

DRAFT

**ARCHAEOLOGICAL AND HISTORICAL INVESTIGATIONS
FOR THE ENERGIA SIERRA JUAREZ U.S.
MAJOR USE WATER EXTRACTION PERMIT (MUP) APPLICATION
JACUMBA, CALIFORNIA**


Energia Sierra Juarez U.S. Transmission, LLC
MUP 10-014, KIVA PROJECT 3300-10-014

Lead Agency:

County of San Diego
Department of Planning and Land Use
Contact:
Patrick Brown
5201 Ruffin Road, Suite B
San Diego, California 92123
(619) 694-3831

Preparers:

Stacey C. Jordan, Ph.D., R.P.A.
AECOM
1420 Kettner Blvd., Suite 500
San Diego, California 92101
(619) 233-1454



Stacey C. Jordan, Ph.D.

With contributions by Cheryl Bowden-Renna.

Project Proponent:

Energia Sierra Juarez U.S. Transmission, LLC
101 Ash Street, HQ 14
San Diego, California 92101

February 2011

National Archaeological Data Base Information

Authors: Stacey C. Jordan with contributions by Cheryl Bowden-Renna

Firm: AECOM

Client/Project Proponent: Energia Sierra Juarez U.S. Transmission, LLC

Report Date: February 2011

Report Title: Draft Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application, Jacumba, California

Type of Study: Intensive Pedestrian Survey

New Sites: None

Updated Sites CA-SDI- 4455; P-37-024023

USGS Quad: Jacumba 1975

Acreage: Approximately 1.47 acres

Permit Numbers: MUP 10-014, KIVA PROJECT 3300-10-014

Key Words: Intensive pedestrian survey, Prehistoric, CA-SDI-4455, Village of *Hacúm*, Historic, P-37-024023, Old Highway 80

TABLE OF CONTENTS

<u>Section</u>	<u>Page</u>
LIST OF ACRONYMS AND ABBREVIATIONS.....	iii
MANAGEMENT SUMMARY	iv
1.0 INTRODUCTION	1
1.1 Project Description.....	1
1.2 Existing Conditions	5
1.2.1 Environmental Setting	5
1.2.2 Records Search Results.....	14
1.3 Applicable Regulations	17
1.3.1 California Environmental Quality Act	17
1.3.2 San Diego County Local Register of Historical Resources.....	18
1.3.3 Resource Protection Ordinance	18
2.0 GUIDELINES FOR DETERMINING SIGNIFICANCE.....	21
3.0 ANALYSIS OF PROJECT EFFECTS	23
3.1 Survey Methods.....	23
3.1.1 Survey Methods	23
3.1.2 Native American Consultation	23
3.2 Survey Results	23
3.2.1 Sites within the APE	24
4.0 INTERPRETATION OF RESOURCE IMPORTANCE AND IMPACT IDENTIFICATION	27
4.1 Resource Importance	27
4.2 Impact Identification.....	28
5.0 MANAGEMENT CONSIDERATIONS – MITIGATION MEASURES AND DESIGN CONSIDERATIONS.....	29
5.1 Mitigable Impacts.....	29
5.2 No Significant Adverse Effects	29
6.0 REFERENCES	31
7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED	37
8.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS.....	39

APPENDICES

- A Records Search Results (*Confidential – Bound Separately*)
- B Resumes of Key Personnel
- C DPR Forms (*Confidential – Bound Separately*)
- D Native American Consultation
- E Confidential Figures (*Confidential – Bound Separately*)

LIST OF FIGURES

<u>Figure</u>	<u>Page</u>
1 Regional Location Map.....	2
2 Project Vicinity Map.....	3
3 Project Footprint.....	4
4 Cultural Resources within the Project Area.....	Appendix E

LIST OF TABLES

<u>Table</u>	<u>Page</u>
1 Previous Investigations within a 1-Mile Radius of the Project APE.....	15
2 Previously Recorded Cultural Resources within a ¼-Mile Radius of the Project APE.....	16
3 Cultural Resources within the Project APE.....	24
4 Subsurface Potential for Resources within the APE.....	27

LIST OF ACRONYMS AND ABBREVIATIONS

amsl	above mean sea level
APE	Area of Potential Effect
bgs	below ground surface
B.P.	Before Present
CEQA	California Environmental Quality Act
CRHR	California Register of Historical Resources
DPLU	County of San Diego Department of Planning and Land Use
DPR	Department of Parks and Recreation
DPW	San Diego County Department of Public Works
ESJ	Energia Sierra Juarez
ESJ U.S.	Energia Sierra Juarez U.S. Transmission, LLC
Gen-Tie	generator interconnection line
HPSR	Historic Property Survey Report
In	inches
JCSD	Jacumba Community Service District
JDAD	Jacuma Discontiguous Archaeological District
kV	Kilovolt
Local Register	San Diego County Local Register of Historical Resources
MUP	Major Use Water Extraction Permit
NAHC	Native American Heritage Commission
NRHP	National Register of Historic Places
R.P.A.	Register of Professional Archaeologist
RPO	San Diego County Resource Protection Ordinance
SCIC	South Coastal Information Center
SHPO	State Historic Preservation Office
U.S.	United States

MANAGEMENT SUMMARY

Project Description

For the purposes of this Cultural Resources Technical Report, the “project” refers to the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application, Jacumba, California. A new access route, approximately 150 feet in length, is proposed from Old Highway 80 to an existing well site. All other facilities are existing.

Energia Sierra Juarez U.S. Transmission, LLC (ESJ U.S.), on behalf of Jacumba Community Service District (JCSD), is preparing a San Diego County Major Use Water Extraction Permit (MUP) Application to allow for the acquisition of water from an existing JCSD warm water well and its use at the ESJ U.S. project site to control fugitive dust during an approximately 6 month construction schedule. It is estimated that approximately 800,000 gallons of water will be purchased for this purpose. The County of San Diego is currently reviewing a separate ESJ U.S. MUP for the construction, operation, and maintenance of a less than one mile segment of an “electric generator-tieline” (Gen-Tie) in Eastern San Diego County (KIVA Project: 09-0107420). The proposed ESJ Gen-Tie Project consists of a single circuit 500 kV line or double-circuit 230 kV line supported on three to five 150-foot steel lattice towers or 170-foot steel monopoles. It is at this project site where the water will be used for dust control. A cultural resources technical report has been previously prepared by AECOM for this project (Jordan 2009).

Surveys/Investigations

AECOM staff conducted pedestrian archaeological and historical survey investigations on January 25, 2011. This survey covered the proposed access route to the existing JCSD water well and 100 ft (30 m) buffer on either side of the proposed 150 ft (45 m) linear access route, which total approximately 1.47 acres, defined for the purposes of this study as the Project APE.

Prior to conducting the survey investigations, AECOM conducted a literature review of at the South Coastal Information Center (SCIC), housed at San Diego State University on January 24, 2011. The records search indicated that the proposed project is located within the site boundary for site CA-SDI-4455. This site has been previously recorded as the village site of *Hacúm*. Portions of this site, south of the proposed project area, have been tested and a substantial subsurface deposit was observed (Joyner and Beck 1991). The County of San Diego’s Department of Public Works has previously recommended this site as eligible for inclusion to the National Register of Historic Places (NRHP) (Joyner and Beck 1991). AECOM staff also sent a Sacred Lands file search request to the Native American Heritage Commission (NAHC) on January 24, 2011. To date no response has been received. At the request of the County, Mr. Clint Linton, Kumeyaay representative, was contacted by telephone to notify them of the

survey and solicit their participation. Mr. Linton was not available at this time to participate in the survey effort.

During the survey investigation, no cultural material was observed within the proposed project area. Several quartz flakes were observed within the 100 ft (30 m) buffer area, north of the proposed access route.

As the proposed project area is located within the site boundary for CA-SDi-4455, a limited testing program is recommended prior to any ground disturbing activity in the area. Additionally, monitoring by a qualified archaeologist and a Native American monitor is recommended during all ground disturbing activities for the proposed project.

1.0 INTRODUCTION

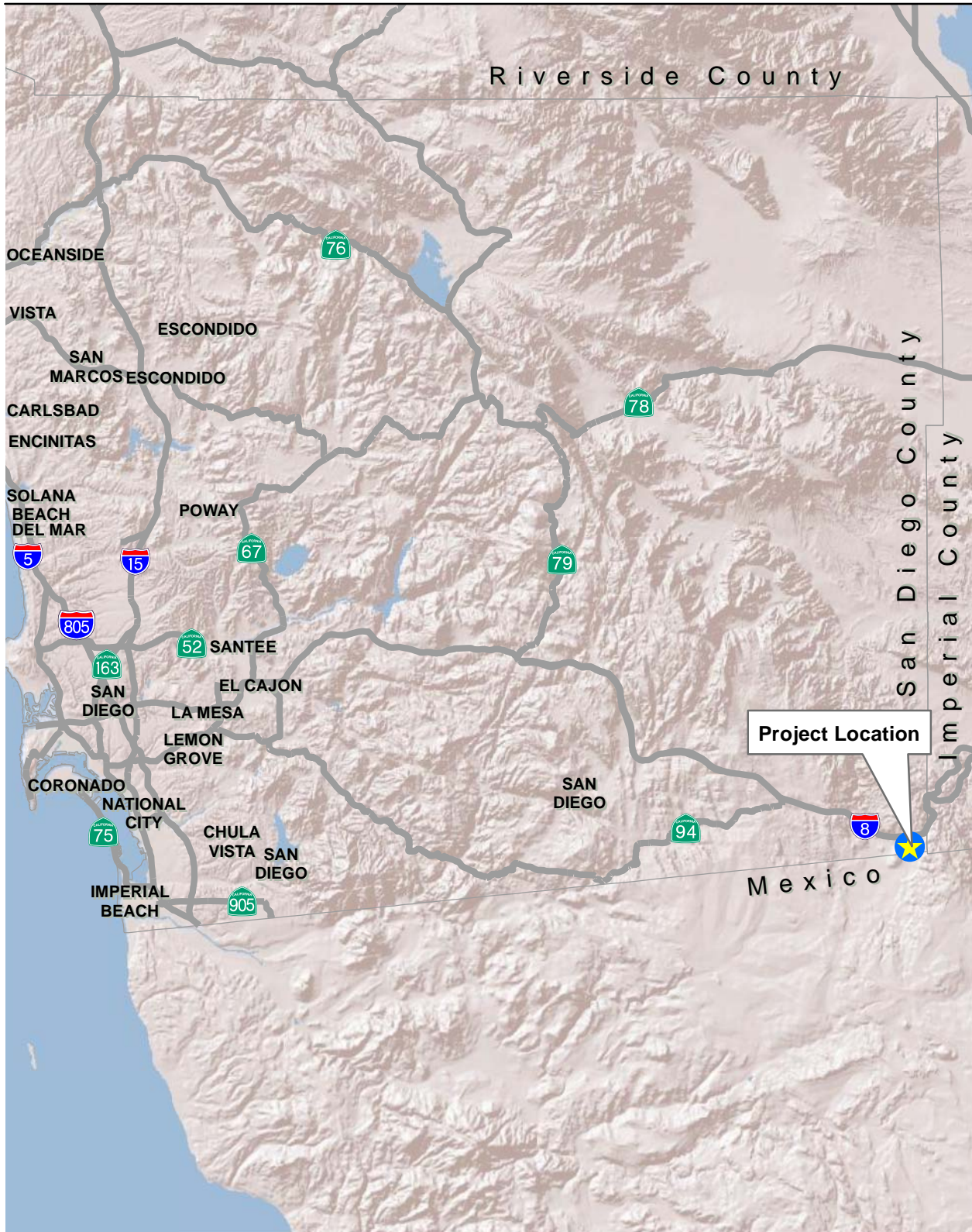
1.1 Project Description

For the purposes of this Cultural Resources Technical Report, the “project” refers to the Energia Sierra Juarez U.S. Major Use Water Extraction Permit (MUP) Application, Jacumba, California.

The proposed project for this San Diego County MUP application is the acquisition of water from an existing Jacumba Community Service District (JCSD) warm water well #6, use of the water at the ESJ Gen-Tie construction site to control fugitive dust emissions, and construction of a new access route. It is estimated that approximately 800,000 gallons will be purchased and used over a six month period for this purpose. It should be noted that this water well has been in operation since 2003, serving the JCSD since that time.

The project is located west of downtown Jacumba, in southeastern San Diego County (Figures 1 and 2). Water well #6 was drilled in 2003 to a depth of 465 feet below ground surface (bgs) and cased to 113 feet bgs. The well was initially intended for use as a potable water well; however, during drilling a hot springs aquifer was encountered. Due to its elevated temperature, use of the water is limited. The quality of the water is appropriate for fugitive dust control. The County of San Diego Department of Planning and Land Use (DPLU) has reviewed the water well quality and hydrology information and made an initial determination that water quality and quantity are adequate for the use of the water for the purpose sought in this application.

