# APPENDIX I

*Cultural Resources Report*

# CULTURAL RESOURCES INVENTORY AND EVALUATION REPORT IN SUPPORT OF SECTION 106 OF THE NHPA

**for the**

# CAMPO WIND PROJECT WITH BOULDER BRUSH FACILITIES

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# Cultural Resources Inventory and Evaluation Report for the Campo Wind Project with Boulder Brush Facilities

## NATIONAL ARCHAEOLOGICAL DATABASE (NADB) INFORMATION

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**Report Title:** Cultural Resources Inventory and Evaluation Report for the Campo Wind Project with Boulder Brush Facilities, San Diego County, California

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**New Sites:** CWA-S-001, CWA-S-004, CWA-S-005, CWS-S-006, CWS-S-007, CWS-S-008, CWS-S-009, CWS-S-010, CWS-S-011, CWS-S-012; ECWEP-I-015, ECWEP-SW-001, ECWEP-SW-003, ECWEP-SW-005, ECWEP-SW-006, ECWEP-SW-007, ECWEP-SW-009, ECWEP-SW-011, ECWEP-SW-017, TW-S-001, TW-S-002, TW-S-003, TW-S-007,TW-S-008, TW-S-009, TW-S-010, TW-S-011, TW-S-012, TW-S-013, TW-S-014, TW-S-015, TW-S-016, TW-S-017, TW-S-030, TW-S-031, TW-S-033, TW-S-034, TW-S-035

**Updated Sites:** CA-SDI-4005, CA-SDI-6891, CA- SDI-7136, CA-SDI-7138, CA-SDI-7139, CA-SDI-7140, CA-SDI-7145, CA-SDI-7148, CA-SDI-7149, CA-SDI-7151, CA-SDI-7152, CA-SDI-7156, CA-SDI7163, CA-SDI-7258, CA-SDI-8198, CA-SDI-8939, CA-SDI-8945, CA-SDI-8946, CA-SDI-8962, CA-SDI-8963, CA-SDI-8968, CA-SDI-8977, CA-SDI-8980, CA-SDI-8985, CA-SDI-8986, CA-SDI-9018, CA-SDI-9050, CA-SDI-9059, CA-SDI-17205, CA-SDI- SDI-18048, CA-SDI- SDI-18049, CA-SDI- SDI-19859, CA-SDI-20368, CA-SDI-20586, CA-SDI-20587, CA-SDI-20588, CA-SDI-20590, CA-SDI-20591, CA-SDI-20592, CA-SDI-20593, CA-SDI-20594, CA-SDI-20597, CA-SDI-20598, CA-SDI-20599, CA-SDI-20604, CA-SDI-20605, CA-SDI-20607, CA-SDI-20608, CA-SDI-20610, CA-SDI-20611, CA-SDI-21776, P-37-024023, P-37-025680

# Cultural Resources Inventory and Evaluation Report for the Campo Wind Project with Boulder Brush Facilities

**New Isolates:** CWA-I-001, CWA-I-002, CWA-I-003, CWA-I-004, CWA-I-005, CWS-I-006, CWS-I-008, CWS-I-008, CWS-I-010, CWS-I-011, CWA-S-002, ECWEP-I-001, ECWEP-I-006, ECWEP-I-008, ECWEP-I-009, ECWEP-I-012, ECWEP-I-013, ECWEP-I-014, ECWEP-I-016, ECWEP-I-017, ECWEP-I-018, ECWEP-I-020, ECWEP-I-025, ECWEP-I-028, ECWEP-I-029, ECWEP-I-030, TW-I-001, TW-I-002, TW-I-003, TW-I-004, TW-I-005, TW-I-006, TW-I-007, TW-I-008, TW-I-014, TW-I-015, TW-I-016, TW-I-017, TW-I-018, TW-I-019, TW-I-020, TW-I-021, TW-I-022, TW-I-023, TW-I-024, TW-I-025, TW-I-026, TW-I-027, TW-I-028, TW-I-029, TW-I-030, TW-I-031, TW-I-033, TW-I-039, TW-I-040, TW-I-041, TW-I-042, TW-I-043, TW-I-045, TW-I-046, TW-I-047, TW-I-050, TW-I-051, TW-I-052, TW-I-054

**Updated Isolates:** P-37-032854

**USGS Quads:** Township 16S, Range 7E, Sections 19, 20, 29, 31, and 32; Township 17S, Range 7E, Sections 5, 6, 7, and 8; Township 17S, Range 6E, Sections 1, 3, 10-15, 17, 20-22, 27, 28, and 33-36; and Township 18S, Range 6E, Sections 3, 4, 5, 8, 9, 10, 15, and 17 on the Campo, Tierra Del Sol, Cameron Corners, Sombrero Peak, and Live Oak Springs, CA 7.5'

**Acreage:** 2768 acres (APE)

**Permit Numbers:** None Available

**Keywords:** Inventory; survey; lithic scatter; projectile point; groundstone; ceramic scatter; biface; millingstone; human remains; debitage; midden; habitation; ceramic scatter; artifact scatter; Obsidian Butte; chert; chalcedony; volcanic; quartz; brownware, buffware, bowl; historic refuse; cans; bottle; ranching; coral; Campo; Section 106; NHPA; NRHP; NAGPRA; Boulder Brush; Campo Wind; railroad; historic road

