfinger with the lacustrine sediments deposited by Harper Lake during its Pleistocene highstand. (1988). The younger alluvium and lake deposits probably represent, at least partially, late Pleistocene and Holocene deposition occurring during the time of prehistoric human activity in the area. While, given these conditions, it is possible that some older archeological deposits in the Project area may be buried (Sutton 1996), there is currently no

evidence to suggest that there is a high likelihood of significant buried cultural resources being affected by the Project.

The historic archaeological resources in the Project area are dominated by refuse scatters and informal dumps. Also noted were a reservoir facility and a likely former residence and/or farmstead. Most of the refuse scatters appear to represent mid-20th century activity (circa 1940 to 1970). The domestic nature of most of the artifacts appears to strongly support casual discard by travelers or dumping by local inhabitants, except in a few cases.

## CHAPTER 5 SUMMARY AND MANAGEMENT RECOMMENDATIONS

### SUMMARY

EDAW conducted a pedestrian archaeological survey to identify cultural resources in the Project area and a 200-foot buffer area. The field investigation identified 27 archaeological sites and 39 isolated finds. Based on surface observations, four of the archaeological sites appear potentially eligible for the NRHP or CRHR. None of the isolated finds are eligible for the NRHP or CRHR.

EDAW simultaneously conducted a historic architecture field survey of the Project area and a 0.5-mile buffer area to locate and document resources that would be 45 or more years old at the completion of the Project. Fourteen standing historic architectural resources were identified, and five were not relocated. Based on field observations and historical research, one resource has been determined eligible for the NRHP and CRHR.

### RECOMMENDATIONS

#### Archaeological Resources

Currently, a testing/evaluation program is recommended for two sites that possess a potential to qualify for the CRHR and that will be potentially impacted by the Project. These are listed in Table 6.

**Table 6. Archaeological Site to be Evaluated**

P-Number/ Trinomial or Temporary Number	Site Type	Date	Significance	Project Component
MS-H-246	Refuse dump/historic occupation	Mid-20th century	Potentially significant	Less than significant with mitigation
MS-P-250	Lithic scatter/ prehistoric occupation	Prehistoric	Potentially significant	Less than significant with mitigation

Potential Project impacts to all of the identified archaeological sites are summarized in Table 7. Many (22) of the 27 sites including four of the six archaeological resources potentially eligible for the CRHR, will not be impacted because they are located in the buffer areas of the project. Since the three of the five archaeological resources located within the Project area are not eligible for the CRHR, no mitigation is needed for these sites.

**Table 7. Summary of Mojave Solar Project Cultural Resources and Impact Assessment**

<b>P-Number/ Temporary Number</b>	<b>Type</b>	<b>Date</b>	<b>Significance</b>	<b>Project Impact</b>
<b>Archaeological Sites</b>				
P-36-006553 (CA-SBR-6553H)	Debris scatter and concrete foundation/historic occupation	Early to mid-20th century (1922–1950)	Potentially eligible for CRHR under Criterion 4	No impact
P-36-007429* (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century	Not significant	No impact
P-36-007430 (CA-SBR-7430H)	Debris scatter/historic occupation	Early to mid-20th century	Not significant	No impact
MS-H-001	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-004	Debris scatter/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-005	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-011	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-013	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-017	Debris pile/historic occupation	Mid-20th century	Not significant	No impact
MS-H-023	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-024	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-025	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-026	Debris dump/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-207*	Reservoir/foundations/debris scatter	Mid- to late 20th century	Not significant	No impact
MS-H-210	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-211	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-214	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-216	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-217	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-218	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact

**Table 7. (continued)**

<b>P-Number/ Temporary Number</b>	<b>Type</b>	<b>Date</b>	<b>Significance</b>	<b>Project Impact</b>
MS-H-221*	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-M-225	Lithic artifact scatter/ prehistoric occupation; Debris scatter/historic occupation	Prehistoric and Mid- 20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-H-238	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-245	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
MS-H-246*	Refuse dump/historic occupation	Mid-20th century	Potentially eligible for CRHR under Criterion 4	Less than significant with mitigation No impact with avoidance
MS-P-250*	Lithic scatter/prehistoric occupation	Prehistoric	Potentially eligible for CRHR under Criterion 4	Less than significant with mitigation No impact with avoidance
MS-H-252*	Debris scatter/historic occupation	Mid-20th century	Not significant	No impact
<b>Historic Architectural Resources</b>				
P-36-001025/ P-2084-99H	Farming and residential complex/adobe structure	Early to mid-20th century (circa 1920– 1960)	Not significant	No impact
P-36-006348	Farming and residential complex	Early 20th century	Demolished	No impact
P-36-006552	Farming and residential complex	Early 20th century	Demolished	No impact
P-36-006555	Farming and residential complex	Mid-20th century (after circa 1946)	Not significant	No impact
P-36-006556*	Farming and residential complex	Early to mid-20th century (circa 1911– 1959)	Potentially eligible for CRHR under Criteria 1 and 4	Less than significant impact with mitigation
P-36-006557*	Farming and residential complex	Mid- to late 20th century (circa 1922– 1950)	Not significant	No impact
P-36-006558*	Ranching, farming, commercial, and residential complex; Lockhart General Merchandise Store	Mid-20th century (circa 1922–1950)	Eligible for CRHR under Criterion 1	Less than significant impact with mitigation
P-36-006877	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006880	Residential buildings	Mid-20th century	Demolished	No impact

**Table 7. (continued)**

<b>P-Number/ Temporary Number</b>	<b>Type</b>	<b>Date</b>	<b>Significance</b>	<b>Project Impact</b>
P-36-006881	Residential buildings	Mid-20th century	Demolished	No impact
P-36-006882	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1001	Residential building	Mid-20th century	Not significant	No impact
MS-B-1002*	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1003*	Wells/water conveyance system	Mid-20th century	Not significant	No impact
MS-B-1004*	Residential/Storage building	Mid-20th century	Not significant	No impact
MS-B-1005	Farming and residential complex	Early 20th century	Potentially eligible for CRHR under Criterion 4	No impact
MS-B-1006	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1007	Residential buildings	Mid-20th century	Not significant	No impact
MS-B-1008	Residential buildings	Early to mid-20th century	Potentially eligible for CRHR under Criterion 4	No impact

\*Indicates sites and resources located within the Project area.

If significant or potentially significant cultural resources cannot be avoided, the Project owner should retain a qualified Cultural Resources Specialist to prepare and implement a data recovery program for the affected resources. The Principal Investigator for the mitigation program will meet the minimum Principal Investigator qualifications under the Secretary of Interior's Standards for Archaeology.

A designated Cultural Resources Specialist should be available during the construction to inspect and evaluate any finds of potentially significant buried cultural material. The Cultural Resources Specialist will coordinate with the Project owner's construction manager and environmental compliance manager to stop all work in the vicinity of the find until it can be assessed. If the discovery is determined to be not significant through consultation with CEC staff, work will be allowed to continue.

If in consultation with the CEC a discovery is determined to be significant, a mitigation plan should be prepared and carried out in accordance with State guidelines. If the resources cannot be avoided, a data recovery plan should be developed to ensure collection of sufficient information to address archaeological to historical research questions.

A professional technical report should be prepared documenting any assessment and data recovery investigations. The report should describe the methods and materials collected, and provide conclusions regarding the results of the investigations. The report should be submitted to the curatorial facility with the artifacts.

Cultural material collected as part of an assessment or data recovery mitigation should be curated at a qualified curation facility. Field notes and other pertinent materials should be curated along with the archaeological collection.



## CHAPTER 6

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1995 *Class III Cultural Resource Inventory for Los Angeles Department of Water and Power - Mead to Adelanto Transmission Line Project: Cronese and Calico Divisions*. Document on file with the Los Angeles Department of Water and Power.

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1995 *Class III Cultural Resource Inventory for Los Angeles Department of Water and Power, Mead to Adelanto Transmission Line Project: Mt. General, Kramer, and Adelanto Divisions*. Dames and Moore. Submitted to the Department of Water and Power, Los Angeles.

**ATTACHMENT 1**

**RESUMES**



TRINA MEISER  
Architectural Historian

SUMMARY

Historic preservation specialist and architectural historian

EDUCATION

MA, Historic Preservation Planning, Cornell University, 2003

BA, History, Kenyon College, 1998

AFFILIATIONS

National Trust for Historic Preservation

Society of Architectural Historians

California Preservation Foundation

Trina Meiser is a historic preservation specialist and an architectural historian with 6 years of experience in surveying, documenting, evaluating, and planning for historic structures, districts, sites, and cultural resources. Her background is based on a solid knowledge of architectural history, architectural styles and terminology, building materials conservation, and historic preservation theory. She has led seminars on architectural styles and the history of historic preservation, charrettes for the design treatments of historic districts, as well as workshops in materials conservation. She has completed cultural resource technical reports, National Register of Historic Places nominations, historic structures reports, and Federal Rehabilitation Tax Credit applications. She has consulted on a variety of historic structure rehabilitation plans with clients, architects, engineers, and agency representatives for regulatory review. Her experience in historic preservation planning provides a strong understanding of federal, state, and local historic preservation laws. She has a thorough knowledge of the *Secretary of the Interior's Standards for the Treatment of Historic Properties* and their functions in historic preservation planning.

Ms. Meiser's areas of interest include urban and landscape preservation planning and design, building restoration, archaeology, international heritage sites, and historic district and neighborhood revitalization projects. She is a member of the Society of Architectural Historians, the California Preservation Foundation, the National Trust for Historic Preservation, and several regional historical societies and preservation organizations.