Access to the water well will be from Old Highway 80 via the construction of a new dirt road approximately 150 feet long by 15 feet wide (Figure 3). Water will be extracted from the well using an existing pump and flexible hose configuration. Water trucks will drive along the new access route, connect to the flexible hose, and upon filling will exit the site. It is estimated that two 2,500 gallon water trucks per day will be filled during a six day work week over a six month construction schedule. The speed limit in the immediate area where the easement is located on Old Highway 80 is 25 miles an hour, which will allow safe ingress and egress of the trucks. Additionally, there is an elementary school within 100 yards of the easement entrance. Visual sight lines from the exit meet County standards. The water will be transported approximately 3.75 miles west on Old Highway 80 to the ESJ Gen-Tie project site.



Source: SANGIS 2008; ESRI 2011

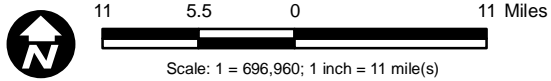
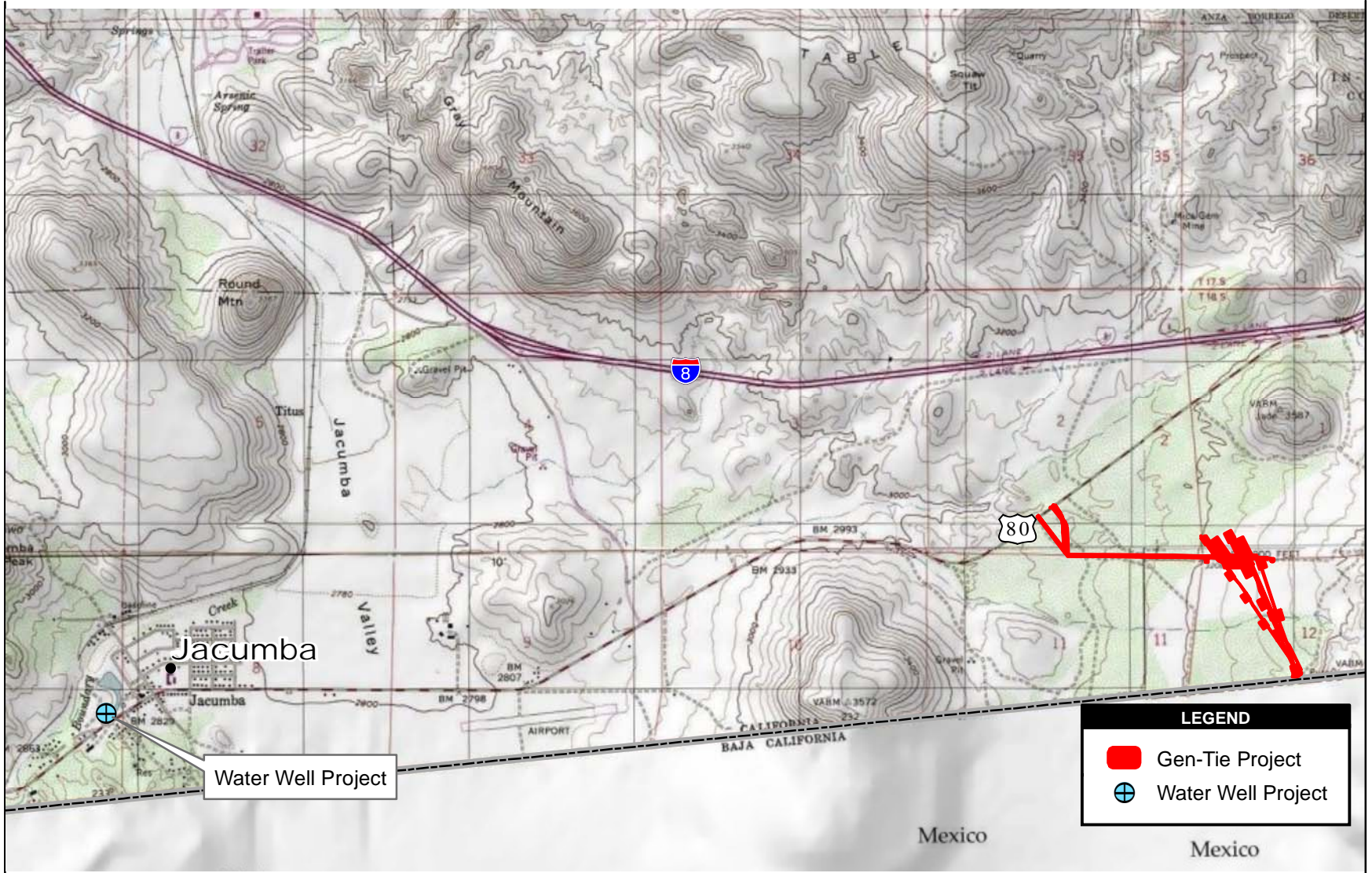
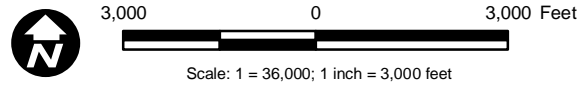


Figure 1
Regional Location Map



Source: Sempra Energy 2009; SANGIS 2008; USGS 7.5' Topographic Quadrangle In-Ko-Pah Gorge, CA 1975, Jacumba, CA 1975





LEGEND	
	Gen-Tie Project
	Water Well Project

Figure 2
Project Vicinity Map



Source: Sempra 2010; SANGIS 2010; DigitalGlobe 2008



50 25 0 50 Feet

Scale: 1 = 600; 1 inch = 50 feet

Figure 3
Project Footprint

The DPLU has requested the preparation of a Minor Stormwater Management Plan (minor SWMP). The minor SWMP includes options for standard sediment control devices such as silt fences, straw wattles, straw bales and soil stabilizers, as necessary to minimize soil erosion. There will be no fueling or hazardous materials at the site associated with the JCSD Water Extraction Project.

Construction impacts for the proposed project would include:

- Clearing and grubbing;
- Access road construction consisting of using fill;
- Construct drainage in the fill; and
- Final grading and site clean-up

Vegetation would be cleared and grubbed along the proposed access road. It is anticipated that the contractor will use dirt fill to smooth out the elevation transition from Old Highway 80 to the well site. A pipe will be build into this fill area to allow water to continue to cross underneath. The road will not be paved and will remain a dirt road. It is anticipated that limited ground disturbance will be necessary for the construction of the proposed access route and that the area of impact would be no more than 150 ft (45 m in length and 20 ft (6 m) in width.

1.2 Existing Conditions

1.2.1 Environmental Setting

Natural

The water well is located at the west end of downtown Jacumba in the southeast corner of San Diego County, on the north side of Old Highway 80. Two existing dirt roads provide access to the proposed project area. Currently the area is a vacant lot. Single family residences are located to the south of the project and an elementary school is located approximately 0.1 mile west of the project. Extensive pockets of dumping of trash and construction debris litter the area.

Precipitation averages 15.58 inches (in.) per year at Jacumba. Most rain falls from November to March. Jacumba experiences its hottest average temperatures in August, with an average maximum of 94 degrees Fahrenheit (°F). January is the coldest month, with an average high of 62°F (Weather Channel 2009).

Topography

The proposed project is in the Desert Slopes ecological subsection of the Southern California Mountains and Valleys ecological subregion in southeastern-most San Diego County. Located on the eastern side of the Peninsular Ranges physiographic region, formed by the large, intrusive La Posta igneous pluton (Walawender and Hanan 1991),

the proposed project is situated south of Table Mountain and the Jacumba Mountains and southwest of the In-Ko-Pah Mountains. Generally, the area contains steep to moderately steep mountains with narrow to rounded summits and broad valleys occupied by alluvial fans. The Table Mountain area provides the highest elevations within a 1-mile (1.61-km) radius of the project (3,000 to 4,000 feet [914.4 to 1,219.2 meters]) above mean sea level [amsl]) with slope gradients of up to 40 percent (Cook and Fulmer 1980). Although human uses have been found virtually anywhere in the level areas, site locations are concentrated in the Table Mountain Formation Gravels, at the escarpments of Table Mountain, and on “beaches” along the shores of well-watered drainages at the base of the Southern California Batholith. Concentrations in this area form significant patterns and imply that this geomorphic formation was particularly desirable for human occupation (May 1976).

Elevation at the project site is approximately 2,840 ft amsl and is located on a slight south facing slope into the drainage for Boundary Creek. The project is located at the base of hills leading up to Jacumba Peak and at the western edge of Jacumba Valley. A small ridge containing granitic outcroppings and boulders is located to the northeast of the proposed project.

Geology

The area began with the Mesozoic aged granitic bedrock of the Southern California Batholith, which was subsequently buried by Early Miocene-age Table Mountain Formation gravels. Subsequently, Late Miocene Jacumba Volcanics erupted to cover both earlier formations, distributing porphyritic pyroclastic materials throughout the region. Quaternary alluviation and Late Pleistocene erosion converted the Table Mountain Formation into ridges and terraces (May 1976). Gray Mountain, in the western portion of the Table Mountain area, is an exposure of the Southern California Batholith. The gravel-covered ridges in the general area are Table Mountain Formation Gravels, with Table Mountain itself composed of more recent intrusive Jacumba Volcanics (May 1976; Cooley 2006; Strand 1962). Overall, this area is predominantly granitic, with scattered zones of gabbro intrusive and mixed granitic-metamorphic rocks (Underwood and Gregory 2006).

The geology of the region provided raw materials for everyday life in prehistoric San Diego County. The exposed granitic boulders of the Southern California Batholith provide a landscape offering shelter from the elements, secluded locations for caches of cultural items, and canvasses for rock art. Boulder outcrops in well-watered washes, valleys and saddles also served as the raw materials for milling stations to process the region’s edible natural resources (May 1976). The ridges, terraces, and benches of the Table Mountain Formation gravels contain porphyritic andesites that provided suitable raw materials for the production of chipped stone tools, and the gravels contained many cobbles that retain heat well for use in roasting pits. Jacumba Volcanics, present in the northern region of the project vicinity, also yield materials such as fine-grained basalts

and porphyritic andesite that can be quarried and are suitable for the production of stone tools (May 1976).

Soils

Soils within the general area consist of acid igneous rock, Rositas loamy coarse sand, rough broken land, and sloping gullied land soil associations. The acid igneous rock soil series, deposited during Quaternary alluviation, is present in the southeastern portion of the project vicinity and consists of rough, broken terrain. Large boulders and rock outcrops of granite, granodiorite, tonalite, quartz diorite, gabbro, basalt, or gabbro diorite cover 50% to 90% of the total area of this soil type in San Diego County. The soil material is loamy to coarse sand in texture and is very shallow (0 to 4 in.) over decomposed granite or basic igneous bedrock (U.S. Bureau of Land Management [BLM] 2007; Natural Resources Conservation Service [NRCS] 2007)].

Rositas loamy coarse sand consists of somewhat excessively drained, variable-depth (0 to 60 in.) loamy coarse sands derived from Quaternary granitic alluvium (BLM 2007; NRCS 2007). Rough broken land, present in the central and northeast portions of the project site, is made up of well-drained to excessively drained, steep and very steep land dissected by many narrow V-shaped valleys and sharp tortuous divides. Areas of exposed raw sediments are common, and there are areas of very shallow soils (0 to 2 in.). Runoff is rapid to very rapid, and erosion is very high (BLM 2007; NRCS 2007). Sloping gullied land occurs in the desert on alluvial fans adjacent to mountains and is present in the north-central portion of the project site. It consists of a wide variety of material derived from igneous, sedimentary, and metamorphic rocks, with a range of depths between 0 and 60 in. The texture ranges from clay loam to gravelly, cobbly sand. Limy material has been exposed where gullies have dissected areas of old alluvium. Drainage is good to somewhat excessive. Runoff is medium to very rapid, and the erosion hazard is moderate to high (BLM 2007; NRCS 2007).

Biota

Plant communities occurring in the project vicinity include desert saltbush scrub and southern cottonwood riparian. Desert saltbush scrub is comprised usually of low, grayish, microphyllous shrubs, with some succulent species. Total cover is often low, with much bare ground between the widely spaced shrubs. Stands typically are strongly dominated by a single *Atriplex* species and found on fine-textured, poorly drained soils with high alkalinity and/or salinity, usually surrounding playas on slightly higher ground (Holland 1986). The dominant species within the desert saltbush scrub is fourwing saltbush (*Atriplex canescens*). Other species within this habitat included London rocket (*Sisymbrium irio*) and grasses as such wild oats (*Avena* sp.) and red brome (*Bromus madritensis*). Southern cottonwood willow riparian is comprised of tall, open, broadleaved winter-deciduous riparian forests dominated by cottonwoods, and several tree willows. Understories usually are shrubby willows. This habitat is usually found in sub-irrigated and frequently overflowed lands along rivers and streams. The dominant

species require moist, bare mineral soil for germination and establishment. This is provided after flood waters recede, leading to uniform-aged stands in this seral type (Holland 1986). The dominant species within the habitat on site is cottonwood (*Populus fremontii*), willows (*Salix* sp.) and mule fat (*Baccharis salicifolia*).