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# ACRONYMS AND ABBREVIATIONS

| Acronym/Abbreviation | Definition |
|---|---|
| ADI | area of direct impact |
| APE | area of potential effect |
| APN | Assessor's Parcel Number |
| BIA | Bureau of Indian Affairs |
| CCR | California Code of Regulations |
| CCS | cryptocrystalline silica |
| CFR | Code of Federal Regulations |
| CM | centimeters |
| CRHR | California Register of Historical Resources |
| DPR | California Department of Parks and Recreation |
| ECO | East County |
| GIS | geographic information system |
| FFT | formed flake tool |
| GPS | Global Positioning system |
| NRHP | National Register of Historic Places |
| RPA | Register of Professional Archaeologists |
| SCIC | South Coastal Information Center |
| SDG&E | San Diego Gas & Electric Company |
| SHPO | State Historic Preservation Officer |
| USC | United States Code |
| USGS | U.S. Geological Survey |

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# MANAGEMENT SUMMARY

This report presents the results of Dudek's cultural resources inventory and evaluation for the Campo Wind Project with Boulder Brush Facilities (Project), located on the Campo Indian Reservation (Reservation) and adjacent private lands in southeastern San Diego County, California. Terra-Gen Development Company LLC (Terra-Gen; developer) is proposing to construct and operate the Project. The Project site is located in Township 17S, Range 6E, Sections 1, 3, 10-15, 17, 20-22, 27, 28, and 33–36 and Township 18S, Range 6E, Sections 3, 4, 5, 8, 9, 10, 15, and 17 on the Campo, Tierra Del Sol, Cameron Corners, and Live Oak Springs, CA 7.5′ USGS topographic maps. As the Project is in part located on federally administered land, it constitutes an undertaking under Section 106 of the National Historic Preservation Act (NHPA). This report was prepared to satisfy the requirements set forth in Section 106 and its implementing regulations (36 CFR, Part 800). The Bureau of Indian Affairs (BIA) is the lead agency responsible for compliance with Section 106. The Area of Potential Effects (APE) for the undertaking is defined in two parts: the approximately 2,200 acres of land within the Campo Corridor (Figure 1-2, Appendix E of the Draft EIS), and the approximately 500 acres of land within the Boulder Brush Corridor (also Figure 1-2, Appendix E of the Draft EIS).

Two records searches were performed for the Project. One records search was performed at the South Coastal Information Center (SCIC) for the APE and a 0.25-mile radius around the APE for the portion on the Reservation, with the permission of the Campo Band of Diegueno Indians (Tribe). That records search identified 38 previously recorded cultural resources within the APE (29 archaeological sites, 1 isolate, 4 built environment resources, 4 multi-component archaeological resources, and 1 resource of indeterminate age). The second records search was performed for the Off-Reservation, privately owned lands. In 2017, Dudek performed an in-house records search (with permission of the SCIC) for all private parcels under consideration at that time, plus a 1-mile buffer. That records search identified 16 previously recorded sites in the APE and 146 sites within 1 mile of the APE.

On the Reservation, 1,366.2 acres was previously surveyed by ASM Affiliates (Daniels and Schaefer 2013; Hale et al. 2013; see also Confidential Appendix E) and the results of those inventories are incorporated herein. The remaining 696 acres of the APE on the Reservation were surveyed by Dudek, as that area had not been previously surveyed. The entire 500-acre APE off the Reservation was surveyed by Dudek in 2017 and 2018.

As a result of the Dudek's 2017/2018 survey efforts and the prior surveys (Daniels and Schaefer 2013; Hale et al. 2013), a total of 87 archaeological sites, 4 built environment resources, and 63 isolates have been recorded within the APE. Seven of the archaeological sites and one isolate identified within the APE in the records search documents were determined to be mismapped,

leaving 80 archaeological sites and 62 isolates extant in the APE. One resource, Old Highway 80, was previously determined eligible for listing in the National Register of Historic Places (NRHP), and two (State Route 94 and the San Diego and Arizona Eastern Railway) were previously determined not eligible for listing in the NRHP. Two archaeological sites, CA-SDI-7151/7162 and CA-SDI-7156 were previously determined eligible for listing in the California Register of Historical Resources (CRHR) due to their data potential, and therefore can be considered eligible for listing in the NRHP for the same reason under Criterion D. Site CA-SDI-7156 has been avoided by Project design and there will be no effect to that historic property. The significant portions of site CA-SDI-7151/7162 have also been avoided by Project design. Therefore, there will be no adverse effect to that historic property.

Within the APE, direct impacts from grading, vegetation removal for fuel reduction, and other construction activities will be limited to an approximately 1,000-acre area of direct impacts (ADI) (approximately 800 acres on the Reservation and approximately 200 acres on private lands). Forty-one sites, 19 isolates, and all 4 built environment resources are in the ADI; all other resources in the APE have been avoided by Project design. Formal evaluation efforts were conducted at the 29 sites in the ADI that have not been evaluated previously; none is not eligible for listing in the NRHP under Criterion D (data potential) and none have been identified as having significance under Criterion A of the NHPA. Ten sites in the ADI were recently evaluated for another project (Comeau et al. 2019) and those results are incorporated herein.