HISTORIC PRESERVATION PROJECTS

National Register Eligibility Assessment for Naval Base Ventura County, Port Hueneme, California

Architectural Historian

CLIENT: U.S. Navy, Southwest Division

Recorded and evaluated 18 buildings at the Naval Construction Training Center at Port Hueneme for eligibility to the National Register. Conducted research on the Disaster Recovery Training School for incorporation into the historical context. Completed DPR forms and incorporated findings in a Historic Resources Evaluation Report.

Ramona Air Center Environmental Impact Report, Ramona, California  
Architectural Historian

CLIENT: TCR Properties

Conducted a survey and historical research of structures more than 50 years old to evaluate and document historic resources. Results were recorded on DPR forms and summarized for inclusion in the project Environmental Impact Report.

Exposition Light Rail Transit Phase 2, Los Angeles County, California  
Architectural Historian

CLIENT: Exposition Light Rail Authority/AECOM Transportation

Conducted fieldwork to record and evaluate historic resources along the Exposition Corridor ROW. Completed a Historical Resources Evaluation Report for the evaluation of historical resources for eligibility to the National Register of Historic Places and the California Register of Historical Resources. Provided cultural resources portion of Environmental Impact Statement, including mitigation measures for the treatment of evaluated historical resources.

TRINA MEISER

SR-76 Mission to I-15 Historical Resources Evaluation Report,  
San Diego, California  
Architectural Historian

CLIENT: San Diego Association of Governments/Caltrans  
Conducted fieldwork to record and evaluate ranching buildings and residences. Completed a Historical Resources Evaluation Report per Caltrans standards for the evaluation of historical resources for eligibility to the National Register of Historic Places and the California Register of Historical Resources.

Main Street Bridge Replacement Project, Temecula, California  
Architectural Historian

CLIENT: City of Temecula  
Conducted a survey and historical research of historic resources in Old Town Temecula adjacent to the Main Street Bridge. Results were recorded on DPR forms and in a Historical Resources Survey Report per Caltrans guidelines.

301 University Avenue Historical Evaluation and Technical Report,  
San Diego, California

Architectural Historian  
CLIENT: Allen, Matkins, Leck, Gamble, Mallory & Matsis, LLP  
Evaluated the condition and integrity of the former supermarket building dating from 1942. Prepared Historic Resources Evaluation Report and survey forms. Summarized findings for inclusion in the 301 University Uptown Environmental Impact Report.

SFVAMC Environmental Assessment of Seismic Upgrades,  
San Francisco, California

Architectural Historian  
CLIENT: Department of Veterans Affairs  
Consulted with architects and designers for the rehabilitation and seismic retrofit of the 1930s-era Art Deco San Francisco Veterans Affairs Medical Center buildings. Reviewed plans and rehabilitation standards to evaluate design of new additions and alterations. Engaged in consultation with the State Historic Preservation Office.

North Torrey Pines Bridge "Sorrento Overpass" Restoration,  
Del Mar, California

Historic Preservation Specialist  
CLIENT: City of Del Mar  
Consulted with engineers for the restoration of the 1933 North Torrey Pines Bridge to resolve significant impacts to the National Register-eligible resource. Assessed the deterioration of the bridge and established the historic character-defining features to be preserved. Evaluated restoration plans to suggest mitigation measures for its treatment in compliance with the Secretary of Interior Standards for Restoration.

Jefferson National Expansion Memorial, St. Louis, Missouri  
Architectural Historian

CLIENT: National Park Service  
Contributed to the cultural resources section of the GMP/EIS. Provided historical context for the Native American occupation, the French colonial establishment, and the 19th century development of the built environment in St. Louis, Missouri.

Fort Totten Conservation Work Weekend, New York, New York  
Historic Preservation Specialist

CLIENT: New York City Department of Parks and Recreation  
Organized a historic preservation event to perform restoration work on Officers' Quarters at retired military site along New York's East River. Oversaw the conservation of historic exterior woodwork elements. This conservation project was completed prior to joining EDAW.

TRINA MEISER

Hurricane Katrina Recovery, Disaster 1604-DR-MS, Biloxi, Mississippi  
Architectural Historian

CLIENT: Federal Emergency Management Agency, Region VI  
Recorded the condition and integrity of multiple properties affected by Hurricane Katrina and performed photo documentation. Determined if structures were eligible for National Register designation. Results were summarized in a report and through a series of maps generated in GIS. This conservation work was performed prior to joining EDAW.

Hurricane Katrina Recovery, Disaster 1604-DR-MS, Biloxi, Mississippi  
Historic Preservation Specialist

CLIENT: Federal Emergency Management Agency, Region VI  
Completed Section 106 review and coordinated with the State Historic Preservation Office to ensure that all projects funded by FEMA complied with federal regulations and the National Historic Preservation Act. Evaluated restoration projects for National Register eligibility in compliance with Secretary of Interior's Standards for Restoration and Rehabilitation under Programmatic Agreement. This historic preservation work was performed prior to joining EDAW.

Ithaca Downtown Commercial Historic District National Register  
Eligibility Nomination, Ithaca, New York  
Historic Preservation Planner

CLIENT: City of Ithaca  
Completed research and documentation of downtown commercial buildings dating from the 1830s to the 1930s. Document included architectural descriptions of each building. Successful nomination to the National Register. This historic preservation planning project was completed prior to joining EDAW.

University Avenue Historic District National Register Eligibility  
Assessment, Ithaca, New York  
Historic Preservation Planner

CLIENT: City of Ithaca  
Completed documentation included in the survey and nomination of this residential historic district with resources dating from the 1860s to the 1950s. This historic preservation planning project was completed prior to joining EDAW.

Historic Ithaca's State Theatre Restoration Project, Ithaca, New York  
Historic Preservation Specialist

CLIENT: Historic Ithaca, Inc.  
Evaluated restoration designs for compatibility with the historic character of the resource and for compatibility with the *Secretary of the Interior's Standards for Rehabilitation*. Performed conservation of textiles, decorative fixtures, plaster, and windows. Managed construction projects relating to aesthetic and ADA accessibility modifications. This restoration work was completed prior to joining EDAW.

The Clinton House, Ithaca, New York  
Historic Preservation Planner/Specialist

CLIENT: Historic Ithaca, Inc.  
Evaluated designs for compatibility with the historic character of the resource and for compatibility with the *Secretary of the Interior's Standards for Rehabilitation*. Compiled and prepared Part 1 of the Federal Rehabilitation Tax Credit Application. Oversaw construction management for aesthetic modifications to historic elements. This planning and conservation project was completed prior to joining EDAW.

TRINA MEISER

The Delaware, Lackawanna and Western Train Station National Register Eligibility Nomination, Ithaca, New York  
Historic Preservation Specialist

CLIENT: City of Ithaca

Composed historic context statement and architectural description for historic train station. Photodocumented building and submitted the application to the State Office of Historic Preservation. This historic preservation planning project was completed prior to joining EDAW.

Athens Exchange Hotel Stagecoach Livery Historic Structures Report, Athens, Pennsylvania  
Preservation Planner

CLIENT: Town of Athens, Pennsylvania

Conducted comprehensive assessment of exterior and interior spaces of 1860s livery structure. Identified character-defining features and compiled historic context statement. Photodocumented building and developed recommendations for treatment and maintenance of deteriorated historic features. This conservation project was completed prior to joining EDAW.

THEODORE COOLEY, RPA  
Archaeologist

#### EDUCATION

M.A. Anthropology, California State University,  
Los Angeles, 1982

B.A., Anthropology, California State College,  
Long Beach, 1970

#### AFFILIATIONS

Society for American Archaeology

Register of Professional Archaeologists

#### CERTIFICATIONS AND APPROVALS

County of San Diego Certified Consultant List  
for Archaeological Resources

City of San Diego, Certified Principal  
Investigator for Monitoring Projects

County of Riverside Certified Cultural  
Resources Consultant Principal Investigator

County of Orange Certified Cultural  
Resources Consultant Principal Investigator

Approved lists in San Luis Obispo, Santa  
Barbara, Ventura, and Los Angeles Counties

#### SPECIAL TRAINING

40-Hour HAZWOPER Training

Mr. Cooley has more than 39 years of experience in archaeological resource management. He has directed test and data recovery investigations, monitoring programs, and archaeological site surveys of large and small tracts, and has prepared reports for various cultural resource management projects. He is well-versed in NHPA, NEPA, and CEQA regulations and processes. Mr. Cooley also has extensive experience with Native American consultation and monitoring for archaeological field projects involving human remains and reburial-related compliance issues.

#### PROJECT EXPERIENCE

Boulder Oaks, Sycamore/Goodan, and Lusardi Open Space  
Preserves and Regional Parks, Cultural Resources Inventories,  
San Diego County, CA

Supervisory Archaeologist

CLIENT: County of San Diego Department of Parks and Recreation  
Supervisory Archaeologist for Phase I pedestrian survey and cultural resource inventories of Open Space Preserves and Regional Parks in unincorporated central San Diego County. The projects involved the identification and documentation of prehistoric and historic resources, built environment features, and existing infrastructure to assist the Department of Parks and Recreation in resource management. Inventory reports included extensive archival research and historical narrative, an inventory of identified sites, and management guidelines for potentially significant cultural resources developed in consultation with Native Americans where appropriate. Work performed prior to joining EDAW.

State Route 94 Operational Improvements Inventory and Evaluation,  
San Diego County, CA

Supervisory Archaeologist

CLIENT: Parsons Brinkerhoff

Supervisory Archaeologist of cultural resources field survey efforts, and documentation and evaluation related to proposed operational improvements along an 18-mile stretch of State Route 94 in San Diego County. Development of Caltrans-format documentation for archaeological and built environment resources. Work performed prior to joining EDAW.

