Appendix G1

Phase I Cultural Resources Assessment

ESA

CADIZ VALLEY WATER CONSERVATION, RECOVERY, AND STORAGE PROJECT

Phase I Cultural Resources Assessment

Prepared for
Santa Margarita Water District
26111 Antonio Parkway
Rancho Santa Margarita, CA

November 2011

ESA

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Phase I Cultural Resources Assessment

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Prepared By:
ESA
626 Wilshire Blvd. Suite 1100
Los Angeles, CA 90017

Project site location: Cadiz, Cadiz Summit, Cadiz Lake NW, Cadiz Lake NE, Calumet Mine, Chubbuck, Milligan, East of Milligan, Danby Lake, Sablon, and Arica Mountains (CA) USGS 7.5' Topographic Maps T1S R19E, 20E; T1N R18E, 19E; T2N R17E, 18E; 3N R16E, 17E; 4N R15E, 16E; 5N R14E, 15E

Principal Investigator: Monica Strauss, M.A.

Report Authors: Madeleine Bray, M.A, Candace Ehringer, M.A., Brian S. Marks, Ph.D.

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626 Wilshire Boulevard
Suite 1100
Los Angeles, CA 90017
213.599.4300
www.esassoc.com

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EXECUTIVE SUMMARY

Cadiz Valley Water Conservation, Recovery, and Storage Project
Phase I Cultural Resources Assessment

Pursuant to the California Environmental Quality Act (CEQA), ESA is preparing an Environmental Impact Report (EIR) for the proposed Cadiz Valley Water Conservation, Recovery, and Storage Project (Project). The Santa Margarita Water District (SMWD) is acting as Lead Agency as the first public agency with a discretionary decision regarding the Project and because the Project will be owned in part and operated by SMWD. The Project, located on private lands in the unincorporated portion of southeast San Bernardino County, would develop a new reliable water supply and storage facility for SMWD and other participants.

The proposed Project would be executed in two phases: 1) Groundwater Conservation and Recovery Component and 2) Imported Water Storage Component. The first phase involves the conservation and recovery of native groundwater that is now lost due to evaporation. Facilities that would be constructed under the first phase include a wellfield and manifold system, water conveyance facilities, a tie-in to the Colorado River Aqueduct (CRA), access roads, and power supply and distribution facilities. In accordance with *CEQA Guidelines* §15378(a), the Conservation and Recovery Component is being analyzed at a project level in the Draft EIR.

The second phase includes an expanded wellfield, an extension of the water conveyance facilities, spreading basins, a CRA diversion structure and pump station, access roads (if necessary), and expansion of the power supply and distribution facilities. Where possible, the Imported Water Storage Component is also analyzed at a project level, but because certain elements of the design are still under conceptual development, phase two of the proposed Project will be analyzed at an overall programmatic level in the Draft EIR.

This report provides a cultural resource study for phase one facilities associated with the Groundwater Conservation and Recovery Component. For the purposes of this study, the Project area has been divided into two portions: 1) the proposed wellfield area located in the northern portion of the Project area and related portion of the water conveyance pipeline; and 2) the proposed water conveyance pipeline that would be installed within the Arizona California Railroad Company (ARZC) railroad right-of-way (ROW) that connects the Project wellfield in the north to the Colorado River Aqueduct (CRA) in the south and the proposed CRA tie-in Option 1.

A Project-specific cultural resources literature and records search was conducted at the California Historical Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) on September 22, 2010. The records search study area included the Project wellfield area, water conveyance facilities (pipeline), the CRA tie-in, and a half-mile buffer. The

records search indicated that 50 cultural resources have been previously recorded within the records search study area. The 50 resources include eight prehistoric archaeological sites, 35 historic-era resources, one site with both prehistoric and historic-era components, and six isolated artifacts. Of the 50 previously recorded cultural resources, 16 are located within or immediately adjacent to the wellfield portion of the Project area. Eighteen cultural resources are located within or immediately adjacent to the pipeline portion of the Project area.

A Sacred Lands File search with the Native American Heritage Commission (NAHC) was requested on November 8, 2010. Search results prepared by the NAHC on November 12, 2010, indicated the presence of Native American cultural resources within one-half mile of the Project area. Contact letters to all individuals and groups indicated by the NAHC as having affiliation with the Project area were prepared and mailed on November 17, 2010. To date, two responses have been received.

Field surveys were conducted between October 18 and 26, 2010. The survey area for the proposed pipeline portion of the Project area included 42.5 miles of the 200-foot-wide ARZC railroad ROW (100 feet on either side of the center line), from the proposed wellfield in the north to the CRA tie-in in the south; and an area from the ARZC railroad ROW east to the Freda Siphon, including the CRA tie-in Option 1. (CRA tie-in Options 2a and 2b and the wellfield portion of the proposed Project area were not surveyed since the precise location of the wells, forebays, and access roads were not yet finalized.)

A total of 43 cultural resources were recorded or updated during the field surveys of the proposed pipeline portion of the Project area, including 15 previously recorded resources and 28 newly recorded resources. Two of the 15 resources that were previously recorded within the proposed pipeline portion of the Project area could not be relocated and are presumed to have been destroyed; therefore a total of 41 resources are currently known to exist within the proposed pipeline portion of the Project area. All 41 of these resources consist of historic-era archaeological sites. All resources were updated on California Department of Parks and Recreation (DPR) 523 forms, which will be filed at the SBAIC. No prehistoric resources or artifacts were observed during the survey and no isolated artifacts were recorded.

Of the 41 resources located within the proposed pipeline portion of the Project area, 10 are recommended eligible for listing in the California Register of Historical Resources (CRHR) and should be considered significant resources under CEQA. The remaining 31 resources are recommended not eligible for listing in the CRHR and are therefore not considered significant resources under CEQA. Avoidance is the preferred method of mitigation for significant resources. However, if the Project will impact any of the 10 recommended-eligible resources, a treatment plan that identifies procedures to reduce impacts to these resources should be developed by a qualified archaeologist and implemented prior to the issuance of Project permits. The remaining 31 resources do not require further work as part of this Project. In addition, prior to the issuance of Project permits, any areas that were not surveyed as part of this study, including the proposed wellfield and any new areas added to the Project area after the completion of this study, should be surveyed by a qualified archaeologist for the purposes of identifying eligible resources. Any resources identified as eligible should be avoided, where feasible, and appropriate treatment procedures implemented where avoidance is not possible.

PHASE I CULTURAL RESOURCES ASSESSMENT

Cadiz Valley Water Conservation, Recovery, and Storage Project

Introduction

Pursuant to the California Environmental Quality Act (CEQA), ESA is preparing an Environmental Impact Report (EIR) for the proposed Cadiz Valley Water Conservation, Recovery, and Storage Project (Project). The Santa Margarita Water District (SMWD) is acting as Lead Agency as the first public agency with a discretionary decision regarding the Project and because the Project will be owned in part and operated by SMWD.

ESA personnel involved in the preparation of this Phase 1 cultural resources assessment are as follows: Monica Straus, M.A., RPA., principal investigator; Madeleine Bray, M.A., R.P.A., surveyor and report author; Candace Ehringer, M.A., R.P.A, surveyor and report author; Brian Marks, Ph.D., R.P.A., report co-author; Jason Nielsen, GIS specialist; and Linda Uehara, graphic artist. Resumes of key personnel are attached as Appendix A.

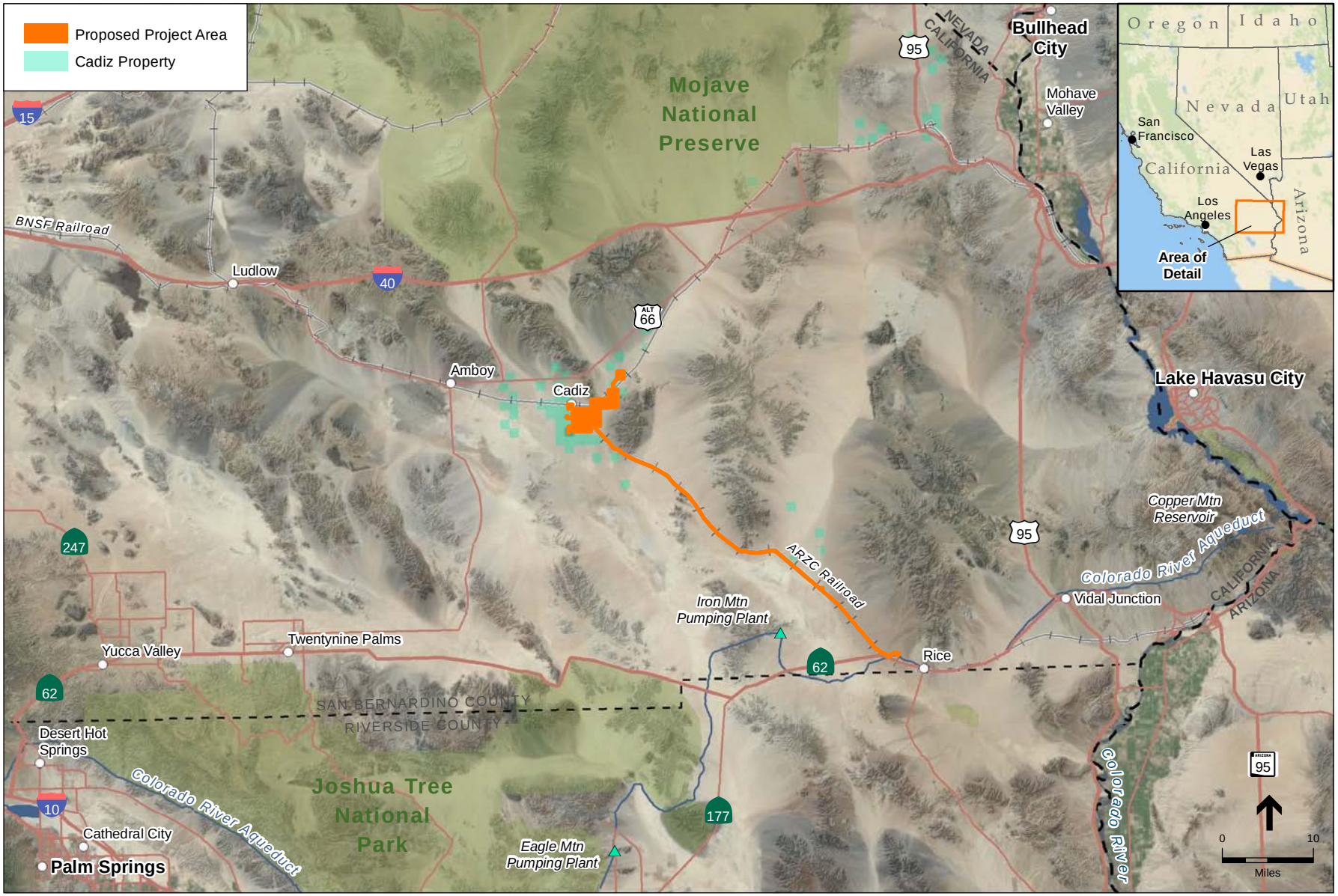
Project Location

The Project is located in the unincorporated portion of southeast San Bernardino County, between the towns of Cadiz and Freda along the Arizona California Railroad Company (ARZC) railroad line (**Figure 1**). The Project is 220 miles east of Los Angeles, 75 miles southwest of Needles, and 65 miles northeast of Twentynine Palms (**Figure 2**).

Project Description

Cadiz Inc., in partnership with the SMWD and other participants, has developed this Project to implement a comprehensive, long-term groundwater management program that would allow for both beneficial use of some of the groundwater and storage of imported surface water in the groundwater basin. The Project would provide a new, reliable water supply source local to the southern California region and provide local water storage, both contributing to improved water supply reliability for the region..

The Project would be implemented in two phases. The first phase, referred to as the Groundwater Conservation and Recovery Component, involves the conservation and recovery of native groundwater that is now lost due to evaporation. Facilities that would be constructed under the first phase include a Project wellfield and manifold system, water conveyance facilities, a tie-in to the Colorado River Aqueduct (CRA), access roads, and power supply and distribution facilities. In accordance with *CEQA Guidelines* §15378(a), the Conservation and Recovery Component is



SOURCE: Bing Maps, 2011; ESRI, 2010; DeLorme, 2011; Cadiz Inc., 2011; and ESA, 2011

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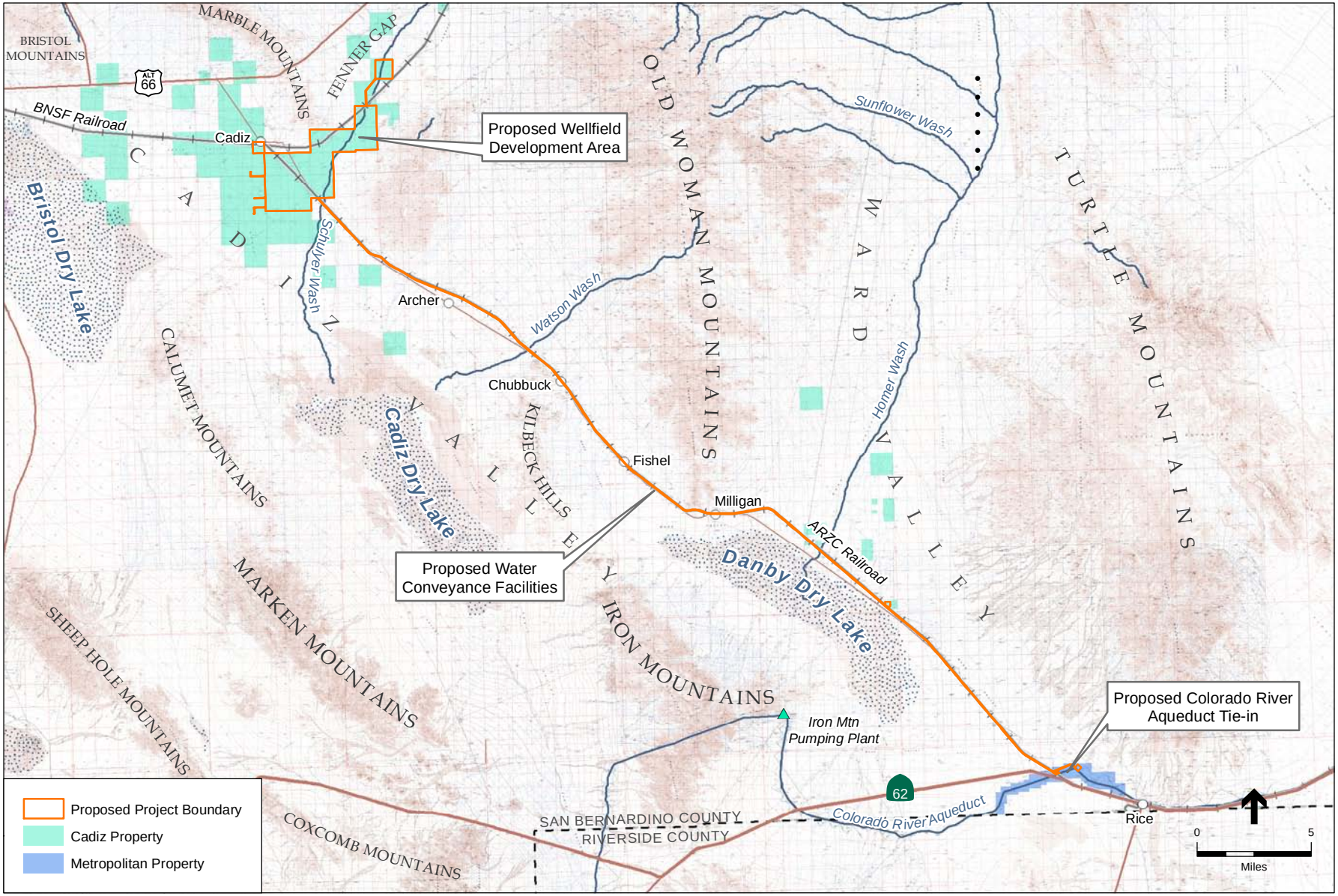
Figure 1

Regional Location



SOURCE: Bing Maps, 2011; ESRI, 2010; Cadiz Inc., 2011; and ESA, 2011

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Figure 2
Project Location

being analyzed at a project level in the Draft EIR. This report provides a cultural resource study for phase one facilities associated with the Groundwater Conservation and Recovery Component.

The second phase of the Project is referred to as the Imported Water Storage Component. Facilities that would be constructed under the second phase include an expanded Project wellfield, an extension of the water conveyance facilities, spreading basins, a CRA diversion structure and pump station, access roads (if necessary), and expansion of the power supply and distribution facilities. Where possible, the Imported Water Storage Component is also analyzed at a project level, but because certain elements of the design are still under conceptual development, including the potential quantity and schedule for spreading, storage, and extraction, phase two of the proposed Project will be analyzed at an overall programmatic level in the Draft EIR. This report provides a cultural resource study for phase one only.

For the purposes of this study, the Project area has been divided into two portions: 1) the proposed wellfield area (approx. 7198 acres at the time of this study) located in the northern portion of the Project area (Sections 8, 17, 18, 13, 16, 24, 23, 22, 25, 26, 27, 35, 34, and 33 of USGS quads Cadiz, Cadiz Summit, Cadiz Lake NW, and Calumet Mine) and related portion of the water conveyance pipeline (referred to hereafter as "wellfield portion of the project area" or "wellfield"); and 2) the proposed water conveyance pipeline that would be installed in the ARZC railroad right-of-way (ROW) from the proposed wellfield in the north to the Colorado River Aqueduct (CRA) tie-in in the south (approx. 42.5 miles) and the proposed CRA tie-in Option 1 (approx. 24 acres) (referred to hereafter as "pipeline portion of the Project area" or "pipeline"). The portion of the pipeline in the wellfield area is not included in this report. The ARZC railroad is referred to as such when describing its current state; however, historically the same railroad was known as the Atchison, Topeka, and Santa Fe (ATSF) Railroad, Parker Cutoff, and is referred to by the designation "ATSF Parker Cutoff" when referring to the railroad's history.

Setting

The following section provides the natural environment and cultural context for the Project area.

Natural Setting

The Project area is located in the Mojave Desert, which is situated within the southern Basin-and-Range geomorphic province. The terrain consists of a series of broad, shallow southeast-trending valleys. Several playas, or closed basin sinks, exist on the valley floors. North-south trending weathered mountain ranges, rarely exceeding 4,000 feet in elevation, surround the valleys. The elevation of the Project area ranges from 600 feet above mean sea level (amsl) at Bristol Dry Lake to over 900 feet amsl at the Fenner Gap. However, the New York Mountains at the northern edge of the Fenner Watershed are over 7,500 feet in elevation.

The eastern Mojave Desert is characterized as an arid desert climate with low annual precipitation, low humidity, and relatively high temperatures. Winters are mild and summers are hot, with a relatively large range in daily temperatures. Temperature and precipitation vary greatly with altitude, with higher temperatures and lower precipitation at low altitudes and lower

temperatures and higher precipitation at higher altitudes. Average annual precipitation varies from about 4 inches in Bristol Valley to more than 12 inches in the New York Mountains (CH2MHill, 2010:2-3).

The primary plant community in the Mojave Desert is the creosote scrub community, which is dominated by creosote bush and white bursage. Other plant communities include the cactus scrub community, which includes barrel cactus, calico cactus, and ocotillo, and the saltbrush series, which includes saltbrush, mesquite, arrowweed, and goldenbrush. Common animals include desert cottontail, jackrabbit, kangaroo rat, packrat, chuckwalla iguana, desert tortoise, and desert quail.

The area provided many sources of food for its prehistoric inhabitants. Rodents, jackrabbits and cottontails, and occasionally deer and waterfowl would have been hunted. Mesquite, pinon nuts, live oak acorns, and Manzanita berries were all important plant food sources (Bean and Vane, 2002).

Prehistoric Setting

The prehistory of the Mojave is generally described in terms of cultural "complexes." A complex is a specific archaeological manifestation of a general mode of life, characterized archaeologically by technology, particular artifacts, economic systems, trade, burial practices, and other aspects of culture. Complexes are typically associated with particular chronological periods (**Table 1**).

TABLE 1
CULTURAL COMPLEXES

Time Period	Complex	Dates
Pleistocene	Paleo-Indian	10,000 – 8,000 B.C.
Early Holocene	Lake Mojave	8,000 – 6,000 B.C.
	Deadman Lake	7,500 – 5,200 B.C.
Middle Holocene	Pinto	6,000 – 3,000 B.C.
Late Holocene	Gypsum	2,000 B.C. – A.D. 200
	Rose Spring	A.D. 200 – 1100
	Late Prehistoric	A.D. 1100 to contact

SOURCE: Sutton et al., 2007: 236

Paleo-Indian (10000 to 8000 B.C.)

The Paleo-Indian period is sparsely represented in the Mojave, but is characterized primarily by large, fluted Clovis Projectile points. This limited evidence suggests that early human occupants of the Mojave probably lived in small, mobile groups in temporary camps on permanent water sources (Sutton et al., 2007: 233-234).

Lake Mojave Complex (8000 to 6000 B.C.)

Lake Mojave sites have been found primarily around Fort Irwin, Lake Mojave, Lake China, Rosamond Lake, and Twentynine Palms, located near extinct water sources with the margins of pluvial lakes being the preferred settlement area. Subsistence and settlement patters are likely to have been a direct response to climatic fluctuations occurring during the Pleistocene to Holocene transition. High mobility designed to exploit ever-changing resource bases, coupled with a reliance on more permanent resources (water sources), was likely. In particular, the Lake China basin, located about 150 miles northeast of the Project area, seems to have been a preferred resource location. Lake Mojave populations were organized into relatively small, mobile groups and practiced a forager-like subsistence strategy. Sites appear to have been repeatedly occupied, with artifact assemblages from both large and small sites being functionally identical (Sutton et al., 2007: 234-237).

In terms of material culture, the Lake Mojave Complex is typified by stone tools such as Lake Mojave and Silver Lake projectile points, bifaces, steep-edged unifaces, crescents, and some ground stone implements. The use of heavy projectile points, bifaces, and scrapers would suggest exploitation of large game. However, faunal assemblages and protein residue analyses from Fort Irwin represent heavy reliance on small game, such as rodents, reptiles, and lagomorphs (hares/rabbits/pikas). Ground stone wear is generally light, which suggests minor use of hard seeds. Marine shell beads and non-local lithic materials indicate trade and/or long-distance foraging. Heavily battered cobble tools are often recovered, but the nature of their use is unclear (Sutton et al., 2007: 234-237).

Deadman Lake Complex (ca. 7500 to ca. 5200 B.C)

This complex is a newly proposed complex that has yet to be fully defined and recognized. Thus far, sites from the Deadman Lake Complex are geographically restricted to Twentynine Palms in the southeastern Mojave Desert and appear to overlap with the Paleo-Indian and Pinto complexes (Sutton et al., 2007: 239). Artifact types include small- to medium-size contracting-stemmed or lozenge-shaped points, battered cobbles and core tools, bifaces, flaked tools, and milling equipment. Similar projectile points have been recovered from Ventana Cave in Arizona. Lithic materials include large quantities of coarse- to fine-grained igneous rock and smaller amounts of both local and exotic obsidian. *Olivella* shell beads are present, with both *O. biplicata* from the Pacific coast and *O. dama* from the Sea of Cortez represented.

The Pinto Complex (6000 to 3000 B.C.)

Archaeological deposits dating from the Pinto Period suggest that Pinto settlement patterns consisted of seasonal occupation by small, semi-sedentary groups that were dependent upon a combination of big and small-game hunting and collection strategies, which could include the exploitation of stream or water resources. Typically, sites of this period are found along lakeshores and streams or springs, some of which are now dry, and in upland areas. Larger sites tend to be near well-watered locations, with smaller sites in other areas. In comparison to smaller sites, larger sites exhibit substantial midden deposits and greater variation in artifact types. These larger sites were probably centralized locations from which foraging parties journeyed to seasonal resources (Sutton et al., 2007: 238).

The extent of regional mobility at this time is uncertain. A lack of lithic material diversity might indicate that foraging activities were not as expansive as in the previous complex (Sutton et al., 2007: 238). However, *Olivella* shell beads are still present, which indicates at least some degree of contact with coastal groups.

Material culture representative of this period include roughly formed projectile points, "heavy-keeled" scrapers, choppers, and a greater prevalence of flat millingstones and manos (Warren, 1984: 410-414). Pinto series projectile points appear to have been frequently reworked, suggesting they were used primarily as spear tips and not darts (Sutton et al., 2007: 238).

Faunal assemblages are similar to those of the Lake Mojave Complex, with a slight increase in small fauna taxa coupled with a decrease in artiodactyls (Sutton et al., 2007: 239). The rise of millingstones and manos indicates a more intensive use and processing of plant resources and site placement may have been in part based on access to plant resources. New dates indicate that intensive plant exploitation was occurring by ca. 7000 B.C., which is contemporaneous with coastal California groups (Sutton et al., 2007: 238-239).

At the end of the Middle Holocene, around 3000 B.C., environmental conditions became much drier and hotter, and few sites in the Mojave date to the period between 3000 and 2000 B.C., suggesting that the area may have been largely abandoned during this period of unfavorable climate (Sutton et al., 2007: 241).

Gypsum Complex (ca. 2000 B.C. to A.D. 200)

The Late Holocene was characterized by a wetter and cooler climate than the Middle Holocene. Settlement patterns suggest small, temporary camps concentrated near streams. At the same time, we see more evidence of inter-tribal trade, particularly between the desert and the coast, and increasing social complexity (Sutton et al., 2007: 241). The artifact assemblage associated with this period includes an increase in the prevalence of millingstones and manos, and it is believed that it was during this period that the pestle and mortar were introduced. These technological developments may point to the increased consumption of seeds and mesquite (Warren, 1984: 416). Other artifacts associated with the Gypsum Period include Elko corner-notched series, concave base Humboldt series, and contracting-stemmed Gypsum series projectile points. Ritual activities are indicated by the presence of quartz crystals, paint, and rock art (Sutton et al., 2007: 241). Towards the end of the Gypsum period, there is evidence for the use of the bow and arrow (Warren, 1984: 415). Interestingly, there is a scarcity of Gypsum periods sites in the southern and eastern extent of the Mojave Desert (Sutton et al., 2007: 241).

Rose Spring Complex (ca. A.D. 200 to 1200)

The general cultural pattern for this period is a continuation of that of the preceding Gypsum Period. The increase in cultural complexity continued into this period and the archaeological record attests to established trade routes between desert and coastal populations by way of shell beads and steatite, as well as an introduction of Anasazi influence from the eastern Great Plains as evidenced by the appearance of turquoise and pottery (Warren. 1984: 421-422).

Archaeological sites from this period are more numerous and contain more well-developed middens, indicating an increase in population and a more permanent settlement pattern (Sutton et al., 2007: 241). Additionally, evidence of structures such as wickiups and pit houses also supports more permanent settlements. Sites tend to be located near springs, washes, and lakeshores (Sutton et al., 2007: 241).

Material culture related to this period includes large quantities of obsidian artifacts, Rose Spring and Eastgate series projectile points, knives, drills, pipes, bone awls, millingstones, manos, mortars and pestles, marine shell ornaments, slate pendants, and incised stones (Sutton et al., 2007: 241-242; Warren, 1984). The bow and arrow continued in use.

The Late Prehistoric Period (A.D. 1100 to European Contact)

By the Late Prehistoric period, an extensive network of established trade routes wound their way through the desert, routing quality goods to populations throughout the Mojave Region. It is also believed that these trade routes encouraged or were the motivating factors for "increasingly complex socioeconomic and sociopolitical organization" within Late Prehistoric peoples in Southern California. Housepit village sites are prevalent during this period, as are the presence of Desert series and Cottonwood projectile points, brownware and buffware ceramics, steatite shaft straighteners, painted millingstones, and, to a lesser degree, coastal shell beads. By the end of this period, however, a decline in trade occurred and well-established village sites were abandoned, perhaps as a result of rising temperatures (known as the Medieval Climatic Anomaly) (Sutton et al., 2007: 242; Warren, 1984: 424-428).

Ethnographic Setting

Mojave oral tradition, supported by archaeological evidence, suggests that the Yuman-speaking Mojave Indians were also among the earliest residents in the Mojave Desert. They moved from the area approximately 500 years ago to the Colorado River where they were documented by Father Francisco Garcés, a Spanish explorer, in 1776. Another Spanish explorer, Juan de Onate, may have observed this group as early as 1604 based on his descriptions of the "Mojave" people along the Colorado River (Kroeber 1925:3).

However, at the time of European contact the Project area was occupied by the ethnohistoric Desert Chemehuevi group of the Southern Paiute. This group comprised the Southern Numic portion of the Uto-Aztecan language family (Kroeber 1925:593). The Chemehuevi inhabited the area between Needles, Blythe, Twentynine Palms, and the Colorado River, which contained the primary settlements. However, the Project is located in an area that was utilized for seasonal resource exploitation or for specific resources, such as salt.

The oral tradition of the Chemehuevi suggests that they migrated from the north and engaged the Mojave group in a long war that drove the Mojave east to the Colorado River (Kroeber 1925:3). Archaeological evidence indicates that the war ended between 250 and 500 years ago (King and Casebier 1976:17-18)

The harsh desert environment typical of the Project area could support only the smallest groups comprised of nuclear families joined by kinship ties. These small hunter-gatherer groups moved in response to local food and water availability, typically seasonally or more frequently. The lack of resources of the area created a very diverse hunting economy where small game were important protein sources. Pronghorn sheep, mountain sheep, deer, rabbits, squirrels, desert chipmunks, and wood rats were important mammals in the local diet along with reptiles, such as desert tortoises, snakes, and lizards, and birds, eggs and insects. Agriculture was introduced to the Chemehuevi by their eastern neighbors and they cultivated crops of various types of maize and corn, squash, gourds, wheat, and potatoes along the Colorado River (Kelly and Fowler 1986:371).

The Chemehuevi utilized the paddle-and-anvil technique for their pottery, which included cooking pots, storage jars, spoons, scoops, and large vessels (Kelly and Fowler 1986:377). They also utilized twining techniques for their basketry, which were used for transporting items, winnowing and parching, seed beating, boiling water, and storage. Other artifacts associated with the Chemehuevi included the mano and millingstone (metate), mortar and pestle, digging sticks, and the sinew-backed bow with arrows of cane or willow. In addition to locally consumed trade goods, the Chemehuevi acted as "middle-men" in the long distance trade networks from groups to the west and the Pacific Coast and the Central Valley to the groups in the Southwest and along the Colorado River.

Following the Civil War, the traditional Native subsistence base was threatened by the influx of settlers and accompanying livestock. With these resources unavailable, the Chemehuevi were employed on ranches, building railroads, and in the newly opened mines.

The Chemehuevi were divided into two moieties (kinship group) represented by two songs, the Mountain Sheep Song and the Deer Song, which were each associated with different hunting areas. They generally lived in bands of two or three families, each band having a leader. The Chemehuevi were occupying the oasis of Mara (Twentynine Palms) when permanent settlement of the area by Europeans and Americans began. Livestock depleted natural resources and Euro-American settlers began to claim large pieces of land and water rights. In 1890, 160 acres were set aside for a reservation for the Chemehuevi. In 1910, 640 acres adjacent to the existing Cabazon reservation in Coachella was given jointly to the Cahuilla and the Chemehuevi, and those who remained on the Twentynine Palms reservation were encouraged to move there. Some went, some stayed, and others chose to settle elsewhere in California (Bean and Vane, 2002).

Historic Setting

Several major trails crossed the Mojave before and at the time of Spanish contact, and continued to be used not only by the native peoples but by Euro-American explorers as well. The Yuma-Needles Trail ran from south of Yuma up the western side of the Colorado River to the Needles area. The Mojave Trail ran from Needles west across the desert to the coast. The Cocomaricopa Trail ran from Arizona through the Salton Sink and then northwest to meet the Mojave Trail near San Bernardino (Greene, 1983:11).

The first Europeans known to have visited the Mojave were Pedro Fages in 1772 and Juan Bautista de Anza and Father Francisco Garcés in 1774 (Greene, 1983:4). In 1775, Father Garcés separated from de Anza and crossed the Mojave along the ancient Mojave Trail from Needles west to the San Gabriel Mission.

The Spanish missions that dotted the California coast never spread inland to the Mojave, and the desert remained relatively unexplored and unsettled by Europeans for much of the next century. The Romero-Estudillo Expedition of 1823-24 was an attempt by the Spanish to establish a secure route between the California Coast and Tucson; however, despite two attempts, the expedition never managed to make it as far as the Colorado River (Greene, 1983:6).

The first recorded American visitors to the Mojave were the party of Jedediah Smith, who crossed the Mojave along the Mojave Trail in 1826. Ewing Young and Kit Carson followed his route in the 1820s and 1830s. Several American and Mexican military expeditions were conducted in the 1840s and 1850s. American involvement in the region was limited during the early 19th century, but certain figures and events made lasting impressions on the landscape. In the 1850s, Pauline Weaver, a cattleman, trapper, and guide, created a private thoroughfare through the Morongo Basin by which he herded cattle from the Cajon Pass to Arizona (Greene, 1983:18).

California became an American state in 1850. However, little settlement occurred near the Project area during the American period due to the lack of water and other resources. What settlement did occur was related to mining or the railroads.

Railroads

In the 1850s, after California achieved statehood, numerous railroad surveys were conducted in the Mojave (Greene, 1983:19). The California Southern Railroad Company, which was organized in 1880 and became a subsidiary of the Atchison, Topeka, & Santa Fe (ATSF) Railway in 1884, constructed a line from Cadiz, California, to Matthie, Arizona in 1910. On July 1, 1910 the 83-mile ATSF Parker Cutoff, as this line was known, was completed (Myrick 1963:792). In 1916, due to the need for a rail line in closer proximity to mining sites north of Blythe, they began constructing a railroad from Rice to Blythe. A spur track was laid from Rice to Ripley in 1920, with operations beginning the next year. The Cadiz to Matthie line was purchased by the ARZC in 1991 (Anon., 2008:13).

The network of railroads throughout the desert created new travel corridors. Wagon trains and later automobile roads tended to parallel railroad lines, in order to take advantage of the regularly spaced watering stations and railroad maintenance crew camps (Warren et al., 1981:90).

Mining

In 1848 gold was discovered by James W. Marshall at Coloma, some 400 miles to the north on the American River. The gold rush began and immigrants flooded into California. Investors began seeking the construction of a transcontinental railroad to facilitate transportation to the gold-rich region. The discovery of the Comstock Lode in Nevada in 1859 shifted attention from gold to silver, and miners began to focus on the desert regions (Vredenburgh, 2005). Some of the early exploration and settlement near the survey area was related to mining prospects.

The 1880s were fairly prosperous for mining in the Mojave Desert, and operations at that time were dominated by gold mining. In the 20th century, mining operations were beginning to bring out borax, zinc, and silver and they began to rework old deposits in the 1910s. Productivity fell off in the 1920s due to increased inflation, but was revived during the Great Depression and accelerated in the early 1940s to meet war-time demands. By 1956, the declining gold prices caused most small gold operations to close (Vredenburgh et al., 1981: 127-132). The Old Woman Mountains, to the east and north of the Project area, were the site of the primary mining and prospecting efforts in the vicinity. Several mines and mining settlements were set up in the area, and in the early 20th century ATSF Parker Cutoff serviced many of these locations, including Cadiz, Chubbuck, Milligan, Fishel, and Freda (Vredenburgh et al., 1981: 127-132). All of these settlements are within or adjacent to the Project area.

Mining and Railroad Settlements

During the early 20th century, a number of railroad siding camps and mining settlements sprung up along the railroad route. Those within the Project area include Siam, Cadiz, McCoy, Archer, Chubbuck, Kilbeck, Fishel, Milligan, Saltmarsh, and Sablon. These camps or small settlements, often located where railroad sidings occurred, primarily provided a place for people involved in local mining activities or the operation of the ATSF Parker Cutoff to live. In general, these settlements remained inhabited until about mid-20th century when they were abandoned. The abandonment was most likely related to the switch from steam-powered engines to the use of diesel fuel, because of which the regularly spaced water supply points at the sidings were no longer necessary.

Historic maps document the inception of these settlements along the railroad corridor in the early 20th century. The "Relief Map of Part of Mohave Desert Region, California (Showing Desert Watering Places)," surveyed by Thompson in 1917-1918, shows the completed ATSF Railroad, the Parker Cutoff ("Parker-Phoenix Branch"), and paralleling roads. The settlements or sidings of Siam and Cadiz are shown on the map in the wellfield portion of the Project area. The settlements or sidings of McCoy, Archer, Kilbeck, Fishel, Milligan, Ward (Saltmarsh?), and Sablon are depicted in the pipeline portion of the Project area. The settlement of Arica (Freda?) is shown but is located just southeast of the pipeline portion of the Project area. The 1925 "Map of San Bernardino County, California Showing Roads, Railroads, Springs, and Mining Districts of the Desert Portion" by J. Kremmerer shows the ATSF Railroad, including the Parker Cutoff, parallel roads, and the same settlements as the earlier map. The CRA, ATSF Railroad (including the Parker Cutoff), and the settlements of Cadiz, Archer, Fishel, Milligan, Saltmarsh, Sablon, and Freda are shown on the 1943 US Army 15' Milligan and 1944 US Army 15' Rice quadrangles, as well as the 1956 USGS 15' quadrangles (Cadiz:, Cadiz Lake; Iron Mountain; and Milligan). The 1954 USGS 15' Rice quadrangle map shows rail sidings at Archer, Fishel, Milligan, Sablon and Saltmarsh.

Historical information was available for Siam, Cadiz, Archer, Chubbuck, Milligan, and Sablon and these six locations are discussed in more detail below. No information could be obtained for McCoy, Kilbeck, Fishel, or Saltmarsh and these locations are not covered below.

Siam

Very little is known about Siam, other than that it was a railroad siding established in 1897 on the ATSF main line between Old Danby and Cadiz. No settlement is known to have been established at Siam and it may never have been more than a watering stop. It is unknown when Siam was abandoned and no structural remains or foundations are extant at Siam (de Kehoe, 2007: 83).

Cadiz

Cadiz was first named by an engineer for the Atlantic and Pacific Railroad in 1883 (Gudde 1969: 9, 45). Originally, Cadiz was a siding with four section houses built by the Southern Pacific (de Kehoe, 2007: 44). Cadiz rose in prominence when the ATSF Parker Cutoff was connected to the main track at Cadiz on July 1, 1910. Prior to that time, water was imported from Newberry Spring. In August 1910, a well was drilled at Cadiz. Tamarisk trees, planted on either side of the tracks, served as a windbreak and helped control drifting sand (de Kehoe, 2007: 51).