Habitat in the area supports abundant populations of small mammals and reptiles as indicated by frequent sightings of small rodent burrows and lizards. Snake species with ranges overlapping the project site include rattlesnake (*Crotalus* spp.), California kingsnake (*Lampropeltis getula californiae*), coachwhip (*Masticophis flagellum*), nightsnake (*Hypsiglena torquata*), gopher snake (*Pituophis catenifer*), and long-nosed snake (*Rheinocheilus lecontei*). Lizard species include western banded gecko (*Coleonyx variegatus*), side-blotched lizard (*Uta stansburiana*), and tiger whiptail (*Aspidoscelis tigris*) (California Herps 2008). None of these species were detected during the site visits. Several species of birds likely use the area seasonally and during the flowering and fruiting season of local vegetation, including red-tailed hawk, common raven, house finches, and common yellowthroat. Mammals likely to be found within the area of the proposed project include desert cottontail.

Cultural

Regional Prehistory

Paleoindian

The prehistory of the east San Diego County region is generally divided into three major periods of occupation: Paleoindian, Archaic, and Late Prehistoric. An earlier pre-projectile point (pre-Paleoindian) culture was proposed by Malcolm Rogers who used the term Malpais – later reclassified as San Dieguito I – to refer to very early materials (Rogers 1939). Malpais materials consist of very heavily varnished choppers, scrapers, and other core-based tools typically found on old desert pavement areas. Many scholars are skeptical of these posited early occupations (e.g., Schaefer 1994).

The first well-documented cultural tradition in southern California is the San Dieguito complex (12,000 to 7,000 years before present [B.P.]). The type site is on the San Dieguito River in north-coastal San Diego County. The San Dieguito complex has been radiocarbon dated here at 9,030 B.P., but most scholars assume that it began a few thousand years earlier (Underwood and Gregory 2006). Related materials have been found in the Mojave Desert and in the Great Basin, sometimes called the Lake Mojave complex (e.g., Campbell et al. 1937; Warren and Ore 1978). Diagnostic artifact types and categories associated with the San Dieguito complex include percussion-flaked core tools and flake-based tools such as scraper planes; choppers; scrapers; crescentics; elongated bifacial knives; and diagnostic Silver Lake, Lake Mojave, and leaf-shaped projectile points (Rogers 1939).

In areas adjacent to the coast, many Paleoindian period sites are believed to have been covered by the rise in sea levels that began at the end of the Pleistocene. In more inland regions, alluvial sedimentation in valley areas may have covered these materials. Few San Dieguito-Lake Mojave sites in the desert contain subsurface deposits, temporally diagnostic artifacts, or datable material (Hayden 1976; Rogers 1939). Temporal placement of desert sites is based primarily on degree of weathering and patination, and absolute dating has been problematic (Underwood and Gregory 2006).

Archaic

Underwood and Gregory (2006) provide a detailed discussion of the Archaic period in the area of the current project, and their research is summarized below. Desert and coastal Archaic period sites have generally been dealt with separately, although there are clear similarities between the two. In the desert, the Archaic can be divided into the Pinto complex (7000 to 4000 B.P.) and the Amargosa or Gypsum complex (4,000 to 1,500 B.P.). The Pinto complex shows evidence of a shift from big game exploitation to a broader-based economy with increased emphasis on the exploitation of plant resources, and is thought to be an adaptation to erratic climatic drying of the Altithermal (Grayson 1993; Warren 1984; Warren and Crabtree 1986). Groundstone artifacts are rare; these are typically thin slabs with smooth, highly polished surfaces which “may be platforms upon which fibrous leaves or skins were scraped. They are invariably associated with pulping planes” (Rogers 1939:52-53). Projectile points are distinctive crude, percussion-flaked Pinto series atlatl points. Other lithics include percussion-flaked scrapers, knives, scraper planes, and choppers (Underwood and Gregory 2006).

The subsequent Amargosa or Gypsum complex is characterized by the presence of fine, pressure-flaked Elko, Humboldt, and Gypsum-series projectile points; leaf-shaped points; rectangular-based knives; flake scrapers; T-shaped drills; and occasional large scraper planes, choppers, and hammerstones (Underwood and Gregory 2006). Manos and basin metates became relatively common, and the mortar and pestle were introduced late in this period (Warren 1984:416). The florescence of tool types and the addition of groundstone hard seed-processing equipment suggest an attempt to adapt to drier desert conditions in the greater Southwest. Most examples of this complex have been found in the southern Great Basin-Mojave Desert.

Archaic period sites are more commonly found in California in coastal areas. These are generally called La Jollan complex sites in coastal San Diego County. As noted in Underwood and Gregory (2006):

The assemblage is similar to those of the desert Archaic prompting Warren and others (1961:28) and Kowta (1969:68) to suggest that the Altithermal (ca. 8000 B.P. to 5000 B.P.) made the deserts largely uninhabitable at that time. This induced people to migrate to the coast,

beginning at approximately 8000 B.P., where they quickly shifted their subsistence strategies to include shellfish and other seashore resources.

Subsistence again shifted to a more intense utilization of hard seeds and other terrestrial resources along the coast in the Late Archaic, when siltation is thought to have reduced available coastal lagoon resources. Further inland, the similar but separately named Pauma complex may represent seasonal inland occupations of coastal La Jollan peoples (Moratto 1984; True 1958, 1980).

Late Prehistoric

The incursion of Yuman-speaking people via the Gila/Colorado River drainages of western Arizona is apparent by approximately 2,000 years ago, and subsequent movements westward had great impact on the people of San Diego County (Moriarty 1966, 1967, 1968). This Late Prehistoric period (1,500 B.P. to 450 B.P.) is similarly characterized by two geographic expressions, the transmontane in the desert east of the mountains and the cismontane in the coast and foothill area west of the mountains. Both patterns indicate higher population densities and elaborations in social, political, and technological systems. Culture traits generally associated with this period include increasingly elaborate kinship systems and rock art, including ground figures or geoglyphs (McGuire 1982). Extensive trail systems also indicate connections between the coast and desert for trade, religious activities, and other interactions, peaceful or otherwise (Davis 1961).

The desert manifestation of the Late Prehistoric is broadly referred to as the Patayan pattern (e.g., Waters 1982). Paddle and anvil pottery first appears, likely via the Yuman-speaking Hokan culture of the middle Gila River area (Rogers 1945; Schroeder 1975, 1979). Tizon brownware appears at approximately A.D. 1000 at Mount Laguna, located 24 miles northwest of the project site (Underwood and Gregory 2006). Cottonwood Triangular series projectile points and Desert side-notched series projectile points used in bow and arrow hunting appear at approximately A.D. 800 (1200 B.P). Cremation rather than inhumation also became the burial norm. Artifactual material is characterized by the presence of arrow shaft straighteners, pendants, comales (heating stones), Tizon Brownware pottery, ceramic figurines, ceramic "Yuman bow pipes," ceramic rattles, miniature pottery, various cobble-based tools (e.g., scrapers, choppers, hammerstones), bone awls, manos and metates, and mortars and pestles.

Subsistence in desert areas is thought to have focused on acorns and grass seeds, with small game serving as a primary protein resource and big game as a secondary resource. Vegetation resources included honey mesquite and screwbean mesquite with smaller amounts of palo verde, ironwood and native grasses (Underwood and Gregory 2006).

The proposed project sits in an area of small mountains and valleys on the eastern side of the Peninsular Ranges. Locally, the project site is situated within the area of the Cuyamaca Complex. True (1970) defined Cuyamaca complex based on excavations within Cuyamaca Rancho State Park and collections at the San Diego Museum of Man to differentiate interior San Diego County assemblages from Meighan's (1954) San Luis Rey complex. It is widely accepted that the Cuyamaca complex is associated with the Hokan-based, Yuman-speaking peoples (Diegueño/Kumeyaay) and that the San Luis Rey complex is associated with the Takic Shoshonean-speaking peoples (Luiseño).

The region surrounding the proposed project has extensive evidence of the cultural elaboration that occurred in the Late Prehistoric. In Baja California's Sierra de Juárez Mountains south of the proposed project is the town of La Rumorosa. Like the Jacumba region of the U.S., the La Rumorosa region is one of transition between the mountain and desert environments. Within this region is the site of *El Vallecito*, located approximately 3 miles northeast from the town of La Rumorosa. The site is home to La Rumorosa-style Late Prehistoric petroglyphs and pictographs, as well as other Late Prehistoric artifactual remains like ceramics. This style is associated with the Kumeyaay (often spelled Kumiai in Mexico), whose territory straddled both sides of the present-day U.S.-Mexico border. The La Rumorosa style, which flourished in southeastern San Diego County and northern Baja California, is characterized by rectilinear and curvilinear polychrome designs in red, black, yellow and white. Defining elements include lizard forms, digitate anthropomorphs, circles, sunbursts, rectangular grids, oval grids, simple anthropomorphs, crosses, and rectangles (Hedges 1970).

Ethnographic Background

The project site is in the traditional territory of the Kumeyaay. Also known as Kamia, Ipai, Tipai, and Diegueño, the Kumeyaay occupied the southern two-thirds of San Diego County. The Kumeyaay spoke a Yuman language belonging to the Hokan language family, which includes the lower Colorado River tribes and Arizona groups to whom they are closely related. South of the Kumeyaay, in the vicinity of modern-day Ensenada, are the closely related Paipai. Desert Kumeyaay or Kamia ranged over the Imperial Valley and northeastern Baja California (Underwood and Gregory 2006). As noted in Cooley (2006):

Early chronicler Gifford (1931) designated the Kumeyaay living in the Jacumba area as the Kamia, who were distinguished by a desert orientation with contacts and travel most frequently between Jacumba and the Imperial Valley. This term has generally been replaced with the designation of eastern Kumeyaay or Tipai, or sometimes Jacumeño (Chace 1980, Cook et al. 1997, Hedges 1975; Langdon 1975; Gifford 1931:2; Luomala 1978). The Jacumeño or Kamia were closely connected to the Quechan on the Colorado River and served as trading partners

between the coastal and desert groups using a travel route through the Mountain Springs Grade.

The Kumeyaay lived in semi-sedentary, politically autonomous villages or rancherías. Most rancherías were the seat of a clan, although it is thought that some clans had more than one ranchería and some rancherías contained more than one clan (Bean and Shipek 1978). The Kamia or Desert Kumeyaay relied on hunting and gathering, supplementing that subsistence base with floodplain horticulture along the New and Alamo rivers and at various springs (Underwood and Gregory 2006).

The predominant determining factor for placement of villages and campsites was the ready availability of water, preferably on a year-round basis, with seasonal movements to exploit available food resources. Inland bands could travel to the coast to fish and gather salt, then shift to desert areas in the spring to gather agave (*Agave deserti*), moving to higher altitudes later in the year to gather seasonally available acorns and pine nuts (Cline 1984; Shipek 1991). Several large villages have been documented within the region through ethnographic accounts and archaeological investigations in the area. These include *Pa'Mu* northeast of Ramona; *Tukmak*, located near Mesa Grande, and *Pauba*, located between the previous two villages (Cooley and Barrie 2004; Kroeber 1925:590-591). Most important was likely the village of *Hakum* or *Hacúm*, the source of the word "Jacumba." Like many prehistoric villages, its location is not certain. However, it has been postulated that the large, complex archaeological site CA-SDI-4455, situated in the hills immediately west of Jacumba and within the proposed project area, is likely the village of *Hakum* (Cook et al. 1997:8; Rogers 1920s; McGinnis et al. 2003).

Historic Period

The Spanish period in California (1769-1821) represents a time of European exploration and settlement. Dual military and religious contingents established the San Diego Presidio and the Mission San Diego de Alcalá along the coast. The mission system introduced horses, cattle, and other agricultural goods and implements to the area. It also disrupted traditional native lifeways, and many Native American populations became tied economically to the colonists. Contact with the interior came later, when Pedro Fages lead a Spanish expedition through what is now Eastern San Diego County in 1785. Despite the lack of early interaction between colonists and interior Native Americans, the Jacumeño were already hostile to the Spaniards and in alliance with other native groups, actively resisting Spanish rule in the area by the time of Fages' expedition. Still, during their period of governance the Spaniards had little involvement in the eastern areas of the county.

The cultural systems and institutions established by the Spanish continued to influence the region beyond 1821, when California came under Mexican rule. The Mexican period (1821-1848) retained many of the Spanish institutions and laws; the mission system,

however, was secularized in 1834. Secularization allowed for increased Mexican settlement, with large tracts of land granted to individuals and families, and establishment of a rancho system based on cattle grazing (Pourade 1963). Secularization also meant that many Native Americans were further dispossessed. The Native Americans of the eastern mountain areas began to have hostile interactions with the Mexican settlers who began to enter the area. By this time, contact had led the Eastern Kumeyaay to incorporate domestic livestock, especially horses and cattle, procured through raids. Anglo-European contact also led to the adoption of agriculture, replacing the previous subsistence system based on hunting and gathering.

In San Diego County, cattle ranching dominated agricultural activities and the development of the hide and tallow trade with the United States increased during the early part of this period. The Pueblo of San Diego was established at the former Presidio's settlement along the San Diego River in 1834. Just over a decade after that occasion, however, Mexican rule in California ended. The Mexican-American War began in 1846, following Texas' declaration of Republic status, breaking from Mexican governance. The conflict expanded to California, and Mexico ceded its California territory to the United States as part of the Treaty of Guadalupe-Hidalgo at the war's end in 1848.