Human cremated remains were identified on the ground surface at two archaeological sites in the on the reservation (CA-SDI-8939 and CWA-S-004). The San Diego County (County) Coroner's Office Forensic Anthropologist was notified and, at the request of the Campo, arrangements were made to examine all possible human remains. After numerous fragments were identified as likely human at each site, the BIA was notified. The BIA determined that the Tribe is the responsible federal agency under the Native American Graves Protection and Repatriation Act (NAGPRA), and the Tribe was subsequently informed of their responsibility (see Confidential Appendix D). To date, the remains are undisturbed at each site. The transmission line and associated Project components have been redesigned to avoid disturbing the sites, per Campo's request.

Potential human remains have identified at four sites on private lands land (CA-SDI-7140, CA-SDI-7151/7162, CA-SDI-7156, and TW-S-013). The County's Forensic Anthropologist identified the remains at CA-SDI-7140, CA-SDI-7151/7162 and TW-S-013 as positively human, or were likely or possibly human, and were therefore treated as human. The remains at CA-SDI-7156 were determined to be likely non-human (bird). The Native American Heritage Commission identified the Kumeyaay Cultural Repatriation Committee as the Most Likely Descendant (MLD). Human remains at CA-SDI-7151/7162 and TW-S-013 were found were outside the ADI, were left in place, and will be avoided by Project design as requested by the MLD. Per the MLD's request, additional

excavation efforts were performed at CA-SDI-7151/7162 and TW-S-013 (as part of the Comeau et al. 2019 study) to determine whether any human remains were in the ADI; none were identified. The location of the human remains at CA-SDI-7140 is outside the ADI; nevertheless, modifications to the ADI have been made to avoid impacts in the vicinity of the remains.

Project design considerations have taken into account possible disturbances to identified cultural resources as a first step. A total of 43 isolates and 39 sites located within the APE, but outside the ADI, have been avoided by Project design and will be preserved in place. These resources have not been formally evaluated for significance under Section 106.

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# 1 INTRODUCTION

This report presents the results of Dudek's cultural resources inventory and evaluation for the Campo Wind Project with Boulder Brush Facilities (Project) located in southeastern San Diego County, California (Figure 1-1; all figures are provided in Appendix F to this report). The majority of the Project would be located on the Campo Indian Reservation (Reservation) (the Campo Wind Facilities), with certain interconnection facilities and access roads on privately owned lands northeast of the Reservation (the Boulder Brush Facilities). The Project site falls within Township 16S, Range 7E, Sections 19, 20, 29, 31, and 32; Township 17S, Range 7E, Sections 5, 6, 7, and 8; Township 17S, Range 6E, Sections 1, 3, 10–15, 17, 20–22, 27, 28, and 33–36; and Township 18S, Range 6E, Sections 3, 4, 5, 8, 9, 10, 15, and 17 on the Campo, Tierra Del Sol, Cameron Corners, Sombrero Peak, and Live Oak Springs, CA 7.5′ USGS topographic maps (Figure 1-2 (see Appendix F)).

Because the Project site is partially located on federally-administered land, it constitutes an undertaking under Section 106 of the National Historic Preservation Act (NHPA). This report was prepared to satisfy the requirements set forth in Section 106 of the NHPA and its implementing regulations (36 CFR Part 800). The Bureau of Indian Affairs (BIA) is the lead reviewing agency for Section 106 compliance. All cultural resources personnel that participated in the preparation of this report exceeded the Secretary of Interior's standards for their respective roles. Thus, this report meets the format and content requirements of the Archaeological Resource Management Report (ARMR) report format and content guidelines recommended by the California Office of Historic Preservation (OHP 1995).

## 1.1 Project Description and Area of Potential Effects

### 1.1.1 Project Description

The Project site is located on the Reservation in southeastern San Diego County, approximately 60 miles east of the City of San Diego, California, and on private lands in the vicinity of the unincorporated communities of Boulevard and Live Oak Springs (Figure 1-3 (see Appendix F)). The Reservation includes lands both north and south of Interstate (I) 8 along the Tecate Divide, extending from the southern boundary of the Manzanita Indian Reservation south to 0.25 miles north of the U.S./Mexico International Border.

The Project includes the construction of up to 60 wind turbines and supporting infrastructure and appurtenances. Additional details regarding the Project components and construction can be found in Appendix B, Project Description Details, to the Draft Environmental Impact Statement (EIS).

### 1.1.2 Area of Potential Effects and Area of Direct Impacts

The Area of Potential Effects (APE) for the Project consists of the approximately 2,200-acre Campo Corridor containing the Campo Wind Facilities on the Campo Reservation and the approximately 500-acre Boulder Brush Corridor containing the Boulder Brush Facilities on private land. The maximum extent of disturbance from all the alternatives under consideration within the APE in which these facilities would be constructed would ultimately be smaller than the APE; this area of direct impacts (ADI) comprises approximately 800 acres on the Reservation and approximately 200 acres on private land. The entire APE and ADI are shown on Figure 1-2 (see Appendix F).