The population of Cadiz was never large, but at least at one point included 50 residents (de Kehoe, 2007: 45). Residents consisted of railroad workers and their families.

In the 1940s and 1950s, Frank McConnell served as the Santa Fe telegrapher and depot agent at Cadiz. Trains passing through would have a three hour layover in Cadiz. No tourist facilities were available, so Mr. McConnell sold candy bars and bottled soda from an ice chest at the depot (de Kehoe, 2007: 49-51).

The depot at Cadiz was an important stop for the Santa Fe railroad until the 1950s. Almost all trains stopped to refuel or take on water, and all freight trains were inspected at Cadiz. It was closed in 1967 (de Kehoe, 2007: 44).

Archer

Archer was a small siding located about 10 miles southeast of Cadiz on the ATSF Parker Cutoff. The site served as a watering station for steam locomotives on the line and was probably first occupied when the water well was drilled in 1910 (de Kehoe, 2007: 98). When the railroad switched to diesel locomotives in the 1950s, the site was abandoned (de Kehoe, 2007: 96). The community was comprised primarily of Mexican laborers and their families, but never included more than about 20 people at any given point in time (de Kehoe, 2007: 96-97).

Chubbuck

Chubbuck was established in the early to mid-1920s as a mining settlement, about one mile south of the Kilbeck siding, though it was initially used as a railroad siding as early as 1911 (Applied Earthworks, Inc.,1999: 43). However, Chubbuck was not a railroad settlement and was unique among settlements along the ATSF Parker Cutoff in that it primarily housed mine workers and their families (de Kehoe, 2007: 109). Charles Inglis Chubbuck, manufacturer of products used in cement and masonry, purchased a 1600-acre mining claim from Marcus Pluth and Tom Schofield in 1922. The claim contained a white limestone outcrop, perfect for cement manufacture. The claim was located about one-half mile west of the ATSF Parker Cutoff, facilitating shipment to market. Mr. Chubbuck built the primary crusher at the limestone quarry and kilns adjacent to the

railroad tracks. The crushed ore was transported to the kilns via a narrow gauge railroad. Ore carts were pushed back and forth by hand (de Kehoe, 2007: 111-115). Lime from Chubbuck was used in the construction of the CRA ca. 1937 to 1938 (Vredenburgh, 1981).

Over 40 buildings were located at Chubbuck, including a company store, school (1932), post office (1938), and residential structures. The company store reportedly sold great quantities of Eastside Beer, manufactured and distributed by the Los Angeles Brewing Company (Vredenburgh, 1981; Rustycans.com, 2005). Occupants at Chubbuck were primarily Mexican laborers and their families. The mill ceased operation in 1951 and the railroad siding at Chubbuck was removed from 1975 to 1976 when the ATSF Parker Cutoff was re-laid (Vredenburgh, 1981).

Milligan

Like the other sidings, Milligan was established in 1910 when the ATSF Parker Cutoff was constructed. A well was drilled in 1910, with water being pumped up to a tank located 16 feet above ground. Milligan included several section houses, a foreman's house, a bunkhouse for workers, and a cemetery. A line of tamarisk trees was planted adjacent to the tracks as a windbreak and for shade. The trees were surrounded by concrete and cobble water catchments. Milligan was abandoned around 1955 (de Kehoe, 2007: 175-176).

Sablon

Sablon was established on the ATSF Parker Cutoff in 1909. At that time, the station was called Randolph. The name was changed to Sablon, which means 'gravel' in Spanish, in 1912 (Gudde, 1969: 275).

Colorado River Aqueduct

The CRA was constructed in the 1930s by the Metropolitan Water District of Southern California in order to transport water from the Colorado River to the Los Angeles metropolitan area. The aqueduct stretches from Lake Havasu on the Colorado River to Lake Matthews, south of Riverside (Neves and Goodman, 2000). Construction of the aqueduct began in 1933 and the first delivery of water occurred in 1941. Approximately 3,500 men and women were employed constructing the CRA during the Depression era. The completed aqueduct crosses 242 miles of desert and delivers approximately one billion gallons of water a day. Related projects included roads and electrical power transmission lines. Most project-related work was conducted out of temporary camps; however, permanent structures, such as the Iron Mountain pumping station, supported a higher number of longer-lasting settlements. The CRA is still in use.

Desert Training Center – California-Arizona Maneuver Area (DTC-CAMA)

In 1942, General George S. Patton, Jr., and the US Army created the Desert Training Center, later called the California-Arizona Maneuver Area (DTC-CAMA), which encompassed over 30,000 square miles of California, Arizona, and Nevada, as a training ground for military personnel who would be fighting overseas. Originally intended as a training ground that would simulate the harsh conditions of the North African deserts, the training center was operational for two years. At the height of its two-year period of operation in July, 1943, over 190,000 armed

forces personnel were stationed within the DTC-CAMA (Bischoff, 2000:30). Fourteen divisional camps, along with airfields, bivouacs, hospitals, and numerous other supporting facilities were constructed during the DTC-CAMA's two-year period of operation. Much of the land outside of the camps was used as maneuver areas for training exercises; evidence of these exercises, such as foxholes, tank tracks, debris scatters, and aircraft landing strips, can still be found. In April, 1944, the Desert Training Center was closed and land returned to private use. The area was again used for military training in the 1960s for "Operation Desert Strike."

Because of certain logistical considerations, such as the need for electricity, water, and transportation routes, the operation of the DTC-CAMA resulted in some improvements in infrastructure in the remote desert. The need for a route leading from Twentynine Palms to Parker Dam resulted in the creation of what is now Highway 62, although the road was not completely paved until 1959 (Bischoff, 2000:22).

Camp Iron Mountain was located at the CRA pumping station and was the closest base camp to the Project area. The ATSF, including the ATSF Parker Cutoff, were instrumental in supplying goods and equipment for the training center (Applied Earthworks, Inc., 1999:55).

Methodology and Results

Archival Research

A Project-specific cultural resources literature and records search was conducted at the California Historical Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) on September 22, 2010. The records search study area included the wellfield and pipeline portions of the proposed Project plus a half-mile buffer. The records search provided a summary of previous cultural resources surveys and reports and known cultural resources in the Project area and half-mile buffer. Other sources reviewed include the California Points of Historical Interest (PHI), the California Historical Landmarks (CHL), the California Register of Historical Resources (CRHR), the National Register of Historic Places (NRHP), the California State Historic Resources Inventory (HRI), and historic maps.

Previous Cultural Resources Investigations

The records search revealed that a total of 22 cultural resources investigations were previously conducted within the records search study area (**Table 2**). Of these 22 previous investigations, 14 involved surveys covering approximately 10 to 20 percent of the wellfield portion of the Project area and less than 10 percent of the pipeline portion of the Project area. The remaining eight investigations were identified by the SBAIC as pertaining to the Project area, but did not involve surveys of any portion of the Project area.

TABLE 2
PREVIOUS CULTURAL RESOURCES INVESTIGATIONS CONDUCTED WITHIN 0.5 MILE OF THE PROJECT AREA

Author	Report # (106-)	Title/Description	Date	Project Component
Bureau of Land Management	**0558	Environmental Assessment Record for Interim Critical Management, Program Area No. 37, Cadiz Valley/Danby Lake.	1977	Pipeline
Barker, James P., Carol H. Rector, and Philip J. Wilke	**0874	An Archaeological Sampling of the Proposed Allen-Warner Valley Energy System, Western Transmission Line Corridors, Mojave Desert, Los Angeles and San Bernardino Counties, California and Clark County, Nevada.	1979	Wellfield
Leonard, Joanne C.	**1092	A Cultural Resources Evaluation of Eight Proposed Earth and Gravel Borrow Sites, San Bernardino County, California.	1981	Pipeline
Taylor, Thomas T. and David R.M. White	**1418	Archaeological Survey of the Solar Salt Pond Project Facilities, Danby Dry Lake, San Bernardino County, California.	1983	Pipeline
Weil, Edward B., Jill Weisbord, and E.R. Blakley	**1449	Cultural Resources Literature Search, Records Check and Sample Field Survey for the California Portion of the Celeron/All American Pipeline Project.	1984	Wellfield and Pipeline
Lerch, Michael K.	**1548	Class II Archaeological Survey of Eighteen Sections of Land Near Cadiz, San Bernardino, California	1986	Wellfield and Pipeline
New Mexico State University	**1979	Cultural Resources Report for the All American Pipeline Project: Santa Barbara, California to McCamey, Texas and Additional Areas to the East Along the Central Pipeline Route in Texas.	1989	Well filed and Pipeline
Westec Services, Inc.	**2255	Class II Cultural Resource Inventory: Turtle Mountains, Bristol/Cadiz, Palen Planning Units.	1973	Wellfield and Pipeline
Buffington, Kevin and Michael Macko	**3298	A Class III Intensive Survey for Cadiz Land Company's Seismic Reflection Survey Line in Cadiz Valley, San Bernardino County, CA.	1995	Wellfield
Horne, Melinda, Colleen Hamilton, and Michael Rodarte	**3840	Cultural Resources Survey for the Cadiz Groundwater Survey for the Cadiz Groundwater Storage and Dry-Year Supply Program, San Bernardino County, CA.	1999	Wellfield and Pipeline
Duke, Curt	**3894	Cultural Resource Assessment for the PBMS Facility CM 660-01, County of San Bernardino, CA.	1999	Wellfield
Underwood, Jackson	**5636	Cultural Resources Survey of the Cadiz Lateral/Interconnect, A Potential Future Facility of the Line 1903 Project, San Bernardino County, California	2004	Wellfield and Pipeline
Underwood, Jackson and Carrie Gregory	**5637	Cultural Resources Evaluation of the Cadiz Lateral, Line 1903 Project: CA-SBR-11,582H (a 1964 Military Camp at Cadiz) and a Segment of CA-SBR-2910H, the National Old Trails Highway, San Bernardino County, California	2004	Wellfield
Higgins, Howard C., Deann Muller, David M. Smith, and Christopher E. Drover	**6518	A Class III Cultural Resources Inventory for 10 Proposed Microwave Tower Sites, County of San Bernardino, California	2005	Wellfield
King, Chester and Dennis G. Casebier	0290	Background to Historic and Prehistoric Resources of the East Mojave Desert Region. Bureau of Land Management, Riverside, CA.	1976	Overview Report

Author	Report # (106-)	Title/Description	Date	Project Component
King, Chester	0291	Part 1: Background to Prehistoric Resources of the East Mojave Desert Region. In *Background to Historic and Prehistoric Resources of the East Mojave Desert Region*. Bureau of Land Management, Riverside, CA.	1976	Overview Report
Casebier, Dennis G.	0292	Part 2: Historical Sketch of the East Mojave Planning Unit. In *Background to Historic and Prehistoric Resources of the East Mojave Desert Region*. Bureau of Land Management, Riverside, CA.	1976	Overview Report
Gallegos, Dennis, Emma Lou Davis, Gary Lowe, Frank Norris, and Jay Thesken	0892	Cultural Resources Inventory of the Central Mojave and Colorado Desert Regions, California. Bureau of Land Management, Riverside, CA.	1980	Overview Report
Warren, Elizabeth Von Till, Robert H. Crabtree, Claude N. Warren, Martha Knack, and Richard McCarthy	1069	A Cultural Resources Overview of the Colorado Desert Planning Units. Bureau of Land Management, Riverside, CA.	1981	Overview Report
Jenkins, Richard Charles	2017	A Study of Aboriginal Land Use: Southern Paiute Subsistence in the Eastern Mojave Desert. M.A. Thesis, UC Riverside.	1982	Overview Report
Ludwig, Verle E.	2256	US Marines at Twentynine Palms, California. US Marine Corps, Washington, DC.	1989	Overview Report
Hanks, Herrick E. (ed.)	2555	East Mojave Planning Unit Resource Analysis: Cultural Resources. Bureau of Land Management	1976	Overview Report

**Indicates investigation covering a portion of the Project Area
SOURCE: SBAIC, 2010

Previously Recorded Resources

The records search indicated that 50 cultural resources have been previously recorded within the records search study area (**Table 3**). The 50 resources include eight prehistoric archaeological sites, 26 historic-era archaeological sites, one multi-component archaeological site with both prehistoric and historic-era elements, nine historic-era built architectural/engineering resources, and six isolated artifacts.

Of the 50 previously recorded cultural resources, 16 are located within the wellfield portion of the Project area (CA-SBR-3243, -3281H, -693H, -6694H, -9848, -9853H, -9855H, -11582H, -11583H, -11584H, -11586H, P-36-020149, -060315, -060319, -060922, and -064132).

Fifteen previously recorded cultural resources are located within the pipeline portion of the Project area (CA-SBR-3233H, -3235H, -3282H, -3283H, -5606/H, -5819H, -9849H, -9850H, -9851H, -9853H, -9856H, -9858H, -10521H, -10646H, and -11583H). Three previously recorded cultural resources are located immediately adjacent to the pipeline portion of the Project area (CA-SBR-9852, -10525H, and -10645H).

Portions of resources CA-SBR-9853H and CA-SBR-11583H overlap both the wellfield and pipeline portions of the Project area. All sites within the actual Project areas are described below.

TABLE 3
PREVIOUSLY RECORDED CULTURAL RESOURCES WITHIN 0.5 MILE OF THE PROJECT AREA

Primary Number (P-36-)	Permanent Trinomial (CA-SBR-)	Other Designation	Description	Date Recorded	Previously Evaluated for Significance?	Project Component
003233	**3233H	TU-219(11)	"Milligan" RR section camp remains; concrete debris, low rock wall, and introduced vegetation	9-20-78	No	Pipeline
003235	**3235H	TU-222(14)	"Saltmarsh"- Wooden and brick structural remains & debris alongside ATSF tracks	9-21-78	No	Pipeline
003243	**3243	BC-6	Lithic scatter- primarily chert and chalcedony cores	8-10-78	No	Wellfield
003254	3254	BC-17	Lithic scatter- small workshop area; chert debitage	9-19-78	No	Pipeline
003280	3280H	BC-219(7)	"Cadiz" RR section camp- east portion including modern buildings and 1920s-era stucco row houses	9-20-78	No	Wellfield
003281	**3281H	BC-220(8)	"Cadiz" RR section camp- west portion including wood frame buildings ca. 1920s	9-20-78	No	Wellfield
003282	**3282H	BC-221(9)	"Archer" RR section camp remains (concrete foundation, debris) and cemetery	9-20-78	Yes - Eligible for NRHP	Pipeline
003283	**3283H	BC-222(10)	"Chubbuck" mill and settlement; Desert Butte Mine District. Extant structures and widely scattered debris	9-20-78; updated 4-22-99 and 2-27-2001	Yes-Eligible for NRHP under Criteria A and D	Pipeline
005472	5472H	Navajo #1	Dugout depression with wooden timbers, fire-cracked rock in arroyo; described as remnant Navajo sweathouse	11-27-85	No	Wellfield
005606	**5606/H	-	Lithic (flaked- and ground-stone tools; debitage) and historic (metal can) scatter	3-16-77 thru 4-19-77; updated 3-5-01	No	Pipeline
005815	5815	AAP 039-001/IO-AAP 039-002	Rock ring with flaked- and ground-stone artifacts; not relocated during update	11-21-85; updated 2-28-01	No	Wellfield
005816	5816	AAP 043-001	Lithic scatter with flaked-stone tools and debitage; groundstone tools & fragments	10-30-85; updated 2-28-01	No	Pipeline
005817	5817H	AAP 043-002/IO-AAp 043-002	Historic debris scatter; 100% collected in AAP right-of-way; no cultural materials found during update	11-20-85; updated 2-28-01	No	Pipeline
005819	**5819H	AAP 045-001/IO-AAP 045-003	Historic debris scatter (metal, glass, porcelain); 100% collected	11-20-85	No	Pipeline
006693	**6693H	-	ATSF RR- determined eligible to NRHP under Criterion A, 3-31-94	5-30-90; numerous updates	Yes - Eligible for NRHP under Criterion A	Wellfield

Primary Number (P-36-)	Permanent Trinomial (CA-SBR-)	Other Designation	Description	Date Recorded	Previously Evaluated for Significance?	Project Component
006694	**6694H	HS-10 (ML-12)	Historic unpaved road and telephone pole line	5-30-90	Yes - Not eligible for NRHP	Wellfield
009848	**9848	AE-CAD-1	Lithic scatter- small workshop area; agate chert debitage	4-8-99	Yes - Not significant	Wellfield
009849	**9849H	AE-CAD-2H	Historic debris scatter (glass, metal, ceramics, buttons)	4-14-99	Yes - Not significant	Pipeline
009850	**9850H	AE-CAD-3H	Historic debris scatter (glass, metal, crockery, buttons, insulated wire, burned faunal bone)	4-14-99	Yes - Not significant	Pipeline
009851	**9851H	AE-CAD-4H	Historic debris scatter (whiteware, glass, metal)	4-15-99	Yes - Not significant	Pipeline
009852	*9852	AE-CAD-5	Lithic scatter- debitage and tools of obsidian, chert, chalcedony	4-27-99	Yes - Not significant	Pipeline
009853	**9853H	AE-CAD-6H	ATSF RR – Parker Cutoff	5-7-99	Yes- Eligible for NRHP under Criteria A and possibly C	Wellfield and Pipeline
009855	**9855H	AE-CAD-8H	Rectangular rock alignment-possible grave	5-12-99	No	Wellfield
009856	**9856H	AE-CAD-11H	Historic debris scatter, rectangular arrangement of four wooden posts	4-13-99	No	Pipeline
009857	9857H	AE-CAD-12H	Two small mine prospects with wooden posts and tailings	4-27-99; updated 3-1-01	No	Pipeline
009858	**9858H	AE-CAD-13H	WWII Tank Corps desert training site- historic camp and debris scatter (part of CHL 985)	4-28 and 5-3, 1999	Yes- eligible for NRHP under Criteria A, C and D	Pipeline
010521	**10521H	FS 51a, b, c, d	Colorado River Aqueduct	4-13-00	Yes - Eligible for NRHP under Criteria A, B, and C	Pipeline
010525	*10525H	-	Historic road – State Route 62	9-15-00	Yes - Not eligible for NRHP	Pipeline
010644	10644H	DB-S-JD-7	Historic debris scatter, possible WWII training camp (part of CHL 985)	2-28-01	Yes – Not eligible for NRHP	Wellfield
010645	*10645H	DB-S-JD-8	Historic debris scatter, possible WWII training camp (part of CHL 985)	3-1-01	Yes – Not eligible for NRHP	Pipeline
010646	**10646H	DB-S-JD-9	“Sablon,” RR siding and debris scatter	3-6-01	No	Pipeline
010647	10647H	DB-S-JD-10	Historic can scatter	3-6-01	No	Pipeline
010653	10653H	DB-S-SR-6	Historic road segments	2-27-01	No	Wellfield
010654	10654H	DB-S-SR-7	Historic can scatter	2-27-01	No	Wellfield
010655	10655H	DB-S-SR-8	Historic can scatter	3-1-01	No	Pipeline

Primary Number (P-36-)	Permanent Trinomial (CA-SBR-)	Other Designation	Description	Date Recorded	Previously Evaluated for Significance?	Project Component
010656	10656H	DB-S-SR-9	Historic debris scatter (metal, glass, ceramics, buttons)	3-1-01	No	Pipeline
010657	10657H	DB-S-SR-10	Historic debris scatter (metal, glass, window screen)	3-7-10	No	Pipeline
011582	**11582H	Camp Cadiz	Desert Strike camp, ca. 1964 (rock alignments and clusters, debris dumps)	1-22-04; updated 11-2-04	Yes - Potentially eligible for NRHP	Wellfield
011583	**11583H	AAPL-Cadiz 2	Cadiz-Parker Road	1-22-04	No	Wellfield and Pipeline
011584	**11584H	AAPL-Cadiz 3	Cadiz-Cadiz Pass Road	1-22-04	No	Wellfield
011586	**11586H	AAPL-Cadiz 5	Dirt road	1-22-04	No	Wellfield
019895	13232	ASM-MDR-22-01	Lithic scatter- small workshop area; rhyolite core and debitage	1-3-09	No	Wellfield
019896	13233	ASM-MDR-22-02	Lithic scatter- small workshop area; rhyolite debitage	1-3-09	No	Wellfield
**020149	-	AAPL-Cadiz Iso 1	Historic isolate- half a mule shoe	1-22-04	Yes - Not significant	Wellfield
021094	13618H	JB-47	Phone line remnants and associated access road	5-6-09	No	Wellfield
**060315	-	BC-7	Prehistoric isolate- bifacial chopper	8-10-78	Yes - Not significant	Wellfield
**060319	-	Isolated Artifact #4	Prehistoric isolate- scraper	n.d.	Yes - Not significant	Wellfield
**060922	-	SBCM #358	Prehistoric isolate- scoop-style metate	1-12-63	Yes - Not significant	Wellfield
**064132	-	AE-CAD-ISO-2	Prehistoric isolate- pointed unifacial tool	5-11-99	Yes - Not significant	Wellfield
064414	-	DB-I-JD-4	Prehistoric isolate- single waste flake	2-28-01	Yes - Not significant	Wellfield

**Indicates cultural resource recorded within Project area
*Indicates cultural resource recorded adjacent to the Project area
SOURCE: SBAIC, 2010

Previously Recorded Cultural Resources Within or Adjacent to Wellfield Project Area

Site CA-SBR-3243* is a prehistoric lithic scatter recorded in 1978. The artifact assemblage is described as numerous cores of chert and chalcedony, some expended, with one associated piece of debitage. These materials are sparsely scattered over a large area of deflated dunes, and show heavy patination (Echkardt, 1978a). This site does not appear to have been previously evaluated for its significance (Applied Earthworks, Inc., 1999: Table 1).

Site CA-SBR-3281H ** is the western portion of the railroad siding camp of "Cadiz." This site, recorded in 1978, includes several wood-framed buildings, a well and water tower, an electrical distribution station, and a spur of railroad track used for storage of "maintenance of way" cars.

Debris was also present at the time of recordation, but the material type(s) are listed as "unknown." The camp of Cadiz was supposedly founded as early as 1883; however, site recorders noted that none of the buildings or structures appeared to pre-date the 1920s (Crowley, 1978a). This site does not appear to have been previously evaluated for its significance (Applied Earthworks, Inc., 1999: Table 1).

Site CA-SBR-6693H** is a railroad line (Mojave to Needles branch) originally constructed in 1883 by the Southern Pacific Railroad Company and leased to the Atlantic & Pacific Railroad Company, a subsidiary of the Santa Fe Pacific Railroad. The branch line later became known as the ATSF Railway. A second parallel track was added in 1923. The line is now operated by the Burlington Northern Santa Fe Railway (BNSF) (Erickson, 2008). This linear historic resource was first recorded in 1990 (Glover et al., 1990) and has been updated several times. In 1994, this resource was determined eligible for listing in the NRHP under Criterion A, for its association with the history of transportation in California. Although the tracks have been upgraded and maintained for continued use, the railroad's route has remained the same and the resource was found to have retained integrity of location, design, setting, material, and association (Applied Earthworks, Inc., 1999: Table 1; Erickson, 2008).

Site CA-SBR-6694H** is a segment of a historic road and an associated telephone pole line. It was recorded in 1990 as the "Old Road to Cadiz," the original automobile route through the area dating from at least as early as 1914 (Lerch, 1990). The telephone poles along the line provided service to the eastern Mojave Desert until 1989. No wires remained on the poles at the time of recordation 1n 1990. This resource was recommended not eligible for the NRHP (Lerch, 1990).

Site CA-SBR-9848** is a small prehistoric lithic scatter recorded in 1999 (Inoway et al., 1999a). The site contains 10 flakes of gray-and-white banded agate chert from a single toolmaking episode. This site was determined not to be a significant resource (Applied Earthworks, Inc., 1999: Table 2).

Site CA-SBR-9853H** is the ATSF Parker Cutoff railroad line and associated trestles and culverts. This resource extends from the wellfield Project area along the same alignment as the pipeline Project area. According to the site record, the ATSF Parker Cutoff to Cadiz was constructed in 1910, although trestles along the alignment bear later dates. The rails were replaced as late as 1975-1976 (Applied Earthworks 1999:55). The tracks were still in use when the line was recorded in 1999 (Easter et al., 1999). Applied Earthworks, Inc. (1999: 55) determined that CA-SBR-9853H was eligible for listing in the NRHP under Criteria A and possibly C for its historical association with transportation and railroads. Although the tracks have been upgraded and maintained for continued use, the railroad's route has remained the same and the resource was found to have retained integrity of location, setting, feeling, and association.

Site CA-SBR-9855H** is a rectangular rock alignment outlining an area approximately 185 centimeters by 65 centimeters. It is believed to represent a historic grave; however, when the resource was recorded in 1999, no confirmation of this supposition was available (Inoway and Paniagua, 1999a). No artifacts were found in association with the alignment. The rectangle lies parallel to the ATSF Railroad tracks, suggesting it may be associated with the railroad. This

resource does not appear to have been previously evaluated for its significance (Applied Earthworks, Inc., 1999: Table 1).

Site CA-SBR-11582H** has been identified as a military camp associated with the Joint Exercise Desert Strike training scenario conducted in 1964. Originally recorded in January 2004, the site was updated and the boundaries expanded in November 2004 (Underwood, 2004a). The later recorders conducted substantial archival research in to the Joint Exercise Desert Strike and were able to identify features and artifacts with precision. Features include 22 rock alignments (including roads identified as Tent Rows 1-5), rock clusters, mounds, and pits, as well as a single remaining 7-foot-tall communications pole. Eight can scatters and one glass scatter were recorded in various locations around the camp, with the glass scatter containing fragments that pre-date the Desert Strike training exercise. Machine guns cartridges (blanks), wire, automobile fragments, various hardware and personal grooming implements, and modern intrusive camp hearths were also noted. Underwood (2004b: 29) suggested that this resource be considered eligible for listing in the NRHP until formally evaluated.

Site CA-SBR-11583H** is the historic Old Cadiz-Parker Road. The recorded section of the formerly graded road extends between the two railroad siding camps of Cadiz and Rice (Underwood, 2004c). Upon recording in 2004, the road had deteriorated in parts to a narrow two-track. A road following approximately the same alignment is shown on the 1896 "Parris Miners Map of the Desert Region of Southern California;" however, this road could also be associated with construction of the ATSF Parker Cutoff, completed in 1910. This resource was determined to lack integrity, but was not formally evaluated for its eligibility for listing in the NRHP or CRHR (Underwood, 2004b: 29).

Site CA-SBR-11584H** is the historic Cadiz-Cadiz Pass Road. The road connects the railroad siding camp of Cadiz with Cadiz Summit, which lies to the northeast on Route 66, across the Marble Mountains. When recorded in 2004, it was noted that the rough 10-foot-wide road had been graded, but not recently (Underwood, 2004d). This resource was determined to lack integrity, but was not formally evaluated for its eligibility for listing in the NRHP or CRHR (Underwood, 2004b: 29).

Site CA-SBR-11586H** is an unnamed historic road that extends in a general southwest-northeast direction from Amboy Road, along the southern shore of Bristol Lake, across the Cadiz Valley, and south of the Marble Mountains to intersect with Route 66 in the vicinity of Danby Road. The 2004 recorders noted that the road had been graded, but not recently (Underwood, 2004e). This resource was determined to lack integrity, but was not formally evaluated for its eligibility for listing in the NRHP or CRHR (Underwood, 2004b: 29).

Isolate P-36-020149** is a historic isolate consisting of one-half of a mule shoe or small horse shoe. This artifact was identified in 2004 within a two-track portion of the Old Cadiz Road (Underwood and Hillard, 2004). Isolates are not considered significant resources and are not eligible for inclusion in the NRHP or CRHR.

Isolate P-36-060315** is a prehistoric isolated artifact consisting of a chopping tool. The heavily patinated bifacial tool is made of a red-and-white cryptocrystalline material, and was identified in

1978 on a deflated desert pavement surface (Eckhardt, 1978b). Isolates are not considered significant resources and are not eligible for inclusion in the NRHP or CRHR.

Isolate P-36-060319** is an isolated prehistoric artifact. The 4-cm scraper or cutting tool was identified as a unifacially modified chalcedony flake tool (Anon., n.d.). The recording date is unknown. Isolates are not considered significant resources and are not eligible for inclusion in the NRHP or CRHR.

Isolate P-36-060922** is an isolated artifact recorded in 1963. The artifact consists of a scoop-style metate crafted from an igneous rock. The recorder notes that it is in a style similar to metates from Arizona pueblos, with a well-defined channel and one open end (Shepard, 1963). Isolates are not considered significant resources and are not eligible for inclusion in the NRHP or CRHR.

Isolate P-36-064132** is a prehistoric isolate recorded in 1999. The pointed, bilaterally worked uniface was identified as a possible cutting tool, made from a fine-grained black material (possibly ignimbrite) (Inoway and Panaigua, 1999b). Isolates are not considered significant resources and are not eligible for inclusion in the NRHP or CRHR.

Previously Recorded Cultural Resources Within or Adjacent to Pipeline Project Area

Site CA-SBR-3233H (Milligan)** is the railroad siding camp of "Milligan," recorded in 1978 on the south side of the ARZC railroad tracks. Historic materials recorded at that time included twelve tamarisk and palo verde trees, planted and surrounded by cemented stone rings; the remains of a low rock wall; and broken fragments of concrete. The foundation of a railroad station and a section house were noted, as well as assorted glass and metal debris. The camp is believed to have been settled in approximately 1910. A concrete loading dock and a more recent stucco/concrete loading bin (ca.1960s) were noted on the north side of the tracks. This resource has not been previously evaluated for its eligibility for listing in the NRHP or CRHR (Crowley, 1978b).

Site CA-SBR-3235H (Saltmarsh)** is the railroad siding and mill camp of "Saltmarsh." The remains of at least 13 structures were identified during recordation in 1978, along with "great quantities" of metal, glass, ceramic, brick, wood, and other debris. Structures identified included a probable railroad station or freight house, storage buildings, loading docks, water tower foundations, possible residences, and underground storage rooms. The settlement dates from at least the 1930s. This resource has not been previously evaluated for its eligibility for listing in the NRHP or CRHR (Crowley, 1978c).

Site CA-SBR-3282H (Archer)** is the small railroad siding camp of "Archer" located along the historic ATSF Parker Cutoff route. A single building foundation was identified at the time of recordation in 1978, along with a well/water tank, scattered debris, and a small cemetery with seven wooden crosses and one stone grave marker (Crowley, 1978d). The inscriptions on two of the grave markers were transcribed on the site record form; both are in Spanish and mark the graves of young children who died prior to 1925. Applied Earthworks, Inc. (1999: Table 1) noted

that site CA-SBR-3282H was likely a significant resource; however, the resource has never been formally evaluated for its eligibility for listing in the NRHP or CRHR.

Site CA-SBR-3283H (Chubbuck)** is the "Chubbuck" Mill and settlement, and Desert Butte Mine District, originally recorded in 1978 and updated in 1999 and 2001. The recorded resources include the ruins and structures of the settlement of Chubbuck; the industrial buildings and structures of the mill southeast of Chubbuck; two railroad spurs; the main line of the ATSF Parker Cutoff; and an unimproved road leading to the Desert Butte Mine. Only two buildings in Chubbuck were standing at the time of district recordation in 1999; three towers at the mill were also extant, but all associated mill buildings were represented by concrete foundations and a few structural remains. Nine activity loci were recorded, as well as at least 37 discrete trash dump areas. The district dates from the 1930s-1940s, and theoretically includes the site of the Desert Butte Mine; however, this locus of the district was not recorded directly due to its location outside the recorders' project area (Hamilton, 1999). This resource was recommended eligible for listing in the NRHP under Criteria A and D for its local and regional contributions to railroad transportation and 20th-century mining (Applied Earthworks, Inc., 1999: 59).

Site CA-SBR-5606/H** was originally recorded in 1977 as a prehistoric lithic scatter with an overlying historic scatter of cans. Prehistoric artifacts included flaked-stone tools and debitage made from locally available chert, jasper, chalcedony, basalt, and quartz. Milling tools (manos, metates) were also recorded. Ration cans from historic military maneuvers were also found on the site, as well as one oil can. The site was revisited in 2001, and the recorders at that time only located a single chert flake. The site is crossed by the All American Pipeline, and is thought to have been largely destroyed in that area (Dietler and Toenjes, 2001a). It does not appear that this resource was previously evaluated for its significance.

Site CA-SBR-5819H** was recorded in 1985 as a historic debris scatter. Recorders noted glass, metal, and porcelain fragments near the ARZC rail line. Three shovel test pits, all sterile, were excavated. All visible artifacts were collected at that time; most of the site was mapped within the construction corridor for the All American Pipeline (Berry and Miller, 1985). It does not appear that this resource was previously evaluated for its significance.

Site CA-SBR-9849H** was recorded in 1999 as a small historic campsite/refuse scatter. Ceramic fragments, a variety of metal cans, and a few other assorted metal and glass items were found in close proximity to the ARZC rail line (Inoway et al., 1999b). Applied Earthworks, Inc. (1999: 54) indicated that CA-SBR-9849H did not have a subsurface component and was not a significant resource.

Site CA-SBR-9850H** is a historic campsite/trash scatter associated with the railroad. Glass fragments, metal cans and can lids, a bullet casing, kerosene lamp fragments, metal buttons, crockery fragments, burned faunal bone, and assorted other artifacts were recorded in 1999 (Inoway et al., 1999c). Applied Earthworks, Inc. (1999: 54) indicated that CA-SBR-9850H was likely related to the early history of the ATSF Parker Cutoff, but that its recordation exhausted its data potential; therefore CA-SBR-9850H was no longer to be considered a significant resource.

Site CA-SBR-9851H** is a small historic refuse scatter recorded in 1999. Noted artifacts include whiteware plate fragments, sun-colored amethyst and amber glass fragments, cans and can lids, wire, wire nails, and staples (Inoway et al., 1999d). Applied Earthworks, Inc. (1999: 54-55) indicated that CA-SBR-9851H was likely related to the early history of the ATSF Parker Cutoff, but that its recordation exhausted its data potential; therefore CA-SBR-9851H was no longer to be considered a significant resource.

Site CA-SBR-9852* is a large prehistoric lithic scatter recorded in 1999. Artifacts observed include 40 flakes and 20 tools. Material types present include cryptocrystalline silica, fine-grained quartzite, quartz, and obsidian (Inoway et al., 1999e). The site was recorded and tested, with all formed tools and obsidian collected, exhausting its data potential. Applied Earthworks, Inc. (1999: 55) indicated that as a result of these activities, CA-SBR-9852H was no longer considered a significant resource.

Site CA-SBR-9853H** is described above with the resources found within the wellfield Project area.

Site CA-SBR-9856H** is a large scatter of historic debris, recorded in 1999 immediately adjacent to the ARZC railroad tracks. Artifacts include household items (cans, ceramics, bottles) as well as iron machinery parts, tools, and hardware. A series of four narrow, short wooden posts may represent the remains of an animal pen or small corral (McDougall et al., 1999a). This site was subjected to archaeological testing and evaluation in 1999. Applied Earthworks, Inc. (1999: 56) excavated seven shovel test pits and determined that there was not a subsurface component to CA-SBR-9856H. The recordation of the site had exhausted its data potential; thus CA-SBR-9856H was no longer considered a significant resource.

Site CA-SBR-9858H** is a multicomponent historic archaeological site. One component represents the remains of an encampment or supply center associated with WWII-era military training exercises. According to the 1999 site record, this area was probably part of General George Patton's Desert Training Center (DTC). Linear rock features and alignments designating roadways and other use area were recorded, along with several discrete scatters of debris (food, beverage, and tobacco cans, concertina wire, glass fragments, and assorted hardware) (McDougall et al., 1999b). This component of the site was recommended eligible for listing in the NRHP under Criteria A, C, D, and possibly B (Applied Earthworks, Inc., 1999: 57-58).

The second component is sparse scatter of older debris and is likely a small railroad camp related to the ATSF Parker Cutoff railroad's construction and/or use (McDougall et al., 1999b). This component of the site was recommended eligible for listing in the NRHP under Criteria A and D for its association with the ATSF Parker Cutoff and contribution to transportation and the development of the transcontinental railroad (Applied Earthworks, Inc., 1999: 58).

Site CA-SBR-10521H (Colorado River Aqueduct)** is the historic Colorado River Aqueduct. This canal was constructed in the 1930s by the Metropolitan Water District of Southern California. As recorded in 2000, the concrete-lined canal measures 50 feet wide at the top and is fenced on both sides. The CRA was recommended eligible for the listing in the NRHP under Criteria A, B, and C (Neves and Goodman, 2000).

Site CA-SBR-10525-H* is a historic State Route (SR) 62. A segment of SR 62 from its intersection with SR 177 west to Sunburst Street was recorded and evaluated by SWCA in 2000. Although the highway was associated with the DTC and was a major automotive transportation route throughout the 20th century, SR 62 was recommended not eligible for listing in the NRHP by SWCA in 2000 (Purcell, 2000).

Site CA-SBR-10645-H* is a historic debris scatter, possibly related to WWII-era military training exercises. Materials observed in 2001 include cans, glass fragments, porcelain fragments, bullets, and wire (Dietler and Toenjes, 2001b). The site is located adjacent to the southwest side of Cadiz Road, approximately 30 meters from the ARZC railroad tracks. This site was recommended not eligible for listing in the NRHP (Pigniolo et al., 2001).

Site CA-SBR-10646H (Sablon)** is the historic railroad siding camp of "Sablon." As recorded in 2001, the site measured over 900,000 square feet; however the northern site boundary was not defined and the site was likely much more extensive at that time. The site included several concentrations of debris, as well as the railroad siding itself. Various cans, bottles and other glass fragments, railroad hardware, wire, glazed ceramic water pipe fragments, milled lumber, battery cores, and a single steel spoon were specifically noted. Artifact types suggested an occupation from 1910 into the 1960s (Dietler et al., 2001). Site CA-SBR-10646H was not evaluated for listing in the NRHP or CRHR at the time of its recordation (Pigniolo et al., 2001).

Site CA-SBR-11583H** is described above with the resources found within the wellfield Project area.

Native American Contact

A Sacred Lands File search with the Native American Heritage Commission (NAHC) was requested on November 8, 2010. Sacred Lands File search results prepared by the NAHC on November 12, 2010, indicated the presence of Native American cultural resources within ½-mile of the Project area in the Arica Mountains, and also noted that there were Native American resources in close proximity to the Project area in other locations.

Contact letters to all individuals and groups indicated by the NAHC as having affiliation with the Project area were prepared and mailed on November 17, 2010. The letters described the Project and included a map indicating the location of the Project area. Recipients were requested to reply with any information they are able to share about Native American resources that might be affected by the Project. Letters were sent to all individuals and tribes recommended by the NAHC. To date, two responses have been received. All correspondence is attached as Appendix B.