At the start of American rule in 1848, gold was discovered in California and American immigration began in earnest. Few Mexican ranchos remained intact because of land claim disputes. The homestead system encouraged American immigration to the west and brought further settlement in the inland mountain areas. Mid-century saw the Jacumba area become a focal point of contact. It was situated along a well-travelled road from San Diego to Fort Yuma which served as the military mail route. The Jacumba station kept horses for the mail carriers who traveled the route, and had come under increasing attack by local Native Americans. In the early 1850s, Old Town settler James McCoy was sent to Jacumba with 14 men to protect the mail line from Native American raids. McCoy and his men constructed a fort there to protect the station garrison (Sullivan 1977). The Jacumeño, who had continued to resist European and Anglo rule through both the Mexican and American Periods, were finally subdued in 1880 and evicted from the Jacumba area (Cook et al. 1997).

The San Diego & Arizona Railway arrived in the area in 1919, with a station in Jacumba. This transportation innovation was soon followed by the formal establishment of Highway 80 for automobile transportation. Following much of the route of the Old Plank Road that had been maintained by travelers in eastern San Diego and Imperial Counties, the original alignment of the highway was in place by 1919. A "second generation" of the highway was built in the 1920 and 1930s, now known as Old Highway 80 (County of San Diego n.d.). The highway brought new traffic to Jacumba. A hot springs spa was established at Jacumba's natural spring, giving roots to the town. Now easily connected to distant markets, stock raising and dairy farming became important pursuits for the area's residents (Cook et al. 1997). The Jacumba Hot Springs Resort

became a local tourist attraction beginning in the 1920s, hosting Hollywood celebrities, and spawned hotels, a race track and other recreational facilities in Jacumba (Cooley 2006). Following World War II, the popularity of the resort began to decline. The construction of Interstate 8 in 1967, bypassing Jacumba, marked the end of the town's glory days (Chace 1980).

1.2.2 Records Search Results

A records search was conducted on January 25, 2011, at the South Coastal Information Center (SCIC) located at San Diego State University. The archival searches consisted of an archaeological and historical records and literature review. The data reviewed included historic maps, the California Inventory of Historic Places, the California Register of Historic Resources (CRHR), and National Register of Historic Places (NRHP) information for the area of the proposed project. The search included a ¼-mile radius surrounding the project site. This research provides a background on the types of sites that would be expected in the region. The research was also used to determine whether previous surveys had been conducted in the area and what resources had been previously recorded within the project limits. A records search confirmation letter was received from SCIC and is included in Appendix A.

Previous Investigations

Eight cultural resources studies have been conducted within a ¼-mile radius of the project site (Table 1). Two studies, Cook et al. (2000) and Rosen (2001) have been previously conducted within or adjacent to the study area. These consist of linear surveys for a fiber optic line (Cook et al 2000) and a historic property survey for Old Highway 80 (Rosen 2001), both through the southern portion of the study area. Two additional investigations have been noted in the proposed project area, but are not on file at the SCIC. These consist of a survey investigation and monitoring program for the Jacumba Water System Rehabilitation Project (McGinnis et al. 2003; McGinnis and Baksh 2005). Monitoring of trenching along both the northern and southern shoulders of Old Highway 80 was conducted.

Previously Recorded Cultural Resources

The general area and surroundings are very rich in prehistoric cultural resources and have some notable historic era resources. This richness is caused by an intersection of eco-zones and geological formations resulting in an abundance of food and tool resources in the nearby Table Mountain and Jacumba Valley areas. The abundance of these resources attracted human populations who used the landscape in a variety of ways including long term habitation, short term campsites, agave and other plant processing areas, quarries for stone tool materials, and lithic workstations.

Table 1. Previous Investigations within a 1-Mile Radius of the Project APE

Author	Title	Date	NADB Document Number
Chace	A Cultural Resources Assessment of Jacumba, San Diego County.	1980	1120479
Cook and Fulmer	Archaeology and History of the McCain Valley Study Area, Eastern San Diego County, California.	19880	1122760
Cook et al.	Final: A Cultural Resources Inventory of the Proposed AT&T/ PF.Net Fiber optic Conduit Ocotillo to San Diego, California.	2000	1132421
Johnson	An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County.	1976	1121267
McGinnis and Baksh	Archaeological Monitoring Report for the Jacumba Water System Rehabilitation Project, San Diego County, California.	2005	–
McGinnis et al.	Archaeological Survey Report for the Jacumba Water System Rehabilitation Project, San Diego County, California.	2003	–
Rosen	Historic Property Survey Report for Old Highway 80, San Diego County, California.	2001	1128282
Wade	Cultural Resource Survey Report Form for the Richard Cox Property, Jacumba, California.	1995	1123014
Welch	Cultural Resource Report: Lark Canyon Motorcycle Trails and Trail Location.	1982	1125214
Wirth Environmental Services	Archaeological Investigations at SDI-4470.	1987	1121633

The results of the records search revealed that 14 resources have been recorded within a ¼-mile radius of the project area (Table 2). The project area is located within the site boundary for site CA-SDI-4455. Additionally, site P-37-024023 is adjacent to the southern portion of the proposed project APE. These resources are discussed below. No other resources were previously recorded within or directly adjacent to the proposed project APE.

CA-SDI-4455

Site CA-SDI-4455 was originally recorded by Malcolm Rogers (1920s) as a large prehistoric village site that extends into Mexico and was partially destroyed by the development of the town of Jacumba. In 1976 the site was revisited and determined to possibly be the location of the village site of *Hacúm* (Townsend 1976; Waldron 1976). Midden soils along with lithics, lithic tools, multiple milling features, ground stone, ceramics sherds as well as historic debris was observed. Backhoe trenching for a new

Table 2. Previously Recorded Cultural Resources within a 1/4-Mile Radius of the Project APE

Primary Number (P-37-)	Permanent Trinomial (CA-SDI-)	Site Description	Site Dimensions	Reference
004455	4455	Village site of <i>Hacúm</i>	920 m x 150 m	McGinnis 2003; Joyner and Beck 1991; Wilcox and Von Werlhof 1987; Waldron 1976; Townsend 1976; Rogers 1920s
007015	7015	San Diego and Arizona (Eastern) Railroad	N/A	Burkenroad 1979
008066	8066	Temporary camp	60 m x 51 m	Chace 1980
008067	8067	Milling station; lithic and ceramic scatter	128 m x 94 m	Wade 1995; Chace 1980
011712	11,712H	Vaughn Hotel/ Jacumba Hot Springs Hotel	50 m x 40 m	McGinnis 2003; Crull and Smith 1990
013989	13,947	Historic debris scatter	213 m x 39 m	Wade 1995
013990	13,948	Historic debris scatter	10 m dia.	Wade 1995
013991	13,949	Lithic and ceramic scatter	55 m x 38 m	Wade 1995
014004	13,962	Milling station; lithic scatter	152 m x 73 m	Wade 1995
024023	–	Old Highway 80	NA	Lorrie 2000
024943	–	Jacumba Casino	35 m x 25 m	McGinnis 2003
024945	–	Historic stone structure	NA	McGinnis 2003
025185	16,682	Habitation site; milling station	40 m x 25 m	McGinnis 2003
025680	–	Union Pacific Railroad (portion of the San Diego and Arizona (Eastern) Railroad)	NA	Williams 2009; Wee and Ferrell 2000

waterline along Railroad Avenue, south of Old Highway 80 and the current study area, through Locus A and B in 1987, Soils from the trenching were screened and trench profiles were taken, indicating a substation subsurface deposit of approximately 20 cm (Wilcox and Von Werlhof 1987).

The site was again revisited by County of San Diego Department of Public Works (DPW) archaeologist for a proposed road widening project for the Jacumba Water Tank, located south of Old Highway 80. The proposed project impact area for the road widening was surveyed and test excavations were conducted in the area south of Old Highway 80. While portions of the site were found to be disturbed, the DPW recommended the site eligible for inclusion to the National Register of Historic Places

(Joyner and Beck 1991). In 2003, the site was once again revisited and confirmed Rogers' initial assessment that this site is the village of *Hacúm* (McGinnis et al. 2003). No evidence of State Historic Preservation Office (SHPO) concurrence with the eligibility recommendation was on file at SCIC.

P-37-024023

This site was recorded by Caltrans (Lorrie 2000) as part of a Historic Property Survey Report (HPSR) (Rosen 2001). This was recorded as a two-lane undivided highway built in the 1910s, connecting San Diego to El Centro and Yuma Arizona. Portions of the highway were upgraded between the late 1910s and the early 1930s. The highway was designated Highway 80 in the 1920. As a result of the HPSR study conducted by Caltrans, several sections of the highway are considered contributing elements to the Old U.S. 80 Historic District under Criterion A of the California Register of Historic Places eligibility criteria for its "association with San Diego's efforts to become a terminus for a U.S. transcontinental highway and the significance of the highway for the regional economy" as well as under Criterion C for its "state of preservation as an example of highway engineering and construction techniques before the modern freeway era" (Lorrie 2000). Eligible segments include the segment adjacent to the Project APE. No evidence of SHPO concurrence with the eligibility recommendation was on file at SCIC.

1.3 Applicable Regulations

Various federal, state, and local regulations are applicable to projects located within San Diego County. These regulations are used to assess cultural resources, address adverse impacts to cultural resources, and identify protection measures for these resources. Applicable regulations for addressing these concerns and for determining resource significance include CEQA, the San Diego County Local Register of Historical Resources (Local Register), and the San Diego County Resource Protection Ordinance (RPO). The following sections describe the criteria that a resource must meet to be determined a significant resource or an important resource under each guideline.

1.3.1 California Environmental Quality Act

A cultural resource is considered "historically significant" under CEQA if the resource meets the criteria for listing in the CRHR. The CRHR was designed to be used by state and local agencies, private groups, and citizens to identify existing historical resources within the state and to indicate which of those resources should be protected, to the extent prudent and feasible, from substantial adverse change. The following criteria have been established for the CRHR (Public Resources Code §§5024.1, Title 14 CCR, Section 4852). A resource is considered significant if it:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage; or
2. Is associated with the lives of persons important in our past; or
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.

1.3.2 San Diego County Local Register of Historical Resources

The County requires that a resource be assessed for importance at the local level as well as the state level. If a resource meets any one of the criteria outlined in the Local Register, it will be considered important. The criteria are as follows (County of San Diego 2007b):

1. Is associated with events that have made a significant contribution to the broad patterns of San Diego County's history and cultural heritage;
2. Is associated with the lives of persons important to the history of San Diego County or its communities;
3. Embodies the distinctive characteristics of a type, period, San Diego County region, or method of construction, or represents the work of an important creative individual, or possesses high artistic value; or
4. Has yielded, or may likely yield, information important in prehistory or history.

1.3.3 Resource Protection Ordinance

The County's RPO protects significant cultural resources. The RPO definition of a "Significant Prehistoric or Historic Site" is as follows (County of San Diego 2007b):

Location of past intensive human occupation where buried deposits can provide information regarding important scientific research questions about prehistoric or historic activities that have scientific, religious or other ethnic value of local, regional, State or Federal importance. Such locations shall include, but not limited to: any prehistoric or historic district, site, or object included in or eligible for inclusion in the National Register of Historic Places or the State Landmark Register; or included or eligible for inclusion, but not previously rejected, for the San Diego County Historical Site Board List; any area of past human occupation located on public or private lands where important prehistoric or historic activities and/or events occurred; and any location of past or current sacred, religious or

ceremonial observances protected under Public Law 95-341, the American Indian Religious Freedom Act or Public Resources Code Section 5097.9, such as burial(s), pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures, and natural rocks or places which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

The RPO does not allow nonexempt activities or uses damaging to significant prehistoric or historic lands on properties under County jurisdiction. The only exempt activity is scientific investigations authorized by the County. All discretionary projects are required to be in conformance with applicable County standards related to cultural resources, including the noted RPO criteria on prehistoric and historic sites.

2.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

Section 15064.5(b) of the State CEQA Guidelines identifies adverse environmental impacts to historical resources. The County has prepared guidelines for determining the significance of environmental impacts to cultural resources, based on CEQA and the County RPO. Pursuant to the County of San Diego Guidelines for Determining Significance – Cultural Resources: Archaeological and Historical Resources (2007b), any of the following will be considered a significant impact to cultural resources:

1. The project, as designed, causes a substantial change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance or any alterations of characteristics or elements of a resource that cause it to be significant in the manner not consistent with the Secretary of Interior Standards.
2. The project, as designed, causes a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains the potential to contain information important to history or prehistory.
3. The project, as designed, disturbs any human remains, including those interred outside formal cemeteries.
4. The project proposes non-exempt activities or uses damaging to, and fails to preserve, significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources.