## 1.2 Existing Conditions

This section draws from existing documentation completed for nearby projects such as the San Diego Gas & Electric Company (SDG&E) East County (ECO) Substation, Sunrise Powerlink, Sh'uluuk Wind (evaluated but not ultimately constructed), and the Energia Sierra Juarez U.S. Gen-Tie Line projects. Together, cultural resources documentation for these projects forms a substantial body of literature analyzing, in particular, aboriginal archaeological deposits in the region.

### 1.2.1 Environmental Setting

**Natural Setting**

The Project Area is situated on a series of northwest–southeast trending mountain ridges and the valleys between the ridges. The ridges are generally steep-sloped, with numerous heavily weathered granite bedrock outcrops exposed at all elevations. Elevations range from approximately 4,460 feet above mean sea level near the north end of the Project to 3,170 feet above mean sea level near the southwest end.

The Project site is located in the eastern portion of the Peninsular Range Geomorphic Province of Southern California. The Peninsular Range Geomorphic Province is typified by northwest to southeast trending mountain ranges that parallel the trace of the San Andreas and related regional fault system (Abbott 1999). The Peninsular Ranges are generally composed of the granitic Peninsular Ranges batholith and associated metamorphic rocks. West of the batholith, in the San Diego embayment, the Peninsular Range Geomorphic Province is composed of sedimentary rocks ranging from Late Cretaceous to Pleistocene in age (Abbott 1999).

The entirety of the Project site is underlain by the Tonalite of La Posta (Todd 2004), a granitic formation produced by the subduction of the Farallon Plate beneath the North American Plate, approximately 95 million years ago. The Tonalite of La Posta is characterized by the abundant white-weathering plagioclase feldspars.

The climate is classified as Mediterranean Hot Summer, or Csa in the Köppen classification (Pryde 2004). Rainfall is about 24 cm per year, based on rain gauge averages between 1963 and 2011, falling primarily between December and March. The average January daily minimum temperature is 2°C (36°F), and the average July daily maximum is 33°C (92°F). The climate would have imposed few constraints on prehistoric hunter-gatherers in the region.

The predominant natural vegetation community of the region is chaparral. Typical plant species can include laurel sumac (*Rhus laurina*), black sage (*Salvia mellifera*), manzanita (*Arctostaphylos* spp.), redshank (*Adenostoma sparsifolium*), oak (*Quercus* spp.), chamise (*Adenostoma fasciculatum*), ceanothus (*Ceanothus* spp.), and juniper tree (*Juniperus* spp.), along with various grasses and legumes. Oak woodlands and riparian communities are also present in the canyons and major drainages (Dudek 2018). Numerous other vegetation communities are present on site such as big sagebrush, freshwater marshland, mulefat scrub, and non-native grassland (Dudek 2018).

Mammals, birds, and reptiles within these communities provided potential food resources to prehistoric inhabitants. In the general region, much of the natural vegetation in low-lying areas has been displaced by modern land uses for grazing and residential uses. However, the steep mountain slopes harbor relatively intact native vegetation communities supporting many animal species. These vegetation communities have been in place since the early Holocene when the climate became somewhat warmer and drier (Axelrod 1978).

Over 300 species of animal have been observed on the Reservation (Dudek 2018). Common animals in this area include coyote (*Canis latrans*), California ground squirrel (*Spermophilus beecheyi*), cottontail (*Sylvilagus audubonii*), brush rabbit (*Sylvilagus bachmani*), red-tailed hawk (*Buteo jamaicensis*), western fence lizard (*Sceloporus occidentalis*), and common side-blotched lizard (*Uta stansburiana*), among many others (Dudek 2018).

**Cultural Setting**

Evidence for continuous human occupation in Southern California spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies; some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Each of these reconstructions describes essentially similar trends in assemblage composition in more or less detail. The prehistoric sequence within the general Campo region is particularly complicated by potential overlap with aboriginal groups traveling west from the Colorado Desert and Imperial Valley. To overcome potential issues in the application of disparate cultural sequences, this research employs a common set of generalized terms used to describe

chronological trends in assemblage composition: Paleoindian (pre-5500 BC), Archaic (8000 BC–AD 500), Late Prehistoric (AD 500–1769), and Ethnohistoric (post-AD 1769).

***Paleoindian (pre-5500 BC)***

Evidence for Paleoindian occupation in Southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal Southern California (excluding the Channel Islands) derives from CA-SDI-4669/W-12, in La Jolla. A human burial from CA-SDI-4669 was radiocarbon dated to 9,590–9,920 years before present (95.4% probability) (Hector 2006). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). Given the coastal bluff setting of this site, it is not surprising that its inhabitants made use of fish and shellfish taken through passive means (i.e., bone gorge and sinker fishing, shellfish gathering). There is no evidence at this site for economically significant exploitation of large game; rather, the assemblage is wholly consistent with what early researchers termed the "Millingstone Horizon" (Wallace 1955), or "La Jolla" culture (Warren 1964, 1968).