One response was received via email on December 15, 2010, from Bridget R. Nash-Chrabascz, Quechan Tribe Historic Preservation Officer. Ms. Nash-Chrabascz expressed the Quechan Cultural Committee's concern over the proposed Project's proximity to Old Woman Mountain. The Cultural Committee requested additional information and that further study be conducted. A phone message was left for Ms Nash-Chrabascz on January 20, 2011 by ESA archaeologist Monica Strauss. Ms. Nash-Chrabascz returned Ms. Strauss's phone call on February 2, 2011. Ms. Nash-Chrabascz

explained that the tribe is concerned that there may be prehistoric archaeological sites, pictographs, and petroglyphs in the vicinity of the Project. The tribe requested an archaeological survey be conducted and the opportunity to review the resulting report. Also, she reiterated that the tribe is concerned about visual impacts to the cultural traditional significance associated with the Old Woman Mountain and would like visual impacts to be taken into consideration. Ms. Strauss explained that the pipeline portion of the Project area has been surveyed and that no prehistoric sites or isolated artifacts were observed, and that the pipeline would be installed within the ARZC ROW. Ms. Nash-Chrabascz expressed that she was more concerned about the wellfield portion of the Project area and the scale of the Project on the landscape. Ms. Strauss indicated that the wellfield portion of the Project area would be subject to separate technical study at an unknown future date. Ms. Strauss also indicated that the Quechan Tribe, along with all others on the NAHC list, would be added to the EIR distribution list for the Project.

A second response was received via email on January 13, 2011 from Joseph Benitez, tribal elder of the Chemehuevi Tribe. Mr. Benitez expressed his concern about the impact to sacred sites, such as the Old [Woman] Mountain. A phone conversation between Mr. Benitez and ESA archaeologist Monica Strauss occurred on Jan 20, 2011. He indicated that the Old [Woman] Mountain range is a sacred site and that the general Project area was likely used prehistorically by the Chemehuevi to traverse to and from the Lake Havasu area. He also indicated that there could be a possibility of archaeological sites, especially near watercourses. Ms. Strauss explained that the pipeline survey did not result in the identification of any prehistoric sites and that the wellfield still needed to be surveyed. He asked that he be kept informed of the Project as it progresses. Ms. Strauss indicated that his comments would be noted in the EIR and that he would be added to the distribution list.

Field Survey

Field surveys were conducted between October 18 and 26, 2010. The survey crew was led by ESA archaeologists Madeleine Bray, M.A. and Candace Ehringer, M.A.

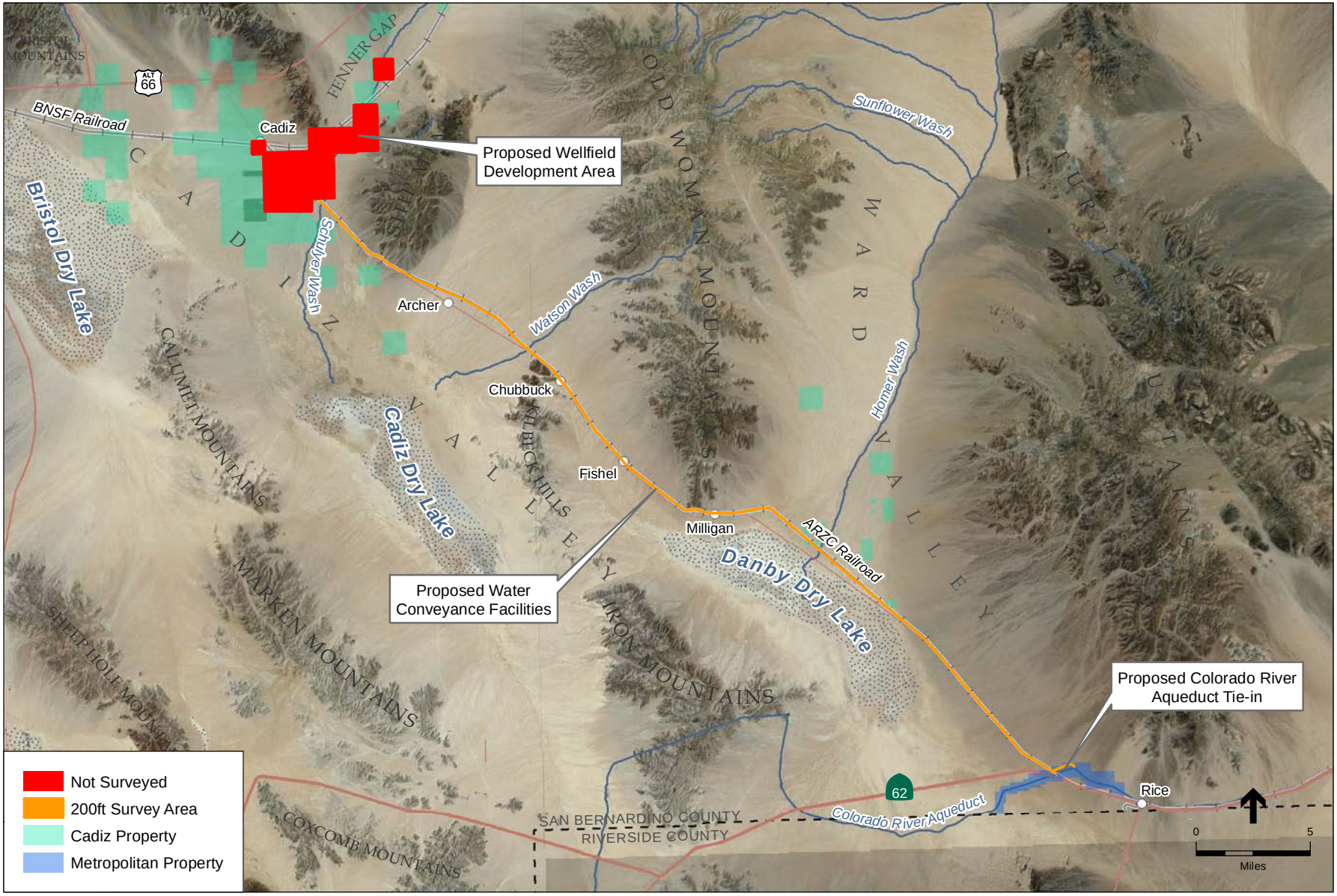
The survey area for the proposed pipeline portion of the Project area included 42.5 miles of the 200-foot-wide ARZC railroad ROW (100 feet on either side of the center line), from the proposed wellfield in the north to the CRA tie-in in the south; and an area from the ARZC railroad ROW east to the Freda Siphon, including the CRA tie-in Option 1(**Figure 3**). CRA tie-in Options 2a and 2b and the wellfield portion of the proposed Project area were not surveyed since the precise location of the wells, forebays, and access roads were not yet finalized. See Appendix C for detailed survey coverage as depicted on USGS topographic maps.

Areas that were not developed or otherwise disturbed were subject to intensive pedestrian survey. Survey was conducted in transects of no greater than 15 meters (50 feet). In general, two surveyors walked on either side of the railroad tracks. Very steep slopes and the railroad tracks and berm were not surveyed.

Any cultural resources encountered during the survey were documented and recorded on the appropriate Department of Parks and Recreation (523) (DPR) forms. An attempt was made to

relocate all previously recorded archaeological sites within or immediately adjacent to the Project area. Relocated sites were updated on DPR forms where appropriate. Each newly recorded resource was given a temporary field designation, then documented, photographed, and recorded. Isolated historic artifacts and modern (post-1965) features were not recorded and such objects and features are not considered cultural resources for the purpose of this analysis.

Ground cover within the proposed pipeline portion of the Project area consisted of disturbed creosote scrub. The Project area evidenced general surface disturbances of varying degree, particularly on the south and southwest side of the railroad, where the railroad access road, typically 20-25 feet wide, paralleled the railroad. Evidence of earth-moving activities near the railroad tracks, primarily on the north side, was frequently encountered. Aside from the obvious surface disturbances, depths of such disturbances, in general, could not be ascertained.



SOURCE: Bing Maps, 2010; BLM, 2009; ESRI, 2010; Cadiz Inc., 2010; and ESA, 2010

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Figure 3

Survey Areas

Identified Cultural Resources

A total of 43 cultural resources were recorded or updated during the field surveys of the proposed pipeline portion of the Project area, including 15 previously recorded resources and 28 newly recorded resources (**Table 4)**. Two of the 15 resources that were previously recorded within the proposed pipeline portion of the Project area (CA-SBR-5606/H and -5819H) could not be relocated and are presumed to have been destroyed within the Project area; therefore a total of 41 resources are currently known to exist within the proposed pipeline portion of the Project area. Thirty-eight of the resources consist of historic-era archaeological sites, and three are historic architectural/engineering resources. The location of these resources in relation to the proposed Project area is depicted in Confidential Appendix D, **Figure 4**. All resources were documented on DPR 523 forms, which will be filed at the SBAIC (Confidential Appendix E). No prehistoric resources or artifacts were observed during the survey and no isolated artifacts were recorded.

TABLE 4
CULTRAL RESOURCES RECORDED OR UPDATED DURING SURVEY

Primary Number (P-36-)	Trinomial (CA-SBR-)	Field Designation	Description	Size (ft^2)	Est. Date Range	Comments
003233	3233H	-	"Milligan" RR settlement remnants and cemetery	606,800	Early- mid-20th c.	Relocated
003235	3235H	-	"Saltmarsh" RR settlement remnants	1,147,000	Early- mid-20th c.; most artifacts 1930s-1950s	Relocated
003282	3282	-	"Archer" RR settlement remnants and cemetery	2,090,000	Early- mid-20th c.	Relocated
003283	3283H	-	"Chubbuck" mill and settlement remnants	1,400,000	Early- mid-20th c.	Relocated
005606	5606/H	-	Lithic and historic scatter	-	Prehistoric/20th c.	Not relocated
005819	5819H	-	Historic debris scatter	-	First half of the 20th c.	Not relocated
009849	9849H	-	Historic debris scatter	1,080	First half of the 20th c.	Relocated
009850	9850H	-	Historic debris scatter	9,700	First half of the 20th c.	Relocated
009851	9851H	-	Historic debris scatter	3,500	First half of the 20th c.	Relocated
009853	9853H	-	ATSF RR – Parker Cutoff	N/A	1910-present	Relocated
009856	9856H	-	Historic debris scatter	199,200	Early 20th c.	Relocated
009858	9858H	-	WWII Tank Corps desert training site w/earlier RR component	549,500	Early 20th c., 1942-1944	Relocated
010521	10521H	-	Colorado River Aqueduct	N/A	1930s-present	Relocated
010646	10646H	-	"Sablon," RR siding and debris scatter	820,395	Early –mid-20th c; many artifacts 1950s-1960s	Relocated
011583	11583H	-	Cadiz-Parker Road	N/A	1910-present	Relocated
023578	14892H	ESA-C-1	Historic feature – earthen mound	25	Unknown	New site
023579	14893H	ESA-C-2	Small historic debris scatter	800	Early- mid-20th c.	New site
023580	14894H	ESA-C-3	Historic feature – fire ring	40	Unknown	New site

Primary Number (P-36-)	Trinomial (CA-SBR-)	Field Designation	Description	Size (ft^2)	Est. Date Range	Comments
023581	14895H	ESA-C-4	Extensive historic debris scatter	249,120	Early- mid-20th c.	New site
023582	14896H	ESA-C-5	Small historic debris scatter	11,250	Early- mid-20th c.	New site
023583	14897H	ESA-C-6	Historic feature – fire ring	4	Unknown	New site
023584	14898H	ESA-C-7	Historic feature – rock cairn	11.5	Unknown	New site
023585	14899H	ESA-C-8	Small historic debris scatter	400	1910-1920	New site
023586	14900H	ESA-C-9	Small historic debris scatter	16	Presently Undetermined	New site
023587	14901H	ESA-C-10	Small historic debris scatter	1800	Early- mid-20th c.	New site
023588	14902H	ESA-C-11	Rock alignment	49	Unknown	New site
023589	14903H	ESA-C-12	Small historic debris scatter	10	Early- mid-20th c.	New site
023590	14904H	ESA-C-13	Historic debris scatter	3600	Early- mid-20th c.	New site
023591	14905H	ESA-C-14	Small historic debris scatter	15	Early- mid-20th c.	New site
023592	14906H	ESA-C-15	Historic debris scatter	2236	Early- mid-20th c.	New site
023593	14907H	ESA-C-16	Small historic debris scatter	25	Presently Undetermined	New site
TBD	TBD	ESA-C-17	Small historic debris scatter	100	Early- mid-20th c.	New site
023594	14908H	ESA-C-18	Small historic debris scatter	225	Mid-20th c.	New site
023595	14909H	ESA-C-19	Small Historic debris scatter	36	Early- mid-20th c.	New site
023596	14910H	ESA-C-20	Small historic debris scatter	2100	Early- mid-20th c.	New site
023597	14911H	ESA-C-21	Small historic debris scatter	2500	Early- mid-20th c.	New site
023598	14912H	ESA-C-22	Historic debris scatter	6000	Early- mid-20th c.	New site
023599	14913H	ESA-C-23	Historic debris scatter	13,000	Early- mid-20th c.	New site
023600	14914H	ESA-C-24	Historic debris scatter	30,000	Early- mid-20th c.	New site
023601	14915H	ESA-C-25	Small historic debris scatter	100	ca.1910s-1950s	New site
023602	14916H	ESA-C-26	Small historic debris scatter	6000	Early- mid-20th c.	New site
023603	14917H	ESA-C-27	Small historic debris scatter	900	Early 20th c.	New site
023604	14918H	ESA-C-28	Small historic debris scatter	19,596	Early- mid-20th c.	New site

Previously Recorded Archaeological Resources

CA-SBR-3233H (Milligan)

CA-SBR-3233H is the railroad siding and settlement of "Milligan" first recorded in 1978 (**Figure 5**). Historic materials recorded at that time included twelve tamarisk and palo verde trees, planted and surrounded by cemented stone rings; the remains of a low rock wall; and broken fragments of concrete. The foundation of a railroad station and a section house were noted, as well as assorted glass and metal debris. A concrete loading dock (ca.1940s) and a more recent stucco/concrete loading bin (ca.1960s) were noted on the north side of the tracks.

Overview (to NE)

Feature 14 (to N)

SOURCE: ESA, 2010.

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Figure 5

Photos: CA-SBR-3233H (Milligan)

Site CA-SBR-3233H was relocated on October 24, 2010. The site includes an area of 606,800 square feet, or 13.9 acres. Nineteen features were recorded, including the "Miligan" sign, two historic debris concentrations, two loading docks, foundations and other structural features, eight tamarisk trees surround by rock rings, two "fireplaces," two fire rings, and a cemetery. Eleven features were recorded within the Project area and the remaining eight features are located outside of the Project area. The remains of the section house recorded in 1978 were not relocated; however, concrete chunks and other structural debris, as well as extensive scatter of historic artifacts, were also noted across the site. Artifact types suggest an early to mid-20th century occupation.

- Feature 1 (in Project area) is a concrete slab foundation covered in rubble. It measures about 20 feet N/S by 65 feet E/W and appears to correspond to the foundation of the Milligan railroad station noted on the 1978 sketch map. It is located between two dirt roads.
- Feature 2 (in Project area) is a foundation which appears to have been formed from small rocks cemented together and painted white. It measures about 15 feet N/S by 35 feet E/W. This foundation is located directly adjacent to the railroad tracks and is about 25 feet due north of Feature 1. It may also be part of the Milligan railroad station noted on the 1978 sketch map.
- Feature 3 (in Project area) is a square concrete-lined pit that measures 4 feet by 4 feet. The pit has been filled in with white painted rocks and debris.
- Feature 4 (in Project area) is a round rock foundation with decayed wooden posts and metal. The feature measures 6 feet in diameter by 2 feet in height.
- Feature 5 (in Project area) consists of four concrete pads that once supported the water tower.
- Feature 6 (in Project area) is a rock wall, formed from small rocks cemented together and painted white. It is about 25 feet in length.
- Feature 7 (borders Project area) appears to be a small drainage pit with a concrete collar. It measures approximately 15 feet E/W by 2 feet N/S and has been filled in with dirt and debris.
- Feature 8 (outside Project area) is a round pit with a large rectangular metal container at the bottom. The pit is about 6 feet in diameter and 3 feet deep. The metal container has hinged lids on both sides.
- Feature 9 (outside Project area) resembles a small rectangular fireplace measuring about 2.5 feet by 2 feet. It is formed of small to medium sized cobbles and has a raised wall (about 10 inches high) at the back. The center contains charred wood fragments.
- Feature 10 (outside Project area) appears to be the remains of another small rectangular fireplace that has collapsed.
- Features 11 and 12 (outside Project area) are two small circular firepits formed from cobbles. They each measure about 12 to 18 inches in diameter and have charred wood fragments in the center.

- Feature 13 (outside Project area) consists of eight tamarisk trees surrounded by a ring of small rocks cemented together and painted white.
- Feature 14 (in Project area) is the 1940s loading dock (easternmost dock) depicted on the 1978 sketch map (see Figure 5). It measures about 145 feet N/S and 35 feet E/W. The ramp is an earthen berm fronted along the tracks by a wall of cement blocks. A wood and metal loading apparatus was attached to the top of the cement block wall. The top of the ramp is paved with asphalt.
- Feature 15 (in Project area) is the 1960s concrete and stucco loading dock (westernmost dock) depicted on the 1978 sketch map. It measures about 120 feet north to south by 35 feet E/W, with two ramps extending from the northern end an additional 70 feet to the west.
- Feature 16 (outside Project area) is the Milligan Cemetery. It encompasses an area of about 800 square feet.
- Feature 17 (in Project area) is Concentration 1. The artifact concentration included over 50 fragments of amber, clear, sun-colored amethyst, and aqua glass. Some fragments appear to have been fire-affected. Embossed maker's marks include an amber bottle base with "W F & __", which was probably manufactured by William Franzen & Son (1900-1929). This mark is commonly found on beer bottles in the Midwest (Toulouse, 1971: 536-537; Whitten, 2011). White porcelain dishware fragments were also noted.
- Feature 18 (outside Project area) is Concentration 2. The artifact concentration included over 50 fragments of amber, clear, and applied color label (ACL) 7-UP bottle fragments. Embossed maker's marks observed include: an amber base with Maywood Glass Company's "MG (slanted left)" mark (1930-1959); a clear base with Thatcher Glass Manufacturing Company's "T (anchor-shaped) with MC" mark (1949-1985); a base with the Owens-Illinois diamond O-I mark (Plant 20 [Oakland, CA], Year 1948); and a clear base with "Duraglas (script)" (1940-ca.1963) (Lockhart, 2004a: 24-25; SHA, 2011a: Question #17; Whitten, 2011).
- Feature 19 (in Project area) is the "Miligan" sign located adjacent to the tracks.

Artifacts observed across the site included over 300 glass bottle fragments, over 50 cans, over 50 fragments of ceramics and porcelain, metal fragments, an aqua glass insulator, and a brown-glazed ceramic insulator. Can types observed included key-wind sardine, church-key, knife, and can-opener opened cans, sanitary cans, coffee cans, cone top cans, bi-metal pull-tab cans, and modern aluminum sardine cans. Glass bottle fragments included clear, amber, aqua, 7-UP green, green, cobalt, yellow amber, and sun-colored amethyst.

Bottle types included Tabasco, liquor, condiment, milk, medicine, and bleach. One milk glass "Mentholatum" jar (ca.1906-1955) and one cobalt blue "Noxema"-style glass jar were noted (Fike, 2006: 298). Both Clorox and Purex amber glass bottle fragments were recorded (one neck fragment dated to the 1930s) (The Clorox Company, 2011). One sun-colored amethyst medicine bottle with a tooled, bead-type finish was noted (ca.1890-1920) (SHA, 2011b: Tooled Finishes). One amber liquor bottle embossed with "FEDERAL LAW PROHIBITS SALE OR REUSE OF

THIS BOTTLE", which dates to 1935-ca.1964, was also noted (SHA, 2011a: Question #10). Numerous bottles with embossed with either the Maywood Glass Company's "MG" mark (1930-1959) or the Glass Containers, Inc. mark, "GC (vertically intertwined)", (1933/45-1983) were observed (Whitten, 2011). Several Owens-Illinois diamond O-I marks were present, including two amber bases dating to 1948 (Lockhart, 2004a: 25).

CA-SBR-3235H (Saltmarsh)

CA-SBR-3235H is the railroad siding camp of Saltmarsh (**Figure 6**). When the site was originally recorded in 1978, remains of at least 13 structures were identified, along with "great quantities" of metal, glass, ceramic, brick, wood, and other debris. Structures identified included a probable railroad station or freight house, a circular concrete reservoir, storage buildings, loading docks, water tower foundations, possible residences, and underground storage rooms. In addition, numerous sand fences were observed at that time.

This site was relocated on October 24, 2010 and measured about 1.2 million square feet (approx. 26 acres). The remains of six structural features, including a circular concrete reservoir, a well, a foundation, a wooden "loading dock" with nearby shaft, and two wood-lined shafts, were recorded during the survey. The remains of buildings and other structures mapped south of the road in 1978 were not relocated during the 2010 survey. The sand fences observed in 1978 were observed extending intermittently from CA-SBR-3235H north to ESA-C-28 and were located on both sides of the tracks. Tamarisk trees lined the southern side of the tracks.

- Feature 1(in Project area) is a circular concrete reservoir measuring about 25 feet in diameter and 2 feet high. The top is covered with asphalt. The concrete is inscribed "February 3, 1942." A concrete base abutting the tracks is located just northeast of the reservoir.
- Feature 2 (in Project area) is the Saltmarsh well, now filled and capped. It measured about 15 feet long by 10 feet wide and had two railroad ties bolted to the concrete. Embedded a recent patch of concrete is a plaque indicating that the well was capped in 2002.
- Feature 3 (in Project area) is a foundation located next to the tracks and is presumably the station or freight house recorded in 1978. The poured concrete foundation measured roughly 500 feet long by 10 feet wide and was covered in rubble and a historic debris scatter.
- Feature 4 (in Project area) is a wooden "loading dock" with a related wood-lined shaft (see Figure 6). The main portion of the loading dock is composed of 4-by-4-foot wooden posts and measured approximately 35 feet long by 15 feet wide. The posts extended about 5 to 6 feet above ground. A line of wooden posts (presumably part of the dock) was located adjacent (parallel) to the tracks and measured about 95 feet in length. A 3-foot by 3-foot wooden lined shaft was noted just northeast of the loading dock.
- Features 5 and 6 (outside Project area) are two wooden-lined shafts, possibly underground storage pits, located at the northwestern end of the site. Each shaft measured about 7 feet square.

Overview (to SE)

Feature 4 (to E)

SOURCE: ESA, 2010.

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Figure 6

Photos: CA-SBR-3235H (Saltmarsh)

- The site also includes a very large historic debris scatter comprised primarily of glass bottles and metal cans. The majority of artifacts were concentrated on the southern side of the tracks. Over 1000 glass fragments, many of them diagnostic, were observed and included clear, pale green, 7-UP green, cobalt, sun-colored amethyst, yellow amber, amber, black amber, and aqua glass. One artifact concentration contained over 100 clear glass fragments with ACL, including 7-UP, Royal Crown Cola, Pepsi-Cola, and Barq's. One fragment of a 7-UP bottle with swim front label was recorded and dates from 1937 to 1953 (Lockhart, 2005: 24). Glass bottle types observed include soda, Coca-Cola, beer, bleach, and milk. Numerous yellow amber, thin-walled stubby beer bottles and amber crown finish bottle necks were also observed. One amber base embossed with "CLOROX in a diamond (1929-1930), one amber base with an Owens-Illinois mark (1939), one amber liquor bottle with an Obear-Nestor Glass Co. mark (1915-1980), and one clear base with the Hazel-Atlas maker's mark (1923-ca.1964) were noted (The Clorox Company, 2011; Lockhart, 2004a: 27; Toulouse, 1971: 373-374; and Whitten, 2011).

Recorded cans included sanitary cans, bimetal pull tabs, key wind sardine cans, hole-in-top cans, church key opened, pocket tobacco cans, coffee cans, meat cans, and modern aluminum cans. Whiteware ceramic fragments, one "snowball" brick, which dates from 1854 to 1935, and part of an old car, possibly a Model T, were observed. Artifact types suggest an early to mid-20th century occupation, with a large number of artifacts dating to the 1930s to 1950s.

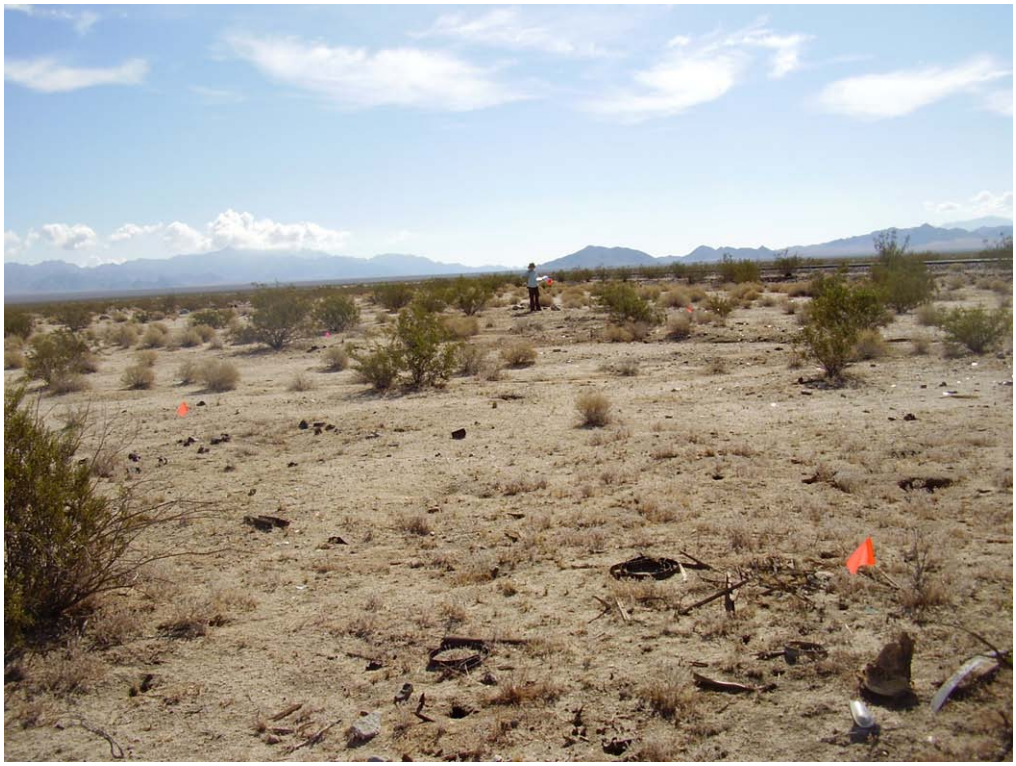
CA-SBR-3282H (Archer)

CA-SBR-3282H is the small railroad siding camp of "Archer" located along the ARZC tracks (historic ATSF Parker Cutoff) (**Figure 7**). A single building foundation was identified at the time of recordation in 1978, along with a well/water tank, scattered debris, and a small cemetery with seven wooden crosses and one stone grave marker. The inscriptions on two of the grave markers were transcribed on the site record form; both are in Spanish and mark the graves of young children who died prior to 1925.

This historic site was relocated on October 20, 2010 and measured about 2.1 million square feet, or approximately 48 acres. This large historic site contains 37 features and an extensive historic scatter. The site extends on both sides of the railroad tracks. Features include a well, cemetery, 25 artifact concentrations, three concrete or asphalt features, a group of wooden posts arranged in a rectangular shape, an earthen mound, and five depressions. Ten features are located within the Project area and are described in detail below. The remaining 27 features are not included here for the sake of brevity, but were recorded on DPR 523 forms. Feature 15, the cemetery (see Figure 7), is located only 10 feet outside the Project area. Artifact types indicate an early to mid-20th century occupation of Archer, with several dating prior to 1930.

- Feature 1 is Archer's well, now filled and capped. It is comprised of a 13-by-13-foot-square concrete platform with a smaller 18-by-18 inch raised square at each corner. There is a 62 inch by 37 inch by 12 inch raised platform in the center. Embedded in the center is a recent patch of concrete with a plaque indicating that the well had been capped in 2004. A pile of recent gravel surrounds the platform.

Feature 18 (foreground) and Feature 15 (background) (to N)



Feature 22 (to E)

SOURCE: ESA, 2010.

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Figure 7

Photos: CA-SBR-3282H (Archer)

- Feature 2 is a 10-by-10-foot pile of fragmentary bricks and windowpane glass. The largest fragment measured 10 by 6 by 6 inches. Most bricks were impressed with the maker's mark "LAPBCO" (Los Angeles Pressed Brick Co) or "GMcB" (Gladding, McBean and Co).
- Feature 13 is comprised of two parallel linear concrete features, with large chunks of concrete scattered around them. About 12 feet to the west is a pile of similar concrete rubble. Large cobbles are embedded in concrete.
- Feature 14 is a raised earthen mound, measuring 20 feet E/W by 30 feet N/S. At the south end is a large chunk of cement, with two lengths of pipe protruding from the ground.
- Feature 17 is comprised of seven wooden posts and one post hole arranged in a rectangular shape, with crumbling asphalt in the middle
- Feature 18 is a pile of crumbling asphalt with large rock cobbles ringing the northern side (see Figure 7). Associated artifacts include amber glass, cans, over 12 metal barrel hoops, and over 20 wire rings.
- Feature 22 is a 2500 square foot historic scatter with two piles of asphalt and large rocks (see Figure 7). Artifacts included metal lids, clear glass fragments, bricks, hole-in-top cans, milk glass, brown-glazed earthen ware, whiteware, jadeite, metal hoops, wire, over 50 cans, hundreds of glass fragments, one milk glass bowl base labeled "Oven Fire-King Ware," a paint can, and wood fragments.
- Feature 23 is a 36-by-36 inch concrete square with two metal loops protruding from center. A piece of wire is attached to loop. Clear glass, wood fragments, clay pigeon fragments, and shoe sole were recorded adjacent to the feature.
- Feature 29 is a concentration of over 20 cans, including sardine tins, sanitary cans, and hole-in-top cans, as well as metal wire, one piece of jadeite, and asphalt.
- Feature 30 is a concentration of 15 cans, including sanitary cans and hole-in-top cans.

CA-SBR-3283H (Chubbuck)

CA-SBR-3283H is the "Chubbuck" Mill and Settlement, and Desert Butte Mine District, originally recorded in 1978 and updated in 1999 and 2001 (**Figure 8**). The recorded resources include the ruins and structures of the settlement of Chubbuck; the industrial buildings and structures of the mill southeast of Chubbuck; two railroad spurs; the main line of the ATSF Parker Cutoff; and an unimproved road leading to the Desert Butte Mine. Only two buildings in Chubbuck were standing at the time of district recordation in 1999; three towers at the mill were also extant, but all associated mill buildings were represented by concrete foundations and a few structural remains. Nine activity loci were recorded, as well as at least 37 discrete trash dump areas. The district dates from the 1930s to 1940s, and theoretically includes the site of the Desert Butte Mine; however, this locus of the district was not recorded directly due to its location outside the recorders' project area.

Cement Plant (to W)

Linear Feature 4 (to S)

SOURCE: ESA, 2010.

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Figure 8

Photos: CA-SBR-3283H (Chubbuck)

This historic site was relocated on October 21, 2010 and found to be exactly as previously recorded. Most of the previously recorded features are located outside of the Project area; however, Linear Feature 4, the narrow-gauge railroad segment, is located within the Project area, approximately 10 feet west of the ARZC rail line (see Figure 8). There was a general sparse historic debris scatter observed within site boundaries.

CA-SBR-5606/H

This site, originally recorded as a prehistoric lithic scatter with an overlying historic scatter of cans, could not be relocated. The site was re-recorded in 2001 and was reported to have been largely destroyed or absent with the All American Pipeline project area. No artifacts were observed during the survey and it appears that the site no longer exists within the Project area.

CA-SBR-5819H

The site could not be relocated during the survey; however, according to the 1985 site record, the site was 100 percent surface collected as part of a previous archaeological study. Therefore, it appears that the site no longer exists within the Project area.

CA-SBR-9849H

CA-SBR-9849H was recorded in 1999 as a small historic campsite/refuse scatter. Ceramic fragments, a variety of metal cans, and a few other assorted metal and glass items were found in close proximity to the ARZC rail line. The site was dated to the first half of the 20th century.

This historic site was relocated on October 18, 2010 and was found to be generally as recorded (**Figure 9**). As originally reported, the site measured about 1,080 square feet, or 0.03 acre. One new historic concentration was recorded, consisting of five cans (including a possible military C-ration can), 10 pieces of aqua and sun-colored amethyst glass, and one piece of burnt bone.

CA-SBR-9850H

CA-SBR-9850H was first recorded in 1999 as a historic campsite/trash scatter associated with the railroad. Glass fragments, metal cans and can lids, a bullet casing, kerosene lamp fragments, metal buttons, crockery fragments, burned faunal bone, and assorted other artifacts were noted. The site was dated to the first half of the 20th century.

This historic site was relocated on October 18, 2010 and found to be exactly as previously recorded. The site measured 9,700 square feet, or 0.22 acre.

CA-SBR-9851H

CA-SBR-9851H is a small historic refuse scatter recorded in 1999. Noted artifacts include whiteware plate fragments, sun-colored amethyst and amber glass fragments, cans and can lids, wire, wire nails, and staples. The site was dated to the first half of the 20th century.

This historic site was relocated on October 18, 2010 and found to be exactly as previously recorded (Figure 9). The site measured 3,500 square feet, or 0.08 acre.

CA-SBR-9849H (to E)

CA-SBR-9851H (to NNW)

SOURCE: ESA, 2010.

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Figure 9

Photos: CA-SBR-9849H and -9851H

CA-SBR-9853H (ATSF Parker Cutoff)

This resource extends from the wellfield area along the same alignment as the proposed water conveyance pipeline alignment. It is currently still in use and is now known as the ARZC railroad. According to the site record, the ATSF Parker Cutoff was constructed in 1910, although trestles along the alignment bear later dates indicating that modifications have occurred. This resource was previously recorded by Applied Earthworks, Inc. in 1999, and consists of railroad tracks set on a raised grade on rock ballast.

The railroad was observed during the 2010 ESA survey and found to be as previously described (**Figure 10**). Dates noted on the tracks themselves span from 1916 to the 1950s. The railroad is still in use.

CA-SBR-9856H

CA-SBR-9856H is a large scatter of historic debris, recorded in 1999 immediately adjacent to the ARZC railroad tracks. Artifacts include household items (cans, ceramics, and bottles) as well as iron machinery parts, tools, and hardware. A series of four narrow, short wooden posts may represent the remains of an animal pen or small corral.

This historic site was relocated on October 20, 2010. None of the previously recorded features are located within the Project area, although Feature 1, which consists of four wood posts arranged in a square, is located just outside of the Project area. The Project area was generally found to contain a sparse scatter of historic debris, including cans (round tobacco tins, sanitary cans) and glass. One new historic artifact concentration was recorded on the northeast side of the railroad (**Figure 11**). The concentration consisted of 15 cans, primarily knife-opened hole-in-top cans and sanitary cans. Based on a diagnostic bottle fragment, this concentration likely dates to the early 20th century.

CA-SBR-9858HCA-SBR-9858H is a multicomponent historic archaeological site. One component represents the remains of an encampment or supply center associated with WWII-era military training exercises. According to the 1999 site record, this area was probably part of General George Patton's DTC. Linear rock features and alignments designating roadways and other use area were recorded, along with several discrete scatters of debris (food, beverage, and tobacco cans, concertina wire, glass fragments, and assorted hardware). The second component is sparse scatter of older debris and is likely a small railroad camp related to the ATSF Parker Cutoff railroad's construction and/or use.

This historic site was relocated on October 18, 2010. Features 10, 11, 13, and 16 were relocated within the Project area and generally found to be as previously recorded. Artifact types noted at the site indicate that the area was in use from the early to mid 20th century. The remaining previously recorded features are located outside of the Project area.

- Feature 10 is a historic debris scatter about 8 feet in diameter. Over 30 cans and 10 clear and amber glass fragments were originally noted. No additional artifacts were observed during the current survey.

Railroad Tracks (to NNE)

Profile (to N)

SOURCE: ESA, 2010.

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Figure 10

Photos: CA-SBR-9853H (ATSF Parker Cutoff)

CA-SBR-9856H, New Concentration (to W)

CA-SBR-9858H, New Feature (to N)

SOURCE: ESA, 2010.

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Figure 11

Photos: CA-SBR-9856H and -9858H

- Feature 11 is a historic debris scatter measuring 18 feet in diameter. Over 50 cans, including sanitary cans, key-wind sardine and coffee cans, small juice cans, and evaporated milk cans, and over 150 amber, clear, and sun-colored amethyst glass fragments were originally recorded. Saw-cut bone and yellow plastic fragments were also observed during the current survey.
- Feature 13 is an earthen loading/unloading platform measuring 26 feet by 13 feet. The sides slope at a 45-degree angle and are bolstered by small to large cobbles.
- Feature 16 is a historic debris scatter measuring 16 feet in diameter. Over 30 cans, including sanitary, key-wind opened, and evaporated milk cans, and over 10 yellow/green and clear glass fragments were originally noted. No additional artifacts were observed during the current survey.

One new feature was recorded during the current survey (Figure 11). The new feature was a large earthen platform, measuring approximately 75 feet N/S by 125 feet E/W, located on the northeast side of the railroad. The feature abuts the railroad and is level with it. The sides of the platform slope at about 45 degrees and are not lined or supported. The surface of the platforms shows clear evidence of earth-moving activities, and wooden stakes and railroad ties are present within the disturbed earth. The date of the feature is unknown.

CA-SBR-10521H (Colorado River Aqueduct)

CA-SBR-10521H is the historic Colorado River Aqueduct (CRA). This canal was constructed in the 1930s by the Metropolitan Water District of Southern California and is still in use. As recorded in 2000, the concrete-lined canal measures 50 feet wide at the top and is fenced on both sides.

On October 26, 2010, the aqueduct was relocated at the southern terminus of the Project area and found to be as previously recorded.

CA-SBR-10646H (Sablon)

CA-SBR-10646H is the historic railroad siding camp of "Sablon." As recorded in 2001, the site measured over 900,000 square feet; however the northern site boundary was not defined and the site was likely much more extensive at that time. The site included several concentrations of debris, as well as the railroad siding itself. Various cans, bottles and other glass fragments, railroad hardware, wire, glazed ceramic water pipe fragments, milled lumber, battery cores, and a single steel spoon were specifically noted. Artifact types suggested an occupation from 1910 into the 1960s (Dietler et al., 2001).