3.0 ANALYSIS OF PROJECT EFFECTS

3.1 Survey Methods

3.1.1 Survey Methods

Under the direction of Stacey C. Jordan, Ph.D., AECOM staff member Cheryl Bowden-Renna conducted the pedestrian archaeological and historical survey investigation on January 25, 2011. Stacey C. Jordan, Ph.D. prepared the County-format report based on the findings of the AECOM survey. Resumes of key AECOM personnel are provided in Appendix B.

An intensive pedestrian archaeological survey of the 1.47 acres of the Project APE was conducted in continuous parallel 10 m transects walked in an east/west direction. The project area consists of 150 ft (45 m) linear area, 20 ft (6 m) wide with a 100 ft (30 m) buffer around the proposed project area. Visibility was good to fair with approximately 20–30 percent of the project area partially obscured by ground cover in the form of non-native grasses, chaparral, and oak trees.

Two previously recorded sites, CA-SDI-4455 (the village site of *Hacúm*), and P-37-024023 (Old Highway 80), were relocated and updated during the current survey efforts. No newly recorded resources were identified during the current survey effort.

3.1.2 Native American Consultation

As part of this investigation, AECOM contacted the NAHC via fax on January 25, 2011, to solicit a Sacred Lands file search and request a list of Native American contacts for the proposed project. To date, no response has been received. The NAHC response usually indicates if there are known Native American cultural resources within or in the vicinity of the project area. At the request of the County, the NAHC response and appended Native American Contact list will be forwarded to County Archaeologist for the purposes of government-to-government consultation under CEQA. Also at the request of the County, AECOM staff member Cheryl Bowden-Renna contacted Native American representatives Mr. Clint Linton, Kumeyaay, by telephone on January 25, 2011, to notify them of the access road alignment alternatives survey and solicit their participation. Mr. Clinton was not available to participate at this time. After the survey effort was completed, Ms. Bowden-Renna contacted Mr. Linton to apprise him of the survey results.

3.2 Survey Results

The field survey effort resulted in the relocation of two cultural resources within the proposed Project APE, CA-SDI-4455 and P-37-024023 (Table 3; Figure 4, Confidential

Appendix E - bound separately). No other cultural or historic resources were identified during the current survey effort.

Table 3. Cultural Resources within the Project APE

Trinomial/Primary No.	Site Type
Sites	
CA-SDI-4455	Village of Hacúm
P-37-024023	Old Highway 80

3.2.1 Sites within the APE

CA-SDI-4455

Site CA-SDI-4455 was originally recorded in the 1920s as the ethnographic village site of *Hacúm* (Rogers 1920s). Test excavations (Joyner and Beck 1991) and trenching monitoring (Wilcox and Van Werlhof 1987) have been conducted in portions of the southern part of the site, which indicated the presence of a substantial subsurface deposit in the site area. Based on the results of these survey efforts and subsequent testing efforts, the County of San Diego DPW has previously recommended this site as eligible for the NRHP (Joyner and Beck 1991).

The current effort confirmed that the project is located within the site boundaries of CA-SDI-4455. While no artifactual material was observed within the proposed access route for the existing well, several quartz flakes were observed approximately 20 m north and west of the existing well, within the 100 ft (30 m) buffer area of the Project APE. A small ridgeline of bedrock is located approximately 50 m northeast of the well with multiple milling features just outside of the Project APE. Metavolcanic lithic debitage was observed in increasing amounts around this milling area. Ceramic sherds have been stockpiled into several of the bedrock mortars from the surrounding area, though it is unknown whether this is prehistoric or more recent activity. Because the area of site CA-SDI-4455 within the Project APE has not been subject to subsurface testing, it is unknown whether subsurface deposits are present in this area.

P-37-024023

This site was recorded by Caltrans (Lorrie 2000) as part of a Historic Property Survey Report (HPSR) (Rosen 2001). This was recorded as a two-lane undivided highway built in the 1910s', connecting San Diego to El Centro and Yuma Arizona. Portions of the highway were upgraded between the late 1910s and the early 1930s. The highway was designated Highway 80 in the 1920. The segment of P-37-024023 located at the

FIGURE 4

CULTURAL RESOURCES WITHIN THE PROJECT AREA
(Confidential – Bound Separately)
See Appendix E

southern boundary of the Project APE is considered a contributing element to a resource recommended eligible to the NRHP. Character-defining features of this contributing element consist of the Portland cement concrete road surface, the relatively narrow right-of-way, the two-lane undivided roadway, the route including the method of construction that “mostly follows the natural contours of the terrain with a minimum of cut and fill” done with a low level of earth moving (Lorrie 2000).

Site form updates have been completed on appropriated Department of Parks and Recreation (DPR) forms and are attached in Confidential Appendix C (bound separately).

4.0 INTERPRETATION OF RESOURCE IMPORTANCE AND IMPACT IDENTIFICATION

4.1 Resource Importance

The cultural resources survey conducted for the proposed project resulted in the re-identification of two previously recorded archaeological sites CA-SDI-4455 and P-37-024023, within the proposed project APE (Table 4).

Table 4. Subsurface Potential for Resources within the APE

Trinomial/ Primary No.	Resource Description	Subsurface Potential?	Recommendation
CA-SDI-4455	Village of Hacúm	Medium	Limited testing of project APE; monitoring
P-37-024023	Old Highway 80	Low	Avoidance

Prehistoric cultural uses of the APE are suggested by the observable archaeological data. Lithic reduction evidenced with CA-SDI-4455 reflects the use of diverse raw materials. Quartz was the predominant lithic material, although no quartz bedrock outcroppings are present in the project area, outcroppings of quartz are present in the vicinity. While quartz predominated the lithic assemblage, metavolcanic and volcanic materials are present. The nearby Table Mountain Archaeological District was used as a cobble quarry for volcanic rock cobbles (Laylander 2005a). Alluvium from Table Mountain has carried porphyritic andesites into the project area, making fine-grained volcanic raw materials available for stone tool production. Multiple locus of milling are noted within the site area, consisting of multiple milling elements, including slicks, mortars, and basins. The relative depths of these elements are indicative of long term use. While no diagnostic lithic artifacts were found to date the archaeological site, the presence of Tizon Brownware indicates its use during the Late Prehistoric. The date of the first appearance of ceramics in San Diego County is a debated issue (Laylander 2005a and 2005b); however it is generally acknowledged that ceramics are a marker of the Late Prehistoric period. Test excavations (Joyner and Beck 1991) and trenching monitoring (Wilcox and Van Werlhof 1987) have been conducted in portions of the southern part of the site, which indicated the presence of a substantial subsurface deposit in the site area. The breadth and range of artifactual material, subsurface deposits, and long-term use of milling elements, support the original recordation of the site as a village site, specifically, the village of *Hacúm*.

As a village, this site interconnects with other resources in the area, such as the Table Mountain District, located approximately 2 miles northeast of the project area, and the Jacumba Discontiguous Archaeological District (JDAD). Table Mountain District, was first documented in 1976 (May 1976) and nominated for the NRHP in 1980 (BLM 1980).

The Table Mountain Historic District was defined based on the recordation of 124 sites, 11 of which are said to be permanent village sites (May 1976). Rock art panels and ethnographic documentation also imply that the Table Mountain area had medicinal or religious significance (BLM 1980). The JDAD includes 70 sites and 22 isolated finds in a 441-acre identified during linear surveys for the Southwest Powerlink 500kV line northeast of the project area. Lithic quarrying and stone tool manufacture was a major industry in the JDAD; however, temporary camps, base camps, rock cairns, and ceramic scatters are also present (Wirth Associates 1981). Jacumba Valley was an area of intensive trade between the Quechan peoples, located along the Colorado River, and the mountain and desert Kumeyaay who lived in the Peninsular Range and the general project area (Wirth Associates 1981). Carrizo and In-Ko-Pah Gorges were used as trade routes (BLM 1980).

Historic uses of the APE consist of Old Highway 80 as a transportation corridor, connecting San Diego with El Centro and further to Yuma, Arizona. The historic town of Jacumba, is located approximately 0.12 mile to the east of the proposed project. This site demonstrates large-scale infrastructure efforts and construction techniques during the early 20th century and its impact on the regions' economy (Lorrie 2000).

4.2 Impact Identification

One archaeological site, CA-SDI-4455 has the potential to be directly impacted by the proposed project (see Figure 4, Confidential Appendix E – bound separately). The footprint of proposed new access route will impact site CA-SDI-4455. Previous testing of the southern portion of the site has indicated a substation subsurface deposit is present at the site (Joyner and Beck 1991; Wilcox and Von Werlhof 1987. Further, this site has been recommended eligible for inclusion to the NRHP (Joyner and Beck 1991),

As a disturbance to an important archaeological site that has the potential to contain information important to prehistory, project activities related to the construction and use of the access road within the Project APE will cause a substantial adverse change in the significance of this archaeological resource pursuant to §15064.5 of the State CEQA Guidelines and County significance guidelines. This direct impact is significant and mitigable to below a level of significance.

The project as planned does not proposed to alter any of the character defining features of the segment of P-37-024023, Old Highway 80, located directly south of the Project APE. As such, project construction or operation activities do not pose a significant impact to this resource.

5.0 MANAGEMENT CONSIDERATIONS – MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Archaeological sites are nonrenewable resources. The ideal treatment for cultural resources is avoidance of impacts, and measures to ensure avoidance can be incorporated into project design. If a project is determined to cause damage to a significant cultural resource, reasonable efforts must be made to mitigate the impact to a level below significant.

5.1 Mitigable Impacts

Unless the proposed project can be redesigned to avoid site CA-SDI-4455, which would likely prove unfeasible, impacts to this site would be considered significant and a testing program would need to be conducted within the project footprint to determine whether subsurface deposits are present. Should such testing exhaust the data potential of this portion of the site, impacts from the proposed project would be reduced to less than significant. Upon completion of this phase it may be determined, in consultation with the County, that further testing and/or data recovery will be needed. All testing and data recovery efforts would be implemented prior to construction or ground-disturbing activities.

5.2 No Significant Adverse Effects

P-37-024023, Old Highway 80, will not be impacted by the construction or operation of the proposed project. In the event of incidental discoveries during construction activities, each discovery would require significance testing as outlined in the County's Guidelines for Determining Significance (2007b). Any new facility, infrastructure, roadway or staging area for construction or maintenance not shown on the current site plan may require additional survey or, if within previous survey boundaries, further analysis of impacts to cultural resources.

6.0 REFERENCES

- Bean, Lowell J., and Florence C. Shipek
1978 Luiseño. In *California*, edited by Robert F. Heizer, pp. 550-563. Handbook of North American Indians, Vol. 8, Smithsonian Institution, Washington D.C.
- Bureau of Land Management (BLM)
1980 *Table Mountain District National Register of Historic Places*. BLM. Submitted to Bureau of Land Management. Unpublished report on file at the South Coastal Information Center.
- 2007 *Eastern San Diego County Proposed RMP/Final EIS*. Available at: <http://www.blm.gov/ca/st/en/fo/elcentro/esdrmp.html>.
- Campbell, E. W. C., W. H. Campbell, E. Antevs, C. E. Amsden, J. A. Barbieri, and F. D. Bode
1937 *The Archaeology of Pleistocene Lake Mohave*. Southwest Museum Papers No. 11, Los Angeles, California.
- Chace, Paul G.
1980 *A Cultural Resources Assessment of Jacumba*. Report prepared by Paul G. Chace & Associates for JoJoba Limited and Jacumba Associates, San Diego.
- Cline, Lora L.
1984 *Just Before Sunset*. J and L Enterprises, Jacumba, California.
- Cook, John R. and S. G. Fulmer (editors)
1980 *The Archaeology and History of the McCain Valley Study Area, Eastern San Diego County, California, A Class II Cultural Resource Inventory*. Archaeological Systems Management, Inc., San Diego, CA. Unpublished report on file at South Coastal Information Center.
- Cook, John R., and Michael Baksh, and Stephen R. Van Wormer
1997 *Jacumba Valley Ranch Cultural Resources Inventory and Evaluation* (Appendix F Cultural Resources Draft Environmental Impact Report for Jacumba Valley Ranch Specific Plan [SP91-003, P91-012, Log #89-22-3]). Report prepared by Mooney & Associates for Jacumba Valley Ranch, San Diego.
- Cooley, Theodore G.
2006 *Site Significance Evaluation of Prehistoric Archaeological Site CA-SDI-17,979 Located at a Proposed Restroom Facility in the Jacumba Community*

Park, San Diego County, California. Unpublished report on file at the South Coastal Information Center.

Cooley, Theodore G., and Laura J. Barrie

2004 Archaeological Excavations at the Village of Pa'Mu, Ramona Valley, California. *Proceedings of the Society for California Archaeology*. 17:43-46.

County of San Diego

2007a *County of San Diego Report Format and Content Requirements Cultural Resources: Archaeological and Historical Resources.* County of San Diego Land Use and Environmental Group. Department of Planning and Land Use, Department of Public Works.

2007b *County of San Diego Guidelines for Determining Significance Cultural Resources: Archaeological and Historic Resources.* First Revision, December 5, 2007. Land Use and Environment Group, Department of Planning and Land Use, Department of Public Works. Available at: http://www.sdcounty.ca.gov/dplu/docs/Cultural_Guidelines.pdf

n.d. *County of San Diego Road Maintenance History.* Available at <http://www.sdcounty.ca.gov/dpw/organization/roadmainten.html>. Retrieved 4/9/09.