In the Jacumba region, SDG&E's ECO Substation uncovered more than a hundred roasting pits within loosely consolidated alluvium from the surface to more than 20 feet below the surface. Several such features had calibrated radiocarbon dates on charcoal that were older than 6,000 BC; one of these dated as old as 7,590-7,750 BC—squarely within the Paleoindian period, even by Great Basin standards (Williams et al. 2014). These early roasting pits rarely include artifacts other than burned rocks and the occasional piece of debitage and a recycled piece of groundstone. Noticeably absent from the ECO assemblage are those artifacts considered typical of Paleoindian toolkits, such as large projectile points or knives, and formed flake tools. Interestingly, the landform on which the old roasting pits were identified contained hundreds of roasting pits that spanned the Holocene in age with radiocarbon dates reaching to just prior to Ethnohistoric times (Williams et al. 2013). However, there is no significant variability in roasting pit structure, content, or associated artifactual assemblage throughout the deposit. Together with data from specialized ethnobotanical studies identified fragments of cactus seed, juniper seed, and yucca, the overall archaeological assemblage indicates the area was occupied for millennia to exploit locally and seasonally abundant plants including yucca or agave.

Aside from a few discoveries of Lake Mojave or Silver Lake projectile points, typical Paleoindian assemblages that include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools are not discernible in Southern California. For comparison, prime examples of "typical" pattern are sites

that were studied by Emma Lou Davis (1978) on China Lake Naval Air Weapons Station near Ridgecrest, California. These sites contained fluted and unfluted stemmed points and large numbers of formal flake tools (e.g., shaped scrapers, blades). Other typical Paleoindian sites include the Komodo site (CA-MNO-679)—a multicomponent fluted point site, and CA-MNO-680—a single component Great Basin stemmed point site (Basgall et al. 2002). At CA-MNO-679 and CA-MNO-680, groundstone tools were rare while finely made projectile points were common.

Turning back to Southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter–gatherers traversing the landscape for highly valued prey. Evidence for the latter—that is, typical Paleoindian assemblages—may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 BP) that submerged as much as 1.8 kilometers (1.1 miles) of the San Diego coastline. If this were true, however, it would also be expected that such sites would be located on older landforms near the current coastline. Some sites, such as CA-SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Silver Lake and Lake Mojave projectile points (pre-8000 BP) that are commonly found at sites in California's high desert (Basgall and Hall 1990). CA-SDI-210 yielded one corrected radiocarbon date of 6520-7520 BC (8520–9520 BP; Warren et al. 2004). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2004) claimed that a biface manufacturing tradition present at the Harris site complex (CA-SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 8,365-6,200 BC (Warren et al. 2004, p. 26). Termed San Dieguito (Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of processing tools (Warren 1964, 1968). Despite the unique assemblage composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (i.e., projectile points and non-projectile blades), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2004) made this point, tabulating basic assemblage constituents for key early-Holocene sites.

Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, its rarity implies that it was not only short-lived, but that it was not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools are replaced by processing tools during the early Holocene (Basgall and Hall 1990).

Indeed, the San Dieguito complex is the apex of easterly cultural sequences defined for the Colorado Desert and adjacent areas east of the Peninsular Range. Malcolm Rogers (1966) initially separated the San Dieguito complex into three phases that were based on an evolutionary concept that more refined tools are the result of cultures learning refined manufacture techniques and incorporating greater complexity through time. As a result, the San Dieguito complex portrayed early assemblages from simple (San Dieguito I) to complex (San Dieguito III), relative to one another. In Imperial County, the general lack of radiocarbon dates associated with perceived San Dieguito sites has stunted modern refinement of Roger's San Dieguito complex, both in terms of chronology and assemblage content. Cobble terraces exposed during the Pleistocene were available to both Paleoindian and later aboriginal groups. The ease of acquiring toolstone from desert pavements was probably attractive to hunter-gatherers traversing the region throughout prehistory, complicating definition of chronological variability in flakedstone reduction trajectories. As a result, speculation has emerged that the San Dieguito complex persisted for much of the Holocene, whether or not it changed in coastal regions or areas farther to the north.

Notwithstanding sample bias in trying to refine southern California Paleoindian sequences, including geomorphological transitions surrounding the Salton Trough that make discovery of well-preserved early surfaces in the western Colorado Desert near impossible, the early dates associated with strikingly Archaic-looking toolkits implies that little technological variability actually existed in the last 10,000 years (Hale 2010).

***Archaic (8000 BC–AD 500)***

The more than 1500-year overlap between the presumed age of Paleoindian occupations and the Archaic period (see Warren et al. 2004) highlights the difficulty in defining a cultural chronology in southern California desert region. If San Dieguito is the only recognized Paleoindian

component, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2004) admitted as much, citing strong connections between San Dieguito and the Lake Mojave complex of the Great Basin. Thus, the Archaic pattern is the earliest local socioeconomic adaptation to southern California coastal and desert/peninsular environments (Hale 2001, 2009).

The Archaic pattern is relatively easy to define with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, incipient flake-based tools, and cobble-core reduction. These assemblages occur in all environments across San Diego County, from the coast past the Peninsular Range, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (Byrd and Reddy 2002; Warren 1968; Warren et al. 2004). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition occurs until the bow and arrow is adopted after around AD 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then, assemblage formality remains low. After the bow is adopted, small arrow points appear in large quantities and already low amounts of formal flake tools are replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decrease in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning because basic assemblage constituents and patterns of manufacturing investment remain stable, complimented only by the addition of the bow and ceramics.