Southern California Edison As-Needed Archaeological Services,  
Statewide

Supervisory Archaeologist

CLIENT: Southern California Edison

Supervisory Archaeologist for surveys, resource identification, documentation, testing, and evaluation efforts related to Southern California Edison infrastructure replacements and development throughout the state on both private and public lands, including BLM, USACE, and USFS. Project involved completion of State of California DPR forms, assessment of resource significance according to NRHP eligibility and CEQA significance criteria, and management recommendations. Work performed prior to joining EDAW.

Blackwater West Cultural Resources Phase I and Phase II Studies,  
Potrero, CA

Supervisory Archaeologist

CLIENT: Blackwater USA

Supervised the survey of an approximately 850-acre area in eastern San Diego County and the test excavation of identified prehistoric sites. Supervised the archaeological documentation, Extended Phase I testing, and Phase II

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testing efforts under the County of San Diego Guidelines implemented in September 2006. Work performed prior to joining EDAW.

Circle P Ranch Housing Development Project, San Diego County, CA  
Principal Investigator

CLIENT: Private

Principal Investigator for a Phase I cultural resources inventory and survey, and extended Phase I site testing program, involving a prehistoric and historic site, CA-SDI-17,910/H, located within the approximately 15-acre project property near Valley Center, San Diego County, California. Project duties consisted of supervision of fieldwork personnel, interaction with Native American monitors, and supervision and participation in the analysis and technical report preparation. The program was conducted under CEQA and local guidelines of the County of San Diego for the implementation of CEQA. Work performed prior to joining EDAW.

Blossom Valley Housing Development Project, San Diego County, CA  
Principal Investigator

CLIENT: Private

Principal Investigator for a Phase I cultural resources inventory and survey, and extended Phase I site testing program, involving a prehistoric site, CA-SDI-17,968 within the approximately 50-acre project property in Blossom Valley, San Diego County, California. Project duties consisted of supervision of fieldwork personnel, interaction with Native American monitors, and supervision and participation in the analysis and technical report preparation. The program was conducted under CEQA and local guidelines of the County of San Diego for the implementation of CEQA. Work performed prior to joining EDAW.

Jacumba Community Park Restroom Facility National Register and CEQA Testing Program, San Diego County, CA  
Principal Investigator

CLIENT: County of San Diego Department of Public Works (DPW)

Principal Investigator for a National Register and CEQA significance-testing program conducted at prehistoric archaeological site CA-SDI-17,979, to be impacted by the construction of a restroom facility within the Jacumba Community Park. Directed all project archaeological activities including analysis and report preparation. The project required interaction with DPW personnel and with Native American monitors. Work performed prior to joining EDAW.

Goleta General Plan EIR Cultural and Paleontological Resources Section, Santa Barbara County, CA  
Task Manager

CLIENT: City of Goleta

Task Manager for, and participant in, the preparation of the cultural resources section of the EIR for the Goleta General Plan. The project required the gathering and synthesis of background information, existing conditions, paleontological data, and regulatory requirements, and interaction with local individuals and interest groups, and with personnel of the City of Goleta. Work performed prior to joining EDAW.

Big Sandy Casino, Fresno County, CA  
Supervisory Archeologist

CLIENT: Big Sandy Rancheria

Supervisory Archeologist for a field survey and cultural resources site-testing program at a location for a proposed gaming facility near Friant, Fresno County, California. Project responsibilities included assisting in the supervision of field survey and site testing, and participation in report preparation.

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30-inch Recycled Water Pipeline, Reservoir, and Pump Station,  
San Diego, CA

Principal Investigator

CLIENT: Otay Water District

Principal Investigator for a Historic Properties Inventory and Survey for a 6.1-mile 30-inch recycled water pipeline route, and for a reservoir site pump station, located in southeastern San Diego County, California. A National Register and CEQA significance-testing program was conducted at prehistoric archaeological site CA-SDI-17,668 to be impacted by the construction of the recycled water pipeline. Directed all project archaeological activities including analysis and report preparation. The project required interaction with the Otay Water District and private contractor personnel, and with Native American monitors. Work performed prior to joining EDAW.

Emerald Oaks Housing Development Project, Ramona, CA

Supervising Archaeologist/Co-Principal Investigator

CLIENT: Private

Project Supervising Archaeologist and Co-Principal Investigator for a cultural resources survey and extended Phase I site boundary testing and Phase II evaluation program involving five prehistoric sites within the 311-acre project property in Ramona, California. Project duties consisted of supervision of fieldwork personnel, and supervision and participation in the analysis and technical report preparation. The program was conducted under CEQA and local guidelines of the County of San Diego for the implementation of CEQA. Work performed prior to joining EDAW.

Crosby Estate Golf Course Development, San Diego County, CA

Supervising Archaeologist

CLIENT: Starwood Development Company

Project Supervising Archaeologist for a cultural resources evaluation and site-indexing program involving the C.W. Harris Site Complex and other adjacent historic and prehistoric sites within the project property and adjacent Open Space areas, in San Diego County, California. Project duties consisted of direction of fieldwork, monitoring of construction activities, and supervision and participation in the analysis and technical report preparation. The program was conducted for U.S. Army Corps of Engineers (USACE) 404 Permit compliance. Work performed prior to joining EDAW.

As-Needed Surveys for Geotechnical and Water Facility Construction  
Projects, San Diego, CA

Project Manager and Principal Investigator

CLIENT: San Diego County Water Authority

Project Manager and Principal Investigator for six archaeological survey and/or monitoring projects conducted over a three-year period. The programs, all situated in western San Diego County, California, consisted of evaluations through background research and field surveys of proposed drilling/boring sites, pump stations, and other facility locations, and, when required, monitoring of drilling/boring and facility construction operations situated in areas determined as sensitive. The Project included background research, field surveys, preparation of technical reports, interaction with Water Authority engineers for project redesign, and interaction with construction personnel for successful monitoring. Work performed prior to joining EDAW.

Oak Country Estates, Ramona, CA

Supervising Archaeologist/Co-Principal Investigator

CLIENT: Private

Project Supervising Archaeologist and Co-Principal Investigator for a cultural resources survey and extended Phase I site boundary testing and Phase II evaluation program involving 30 mostly late-prehistoric sites within the 648-acre project property in Ramona, California. Project duties consisted of supervision of fieldwork personnel, and supervision and participation in the analysis and technical report preparation. The program was conducted under

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CEQA and local guidelines of the County of San Diego for the implementation of CEQA. Work performed prior to joining EDAW.

San Luis Rey Land Outfall Pipeline Alternatives Constraints Study,  
Oceanside, CA

Supervising Archaeologist/Co-Principal Investigator

CLIENT: Tetra Tech EM, Inc.

Principal Investigator, and overall Field Supervisor for this archaeological resource inventory and constraints study program, conducted in compliance with CEQA. The purpose of this Project was to assess the relative cultural resources impacts within four alternative route corridors for a proposed additional outfall pipeline from an existing inland water treatment plant to the ocean through the City of Oceanside, San Diego County, California. The project was conducted as a subcontractor for Tetra Tech EM, Inc., the primary contractor working for the City of Oceanside, and consisted of background research, spot check field survey of the alternative alignment corridors, and completion of the project data analysis and technical report preparation. Work performed prior to joining EDAW.

Davis-Eagle Property Archaeological Survey and Constraints Study,  
Ramona, CA

Supervising Archaeologist/Co-Principal Investigator

CLIENT: Private

Project Supervising Archaeologist and Co-Project Manager of an archaeological survey of 1,231 acres for a development constraints analysis, located near Ramona in San Diego County, California. The project required the discovery and recordation of all cultural resources on the property to provide data for an analysis of the constraints that cultural resources might represent, relative to future development of the property. Served as over-all supervisor of archaeological field and site recordation activities, co-managed the project, and conducted the cultural resources constraints analysis and report preparation. Work performed prior to joining EDAW.

San Pasqual Reclaimed Water Project Cultural Resources Inventory  
Study, San Diego, CA

Principal Investigator

CLIENT: City of San Diego Water Department

Principal Investigator for a cultural resources study of 8.15 miles of reclaimed water pipeline route and 12 acres of water tank facility construction in the City of San Diego, California. Project responsibilities included background research, field survey direction, and technical report preparation. The Project was conducted under CEQA and local guidelines of the City of San Diego for the implementation of CEQA. Work performed prior to joining EDAW.

Point Magu State Park Water Pipeline Route Archaeological Survey,  
Ventura County, CA

Principal Investigator

CLIENT: California State Department of Parks and Recreation

Principal Investigator for cultural resources survey of an 8-mile water pipeline route along Big Sycamore Canyon in Point Magu State Park, Ventura County, California. Project responsibilities included background research, field survey direction, GPS site location, and technical report preparation. The program was conducted under CEQA, prior to joining EDAW.

Malibu Creek State Park Archaeological Survey, Los Angeles  
County, CA

Principal Investigator

CLIENT: California State Department of Parks and Recreation

Principal Investigator for cultural resources survey of the 94-acre Tapia Park Sub-unit within Malibu Creek State Park, Los Angeles County, California. Project responsibilities included background research, field survey direction, GPS site location, and technical report preparation. The program was conducted under CEQA, prior to joining EDAW.

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Cleveland National Forest Archaeological Overview, CA  
 Researcher/Document Co-Author  
 CLIENT: U.S.D.A. Forest Service  
 Participated in the preparation of the "Archaeological Overview for the Cleveland National Forest, California." The project consisted of a review and assessment of existing archaeological resources data on file at the Cleveland National Forest. Project responsibilities included participation in background research, data analysis, and technical report preparation. The Project was conducted in compliance with Section 110 of the NHPA of 1966, as amended. Work performed prior to joining EDAW.