This historic site was relocated on October 25, 2010 (**Figure 12**). This is a very large historic debris scatter with seven features, including five artifact concentrations and two structural features. At this time, the total site encompasses 820,395 square feet (18.8 acres), with the majority of the site being located on the northern side of the railroad tracks. It appears that the majority of the site previously located south of the tracks has been destroyed by construction of an underground pipeline.

Overview (to E)

Feature 6 (to NNE)

SOURCE: ESA, 2010.

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Figure 12

Photos: CA-SBR-10646H (Sablon)

Six of the seven recorded features are located within the Project area. Artifacts observed across the site included over 20 pocket tobacco cans, over 20 sanitary cans, over 150 bi-metal pull-tab cans (mostly soda), over 10 square and rectangular key-wind opened cans, as well as a small concentration of tires, paint cans, spray paint cans, and 10 gallon drums. Bottle types included condiment, cosmetic, beer, liquor, and soda. Artifact types date to the early to mid-20th century, with many from the 1950s to 1960s.

- Feature 1 (in Project area) is an artifact concentration covering about 625 square feet. The concentration contained over 100 bimetal pull tab soda cans, over 10 7-UP bottles, amber beer/soda bottles and screw cap jars, and some modern cans.
- Feature 2 (in Project area) is a discrete artifact concentration covering about 400 square feet. The concentration contained over 25 yellow amber stubby beer bottles, over 50 bimetal pull tab cans, and about 5 amber liquor bottles.
- Feature 3 (outside Project area) is a small, sparse debris scatter located on the south side of the tracks consisting of sun-colored amethyst glass, non-diagnostic can fragments, and batteries.
- Feature 4 (in Project area) is a small artifact concentration covering an area of about 100 square feet. Over 10 clear and amber bottles, both whole and fragmented, were noted.
- Feature 5 (in Project area) is a small artifact concentration with over 25 fragments of sun-colored amethyst and several cobalt blue glass fragments.
- Feature 6 (in Project area) is a piece of cut track inserted vertically into the ground and surrounded by a pile of rocks (Figure 12). The track extends about 5 feet above the ground.
- Feature 7 (in Project area) is a concrete-lined shaft, measuring 3 feet in diameter, located on the south side of the tracks.

CA-SBR-11583 (Cadiz Road)

CA-SBR-11583 is the historic Old Cadiz-Parker Road. The recorded section of the formerly graded road extends between the two railroad siding camps of Cadiz and Rice. Upon recording in 2004, the road had deteriorated in parts to a narrow two-track. A road following approximately the same alignment is shown on the 1896 “Parris Miners Map of the Desert Region of Southern California;” however, this road could also be associated with construction of the ATSF Parker Cutoff, completed in 1910.

A section of the road is located within the Project area. During the current survey, the road was found to be as previously described and is currently in use.

Newly Recorded Resources

CA-SBR-14892H (ESA-C-1)

This isolated historic feature was recorded on October 18, 2010. The resource is a small round feature composed of adobe-like, irregularly shaped material surrounding a gravel-filled center (**Figure 13)**. The feature is approximately 5 feet in diameter. There were few associated artifacts other than a general sparse scatter of sanitary cans. The date of the feature is unknown.

CA-SBR-14893H (ESA-C-2)

This historic site was recorded on October 18, 2010. The resource contains a small concentration of over 30 cans within an 800 square foot area (Figure 13). Can types include key-wind sardine, church-key opened and knife opened beverage cans, and pocket tobacco cans. Artifacts likely date from the early to mid-20th century.

CA-SBR-14894H (ESA-C-3)

This historic feature was recorded on October 18, 2010 and is composed of a 5-foot-diameter fire ring formed by approximately 15 pumice cobbles (**Figure 14**). The cobbles range in size from 6 inches to 15 inches in diameter, with the exception of one that is much larger than the others, at 24 inches in diameter. Some of the pumice has vitrified. Just south of the fire ring are the remains of two burnt timbers and a metal rod. The date of the feature is unknown.

CA-SBR-14895H (ESA-C-4)

This historic site was recorded on October 19, 2010. This is a large historic artifact scatter (Figure 14) with 10 features, including three can concentrations, two glass concentrations, four concentrations of burnt bone, and three rock cairns.

- Feature 1 consists of a can concentration located primarily in a drainage perpendicular to the railroad tracks. The scatter continues north into less disturbed desert pavement.
- Feature 2 consists of a concentration of over 50 cans located in a drainage.
- Feature 3 consists of a concentration of over 50 cans located in a drainage.
- Feature 4 is three small rock cairns.
- Feature 5 consists of a glass concentration. Over 40 sun-colored amethyst and aqua colored glass fragments were observed.
- Feature 6 is a glass concentration consisting of hundreds of sun-colored amethyst, amber, and green glass fragments. One amber glass bottle base embossed with “A. B. CO” on the heel was noted. This mark dates from 1905-1914 (Lockhart et al., 2007). A shattered dark green bottle and a shattered amber glass flask were also observed.
- Features 7 through 10 consist of burnt bone concentrations. Hundreds of faunal bones (probably cow based on size) were noted.

ESA-C-1 (to E)

ESA-C-2 (to N)

SOURCE: ESA, 2010.

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Figure 13

Photos: Newly Recorded Cultural Resources

ESA-C-3 (to E)

ESA-C-4 (to E)

SOURCE: ESA, 2010.

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Figure 14

Photos: Newly Recorded Cultural Resources

Site CA-SBR-14895H (ESA-C-4) is located between the ARZC rail line and Cadiz Road, and is 249,120 square feet, or 5.7 acres, in size. Over 100 cans were recorded., including least 50 hole-in-cap cans (measuring 4-6/16 inches high by 3 inches in diameter), over 20 larger hole-in-cap cans (6-12/16 inches high by 6-2/16 inches in diameter), over 10 large hole-in-top cans (4-12/16 inches high by 4-3/16 inches in diameter), one sardine tin, over 10 unidentifiable sanitary cans, five aluminum pull-tab beverage cans, and more than 15 partially buried and unidentifiable cans. Most of the hole-in-cap cans were knife or puncture opened. These types of cans date from the early 1800s to about 1930. The hole-in-cap cans measuring 4-6/16 inches high by 3 inches in diameter may date from 1903 to 1914 (Simonis, 2001). Also recorded were one Chesebrough New-York Vaseline® clear jar (1908-1955), one large metal lid, one painted metal cookpot, one metal pail, a plastic gallon jug, several whiteware fragments, twisted metal rods and straps, and five barrel hoops (Fike, 2006: 56). The site likely dates from the early to mid-20th century.

CA-SBR-14896H (ESA-C-5)

This historic site was recorded on October 19, 2010 on the southwest side of the ARZC rail line. This small, localized can dump consists of three concentrations of cans within an 11,250 square foot area (**Figure 15**). Concentration 1 contains three hole-in-top cans and four large sanitary cans. Concentration 2 is approximately 10 feet north of Concentration 1 and consists of two hole-in-top cans and three unidentified sanitary cans. Concentration 3 is comprised of two hole-in-top cans and one sanitary can. Approximately 20 feet north of Concentration 3 is a burnt railroad tie and one sanitary can. The site likely dates from the early to mid-20th century.

CA-SBR-14897H (ESA-C-6)

This historic feature was recorded on October 19, 2010. The feature consists of a small isolated fire ring, approximately 2 feet in diameter, composed of small (6-inch diameter) cobbles with no associated artifacts. The date of the feature is unknown.

CA-SBR-14898H (ESA-C-7)

This historic feature was recorded on October 19, 2010 and is comprised of a rock cairn with a wood post embedded in it. The cairn is 5.75 feet in diameter, composed of medium- to large-sized cobbles. Sediment has accumulated in the middle of the cairn such that the middle of the cairn has been elevated to about 1 foot above the ground surface. The date of the feature is unknown.

CA-SBR-14899H (ESA-C-8)

This historic site was recorded on October 19, 2010 on southwest side of the ARZC rail line, 75 feet west of the railroad. ESA-C-8 is 400 square feet in size and consists of a concentration over 100 aqua and sun-colored amethyst glass fragments and a scatter of metal cans within a 400 square foot area (Figure 15). Many of the glass fragments were melted. Additionally, there were three earthenware fragments (possibly part of a large cook pot), a square meat tin, a crushed large metal bucket, one sanitary can, and one large hole-in-top can measuring 6-$^{15}/_{16}$ inches high by 6-$^{10}/_{16}$ inches diameter. Two aqua bottle bases were embossed with the A-B connected mark, which dates to 1905-1917 (Lockhart, 2004b: 17). Based on this mark and the large number sun-colored amethyst fragments, this site likely dates from 1910 to 1920.

ESA-C-5 (to NNW)

ESA-C-8 (to N)

SOURCE: ESA, 2010.

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Figure 15

Photos: Newly Recorded Cultural Resources

CA-SBR-14900H (ESA-C-9)

This historic site was recorded on October 19, 2010 and is comprised of a small concentration of artifacts including dozens of wire nails, metal straps, one melted cobalt glass jar with a screw-on metal lid, one barrel hoop, and one broken clear glass jar (**Figure 16**). The site covers an area of about 16 square feet. No diagnostic artifacts were noted, other than the cobalt blue glass jar, which has a temporal range of ca. 1920 to the 1960s.

CA-SBR-14901H (ESA-C-10)

This historic site was recorded on October 19, 2010 and measures 1800 square feet, or 0.04 acre. ESA-C-10 is made up of two concentrations of historic artifact scatters (Figure 16). Concentration 1 consists of one aqua bottle neck, two screw top clear bottles, three amber bottle necks, and over 50 cans within a 50 square foot area. The cans included sanitary cans, church-key-opened beverage cans, a cigar tin, hole-in-top cans, and coffee cans. Concentration 2 consists of one gas can, amber glass, a clear bottleneck and over 50 cans (mainly church-key-opened beverage cans) within a 10 square foot area. The site likely dates to the early to mid-20th century.

CA-SBR-14902H (ESA-C-11)

This isolated feature was recorded on October 19, 2010. ESA-C-11 is a rock alignment, measuring 7.5 feet N/S by 6.5 feet E/W. The alignment is composed of about fifty 8-inch diameter white or light colored cobbles arranged in a pattern (**Figure 17**). The date of the feature is unknown.

CA-SBR-14903H (ESA-C-12)

This historic site was recorded on October 19, 2010 about 40 feet northeast of the ARZC rail line. This site is a small (10 square foot) historic scatter consisting of four church-key-opened cans, a small metal drum, and some metal wire (Figure 17). The site probably dates to the early to mid-20th century.

CA-SBR-14904H (ESA-C-13)

This historic site was recorded on October 19, 2010. ESA-C-13 is a historic scatter with three concentrations of historic artifacts within a 3600 square foot area (**Figure 18**). Concentration 1 consists of 20 sanitary cans and church-key-opened beverage cans within 10 square feet. Concentration 2 consists of over 20 sanitary cans and church-key-opened beverage cans, as well as three clear glass bottles with threaded tops. The three bases were embossed with a "C" in a square, indicating they were manufactured between 1921 and 1928 by the Crystal Glass Co. of Los Angeles (Toulouse, 1971: 108). Concentration 3 consists of over 100 clear, green, and aqua glass fragments and some metal wire fragments. Additionally, there were four sanitary cans in a wash about 20 feet west of Concentration 3. The site dates to the early to mid-20th century.

CA-SBR-14905H (ESA-C-14)

This historic site was recorded on October 19, 2010 approximately 75 feet northeast of the ARZC rail line. The site is a small historic scatter and measures 15 square feet (Figure 18). It consists of one hole-in-cap can, one hole-in-top can, two sanitary cans, and one small round key-opened can. The site dates to the early to mid-20th century.

ESA-C-9 (to N)

ESA-C-10 (to N)

SOURCE: ESA, 2010.

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Figure 16

Photos: Newly Recorded Cultural Resources

ESA-C-11 (to N)

ESA-C-12 (to S)

SOURCE: ESA, 2010.

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Figure 17

Photos: Newly Recorded Cultural Resources

ESA-C-13 (to SW)

ESA-C-14 (to NNE)

SOURCE: ESA, 2010.

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Figure 18

Photos: Newly Recorded Cultural Resources

CA-SBR-14906H (ESA-C-15)

This historic site was recorded on October 20, 2010 approximately 50 feet southwest of the ARZC railroad tracks. ESA-C-15 consists of two concentrations of historic artifacts within an approx. 2200 square foot area (**Figure 19**). Concentration 1 contains approximately 40 crushed hole-in-cap cans within a 100 square foot area. Concentration 2 contains approximately 20 hole-in-cap cans, and two larger crushed coffee can-sized sanitary cans. Other miscellaneous artifacts, including a wire strap, wood scraps, and five cans, are located 10 feet north of Concentration 1. The site dates to the early to mid-20th century.

CA-SBR-14907H (ESA-C-16)

This historic site was recorded on October 21, 2010 and is locates about 15 feet south of the ARZC access road. The site is a small historic scatter consisting of three pieces of lumber, two hole-in-top cans, and three crushed unidentifiable cans within a 25 square foot area (Figure 19). The site is located near the historic siding of Archer. The date of the site is presently undetermined.

ESA-C-17

Recorded on October 21, 2010, ESA-C-17 is located approximately 75 feet southwest of the ARZC rail line, southwest of the railroad access road and northeast of Cadiz Road. The resource is a small, discrete refuse scatter concentrated within a 100 square foot area (**Figure 20**). Artifacts observed include amber and clear glass fragments, whiteware fragments, metal caps, four key-opened sardine cans, five sanitary cans, seven unidentifiable cans (some knife opened), two lids from key-opened meat tins, one hole-in-top can, a round tobacco can, a round key-open lid, and a crushed metal pail. Although not conclusive, the site probably dates to the early to mid-20th century.

CA-SBR-14908H (ESA-C-18)

This is a small historic scatter recorded on October 21, 2010 just south of the railroad access road, and consists of about 10 wood, metallic, and glass artifacts within a 225 square foot area (Figure 20). Artifacts include five pieces of timber, one church-key-opened beverage can, two crushed sanitary cans, one amber glass bottle with "15 B (in a circle) 66" embossed on the base, one metal paint can lid, a piece of concrete, and one aluminum-top beer can. The embossed mark on the amber bottle indicates it was manufactured by the Brockway Glass Company's Oakland, California plant in 1966 (Whitten, 2011). The site probably dates to the mid 20th century.

CA-SBR-14909H (ESA-C-19)

This site was recorded on October 22, 2010 and is located about 85 feet southwest of the ARZC rail line. The site is a small, discrete historic scatter consisting of over 40 cans, glass fragments, and ceramic fragments within a 36 square foot area (**Figure 21**). The artifacts included four small hole-in-top cans (measuring 2-$^{7}/_{16}$ inches high by 2-$^{8}/_{16}$ inches diameter), one hole-in-top can (measuring 3-$^{15}/_{16}$ inches high by 2-$^{15}/_{16}$ inches in diameter), seven sanitary cans, two rectangular meat tins with key-wind open, one key, one aluminum Pepsi pull-tab can, three white ceramic fragments, one clear bottle base with a Hazel-Atlas maker's mark (1923-ca. 1964), one shattered amber glass jug, sun-colored amethyst glass, and one cobalt blue glass fragment (Whitten, 2011). The site is located near the historic Fishel railroad siding. The site probably dates to the early to mid-20th century.

ESA-C-15 (to N)

ESA-C-16 (to E)

SOURCE: ESA, 2010.

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Figure 19

Photos: Newly Recorded Cultural Resources

ESA-C-17 (to E)

ESA-C-18 (to E)

SOURCE: ESA, 2010.

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Figure 20

Photos: Newly Recorded Cultural Resources

ESA-C-19 (to E)

ESA-C-20 (to E)

SOURCE: ESA, 2010.

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Figure 21

Photos: Newly Recorded Cultural Resources

CA-SBR-14910H (ESA-C-20)

Recorded on October 22, 2010, this site is located just south of the railroad access road. The resource is a historic scatter with two discrete concentrations, and totaling 2100 square feet in area (Figure 21). Concentration 1 is a can dump comprised of over 30 cans within 100 square feet. The cans are mostly church-key-opened beverage cans, but also included two key-opened sardine cans and one coffee can, as well as four clear glass bottle necks. Concentration 2 is located 20 feet east of Concentration 1 and consists of a discrete scatter of over 100 timber fragments. Additionally, a burnt railroad tie was observed south of Concentration 1. The site is located near the historic Fishel railroad siding. The site probably dates to the early to mid-20th century.

CA-SBR-14911H (ESA-C-21)

This sparse historic can scatter was recorded on October 22, 2010 and is comprised of approximately 20 cans within a 2500 square foot area, located north of the ARZC rail line (**Figure 22**). The cans consisted of two sardine tins, four beverage cans, eleven sanitary cans (most of which were buried in a small drainage that was adjacent to the railroad), and a green glass bottle neck. Two of the beverage cans contained partially preserved labels that read "White Rock Orange…Luscious…True". White Rock was established in 1871 and is still in operation today. The fairy depicted on beverage cans is called "Psyche" and became the company logo after 1893 (Whiterockbeverages.com, 2010). The site is located near the historic Fishel railroad siding and probably dates to the early to mid-20th century.

CA-SBR-14912H (ESA-C-22)

This site was recorded on October 22, 2010 just south of the railroad access road. The site measures 6000 square feet, or 0.14 acre, and consist of a historic artifact scatter with four discrete debris concentrations (Figure 22). The site probably dates to the early to mid-20th century.

- Concentration 1 was comprised of 15 to 20 cans, some of which were partially buried. Types identified include over 6 hole-in-top cans, knife-opened sanitary cans, and one all-aluminum beverage can.
- Concentration 2 consisted of over 20 cans, most of which were crushed, partially disintegrated, and buried. Artifacts included sanitary cans, hole-in-top cans, coffee cans, and one whiteware fragment, as well as a cow bone fragment.
- Concentration 3 contained 10 to15 cans on a small dirt mound, most of which were too crushed to determine type, and sun-colored amethyst glass fragments. Identifiable cans included sanitary cans (can opener opened), and a few hole-in-top cans.
- Concentration 4 was comprised of approximately 10 cans, most of which were crushed and partially buried. Types identified include hole-in-top cans, sanitary cans, and pocket tobacco cans. An enameled tin cup with blue and white swirled pattern was also recorded.

Other artifacts observed across the site include cow bone fragments, sanitary cans, wire fragments, car parts, pocket tobacco cans, and a flattened metal bucket with a handle. The site is located near the historic Fishel railroad siding.

ESA-C-21 (to SW)

ESA-C-22 (to N)

SOURCE: ESA, 2010.

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Figure 22

Photos: Newly Recorded Cultural Resources

CA-SBR-14913H (ESA-C-23)

This site was recorded on October 22, 2010 and is comprised of a historic scatter with over 50 cans within a 13,000 square foot area (0.30 acre), located north of the ARZC rail line (**Figure 23**). The cans included four hole-in-cap cans, hole-in-top cans, sanitary cans, pocket tobacco cans, two safety razor holders in a blue plastic and metal case labeled "Gillette", six key-opened meat tins, two large metal barrels, three sardine cans, as well as some clear glass fragments and a metal fork. Additionally, there was concentration of artifacts on the north end of the site, but outside of the Project area, that contained 20 cans, most of which were hole-in-top cans that were knife-opened across the bottom. There was also one square meat tin, a sardine can, a larger sanitary can (that was partially buried), a clear glass jar rim, and a burnt cow bone. The site is located near the historic Fishel railroad siding and probably dates to the early to mid-20th century.

CA-SBR-14914H (ESA-C-24)

This resource, recorded on October 22, 2010, is a historic scatter with five concentrations of artifacts, north of the ARZC rail line and near the historic Fishel railroad siding (Figure 23). The site measures 30,000 square feet, or 0.75 acre, and dates to the early to mid-20th century.

- Concentration 1 was comprised of seven cans (beverage and sanitary cans) in creosote bush as well as a large broken Coke bottle with a Maywood Glass Company maker's mark on the base consisting of "MG (slanted left)" (1930-1959) (Whitten, 2011).
- Concentration 2 contained 14 church-key-opened beverage cans in a creosote bush. One had a preserved label reading "White Rock Root Beer" with a drawing of a fairy. White Rock was established in 1871 and is still in operation today. The fairy depicted on beverage cans is called "Psyche" and became the company logo after 1893 (Whiterockbeverages.com, 2010).
- Concentration 3 consisted of approximately 50 church-key-opened beverage cans near two creosote bushes and two shoe soles with nails.
- Concentration 4 was comprised of approximately 60 cans, most of which were church-key-opened beverage cans, as well as five broken clear glass bottles with "California Wine Association" embossed on the base, two amber glass bottles, one glass jar, and two aluminum-top cans. The California Wine Association was established in 1894 and was dominant in the marketplace until Prohibition (1920) (Pinney, 1989: 356)
- Concentration 5 contained over 40 cans, mostly church-key-opened beverage cans, but also including sanitary cans, one meat tin, three aluminum-top pull-tab cans, and six clear glass bottles.

Other artifacts observed across the site include a 7-UP bottle with swim front label, a hole-in-cap can, a clear glass fragment, and 30 to 40 beverage cans. The 7-UP bottle with swim front label dates from 1937 to 1953 (Lockhart, 2005: 24).

ESA-C-23 (to E)

ESA-C-24 (to S)

SOURCE: ESA, 2010.

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Figure 23

Photos: Newly Recorded Cultural Resources

CA-SBR-14915H (ESA-C-25)

This site is a small, discrete scatter of historic artifacts within a 100 square foot area recorded on October 22, 2010 (**Figure 24**). Artifacts observed included green and amber glass fragments, wood fragments, four complete amber bottles, five bottle necks (one green and four amber), one amber glass bottle base with "IPG" in a triangle (Illinois Pacific Glass Co., 1926-1930), one amber glass bottle base embossed with an "S" in a star (Southern Glass Co., 1926-1931), and one green glass bottle base embossed with the Clicquot Club Eskimo logo (1913-ca.1954) (Lockhart et al., 2005: 77; Lockhart et al., 2007: 52; Lockhart et al., 2009: 56; Milford Daily News, 2007). The site dates from ca. 1910s to 1950s.

CA-SBR-14916H (ESA-C-26)

This historic scatter, recorded on October 22, 2010 100 feet south of the railroad access road, contained 20 cans, most crushed or partially buried, within a 6000 square foot area (Figure 24). The site is bounded by the ARZC access road to the south and an older unused dirt access road to the north. There were five hole-in-top square meat tins (key-opened), three large hole-in-top cans ($4\text{-}^{9}/_{16}$ inches high by 4 inches in diameter), a gas can, four hole-in-cap cans, one sanitary can, and one hole-in-top can. Other artifacts included burnt bone, whiteware fragments with ivy-patterned decal, wire, 12 sun-colored amethyst glass fragments, and a jar rim. The site probably dates to the early to mid-20th century.

CA-SBR-14917H (ESA-C-27)

Recorded on October 22, 2010 just south of the railroad access road, this site consist of a can dump with approximately 25 cans, mostly hole-in-cap (**Figure 25**). There were two large hole-in-cap cans with machine soldered side seam, and 18 smaller hole-in-cap cans, as well as other cans that were too crushed to identify and some metal fragments. All artifacts were within a 900 square foot area. The site probably dates to the early 20th century.

CA-SBR-14918H ESA-C-28

This site was recorded on October 24, 2010 and is a small historic debris scatter measuring 19,596 square feet (Figure 25). The scatter included over 50 glass bottle fragments (clear, aqua, amber, and sun-colored amethyst). There were also over 25 fragments of ceramics and porcelain, as well as a few fragments of jadeite and one teacup. Observed cans include one rectangular meat can, three sanitary cans, three hole-in-top cans, several pull tab cans, church-key-opened beverage cans, and key-wind-opened sardine cans. Other artifacts consisted of one shoe sole, one plastic 4-hole button, and a milk-glass Ponds jar. Glass bottle types included beer/soda, bleach, and Cola-Cola. "La Vida Distinctive Beverages" and "Shasta" applied color labels and an amber jug fragment with "CLOROX" embossed on the shoulder were noted. Maker's marks observed on glass bottles include Owens-Illinois diamond O-I mark (1929-ca.1959), Latchford-Marble Glass Company "LM" in a circle mark (ca. 1939-1957), Lincoln Glass Bottle Company "L" in a keystone mark (1942-1952), and Fairmount Glass Works/Company "F" in a hexagon mark (1933-ca. 1968) (Toulouse, 1971; Whitten, 2011). The remains of sand fences were noted on either side of the tracks. The site probably dates to the early to mid-20th century.

ESA-C-25 (to S)

ESA-C-26 (to NW)

SOURCE: ESA, 2010.

Cadiz Valley Water Conservation, Recovery, and Storage Project . 210324

Figure 24

Photos: Newly Recorded Cultural Resources

ESA-C-27 (to E)

ESA-C-28 (to SSE)

SOURCE: ESA, 2010.

Cadiz Valley Water Conservation, Recovery, and Storage Project . 210324

Figure 25

Photos: Newly Recorded Cultural Resources

Evaluation of Cultural Resources

A total of 43 cultural resources were recorded or updated as a result of this study. The following section provides the regulatory framework and preliminary significance evaluations for these resources.

Regulatory Framework

Numerous laws and regulations require federal, State, and local agencies to consider the effects a Project may have on cultural resources. These laws and regulations stipulate a process for compliance, define the responsibilities of the various agencies proposing the action, and prescribe the relationship among other involved agencies (e.g., State Historic Preservation Office and the Advisory Council on Historic Preservation). The National Historic Preservation Act (NHPA) of 1966, as amended; CEQA; and the CRHR, Public Resources Code (PRC) 5024, are the primary federal and State laws governing and affecting preservation of cultural resources of national, State, regional, and local significance.

Federal

Section 106 of the NHPA

Archaeological resources are protected through the NHPA of 1966, as amended (16 USC 470f), and its implementing regulation, Protection of Historic Properties (Code of Federal Regulations [CFR] 36 Part 800), the Archaeological and Historic Preservation Act of 1974, and the Archaeological Resources Protection Act of 1979. Prior to implementing an "undertaking" (e.g., issuing a federal permit), Section 106 of the NHPA requires federal agencies to consider the effects of the undertaking on historic properties and to afford the Advisory Council on Historic Preservation and the State Historic Preservation Officer a reasonable opportunity to comment on any undertaking that would adversely affect properties eligible for listing in the NRHP. As indicated in Section 101(d)(6)(A) of the NHPA, properties of traditional religious and cultural importance to a tribe are eligible for inclusion in the NRHP. Under the NHPA, a resource is considered significant if it meets the NRHP listing criteria at 36 CFR 60.4.

National Register of Historic Places

The NRHP was established by the NHPA of 1966, as "an authoritative guide to be used by federal, State, and local governments, private groups and citizens to identify the Nation's historic resources and to indicate what properties should be considered for protection from destruction or impairment" (36 CFR Section 60.2). The NRHP recognizes both historical-period and prehistoric archaeological properties that are significant at the national, state, and local levels. In the context of the Project, which does not involve any historical-period structures, the following NRHP criteria are given as the basis for evaluating archaeological resources.

To be eligible for listing in the NRHP, a resource must be significant in American history, architecture, archaeology, engineering, or culture. Districts, sites, buildings, structures, and objects of potential significance must meet one or more of the following four established criteria (US Department of the Interior, 1995):

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

Unless the property possesses exceptional significance, it must be at least fifty years old to be eligible for NRHP listing (US Department of the Interior, 1995).

In addition to meeting the criteria of significance, a property must have integrity. Integrity is defined as "the ability of a property to convey its significance" (US Department of the Interior 1995). The NRHP recognizes seven qualities that, in various combinations, define integrity. To retain historic integrity a property must possess several, and usually most, of these seven aspects. Thus, the retention of the specific aspects of integrity is paramount for a property to convey its significance. The seven factors that define integrity are location, design, setting, materials, workmanship, feeling, and association.

State

The State implements the NHPA through its statewide comprehensive cultural resources surveys and preservation programs. The California Office of Historic Preservation (OHP), as an office of the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions.

California Register of Historical Resources

The CRHR is "an authoritative listing and guide to be used by State and local agencies, private groups, and citizens in identifying the existing historical resources of the State and to indicate which resources deserve to be protected, to the extent prudent and feasible, from substantial adverse change" (PRC § 5024.1[a]). The criteria for eligibility for the CRHR are based upon NRHP criteria (PRC § 5024.1[b]). Certain resources are determined by the statute to be automatically included in the CRHR, including California properties formally determined eligible for, or listed in, the NRHP.

To be eligible for the CRHR, a prehistoric or historical-period property must be significant at the local, State, and/or federal level under one or more of the following criteria:

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

- 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
- Has yielded, or may be likely to yield, information important in prehistory or history.

A resource eligible for the CRHR must meet one of the criteria of significance described above, and retain enough of its historic character or appearance (integrity) to be recognizable as a historical resource and to convey the reason for its significance. It is possible that a historic resource may not retain sufficient integrity to meet the criteria for listing in the NRHP, but it may still be eligible for listing in the CRHR.

Additionally, the CRHR consists of resources that are listed automatically and those that must be nominated through an application and public hearing process. The CRHR automatically includes the following:

- California properties listed on the NRHP and those formally Determined Eligible for the NRHP;
- California Registered Historical Landmarks from No. 770 onward; and,
- Those California Points of Historical Interest that have been evaluated by the OHP and have been recommended to the State Historical Commission for inclusion in the CRHR.

Other resources that may be nominated to the CRHR include:

- Historical resources with a significance rating of Category 3 through 5 (Those properties identified as eligible for listing in the NRHP, the CRHR, and/or a local jurisdiction register);
- Individual historical resources;
- Historical resources contributing to historic districts; and,
- Historical resources designated or listed as local landmarks, or designated under any local ordinance, such as an historic preservation overlay zone.

California Environmental Quality Act

CEQA is the principal statute governing environmental review of projects occurring in the State and is codified at PRC Section 21000 et seq. CEQA requires lead agencies to determine if a proposed project would have a significant effect on the environment, including significant effects on historical or archaeological resources.

Under CEQA (Section 21084.1), a project that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. The *CEQA Guidelines* (Section 15064.5) recognize that an historical resource includes: (1) a resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR; (2) a resource included in a local register of historical resources, as defined in PRC Section 5020.1(k) or identified as significant in a historical resource survey meeting the requirements of PRC Section 5024.1(g); and (3) any object, building,

structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California by the lead agency, provided the lead agency's determination is supported by substantial evidence in light of the whole record. The fact that a resource does not meet the three criteria outlined above does not preclude the lead agency from determining that the resource may be an historical resource as defined in PRC Sections 5020.1(j) or 5024.1.

If a lead agency determines that an archaeological site is a historical resource, the provisions of Section 21084.1 of CEQA and Section 15064.5 of the *CEQA Guidelines* apply. If a project may cause a substantial adverse change (defined as physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired) in the significance of an historical resource, the lead agency must identify potentially feasible measures to mitigate these effects (*CEQA Guidelines* Sections 15064.5(b)(1), 15064.5(b)(4)).

If an archaeological site does not meet the criteria for a historical resource contained in the *CEQA Guidelines*, then the site may be treated in accordance with the provisions of Section 21083, which is a unique archaeological resource. As defined in Section 21083.2 of CEQA a "unique" archaeological resource is an archaeological artifact, object, or site, about which it can be clearly demonstrated that without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- Contains information needed to answer important scientific research questions and there is a demonstrable public interest in that information;
- Has a special and particular quality such as being the oldest of its type or the best available example of its type; or,
- Is directly associated with a scientifically recognized important prehistoric or historic event or person.

If an archaeological site meets the criteria for a unique archaeological resource as defined in Section 21083.2, then the site is to be treated in accordance with the provisions of Section 21083.2, which state that if the lead agency determines that a project would have a significant effect on unique archaeological resources, the lead agency may require reasonable efforts be made to permit any or all of these resources to be preserved in place (Section 21083.1(a)). If preservation in place is not feasible, mitigation measures shall be required.

The *CEQA Guidelines* note that if an archaeological resource is neither a unique archaeological nor a historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment (*CEQA Guidelines* Section 15064.5(c)(4)).

Local

San Bernardino County General Plan

The Conservation Element of the recently adopted San Bernardino County General Plan (2007a) governs the natural and cultural resources of the County. The San Bernardino County General Plan has the following relevant goals and policies related to the protection of cultural resources.

GOAL CO 3. The County will preserve and promote its historic and prehistoric cultural heritage.

POLICIES

CO 3.1 Identify and protect important archaeological and historic cultural resources in areas of the County that have been determined to have known cultural resource sensitivity.

1. Require a cultural resources field survey and evaluation prepared by a qualified professional for Projects located within the mapped Cultural Resource Overlay area.

CO 3.2 Identify and protect important archaeological and historic cultural resources in all lands that involves disturbance of previously undisturbed ground.

1. Require the Archaeological Information Center at the San Bernardino County Museum to conduct a preliminary cultural resource review prior to the County's application acceptance for all land use applications in planning regions lacking Cultural Resource Overlays and in lands located outside of planning regions.

2. Should the County's preliminary review indicate the presence of known cultural resources or moderate to high sensitivity for the potential presence of cultural resources, a field survey and evaluation prepared by a qualified professional will be required with Project submittal.

CO 3.4 The County will comply with Government Code Section 65352.2 (SB 18) by consulting with tribes as identified by the California Native American Heritage Commission on all General Plan and specific plan actions.

1. Site record forms and reports of surveys, test excavations, and data recovery programs will be filed with the Archaeological Information Center at the San Bernardino County Museum, and will be reviewed and approved in consultation with that office.

   a. Preliminary reports verifying that all necessary archaeological or historical fieldwork has been completed will be required prior to Project grading and/or building permits.

   b. Final reports will be submitted and approved prior to Project occupancy permits.

3. When avoidance or preservation of an archaeological site or historic structure is proposed as a form of mitigation, a program detailing how such long-term avoidance or preservation is assured will be developed and approved prior to conditional approval.

CO 3.5 Ensure that important cultural resources are avoided or minimized to protect Native American beliefs and traditions.

5.b. The concerns of the Native American community will be fully considered in the planning process.

c. If human remains are encountered during grading and other construction excavation, work in the immediate vicinity will cease and the County Coroner will be contacted pursuant to the state Health and Safety Code.

a. In the event that Native American cultural resources are discovered during Project development and/or construction, all work in the immediate vicinity of the find will cease and a qualified archaeologist meeting US Secretary of Interior standards will be hired to assess the find. Work on the overall Project may continue during this assessment period.

b. If Native American cultural resources are discovered, the County will contact the local tribe. If requested by the tribe, the County will, in good faith, consult on the discovery and its disposition with the tribe.

Significance Evaluation of Cultural Resources

A total of 43 cultural resources were recorded or updated during the survey of the pipeline portion of the Project area, including three historic architectural/engineering resources and 39 historic-era archaeological resources, and one multi-component archaeological resource. Two archaeological resources, one historic-era site (CA-SBR-5819H) and the multi-component site (CA-SBR-5606/H) were not relocated within the Project area and are not addressed further in this report. Of the 41 resources located within the pipeline portion of the Project, ten are recommended eligible for listing in the NRHP and/or CRHR (**Table 5**) and should be considered significant resources under CEQA. The remaining 31 resources are recommended not eligible for listing in the CRHR and are therefore not considered significant resources under CEQA.

TABLE 5
SIGNIFICANT CULTURAL RESOURCES

Primary Number (P-36-)	Trinomial (CA-SBR-)	Field Designation	Description	Eligibility	Comments
003233	3233H	-	"Milligan" RR settlement remnants and cemetery	Recommended eligible for CRHR under Criteria 1 and 4	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district
003235	3235H	-	"Saltmarsh" RR settlement remnants	Recommended eligible for CRHR under Criteria 1 and 4	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district
003282	3282H	-	"Archer" RR settlement remnants and cemetery	Recommended eligible for CRHR under Criteria 1 and 4	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district
003283	3283H	-	"Chubbuck" mill and settlement remnants	Previously recommended eligible for NRHP under Criteria A and D (therefore eligible for CRHR under Criteria 1 and 4)	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district
009853	9853H	-	ATSF RR – Parker Cutoff	Previously recommended eligible for NRHP under Criteria A and C (therefore eligible for CRHR under Criteria 1 and 3)	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district
009858	9858H	-	1) WWII Tank Corps desert training site and 2) earlier railroad-related components	1) Previously recommended eligible for NRHP under Criteria A, C and D (therefore eligible for CRHR under Criteria 1, 2, and 4) 2) Previously recommended eligible for NRHP under Criteria A and D (therefore eligible for CRHR under Criteria 1 and 4)	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff and/or DTC district
010521	10521H	-	Colorado River Aqueduct	Previously recommended eligible for NRHP under Criteria A, B, and C (therefore eligible for CRHR under Criteria 1, 2, and 3)	-
010646	10646H	-	"Sablon" RR settlement remnants	Recommended eligible for CRHR under Criteria 1 and 4	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff and/or DTC district
011583	11583H	-	Cadiz-Parker Road	Recommended eligible for CRHR under Criterion 1	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district

Primary Number (P-36-)	Trinomial (CA-SBR-)	Field Designation	Description	Eligibility	Comments
023581	14895H	ESA-C-4	Extensive historic debris scatter	Recommended eligible for CRHR under Criterion 4	As an individual resource or as a contributor to a potential ATSF RR-Parker Cutoff district

Pipeline Portion of the Project Area

Historic Architectural/Engineering Resources

Three of the 41 resources encountered during the survey of the pipeline portion of the Project area are categorized as historic-era architectural/engineering resources (CA-SBR-9853H, CA-SBR-10521H, and CA-SBR-11583H). All three of these resources are recommended eligible for listing in the CRHR and should be considered significant resources under CEQA.

CA-SBR-9853H (ATSF Railroad, Parker Cutoff): This resource extends from the wellfield portion of the Project area along the same alignment as the proposed water conveyance pipeline. The ATSF Parker Cutoff was constructed in 1910, although trestles along the alignment bear later dates indicating that modifications have occurred. This resource was previously recorded by Applied Earthworks, Inc. in 1999, and consists of railroad tracks set on a raised grade on rock ballast. The resource was previously recommended eligible for listing in the NRHP under Criteria A and possibly C (Applied Earthworks, Inc., 1999: 55).