Several cultural sequences that chronologically fit within southern California's "Archaic" period have been identified in the Mojave Desert, such as Deadman Lake, Pinto, and Gypsum periods (Sutton et al. 2007). However, these appear to be regionally specific and are generally not manifest south of the Transverse Ranges, particularly in San Diego and Imperial Counties other than isolated occurrences of time-sensitive projectile points. As with any time-sensitive artifact, its form can have strikingly different chronological placement by region such that a "Pinto" projectile point cannot be assumed to confer the same age estimates on an archaeological assemblage in say, San Diego or Imperial counties that it does in the Mojave Desert.

Reasons for the rapid and early development of a generalized processing economy have cited environmental deterioration or population growth as primary agents of change. Environmental deterioration cannot account for its development since southern California environments have had established plant communities for much of the last 15,000 years (Axelrod 1978; see Hale 2001) that varied mostly in vertical distribution. Indeed, the Pinto period seems to have thrived during the Archaic period, even if specific local manifestations are less obvious than others (Basgall et al. 2002). Population growth itself also presents a weak case as a primary agent of change since the

archaeological record is either too incomplete to support such an analysis or because it implies a shift in mobility rather than population density. Archaic period sites reflect serial site occupation rather than either high residential mobility or sedentism (Basgall and True 1985; Hale 2001). Rather, the best explanation for the appearance and persistence of the Archaic pattern is that it represents a strongly stable socioeconomic strategy tailor-made for southern California with its rich crops of roots and tubers, seeds, and nuts and small animals.

***Late Prehistoric (AD 500–1769)***

The period of time following the Archaic and prior to Ethnohistoric times (AD 1769) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2004). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County, the post-AD 1450 period is called the San Luis Rey Complex (True 1980), while the same period in southern San Diego County is called the Cuyamaca Complex and is thought to extend from AD 500 until Ethnohistoric times (Meighan 1959). Rogers (1929) also subdivided the last 1,000 years into the Yuman II and III cultures, based on the distribution of ceramics and the presumed spread of Yuman-speaking groups into the Colorado Desert (Moriarty 1966, 1967). There, the Patayan pattern was defined to characterize the appearance of paddle and anvil pottery from Arizona sometime after the first-century AD (Rogers 1945; Waters 1992).

Despite these regional complexes, each is defined by the addition of arrow points and ceramics, and the widespread use of bedrock mortars. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of late complexes difficult, including the local Cuyamaca complex manifestation. For this reason, the term Late Prehistoric is well suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric period are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern but includes arrow points and large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are actually rare in the San Diego region. Some argue that the Ethnohistoric intensive acorn economy extends as far back as AD 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to AD 1400. True (1980) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately AD 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is most recognizable after AD 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern

San Diego region until just prior to Ethnohistoric times, and that when it did occur, a major shift in social organization followed.

Considering eastern influences from the Colorado Desert, early agricultural practices never gained traction in California, and western Colorado Desert evidence for aboriginal agriculture is virtually non-existent, absent early Ethnohistoric accounts of Fort Mojave Indians (Kroeber 1925). It is likely that the stable Archaic economy persisted into the Late Prehistoric era and absorbed the efficiencies of certain technological innovations including the bow and arrow and ceramics. Locally, however, Tizon Brownware ceramic vessels dominate archaeological assemblages; Colorado buffware fragments are relatively rare and could have been obtained simply through trade. Aboriginal agriculture probably hit a socioeconomic brick wall in southern California where a stable economy focused on generalized but regular exploitation of locally abundant plant foods was simply too efficient and socially reinforced to allow a labor-intensive practice of agriculture take root (Bettinger 1999; Hale 2010).

***Ethnohistoric (post-AD 1769)***

The history of the Native American communities prior to the mid-1700s has largely been reconstructed through later mission-period and early ethnographic accounts. The first records of the Native American inhabitants of the San Diego region come predominantly from European merchants, missionaries, military personnel, and explorers. These brief, and generally peripheral, accounts were prepared with the intent of furthering respective colonial and economic aims and were combined with observations of the landscape. They were not intended to be unbiased accounts regarding the cultural structures and community practices of the newly encountered cultural groups. The establishment of the missions in the San Diego region brought more extensive documentation of Native American communities, though these groups did not become the focus of formal and in-depth ethnographic study until the early twentieth century (Bean and Shipek 1978; Boscana 1846; Fages 1937; Geiger and Meighan 1976; Harrington 1934; Kroeber 1925; Laylander 2000; Sparkman 1908; White 1963). The principal intent of these researchers was to record the precontact, culturally specific practices, ideologies, and languages that had survived the destabilizing effects of missionization and colonialism. This research, often understood as "salvage ethnography," was driven by the understanding that traditional knowledge was being lost due to the impacts of modernization and cultural assimilation. Alfred Kroeber applied his "memory culture" approach (Lightfoot 2005:32) by recording languages and oral histories within the San Diego region. Ethnographic research by Dubois, Kroeber, Harrington, Spier, and others during the early twentieth century seemed to indicate that traditional cultural practices and beliefs survived among local Native American communities. These accounts supported, and were supported by, previous governmental decisions, which made San Diego County the location of more federally

recognized tribes than anywhere else in the United States: 18 tribes on 18 reservations that cover more than 116,000 acres (CSP 2009).