Ramona Soils Source Project, Ramona, CA  
 Principal Investigator  
 CLIENT: County of San Diego Department of Public Works  
 Principal Investigator for Phase I survey of a 30-acre property and Phase II testing/evaluation program of prehistoric site CA-SDI-16,386 and historic site CA-SDI-16,399, located in the Ramona area of San Diego County, California. Supervised all project archaeological activities including data analysis and report preparation. The Project required interaction with the Native America Heritage Commission and with County of San Diego Department of Public Works personnel. Work performed prior to joining EDAW.

Naval Submarine Base Point Loma Data Recovery Project,  
 San Diego, CA  
 Researcher/Document Co-Author  
 CLIENT: U.S. Navy, Southwest Division  
 Co-Author of the technical document "Archaeological Data Recovery Report For a Portion CA-SDI-48 at Buildings 139 and 158, Naval Submarine Base, San Diego." The Project consisted of a data recovery program conducted at National Register prehistoric archaeological site CA-SDI-48, located on the Point Loma Naval Submarine Base, San Diego, California. The program was conducted for the Navy through Southwest Engineering Facilities Division. Project responsibilities included participation in background research, data analysis, and report preparation. Work performed prior to joining EDAW.

Metromedia Fiber Optic Line Project, CA  
 Project Archaeologist  
 CLIENT: Environmental Services Associates (ESA)  
 Project Archaeologist for cultural resources studies conducted in compliance with CEQA, as administered by the California Public Utilities Commission (CPUC), of more than 300 miles of proposed routes for the emplacement of fiber optic cable lines along existing streets and railroad rights-of-way within San Francisco, San Mateo, Santa Clara, Alameda, Contra Costa, Marin, Los Angeles, Orange, and San Diego counties, California. Project involvement included background research, field surveys, site recordation, and technical report preparation. Work performed prior to joining EDAW.

Calvary Lutheran Church Data Recovery Project, Solana Beach, CA  
 Project Supervising Archaeologist/Co-Principal Investigator  
 CLIENT: Calvary Lutheran Church  
 Co-Principal Investigator for a data recovery program conducted at prehistoric archaeological site CA-SDI-10,238 (SDM-W-36), important under CEQA, located in the City of Solana Beach, San Diego County, California. Program responsibilities consisted of completion of background research, overall supervision of field personnel, and data analysis and technical report preparation. The program also required interaction with Calvary Lutheran Church personnel, Native American consultants, the City of Solana Beach, and the State Historic Preservation Office. Work performed prior to joining EDAW.

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Mexico/United States Colorado River Conveyance Facility,  
San Diego and Imperial Counties, CA

Principal Investigator

CLIENT: San Diego County Water Authority (SDCWA)

Principal Investigator for archaeological surveys and monitoring of geotechnical drilling/boring sites. The program consisted of evaluations, background research, and field survey of 26 proposed drilling/boring site locations and the subsequent monitoring of five of the drilling/boring operations situated in areas determined as sensitive. The locations were distributed along two proposed pipeline routes between San Vicente Lake and the Yuha Basin in southernmost San Diego and Imperial Counties, California. Project involvement included background research, field surveys, preparation of technical reports, and interaction with SDCWA, BLM, and USDA Forest Service. Work performed prior to joining EDAW.

Dry Creek Native American Gaming Facility, Sonoma County, CA

Project Archaeologist

CLIENT: Environmental Science Associates (ESA)

Project Archaeologist for cultural resources field survey of the location for a proposed gaming facility in the Dry Creek Valley area of Sonoma County, California. Project responsibilities included field surveys and report preparation. Work performed prior to joining EDAW.

Otay Travel Center Project, Otay Mesa, CA

Principal Investigator

CLIENT: Bennett Consolidated

Principal Investigator for a significance testing program of two prehistoric sites, CA-SDI-10,067 and CA-SDI-12,878, located in the Otay Mesa area of southernmost San Diego County, California. Directed all project archaeological activities including data analysis and report preparation. The Project required interaction with subcontractors and County of San Diego planning personnel. Work performed prior to joining EDAW.

City of American Canyon Wastewater Facility & Sewer Line Extension  
Routes, Napa County, CA

Project Archaeologist

CLIENT: Environmental Science Associates (ESA)

Project Archaeologist for cultural resources field surveys of proposed emplacement of sewer pipelines along future and existing city streets within the City of American Canyon, Napa County, California. Project responsibilities included field surveys, site recordation, and report preparation. Work performed prior to joining EDAW.

Fallbrook Naval Ordinance Center Historic Properties Inventory,  
Seal Beach, CA

Project Manager/Principal Investigator

CLIENT: U.S. Navy, Southwest Division

Project Manager, Principal Investigator, and overall Field Supervisor for an archaeological resource inventory program in San Diego County, California, that consisted of background research, field surveys of 5,800 acres, and completion of the project data analysis and technical report preparation. The program was conducted for the Naval Weapons Station through Southwest Engineering Facilities Division, in compliance with Section 110 of the NHPA of 1966, as amended. Work performed prior to joining EDAW.

Focused Data Recovery Project, San Juan Capistrano, CA

Supervising Archaeologist/Co-Principal Investigator

CLIENT: Talega Associates

Co-Principal Investigator for a focused data recovery program conducted at prehistoric archaeological site CA-ORA-907, Locus A, important under CEQA, located in the City of San Juan Capistrano, Orange County, California. Program responsibilities consisted of completion of background research, direct supervision of field personnel, data analysis, and technical report

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preparation. The program also required interaction with Native American consultants and County of Orange personnel. Work performed prior to joining EDAW.

Naval Air Station Miramar EIS Cultural Resources Studies for the Base Realignment and Closure Project, San Diego, CA

Task Manager/Principal Investigator

CLIENT: U.S. Navy, Southwest Division

For more than 2 years, served as Task Manager and overall Field Supervisor for cultural resources studies with Principal Investigator responsibilities on this major cultural resource program in San Diego County, California. The program consisted of background research for, and field surveys of more than 3,500 acres for numerous proposed facility locations. Project duties consisted of overall direction of fieldwork, and supervision and participation in the project data analysis, technical report preparation, and field construction monitoring for USACE 404 Permit compliance. Work performed prior to joining EDAW.

Marine Corps Camp Pendleton Helicopter Outlying Landing Field Project, San Diego, CA

Project Manager/Principal Investigator

CLIENT: U.S. Navy, Southwest Division

Directed cultural resources studies as Project Manager and Principal Investigator for this three-year EA program, consisting of a Phase I inventory and Phase II evaluation for the construction of a helicopter outlying landing field on Camp Pendleton, California. Four alternative locations were inventoried and three prehistoric sites, located within the preferred alternative, were tested for National Register eligibility. Project duties included overall direction and supervision of the project fieldwork, data analysis, technical report preparation, and interaction with various Base and agency personnel. Work performed prior to joining EDAW.

Emergency Water Storage Project, San Diego, CA

Principal Investigator

CLIENT: San Diego County Water Authority

Principal Investigator for archaeological surveys and site evaluations. This large-scale project lasted for more than two years, and included field surveys of more than 3,500 acres for alternative reservoir sites and appurtenant facilities, and approximately 40 miles of alternative pipeline routes. It included interaction with local Native American groups. Work performed prior to joining EDAW.

Point Loma Submarine Base Data Recovery, San Diego, CA

Project Manager/Co-Principal Investigator

CLIENT: Evaluation Research Company, Inc.

Project Manager and Co-Principal Investigator for a data recovery program conducted at National Register prehistoric archaeological site CA-SDI-10,945, located on the Point Loma Naval Submarine Base, San Diego, California, for the Navy. Program required interaction and coordination with Naval Base personnel, interaction with the State Historic Preservation Office and with the Advisory Council on Historic Preservation. Work performed prior to joining EDAW.

Mission Valley West Light Transit Limited Data Recovery, San Diego, CA

Task Manager/Principal Investigator

CLIENT: Metropolitan Transit District Board

Task Manager and Principal Investigator for a Limited Data Recovery Program conducted at National Register prehistoric archaeological site CA-SDI-11,767, located on the Star Dust Golf Course, San Diego, California. Program required interaction and coordination with Native American Monitors and USACE personnel for 404 Permit requirements. Work performed prior to joining EDAW.

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East Mission Gorge Interceptor Pump Station and Force Main Cultural Resources Data Recovery, San Diego, CA  
Co-Project Manager/Principal Investigator

CLIENT: PCL Civil Constructors, Inc.

Principal Investigator and Co-Project Manager for a data recovery program conducted at National Register eligible, prehistoric archaeological site CA-SDI-9,243 to be impacted by construction of a reclaimed water force main pipeline located in the City of San Diego. Directed all project archaeological activities including analysis and report preparation. The Project required interaction with City of San Diego Water Utilities personnel and Native American monitors. Work performed prior to joining EDAW.

Otay Ranch Planned Development Archaeological Reconnaissance Survey, Chula Vista, CA

Co-Project Manager/Principal Investigator

CLIENT: City of Chula Vista and County of San Diego

Principal Investigator and Co-Project Manager of an archaeological survey of 6,000 acres of proposed development on three parcel areas of the 23,088-acre Otay Ranch, located in San Diego County, California. The Project required evaluation of all cultural resources on the ranch property. Directed archaeological activities, co-managed the project, supervised analysis and report preparation, and interacted with County of San Diego and City of Chula Vista personnel. Work performed prior to joining EDAW.