Davis, James T.

1961 *Trade routes and Economic Exchange Among the Indians of California.* University of California (Berkeley) Archaeological Survey Report No. 54.

Grayson, Donald K.

1993 *The Desert's Past: A Natural Prehistory of the Great Basin.* Smithsonian Institution Press, Washington, D.C.

Hayden, Julian D.

1976 Pre-Altithermal Archeology in the Sierra Pinacate, Sonora, Mexico. *American Antiquity* 41:274-289.

Hedges, Ken

1970 *An Analysis of Diegueño Pictographs.* Unpublished Master's thesis, Department of Anthropology, San Diego State University, San Diego, California.

Holland, Robert F.

1986 Preliminary Descriptions of the Terrestrial Natural Communities of California. Nongame-Heritage Program, California Department of Fish and Game. October.

Jordan, Stacey

2009 Archaeological and Historical Investigations for the Energia Sierra Juarez U.S. Gen-Tie Line Project, Jacumba, California. Report prepared by AECOM, Inc. for Energia Sierra Juarez U.S. Transmission, LLC.

Joyner, Kathryn, and Roman Beck

1991 Site form update for CA-SDI-4455. Form on file at the South Coastal Information Center.

Kroeber, A. L.

1925 Handbook of the Indians of California. *Bureau of American Ethnology Bulletin 78*. Smithsonian Institute, Washington. Reprinted in 1976 by Dover Publications, New York.

Laylander, Don

2005a *Lithic Quarrying. Research Issues in San Diego Prehistory*. Available at: <http://home.earthlink.net/~researchissues/>.

2005b *Chronology: Tizon Brownware. Research Issues in San Diego Prehistory*. Available at: <http://home.earthlink.net/~researchissues/>.

Lorrie

2000 Site for form P-37-24023. Form on file at the South Coastal Information Center.

May, R. V.

1976 *Hwi-Nip-Shish: A Settlement and Land Use Pattern Model for the Table Mountain Complex Near Jacumba, California*, pp. 108, San Diego, CA.

McGinnis, Patrick, and Michael Baksh

2005 Archaeological Monitoring Report for the Jacumba Water System Rehabilitation Project, San Diego County, California. Prepared by Tierra Environmental.

McGinnis, Patrick, Emily Kochert, and Michael Baksh

2003 Archaeological Survey Report for the Jacumba Water System Rehabilitation Project, San Diego County, California. Prepared by Tierra Environmental.

McGuire, Randall H.

1982 Problems in Culture History: The Patayan Root. In *Hohokam and Patayan: Prehistory of Southwestern Arizona*, edited by Randall H. McGuire and Michael B. Schiffer, pp. 216-222, Academic Press, New York.

Meighan, Clement W.

1954 A Late Complex in Southern California Prehistory. *Southwestern Journal of Anthropology* 10(2):215-227.

Moratto, M. J.

1984 *California Archaeology*. Academic Press, Inc., Orlando.

Moriarty, James R. III

1966 Cultural Phase Divisions Suggested by Typological Change Coordinated with Stratigraphically Controlled Radiocarbon Dating in San Diego. *The Anthropological Journal of Canada* 4(4):20-30.

1967 Transitional Pre-Desert Phase in San Diego County. *Science*, 155-37-62.

1968 The Environmental Variations of the Yuman Area of Southern California, Parts I and II. *Anthropological Journal of Canada* 6(2):1-20 and 6(3):9-23.

NRCS

2007 Soil Survey for San Diego County Area, California (CA 638).

Pourade, Richard F.

1963 *The History of San Diego: The Silver Dons*. San Diego Union-Tribune Publishing Company, San Diego, California.

Rogers, Malcolm J.

1920s Site form for CA-SDI-4455. Form on file at the South Coastal Information Center.

1939 *Early Lithic Industries of the Lower Basin of the Colorado River and Adjacent Desert Areas*. San Diego Museum of Man Papers 3.

1945 Outline of Yuman Prehistory. *Southwestern Journal of Anthropology* 1:167-198.

Rosen, Martin

2001 Historic Property Survey Report for Old Highway 80, San Diego County, California. Unpublished report on file at the South Coastal Information Center.

Schaefer, Jerry

1994 The Challenge of Archaeological Research in the Colorado Desert: Recent Approaches and Discoveries. *Journal of California and Great Basin Anthropology* 16(1):60-80.

Schroeder, A. H.

1975 *The Hohokam, Sinagua, and the Hakataya*. Occasional Paper 3, Imperial Valley College Museum Society, El Centro.

1979 Prehistory: Hakataya. In *Southwest*, edited by Alfonso Ortiz, pp. 100-107. Handbook of North American Indians, Vol. 9, W. C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.

Shipek, Florence C.

1991 *Delfina Cuero: Her Autobiography, An Account of her Last Years and Her Ethnobotanic Contributions*. Ballena Press, Menlo Park, California.

Strand, Rudolf G.

1962 Geologic Map of California, San Diego-El Centro Sheet. California Division of Mines and Technology, Sacramento.

Sullivan, Susan

1977 James McCoy: Lawman and Legislator. *Journal of San Diego History* 23(4).

Townsend, Jan

1976 Site form update for CA-SDi-4455. Form on file at the South Coastal Information Center.

True, D. L.

1958 An Early Complex in San Diego County, California. *American Antiquity* 23(3):255-263.

1970 *Investigations of a Late Prehistoric Complex in Cuyamaca Rancho State Park, San Diego County, California*. University of California (Los Angeles) Archaeological Survey Monographs 1.

1980 The Pauma Complex in Northern San Diego County: 1978. *The Journal of New World Archaeology* 3(4):1-39.

Underwood, Jackson and Carrie Gregory

2006 *Cultural Resources Survey of La Posta Mountain Warfare Training Facility San Diego, California*. Unpublished report on file at the South Coastal Information Center.

Waldron

1976 Site form update for CA-SDi-4455. Form on file at the South Coastal Information Center.

- Warren, Claude N.
1984 The Desert Region. In *California Archaeology*, edited by Michael J. Moratto, pp. 339-430, Academic Press, New York.
- Warren, Claude N., and Robert H. Crabtree
1986 Prehistory of the Southwestern Area. In *Great Basin*, edited by Warren L. D'Azevedo, pp. 183-193. *Handbook of North American Indians*, Vol. 11, W. C. Sturtevant, general editor, Smithsonian Institution, Washington, D.C.
- Warren, Claude N., and H. T. Ore
1978 Approach and Process of Dating Lake Mojave Artifacts. *Journal of California Anthropology* 5(2):179-187.
- Walawender, M. J. and B. B. Hanan (editors)
1991 *Geological Excursions in Southern California and Mexico*. Department of Geological Sciences, San Diego State University, San Diego, CA.
- Waters, Michael R.
1982 The Lowland Patayan Ceramic Tradition. In *Hohokam and Patayan, Prehistory of Southwestern Arizona*, edited by Randall H. McGuire and Michael B. Schiffer, pp. 275-297. Academic Press, New York.
- Weather Channel
2009 Local Weather: Monthly Averages for Jacumba, CA. Accessed 4/24/09. http://www.weather.com/weather/wxclimatology/monthly/graph/USCA0521?par=usatoday&site=www.usatoday.com&promo=0&cm_ven=USAToday&cm_cat=www.usatoday.com&cm_pla=WxPage&cm_ite=CityPage.
- Wilcox, Raymond, and Jay Von Werlhof
1987 Site form update for CA-SDI-4455. Form on file at the South Coastal Information Center.
- Wirth Associates
1981 *Jacumba Discontiguous Archaeological District*. Unpublished report on file at the South Coastal Information Center.

7.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Stacey C. Jordan, Ph.D.
Senior Archaeologist
AECOM

Cheryl Bowden-Renna
Associate/Staff Archaeologist
AECOM

South Coastal Information Center
San Diego State University

8.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS

Cultural Resource	Design Consideration	Mitigation Measure	Less than Significant Impact?
CA-SDI-4455	Construction of new access route	Site Evaluation/Data Recovery program	Yes
		Construction monitoring	Yes
P-37-024023	Construction of new access route	Avoidance, construction monitoring	Yes

APPENDIX A

RECORDS SEARCH RESULTS
(Confidential – Bound Separately)

APPENDIX B
RESUMES OF KEY PERSONNEL

Stacey Jordan, PhD, RPA**Practice Leader, Cultural Resources Group****Senior Archaeologist****Education**

PhD, Anthropology, Rutgers University, New Brunswick, NJ, 2000
 MPhil, Anthropology, Rutgers University, New Brunswick, NJ, 1995
 MA, Anthropology, Rutgers University, New Brunswick, NJ, 1994
 BA with High Distinction, Anthropology, University of California, Berkeley, 1991

Professional Affiliations

Member, Society for American Archaeology
 Member, Register of Professional Archaeologists

Certifications + Approvals

County of San Diego Approved Consultant List for Archaeological Resources
 County of San Diego Approved Consultant List for Historic Resources
 County of Riverside Approved Cultural Resources Consultant (No. 222)

Awards

2009 - San Diego Archaeological Center Excellence in Archaeology Award, Excellence in Cultural Heritage, Archaeological Data Recovery at CA-SDI-10.920 and Site Stabilization at Sites CA-SDI-586 and CA-SDI-10.920 Along the Southern Shore of Lake Hodges
 2008 - San Diego AEP Outstanding Environmental Resource Document Finalist, Boulder Oaks Open Space Preserve (winner Honorable Mention at September 25 AEP Awards)
 2008 - Riverside County Planning Department, Certificate of Appreciation for the Cultural Resources Working Group

Grants + Fellowships

2003, Wenner-Gren Foundation for Anthropological Research Individual Research Grant Team Member: "Analysis and Interpretation of Archaeological Residues from Excavations at the Castle of Good Hope, Cape, South Africa"
 1996-1997, Wenner-Gren Foundation for Anthropological Research, Predoctoral Research Grant #6021
 1994-1995, Wenner-Gren Foundation for Anthropological Research, Predoctoral Research Grant #5739
 1992-1996, Rutgers University Excellence Fellowship

Publications

Jordan, Stacey. 2002. Classification and Typologies. In: *Encyclopedia of Historical Archaeology*, Charles E. Orser, Jr. (ed.). Routledge, London.
 Jordan, Stacey and Carmel Schrire. 2002. Material Culture and the Roots of Colonial Society at the South African Cape of Good Hope. In: *The Archaeology of Colonialism*, Claire Lyons and John Papadopoulos (eds.). Getty Research Institute, Los Angeles.

Dr. Stacey Jordan has been professionally involved in the fields of archaeology and history for over a decade. Her specialty in historical archaeology combines the use of material culture and the archival record in anthropologically driven analyses of cultural resources. Dr. Jordan was the recipient of the Excellence Fellowship at Rutgers University, as well as multiple research grants from the Wenner-Gren Foundation for

Anthropological Research. She is the author of various publications as well as numerous papers that have been presented at national and international conferences. Dr. Jordan is particularly well versed in the analysis of historical ceramics and has taught courses in the method and theory of historical archaeology as well as in the identification and analysis of historical ceramics and glass. She has extensive experience in archival research and historical writing, and has worked on projects spanning from early colonial contact to the recent past. In addition, Dr. Jordan has served on a variety of prehistoric and historic excavations both in the United States and abroad. Supplementing her work in cultural resources management, she conducts research on ceramics, community development, and identity construction in colonial South Africa.

Project Experience**Solar Millennium Ridgecrest Solar Power Project, Ridgecrest, CA**

Project Manager of ongoing BLM Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 2000-acre solar power project on BLM land in the western Mojave Desert under a Fast-Track ARRA funding schedule. This project includes extensive records searches and data management, multi-agency coordination and consultation involving BLM and the California Energy Commission, an ongoing Native American contact and outreach program.

Solar Millennium Blythe Solar Power Project, Blythe, CA

Project Coordinator of ongoing BLM Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 2000-acre solar power project on BLM land in the western Mojave Desert under a Fast-Track ARRA funding schedule. This project includes extensive records searches and data management, multi-agency coordination and consultation involving BLM and the California Energy Commission, an ongoing Native American contact and outreach program.

Solar Millennium Palen Solar Power Project, Palen, CA

Project Coordinator of ongoing BLM Class III intensive pedestrian survey, resource documentation, and site evaluation efforts for an approximately 2000-acre solar power project on BLM land in the western Mojave Desert under a Fast-Track ARRA funding schedule. This project includes extensive records searches and data management, multi-agency coordination and consultation involving BLM and the California Energy Commission, an ongoing Native American contact and outreach program.

San Diego Gas & Electric On-Call Cultural Services,

San Diego and Imperial Counties, CA

Director of on-call inventory, survey, monitoring and reporting work as part of SDGEs infrastructure operations and maintenance activities on both private and public lands. Tasks include records searches, construction monitoring, archaeological survey and documentation, completion of State of California DPR forms, and management recommendations.