It is important to note that even though there were many informants for these early ethnographies who were able to provide information from personal experiences about native life before the Europeans, a significantly large proportion of these informants were born after 1850 (Heizer and Nissen 1973); therefore, the documentation of pre-contact, aboriginal culture was being increasingly supplied by individuals born in California after considerable contact with Europeans. As Robert F. Heizer (1978) stated, this is an important issue to note when examining these ethnographies, since considerable culture change had undoubtedly occurred by 1850 among the Native American survivors of California.

The traditional cultural boundaries between the Luiseño and Kumeyaay Native American tribal groups have been well defined by anthropologist Florence C. Shipek (1993; as summarized in San Diego County Board of Supervisors 2007, p. 6):

> In 1769, the Kumeyaay national territory started at the coast about 100 miles south of the Mexican border (below Santo Tomas), thence north to the coast at the drainage divide south of the San Luis Rey River including its tributaries. Using the U.S. Geological Survey topographic maps, the boundary with the Luiseño then follows that divide inland. The boundary continues on the divide separating Valley Center from Escondido and then up along Bear Ridge to the 2240 contour line and then north across the divide between Valley Center and Woods Valley up to the 1880-foot peak, then curving around east along the divide above Woods Valley.

Based on ethnographic information, it is believed that at least 88 different languages were spoken from Baja California Sur to the southern Oregon state border at the time of Spanish contact (Johnson and Lorenz 2006). The distribution of recorded Native American languages has been dispersed as a geographic mosaic across California through six primary language families (Golla 2007). As the Project APE is located approximately 25 km south of the San Luis Rey River, the Native American inhabitants of the region spoke using the Ipai language subgroup of the Yuman language group. Ipai and Tipai, spoken respectively by the northern and southern Kumeyaay communities, are mutually intelligible. For this reason, these two are often treated as dialects of a larger Kumeyaay tribal group rather than as distinctive languages, though this has been debated (Luomala 1978; Laylander 2010).

Victor Golla has contended that one can interpret the amount of variability within specific language groups as being associated with the relative "time depth" of the speaking populations (Golla 2007:80). A large amount of variation within the language of a group represents a greater

time depth then a group's language with less internal diversity. One method that he has employed is by drawing comparisons with historically documented changes in Germanic and Romantic language groups. Golla (2007:71) has observed that the "absolute chronology of the internal diversification within a language family" can be correlated with archaeological dates. This type of interpretation is modeled on concepts of genetic drift and gene flows that are associated with migration and population isolation in the biological sciences.

Golla suggests that there are two language families associated with Native American groups who traditionally lived throughout the San Diego County region. The northern San Diego tribes have traditionally spoken Takic languages that may be assigned to the larger Uto–Aztecan family (Golla 2007:74). These groups include the Luiseño, Cupeño, and Cahuilla. Golla has interpreted the amount of internal diversity within these language-speaking communities to reflect a time depth of approximately 2,000 years. Other researchers have contended that Takic may have diverged from Uto–Aztecan ca. 2600 BC–AD 1, which was later followed by the diversification within the Takic speaking San Diego tribes, occurring approximately 1500 BC–AD 1000 (Laylander 2010). The majority of Native American tribal groups in southern San Diego region have traditionally spoken Yuman languages, a subgroup of the Hokan Phylum. Golla has suggested that the time depth of Hokan is approximately 8,000 years (Golla 200774). The Kumeyaay tribal communities share a common language group with the Cocopa, Quechan, Maricopa, Mojave, and others to east, and the Kiliwa to the south. The time depth for both the Ipai (north of the San Diego River, from Escondido to Lake Henshaw) and the Tipai (south of the San Diego River, the Laguna Mountains through Ensenada) is approximated to be 2,000 years at the most. Laylander has contended that previous research indicates a divergence between Ipai and Tipai to have occurred approximately AD 600–1200 (Laylander 1985). Despite the distinct linguistic differences between the Takic-speaking tribes to the north, the Ipai-speaking communities in central San Diego, and the Tipai southern Kumeyaay, attempts to illustrate the distinctions between these groups based solely on cultural material alone have had only limited success (Pigniolo 2004; True 1966).

The Kumeyaay generally lived in smaller family subgroups that would inhabit two or more locations over the course of the year. While less common, there is sufficient evidence that there were also permanently occupied villages, and that some members may have remained at these locations throughout the year (Owen 1965; Shipek 1982, 1985; Spier 1923). Each autonomous tribelet was internally socially stratified, commonly including higher status individuals such as a tribal head (*Kwaaypay*), shaman (*Kuseyaay*), and general members with various responsibilities and skills (Shipek 1982). Higher-status individuals tended to have greater rights to land resources, and owned more goods, such as shell money and beads, decorative items, and clothing. To some degree, titles were passed along family lines; however, tangible goods were generally ceremonially burned or destroyed following the deaths of their owners (Luomala 1978). Remains were cremated

over a pyre and then relocated to a cremation ceramic vessel that was placed in a removed or hidden location. A broken metate was commonly placed at the location of the cremated remains, with the intent of providing aid and further use after death. At maturity, tribal members often left to other bands in order to find a partner. The families formed networks of communication and exchange around such partnerships.