The railroad was observed during the 2010 ESA survey and found to be as previously described. Dates noted on the tracks themselves span from 1916 to the 1950s and the railroad is still in use. The resource appears to have changed little from the time of its original recording and appears to maintain integrity and its eligibility for listing in the NRHP; therefore it is considered eligible for listing in the CRHR under Criteria 1 and possibly 3. Resource CA-SBR-9853H should be considered a significant resource under CEQA.

CA-SBR-10521H (Colorado River Aqueduct): The CRA was constructed in the 1930s by the Metropolitan Water District of Southern California and is still in use. As recorded in 2000, the concrete-lined canal measures 50 feet wide at the top and is fenced on both sides. The CRA was previously recommended eligible for listing in the NRHP under Criteria A, B, and C (Neves and Goodman, 2000: 3) and is therefore eligible for listing in the CRHR. Resource CA-SBR-10521H should be considered a significant resource under CEQA.

CA-SBR-11583H (Cadiz-Parker Road): The recorded section of this dirt road extends between the historic railroad settlement sites of Cadiz and Rice, and generally follows the route of the ARZC (Historic ATSF Parker Cutoff). The road may be associated with construction of the ATSF Parker Cutoff, completed in 1910. The roadway has not been formally evaluated for its eligibility to the NRHP or the CRHR, but appears eligible for its association with the ATSF Parker Cutoff (CRHR Criterion 1). There is no evidence available at the present time to suggest

that the resource is eligible for its association with important persons (CRHR Criterion 2) or that the resource represents a distinctive type, style, or manufacture technology (CRHR Criterion 3). Given the nature of this resource, it does not have the potential to yield information important in history (CRHR Criterion 4). Since resource CA-SBR-11583H is recommended eligible for the CRHR under Criterion 1, it should be considered a significant resource under CEQA.

Archaeological Resources

Thirty-one of the 38 recorded historic-era archaeological resources are not recommended eligible for listing in the CRHR and do not otherwise meet CEQA's definitions for historical resources and unique archaeological resources (*CEQA Guidelines* 15064.5) (CA-SBR-9849H, -9850H, -9851H, -9856H, ESA-C-1, -C-2, -C-3, -C-5, -C-6, -C-7, -C-8, -C-9, -C-10, -C-11, -C-12, -C-13, -C-14, -C-15, -C-16, -C-17, -C-18, -C-19, -C-20, -C-21, -C-22, -C-23, -C-24, -C-25, -C-26, -C-27, and -C-28 [see Table 4 for corresponding trinomials for sites with temporary field designations]). These resources consist primarily of either surface scatters of historic trash, primarily containing non-diagnostic metal can and glass elements with no features, or are isolated non-diagnostic features. The underrepresentation of diagnostic materials from which to identify artifacts and date the resources limits their potential to yield information important in history (CRHR Criterion 4). While all resources can be broadly dated to the first half of the 20th century and are likely associated with human activity related to railroad construction and/or maintenance, none can be tied to specific historically-significant events or persons (CRHR Criteria 1 and 2). Likewise, the resources do not contain features or artifacts that represent a distinctive type, style, or manufacture technology (CRHR Criterion 3). These 31 resources are therefore not recommended eligible and have been exhausted of their limited data potential simply through the process of their recording on DPR 523 forms. No further work is recommended for these resources.

The remaining seven historic-era archaeological resources are recommended eligible for listing in the CRHR (CA-SBR-3223H, -3235H, -3282H, -3283H, 9858H, -10646H, and -14895H [ESA-C-4]). Five of these are associated with the historic settlements or railroad sidings of Milligan, Saltmarsh, Archer, Chubbuck, and Sablon (CA-SBR-3233H, -3235H, -3282H, and -3283H, -10646H, respectively). The remaining two resources recommended eligible are CA-SBR-9858H, a WW-II military encampment or supply depot with an earlier railroad component, and CA-SBR-14895H [ESA-C-4], a large historic artifact scatter. These resources are discussed in detail below.

Historic Settlements

CA-SBR-3233H (Milligan): This historic-era archaeological site represents the remnants of the early to mid-20th century settlement of Milligan, which appears on maps as early as 1917-1918. The site is over 600,000 square feet (14 acres) in size and contains numerous structural remains, historic trees, a cemetery, and rather dense concentrations of historic artifacts, many with diagnostic qualities. This resource has not been previously evaluated for its eligibility for listing in the NRHP or CRHR (Crowley, 1978b).

CA-SBR-3235H (Saltmarsh): This historic-era archaeological site represents the remnants of the early to mid-20th century settlement of Saltmarsh, which appears on maps as early as 1917-1918. The site is over 1.1 million square feet (26 acres) in size and contains numerous structural remains, a well, a loading platform, and concentrations of historic artifacts, many with diagnostic

qualities. This resource has not been previously evaluated for its eligibility for listing in the NRHP or CRHR (Crowley, 1978c).

CA-SBR-3282H (Archer): This historic-era archaeological site represents the remnants of the early to mid-20th century settlement of Archer, which appears on maps as early as 1917-1918. The site is over 2 million square feet (46 acres) in size and contains a well, structural remains, a cemetery, and concentrations of historic artifacts, many with diagnostic qualities. Archer served as a watering station for steam locomotives along the line and was probably first occupied when the water well was drilled in 1910 (de Kehoe, 2007: 98). When the railroad switched to diesel locomotives in the 1950s, the site was abandoned (de Kehoe, 2007: 96). The small community was comprised primarily of Mexican laborers and their families (de Kehoe, 2007: 96-97). Applied Earthworks, Inc. (1999: Table 1) noted that site CA-SBR-3282H was likely a significant resource; however, the resource was not formally evaluated for its eligibility for listing in the NRHP or CRHR.

CA-SBR-3283H (Chubbuck): This historic-era archaeological site represents the remnants of the early to mid-20th century mining settlement/railroad siding of Chubbuck. Chubbuck was established in the early to mid 1920s as a mining settlement/railroad siding, but is not depicted in available historic maps. The site is over 1.1 miles long and contains numerous structural remains, including the remains of a mill, and extensive concentrations of historic artifacts. Charles Inglis Chubbuck, manufacturer of products used in cement and masonry, purchased a 1600-acre mining claim from Marcus Pluth and Tom Schofield in 1922. The claim contained a white limestone outcrop, perfect for cement manufacture, and was located about one-half mile west of the ATSF Parker Cutoff, facilitating shipment to market. Mr. Chubbuck built the primary crusher at the limestone quarry and kilns adjacent to the railroad tracks. Over 40 buildings were located at Chubbuck, including a company store, school (1932), post office (1938), and residential structures. Occupants were primarily Mexican laborers and their families (Applied Earthworks, Inc.,1999: 43). The mill ceased operation in 1951. Site CA-SBR-3283H was previously recommended eligible for listing in the NRHP by Applied Earthworks, Inc. (1999: 58) under Criteria A and D, for its association with the history of the railroad and early mining in the area. The site is therefore eligible for listing in the CRHR under Criteria 1 and 4.

CA-SBR-10646H (Sablon): This historic-era archaeological site represents the remnants of the early to mid-20th century settlement/railroad siding of Sablon, which appears on maps as early as 1917-1918. The site currently measures 820,395 square feet (18.8 acres) and contains several features, including dense artifact concentrations and structural features. Site CA-SBR-10646H was not evaluated for NRHP or CRHR eligibility at the time of its recordation (Pigniolo et al., 2001).

The five historic settlement sites (CA-SBR-3233H, -3235H, -3282H, -3283H, and -10646H) appear to be eligible for listing in the CRHR under Criteria 1 and 4. While the sites do appear to have been partially pothunted (as evidenced by shallow depressions), they appear to maintain a fair amount of integrity based on surface evidence observed during the course of the survey. Therefore, these five sites contain sufficient archaeological data to yield information significant to the history of the area (CRHR Criterion 4). The settlements of Milligan, Saltmarsh, Archer,

Chubbuck and Sablon are five of a number of settlements that began as small railroad siding or mining camps along the ATSF Parker Cutoff railroad. These settlements sprung up early in the 20th century primarily to support the railroad and local mining, and continued to be used for movement of goods and materials through the area during WWII and the mid 20th century. For this reason, the sites are also recommended eligible for events (CRHR Criterion 1) for their association with themes relating to transportation, mining, and possibly military activity. There is no evidence available at the present time to suggest the sites are eligible for their association with important persons (CRHR Criterion 2) or that the sites or their constituents represent a distinctive type, style, or manufacture technology (CRHR Criterion 3). Furthermore, the sites appear to be inextricably tied to the railroad and consideration of them as contributing elements to an as yet undefined ATSF Parker Cutoff railroad district, related to the themes mentioned, may deserve consideration.

WW-II Military Site

CA-SBR-9858H: This site appears to represent the remnants of an encampment or supply depot associated with WWII-era military training exercises and contains linear rock features and alignments designating roadways and other use areas along with several discrete scatters of refuse. The site also contains an earlier component related to the use of the site during the ATSF Parker Cutoff railroad's construction and/or use. The WWII-era military component of the site was recommended eligible for listing in the NRHP by Applied Earthworks, Inc. (1999: 57-58) in 1999 under Criteria A, C and D. The earlier railroad component was recommended as eligible for listing in the NRHP under Criteria A and D for its association with the history of the railroad. Since the site has been recommended as eligible for the NRHP, it is also considered eligible for the CRHR and should be considered a significant resource under CEQA.

Historic Debris Scatter

CA-SBR-14895H (ESA-C-4): This is a large (approx. 249,000 square foot) historic artifact scatter with three can concentrations, two glass concentrations, four concentrations of burnt bone, three rock cairns, and a general historic scatter of hundreds of cans and glass fragments, many of which contain diagnostic characteristics. The site likely dates to the early and possibly mid 20th century and may be associated with the early use of the railroad. The site does not contain structural remains, nor does it appear to coincide with any mapped historic settlement sites.

The size of the site and density of artifacts present suggests that this site contains sufficient archaeological data to yield information important to the local and regional history (CRHR Criterion 4). Based on surface evidence, it does not however appear to be associated with important events (CRHR Criterion 1) or persons (CRHR Criterion 2), nor does the site or any of the identified surface constituents appear to represent a distinctive type, style, or manufacture technology (CRHR Criterion 3).

Wellfield Portion of the Project Area

Less than 10 percent of the wellfield portion of the Project area has been previously surveyed. Sixteen cultural resources were identified during the records search as being located within or immediately adjacent to the wellfield portion of the Project area (CA-SBR-3243, -3281H, -

6693H, -6694H, -9848, -9853H, -9855H, -11582H, -11583H, -11584H, -11586H, P-36-020149, P-36-060315, P-36-060319, P-36-060922, and P-36-064132). Of these 16 resources, one (CA-SBR-6693H), the historic Atchison, Topeka, & Santa Fe Railroad, is known to have been evaluated and determined eligible for listing in the NRHP by Applied Earthworks, Inc. (1999) and another (CA-SBR-9855H), possibly containing a grave, is believed to be eligible, although sufficient study to determine this was never conducted. No archaeological survey of the wellfield portion of the Project area was conducted as part of this study effort since the precise location of wells pads and access roads were not finalized.. Therefore, the condition of the previously identified eligible resource (CA-SBR-6693H) and the potentially eligible resource (CA-SBR-9855H) have not been confirmed, nor has it been determined the number and types of any other cultural resources that might be present in the wellfield portion of the Project area.

Conclusions and Recommendations

A total of 43 resources were recorded or updated during the survey, two of which are no longer located within the Project area. Of the 41 resources located with the pipeline portion of the Project area, 10 are recommended eligible for listing in the CRHR and should be considered significant resources under CEQA. The remaining 31 resources are recommended not eligible for listing in the CRHR and are therefore not considered significant resources under CEQA.

Three of the eligible resources (CA-SBR-9853H, CA-SBR-11583H, and CA-SBR-10521H) are historic/architectural/engineering resources and are not anticipated to be subject to Project-related impacts that would result in a substantial adverse change in the significance of these resources.

Resource CA-SBR-9853H, the ATSF Railroad, Parker Cutoff, is considered eligible for listing in the CRHR under Criteria 1 and possibly 3. However, the proposed pipeline would be constructed at least 50 feet from the railroad. In some areas the pipeline may need to cross under the railroad; however, this would be accomplished via jack and bore or directional drilling construction methods, which would not impact the resource's eligibility for listing in the CRHR. Therefore, no significant impacts to CA-SBR-9853H as a result of the Project are anticipated.

Resource CA-SBR-11583H, Cadiz-Parker Road, may be associated with the construction of the ATSF Parker Cutoff and the early settlement of the region, and thus is recommended eligible for listing in the CRHR. However, the road would be used only for transportation of materials during Project construction, which would not impact the resource's eligibility for listing in the CRHR. Therefore, no significant impacts to CA-SBR-11583H as a result of the Project are anticipated.

Resource CA-SBR-10521H, the CRA, was recommended eligible for the NRHP and CRHR. The Project would connect the proposed water conveyance pipeline to the CRA's sidewall; however, Project construction would only impact a very small section of the CRA. Considering the length of the resource in relation to the size of the area to be impacted by the Project, an overall change to the resource's character or construction style is not anticipated. The Project is not anticipated to affect the resource's eligibility for listing in the NRHP or CRHR. Therefore, no significant impacts to CA-SBR-10521H as a result of the Project are anticipated.

The remaining seven of the significant historical resources considered eligible for the CRHR are archaeological sites located within the pipeline portion of the Project area (CA-SBR-3233H, CA-SBR-3235H, CA-SBR-3282H, CA-SBR-3283H, CA-SBR-9858H, CA-SBR-10646H, and CA-SBR-14895H [ESA-C-4]**)**. These seven sites may be impacted by the Project. Potential impact mechanisms to significant historical resources can include both surface disturbance by vegetation removal and by the movement of large construction vehicles and equipment, and subsurface disturbance through excavation or grading.

Avoidance is the preferred means of mitigating impacts to cultural resources. While mitigation through data recovery excavations would be a means to capture and preserve important data the resources contain, excavation is an inherently destructive process and would lead to the ultimate destruction of the resources. Thus, an attempt should be made to avoid impacts to these resources before data recovery is considered as a viable means of mitigating impacts. The construction zone should be narrowed or otherwise altered to avoid all significant historical resources where feasible. Significant resources should be marked with exclusion markers to ensure avoidance. A long-term management plan should be prepared for those resources or portions of resources that may be avoided.

However, of the seven significant archaeological resources, all but one (site ESA-C-4) are extensive sites that extend on both sides of the railroad tracks, and thus it may prove difficult to avoid impacts to the resources. If the Project will impact any of the resources that have been recommended eligible, a treatment plan that identifies procedures to reduce impacts to these resources should be developed by a qualified archaeologist and implemented prior to the issuance of Project permits. The treatment plan should include a research design and a scope of work for data recovery of the portion of the significant resources to be impacted by the Project. Treatment for most resources would consist of (but would not be not limited to) sample excavation, surface artifact collection, site documentation, and historical research, with the aim to target the recovery of important scientific data contained in the portion of the significant resource to be impacted by the Project. The treatment plan should include provisions for analysis of data in a regional context, reporting of results within a timely manner, and curation of artifacts and data at an approved facility.

As discussed above, no archaeological survey of the wellfield portion of the Project area was conducted as part of this study effort and therefore the number and types of resources located in this portion of the Project area are presently unknown. Prior to the issuance of Project permits, any areas that were not surveyed as part of this study, including the proposed wellfield and any new areas added to the Project area after the completion of this study, should be surveyed by a qualified archaeologist for the purposes of identifying eligible resources. The survey should identify and evaluate the significance of any potentially eligible resources that may be directly or indirectly impacted by the proposed Project, and should be documented in a Phase 1 Cultural Resources Survey report. Any eligible resources identified in newly surveyed areas should be avoided, where feasible, and appropriate treatment procedures implemented where avoidance is not possible.

Finally, there exists the possibility of uncovering previously unknown buried archaeological resources or human remains during Project construction. The high number of recorded prehistoric and historic-era archaeological sites within and adjacent to the Project indicate a potential for archaeological resources discoveries during Project implementation. In addition, the existence of historic burial sites within the Project area indicates that there is a potential for the discovery of human remains during Project implementation. A possible historic gravesite, documented as resource CA-SBR-9855H, was recorded in the wellfield portion of the Project area, and two historic-era cemeteries have been identified near the pipeline portion of the Project area. The cemetery at the historic railroad settlement of Archer (CA-SBR-3282H), which dates to the early 20th century, is located less than 10 feet outside of the Project area. The cemetery at the historic railroad settlement of Milligan (CA-SBR-3233H) is located less than 100 feet outside of the Project area. Neither of these cemeteries are located within the Project area and neither would be impacted. However, both cemeteries are located very close to the Project area. There remains a possibility that unmarked graves may exist near these cemeteries but outside of their marked boundaries. An exclusion zone of 50 feet outside of the cemeteries at Archer and Milligan should be established in order to minimize any inadvertent discovery of human remains.

Because of the Project area's sensitivity for buried archaeological resources and human remains, an archaeological monitor should monitor all ground-disturbing activities, including brush clearance and grubbing, within 100 feet of all significant historical resources. The monitor would work under the supervision of a qualified archaeologist. The duration and timing of monitoring should be determined by the qualified archaeologist in consultation with the lead agency and be based on the grading plans. In the event that cultural resources are unearthed during ground-disturbing activities, the archaeological monitor should be empowered to halt or redirect ground-disturbing activities away from the vicinity of the find so that the find can be evaluated and appropriate treatment determined. If human remains are uncovered during Project construction, all work in the vicinity of the find will be halted and the County Coroner will be contacted to evaluate the remains, and follow the procedures and protocols set forth in Section 15064.5 (e)(1) of the CEQA Guidelines. If the County Coroner determines that the remains are Native American, the NAHC will be contacted, in accordance with Health and Safety Code Section 7050.5, subdivision (c), and Public Resources Code 5097.98 (as amended by AB 2641). Per Public Resources Code 5097.98, the landowner shall ensure that the immediate vicinity, according to generally accepted cultural or archaeological standards or practices, where the Native American human remains are located, is not damaged or disturbed by further development activity until the landowner has discussed and conferred, as prescribed in this section (PRC 5097.98) with the most likely descendents taking into consideration their recommendations, and developing a treatment plan, taking into account the possibility of multiple human remains.

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Appendix A
Personnel Qualifications

MADELEINE BRAY

Archaeologist

Madeleine Bray is an archaeologist and cultural resources project manager with 10 years of survey, excavation and mapping experience related to historically significant sites. She has managed numerous projects in California in compliance with CEQA and with Section 106 of the National Historic Preservation Act, including Phase I surveys, site significance testing and evaluation, mitigation recommendations, and archaeological construction monitoring. She has worked extensively throughout southern California, with particular experience in the context of the Mojave and California deserts, historic mining sites, and historic artifacts. She is currently involved in several fieldwork efforts in Los Angeles County. Internationally, she has participated in the excavation of a Roman temple in Omrit, Israel, and in the pedestrian and geophysical survey of Sikyon, an important urban site in Greece.

Education

M.A., Archaeology, University of California, Los Angeles

B.A., Classical Archaeology, Macalester College, Saint Paul, Minnesota

Years Experience: 10

Professional Affiliations

Society for American Archaeology

Register of Professional Archaeologists

Qualifications

Meets Secretary of the Interior's Standards

Riverside County certified

CA State BLM Permitted

Certified in CA BLM Protocol

Continuing Education

ACHP Section 106 Basics seminar

Riverside County certification course, 2007 and 2009

Relevant Experience

City of Los Angeles Recreation and Parks Hansen Dam Skate Park Project, Los Angeles County, CA. *Archaeologist.* ESA prepared a joint EA and ISMND for the Los Angeles Department of Recreation and Parks (DRP) in coordination with the U.S. Army Corps of Engineers (Corps) for a proposed skate park facility within the Hansen Dam Recreation Area. Madeleine conducted archival research, facilitated Native American outreach, performed an archaeological survey of the project site, coordinated with the Corps, and co-authored the technical report and EA/ISMND cultural resources section.

CPUC Presidential Substation Project, Ventura County, CA. *Cultural Resources Project Manager.* ESA prepared an EIR under contract to the CPUC to evaluate the potential impacts from Southern California Edison's proposed Presidential Substation project. This project included the construction of a substation and associated subtransmission lines. The project was controversial and faced significant community opposition due to aesthetic and other issues. Madeleine reviewed cultural resources technical documents and assisted in drafting the cultural resources EIR section. Madeleine also coordinated with SCE regarding mitigation for a significant archaeological site within the project area.

Bureau of Land Management On-Call Cultural Resources Services. Riverside County, CA. *Archaeologist.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Madeleine has participated in a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM lands in compliance with Section 106 and specified BLM protocols, including compliance monitoring and peer review, Phase 1 archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation.

Relevant Experience (Continued)

Sweetwater Reservoir Water Main Replacement. San Diego County, CA. ***Cultural Resources Project Manager.*** ESA was retained by Sweetwater Authority to prepare an IS/MND for the replacement of a 36-inch pipeline leading from Sweetwater Dam. Sweetwater Dam is a National Register-eligible structure that was originally constructed in the late 19th century and was subject to upgrades in 1917. Madeleine conducted a Phase 1 Cultural Resources Assessment including archival research, pedestrian, survey, historical research, Native American outreach, and the preparation of a technical report documenting archaeological and historic-architectural resources that might be impacted by the project. The study concluded that features that would be altered by the project that were contributing elements to the historic dam would need to be replaced in kind.

Bureau of Land Management Abandoned Mine Land Archaeological Inventories, San Diego County, Kern County, San Bernardino County, and Riverside County, CA. ***Cultural Resources Project Manager.*** ESA has been retained to provide cultural resources services to the BLM in connection with the Abandoned Mine Lands program. The BLM proposes to conduct remediation of physical safety hazards associated with Abandoned Mine Lands. Remediation would consist of backfilling or closing off mine shafts, adits, and prospects. ESA prepared archaeological inventory reports documenting the abandoned mines, in compliance with Section 106 of the NHPA. Madeleine performed archival and historic research, coordinated with the BLM, led a team of surveyors in the documentation of over 100 mining features, and authored reports summarizing the documentation and providing significance and treatment recommendations.

City of Calabasas Archaeological Resource Mapping, Calabasas, CA ***Cultural Resources Project Manager.*** ESA was awarded an on-call contract by the City of Calabasas to provide environmental compliance services. The City requested that ESA conduct a city-wide archaeological records search and prepare confidential archaeological resources maps and materials to assist the city in planning and permitting endeavors. Maps and documents were linked electronically for quick reference to parcel information. Madeleine conducted a records search to identify and inventory previously recorded sites and provided quality control for the completed maps.

Red Mountain Ridge Wind Project, Kern County, CA ***Cultural Resources Project Manager.*** Madeleine conducted an archaeological constraints study of the project site, including research concerning previous archaeological work in proximity to the project site, nearby archaeological sites, and Native American sacred lands. ESA conducted a 30-45 day fatal flaw analysis for biological, cultural, and paleontological resources on the proposed 7.5 square-mile Red Mountain Ridge Project, which included approximately 8 miles of transmission line.

Relevant Experience (Continued)

Bureau of Land Management Santa Rosa National Monument Archaeological Survey, Riverside County, CA. *Archaeologist.* Madeleine assisted in conducting pedestrian archaeological studies of the 394-acre project area and in the documentation of seven new archaeological sites. ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction.

Bureau of Land Management Field Verification Studies, Blythe, Riverside County, CA. *Archaeologist.* ESA is providing support services to the BLM for the processing of applications for solar development on BLM lands. Madeleine led several projects that provided field verification, on behalf of the Bureau of Land Management, of Class III archaeological surveys.

Sacramento County Airport Systems Archaeological Monitoring, Sacramento, CA. *Archaeological Monitor*. ESA is providing on-call natural resources support and consulting services for the Sacramento County Airport System. Madeleine served as an archaeological monitor for the Sacramento County Airport Systems prior to routine disking at the Sacramento International Airport. Tasks included monitoring of disking activities and survey of the project area concurrent with or immediately following disking, documentation of the project including a daily monitoring log and photographs, analysis of cultural materials found during the course of construction, and the preparation of a final monitoring report.

Irvine Ranch Water District Baker Treatment Plant, Orange County, CA. Technical Analyst. *Cultural Resources Project Manager.* ESA was retained by the Irvine Ranch Water District (IRWD) to prepare an EIR for IRWD's Baker Treatment Plant near Lake Forest, Orange County. Madeleine conducted archaeological studies of the project site, including archival research and field survey, and prepared cultural resources technical reports and the cultural resources section of the EIR.

EMWD Gravity Sewer Project, Murrieta, Riverside County, CA. *Cultural Resources Project Manager*. Madeleine conducted archaeological studies of the project site, including archival research and field survey, and prepared a cultural resources technical report and cultural resources section of the ISMND. ESA prepared a Mitigated Negative Declaration for the installation of a sewer system in Murrieta, Riverside County.

Fast and Furious 5 Project, Rice and Vidal, Riverside and San Bernardino Counties, CA. *Archaeologist.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Madeleine assisted in the preparation of cultural resources technical studies for the Fast and Furious 5 project. ESA prepared a Phase 1 archaeological resources study, biological survey, and Environmental Assessment for a project area on

Relevant Experience (Continued)

BLM lands for which the BLM may grant a Special Use Film permit. Madeleine conducted archival research and assisted in the preparation of a Phase 1 Archaeological Resources Survey Report.

LAUSD Central Los Angeles High School #9, *Los Angeles, CA. Report contributor.* This project involved the construction of LAUSD Central High School #9, a new performing arts high school, in downtown Los Angeles. Over a 2-year period, data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery in downtown Los Angeles was conducted. Madeleine assisted in drafting portions of the final report for the archaeological excavation.

Metropolitan Airpark Project, San Diego, CA. *Cultural Resources Project Manager.* ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned Development Permit Project. Madeleine managed the preparation of cultural resources technical studies for the Metropolitan Airpark project, including archival research and field surveys, and is managing the preparation of a Phase 1 Archaeological Resources Survey Report that addresses the significance of known sites and provides an impacts analysis and mitigation measures.

Antelope Valley Water Bank Recharge and Recovery Facility Improvement Project, Antelope Valley, CA. *Archaeologist*. ESA was retained by GEI Consultants, Inc. to conduct a Phase 1 Archaeological resources Assessment in connection with a groundwater banking project designed to provide up to 500,000 acre-feet of total surface water storage capacity underground in a partially depleted aquifer. The project is being carried out by the Antelope Valley East Kern Water Agency with the assistance of a Challenge Grant from the Bureau of Reclamation. Madeleine assisted in the preparation of archaeological technical studies for the Antelope Valley Water Bank project. Tasks included archival research, archaeological field survey, the preparation of Department of Parks and Recreation forms, and the preparation of a Section 106-compliant Phase I archaeological study.

The Cove Cultural Landscape Restoration, San Jacinto, Riverside County, CA. *Archaeological Monitor.* Madeleine periodically served as an archaeological construction monitor for The Cove Cultural Landscape Restoration Project. Tasks included ensuring compliance with project mitigation measures and relevant regulations, documentation of the project including a daily monitoring log and photographs, and analysis of cultural materials found during the course of construction.

Relevant Experience (Continued)

Department of Water Resources, East Branch Enlargement EIR. Antelope Valley, CA. ***Cultural Resources Project Manager.*** Madeleine coordinated the preparation of cultural resources technical studies for the EBE project, which will involve the enlargement of 100 miles of the California Aqueduct from the Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. Madeleine analyzed and summarized records search results, which resulted in identification of 130 cultural resources near the project area. She drafted a survey strategy for DWR approval, coordinated with DWR, and completed archaeological field survey of the 98-mile project area. She preparing the draft survey report and completed site records for the more than 100 cultural resources identified during survey. The Project is being carried out in compliance with CEQA and Section 106 of the NHPA. Impacts and mitigation measures will be addressed in the Cultural Resources section of the Project EIR. ESA has conducted technical studies to complete the EIR and has begun negotiating permit requirements and restoration planning with resource agencies including the USACE, RWQCB, and USFWS.

CPUC San Joaquin Cross Valley Loop Project, Tulare County, CA. ***Technical Analyst.*** Madeleine reviewed cultural resources technical documents and assisted in drafting the cultural resources EIR section for the CPUC San Joaquin Cross Valley Loop Project. ESA was selected by the CPUC to prepare an EIR for SCE's proposed San Joaquin Cross Valley Loop Project in Tulare County. The proposed project would involve construction of approximately 20 miles of 220 kV transmission line in mostly new right-of-way through agricultural and rural residential areas. SCE's proposed route was very unpopular with many local residents, so ESA implemented a rigorous public outreach program to engage the stakeholders in meaningful dialogue. Key technical issues which ESA addressed in the CEQA process included biological and cultural resources, aesthetics, land use and agriculture, and air quality and greenhouse gases.

Nacimiento Water Project Environmental Services, San Luis Obispo, CA. ***Technical Analyst/Archaeological Monitor*****.** Madeleine reviewed existing technical documents produced by sub-contracted specialists, particularly those pertaining to the evaluation and assessment of cultural resources and potential project impact on such resources. She also performed 8 weeks of cultural resources construction monitoring during the construction of the NWP, and assisted with as-needed archaeological pre-construction surveys and data recovery excavations. The project modifications include pipeline realignments, new turnouts, pump stations and reservoirs, and new water customers. The project consists of 45 miles of pipe, 3 storage tank sites, 3 pump stations, and an intake tower at Nacimiento Dam. ESA developed permit strategies, support district negotiations with regulatory agencies, prepared necessary biological and cultural assessments, assisted with mitigation planning, and developed a master mitigation and permit database.

Relevant Experience (Continued)

Department of Water Resources East Branch Extension Project. San Bernardino County, CA. *Archaeologist.* Madeleine assisted in the technical editorial review of the Cultural Resources section for the East Branch Extension (EBXII) EIR. She reviewed archaeological technical reports; helped revise the cultural EIR section; researched and assisted in the preparation of a historic evaluation of Grand Central Rocket Company facilities, and completed extended Phase I cultural resources surveys. She also assisted in the preparation of a cultural resources evaluation report. ESA prepared an EIR assessing potential impacts of the East Branch Extension Phase II Project, which will install 6 miles of pipeline across the Santa Ana River near Redlands. The new pipeline will increase water delivery capacity to the San Gorgonio Pass Water Agency serving the cities of Banning and Beaumont. The project includes construction of the Citrus Reservoir, a 26-acre lined storage reservoir that will require excavation and hauling off site of 1.8 million cubic yards of material over a three year construction period. ESA has managed biological surveys of the project corridor and is assisting in agency consultation required for natural resource permitting with the USFWS, CDFG, RWQCB, and the USACE.

Canyon Hills Cultural Resources Assessment. Lake Elsinore, CA. *Archaeologist.* ESA was retained by Pardee Homes to prepare a cultural resources assessment for Phases 7 & 8 of the Canyon Hills Specific plan. ESA conducted a Phase 1 and Phase II Archaeological Resources Investigation, identifying resources that might be impacted by the project. Monica directed the Phase II Testing Program to determine California Register and National Register eligibility of a recorded prehistoric archaeological site. Madeleine conducted archival research and managed the Phase I archaeological field survey and report. She assisted in conducting the Phase II archaeological evaluation.

West Kern Water District Groundwater Recharge Project EIR. Kern County, CA. *Cultural Resources Project Manager.* Madeleine managed the preparation of cultural resources technical studies for the West Kern Water District project. ESA is preparing a Phase 1 archaeological resources study of a 500-acre Project area proposed for groundwater recharge basins and a 9-mile pipeline in Kern County. The Project is being carried out in compliance with CEQA and Section 106 of the NHPA. The survey resulted in the identification of over 20 archaeological sites. Madeleine conducted archival research and field surveys and managed the preparation of a Phase 1 Archaeological Resources Survey Report and Cultural Resources EIR Section that addressed the significance of known sites and provided an impacts analysis and mitigation measures.

Joshua Basin Water District Recharge Basin and Pipeline Project. Joshua Tree, San Bernardino County, CA. *Cultural Resources Project Manager.* ESA was retained by the Joshua Basin Water District to prepare and EIR for the JBWD Recharge Basin and Pipeline Project, located in Joshua Tree. The project would involve the construction of a recharge basin and six-mile pipeline. Madeleine conducted an archaeological field survey at the project site, wrote the

Relevant Experience (Continued)

technical report summarizing the survey findings, and prepared the cultural resources section for the EIR. Madeleine prepared and submitted Department of Parks and Recreation forms for the 10 cultural resources found during the survey. In addition, Madeleine conducted a record search for previous archaeological work in proximity to the project site, including nearby Native American sacred lands and paleontological sensitivity. Finally, she prepared an updated Section 106-compliant Phase I archaeological study that was submitted to the EPA as part of an application for EPA funding.

City of Ventura Water and Sewer Main Replacement Project, Ventura County, CA. ***Cultural Resources Project Manager and Archaeological Monitor*****.** ESA provided on-call cultural resources monitoring services to the City of Ventura. The Water and Sewer Main Replacement Project involved the replacement of deteriorated water and sewer mains along city streets. Madeleine served as project manager and archaeological monitor for the project. Tasks included ensuring compliance with project mitigation measures and relevant regulations, documentation of the project including a daily monitoring log and photographs, and analysis of cultural materials found during the course of construction.

Morro Bay Cayucos Wastewater Treatment Plant Upgrade. Morro Bay, CA. ***Cultural Resources Project Manager.*** ESA was retained by the Morro Bay-Cayucos Sanitary District to produce and EIR for the Morro Bay-Cayucos Wastewater Treatment Plant (WWTP) Upgrade Project. Madeleine conducted archaeological studies of the project site, including research concerning previous archaeological work in proximity to the project site, nearby Native American sacred lands, and paleontological sensitivity. She prepared the cultural resources section of the EIR. The project would upgrade the WWTP to tertiary treatment and enable it to discharge an average of 1.5 mgd of tertiary-treated effluent to the ocean. ESA is working with the City of Morro Bay and Cayucos Sanitary District to meet the 8-Year Full Secondary Compliance Schedule for the WWTP.

City of Coachella General Plan EIR. Coachella, CA. ***Technical Analyst.*** ESA prepared an EIR for the City of Coachella General Plan, which will update allowable land uses and policies to guide the city thorough 30 years of growth. Madeleine prepared the cultural resources portion of the Existing Conditions Report for the City of Coachella General Plan EIR. She conducted research concerning the history of Coachella and the 195 known archaeological and historical sites within the 16 square miles that constitute the City of Coachella. The City of Coachella is a small but developing city, which includes extensive residential and commercial development, as well as agricultural and vacant land.

Special Needs Ball Field IS/MND and EA/FONSI. Los Angeles, CA. ***Cultural Resources Project Manager.*** ESA prepared a joint EA/FONSI and IS/MND and for the U.S. Army Corps of Engineers (Corps) and Los Angeles Department of Recreation and Parks (DRP), in partnership with the Los Angeles

Relevant Experience (Continued)

Dodgers Dream Foundation, for a proposed wheelchair accessible softball field within the Sepulveda Basin Recreation Area, Anthony C. Beilenson Park, Los Angeles, California. The proposed action would include a 50-foot softball field with backstop, dugouts, and field fencing. The field will take advantage of the existing universally accessible restroom and parking lot with ADA access. Madeleine conducted research concerning previous archaeological work in proximity to the project site, nearby archaeological sites and Native American sacred lands, and paleontological sensitivity. She also helped facilitate consultation with the State Historic Preservation Officer on behalf of the Army Corps of Engineers, as required by Section 106 of the National Historic Preservation Act. Finally, she prepared the cultural resources section of the ISMND.

Las Virgenes MWD Backbone Improvement Project, Calabasas, CA. ***Cultural Resources Project Manager*.** ESA prepared a Mitigated Negative Declaration for the Las Virgenes Municipal Water District's Backbone Improvement Project. Madeleine conducted archaeological studies of the project site, including research concerning previous archaeological work in proximity to the project site, nearby archaeological sites, and Native American sacred lands.

Caruso-Burton Way Mixed-Use MND, Los Angeles, CA. ***Cultural Resources Project Manager***. ESA prepared a Mitigated Negative Declaration for a mixed use project in west Los Angeles for a confidential client. Madeleine conducted archaeological studies of the project site and prepared a cultural resources technical report. In addition, she conducted research concerning previous archaeological work in proximity to the project site, nearby Native American sacred lands, and paleontological sensitivity. She prepared the cultural resources section of the environmental document.

LAUSD South Region High School No. 9. Los Angeles, CA. ***Technical Analyst.*** ESA prepared an environmental impact report for the Central Los Angeles High School No. 9 project. LAUSD proposed to construct a new high school in the Belmont Planning Area to help relieve crowding at Belmont High School. Madeleine conducted archaeological studies of the project site and prepared the cultural resources section of the Initial Study.

Gunner Ranch West Program EIR. Madera, CA. ***Technical Analyst***. ESA is preparing a Program EIR for the Gunner Ranch West project, a mixed-use development consisting of a regional shopping mall and power center, as well as residential, office and public facilities. Madeleine conducted archaeological studies of the project site, including research concerning previous archaeological work in proximity to the project site, nearby archaeological sites, and Native American sacred lands and prepared the cultural resources section of the EIR. Environmental documentation was previously prepared for the Gunner Ranch West Area Plan, which was certified by the Madera County Board of Supervisors in 1994. The only facility constructed on the site is the Children's Hospital of Central California. Subsequent to this approval, the proposed land

Relevant Experience (Continued)

uses in the Area Plan have been further refined with the preparation of a Infrastructure Master Plan and Development Agreement.

Sorensen County Park Phase III Constraints Analysis Cultural Monitoring. Los Angeles County, CA. *Archaeological monitor*. The County of Los Angeles Department of Recreation and Parks plans to further expand the Stephen Sorensen County Park in the unincorporated Lake Los Angeles area of northern Los Angeles County. ESA performed a constraints analysis to evaluate future development of the 100-acre site. ESA also prepared an EIR/EA for the project. Finally, ESA provided archaeological and biological monitoring of project construction. Madeleine provided technical review of numerous cultural resources technical documents, and provided archaeological monitoring of project construction.

Costello Pool and Bathhouse Replacement Project. Los Angeles, CA. ***Technical Analyst*** ESA prepared an Environmental Impact Report (EIR) for the City of Los Angeles Department of Recreation and Parks Lou Costello Recreational Center. The City of proposed to replace the existing pool and bathhouse at the Costello Recreation Center, located on East Olympic Boulevard in East Los Angeles. The pool and bathhouse facilities are considered historically significant, and ESA has work closely with the City to develop alternatives that would preserve such resources. Madeleine conducted review of technical documents and prepared the cultural resources section of the Initial Study.