Southern California Edison As-Needed Archaeological Services, CA

Director of on-call survey, 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. Product involves completion of State of California DPR forms, assessment of resource significance according to NRHP eligibility and CEQA significance criteria, and management recommendations. Work done before joining this firm.

Bureau of Land Management National Historic Trails Cultural and Visual Inventory, Multiple States

Cultural resources task manager for ongoing archival research and Phase I cultural resources inventories of National Historic Trails and trail-associated resources on Bureau of Land Management lands in New Mexico, Colorado, Utah, Arizona, California, Nevada and Wyoming. Inventories include pedestrian survey for the identification of trail traces of the Old Spanish, El Camino Real de Tierra Adentro, California, Oregon, Mormon Pioneer, and Pony Express National Historic Trails, documentation of sites and features associated with the trails during their period of significance, and conditions assessments of observable trail traces. Results of the inventory will be combined with visual and cultural landscape analysis to support BLM's management and protection of high potential route segments and historic sites.

City of San Diego City Planning and Community Investment As-Needed Archaeological Services, City of San Diego, CA

Project Manager of ongoing cultural resources consulting services in support of community plan updates under the newly adopted City of San Diego General Plan. Services include records searches, Native American contact programs, background information syntheses, and assessments of archaeological potential as part of the community plan update Historic Preservation Elements.

San Nicolas Island Archaeological Evaluations, Ventura County, CA

Project Manager for ongoing archaeological evaluation of prehistoric sites CA-SNI-316, 361 and 550 on San Nicolas Island in the Channel Islands of the California Bight. This project involves the significance testing and analysis of Middle and Late Holocene sites and synthesis of results with existing island-wide archaeological data.

County of San Diego Department of Parks and Recreation Sage Hill Preserve Cultural Surveys, San Diego County, CA

Cultural resources task manager for Phase I pedestrian survey and cultural resource inventories of the Sage Hill Preserve in unincorporated northern San Diego County. This project 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 through development of a Resource Management Plan including Area Specific Management Directives. Extensive archival and background research, including a contact program with local historic societies, was conducted to develop a historical context for the property. Methods and results of the intensive pedestrian survey were reported in a County of San Diego format technical report which included extensive cultural histories, a descriptive inventory of identified sites, and management guidelines for potentially significant cultural resources. All resources were documented on DPR 523 forms, and field work was conducted in coordination with a Native American monitor.

Emergency Storage Project Cultural Resources, Lake Hodges, San Diego County, CA

Senior Archaeologist and report co-author for data recovery project at site CA-SDI-10.920 along Lake Hodges. The project involves integration of regional data to provide context for the analysis of CA-SDI-10.920 and examination of the Late Prehistoric occupation of the San Dieguito River Valley around present-day Lake Hodges.

Jefferson National Expansion Memorial Environmental Impact Study, St. Louis, MO

Co-author for prehistoric and historical archaeology background and impact analysis sections related to the proposed expansion of the Jefferson National Expansion Memorial (Gateway Arch) in St. Louis, Missouri and East St. Louis, Illinois.

Old Town State Historic Park Jolly Boy Project, San Diego, CA

Contributor to the archaeological data recovery report for the Jolly Boy Saloon site in Old Town San Diego State Historic Park. Contributions to this project involve the synthesis of existing data on Old Town San Diego and development of an archaeological and historic context for the analysis and interpretation of recovered material.

Ocotillo Wells SVRA General Plan & Environmental Impact Report Cultural Resources, Imperial County, CA

Ongoing Cultural Resources analyses of Ocotillo Wells State Vehicular Recreation Area. This project involves the analysis of existing cultural resources conditions, and recommendations for the treatment of cultural resources.

County Department of Public Works, Bear Valley Parkway Cultural Resources Inventory and Assessment, San Diego County, CA

Task Manager for the survey, documentation and evaluation of archaeological and historical resources related to the expansion of Bear Valley Parkway in unincorporated San Diego County. Project conducted for the County Department of Public Works according to County of San Diego guidelines.

Banning State Water Transmission Line, Riverside County, CA

Task Manager for cultural resources sensitivity analysis for the construction of an approximately 2.4-mile long pipeline within the rights-of-way of paved streets within the unincorporated area of the county. As part of this analysis a records search of the Eastern Information Center was conducted to identify cultural resources studies and identified resources within a one-mile radius of the Banning State Water Transmission

Line's proposed alignment. A sacred lands file search was also requested from the Native American Heritage Commission.

Heber Dunes SVRA General Plan & Environmental Impact Report Cultural Resources, Imperial County, CA

Ongoing Cultural Resources Phase I Survey and Inventory of Heber Dunes State Vehicular Recreation Area. This project involves the analysis of existing cultural resources conditions, assessment of proposed facilities maintenance and development impacts, and recommendations for the treatment of cultural resources.

El Camino Real Bridge Historical Evaluation—City of San Diego, California

Senior Archaeologist and Historian for a historical resources assessment of the historic El Camino Real Bridge over the San Dieguito River in accordance with CEQA and City of San Diego significance guidelines. Conducted archival research on the bridge's construction history and alterations using historic photographs and original engineering drawings. Work done before joining this firm.

El Camino Real Historic Properties Survey and Evaluation Reports—Tierra Environmental Services, City of San Diego, California

Senior Archaeologist and Historian for archival and archaeological investigations along a segment of El Camino Real. Prepared Caltrans-format Historic Properties Survey Report and Historic Resources Evaluation Report for a segment of the historic El Camino Real through the San Dieguito River Valley, as well as a turn of the century bungalow and an early-20th century Craftsman residence. Conducted extensive research on the San Dieguito River Valley's land use and occupational history. Work done before joining this firm.

SWPL 500kV Line Wetland Delineation , San Diego County, CA

Project Director for Phase I pedestrian surveys, resource documentation, Section 106 resource evaluation, findings of effect and management recommendations in support of USACE wetland permitting associated with proposed jurisdictional water crossing improvement projects in southern San Diego County. Work done before joining this firm.

Boulder Oaks, Sycamore/Goodan, El Capitan/Dakoasis/ El Monte/Steltzer Open Space Preserve and Regional Park Cultural Resources Inventories, San Diego County, CA

Project director 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 done before joining this firm.

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

Director of cultural resources efforts and Caltrans coordination for survey, 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 done before joining this firm.

BLM Santa Rosa San Jacinto Mountains National Monument Trails Inventory, Riverside County, CA

As Project Director, directed cultural resources inventory of trail systems within the Santa Rosa San Jacinto Mountains National Monument, including documentation of prehistoric and historic routes and associated resources within trail corridors. Completed cultural resources inventory report for BLM, including BLM-format GIS database. Work was performed before joining this firm.

High Winds Wind Farm Project, Solano County, CA

Conducted archival and historical research on the settlement and development of southern Solano County. Evaluated nine historic resources and surrounding landscape significance according to CEQA criteria. Completed historical background and assessment report, photographically documented resources and landscape, and updated State DPR forms for previously identified resources. Work done before joining this firm.

U.S. Fish & Wildlife Service Hercules Gunpowder Point Historical Resources Evaluation, Chula Vista, CA

Project director for the historical evaluation of the Hercules Powder Company Gunpowder Point facility in Chula Vista. Supervised archival and historical research, directed field survey and documentation efforts, and provided National Register eligibility evaluation for the site. Work was performed before joining this firm.

CCDC Downtown San Diego African-American Heritage Study, San Diego, CA

As Senior Historian, documented the development and growth of the African-American community in downtown San Diego through the 19th and 20th centuries. Archival information, oral histories, architectural evaluations, and recognition of potential archaeological sites were used to document the African-American community's economic, social, and political history in the downtown area, and to identify an African-American Thematic Historic District. Work was performed before joining this firm.

Mannasse's Corral/Presidio Hills Golf Course, San Diego, CA

Directed and managed archaeological excavation and interpretation of historic refuse and features related to Old Town San Diego located within the city-owned Presidio Hills Golf Course property. Conducted analysis of excavated material, researched and interpreted site history and use, and assessed resource significance, broadening the understanding of Old Town's archaeological signature and historic lifeways. Work was performed before joining this firm.

California State Parks Old Town San Diego State Historic Park Archaeological Excavations, San Diego, CA

Managed excavation and analysis of 19th-century deposits recovered from two locations within Old Town State Historic Park, representing roadbed flood wash and tavern refuse, respectively. Oversaw ceramic and glass cataloguing, and conducted historical research

and interpretation on specific site uses and depositional processes. Prepared State of California DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work was performed before joining this firm.

City of El Centro Cole Road and Dogwood Road Widening Projects, Imperial County, CA

Project management of field survey and documentation efforts related to the widening of Dogwood Road and Cole Road in unincorporated Imperial County. Produced CEQA and Caltrans-format documentation related to identified resources and proposed project impacts. Work was performed before joining this firm.

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

Project director overseeing the survey of an approximately 850-acre area in eastern San Diego County and test excavation of identified prehistoric sites. Directed archaeological and built environment documentation, Extended Phase I testing, and Phase II testing efforts under the new County of San Diego Guidelines implemented September 2006. Work was performed before joining this firm.

Vine/Carter Hotel Historical Assessment, San Diego, CA

As Project Manager, conducted extensive archival research and historical assessment of the African-American-owned Vine/Carter Hotel building in San Diego's East Village. Conducted historical research on the building's ownership history and development; its historical uses, managers, and residents; and its place in San Diego's historical African-American community. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State of California DPR forms, and assessed the building's significance according to local, state, and federal significance criteria. As a result of the project, the Vine/Carter Hotel was nominated as a significant historical resource by the City of San Diego Historical Resources Board. Work was performed before joining this firm.

Mission San Gabriel Gardens Excavation, Jump Start Project, San Gabriel, CA

As Project Manager, conducted monitoring and excavation of Spanish colonial and American-era deposits associated with the construction of the original Mission San Gabriel and later 19th-century occupations. Documented the sites according to State Office of Historic Preservation guidelines, and assessed the resources according to NRHP and CEQA significance criteria. Work was performed before joining this firm.

Lillian Grant Property Public Art Project, San Diego, CA

As Project Manager, provided historical research services and written text incorporated into the public art commissioned for the redevelopment of the historical Lillian Grant Property in the East Village of San Diego. The public art, located at 14th and J streets at the Lillian Place affordable housing complex, commemorates the histories, experiences, and contributions of African-Americans to the development of San Diego and the East Village area in particular. Work was performed before joining this firm.

Lillian Grant Property Historic American Building Survey (HABS), San Diego, CA

As Project Manager, supervised HABS of the Lillian Grant properties in the East Village community of San Diego, submitted to the City of San Diego. Oversaw archival quality photographic documentation, and architectural line and plan drawings, as well as

completed required HABS historical narrative on the subject buildings. Work was performed before joining this firm.

San Gabriel Mission Trench Excavation, San Gabriel, CA

As Senior Archaeologist, conducted historical and archival research on the prehistory and history of the San Gabriel Mission and surrounding areas to assess potential impacts of proposed below-grade railway trench. Compiled historical narrative, identified potential subsurface features, and recommended appropriate mitigation strategies. Work was performed before joining this firm.

LA Department of Parks and Recreation Camp Seely National Register Evaluation, San Bernardino National Forest, San Bernardino County, CA

As Senior Historian, conducted NRHP evaluation of the early-20th-century Camp Seely recreational camp facility leased by the City of Los Angeles in the San Bernardino National Forest. Conducted historical and archival research on the Camp's history and development; its individual buildings; and its architects, including Sumner P. Hunt and Silas R. Burns. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work was performed before joining this firm.

Camp Radford National Register Evaluation, San Bernardino National Forest, San Bernardino County, CA

As Senior Historian, conducted NRHP evaluation of the early-20th-century Camp Radford recreational camp facility leased by the City of Los Angeles in the San Bernardino National Forest. Conducted historical and archival research on the Camp's history and development; its individual buildings; and its architects, Sumner P. Hunt and Silas R. Burns. Photographed and documented the building according to Office of Historic Preservation guidelines, prepared State DPR forms, and assessed resource significance according to NRHP eligibility criteria. Work was performed before joining this firm.

Papers and Presentations

The Development of Colonial Culture at the South African Cape of Good Hope: Examining the many "functions" of utilitarian ceramics. Paper presented at the Archaeology of Colonialism Symposium, Archaeological Institute of America Annual Meetings, January 2001.

Urban Archaeology and the Focus of Memory: a study in the history and narrative of South Central Los Angeles. Paper Presented at the Society for American Archaeology Annual Meeting, March 2002.

Historical Archaeology as Anthropology: Artifacts, Identities, and Interpretations in the Study of the Recent Past. Presented at World Archaeological Congress, January 2003.

Old Town Made New Again: The Archaeology of San Diego's First Settlement. Paper presented at the Society for California Archaeology Annual Meeting, April 2005.

Past as Present: Tourism and Archaeology in Old Town San Diego. Presented at the Society for Applied Anthropology Annual Meeting, April 2005.

The Face of Mercantilism at the South African Cape of Good Hope: Ceramics and the Hesitant Empire. Presented at the Society for Historical Archaeology Annual Meeting, January 2006.