Crown Point and Rose Creek Portion of the Mission Bay Sewage Interceptor System Phase V Archaeological Testing Program-  
Department No. 90-0540, San Diego, CA

Project Manager/Principal Investigator

CLIENT: City of San Diego Water Utilities Department

Principal Investigator and Project Manager for a testing program of two large prehistoric sites, CA-SDI-11,571 and CA-SDI-5,017, during Phase V of the Water Utilities Mission Bay Sewage Interceptor System Project involving the emplacement of pipelines along City streets in the Crown Point and Rose Creek areas, adjacent to Mission Bay. Directed all project archaeological activities, including analysis and report preparation. The Project required interaction with construction subcontractors and City of San Diego Water Utilities personnel. Work performed prior to joining EDAW.

Pipeline Studies, Santa Barbara County, CA

Project Manager

CLIENT: All American Celeron Pipeline Company

Project Manager for more than 3 years on this major cultural resource program that consisted of surveys of alternative pipeline routes, testing of sites to be impacted, final data recovery on 17 prehistoric sites, monitoring of construction activities, and planning and coordination with local Native American groups and Native American monitors, in Santa Barbara County, California. Work performed prior to joining EDAW.

Air Force Housing Archaeological Study, Los Angeles County, CA  
Supervising Archaeologist

CLIENT: U.S. Army Corps of Engineers

Project Supervising Archaeologist of a testing program of three sites on the Palos Verdes Peninsula, Los Angeles County, California, for the United States Air Force. Directed field work and participated in analysis and report preparation. Work performed prior to joining EDAW.

Texaco Marine Terminal Construction, Santa Barbara County, CA  
Co-Principal Investigator/Supervising Archaeologist

CLIENT: Texaco Trading and Transportation Company

Co-Principal Investigator and Project Supervising Archaeologist for more than 1 year for the Texaco Marine Terminal Construction Project, a cultural resources evaluation and data recovery program involving one historic and four prehistoric sites in Gaviota, Santa Barbara County, California. Project

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duties consisted of direction of fieldwork and construction monitoring activities, planning and coordination with local Native American groups and Native American monitors, and supervision and participation in analysis and report preparation. Work performed prior to joining EDAW.

Point Arguello Pipeline Studies, Santa Barbara County, CA  
Co-Principal Investigator/Supervising Archaeologist  
CLIENT: Chevron, USA

Project Archaeologist with responsibilities as Field Director and Co-Principal Investigator for more than 3 years on this major cultural resource program that consisted of surveys of alternative pipeline routes, testing of sites to be impacted for National Register assessment, final data recovery on 34 National Register quality sites, monitoring of construction activities, and planning and coordination with local Native American groups and Native American monitors, in Santa Barbara County, California. Work performed prior to joining EDAW.

Southwest Power-Link Transmission Line Corridor, Imperial County, CA  
Field Director

CLIENT: San Diego Gas & Electric

Field Director for a major, 2-year, archaeological Data Recovery Program that included monitoring of portions of 35 sites along a 27-mile transmission line corridor located in the Picacho Basin and East Mesa areas for Southwest Power-Link, Imperial County, California. Field Director responsibilities included coordination and supervision of three crew chiefs and their field crews, a field laboratory director and laboratory crew, BLM agency personnel, and local Native American groups and Native American monitors. Work performed prior to joining EDAW.

Development Archaeological Studies, Mission Viejo, CA  
Project Archaeologist/Field Director

CLIENT: Mission Viejo Land Development Company

Project Archaeologist/Field Director of archaeological surveys of 2,700-acre, 3,000-acre, and 7,000-acre development properties, and of a testing and data recovery program of prehistoric archaeological site CA-ORA-947 to be impacted by planned development, located in Mission Viejo, Orange County, California. Directed the field work and conducted the analysis and report preparation. Work performed prior to joining EDAW.

Archaeological Data Recovery Program, Los Angeles County, CA  
Project Archaeologist/Field Director

CLIENT: Cayman Development Company

Project Archaeologist/Field Director of both the test and salvage excavations of prehistoric archaeological sites CA-LAN-844 and CA-LAN-845, located on Palos Verdes Peninsula, Los Angeles County, California. Directed the field work and conducted the analysis and report preparation. Work performed prior to joining EDAW.

Land Development Archaeological Studies, Huntington Beach, CA  
Project Archaeologist/Field Director

CLIENT: Signal Landmark Properties, Inc.

Project Archaeologist/Field Director of test, and Co-Field Director of data recovery excavations of archaeological site CA-ORA-183, in the City of Huntington Beach, Orange County, California. Directed field work, conducted analysis and report preparation of the testing phase, and co-directed and participated in analysis and report preparation of the data recovery phase. Work performed prior to joining EDAW.

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## PUBLICATIONS

Cooley, T., and Laura J. Barrie. 2004. Archaeological Excavation at the Village of Pámu, Ramona Valley, California. *Proceedings of the Society for California Archaeology*, Vol. 17, pp. 43-56.

Cooley, T. 1998. Observations on Settlement and Subsistence During the Late La Jolla Complex-Preceramic Interface as Evidenced at Site CA-SDI-11,767, Lower San Diego River Valley San Diego County, California. *Proceedings of the Society for California Archaeology*, Vol. 11, pp. 1-6.

Cooley, T. 1995. Early Period Results from Data Recovery Conducted on a Portion of Stratified Prehistoric Site, CA-SDI-9,243, San Diego County, California. *Proceedings of the Society for California Archaeology*, Vol. 8, pp. 227-238.

Cooley, T. 1992. Observations on Hydration Measurements of Obsidian Deriving from Buried Deposits from Site CA-SBA-2028, at Gaviota, Santa Barbara County, California. *Coyote Press Archives of California Prehistory*, No. 37, pp. 27-38.

Cooley, T. 1992. Junior author with Jon M. Erlandson, Roy Dugger, and Richard Carrico. Archaeological Investigations at CA-SBA-97: a Multicomponent Coastal Site at Gaviota, California. *Coyote Press Archives of California Prehistory*, No. 37, pp. 49-80.

Cooley, T. 1989. Contributing author. Archaeological Investigations on the Rancho San Clemente, Orange County, California. Principal author Constance Cameron. *Coyote Press Archives of California Prehistory*, No. 27.

Cooley, T. 1987. Junior author with Jon M. Erlandson and Richard Carrico. A Fluted Projectile Point Fragment from the Southern California Coast: Chronology and Context at CA-SBa-1951. *Journal of California and Great Basin Anthropology* Volume 9, Number 1, pp. 120-128.

Cooley, T. 1985. Junior author with Marie Cottrell, Constance Cameron, Vada Drummy-Chapel, and Adella Schroth. Excavations and Investigations at CA-Ora-183, the Newland House Site, Huntington Beach, California. *Pacific Coast Archaeological Society Quarterly* Volume 21, Number 1, January, pp. 1-77.

Cooley, T. 1984. The Biface Reduction Technique Exhibited at a Southern California Quarry Workshop Site: LAn-844. *Pacific Coast Archaeological Society Quarterly* Volume 20, Number 3, July pp. 5-17.

Cooley, T. 1980. Junior author with Marie G. Cottrell and Joyce M. Clevenger. Investigations of CA-SCal-137 Bulrush Canyon, Catalina Island, California. *Pacific Coast Archaeological Society Quarterly* Volume 16, Numbers 1 and 2, January and April, pp. 5-25.

## PAPERS AND PRESENTATIONS

Cooley, T. 2008. Dating at the Spindrift Site Relative to Other La Jolla Sites and the Adjacent San Diego Coastal Area. Paper presented at the Society for California Archaeology Meetings, Burbank, California, March.

Cooley, T. 2006. Continuing Discoveries of the San Dieguito and Other Cultural Patterns In and Around the C.W. Harris Site (SDI-149). Paper presented at the Society for California Archaeology Meetings, Ventura, California, March.

Cooley, T., and L. Barrie. 2003. Archaeological Excavation at the Village of Pámu, Ramona Valley, California. Paper presented by the junior author at the Society for California Archaeology Meetings, Sacramento, California, March.

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Cooley, T. 1998. Review of the Biface Reduction Technique Exhibited at a Southern California Quarry Site. Paper presented at the Society for California Archaeology Meetings, San Diego, California, March.

Cooley, T. 1997. Observations on Settlement and Subsistence During the La Jolla Complex-PreCeramic Interface as Evidenced at Site CA-SDI-11,767, Lower San Diego River Valley, San Diego County, California. Paper presented at the Society for California Archaeology Meetings, Rohnert Park, California, March.

Cooley, T. 1994. Results of a Data Recovery Program Conducted on a Portion of Stratified Prehistoric Site CA-SDI-9,243, San Diego County, California. Paper presented at the Society for California Archaeology Meetings, Ventura, California, March.

Cooley, T. 1991. Investigations at CA-SBa-2028. Paper presented at the Society for California Archaeology Meetings, Sacramento, California, March.

Cooley, T. 1991. Description and Analysis of Biface Artifacts Recently Excavated from the C. W. Harris Site Complex, San Diego County, California. Paper presented at the Society for California Archaeology Meetings, Sacramento, California, March.

Cooley, T. 1990. Preliminary Analysis and Description of Biface Artifacts Recently Excavated from the C. W. Harris Site Complex, San Diego County, California. Paper Presented at the Society for California Archaeology Southern California Data Sharing Meeting, Riverside, California, October.

Cooley, T. 1984. Diagnostic Artifacts and Temporal Considerations at Rancho San Clemente: A Preliminary Appraisal. Paper Presented at the Society for California Archaeology Southern California Data Sharing Meeting, Fullerton, California, October.