TESLA Motors Model S Manufacturing Facility. Vacaville, CA. *Technical Analyst* . ESA was retained by TESLA Motors to provide permitting assistance, site evaluation support and environmental studies/ documentation to identify and entitle a development site for a zero emissions automobile manufacturing facility in the Vacaville and San Jose areas. The project included permitting assistance and the preparation of environmental technical studies. Madeleine performed cultural resources research and assisted in extended Phase 1 archaeological testing. The purpose of the extended Phase 1 archaeological testing was to delineate the boundaries of a previously known archaeological site in order to determine appropriate mitigation measures for the site.

The Preserve at San Juan EIR. Santa Ana, CA. *Technical Analyst* Madeleine assisted in CEQA analysis and documentation for The Preserve at San Juan EIR. The proposed project consisted of approximately 600-acres of undeveloped land that would be developed into 150 to 200 single-family residential lots. The project site is located along Ortega Highway in unincorporated Orange County, with a portion located in Riverside County. Due to the project's location adjacent to the Cleveland National Forest, analysis of cultural resources is an important aspect of this development project.

Department of Water Resources, Crafton Hills Reservoir Enlargement SEIR, Yucaipa, CA. *Technical Analyst.* Madeleine performed the technical

Relevant Experience (Continued)

editorial review of the archaeological survey report for the Crafton Hills Reservoir Enlargement SEIR. ESA prepared a Supplemental EIR for the Crafton Hill Reservoir Enlargement Project. The existing Crafton Hills Reservoir lies in the easterly edge of the Crafton Hills Open Space Area, within the City of Yucaipa, in southern San Bernardino County, California. The project would enlarge the reservoir to increase the capacity from 85 acre-feet (af) to 225 af. The reservoir enlargement would not change the conveyance capacity of the East Branch of the California Aqueduct. Rather, the project would provide greater operational flexibility, allowing DWR to fill the reservoir during off-peak energy demand periods and thus reduce energy demand during peak hours. The project also includes a connector pipeline between the East Branch Extension pipeline and the Yucaipa Pipeline.

Riverside Water Quality Control Plant Expansion Plan EIR, City of Riverside, CA. ***Technical Analyst.*** Madeleine conducted archaeological studies of the project site and prepared the cultural resources section of the EIR. The City of Riverside's Regional Water Quality Control Plant (RWQCP) has prepared a facilities plan that would increase the capacity of the plant by approximately 10 mgd. The upgrade would include three main components: the Plant 1 Primary Expansion, the Plant 1 Membrane Bioreactor (MBR) Facilities, and the Acid Phase Digester. Key issues in the CEQA analysis include consistency with the recently updated City General Plan, construction impacts, local land uses including the municipal airport, growth inducement, and discharge water quality.

Murrieta Historic Resources Evaluation. Unincorporated Riverside County, CA. ***Technical Analyst.*** Madeleine performed archival historical research in order to establish the historical significance of a property in Murrieta, California. ESA prepared a historic resources evaluation for a structure on property owned by the Riverside County Facilities Management Department, in order to determine whether, 1) the property would meet the federal, state, or local significance criteria and therefore would be considered a historic resource for CEQA purposes, and 2), the proposed demolition of the property would have a significant adverse impact on the historic significance of the property.

CPUC Devers-Mirage Project. Palm Springs, CA. ***Technical Analyst***
Madeleine reviewed cultural resources technical documents and assisted in drafting the cultural resources EIR section for the CPUC Devers-Mirage Project. ESA prepared an EIR under contract to the CPUC to evaluate the potential impacts from Southern California Edison's proposed Devers-Mirage 115 kV System Split project. This project includes approximately 12-miles of new and upgraded 115 kV transmission line segments, a new loop-in for a 220 kV transmission line to the Mirage Substation, and upgrades at several other substations in the area. A short segment of the transmission line would cross Bureau of Land Management land, requiring coordination with a NEPA analysis.

Relevant Experience (Continued)

Westside Cherry Valley Golf Club Mitigation and Monitoring Compliance. Tuolumne, CA. ***Technical Analyst*** Madeleine reviewed technical documents and assisted in drafting a Historic Properties Treatment Plan and a Memorandum of Agreement between the Tuolumne Band of Me-Wuk Indians, the Army Corps of Engineers, and the State Historic Preservation Officer. ESA is providing mitigation and monitoring compliance for the proposed construction of the Westside Cherry Valley Golf Club (championship level golf course) and assisting with mitigating impacts to cultural resources located in the project area.

El Granada Phase III Transmission Pipeline Replacement Project, San Mateo County, CA. ***Archaeological Monitor*****.** Madeleine served as an archaeological monitor for the El Granada project. Tasks included ensuring compliance with project mitigation measures and relevant regulations, documentation of the project including a daily monitoring log and photographs, and analysis of cultural materials found during the course of construction.

Europa Village EIR, Regulatory Permitting and Planning Support. Unincorporated Riverside County, CA. ***Archaeologist.*** Madeleine conducted an archaeological field survey at the project site and assisted with the preparation of the technical report. In addition, Madeleine conducted a record search for previous archaeological work in proximity to the project site, including nearby Native American sacred lands and paleontological sensitivity. Lastly, she assisted with the preparation of the cultural resources section for the EIR. ESA prepared an EIR and provide planning support for the 40-acre Europa Village Project, including 3 wineries, a 65-unit spa hotel and vineyards, located in unincorporated Riverside County, east of the City of Temecula. Regulatory compliance permitting including USACE Section 404, RWQCB NPDES 401 certification permitting and CDFDG 1602 SAA.

Fresh & Easy Riverside Facility. Riverside County, CA. ***Technical Analyst.*** Madeleine reviewed technical documents, performed updated archival research, and wrote the cultural resources section for the Fresh & Easy Riverside Facility EIR. ESA is providing technical support for Phase I and is also preparing the EIR for Phase II of the Riverside facility. Environmental issues include traffic, air quality/ greenhouse gas emissions, water quality/hydrology, hazards/hazardous materials, noise, and utilities and service systems.

West Covina Corporate Center/BKK Landfill EIR, West Covina, CA. ***Technical Analyst.*** Madeleine assisted with the research and preparation of the cultural resources section of the EIR. The City of West Covina and BKK has asked ESA to prepare a Supplemental EIR that would consider the effects of changing a portion of the anticipated land uses at a BKK development site (and former landfill) from a home improvement superstore to a corporate office complex.

Relevant Experience (Continued)

BKK Landfill Gas Station, West Covina, CA. ***Technical Analyst.*** The City of West ESA prepared a Mitigated Negative Declaration for the BKK Gas Station Project. The project involved the development of a gas station and food mart at the edge of the former BKK landfill. Madeleine conducted archival research, facilitated Native American outreach, performed an archaeological survey of the project site, and wrote the technical report and MND cultural resources section.

Additional Experience

Cotsen Institute of Archaeology, University of California, Los Angeles. ***Publications Assistant***. Madeleine assisted in editing manuscripts for publication, maintained databases and inventory of published material, and processed orders and assisted customers.

Kenchreai Cemetery Project, Kenchreai, Greece. ***Crew Member***. Madeleine assisted the survey a Roman-era cemetery near Corinth, Greece. The site consisted of 55+ tombs which she helped survey, map, photograph, and create scale drawings. Additionally, she inventoried and documented ceramic artifacts.

Macalester College Excavations, Omrit, Israel. ***Crew Member and Registrar***. Madeleine participated in two sessions of the excavation of a Roman temple in Northern Israel. She helped excavate three separate trenches, and collaborated with excavation leaders to map, organize, document, inventory, and create a database of artifacts and architectural fragments.

Pioneer Memorial Cemetery Geophysical Survey, Sylmar, California. ***Crew Member***. Madeleine surveyed a 19th and 20th century A.D. historical site using magnetic & electromagnetic methods, resistivity, and Ground Penetrating Radar. She analyzed the results of the surveys and prepared a report on her findings.

Science Museum of Minnesota, Saint Paul, Minnesota. ***Archaeology Intern*****.** As part of an independent project, Madeleine assisted the Science Museum of Minnesota in researching and cataloguing a small collection of Greek and Roman ceramic lamps that had never been identified by place or period of origin. Ultimately, Madeleine created a catalog of the lamps and prepared the data for entry into the museum's database for record and eventual publication.

Sikyon Survey Project, Sikyon, Greece. ***Crew Member***. Madeleine participated in a collaborative, multi-national geophysical survey of a large Greek and Roman period urban site as part of a multidisciplinary study. She conducted a both geophysical and pedestrian archeological surveys of the site using a Geoscan FM36 Fluxgate gradiometer. Madeleine was also responsible for sorting, documenting, and cataloguing ceramic artifacts which she analyzed to help create a ceramic typology for the site.

Relevant Experience (Continued)

Statistical Research, Inc., Playa Vista, CA. ***Field and Laboratory Technician*****.** Madeleine assisted an ongoing field curation project at the proposed construction site of an office complex in Playa Vista. Madeleine documented trenches through scale drawings and photographs of the project site. She also assisted in cataloguing of sorted materials and artifacts for future curation.

University of California, Los Angeles. ***Research Assistant.*** Assisted Professor Richard Lesure in digitizing archaeological drawings for publication. Used Abode Illustrator to trace and refine hand drawn site illustrations.

University of California, Los Angeles. ***Teaching Assistant.*** Madeleine worked as a teaching assistant for three Classics courses. She taught two 50-student sections per course, graded papers, and administered exams.

Public Outreach and Education

2006. Guest lecturer at Daniel Webster Middle School regarding career opportunities in archaeology, Los Angeles, CA.

2005. Guest lecturer at Foshay Learning Center regarding the field of archaeology, Los Angeles, California.

2005-2006. Co-president, Graduate Student Association of Archaeology at the Cotsen Institute of Archaeology, University of California, Los Angeles. Organized weekly lectures on archaeological topics for Cotsen Institute affiliates and the general public.

CANDACE R. EHRINGER, RPA

Senior Associate I

Candace Ehringer is an archaeologist with over 12 years of experience in cultural resources management in California. Her strengths include managing field surveys, archaeological monitoring, lab analysis, and coordination with Native American representatives. Candace has experience with archaeological sites in both California's desert and coastal environments, and has worked in Los Angeles, Orange, Riverside, San Bernardino, San Diego, Kern, Inyo, Alameda, Sacramento, Stanislaus, and Ventura counties. She authors and provides senior level review of documentation in support of CEQA, NEPA, and Section 106 compliance. In addition to her knowledge of prehistoric site contexts, Candace has developed extensive expertise with identification and classification of all types of historic materials, including ceramics, glass bottles, garment-related items, and coffin hardware.

Education

M.A. Anthropology,
California State University

B.A. Anthropology,
East Carolina University

Years Experience – 12

Professional Affiliations

Register of Professional Archaeologists

Society for California Archaeology

Society for Historical Archaeology

Qualifications

Meets Secretary of Interior Standards

CA State BLM Permitted

Certified in CA and NV BLM Protocol

Relevant Experience

Bureau of Land Management (BLM) Santa Rosa & San Jacinto Mountains National Monument. Riverside County, CA. *Field Director*. The BLM Palm Springs-South Coast Field Office contracted with ESA to conduct a Class III survey of 394 acres in the northeastern extent of the Santa Rosa and San Jacinto Mountains National Monument. The survey resulted in the identification of seven new prehistoric and historic archaeological resources. Candace served as the field director and authored the technical report.

BLM Dos Palmas Preserve Tamarisk Eradication. Riverside County, CA. *Field Director*. The BLM Palm Springs-South Coast Field Office is removing tamarisk (*Tamarix* spp.) on public lands within the Dos Palmas Preserve Area of Critical Environmental Concern that continue to infest affected public lands and deteriorate the watershed. Since this project is being funded by a federal American Recovery and Reinvestment Act grant, the National Environmental Protection Act process requires that a project take into consideration its effect on cultural resources that may be present within the area of impact. ESA conducted a survey of two parcels, resulting in the recordation of several prehistoric and historic resources. ESA provided monitoring services for the tamarisk removal process. Candace assisted with management of the archaeological survey and monitoring.

BLM Genesis Solar Project Support Services. Riverside County, CA. *Principal Investigator.* Candace is managing the cultural resources oversight fieldwork for the BLM for the Genesis Solar Project. This concentrated solar electric generating facility located in Riverside County, California and would consist of two independent solar electric generating facilities with a nominal net electrical output of 125 megawatts (MW) each, for a total net electrical output of 250 MW. The project site is located approximately 25 miles west of the city of Blythe, California, on lands managed by the BLM.

Relevant Experience (Continued)

BLM Solar Millennium Palen Project Support Services. Riverside County, CA. ***Principal Investigator.*** Candace served as principal investigator and report co-author for the cultural resources field verification efforts for the BLM Palen Project. This project would be a concentrated solar thermal electric generating facility with two adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each for a total capacity of 500 MW. It would also utilize solar parabolic trough technology to generate electricity. The project site is located approximately 10 miles east of Desert Center, along Interstate 10 approximately halfway between the cities of Indio and Blythe, in Riverside County, California.

BLM Solar Millennium Blythe Project Support Services. Riverside County, CA. ***Principal Investigator.*** Candace served as principal investigator and report co-author for the cultural resources field verification efforts for the BLM for the Blythe Project. This project would be a concentrated solar thermal electric generating facility with two adjacent, independent, and identical solar plants of 250 megawatt (MW) nominal capacity each for a total capacity of 500 MW nominal. It would utilize solar parabolic trough technology to generate electricity. The project site is located approximately two miles north of Interstate-10 and eight miles west of the City of Blythe in an unincorporated area of Riverside County, California.

Helix Water District (HWD)-El Monte Valley, San Diego County, CA. ***Cultural Resources Project Manager***. ESA is providing professional Environmental Consulting services in support of the HWD's El Monte Mining, Reclamation, and Groundwater Recharge Project. The project includes mining of approximately 10 million tons of aggregate from the El Monte Valley in San Diego County. The project will augment HWD's water supply by up to 4,000 acre-feet per year and support new riparian habitats along the San Diego river. Candace's duties involve managing the project including survey, Native American coordination, historical research, and the preparation of a CEQA and Section 106 compliant technical report. The project approach will be in conformance with the County of San Diego, Guidelines for Determining Significance.

Sacramento County Airport System On-Call Natural Resources Advisory & Consulting Services. Sacramento County, CA. ***Field Archaeologist.*** ESA is providing on-call natural resources support and consulting services for the Sacramento County Airport System. Candace served as an archaeological monitor/surveyor during field disking.

San Juan Water District (SJWD) Solar Array. Sacramento County, CA. ***Field Archaeologist.*** ESA provided environmental compliance services and prepared the IS/MND for a 3.5-acre solar (photovoltaic) array that will be used to power the SJWD water treatment plant, shop, and two pump stations. Candace conducted an archaeological resources survey of the 3.5-acre project area.

Relevant Experience (Continued)

West Stanislaus Fish Screen Feasibility Study. Stanislaus County, CA. *Field Archaeologist.* The West Stanislaus Irrigation District (WSID) wants to perform a feasibility study to determine if the current diversion form the San Joaquin River can be screened. The project will be funded in part by the U.S. Bureau of Reclamation - Central Valley Project Improvement Act, CDBA (Calfed) and California Department of Fish and Game. Candace conducted an archaeological resources survey and provided recommendations regarding resource avoidance.

Metropolitan Air Park. San Diego County, CA. *Archaeological Surveyor*. ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned Development Permit Project. Candace conducted survey of the project area in conformance with City of San Diego Historical Resources Guidelines to identify evidence of archaeological materials in support of the cultural resources technical report in compliance with CEQA and Section 106.

California Department of Water Resources (DWR) East Branch Extension Phase II. San Bernardino County, CA. *Report Author*. ESA is preparing an EIR assessing potential impacts of the East Branch Extension Phase II Project, which will install 6 miles of pipeline across the Santa Ana River near Redlands. The new pipeline will increase water delivery capacity to the San Gorgonio Pass Water Agency serving the cities of Banning and Beaumont. The project includes construction of the Citrus Reservoir, a 26-acre lined storage reservoir that will require excavation and hauling off site of 1.8 million cubic yards of material over a three year construction period. Candace authored a cultural resources technical report in support of CEQA and Section 106 compliance, providing DWR with eligibility recommendations for identified cultural resources.

SFPUC Seismic Upgrade of Bay Division Pipeline No. 3 & 4. Alameda County, CA. *Technical Analyst.* The proposed project will replace the existing BDPL No. 3 with a new parallel pipeline across the main trace and two secondary traces of the Hayward Fault, Interstate 680, and Mission Boulevard in Fremont. The BDPL No. 4 is adjacent to the BDPL No. 3 and will undergo minor seismic upgrades. The goal of the proposed project is to improve the seismic and hydraulic reliability of SFPUC's water supply transmission system serving the San Francisco Peninsula area. The improvements would result in an unavoidable adverse impact to National Register-eligible site CA-ALA-576. Candace authored an Archaeological Research Design and Treatment Plan/Historic Property Treatment Plan designed to mitigate anticipated project-related effects to site CA-ALA-576.

Relevant Experience (Continued)

Antelope Valley Water Bank Initial Recharge and Recovery Facility Improvement Project Archaeological Survey. Kern County, CA. *Field Director*. Candace led the archaeological survey and authored the subsequent technical report in fulfillment of CEQA and Section 106 requirements. The Antelope Valley Water Bank is a groundwater banking project designed to provide up to 500,000 acre-feet of total surface water storage capacity underground in a partially depleted aquifer. The Antelope Valley Water Bank Project contributes to accomplishing the goals of making more water available through recharge and recovery to meet existing and future water requirements during periods when water supplies fall short. The project is being carried out by the Antelope Valley East Kern Water Agency with the assistance of a Challenge Grant from the Bureau of Reclamation.

Port of Los Angeles Marine Oil Terminal Engineering Maintenance Standards (MOTEMS) Project Historic Resources Evaluation. Los Angeles County, CA. *Technical Analyst.* As part of ESA's on-call environmental services contract with the Port of Los Angeles, Candace provided historic research in support of the evaluation of approximately 16 timber wharves. The wharves date to circa 1925 and would be subject to alterations, including new piling, decking, and fendering systems, in order to accommodate greater shipping loads, as well as seismic and life/safety improvements. Two sets of timber wharves at Berths 150-151 and 163-164 were identified as eligible for listing in the National Register and California Register as contributors to two marine oil terminal districts.

BLM Abandoned Mine Lands Cultural Resources Evaluation: Spangler, Rademacher Hills, and Randsburg South Locales, San Bernardino and Kern counties. *Field Archaeologist.* The BLM proposes to conduct remediation of physical safety hazards associated with Abandoned Mine Lands (AML). Remediation would consist of backfilling or closing off mine shafts, adits, and prospects. These remediation measures would ensure public safety on BLM lands by preventing public exposure to the dangers associated with abandoned mine features. Candace served as an archaeological surveyor for this project.

Irvine Ranch Water District (IRWD) Tustin Wells Project MND/EA. Orange County, CA. *Technical Analyst.* Candace conducted a Phase I cultural resources study for the Tustin Wells Project. She led the cultural resources survey and authored a technical report in support of a MND/EA. The lead federal agency was the Bureau of Reclamation.

West Kern Water District Groundwater Recharge Project EIR. Kern County, CA. *Technical Analyst.* Candace co-authored the technical report for the Phase 1 archaeological resources survey of a 500-acre Project area proposed for groundwater recharge basins and a 9-mile pipeline in Kern County. The project is being carried out in compliance with CEQA and Section 106 of the NHPA. The survey resulted in the identification of over 20 archaeological sites.

Relevant Experience (Continued)

Canyon Hill Cultural Resource Assessment. Lake Elsinore, Riverside County, CA. *Field Director.* Candace assisted in the creation of a research design for archaeological testing at site CA-RIV-1021 and served as field director during testing. As a report-co-author, she assisted with determining the significance of the site under CEQA and Section 106 of the NHPA.

Olivas Adobe Monitoring. Ventura County, CA. *Technical Analyst.* The City of Ventura contracted with ESA to provide archaeological monitoring during improvements to the historic Olivas Adobe. Olivas Adobe, constructed in 1847, is currently a City museum. Candace monitored improvements to the small adobe located in the courtyard.

DWR, East Branch Enlargement (EBE) EIR. Antelope Valley, Kern County, CA. *Technical Analyst.* Candace served as a research assistant for a Phase 1 archaeological resources survey report for the EBE project. The project consists of the enlargement of 100 miles of the California Aqueduct from the Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. Cultural resources studies are being carried out in compliance with CEQA and Section 106 of the NHPA. A total of 99 cultural resources were identified as a result of the survey.

San Juan Capistrano Recycled Water Pipeline Mainline. San Juan Capistrano, Orange County, CA. *Technical Analyst.* Candace compiled information regarding two archaeological sites located within the project area. The information was used to assist project planners design a pipeline route that would avoid impacts to the sites.

Extension of Historic Streetcar Service Environmental Impact Statement (EIS). Alameda County, CA. *Technical Analyst.* ESA is working with the National Park Service (Denver Service Center) in cooperation with San Francisco Municipal Transportation Agency, and Federal Transit Administration to complete an EIS to analyze the proposed extension of the historic streetcar line from Fisherman's Wharf through the San Francisco Maritime National Historical Park and Fort Mason Center in Golden Gate National Recreation Area. Candace assisted in writing the cultural resources EIS section.

Prior to ESA

Los Angeles Unified School District (LAUSD), Central Los Angeles High School #9. Los Angeles County, CA. *Field Archaeologist, Lab Director, Contributing Report Author.* The project involved identifying and excavating 171 burial features. The cemetery dated to the mid to late 19th century and reflected the growing Protestant population of Los Angeles. The majority of features was located in the private section of the cemetery, and was from upper-middle-class families. Analysis of this cemetery provides a rare opportunity to compare other excavated 19th-century cemeteries, which typically represent people of lower socioeconomic and/or marginalized status, to the presumed

Relevant Experience (Continued)

ideal of Victorian mortuary practices. Candace directed grading to facilitate detection of soil changes indicative of burials, trained incoming staff, excavated burial features, and maintained a field specimen log. She also served as one of the principal field photographers.

As lab director, Candace's responsibilities included assessing artifact conditions and conservation needs, developing and implementing artifact cleaning procedures, identifying historic coffin hardware and personal artifacts, creating a 19thcentury coffin hardware typology, library research, developing and maintaining an artifact catalog using Excel and Access, and cataloging over 3000 artifacts. Other duties included overseeing the cleaning of skeletal remains, as well as photo-documenting bone pathologies and traumas for the project osteologist. Candace contributed to report chapters regarding coffin hardware, personal artifacts, trends in 19th-century mortuary practices, field and lab methods, and mortuary feature analysis.

Las Encinas Hospital, Pasadena, Los Angeles County, CA. ***Technical Analyst.*** Candace conducted an archaeological field survey and archival research of Las Encinas Hospital grounds. The hospital, once known as the Southern California Center for Nervous Diseases, has been in operation as a mental health facility since 1904. Prior to this, the area was part of the Sunny Slope Ranch owned by Leonard Rose. During the survey, several historic artifact scatters and building foundations associated with the ranch and hospital's early years were recorded. Candace authored a technical report, providing recommendations for further work and mitigation measures, in compliance with CEQA.

City of Los Angeles, Echo Park Lake Rehabilitation. Los Angeles County, CA. ***Technical Analyst..*** Candace conducted a field survey of a 33-acre recreational park located in Echo Park and archival research at UCLA Aerial Photography Archive and Los Angeles Public Library. She authored the historical context report section documenting the development of Echo Park. Echo Park was one of Los Angeles's earliest public parks, established in 1892. The design was implemented by Joseph Tomlinson, Los Angeles's first Superintendent of Parks, and modeled after the picturesque English style.

City of West Hollywood, 8801 Sunset Boulevard Specific Plan EIR. Los Angeles County, CA. ***Project Archaeologist.*** The applicant proposes to construct approximately 52,031 square feet of commercial and retail space, plus parking. The site houses the former Tower Records Sunset building. Candace conducted a field survey and co-authored a technical report in support of the EIR. The Tower Records Sunset site was found to be historically significant for its contribution to the development of West Hollywood's rock music scene.

City of West Hollywood, Sunset Time Specific Plan EIR. Los Angeles County, CA. ***Project Manager.*** The applicant proposes to construct up to 149 hotel rooms, 40 residential condominium units, 5 low-income affordable

Relevant Experience (Continued)

housing units, and up to 35,456 square-feet of commercial and entertainment space. Historically, the area was a mix of residential housing and commercial uses. During the 1920s and 1930s, the area currently occupied by the House of Blues was the site of one of the many nightclubs that flourished along the Sunset Strip during that time period. Candace conducted a field survey and prepared a cultural resources technical report and EIR section with findings and recommendations for further work, pursuant to CEQA.

City of West Hollywood, Movietown Plaza Specific Plan EIR. Los Angeles County, CA. *Project Manager.* The applicant proposes to construct approximately 371 residential units and approximately 32,300 square feet of retail/commercial uses on a site currently occupied by a strip mall. The site was first developed when film studios moved into the area. In the 1920s and 1930s, the site was occupied by Educational Films Studio, a producer of one-reel comedies. Shirley Temple began her film career at this location. The site was later occupied by Eagle-Lion Studios, which produced B-movies. Candace conducted a field survey and prepared a cultural resources technical report and EIR section with findings and recommendations for further work, pursuant to CEQA.

DMJM-Harris, Exposition Light Rail. Los Angeles County, CA. *Technical Analyst.*. Participated in archaeological field survey of several proposed routes for the new Exposition Light Rail. Prepared DPR 523 forms for all historic resources observed, including the railroad right-of-way and railroad-related components such as switches and cantilevered signals. Conducted extensive research into the history Los Angeles's railroad systems and their role in the development of Santa Monica, West Los Angeles and Culver City. Historic railroads covered include the Los Angeles & Independence, the Southern Pacific, the Los Angeles Pacific, the Pacific Electric, and the Santa Monica Air Line. Assisted in the preparation of an Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA and Section 106 requirements.

City of Los Angeles, Bureau of Engineering, Temple Street Widening Project. Los Angeles County, CA. *Archaeological Monitor.* Candace served as an archaeological monitor during road construction and utilities relocation for the Temple Street Widening Project. The Zanja, part of Los Angeles's first irrigation system, was discovered during grading. Candace documented the Zanja segment and helped develop measures to insure its protection during on-going construction.

LAUSD, South Regional Elementary School (SRES) #1. Los Angeles County, CA. *Technical Analyst.* Candace conducted the lab analysis and co-authored the report on an artifact assemblage recovered during archaeological monitoring of South SRES #1 in south-central Los Angeles. The area was first settled circa 1909 and was the home of several domestic, religious, and retail establishments. The artifact assemblage consisted of early 20th-century

Relevant Experience (Continued)

domestic and vocational refuse. The technical report provided findings and recommendations for further work, pursuant to CEQA.

Excel Paving, Alameda Street. Los Angeles County, CA. ***Technical Analyst.*** Candace provided archaeological monitoring of street construction at Alameda Street in downtown Los Angeles. The project resulted in the identification and recovery of over 300 historic-era artifacts. In addition, segments of both narrow-gauge and standard gauge rail lines, sections of brick foundations, and brick irrigation features were documented. A large section of late 19th to early 20th century brick pavement and part of the Zanja were also uncovered and documented during construction.

BLM Spangler Hills Open Area. Kern County, CA. ***Field Archaeologist.*** The Spangler Hills Off-Highway Vehicle Area (OHV) offers over 57,000 acres of open public land for recreational use. The area is managed by the Bureau of Land management. Archaeological survey was required to determine the effects of OHV activities on known and unknown cultural resources. Candace surveyed selected portions of Spangler Hills, locating, recording, and mapping various types of archaeological sites.

City of Seal Beach, Hellman Ranch Monitoring and Data Recovery. Orange County, CA. ***Crew Chief, Lab Analyst.*** Candace supervised a team of archaeologists charged with monitoring construction activities, archaeological testing, and excavation of over 30 Native American burials and associated features at Hellman Ranch in Seal Beach, CA. The Hellman Ranch area (Landing Hill) was occupied by the Gabrielino for over 6,000 years. Excavation revealed an extensive mortuary complex, including large amounts of cremated human remains and broken, or "killed," ground stone.

Candace was responsible for implementing and overseeing work delegated by field directors. She contributed to lab analysis by sorting artifacts and beginning initial classification of lithic debitage, and assisting with artifact and osteological photo-documentation, and providing key support to visiting osteological and faunal specialists.

County of Los Angeles Coroner's Crypt. Los Angeles County, CA. ***Research Assistant.*** In support of an MND, Candace conducted extensive historic research of the area now occupied by the Los Angeles County Corner and authored the cultural resources section of the MND. The County was proposing additions to the current Medical Examiner's facility. This area was the location of Los Angeles's first county hospital, and has been in continuous use as medical facilities since the 1870s.

City of Los Angeles, Asphalt Plant No. 1 Project. Los Angeles County, CA. ***Crew Chief, Report Co-author.*** The Bureau of Engineering proposed modifications to an existing truck route and construction of new route at Asphalt Plant No. 1. Candace conducted a Phase I archaeological study. The study

Relevant Experience (Continued)

identified potential archeological issues and provided recommendations for further work, pursuant to CEQA.

County of Los Angeles, Department of Public Works, Morris Dam. Los Angeles County, CA. ***Field Archaeologist.*** Conducted field survey and prepared cultural resources section of a Mitigated Negative Declaration (MND) for a proposed access route to Morris Dam, located in the San Gabriel Mountains.

City of Temecula, Western Bypass Bridge. Riverside County, CA. ***Crew Chief.*** Candace led a Phase I survey of the one-acre project area. One previously recorded archaeological site was re-located and documented.

Conejo Park and Recreation District, Lang Ranch. Thousand Oaks, Ventura County, CA. ***Field Archaeologist.*** Candace participated in archaeological testing of a 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits.

Twining Labs, El Toro. Tustin, Orange County, CA. ***Archaeological Monitor.*** Candace served as an archaeological monitor during the grading of new roadways. She was responsible for maintaining detailed daily reports and coordinating work schedules with on-site construction foreman.

Twining Labs, Home Depot Center. Lake Elsinore, Riverside County, CA. ***Archaeological Monitor, Report Author.*** Candace conducted on-site monitoring of controlled grading during the expansion of an existing roadway located next to a cemetery. She prepared daily monitoring logs and co-authored a negative final report for the client.

Seep Spring, China Lake Naval Air Weapons Station. Kern County, CA. ***Crew Chief.*** Candace led a team of field archaeologists in locating, describing, and mapping archaeological sites at Seep Spring. She was responsible for creating the field schedule, assigning tasks to crew, and collating site records, field notes, photographs and sketch maps.

Bierman Caves, China Lake Naval Air Weapons Station. Kern County, CA. ***Field Archaeologist.*** Candace was a member of a survey team entrusted with re-locating and recording previously discovered rock art sites at Bierman Caves, as well as recording any new, undiscovered rock art sites.

Santa Ysabel Ranch Testing and Data Recovery at CA-SLO-2084. San Luis Obispo County, CA. ***Field Archaeologist.*** Candace assisted with archaeological testing, which included excavation units and monitoring of mechanical trench excavation.

State of California, Owens Valley PM10 Planning Area Demonstration of

Relevant Experience (Continued)

Attainment State. Inyo County, CA. ***Field Archaeologist.*** Candace was a member of an archaeological survey team that covered large portions of the Owens Valley Dry Lake Bed. She assisted with the documentation and mapping of several large lithic scatters and historical sites.

A.F. Gilmore Company, The Grove at Farmers Market Monitoring Project. Los Angeles County, CA. ***Archaeological Monitor.*** Candace **s**erved as an archaeological monitor responsible for collecting historic artifact isolates, maintaining paperwork, and coordinating work schedule with on-site construction crews.

BLM Ancient Searles Lake, Christmas Canyon ACEC. San Bernardino County, CA. ***Field Archaeologist.*** Member of survey team charged with locating, describing, and mapping archaeological sites. Several test units were conducted as part of the Phase I survey. Participated in lab analysis.

BLM Dove Springs Open Area. Kern County, CA. ***Field Archaeologist***. Candace was part of a survey team covering portions of a BLM open area to determine the effects of off-road vehicles on archaeological sites. She assisted with the documentation and mapping of several archaeological sites.

PROFESSIONAL PAPERS AND PRESENTATIONS

Ehringer, C. 2008 Mortuary Consumerism in 19th-Century Los Angeles: Coffins, Caskets and Trimmings from City Cemetery. Oral paper presentation at the Society for American Archaeology 73rd Annual Meeting, Vancouver, BC.

Ehringer, C., L. Kry, S. Dietler, and M. Strauss. 2008. After the Bones Are Gone: The Role Of Personal Effects in Identifying Unmarked Historic Burials. Poster presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Strauss, M., S. Dietler, and C. Ehringer. 2008. Death Lends a Hand: Archaeological Excavations of Los Angeles's City Cemetery. Oral paper presentation at the Society for Historical Archaeology Annual Meeting, Albuquerque, NM.

Ehringer, C. 2004. Roosters and Raptors: Cultural Continuity and Change at Big Dog Cave, San Clemente Island, California. Oral paper presentation at the Society for California Archaeology Annual Meeting, Riverside, CA.

Ehringer, C. 2000. Ceremony and Ritual at Big Dog Cave, San Clemente Island, California. Poster session, Student Research and Creative Activity Symposium, California State University, Northridge, CA.

Ehringer, C. 1992. Alternative Medicine and Herbal Remedies in Rural North Carolina. Oral presentation at the Southern Anthropological Society Annual

Relevant Experience (Continued)

Meeting, Saint Augustine, FL.

PUBLIC OUTREACH AND EDUCATION

2009. Candace developed and conducted an archaeological lab practicum for high school students during "Student at Work Day."

2007 to 2009. Candace served as the Society for California Archaeology liaison to the Society for American Archaeology. As a liaison, Candace attended SAA meetings as the SCA representative, prepared written reports for the SCA newsletter, and contributed to the SAA Council of Affiliated Societies semi-annual newsletter.

2006. Candace was a guest lecturer at Santa Monica College. She led a discussion on "The Archaeology of Religion" using the Gabrielino belief system as an example.

2004. Candace co-led and directed teams of volunteers surveying, mapping, and recording sites at Bierman Caves, China Lake Naval Air Weapons Station, CA.

BRIAN MARKS, PHD, RPA

Senior Associate I

Dr. Marks has worked on terrestrial and underwater archaeology projects in California, Florida and Georgia since 1997. Prior to joining ESA, his duties included the identification and determination of National Register of Historic Places (NRHP) eligibility of archaeological sites based type, age, composition, source of artifacts recovered at all levels of field investigation from reconnaissance to Phase III mitigation and data recovery for terrestrial and underwater projects in Florida and Georgia. He has surveyed, mapped, excavated, interpreted and analyzed artifacts, as well as published reports on a variety of diverse archaeological sites. Dr. Marks has experience gathering and interpreting remote sensing data, assessing and evaluating sites, and has overseen numerous terrestrial and underwater projects and tasks. He has an understanding of the pertinent laws and procedures necessary for compliance with various Federal and State regulatory agencies.

10 Years of Experience

Education

Ph.D. Anthropology, Florida State University

M.S. Anthropology, Florida State University

B.S. Underwater Archaeology, University of California at Davis

Registrations

Register of Professional Archaeologists (#15173)

Professional Affiliations

Society for American Archaeology

Florida Archaeological Council

Register of Professional Archaeologists since 2004

Merit Badge Councilor for Northeast Florida Boy Scouts - Archaeology, Oceanography, and Astronomy

Certifications

Commercial Class B drivers license with passenger and air brake endorsements

Boat US certification in small boat operation

OSHA Construction Site Safety Certified

AAUS Science Diver rated to 90 feet

NAUI Master Scuba Diver

Relevant Experience

D210676.00 Cities of Davis & Woodland Water Supply, *Lead Archaeologist* Dr. Marks conducted a cultural resources survey of the proposed Davis & Woodland Water Supply and was responsible for insuring the project meets Section 106 guidelines as well as CEQA regulations. As no resources were encountered during the survey, there will be no negative effect from this project.

D210586.00 VA Outpatient Clinic & Community Living, *Archaeologist* Dr. Marks conducted a cultural resources study on two potential sites for a VA outpatient clinic and community living center. He was responsible for surveying the proposed sites, and writing the technical reports.

D210541.00 Union Pacific Railroad Modernization Project, Lathrop, CA *Lead Archaeologist.* Dr. Marks conducted a cultural resources study of the proposed expansion of the UP Intermodal Facility in Lathrop. and was responsible for insuring the project meets CEQA guidelines, surveying the project area, and writing the cultural resources section of the EIR.

D209259.00 Mather Specific Plan at Mather Air Force Base, Rancho Cordova, CA. *Lead Archaeologist.* Dr. Marks conducted a cultural resources study of the former Mather Air Force Base and was responsible for insuring the project meets Section 106 guidelines, surveying the project area, and writing the cultural resources section of the EIS. The survey included the airport, a aircraft hanger, a former tarmac, a radar station, and two munitions storage areas. As most of the changes in land use will occur away from the actual airport used for training in WWI and WWII and as a staging point during all wars in the Pacific Theater, there will be no negative effect on the airport.

Relevant Experience (Continued)

Prior to Joining ESA

Eureka Lock Training Site, Department of Military Affairs, Florida Army National Guard, Eureka, FL. ***Project Supervisor and Co-Principal Investigator.*** Dr. Marks served as the project supervisor and co-principal investigator to survey an area around and including the Eureka Lock and Dam in Eureka, Florida along the Oklawaha River. The lock and dam complex was part of the ill-fated Cross-Florida Barge Canal and marks the terminus of that system in Eastern Florida. Dr. Marks lead a team that performed background research of the project area and conducted a Phase I Cultural Resources Assessment Survey which included pedestrian inspection and shovel tests placed at regular intervals. During consultation with the State Historic Preservation Officer (SHPO), it was determined that the structures surrounding the lock gates and the complex as a whole, while not 50 years old, would be eligible for the NRHP and were recorded with Florida Master Site File. Dr. Marks recorded these elements and prepared a report for the SHPO as part of National Environmental Policy Act (NEPA) Section 106 compliance.

Little Hazel Creek Mitigation Creek, Restoration Systems, LLC, Habersham County, GA. ***Cultural Resource Task Leader.*** Dr. Marks was a member of a multi-disciplinarily team involved with the restoration of a portion of Little Hazel Creek with Habersham County, Georgia. He was responsible for the cultural resources survey and conducted background research at the Georgia Master Site File (GMSF) lead the field crew that performed regular interval shovel testing along the proposed alignment and pedestrian inspection of the Area of Potential Effect. Dr. Marks prepared a cultural resources survey report for the United States Army Corps of Engineers' Office in Savannah, Georgia as part of NEPA Section 106 compliance.