A Patchwork History: Interweaving Archaeology, Narrative and Tourism in Old Town San Diego. Paper presented at the Society for American Archaeology Annual Meeting, March 2007.

Mannasse's Corral: The Life History of a Piece of Old Town. Presented to the Presidio Council, January 2008.

Making the Past Present: Archaeology, Heritage and Tourism in Old Town San Diego. Paper presented at the Society for California Archaeology Annual Meeting, April 2008.
CCEQA and Historical Resources. Guest Lecturer, California Environmental Quality Act, UCSD Extension Course, 2008-2010.

Cheryl Bowden-Renna
Archaeologist/Associate
Assistant Laboratory Director

Education

BA, Anthropology, San Diego State University, 1987
Square supervisor and Field School Instructor, at Tel Dor, Israel, U.C. Berkeley

Affiliations

Member, Society for California Archaeology

Certifications

40-Hour Hazardous Waste Operations and Emergency Response
(HAZWOPER Course maintained since 1996)

Lectures + Instruction

Sandstone Features Adjacent to Lake Cahuilla (with S. Rose), Volume 12, Society of California Archaeology, 1999
The Cultural Resources of the Chocolate Mountains (with R. Apple), Society of California Archaeology, 2004

Cheryl Bowden-Renna has served as archaeologist and assistant laboratory director for several cultural resource firms in San Diego. With 15 years of archaeological experience, Ms. Bowden-Renna has worked at sites throughout the southwestern United States. She also has a background in accounting, database management, and has developed solid management and supervisory skills.

Ms. Bowden-Renna has extensive archaeological monitoring experience of ordnance removal at the Salton Sea Test Base in Imperial County. She has also served as archaeological monitor of the test excavation for the Inmate Reception Center in downtown San Diego. In that role, she was responsible for monitoring excavations, including the use of backhoes, during the data recovery of features from an urban historic site.

Project Experience**Department of General Services Federal Services Caltrans District II New Headquarters, San Diego, CA**

Performed cultural monitoring for historic and prehistoric resources during preconstruction and construction for Caltrans II new headquarters building.

County of San Diego Camp Lockett Monitoring, Campo, CA

Performed monitoring during construction of a sewage treatment facility in Campo, San Diego County.

NAVFAC Southwest and MCAS Miramar East Miramar Housing Alternative, San Diego, CA

As Project Archaeologist, conducted cultural resources survey, excavation, and evaluation of several sites located on MCB Miramar.

NAVFAC Southwest and MCAS Miramar Jet Fuel Line, San Diego, CA

As Crew Chief, conducted cultural resources survey for proposed fuel line for the Marine Corps, San Diego County.

Riverside County Economic Development Authority OHV Project, Riverside County, CA

As Crew Chief, conducted cultural resources survey of over 1,000 acres in Riverside County, California.

Sempra Utilities Coronado Monitoring Project, Coronado, CA

Monitoring of powerline trenching on Coronado Island, California.

City of Santa Clarita and Caltrans District 7 Cross Valley Survey, Los Angeles County, CA

As Crew Chief, conducted cultural resources survey in Los Angeles County, California.

City of San Diego McAuliffe (Winterwood) Community Park, San Diego, CA

Crew Chief for cultural resources survey of a proposed park.

NAVFAC Southwest and MCAS Yuma Two Crash Sites on The Barry M. Goldwater Range, Yuma, AZ

Crew Chief for cultural resources survey of two helicopter crash sites.

NAVFAC Southwest Cultural Resources Inventory For the Infantry Squad Battle Course (P-633), Marine Corps Base Camp Pendleton, CA

Crew Chief for cultural resources survey and site recordation.

San Diego County Water Authority Emergency Storage Project, San Diego County, CA

As Project Archaeologist, Crew Chief, Field Technician and Laboratory Analysis, conducted cultural resources survey, testing and evaluation of several large project sites within San Diego County.

San Diego Gas & Electric Valley Rainbow Transmission Line Project, Riverside and San Diego Counties, CA

Crew Chief for cultural resources survey and site recordation for major portions of a large transmission line project.

LMXU Village Center

Crew chief for cultural resources excavation and water screening.

Los Angeles Department of Parks and Recreation Plum Canyon Park Project, Los Angeles County, CA

As Crew Chief, conducted cultural resources survey for a community park in Saugus, Los Angeles County, California.

City of Escondido Tract 207A

As Project Archaeologist, conducted cultural resources survey of 1.13 acres in the City of Escondido.

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

Phase I cultural resource survey of proposed transmission line and 17 threat emitter stations.

North Baja Gas Pipeline Project, Riverside and Imperial Counties, CA

Conducted cultural resources survey and monitoring for large pipeline project in Riverside and Imperial counties, California.

Archaeological Testing and National Register Evaluation of Site CA SDI-16,002 Near Range 210 Marine Corps Base Camp Pendleton, CA

Field Director for test excavation of CA-SDI-16,002.

Ballpark Infrastructure, San Diego, CA

As Field Monitor, performed historic monitoring and testing of downtown east village area for the proposed Ballpark.

Ballpark Remediation, San Diego, CA

As Field Monitor, performed historic monitoring and testing of downtown east village area for the proposed Ballpark. Required hazardous materials certification.

Nobel Drive, San Diego County, CA

As Field Monitor, performed prehistoric monitoring of road extension to I-805 interchange.

Sempra Utilities On-call Cultural Services, San Diego, CA

As Field Monitor, historic monitoring and testing of downtown east village area for the proposed Ballpark. Required hazardous materials certification.

County of San Diego Inmate Reception Center Project, San Diego County, CA

As Laboratory Supervisor, conducted field monitoring of large machinery, including backhoes, during the data recovery of features from an urban historic site in downtown San Diego. Catalog and database management for project.

NAVFAC Southwest Levee Bridge, San Diego County, CA

As Crew Chief/Laboratory Supervisor, was responsible for catalog, database management, table creation for CA-SDI-10,156, and discovery sites.

U.S. Navy Salton Sea Test Base Project, Imperial County, CA

As Crew Chief, was responsible for site recordation, test excavation, and monitoring of 130 prehistoric sites in the County.

City of San Diego and Caltrans SR-56 EIR, Cultural Investigations, San Diego County, CA

As Laboratory Technician, cataloged 12 prehistoric sites during preparation of EIR.

City of San Diego and Caltrans SR-56 Cultural Resources Testing, San Diego County, CA

As Crew Chief, performed testing at 12 prehistoric sites.

P-527 Santa Margarita/San Onofre Cultural Resources Testing and Monitoring, MCB Camp Pendleton, San Diego County, CA

Performed monitoring of water treatment pond and pipeline construction in the County.

NAVFAC Southwest San Clemente Island Existing Conditions Study for Pumped Hydrostorage/Wind Farm Project, Los Angeles County, CA

As Field Technician, responsible for recording 80 sites on San Clemente Island.

NAVFAC Southwest Tactical Aircrew Combat Training System Range Upgrade, MCAS Yuma, Yuma County, AZ

As Field Technician, responsible for Phase I cultural resource survey of proposed transmission line and 17 threat emitter stations.

Boulder Valley Project, San Diego County, CA

Cultural resource survey of proposed reservoir and pipeline tunnels in the County.

Kern River Project, San Bernardino County, CA, Beaver, Miller, and Utah Counties, UT, and Clark County, NV

Excavated, surveyed, and monitored along pipeline right-of-way. Analyzed artifacts from all phases of project in Las Vegas, Nevada.

Pacific Rim Laboratory Analysis, San Diego County, CA

As Field Technician, analyzed CA-SDI-691, a prehistoric site on Batiquitos Lagoon.

County of San Diego Cal Terraces Laboratory Analysis, San Diego County, CA

As Laboratory Technician, analyzed one prehistoric site, and reanalyzed two prehistoric sites, in Otay Mesa.

Elsmere Corporation Cultural Resource Survey, Los Angeles County, CA

As Field Technician, conducted cultural resource survey of 2,200 acres in the San Gabriel Mountains.

Caltrans Coursegold Excavation, Madera County, CA

As Field Technician, excavated site for Caltrans road widening.

U.S. Navy Vandenberg Laboratory Analysis, Santa Barbara County, CA

As Laboratory Technician, sorted artifacts and wet-screened column samples.

Camelot Cultural Resource Survey, Kern County, CA

As Crew Chief, conducted a cultural resource survey of a 200-acre lot split in the Mojave Desert.

Caltrans SR-86 Cultural Resource Survey, Imperial County, CA

As Crew Chief, conducted a cultural resource survey of SR-86 road widening in the County.

Black Mountain Ranch Excavation, San Diego County, CA

As Laboratory Supervisor, excavated and analyzed 15 prehistoric sites in the La Jolla Valley.

City of Carlsbad Cannon Ranch Reaches 3 and 4, San Diego County, CA

As Crew Chief, excavated and analyzed two prehistoric sites in Carlsbad.

San Diego Gas & Electric Rancho San Miguel Project, San Diego County, CA

As Field Technician/Laboratory Supervisor, excavated and analyzed nine sites and conducted extensive surface collections in the County.

Cottonwood Canyon Laboratory Analysis, Riverside County, CA

As Laboratory Supervisor, analyzed two prehistoric sites in the County.

Rancho del Rey (Spa III) Excavation, San Diego County, CA

As Field Technician/Laboratory Supervisor, excavated and analyzed a prehistoric site in Chula Vista.

Stallions Crossing Laboratory Analysis, San Diego County, CA

As Laboratory Supervisor, analyzed five prehistoric sites in Del Mar.

Valley Ranch Cultural Resource Survey, Palmdale, CA

Conducted cultural resource survey of 350 acres in Palmdale.

Fairbanks Highland Cultural Resource Survey, San Diego County, CA

Conducted cultural resource survey, excavation, and analysis.

Eagle Mountain Cultural Resource Survey, Riverside County, CA

Conducted cultural resource survey of the Eagle Mountain mine and railroad to Salton Sea.

Santa Margarita River Cultural Resource Survey, San Diego and Riverside Counties, CA

Conducted cultural resource survey of Santa Margarita River from Temecula to the Pacific Ocean.

Scripps Ranch North Excavation, San Diego County, CA

Excavated and analyzed two prehistoric sites and one historic site in Poway.

Sycamore Canyon Excavation, San Diego County, CA

Excavated and analyzed two prehistoric sites east of Poway.

Los Campanos Excavation, San Diego County, CA

Excavated and analyzed four prehistoric sites and one historic site in Valley Center.

American Girl Mine Cultural Resource Survey, Imperial County, CA

Conducted cultural resource survey, excavation, and analysis of historic artifacts from a historic gold mining town in the Cargo Muchacho Mountains.

**Railroad Canyon Cultural Resource Survey,
Riverside County, CA**

Conducted cultural resource survey, excavation, and analysis of a road realignment in Temecula.

**U.S. Air Force Edwards Air Force Base Cultural Resource Survey, Excavation,
and Analysis, Kern County, CA**

As Field Technician/Laboratory Technician, conducted cultural resource survey, excavation, and analysis of 1,000-acre area on Edwards Air Force Base.

**County of San Diego Parks and Recreation Department Johnson-Taylor Adobe
Excavation, San Diego County, CA**

As Field Technician/Laboratory Technician, excavated and analyzed the area around the Johnson-Taylor Adobe and C wing.

Pacific Rim Laboratory Analysis, San Diego County, CA

As Field Technician/Laboratory Technician, conducted extensive shell and lithic analysis of prehistoric sites on Batiquitos Lagoon.

APPENDIX C

DPR FORMS

(Confidential – Bound Separately)

APPENDIX D
NATIVE AMERICAN CONSULTATION

EDAW Inc
 1420 Kettner Boulevard, Suite 500, San Diego, California 92101
 T 619.233.1454 F 619.233.0952 www.edaw.com

Facsimile

Please deliver to		From	
Name		Name	Cheryl Bowden-Renna
Firm	Native American Heritage Commission	Direct line	619-233-1454 x 6815
Fax number	916-657-5390	Date transmitted	2/3/2011
Phone number		Total pages	04
Subject	Jacumba Water Well		
Project number	09080001		

We are contacting you to request a sacred lands file check for the proposed Jacumba Water Well Access Road Project, located in eastern San Diego County. The proposed areas incorporates a 1/4-mile radius each area, located on the following quadrangle:

Jacumba T17S R8E Section 7


If you have any questions, please do not hesitate to call me at (619) 233-1454.

Sincerely,

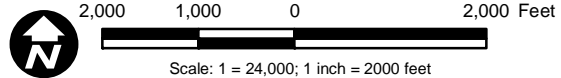
Cheryl Bowden-Renna
 Archaeologist/Associate



LEGEND

 Records Search Boundary

Source: USGS 7.5' Topo Quad Jacumba, CA 1975; ESRI 2011; Sempra 2010;



Records Search Map

JCSD Water Purchase Project

Path: P:\2009\09080001 ESJ Gen-Tie\6.0 GIS\6.3 Layout\Well_accessRd_working\Well_accessRd_mxd, 01/04/11, SorensenJ

APPENDIX E

CONFIDENTIAL FIGURES
(Confidential – Bound Separately)