Cooley, T. 1984. Thermal Applications and Lithic Tool Manufacture and Use at LAn-844. Paper presented at the Society for California Archaeology Meetings, Asilomar, California, March.

Cooley, T. 1983. The Biface Reduction Technique Exhibited at a Southern California Quarry Site. Paper presented at the Southwestern Anthropological Society Meetings, San Diego, California, March.

Cooley, T. 1983. Project Results of the Picacho Basin Studies. Paper presented at the Society for California Archaeology Meetings, San Diego, California, March.



REBECCA MCCORKLE APPLE, RPA  
Principal/Manager, Cultural Resources Group/  
Senior Archaeologist

#### SUMMARY

Expertise with CEQA/NEPA requirements  
Experience with Section 106 compliance and mitigation programs  
Over 20 years experience in cultural resource management

#### EDUCATION

MA, Anthropology, San Diego State University, 1990  
BA, Anthropology, San Diego State University, 1978

#### AFFILIATIONS

Society for American Archaeology  
Society for California Archaeology

#### CERTIFICATIONS

Register of Professional Archaeologists  
Certified Archaeology Consultant, County of San Diego

#### ACADEMIC AWARDS AND

SCHOLARSHIPS  
Phi Kappa Phi  
Phi Beta Kappa  
University Scholar, 1987 and 1988

#### PAPERS AND PUBLICATIONS

*Setting the Scene: Interpretive Planning and Implementation in Old Town Historic State Park.* Paper presented at the 42<sup>nd</sup> Annual Meeting for the Society of California Archaeology, Burbank, California (2008).

*Mapping and Managing Pathway to the Past.* Paper presented at the 22<sup>nd</sup> Annual ESRI International User Conference, San Diego, California (2002).

*Introduction to Recent Archeological Investigations at the Salton Sea Test Base, Imperial County California.* Proceedings of the Society for California Archaeology, Volume 12. Fresno, California (1999).

*Introduction to Recent Archaeological Investigations at Salton Sea Test Base, Imperial County, California.* Paper presented at the 32<sup>nd</sup> Annual Meeting for Society for California Archaeology, San Diego (1998).

*A Lake Mojave Period Site Near Silver Lake, California* (with A. York). Presented at the 26<sup>th</sup> Annual Meeting of the Society for California Archaeology, Pasadena (1992).

*Recent Archaeological Investigations in the North Las Vegas Valley* (with J.H. Cleland and M.S. Kelly). In *Crossing the Borders: Quaternary Studies in Eastern California and Southwestern Nevada.* San Bernardino County Museum Association Special Publication (1991).

Rebecca Apple has over 20 years of experience in cultural resource management and serves as senior archaeologist for EDAW. Her experience includes managing cultural resources compliance efforts for large complex projects. She is knowledgeable in the procedures and guidelines associated with implementation of NHPA and CEQA. She has managed numerous cultural resource projects, including prehistoric, historic, and ethnographic studies. She has directed inventories, evaluations, data recovery efforts, and monitoring programs. She has also prepared management plans and conducted feasibility studies. Her work frequently includes consultation with municipal, state, and federal agencies, as well as Native American representatives and the public. As part of interdisciplinary teams, she has managed cultural resources investigations and authored cultural resource sections for ISs, EAs, EIRs, and EISs. Her experience includes cultural resource investigations for pipelines, transmission lines, power plants, highways, landfills, water resource facilities, military installations, and commercial and residential development.

#### ENERGY AND TRANSMISSION PROJECTS

##### CONFIDENTIAL PROJECT

Task Manager

CLIENT: CONFIDENTIAL CLIENT

Responsible for oversight of archaeological and architectural surveys, technical reports, coordination with CEC staff, and preparation of AFC sections for a 2,000-acre solar project.

Yuma Lateral Pipeline Project, Yuma, AZ

Project Manager

CLIENT: North Baja LLC (TransCanada)

Responsible for cultural services, conducting records searches, archival research, Native American consultation, and survey of the preferred alignment. Identified resources included the Yuma Valley Railroad, a National Register-eligible property.

Harper Lake Cultural Resources Constraints Study,

San Bernardino County, CA

Task Manager

CLIENT: ENSR/Harper Lake, LLC

Responsible for field reconnaissance and constraints analysis for a proposed 3,300-acre specific plan area. Potential development included a diary and energy park.

North Baja Pipeline Project, Ehrenberg, Arizona to Mexican Border

Project Manager

CLIENT: Foster Wheeler

Responsible for cultural services, conducting records searches, archival research, Native American consultation, survey of the preferred alignment and alternatives, site evaluation, and data recovery.

DeAnza Pipeline Constraints and Permitting Analysis,

Ehrenberg, AZ to Calexico, CA

Resource Manager

CLIENT: AEP

Responsible for cultural services, providing information on distribution of natural and cultural resources along the proposed pipeline corridor in report

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format, with accompanying maps showing these resources and other constraints.

SEMPRA On-call Cultural Services, CA

Resource Manager

CLIENT: SEMPRA

Resource manager for cultural resource task orders. Most recent task order dealt with artifact curation for a City project.

Imperial Irrigation District Cultural Survey, Imperial County, CA

Project Manager

CLIENT: Imperial Irrigation District

Responsible for cultural resources component of two transmission line studies. Survey and testing were conducted in conjunction with pole replacement along the R and L transmission lines.

Mead-Adelanto Transmission Line, Clark County, NV,

and San Bernardino County, CA

Resource Manager

CLIENT: Los Angeles Department of Water and Power

Cultural resource survey.

Sycamore Canyon Substation to Rancho Carmel Substation 69-kV

Transmission Line Project, San Diego County, CA

Project Manager

CLIENT: San Diego Gas & Electric

Responsible for cultural resources component of a PEA document for submittal to the CPUC that evaluated the potential environmental impacts of a proposed 69-kV transmission line.

Coso Known Geothermal Resource Area, Inyo County, CA

Resource Manager

CLIENT: Los Angeles Department of Water and Power

Responsible for data recovery investigations at two geothermal well-pads located in the Sugarloaf Mountain Obsidian Source National Register District.

Santa Ynez Unit Development, Santa Barbara County, CA

Field Director

CLIENT: Exxon Corporation

Supervised data recovery excavations of a prehistoric coastal site.

Big Creek Expansion Project Transmission Line, South Central, CA

Data Manager

CLIENT: Southern California Edison

Responsible for cultural resource impact assessment of alternative routes for a proposed transmission line from the Big Creek Hydroelectric Project in the Sierras to the Los Angeles Basin.

Kern River Gas Transmission Project, WY, UT, NV, and CA

Task and Resource Manager

CLIENT: Kern River Gas Transmission Company

Inventory, evaluation, data recovery, and construction monitoring for California portion of this Class I overview.

Argus Cogeneration Expansion, San Bernardino and Inyo Counties, CA

Project Archaeologist

CLIENT: Kerr-McGee

Supervised cultural resource survey and documentation for a water pipeline.

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Geothermal Public Power Line Project, North Central CA  
Resource Manager

CLIENT: Sacramento Municipal Utility District

Responsible for cultural resource surveys for a proposed transmission line from the Geysers Geothermal Area to Sacramento.

Southwest Powerlink 500-kV Transmission Line EIR/EIS,  
Imperial and San Diego Counties, CA

Resource Manager

CLIENT: San Diego Gas & Electric

Participated in Section 106 compliance activities, including data recovery, analysis, and report preparation.

#### MILITARY PROJECTS

Integrated Cultural Resources Management Plan and Cultural Affiliation Study, Chocolate Mountains Aerial Gunnery Range, Marine Corps Air Station Yuma, Riverside, and Imperial Counties, CA  
Co-Principal Investigator

CLIENT: U.S. Navy, Naval Facilities Engineering Command, Southwest and MCAS Yuma

Preparing an ICRMP for CMAGR to guide cultural resources compliance efforts to facilitate CMAGR mission. ICRMP will summarize existing inventory and provide a process to streamline the inventory and evaluation process. Components of the ICRMP are a Regional Archaeological Research Design and a Cultural Affiliation Study.

Archaeological Evaluation of Sites on San Clemente Island,  
Los Angeles County, CA

Principal Investigator

CLIENT: U.S. Navy Southwest Division and Navy Region Southwest  
Responsible for National Register of Historic Places Evaluation of four archaeological sites on San Clemente Island.

Cultural Resources Survey and Evaluation for Spring Hill and Associated Access Roads, Riverside County, CA

Principal Investigator

CLIENT: U.S. Navy, Naval Facilities Engineering Command, Southwest and MCAS Yuma

Directed archaeological resource survey of proposed facility to improve communications for aircraft and vehicles with the Chocolate Mountain Aerial Gunnery Range (CMAGR). Two sites were evaluated for eligibility to the National Register of Historic Places. One site appeared to contain very limited information potential and did not qualify for the NRHP. Site CA-RIV-8236 appeared to possess information relevant to addressing regional research issues and was recommended eligible for the NRHP.

Integrated Cultural Resources Management Plan Naval Base Point Loma, San Diego, CA

Project Manager

CLIENT: U.S. Navy, Naval Facilities Engineering Command and Naval Base Point Loma

Preparing an ICRMP for CMAGR to guide cultural resources compliance efforts to facilitate CMAGR mission. ICRMP will summarize existing inventory and provide a process to streamline the inventory and evaluation process. Components of the ICRMP are a Regional Archaeological Research Design and a Cultural Affiliation Study.