Bear Creek Mitigation Bank, Mitigation Resources, Bay and Calhoun Counties, FL. ***Project Supervisor and Co-Principal Investigator.*** Dr. Marks served as project supervisor and co-principal investigator for the Bear Creek Mitigation Bank in the Panhandle area of Florida. The project was proposing to restore the natural drainage of the property and create wetlands within an area of silviculture. Dr. Marks performed the background research of the area at the Florida Master Site File (FMSF) and lead a field crew in the cultural resources survey. Shovel tests were placed within areas of proposed impact and areas exhibiting a high probability or containing cultural resources, and the area was subjected to pedestrian inspection. Dr. Marks prepared a cultural resources survey report for the Florida SHPO as part of Section 273 of the Florida Statues and NEPA Section 106.

Heather Island Mitigation Bank, Mitigation Resources, Marion County, FL. ***Project Supervisor and Co-Principal Investigator.*** Dr. Marks served as project supervisor and co-principal investigator for the Heather Island Mitigation Bank in Central Florida. The project was proposing to restore the natural drainage of the property and create wetlands within an area of silviculture. Dr. Marks performed the background research of the area at the FMSF and led a field crew in the cultural resources survey. Shovel tests were placed within areas of proposed impact and areas exhibiting a high probability or containing cultural resources, and the area was subjected to pedestrian inspection. The survey revealed several resources including a section of the Marjorie Carr Cross Florida Greenway, (originally the proposed route of the Cross Florida Barge Canal), several lithic scatters and a historic roadway. Dr.

Relevant Experience (Continued)

Marks documented these resources for the FMSF and prepared a cultural resources survey report for the Florida SHPO as part of Section 273 of the Florida Statues and NEPA Section 106.

Natural Bridge Battlefield, Florida State Parks, Leon County, FL. ***Project Supervisor and Lead Archaeologist.*** Dr. Marks was project supervisor and lead archaeologist for the cultural resources investigation of the Natural Bridge Battlefield Historic State Park in southern Leon County. The State of Florida purchased 50+ acres of land to expand the existing Natural Bridge Battlefield State Park, and required a cultural resources inventory of the property that contained a large portion of the original battlefield. In addition to background research, Dr. Marks lead a field crew in regular interval shovel testing, pedestrian inspection, and metal detection of the entire park. In addition, Dr. Marks assisted the park rangers in utilizing and organizing a force of over two hundred volunteers to assist archaeological investigation over a two day period. Following the survey, Dr. Marks assisted in lab analysis, artifact identification, and the preparation of the report for SHPO as part of Section 273 of the Florida Statues and NEPA Section 106.

AIRPORTS

Eagle Aviation Hangers at Craig Municipal Airfield, Jacksonville, FL. ***Lead Archaeologist.*** Brian served as lead archaeologist for a survey within the airport grounds for a new industrial warehouse to comply with state and county permitting requirements. While the airport was a historic resource, as this former WWII training field was the home of the Blue Angels first airshow in 1946, the Area of Potential Effects for the warehouse would not impact any significant portions of the airport, nor would it detract from the overall setting or function of the airport.

Shoremaster at Kay Larkin Airport, Palatka, FL. ***Lead Archaeologist.*** Brian conducted a survey within the airport grounds for a new commercial building to comply with local and state permitting requirements. While the building was constructed along a former runway utilized in WWII for training, that runway had been decommissioned and now supported several commercial buildings. The new building would be part of this complex and would not detract further from the airport's setting.

T-Hanger and Apron Lighting at New Smyrna Beach Airport. New Smyrna Beach, FL. ***Lead Archaeologist.*** Brian conducted two separate surveys within the grounds of the New Smyrna Beach Airport. Both projects involved construction and/or expansion of existing airport buildings (T-Hanger) or facilities (Apron Lighting),which would not detract from the setting or feeling of this WWII Naval Aviation training facility. No resources were found during testing and there would be no impacts to the nearby Nationally Registered Turnbull Canal.

Cell Towers at St. Augustine, Lake City, and Flagler County Airports, FL. ***Lead Archaeologist.*** As lead archaeologist, Brian conducted three separate surveys involving the placement of cell/communication towers within the airport property of the three airports. Both the St. Augustine and Lake City Airports were used as WWII training facilities, while the Flagler County Airport was built after the war. The towers were built outside the fence of the main airport, but on airport property. The

Relevant Experience (Continued)

towers would not affect air space and would not detract from the setting of the airports.

Responsibilities Prior to Joining ESA

Environmental Services, Inc., St. Augustine, Florida, Archaeologist. Brian's responsibilities have included the identification and determination of NRHP eligibility of archaeological sites based type, age, composition, source of artifacts recovered at all levels of field investigation from reconnaissance to Phase III mitigation and data recovery for terrestrial and underwater projects in Florida and Georgia. Functioning as a Principal Investigator, he was in frequent contact with the offices of the SHPO, DHR, and BAR, as well as Tribal Historic Preservation Officers, Florida Master Site File, Georgia Division of Natural Resources, and various county, city, and municipalities. In the lab, Brian analyzed artifacts and faunal remains to determine their place within the archaeological record, as well as perform cursory conservation when needed. Brian was also responsible for the GIS data management for most of the Florida and Georgia archaeology work for ESI. Additionally, he directed, coordinated and prepared time and cost estimates for cultural resources contracts, and compile information and standards for proposal requests.

National Park Service, Southeastern Archeological Center (SEAC) Tallahassee, Florida, Document Curator and Museum Technician. Brian handled the curation of documents, maps, and photographs from archaeological projects within the National Park Service, Southeast Section. His duties involved inventorying, cataloging, creating databases, and preparing documents for preservation. Additionally, documents that were deteriorating were copied on acid free paper for curation. Other duties included analyzing and cataloging artifacts recovered from archaeological excavation that occurred within the National Park System and entering artifact information into a database.

MONICA STRAUSS, RPA

Manager, Southern California Cultural Resources Group

Monica Strauss is Manager of ESA's Southern California Cultural Resources Group and is based in the Los Angeles office. She has 15 years of experience in cultural resources management and has directed numerous archaeological investigations throughout Southern California and the Channel Islands. She directs prehistoric and historic field and research projects for public agencies and private developers and is proficient in CEQA and Section 106 compliance. She manages a staff of cultural resources specialists who conduct various types of compliance work including phase I surveys, construction monitoring, Native American consultation, archaeological testing and treatment, historic resource significance evaluations, and large-scale data recovery programs. Monica has prepared technical documents meeting the requirements of federal, State, and local agencies in support of CEQA and Section 106 as well as cultural resources components for General and Specific Plans. She provides senior oversight and quality control of archaeological resources-focused documents for ESA staff throughout the State.

Education

MA, Archaeology , California State University, Northridge

BA, Anthropology, California State University, Northridge

AA, Humanities, Los Angeles Pierce College

Years of Experience: 15

Professional Affiliations

Register of Professional Archaeologists (RPA)

Society for California Archaeology (SCA)

Society for American Archaeology (SAA)

Specialized Experience

Treatment of Historic and Prehistoric Human Remains

Archaeological Monitoring

Complex Shell Midden Sites

Groundstone Analysis

Qualifications

Exceeds Secretary of Interior Standards

CA State BLM Permitted

Certified in CA BLM Protocol

Relevant Experience

Patterson Fish Screen Project. Stanislaus County, CA. ***Project Director.*** ESA is retained by Montogomery, Watson Harza Americas (MWH) to provide cultural resources services in connection with the installation of a fish screen in Patterson Irrigation District (PID). ESA cultural resources staff conducted a Phase 1 Assessment in support of an MND and provided mitigation measures in the event resources were encountered during project implementation. Monica is currently facilitating discussions amongst all relevant parties to develop a satisfactory treatment plan for resources recently discovered.

Helix Water District (HWD)-El Monte Valley. San Diego County, CA. ***Cultural Resources Principal Investigator***. ESA is providing professional Environmental Consulting services in support of the HWD's El Monte Mining, Reclamation, and Groundwater Recharge Project. The project includes mining of approximately 10 million tons of aggregate from the El Monte Valley in San Diego County. Monica is currently directing the cultural resources component of this project to insure it complies with CEQA, Section 106 and the County of San Diego, Guidelines for Determining Significance. Duties involve providing oversight to the managements team and coordination with the client on key issues including Section 106 requirements and Native American issues.

Metropolitan Air Park Project. San Diego, CA. ***Cultural Resources Principal Investigator.*** ESA is preparing a master development plan, EIR, and EA for Metropolitan Air Park at Brown Field Airport in the City of San Diego. The project involves a 50-year land lease from the City of San Diego for a 400-acre portion of the airport property to be developed into airport and non-airport related land uses. The project requires the approval of the City of San Diego and the Federal Aviation Administration, and is being processed as Master Planned

Relevant Experience (Continued)

Development Permit Project. Monica is currently directing the cultural resource component of this project. Her duties involve coordination with the City of San Diego to ensure compliance with the City of San Diego Historical Resources Guidelines and oversight of survey and identification methods and resource evaluations.

Sweetwater Reservoir Water Main Replacement. San Diego County, CA. ***Cultural Resources Principal Investigator.*** ESA was retained by Sweetwater Authority to prepare an IS/MND for the replacement of a 36-inch pipeline leading from Sweetwater Dam. Sweetwater Dam was originally constructed in the late 19th century and was subject to upgrades in 1917. ESA conducted a Phase 1 Cultural Resources Assessment including archival research, pedestrian, survey, historical research, Native American outreach, and the preparation of a technical report documenting archaeological and historic-architectural resources that might be impacted by the project. The study concluded that features that would be altered by the project that were contributing elements to the historic dam would need to be replaced in kind. Monica directed the team of researchers which conducted this work, assisted in evaluating project impacts to the dam, and facilitated in the development of appropriate mitigation.

Sunrise Powerlink Transmission Archaeological and Biological Monitoring Project. Imperial and San Diego counties, CA. ***Cultural Resources Project Manager.*** ESA was retained by Burns & McDonnell to conduct archaeological and biological monitoring during construction activities for a 120-mile long SDG&E transmission line. Monica is currently serving as lead archaeologist to a team of archaeological monitors who are attending compliance and field safety training and who will be on-call during construction activities.

Sorenson Park Gymnasium Archaeological Monitoring Project. Lake Los Angeles, CA. ***Cultural Resources Principal Investigator.*** ESA was retained by the County of Los Angeles, Department of Public Works to conduct archaeological and biological monitoring during ground disturbing activities associated with project construction. Monica is currently providing daily oversight to archaeological and Native American monitors, coordinated work schedules with the County Project Manager, and coordinated the details of the necessary monitoring work with the County Inspector and construction contractors. An Archaeological Resources Monitoring Report documenting the monitoring findings will be submitted, together with daily monitoring logs, at the close of the project

North San Pablo Bay Restoration and Reuse Project. Sonoma and Napa counties, CA. ***Cultural Resources Senior Oversight.*** ESA was retained by the Sonoma County Water Agency to prepare an EIR/EIS in connection with a project to expand the beneficial use of recycled water in the North Bay Region. To fulfill both NEPA and CEQA requirements, ESA conducted Extended Phase 1 cultural resources identification efforts to meet CEQA and Section 106

Relevant Experience (Continued)

requirements. Extending across multiple counties, the project required extensive archival research and pedestrian survey, sub-surface archaeological testing, and coordination with Native American representatives. The Section 106 component of the work was coordinated with the U.S. Bureau of Reclamation. Monica provided senior oversight to ESA archaeologists; provided quality control reviews of the survey report, testing work plan, and testing report; and helped facilitate successful coordination with the Bureau of Reclamation.

SFPUC Seismic Upgrade of Bay Division Pipeline No. 3 & 4. Alameda County, CA. ***Cultural Resources Senior Oversight.*** ESA was retained by the San Francisco Public Utilities Commission to provide on-call environmental services, including environmental analyses and regulatory permits. The project proposes to replace the existing BDPL No. 3 with a new parallel pipeline across the main trace and two secondary traces of the Hayward Fault, and to subject BDPL No. 4 to a minor seismic upgrade. Because the projects would result in an unavoidable adverse effects to a National Register-eligible archaeological site, ESA archaeologists are leading the work to conduct testing and data recovery to mitigate the effects. Monica has provided senior oversight of the preparation of an Archaeological Research Design and Historic Property Treatment Plan designed to mitigate the anticipated effects.

Sacramento County Airport System On-Call Natural Resources Advisory & Consulting Services. Sacramento County, CA. ***Cultural Resources Senior Oversight.*** ESA is providing on-call natural resources support and consulting services for the Sacramento County Airport System. ESA archaeologists provided archaeological monitoring and survey during ground disturbing activities associated with routine discing activities. Monica provided daily oversight to archaeological monitors and provided direction when potential cultural resources were identified.

City of Calabasas Archaeological Resources Mapping. Calabasas, CA ***Project Director.*** ESA was awarded an on-call contract by the City of Calabasas to provide environmental compliance services. The City requested that ESA conduct a city-wide archaeological records search and prepare confidential archaeological resources maps and materials to assist the city in planning and permitting endeavors. Maps and documents were linked electronically for quick reference to parcel information. Monica directed archaeologists and GIS staff in the mapping of resources and development of procedures for map usage.

Antelope Valley Water Bank Initial Recharge and Recovery Facility Improvement Project. Kern County, CA. ***Cultural Resources Principal Investigator.*** ESA was retained by GEI Consultants, Inc. to conduct a Phase 1 Archaeological resources Assessment in connection with a groundwater banking project designed to provide up to 500,000 acre-feet of total surface water storage capacity underground in a partially depleted aquifer. The project is being carried out by the Antelope Valley East Kern Water Agency with the assistance of a Challenge Grant from the Bureau of Reclamation. Monica directed

Relevant Experience (Continued)

archaeologists who conducted archival research, pedestrian survey, Native American outreach to identify the presence of archaeological resources. A technical report was prepared to meet CEQA and Section 106 compliance requirements.

Ocotillo Wind Farm Project EIR. Imperial County, CA. *Project Manager.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is specially trained in BLM protocols and procedures. She is currently assisting BLM (El Centro Field Office) staff with general oversight of the 15,000-acre cultural resources study being carried out for the Ocotillo Wind Farm project. Monica has conducted peer-review of cultural resources documents to ensure conformance with BLM requirements and is providing oversight to survey staff who are conducting compliance monitoring of the survey effort.

LAUSD Central Los Angeles High School #9. Los Angeles, CA. *Project Director.* ESA is presently working on Date Recovery Report sections for LAUSD's Central High School #9, constructed in downtown Los Angeles. Between 2004 and 2009, Monica led a team of archaeological staff of ten who conducted archaeological monitoring and data recovery of archaeological materials in connection with the 19th century Los Angeles City Cemetery. She coordinated with the Los Angeles County Coroner and office of Vital Statistics to obtain disinterment permits and developed a mitigation plan incorporating components related to the future disposition of remains, artifact curation, and commemoration. She directed an extensive historical research effort to identify the human remains, and at the request of the client, participated in public outreach and coordination with media.

Bureau of Land Management Abandoned Mine Lands Archaeological Inventory. Lakeside, San Diego County, CA. *Project Manager.*
ESA has been retained to provide cultural resources services to the BLM in connection with the Abandoned Mine Lands program. BLM is proposing to close or remediate abandoned mines that pose a safety hazard. ESA prepared archaeological inventory reports documenting the abandoned mines, in compliance with Section 106 of the NHPA. Monica directed cultural resources staff in the survey, research, and evaluation of mining features identified in the areas proposed for remediation.

Bureau of Land Management On-Call Cultural Resources Services. Riverside County, CA. *Project Manager.* ESA has been retained by the Bureau of Land Management under an on-call contract to provide cultural resource services including compliance monitoring for projects under BLM jurisdiction. Monica is currently managing a number of projects for the BLM (Palm Springs South Coast Field Office) providing a wide range of cultural resources services for solar projects and other projects taking place on BLM

Relevant Experience (Continued)

lands in compliance with Section 106 and specified BLM protocols. Services that she and her staff provide under this contract include compliance monitoring and peer review, Phase 1 archaeological resources surveys, resource evaluations, the preparation of reports, and Native American consultation. Projects completed under this contract include Dos Palmas Phase 1 Survey and Archaeological Monitoring, National Monument Phase 1 Survey, Windy Pointe Archaeological Monitoring, and Fast and the Furious Phase 1 Survey.

West Kern Water District Groundwater Recharge Project EIR. Kern County, CA. *Cultural Resources Principal Investigator.* Monica managed a Phase 1 archaeological resources survey of a 500-acre Project area proposed for groundwater recharge basins and a 9-mile pipeline in Kern County. The Project was carried out in compliance with CEQA and Section 106 of the NHPA. The survey resulted in the identification of over 20 archaeological sites. She managed the preparation of a Phase 1 Archaeological Resources Survey Report and Cultural Resources EIR Section that addressed the potential for site eligibility and provided an impacts analysis and mitigation measures.

Canyon Hill Cultural Resources Assessment. Lake Elsinore, CA. *Cultural Resources Principal Investigator.* ESA was retained by Pardee Homes to prepare a cultural resources assessment for Phases 7 & 8 of the Canyon Hills Specific plan. ESA conducted a Phase 1 and Phase II Archaeological Resources Investigation, identifying resources that might be impacted by the project. Monica directed the Phase II Testing Program to determine California Register and National Register eligibility of a recorded prehistoric archaeological site. She co-authored the Phase II Testing Research Design and Phase II Testing Evaluation Report.

California Department of Water Resources On-Call Environmental Planning Services. East Branch Enlargement EIR. Antelope Valley, CA. *Cultural Resources Principal Investigator.* ESA was retained by the Department of Water Resources. Monica managed a Phase 1 archaeological resources survey for the enlargement of 100 miles of the California Aqueduct from the Tehachapi split through the Antelope Valley and Mojave River Basin to Silverwood Reservoir. The Project was carried out in compliance with CEQA and Section 106 of the NHPA. Monica managed the survey, report effort, and preparation of the EIR section that considered Project impacts to historic architectural and archaeological resources.

Morro Bay Cayucos Wastewater Treatment Plant, San Luis Obispo County, CA. *Cultural Resources Principal Investigator.* ESA was retained by the City of Morro Bay-Cayucos Sanitation District to prepare an EIR for the Morro Bay-Wastewater Treatment Plant upgrade. Monica directed a Phase 1 Cultural Resources Assessment to identify cultural resources that might be impacted by the project. The assessment included archival research, pedestrian survey, the relocation of a number of archaeological sites, coordination with interested Native American parties in the area, and the preparation of a Phase 1

Relevant Experience (Continued)

Cultural resources Technical Report. Monica facilitated in meeting with Native American tribal members and City representatives to address concerns about buried resources.

Irvine Ranch Water District Baker Treatment Plant. Orange County, CA. ***Cultural Resources Principal Investigator*****.** ESA was retained by the Irvine Ranch Water District to provide environmental compliance services. In support of an EIR for the upgrade of the IRWD's Baker Treatment Plant near Lake Forest, Orange County, ESA cultural resources staff conducted a Phase 1 Cultural Resources Assessment. Monica directed the archival research, a series of pedestrian surveys, and oversaw the preparation of Phase 1 Cultural resources Technical reports and the cultural resources section of the EIR.

CDFG Suction Dredging Permitting Project. Yolo County, CA., ***Cultural Resources Senior Oversight.***
ESA was retained by Horizon Water and Environment LLC. to conduct a cultural resources constraints study to identify cultural resources within areas that would be impacted by the project. ESA conducted archival research and prepared section for an Initial Study and EIR. Monica provided senior technical oversight of the work and provided quality control review of the documents.

CPUC Devers-Mirage Project. Palm Springs, CA. ***Cultural Resources Senior Oversight*****. ESA was retained by the California Public Utilities Commission to prepare** an EIR to evaluate the potential impacts from Southern California Edison's proposed Devers-Mirage 115 kV System Split project. ESA cultural resources staff reviewed and synthesized technical documents and prepared a cultural resources EIR section that provided an impacts analysis and mitigation measures. Because the project involved BLM lands, cultural resources studies were required to meet NEPA reequirements in addition to CEQA. Monica provided technical oversight of the cultural resources effort and conducted quality control review of the document.

Prior to ESA

Hellman Ranch Archaeological Resources Monitoring and Data Recovery Project. Seal Beach, CA. ***Field Director.*** John Laing Homes constructed the Heron Point housing development in Seal Beach. Monica directed a large-scale excavation and monitoring program under the terms of a Mitigation Plan approved by the California Coastal Commission. She coordinated the daily excavation and monitoring activities of over twenty archaeological field personnel over a period of two years. She worked closely with a staff of eight Native American monitors and assisted in the preparation of remains artifacts for reburial. She also oversaw identification and cataloging activities that took place simultaneously on the job site in a field laboratory. On-site activities

Relevant Experience (Continued)

included hand excavation at four archaeological sites, construction monitoring, wet and dry-screening, and laboratory analysis, and also involved the evaluation of complex shell midden deposits and appropriate treatment of human remains.

San Clemente Island Section 106 Archaeological Testing and Evaluation Program. Los Angeles, CA. ***Project Director.*** Working for the U.S. Navy, Southwest Division, Monica directed a team of archaeologists who conducted testing of nine prehistoric archaeological sites on the northern end of San Clemente Island. Testing was conducted in accordance with guidelines set forth by the U.S. Navy and in compliance with Section 106. She authored a comprehensive technical report which considered the results of the testing program in relation to current California coast and San Clemente Island research questions and evaluated the sites for eligibility for the National Register.

State Route 90 Connector Road and the Admiralty Way Widening Archaeological Resources Phase 1 Projects. Marina del Rey, ***CA. Project Director.*** Monica directed a Phase 1 Cultural Resources Study for the County of Los Angeles, Department of Public Works in compliance with Section 106. Monica worked closely with Caltrans archaeologists and Native American representatives to reach agreement over the impacts and the appropriate treatment of a significant archaeological site located in the project APE.

South Region Elementary School #1 Archaeological/Paleontological Monitoring Project, ***Los Angeles, CA. Project Director.*** Monica directed archaeological/paleontological monitoring conducted during school site construction for LAUSD. She managed archaeological/paleontological monitors, conducted client coordination, and responded to and evaluated discoveries including two early 20th century residential refuse deposits. She provided oversight to staff conducting artifact analysis and the preparation of an Archaeological Monitoring report documenting and evaluating the recovered materials.

Alameda Street Improvement Archaeological Monitoring and Assessment Project, ***Los Angeles CA. Project Director.*** Monica directed archaeological monitoring conducted during the construction of roadway improvements in downtown Los Angeles. She responded to the discovery of historic resources including the *Zanja Madre* and the historic brick Alameda Street. She developed mitigation recommendations to address impacts to these resources from the project including an adaptive re-use of the recovered brick materials in the landscape design of the project. Monica provided oversight to laboratory analysts who catalogued the artifact collection.

Metro Universal Phase 1 Archaeological Resources Project, ***North Hollywood, CA. Project Director.*** Working as a consultant for Thomas Properties Group, Monica directed archaeological resources assessment for the proposed Metro Universal project to be constructed adjacent the historic *Campo de Cahuenga* in North Hollywood. She conducted extensive literature review

Relevant Experience (Continued)

and archaeological survey and prepared and archaeological technical report and EIR section. Working with project engineers, she developed a scaled approach to identify varying degrees of cultural resources sensitivity across the project site and determined appropriate mitigation measures. She worked with engineers and landscape designers to inform the design to best enhance existing cultural resources. Monica attended monthly meetings with the *Campo de Cahuenga* Board of Representatives and the Thomas Properties team to address cultural resources concerns.

First Street Trunk Line Archaeological Monitoring and Assessment Project, *Los Angeles CA. Project Director.* As a consultant to the City of Los Angeles, Department of Water and Power, Monica directed archaeological and paleontological monitoring of utilities installations ona continuous basis for over one year. She responded to monitoring discoveries including historic-period utility pipes and determined the appropriate mitigation in the form of recordation.

Main Street Archaeological/Paleontological Monitoring and Assessment, *Los Angeles, CA. Project Director.* Working for the City of Los Angeles, Bureau of Engineering, Monica directed archaeological/paleontological monitoring during the construction of a police parking facility in downtown Los Angeles. She managed monitors and conducted client coordination. She responded to discoveries of over a dozen in tact historic building basements and other refuse deposits to determine appropriate treatment. She provided oversight to specialists conducting analysis of the artifacts recovered and managed the preparation of a report that documented the findings and evaluated the resources.

Olive View Medical Center Emergency Services Expansion Monitoring and Assessment Project, *Los Angeles, CA. Project Director.* Working for the City of Los Angeles, Department of Public Works, Monica directed archaeological monitoring and a Phase I cultural resources assessment in support of an EIR for medical center expansion in Sylmar. Two historic resources were identified and determined not significant under CEQA. Monica responded to a discoveries made by construction personnel and determined prehistoric artifacts were present in native soil within the project area.

Temple Street Widening Archaeological Monitoring and Assessment Project, *Los Angeles, CA. Project Director.* Working for the City of Los Angeles, Department of Public Works, Monica directed archaeological monitoring conducted during the widening of Temple Street in downtown Los Angeles. She conducted extensive coordination with general and sub contractors and responded to discoveries including and segment of the zanja irrigation ditch and a large historic refuse deposit to determine appropriate treatment. She developed mitigation and monitored the implementation of mitigation for the zanja including concrete capping and the installation of an interpretive plaque.

Relevant Experience (Continued)

Exposition Corridor Transit Project – Phase 2 Phase 1 Archaeological Assessment Project, *Los Angeles CA. Project Director.* Working for DMJM Harris, Monica directed archaeological, historic architectural, and paleontological resources assessment in compliance with CEQA and Section 106 regulations. Project involved archaeological, paleontological, and historic architectural survey of 6- mile alignment, production of APE maps, consultation with SHPO and the preparation of technical reports and EIR sections.

Van Norman Chloramination Station Archaeological/Paleontological Monitoring Project, *San Fernando CA. Project Director.* Working for the City of Los Angeles, Department of Water and Power, Monica directed archaeological/paleontological and Native American monitoring during project construction. Resources identified during monitoring were assessed for significance under CEQA.

Lang Ranch Community Park Phase 1 Archaeological Testing and Assessment Project, *Thousand Oaks, CA. Project Director.* Working for the Conejo Park and Recreation District, Monica directed a Phase I archaeological survey of the 46-acre project area. Project work involved the archaeological testing at two artifact isolate locations to determine presence of sub-surface deposits and coordination with Native American representatives. Monica prepared an Archaeological Resources Technical Report and EIR section with findings and recommendations for further work, pursuant to CEQA requirements.

Woodland Duck Farm Phase 1 Cultural Resources Assessment Project, *Avocado Heights, CA. Project Director.* As a consultant to the San Gabriel & Lower Los Angeles Rivers and Mountains Conservancy, Monica directed a Phase I cultural resources evaluation of the historic-era Woodland Duck Farm property. She conducted a California Register eligibility assessment for several duck farm buildings and archaeological features identified as a result of the survey. Monica directed extensive background research concerning the history of the duck farm and poultry farming in general and prepared a Cultural Resources Technical Report and MND section with findings and recommendations for further work, pursuant to CEQA requirements.

San Clemente Island Section 106 Archaeological Resources Testing and Evaluation Project, Los Angeles County, *CA. Project Director* Working for the U.S. Navy, Southwest Division, Monica designed a research strategy and directed a testing program in strict accordance with guidelines set forth by the U.S. Navy and in compliance with Section 106. She authored a comprehensive technical report which considers the results of the testing program in relation to current California coast and San Clemente Island research questions and evaluates the sites for eligibility for the National Register.

San Gabriel River Discovery Center at Whittier Narrows Phase 1 Cultural Resources Assessment Project, *Los Angeles County, CA. Project Director.*

Relevant Experience (Continued)

CLIENT: City of Los Angeles, Department of Public Works. Directed a Phase I cultural resources evaluation of the historic-era Discovery Center. Conducted a National Register and California Register eligibility assessment for several historic-era buildings identified as a result of the survey. Conducted background research concerning the history of the duck farm and poultry farming in general including consultation with local Native American representatives. Prepared a Cultural Resources Technical Report with findings and recommendations for further work, pursuant to NEPA and CEQA requirements.

Hellman Ranch Monitoring Project*, Orange County, CA. Archaeological Monitor.* Working for John Laing Homes, Monica conducted archaeological monitoring during the initial rough grade phases of construction at Hellman Ranch. She coordinated with a team of monitors and Native American representatives. She worked with equipment operators according to predetermined monitoring protocols

Home Depot Monitoring and Assessment Project – Lake Elsinore*, Riverside County, CA. Project Director.* As a consultant to Twining Laboratories, Monica directed archaeological monitoring of Caltrans road-widening in the vicinity of a historic cemetery and coordinated her findings with Caltrans.

Public Safety Facilities Master Plan Phase 1 Archaeological Resources Evaluation Project*, Los Angeles County, CA. Project Director.* Working for the City of Los Angeles, Department of Public Works, Monica directed a Phase I archaeological resources evaluation of an approximately five-square block area in downtown Los Angeles. Project work involved an extensive investigation of the area during the cities' early pueblo years and specifically the Zanja Madre irrigation system. Monica prepared a technical report with findings and recommendations for further work, pursuant to CEQA requirements.

Ivy Street Bridge Phase 1 and Extended Phase 1 Archaeological Resources Testing and Evaluation Project*, Murrieta, CA. Project Director.* Working for T.Y. Lin and the City of Murrieta on a project that proposed to construct a bridge over Murietta Creek, Monica directed an Extended Phase I Testing Program in compliance with Section 106 review. She coordinated with Caltrans to meet Section 106 compliance and evaluated project effects on a nearby ethnohistoric Native American site. Monica coordinated extensively with Native American representatives and developed appropriate mitigation to be carried out prior to and during construction.

Lake Hodges Archaeological Resources Evaluation Project*, San Diego County, CA. Research Assistant.* Working for the San Diego County Water Authority, Monica conducted laboratory analysis of the groundstone tool collection recovered as a result of testing at a number of sites near Lake Hodges. She prepared a report that documented the findings of her analysis.

Relevant Experience (Continued)

Haiwee Dam Phase 1 Archaeological Resources Evaluation Project*, Lone Pine, CA. Field Archaeologist.* Working for the City of Los Angeles, Department of Water and Power, Monica participated in archaeological field survey involving the identification and recording of prehistoric and historic archaeological sites and structures in preparation for the construction of a new dam.

Arroyo Seco Bike Path Phase 1 Cultural Resources Evaluation Project*, Los Angeles, CA. Project Director.* Working for the County of Los Angeles, Department of Public Works in connection with a project to make improvements to the Arroyo Seco Channel, Monica managed all aspects of Section 106 review in accordance with Caltrans Cultural Resources Environmental guidelines. Monica and her team evaluated the Arroyo Seco Channel, identified character-defining features, informed the design of channel improvements to retain such features, and addressed the channels' potential for eligibility as part of a larger Los Angeles Country water management district. She developed the research strategy, directed the field teams, and prepared cultural resources assessment documentation for approval by Caltrans and FHWA, as well as the cultural resources section for a Mitigated Negative Declaration.

LMXU Archaeological resources Evaluation Project*, San Diego County, CA. Archaeological Researcher.* CLIENT: Confidential. Working for a confidential client, Monica conducted artifact analysis of groundstone artifacts recovered during excavations at sites in San Diego County.

I-5 Manchester*, San Diego County, CA. Archaeological Researcher.* CLIENT: Dokken Engineering for the City of Encinitas. As a consultant to Dokken Engineering for the City of Encinitas, Monica participated in identifying and compiling historic properties within the project area.

North Baja Pipeline Project*, Imperial County, Ehrenberg, AZ to Mexican Border. Archaeological Surveyor/Excavator.* As a consultant to Pacific Gas & Electric, Monica conducted survey, mapping, and excavation of prehistoric sites for the installation of a natural gas pipeline from Blythe, California, to Yuma, Arizona.

Public Outreach and Education

2008. Public Outreach speaker at Chinese Historical Society meeting. Project: Central Los Angeles High School #9. Client: Los Angeles Unified School District.

2006. Guest lecturer at Laurel Hall Elementary and Middle School regarding archaeology in southern California, North Hollywood, CA.

2003. Volunteer lecturer and field advisor at San Clemente Island Field School.

Relevant Experience (Continued)

2003. Key speaker at Seal Beach Historical Society community outreach meeting regarding findings from the Hellman Ranch Archaeological Sites, Seal Beach, CA.

2002. Guest lecturer at Rosemead Elementary School regarding career opportunities in cultural resources management, Rosemead, CA.

1998–2000. Appointment at California State University, Northridge, Anthropology Department. Directed undergraduate peer student advisement center, counseled students regarding course selection graduation reparation, and employment opportunities.

Appendix B
Native American and Interested Parties Contact

ESA

STATE OF CALIFORNIA Arnold Schwarzenegger, Governor

NATIVE AMERICAN HERITAGE COMMISSION
915 CAPITOL MALL, ROOM 364
SACRAMENTO, CA 95814
(916) 653-6251
Fax (916) 657-5390
Web Site www.nahc.ca.gov
ds_nahc@pacbell.net

November 12, 2010

Ms. Madeleine Bray, Cultural Resources
ESA Los Angeles
626 Wilshire Boulevard, Suite 1100
Los Angeles, CA 90017

Sent by FAX to: 213-599-4301
No. of Pages: 5

Re: Request for a Sacred Lands File Search and Native American Contacts list for the **"Cadiz Groundwater Conservation and Storage Project;"** located in the Cadiz, Cadiz Summit, Cadiz Lake, Calumet Mine, Chubbuck, Milligan, Danby Lake, Sablon and the Arica Mountains; San Bernardino County, California.

Dear Ms. Bray:

The Native American Heritage Commission (NAHC), the State of California 'Trustee Agency' for the protection and preservation of Native American cultural resources. The NAHC Sacred Lands File (SLF) search, **did Indicate** the presence of Native American cultural resources within one-half mile of the proposed project site (APE) in the Arica Mountains, but not in the other USGS coordinates you provided. However, there are Native American cultural resources in close proximity to the other APEs/USGS coordinates.

Also, this letter includes state and federal statutes relating to Native American historic properties of religious and cultural significance to American Indian tribes and interested Native American individuals as 'consulting parties' under both state and federal law. State law also addresses the freedom of Native American Religious Expression in Public Resources Code §5097.9.

The California Environmental Quality Act (CEQA – CA Public Resources Code 21000-21177, amendments effective 3/18/2010) requires that any project that causes a substantial adverse change in the significance of an historical resource, that includes archaeological resources, is a 'significant effect' requiring the preparation of an Environmental Impact Report (EIR) per the CEQA Guidelines defines a significant impact on the environment as 'a substantial, or potentially substantial, adverse change in any of physical conditions within an area affected by the proposed project, including ...objects of historic or aesthetic significance." In order to comply with this provision, the lead agency is required to assess whether the project will have an adverse impact on these resources within the 'area of potential effect (APE), and if so, to mitigate that effect.

Early consultation with Native American tribes in your area is the best way to avoid unanticipated discoveries once a project is underway. Culturally affiliated tribes and individuals may have knowledge of the religious and cultural significance of the historic properties in the project area (e.g. APE). We strongly recommend that you contact persons on the attached list of Native American contacts, including non federally recognized tribes/tribal representatives as they are persons with unique expertise in articulating Native American cultural resources.

Furthermore we suggest that you contact the California Historic Resources Information System (CHRIS) for pertinent archaeological data within or near the APE, at (916) 445-7000 for the nearest Information Center.

Consultation with tribes and interested Native American consulting parties, on the NAHC list, should be conducted in compliance with the requirements of federal NEPA (42 U.S.C 4321-43351) and Section 106 and 4(f) of federal NHPA (16 U.S.C. 470 *et seq*), 36 CFR Part 800.3 (f) (2) & .5, the President's Council on Environmental Quality (CSQ, 42 U.S.C 4371 *et seq.* and NAGPRA (25 U.S.C. 3001-3013) as appropriate. The 1992 *Secretary of the Interiors Standards for the Treatment of Historic Properties* were revised so that they could be applied to all historic resource types included in the National Register of Historic Places and including cultural landscapes. Also, federal Executive Orders Nos. 11593 (preservation of cultural environment), 13175 (coordination & consultation) and 13007 (Sacred Sites) are helpful, supportive guides for Section 106 consultation.

Also, Public Resources Code Section 5097.98 and Health & Safety Code Section 7050.5 provide for provisions for accidentally discovered archeological resources during construction and mandate the processes to be followed in the event of an accidental discovery of any human remains in a project location other than a 'dedicated cemetery'.

To be effective, consultation on specific projects must be the result of an ongoing relationship between Native American tribes and lead agencies, project proponents and their contractors, in the opinion of the NAHC. Regarding tribal consultation, a relationship built around regular meetings and informal involvement with local tribes will lead to more qualitative consultation tribal input on specific projects. Also, the 2006 SB 1059 the state enabling legislation to the Federal Energy Policy Act of 2005, does mandate tribal consultation for the 'electric transmission corridors.' This is codified in the California Public Resources Code, Chapter 4.3, and §25330 to Division 15, requires consultation with California Native American tribes, and identifies both federally recognized and non-federally recognized on a list maintained by the NAHC. Consultation with Native American communities is also a matter of environmental justice as defined by California Government Code §65040.12(e).

The response to this search for Native American cultural resources is conducted in the NAHC Sacred Lands Inventory, established by the California Legislature (CA Public Resources Code 5097.94(a) and is exempt from the CA Public Records Act (c.f. California Government Code 6254.10) although Native Americans on the attached contact list may wish to reveal the nature of identified cultural resources/historic properties. Confidentiality of "historic properties of religious and cultural significance" may also be protected under Section 304 of he NHA or at the Secretary of the Interior discretion if not eligible for listing on the National Register of Historic Places. The Secretary may also be advised by the federal Indian Religious Freedom Act (cf. 42 U.S.C., 1996) in issuing a decision on whether or not to disclose items of religious and/or cultural significance identified in or near the APE and possibility threatened by proposed project activity.

If you have any questions about this response to your request, please do not hesitate to contact me at (916) 653-6251.