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Archaeological Survey for the Chocolate Mountains Aerial Gunnery Range Central Training Area, Marine Corps Air Station Yuma, Imperial County, CA

Resource Manager

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Responsible for cultural resource survey of proposed central training area on CMAGR. The 1,580-acre survey identified four sites on R-2507S and four on R-2507 N. One of the sites on the South Range (the remains of a ranch complex) and three of the sites on the North Range (rock art, ceramics scatter, and a rock ring) were identified as potentially eligible for the National Register of Historic Places.

Chocolate Mountains Aerial Gunnery Range: Cultural Resources Survey of 12 Targets and Monitoring of 14 Archaeological Sites, Riverside and Imperial Counties, CA

Principal Investigator

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Directed cultural resource survey of 1,523 acres and site monitoring program on CMAGR. Inventoried site types were lithic scatters, trail segments, pot-drops, rock features, and a mining area. Monitoring program included lithic scatters, rock art, cleared circles, mining complexes, and a segment of historic road.

Cultural Resources Survey of Six Areas on the Chocolate Mountains Aerial Gunnery Range, Imperial County, CA

Principal Investigator

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Directed cultural resource survey of proposed Forward Air Reporting Position, range access, and target areas.

Evaluation of 24 Sites at the Chocolate Mountains Aerial Gunnery Range, Imperial County, CA

Principal Investigator

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Responsible for National Register of Historic Places evaluation of 24 sites in the Chocolate Mountains.

Historic and Archaeological Resources Protection Plan, Chocolate Mountain Aerial Gunnery Range, Imperial and Riverside Counties, CA

Project Manager

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Directed archival archaeological research and field visit for the Chocolate Mountain Aerial Gunnery Range. Prepared HARP Plan for the installation.

Evaluation of Two Sites, MCAS Yuma, AZ

Project Manager

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Evaluation of two archaeological sites near the MCAS Yuma airfield.

San Clemente Island Operations Management Plan EIS, Naval Auxiliary Air Field, San Clemente Island, Los Angeles County, CA

Resource Manager

CLIENT: U.S. Navy, Southwest Division and SRS Technologies

Assessed current cultural resource inventory and supplemented in specific areas. Project involved preparation of technical report documenting inventory efforts, including shipwreck study. Impact analysis conducted for existing and proposed military operations on San Clemente Island.

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Indefinite Quantity Contract for Cultural Resource Services, CA and AZ  
Project Manager

CLIENT: U.S. Navy, Southwest Division

Contract manager for multiple task orders on a variety of projects involving archaeological surveys and archaeological evaluations throughout California and Arizona. Tasks include managing budget, overseeing staff, acting as point of contact, and preparation of final reports.

Archaeological Support for Environmental Assessment of Wind Farm Project, Naval Auxiliary Landing Field, San Clemente Island, Los Angeles County, CA

Resource Manager

CLIENT: U.S. Navy, Southwest Division

Prepared cultural resource portion of the EA and placed protective signs at nine archaeological sites near or adjacent to the Wind Farm construction area.

Special Warfare Training and Range Survey, Naval Auxiliary Landing Field, San Clemente Island, Los Angeles County, CA

Senior Archaeologist

CLIENT: U.S. Navy, Southwest Division

Performed cultural resource survey of proposed training ranges on San Clemente Island. Prepared technical report in support of an EA.

Evaluation of Six Sites near the Missile Impact Range, Naval Auxiliary Landing Field, San Clemente Island, Los Angeles County, CA

Project Manager

CLIENT: U.S. Navy, North Island, Natural Resources Office

Provided technical assistance for the NRHP evaluation of six archaeological sites on the Central Plateau of San Clemente Island.

Historic and Archaeological Resources Protection Plan, MCAS Yuma, AZ

Project Manager

CLIENT: U.S. Navy, Southwest Division and MCAS Yuma

Directed archival archaeological research and building inventory for MCAS Yuma. Lead author on Historic and Archeological Resources Protection Plan for the installation.

Pumped-Hydro Storage Wind/Energy System, Naval Auxiliary Air Field, San Clemente Island, Los Angeles County, CA

Resource Manager

CLIENT: U.S. Navy, Southwest Division

Relocated and recorded 76 archaeological sites in proposed water storage and wind/energy development area. Prepared existing conditions report.

Tactical Aircrew Combat Training System Range Upgrade, MCAS Yuma, AZ

Project Manager

CLIENT: U.S. Navy, Southwest Division

Performed cultural resource survey of proposed transmission line and 17 threat emitter stations. Prepared testing plan.

Cultural Resource Inventory Survey at Salton Sea Test Base, Imperial County, CA

Project Archaeologist

CLIENT: U.S. Navy, Southwest Division

Conducted intensive cultural resource survey for approximately 6,000 acres and evaluation program for 170 sites. Survey and test excavations were conducted in compliance with the NHPA, NAGPRA, and other federal regulations.

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Historic and Archeological Resources Protection Plans, Los Angeles, Imperial, and San Diego Counties, CA  
Resource Manager

CLIENT: U.S. Navy, Southwest Division  
Prepared HARP Plans for the following six Naval installations: Morris Dam Test Facility, Azusa; Naval Air Facility, El Centro; Naval Shipyard, Long Beach; Point Loma Complex, San Diego; Naval Station, San Diego; and the Naval Radio Receiving Facility, Imperial Beach.

Cultural Resources Technical Studies, MCAS Yuma, Yuma Training Range Complex, AZ and CA  
Project Archaeologist

CLIENT: U.S. Navy, Southwest Division  
Directed cultural resource sample survey in the Chocolate Mountains Gunnery Range.

Mission Trails Regional Park Explosive Ordnance Demolition Environmental Assessment, San Diego County, CA  
Project Manager

CLIENT: U.S. Army Corps of Engineers  
Directed cultural resource survey in support of an environmental assessment addressing the removal of ordnance from the former location of Camp Elliott.

Archeological Survey of Sierra I Impact Area, MCB Camp Pendleton, San Diego County, CA  
Resource Manager

CLIENT: U.S. Marine Corps  
Performed cultural resource survey of approximately 2,500 acres on the northern portion of MCB Camp Pendleton.

#### WATER PROJECTS

Emergency Storage Project, San Diego County, CA  
Resource Manager

CLIENT: San Diego County Water Authority  
Responsible for the cultural Resources Evaluation Program and Treatment Program. Assisted SDCWA with Native American consultation, implementation of a programmatic agreement, and coordination with ACOE. Project involved evaluation of over 20 cultural resources including San Vicente Dam. Under a Historic Properties Treatment Plan prepared by EDAW, research designs were prepared and carried out for prehistoric and historic period resources. Treatment measures included data recovery, site stabilization, and preparation of Historic American Engineering Record documentation for San Vicente Dam. Prepared Public Interpretive Plan.

North City Water Treatment Plant, San Diego, CA  
Resource Manager

CLIENT: City of San Diego Water Department  
Managed cultural resource component of the North City Water Treatment Plant EIR. Project included survey and limited testing.

Balboa Park Wastewater Treatment, San Diego County, CA  
Archaeologist

CLIENT: City of San Diego  
Participated in cultural resource documentation for a facility siting study.

Mission Valley Water Reclamation Plant, San Diego County, CA  
Resource Manager

CLIENT: City of San Diego  
Responsible for archaeological testing and monitoring program in an area of potential archaeological sensitivity.

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North Metro Interceptor Sewer, San Diego County, CA  
 Resource Manager  
 CLIENT: City of San Diego  
 Responsible for cultural resource investigations for constraints analysis of proposed sewer alignments.

Freeman Junction, Kern County, CA  
 Resource Manager  
 CLIENT: Los Angeles Department of Water and Power  
 Responsible for the survey of portions of 1<sup>st</sup> Los Angeles Aqueduct for cap strengthening project.

Eastern Sierra Hydroelectric Relicensing, Mono and Inyo Counties, CA  
 Field Director  
 CLIENT: Southern California Edison  
 Participated in assessment of 22 sites within three hydroelectric project areas.

Pit 3, 4, and 5 Hydroelectric Relicensing Project, Shasta County, CA  
 Project Archaeologist  
 CLIENT: Pacific Gas and Electric Company  
 Directed limited data recovery efforts at six archaeological sites threatened by shoreline erosion prior to stabilization.

Rose Canyon Trunk Sewer EIR, San Diego County, CA  
 Archaeologist  
 CLIENT: City of San Diego  
 Conducted windshield reconnaissance and records search and prepared overview for proposed sewer.

Pamo Dam and Reservoir, San Diego County, CA  
 Archaeologist  
 CLIENT: San Diego County Water Authority  
 Assisted in preparation of research design and conducted archaeological monitoring of geotechnical investigations.

Reservoir 657-2, San Diego County, CA  
 Archaeologist  
 CLIENT: Otay Water District  
 Supervised survey and report preparation of proposed covered reservoir site in Spring Valley.

Mokelumne River Hydroelectric Relicensing, Alpine, Amador, and Calaveras Counties, CA  
 Crew Chief  
 CLIENT: Pacific Gas and Electric Company  
 Participated in archaeological test excavations and NRHP evaluations.

#### TRANSPORTATION PROJECTS

Southern Nevada Supplemental Airport EIS, Clark County, NV  
 Co-Principal Investigator  
 CLIENT: ENSR, VHB, and Clark County Department of Aviation  
 Responsible for cultural resource inventory of over 17,000 acres for a BLM and transfer. Class III survey also included Radar and Navaid facilities and retention basins. Class I studies for multiple alternatives. Project involved consultation with BLM, USFS, FAA, SHPO, Native American groups, and 106 other interested parties.