Sincerely,

Dave Singleton
Program Analyst

Attachment: Native American Contact List

Native American Contacts
San Bernardino County
November 12, 2010

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
P.O. Box 391670 Cahuilla
Anza , CA 92539
admin@ramonatribe.com
(951) 763-4105
(951) 763-4325 Fax

Chemehuevi Reservation
Charles Wood, Chairperson
P.O. Box 1976 Chemehuevi
Chemehuevi Valley CA 92363
chair1cit@yahoo.com
(760) 858-4301
(760) 858-5400 Fax

San Manuel Band of Mission Indians
James Ramos, Chairperson
26569 Community Center Drive Serrano
Highland , CA 92346
(909) 864-8933
(909) 864-3724 - FAX
(909) 864-3370 Fax

Fort Mojave Indian Tribe
Tim Williams, Chairperson
500 Merriman Ave Mojave
Needles , CA 92363
(760) 629-4591
(760) 629-5767 Fax

Twenty-Nine Palms Band of Mission Indians
Darrell Mike, Chairperson
46-200 Harrison Place Chemehuevi
Coachella , CA 92236
tribal-epa@worldnet.att.net
(760) 775-5566
(760) 775-4639 Fax

Colorado River Reservation
Ginger Scott, Acting Cultural Contact
26600 Mojave Road Mojave
Parker , AZ 85344 Chemehuevi
symi@rraz.net
(928) 669-9211
(928) 669-5675 Fax

Joseph R. Benitez (Mike)
P.O. Box 1829 Chemehuevi
Indio , CA 92201
(760) 347-0488
(760) 408-4089 - cell

AhaMaKav Cultural Society, Fort Mojave Indian
Linda Otero, Director
P.O. Box 5990 Mojave
Mohave Valley AZ 86440
lindaotero@fortmojave,
(928) 768-4475
(928) 768-7996 Fax

This list is current only as of the date of this document.

Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resources Code and Section 5097.98 of the Public Resources Code. Also, federal National Environmental Policy Act (NEPA), National Historic Preservation Act, Section 106 and fed eral NAGPRA. And 36 CFR Part 800.

This list is only applicable for contacting local Native Americans for consultation purposes with regard to cultural resources impact by the proposed Cadiz Groundwater Conservation and Storage Project; to provide a storage facility for the Santa Margarita Water District and other agencies; located 60 miles southwest of Needles and 40 miles northeast of Twentynine Plams; San Bernardino County for which a Sacred Lands File search was request

Native American Contacts
San Bernardino County
November 12, 2010

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Prog.
12700 Pumarra Road Cahuilla
Banning , CA 92220 Serrano
(951) 201-1866 - cell
mcontreras@morongo-nsn.gov
(951) 922-0105 Fax

Fort Mojave Indian Tribe
Esadora Evanston, Environmental Coordinator
500 Merriman Ave Mojave
Needles , CA 92363
region9epa@ftmojave.com
(760) 326-1112
(760) 629-4591
(760) 629-5767 Fax

San Manuel Band of Mission Indians
Ann Brierty, Policy/Cultural Resources Departmen
26569 Community Center. Drive Serrano
Highland , CA 92346
(909) 864-8933, Ext 3250
abrierty@sanmanuel-nsn.gov
(909) 862-5152 Fax

Quenchan Indian Nation
Bridget Nash-Chrabascz, THPO
P.O. Box 1899 Quechan
Yuma , AZ 85366
b.nash@quechantribe.com
(928) 920-6068 - CELL
(760) 572-2423

Fort Mojave Indian Tribe
Nora McDowell, Cultural Resources Coordinator
500 Merriman Ave Mojave
Needles , CA 92363
g.goforth@fortmojave.com
(760) 629-4591
(760) 629-5767 Fax

Ah-Mut-Pipa Foundation
Preston J. Arrow-weed
P.O. Box 160 Quechan
Bard , CA 92222 Kumeyaay
ahmut@earthlink.net
(928) 388-9456

Serrano Nation of Indians
Goldie Walker
P.O. Box 343 Serrano
Patton , CA 92369

(909) 862-9883

Ernest H. Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road Serrano
Banning , CA 92220 Cahuilla
siva@dishmail.com
(951) 849-4676

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Native American Contacts
San Bernardino County
November 12, 2010

MOAPA Paiute Band of the Moapa Reservation
Attn: Cultural Resources Department
P.O. Box 340 Paiute
Moapa , NV 89025
(702) 865-2787
(702) 865-2875 - FAX

Las Vegas Paiute Tribe
Attn: Cultural Resources Department
1 Paiute Drive Paiute
Las Vegas , NV 89106

(702) 386-3926
(702) 383-4019 - FAX

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626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Ramona Band of Cahuilla Mission Indians
Joseph Hamilton, Chairman
PO Box 391670
Anza, CA 92539

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Chairman Hamilton:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Thank you for your time and cooperation regarding this matter. Please contact me at 213.599.4300 or mbray@esassoc.com if you have any questions.

Sincerely,

Madeline Bray

Madeline Bray
Cultural Resources Associate

Attachment

626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

San Manuel Band of Mission Indians
James Ramon, Chairperson
26569 Community Center Drive
Highland, CA 92346

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Chairman Ramon:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Twenty-Nin Palms Band of Mission Indians
Darrell Mike, Chairperson
46-200 Harrison Place
Coachella, CA 92236

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Chairman Mike:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Joseph R. Benitez (Mike)
PO Box 1829
Indio, CA 92201

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Mr. Benitez:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Chemehuevi Reservation
Charles Wood, Chairperson
PO Box 1976
Chemehuevi Valley, CA 92363

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Chairman Wood:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Attachment

626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Fort Mojave Indian Tribe
Tim Williams, Chairperson
500 Merriman Ave
Needles, CA 92363

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Chairman Williams:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Sincerely,

Madeline Bray

Madeline Bray
Cultural Resources Associate

Attachment

626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Colorado River Reservation
Ginger Scott, Acting Cultural Contact
26600 Mojave Road
Parker, AZ 85344

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Ms. Scott:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Cultural Resources Associate

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626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

AhaMaKav Cultural Society, Fort Mojave Indian
Linda Otero, Director
PO Box 5990
Mohave Valley, AZ 86440

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Director Otero:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Cultural Resources Associate

Attachment

626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Morongo Band of Mission Indians
Michael Contreras, Cultural Heritage Program
12700 Pumarra Road
Banning, CA 92220

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Mr. Contreras:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Madeline Bray

Madeline Bray
Cultural Resources Associate

Attachment

626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

San Manuel Band of Mission Indians
Ann Brierty, Policy/Cultural Resources Department
28669 Community Center Drive
Highland CA 92346

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Ms. Brierty:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Madeline Bray

Madeline Bray
Cultural Resources Associate

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626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Fort Mojave Indian Tribe
Nora McDowell, Cultural Resources Coordinator
500 Merriman Ave
Needles, CA 92363

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Ms. McDowell:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Cultural Resources Associate

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626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

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November 17, 2010

Serrano Nation of Indians
Goldie Walker
PO Box 343
Patton, CA 92369

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Ms. Walker:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Cultural Resources Associate

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Suite 100
Los Angeles, CA 90017
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November 17, 2010

Fort Mojave Indian Tribe
Esadora Evanston, Environmental Coordinator
500 Merriman Ave
Needles, CA 92363

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Ms. Evanston:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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November 17, 2010

Quenchan Indian Nation
Bridget Nash-Chrabascz, THPO
PO Box 1899
Yuma, AZ 85366

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Ms. Nash-Chrabascz:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

In an effort to address any potential impact to archaeological or ethnographic resources, we are seeking comments from Native American representatives; your name was supplied to us by the Native American Heritage Commission as a contact for this area. We would appreciate your comments concerning any knowledge you would like to share regarding archaeological or traditional cultural resources that may be pertinent to this project.

Thank you for your time and cooperation regarding this matter. Please contact me at 213.599.4300 or mbray@esassoc.com if you have any questions.

Sincerely,

Madeline Bray

Madeline Bray
Cultural Resources Associate

Attachment

626 Wilshire Blvd
Suite 100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Ah-Mut-Pipa Foundation
Preston J Arrow-weed
PO Box 160
Bard, CA 92222

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Mr. Arrow-weed:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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November 17, 2010

Ernest H Siva
Morongo Band of Mission Indians Tribal Elder
9570 Mias Canyon Road
Banning, CA 92220

Subject: Cadiz Groundwater Conservation and Storage Project

Dear Mr. Siva:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Los Angeles, CA 90017
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213.599.4301 fax

www.esassoc.com

November 17, 2010

MOAPA Paiute Band of the Moapa Reservation
Attn: Cultural Resources Department
PO Box 340
Moapa, NV 89025

Subject: Cadiz Groundwater Conservation and Storage Project

To Whom It May Concern:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Madeline Bray

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Cultural Resources Associate

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626 Wilshire Blvd
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Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

November 17, 2010

Las Vegas Paiute Tribe
Attn: Cultural Resources Department
1 Paiute Drive
Las Vegas, NV 89106

Subject: Cadiz Groundwater Conservation and Storage Project

To Whom It May Concern:

ESA is conducting environmental studies for the Cadiz Groundwater Conservation and Storage Project (Project). The Project is a water supply and conjunctive use storage project that would actively manage the groundwater basin within the Fenner Watershed in the eastern Mojave Desert for the purposes of developing a new reliable water supply and storage facility for the Santa Margarita Water District (SMWD) and other participating water agencies. Groundwater extraction wells would be constructed on land owned by Cadiz, Inc. within the Fenner Gap area and a 44-mile pipeline would be installed connecting the wellfield to the Colorado River Aqueduct. The Project area is located in the eastern Mojave Desert of San Bernardino County, California approximately 200 miles east of Los Angeles, 60 miles southwest of Needles, and 40 miles northeast of Twentynine Palms (see attached map).

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Madeline Bray

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Cultural Resources Associate

Attachment

ESA

626 Wilshire Boulevard
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Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

telephone notes

project	Cadiz	project no.	210324
date	January 20, 2011	time	12:05
present	Joseph R. Benitez, Monica Strauss		
route to			

contact	Joseph R. Benitez
title	Chemehuevi Tribal Elder
agency	
phone	760-347-0488
subject	Cadiz cultural resources concerns

action required

Instigated call and spoke with Joseph Benitez at 760-347-0488 at 12:05 PM on Jan 20, 2011. He indicates that the Old Mountain range is a sacred site and that the general project area was likely used prehistorically by the Chemehuevi to traverse to and from the Lake Havasu area. Indicates that there could be a possibility of archaeological sites, especially near watercourses. I explained that the pipeline survey (in RR ROW) did not result in the identification of any prehistoric sites and that the wellfield still needed to be surveyed. He asked that he be kept informed of the project as it progresses. I indicated that his comments would be noted in the EIR and that he would be added to the distribution list.

ESA

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Suite 1100
Los Angeles, CA 90017
213.599.4300 phone
213.599.4301 fax

www.esassoc.com

telephone notes

project	Cadiz	project no.	210324
date	February 2, 2011	time	8:45 AM
present	Bridget Nash, Monica Strauss		
route to			

contact	Bridget Nash
title	Quechan Tribe Historic Preservation Officer
agency	
phone	760-572-2423
subject	Cadiz cultural resources concerns

action required

Bridget Nash returned my call from a couple of weeks ago. The tribe is concerned that there may be prehistoric archaeological sites, pictographs and petroglyphs in the vicinity of the project. They would like an archaeological survey to be conducted and would like an opportunity to review the report. Also, the tribe is concerned about visual impacts that the project might have on the cultural traditional significance associated with the Old Woman Mountains. They would like to see these visual impacts taken into consideration .

I gave her an update that we had completed the survey of the pipeline component and that no prehistoric sites or isolates were identified, only historic-period sites. I explained that the pipeline would be installed within the RR ROW. She seemed more concerned with the well field component and the scale of the project on the landscape.

I let her know that we would document her concerns in our technical report (pipeline portion of the project only) and that the well field would be subject to separate technical study at a future date presently unknown. I indicated that we were adding the Quechan, along with all others on the NAHC list, to the distribution list for the project.

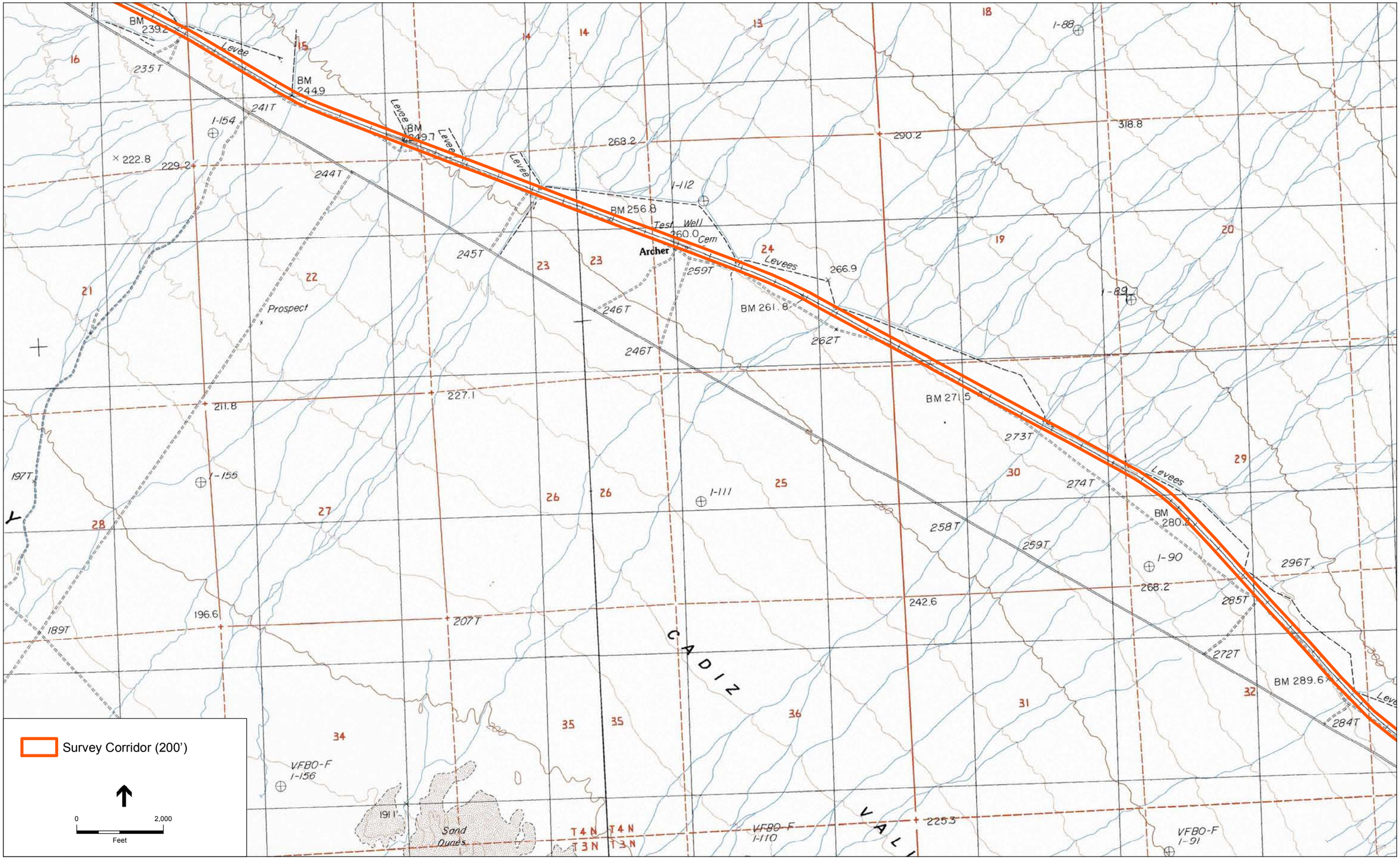
Appendix C

Survey Coverage on USGS Topographic Maps (1:24000)

ESA

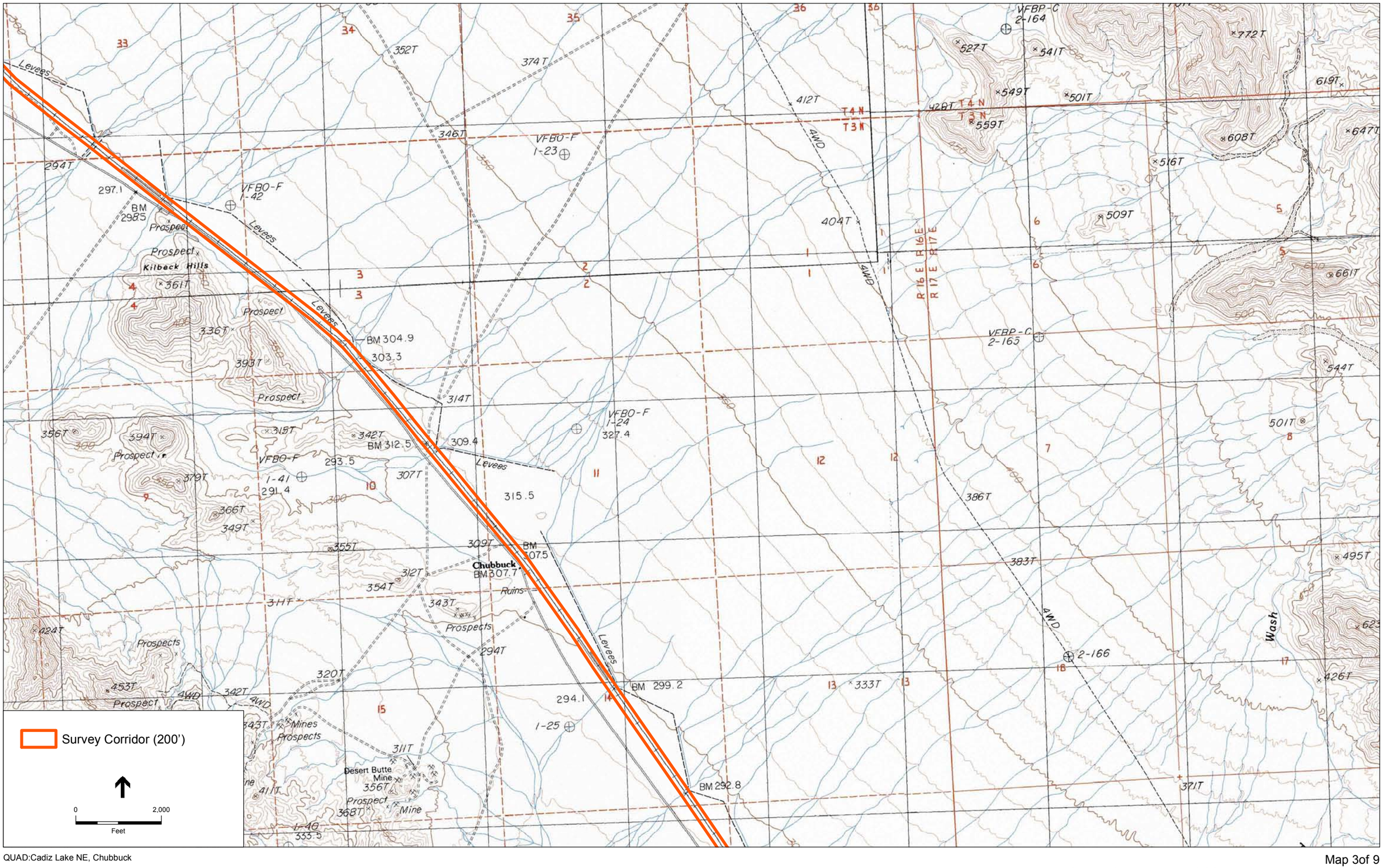
QUAD: Cadiz Lake NW

Map 1of 9
Survey Coverage on USGS Topographic Maps (1:24000)

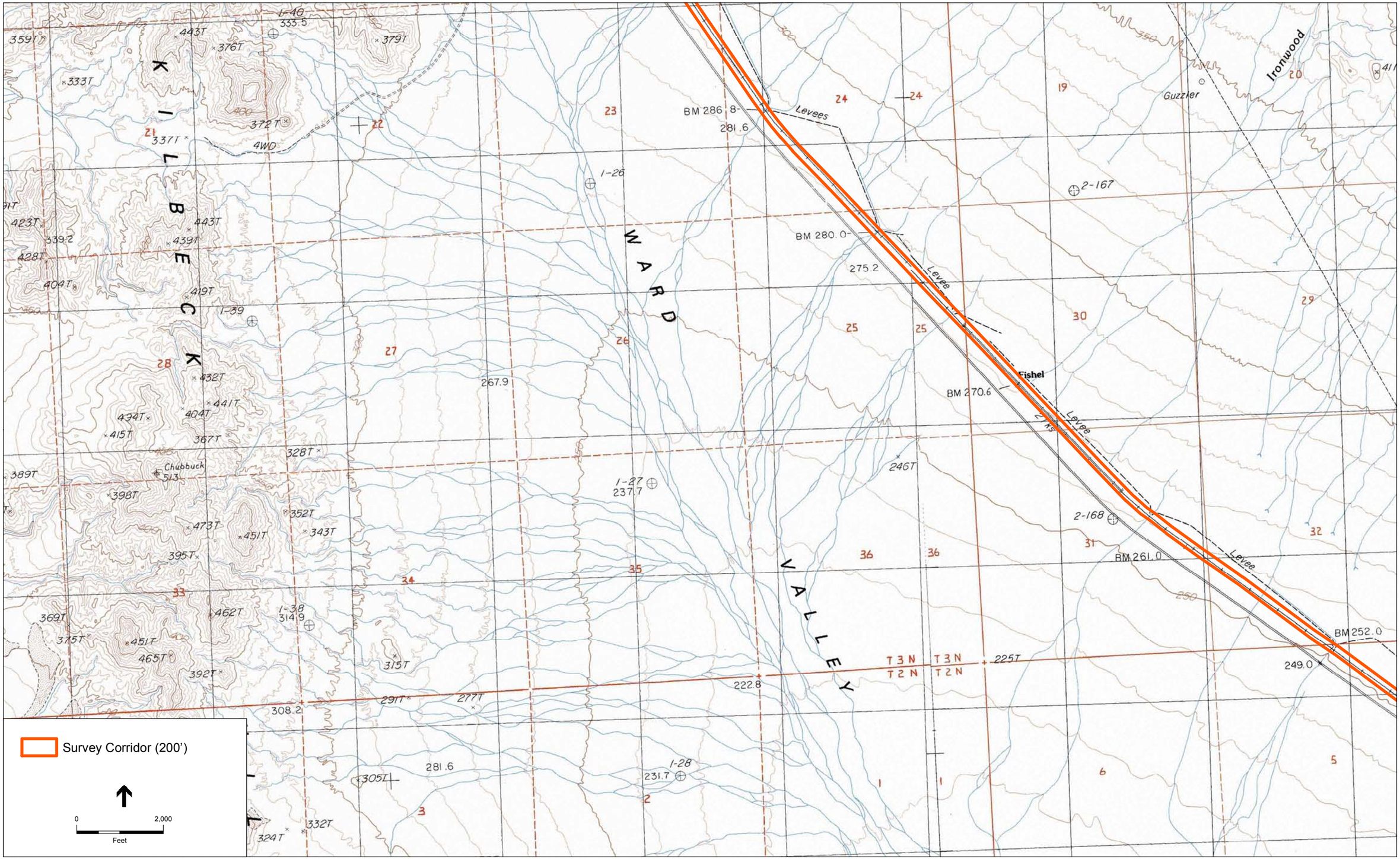


QUAD: Cadiz Lake NW, Cadiz Lake NE

Map 2of 9
Survey Coverage on USGS Topographic Maps (1:24000)

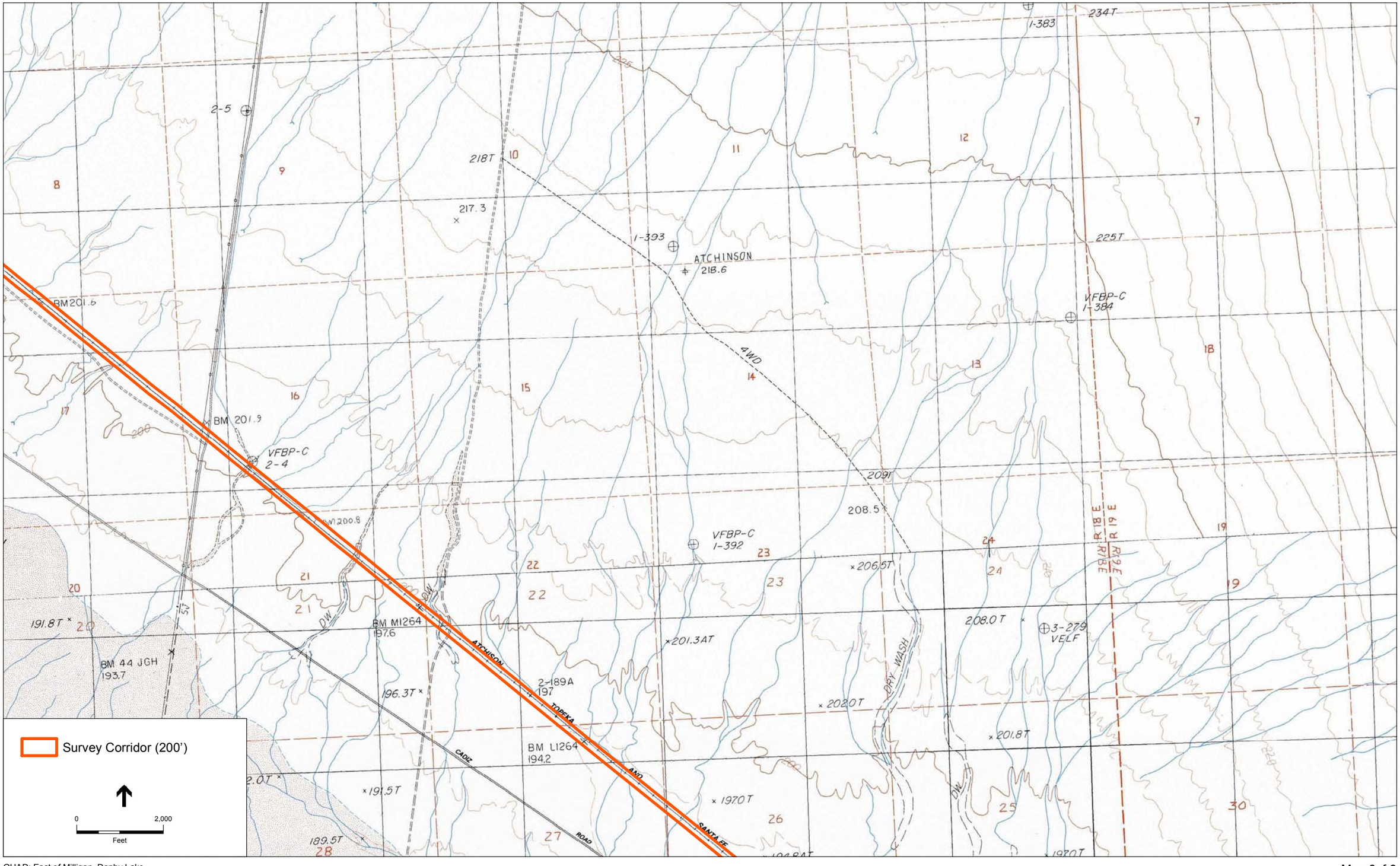


QUAD:Cadiz Lake NE, Chubbuck



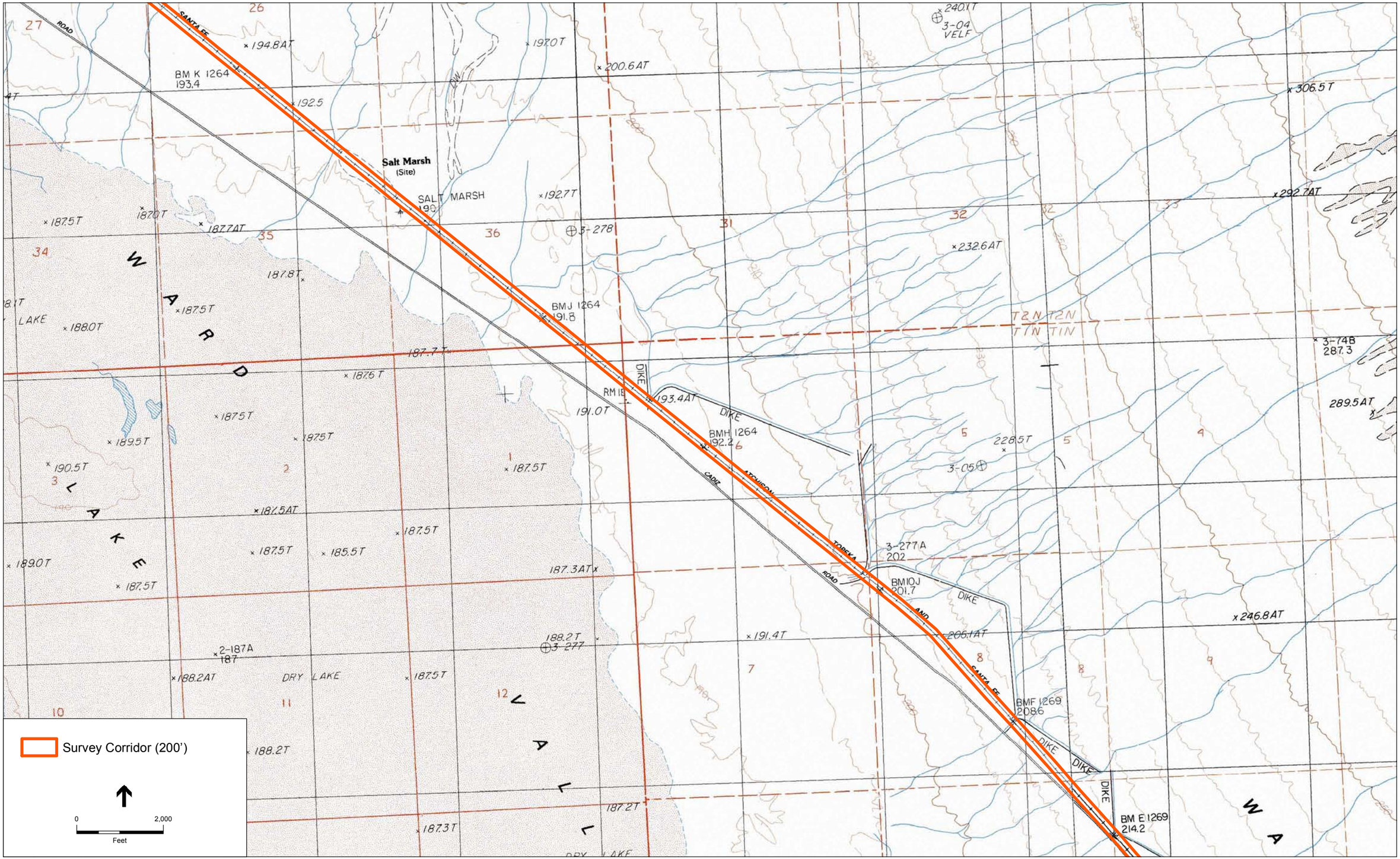
QUAD: Chubbuck, Milligan

QUAD: Milligan, East of Milligan

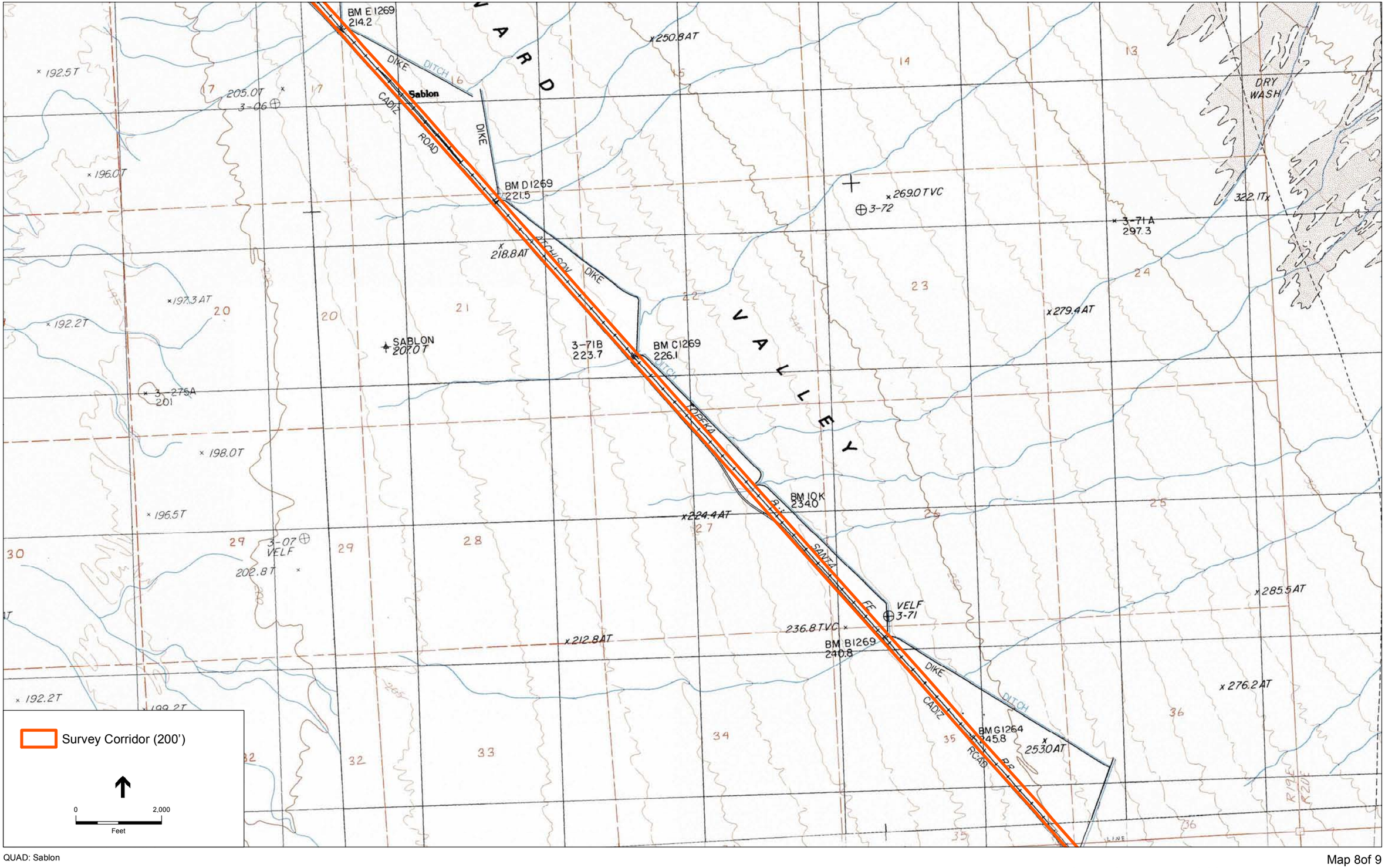


QUAD: East of Milligan, Danby Lake

Map 6of 9
Survey Coverage on USGS Topographic Maps (1:24000)

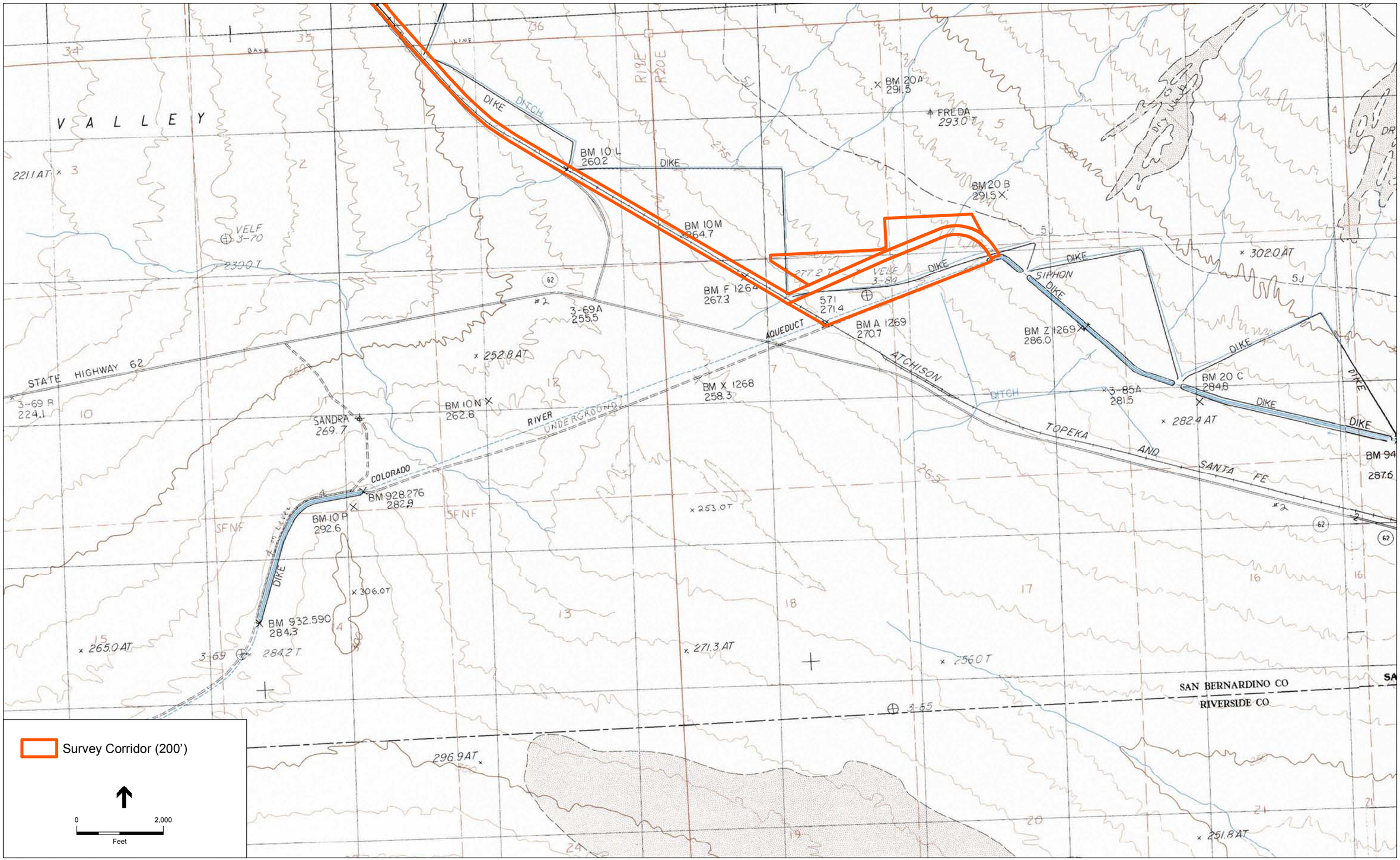


QUAD: Danby Lake, Sablon



QUAD: Sablon

Map 8of 9
Survey Coverage on USGS Topographic Maps (1:24000)



QUAD: Arica Mountains

Map 9of 9
Survey Coverage on USGS Topographic Maps (1:24000)

Appendix D (Confidential)

Cultural Resources Location Map
(Figure 4)

ESA

Appendix E (Confidential)
DPR Forms

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