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SR-76 East, San Diego County, CA

Principal Investigator

CLIENT: Caltrans and SANDAG

Responsible for the cultural resource inventory and evaluation program for the SR-76 East widening project. Oversaw the survey of three alternative routes for archaeological and architectural resources, along with Extend Phase I excavations, ASR, HRER, and HPSR.

SR-56, San Diego County, CA

Resource Manager

CLIENT: City of San Diego

Responsible for the cultural resource evaluation program for the SR-56 EIR. Evaluated 16 sites along two alternative freeway alignments.

La Costa Avenue/I-5 Interchange, San Diego County, CA

Project Archaeologist

CLIENT: Caltrans

Directed an archaeological survey of proposed interchange improvements in the City of Carlsbad. The project requires close coordination with City and Caltrans staff.

SA 680/SF 728 Roadway Project Environmental Studies/EIR,  
San Diego County, CA

Project Archaeologist

CLIENT: County of San Diego

Directed the test excavation and NRHP evaluation of four sites on the proposed project alignment. These investigations addressed the potential association of the sites with the Harris Site Complex.

SR-79, Riverside County, CA

Resource Manager

CLIENT: Riverside County Transportation Commission

Responsible for cultural resource investigations for widening and realigning two highway segments. Prepared cultural resource sections for ISs and coordinated archaeological survey reports, historic architectural survey reports, and historic study report.

Victorville La Mesa/Nisqually Road Overpass,

San Bernardino County, CA

Project Archaeologist

CLIENT: City of Victorville

Supervised survey and prepared positive archaeological survey report and historic property survey report.

#### LANDFILL AND WASTE-RELATED PROJECTS

Elsmere Canyon Landfill, Los Angeles County, CA

Project Archaeologist

CLIENT: Elsmere Corporation

Directed cultural resource assessment for the EIR/EIS.

Southwest San Diego Landfill Siting Study, San Diego County, CA

Resource Manager

CLIENT: County of San Diego

Responsible for cultural resource assessments of potential landfill sites throughout the southwestern quadrant of San Diego County. Ranked the relative sensitivity of each potential site.

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## LAND DEVELOPMENT PROJECTS

Heber Dunes Off-Highway Vehicle Park, Imperial County, CA  
 Cultural Resources Project Manager  
 CLIENT: State of California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division  
 State Parks recently acquired Heber Dunes and is in the process of preparing a General Plan and EIR for the Park. As part of these efforts approximately 350 acres were inventoried for cultural resources.

Laborde Canyon Off-Highway Vehicle Park, Riverside County, CA  
 Cultural Resources Project Manager  
 CLIENT: State of California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division and Riverside County Economic Development Authority  
 The areas of the SVRA that would be open to some level of OHV use would cover approximately 1,480 acres within the 2,640-acre Laborde Canyon site. EDAW was contracted to conduct environmental studies for the Laborde Canyon site, including a cultural resource records search and an intensive cultural resources pedestrian survey of the proposed OHV park. Two prehistoric sites and the Lockheed Facility (Beaumont Site No. 2) were recorded within the study area during the survey. A preliminary assessment of the complex at Beaumont Site No. 2 was made to determine eligibility for the California Register of Historical Resources.

Data Recovery for Goat Canyon Retention Basin Border Field State Park, San Diego County, CA  
 Cultural Resources Project Manager  
 CLIENT: State of California Department of Parks and Recreation  
 Conducted data recovery under stringent time constraints based on wildlife issues and construction schedule. Excavation of 50 units at CA-SDI-16,047 Locus B indicated that the site was a buried temporary camp whose occupants exploited littoral, near-shore, and terrestrial subsistence resources. Data recovery investigations successfully collected data important in local and regional prehistory. The identification of a single component locus dating to the Archaic-Late transition is an important contribution.

Fairbanks Country Villas, San Diego, CA  
 Project Manager  
 CLIENT: Del Mar Land Management Company  
 Prepared testing plan and implemented testing program for proposed residential development.

Inmate Reception Center, San Diego County, CA  
 Project Manager  
 CLIENT: County of San Diego  
 Responsible for testing and data recovery of half a city block in downtown San Diego.

343 Sansome Street, San Francisco County, CA  
 Project Archaeologist  
 CLIENT: Gerald D. Hines Interests  
 Participated in archaeological data recovery excavations at a Gold Rush-period site in downtown San Francisco.

North Las Vegas Land Transfer, Clark County, NV  
 Project Archaeologist  
 CLIENT: City of North Las Vegas  
 Directed cultural resource survey of 4,000-acre land transfer from the BLM to the City of North Las Vegas.

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Apex Industrial Park, Clark County, NV  
 Project Archaeologist  
 CLIENT: Kerr-McGee  
 Conducted archaeological survey and NRHP evaluations for BLM land transfer.

Walnut Hills Subdivision, San Diego County, CA  
 Archaeological Monitor  
 CLIENT: Fargo Industries  
 Conducted archaeological monitoring of site preparation and grading in San Marcos.

Alcoholism Service Center, San Diego County, CA  
 Project Archaeologist  
 CLIENT: Fellowship Center, Inc.  
 Conducted archaeological survey of proposed rehabilitation center adjacent to Mission San Luis Rey in Oceanside.

## OTHER PROJECTS

Peñasquitos Park, San Diego County, CA  
 Archaeologist  
 CLIENT: County of San Diego  
 Participated in survey, including documentation of three adobes.

Old Town State Historic Park, San Diego County, CA  
 Archaeologist  
 CLIENT: California Department of Parks and Recreation/FIR  
 Participated in excavation before placement of underground utilities in San Diego.

Rancho Guajome Adobe, San Diego County, CA  
 Archaeologist  
 CLIENT: County of San Diego  
 Participated in excavation, cataloging, and analysis for work conducted before building stabilization efforts.

Anza Borrego Desert State Park, Riverside County, CA  
 Archaeologist  
 CLIENT: California Department of Parks and Recreation  
 Participated in resource inventory survey.

Glamis Imperial Project, Imperial County, CA  
 Archaeologist  
 CLIENT: Glamis Imperial Corporation  
 Conducted cultural resource survey for proposed gold mine.

Fort Cady Boric Acid Mining and Processing Facility,  
 San Bernardino County, CA  
 Project Archaeologist  
 CLIENT: Fort Cady Minerals Corporation  
 Directed survey, testing, and evaluation of 24 sites in Newberry Springs.

Rialto-to-El Paso Fiber Optics Cable, San Bernardino and  
 Riverside Counties, CA  
 Archaeologist  
 CLIENT: U.S. Sprint  
 Conducted cultural resource survey along western extent of project.

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## SELECTED REPORTS

*A View Across the Cultural Landscape of the Lower Colorado Desert: Cultural Resource Investigations for the North Baja Pipeline Project* (with Jamie Cleland). Prepared for TetraTech and North Baja, LLC. EDAW, Inc., San Diego (2003).

*Cultural Resources Evaluation for the North Baja Gas Pipeline* (with C. Dolan, J. Underwood, and J.H. Cleland). Prepared for Foster Wheeler Environmental, Inc. EDAW, Inc., San Diego (2001).

*Historical and Archeological Resources Protection Plan (HARP) for the Chocolate Mountain Aerial Gunnery Range, Imperial County, California* (with J.H. Cleland). Prepared for U.S. Navy Southwest Division, Naval Facilities Engineering Command. EDAW, Inc., San Diego (2001).

*Archaeological Resources Evaluation Report State Route 56 Between Coast and Foothill, City of San Diego, California* (with J.H. Cleland, A. York, T. Wahoff, and D. James). Prepared for the City of San Diego. KEA Environmental, Inc., San Diego (1997).

*Archeological Survey and Evaluation Program for the Salton Sea Test Base, Imperial County, California* (with A. York, A. Pignolo, J.H. Cleland, and S. Van Wormer). Prepared for U.S. Navy, Southwest Division, Naval Facilities Engineering Command. KEA Environmental, Inc., San Diego (1997).

*Two Sides of the River: Cultural Resources Technical Studies Undertaken as Part of Environmental Documentation for Military Use of the MCAS Yuma Training Range Complex in Arizona and California* (with G. Woodall, L. Peterson, and J.S. Bruder). Prepared for the Southwest Division Naval Facilities Engineering Command and MCAS Yuma. Dames & Moore Intermountain Cultural Resource Services Research Paper No. 5, San Diego (1993).

*Bank Stabilization at Lake Britton: Limited Data Recovery* (with A. MacDougall). Prepared for Pacific Gas and Electric. Dames & Moore, San Diego (1990).

*Kern River Pipeline Cultural Resource Survey Report* (with J.H. Cleland, A.L. York, and P. Friedman). Submitted to the Federal Energy Regulatory Commission. Dames & Moore, San Diego (1990).

*Sugarloaf Mountain in Prehistory: Archaeological Testing and Data Recovery for the Exploratory Drilling Program II and the Unit No. 1 Project* (with J.H. Cleland and E. Nilsson). Prepared for the Los Angeles Department of Water and Power. Dames & Moore, San Diego (1990).

*An Archaeological Research Design for the Evaluation of Cultural Resources in Pamo Valley, San Diego, California* (with J.H. Cleland, J.R. Cook, and J. Schaefer). Wirth Environmental Services, a Division of Dames & Moore, San Diego (1985).



**ATTACHMENT 2**

**RECORDS SEARCH – CONFIDENTIAL**



**ATTACHMENT 3**

**CONTACT PROGRAM – CONFIDENTIAL**



**ATTACHMENT 4**

**PROJECT MAPS – CONFIDENTIAL**



**ATTACHMENT 5**

**DPR SITE FORMS – CONFIDENTIAL**