Areas or regions, identified by known physical landmarks, could be recognized as band-specific territories that might be violently defended against use by other members of the Kumeyaay. Other areas or resources, such as water sources and other locations that were rich in natural resources, were generally understood as communal land to be shared amongst all the Kumeyaay (Luomala 1978). The coastal Kumeyaay exchanged a number of local goods, such as seafood, coastal plants, and various types of shell for items including acorns, agave, mesquite beans, gourds, and other more inland plants of use (Luomala 1978). While evidence for limited marine resource use exists in inland areas, terrestrial animals and other resources would have provided a much larger portion of sustenance. Game animals consisted of rabbits, hares (*Leporidae*), birds, ground squirrels, woodrats (*Neotoma*), deer, bears, mountain lions (*Puma concolor*), bobcats (*Lynx rufus)*, coyotes (*Canis latrans*), and others. In lesser numbers, reptiles and amphibians may have been consumed.

A number of local plants were used for food and medicine. These were exploited seasonally, and were both traded between regional groups and gathered as a single tribelet moved between habitation areas. Some of the more common of these that might have been procured locally or obtained from the surrounding region would have included buckwheat (*Eriogonum fasciculatum*), *Agave*, *Yucca*, lemonade berry (*Rhus integrifolia*), sugar bush (*Rhus ovata*), sage scrub (*Artemisia californica*), yerba santa (*Eriodictyon*), sage (*Salvia*), *Ephedra*, prickly pear (*Opuntia*), mulefat (*Baccharis salicifolia*), chamise (*Adenostoma fasciculatum*), elderberry (*Sambucus nigra*), oak (*Quercus* sp.), willow (*Salix* sp.), and *Juncus* grass among many others (Wilken 2012).

***The Historic Period (post-AD 1542)***

European activity in the region began as early as AD 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, by direct contacts either with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission to deal with the local Kumeyaay and Ipai were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960–1967). No land grants were established in the mountains of eastern San Diego County, leaving the local Kumeyaay relatively unaffected by the arrival of the Spanish and Mexican immigrants.

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations in western San Diego County. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities. United States conquest and annexation, together with the gold rush in Northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust.

United States conquest and annexation, together with the gold rush in northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust.

The Campo–Jacumba region was under Kumeyaay control throughout the Spanish, Mexican, and early American periods until the arrival of American homesteaders such as the McCain family in 1868 (Wade et al. 2009). The Campo Indian Reservation rests partially on the lands negotiated in the Treaty of Santa Ysabel in 1852. The Treaty, along with the Treaty of Temecula, promised the indigenous nations of the region a Reservation of approximately 20% of the current land base of San Diego County in return for the balance of their traditional lands on the coast and in the desert. The Treaty was not ratified due to interference from the California legislature and starting in 1775, only scattered Reservations were created by Executive Order in various areas of the County. The Campo Indian Reservation was created in 1893 near an existing Kumeyaay village in the Cameron Corners area. It was expanded in the early twentieth century to accommodate several other communities of Kumeyaay who still did not have a land base.

Originally from Arkansas and Texas, the McCain family began ranching in California as early as 1858 in the Mendocino region, and after an aborted return trip to Arkansas, decided to settle in what is now known as McCain Valley in 1868 (Wade et al. 2009). With the McCain family alongside several small sheep and cattle ranching outfits tied to the Laguna Mountain area (just

northwest of McCain Valley), ranching thrived until the mid-twentieth century. After this time, ranching dwindled in productivity due to several reasons, including more productive cattle outfits to the north, a collapse in the demand for wool, and the appropriation of some prime pasturelands (such as Laguna Meadows) by the National Parks Service for watershed protection and conservation (see Wade et al. 2009). In its heyday, cattle ranching associated with McCain Valley to the west spread as far south as the lower portions of northern Baja (Wade et al. 2009). Not surprisingly, the intensification of ranching and homesteading in the McCain Valley area lead to conflicts with local Kumeyaay inhabitants. One such conflict, recounted by Tom Lucas, a local Kwaaymii Indian, was the apparent last stand of some Kumeyaay families in conflict with the McCain family that took place near McCain Valley in Campo or Jacumba in the 1880s (Carrico 1983, 1987). However, it is also true that many of the Native American inhabitants were employed by local ranchers, including Tom Lucas (Carrico 1983). Wade et al. (2009) provide a region-wide overview of ranching in San Diego County including eligibility considerations.

Several railroad routes were planned to pass through the region but each was abandoned, until 1906, when John D. Spreckels incorporated the San Diego and Arizona Railroad. Construction on the railroad began in 1907 (Kimball 1985). The local population grew slowly during the construction of Morena Dam and the San Diego and Arizona Railroad. In the meantime, civil unrest was common across the border just to the south. The Mexican Revolution began in the fall of 1910, and by the following spring a Mexican rebel camp was located just 6 mi. from Campo. Refugees fled to Campo, which was partially protected by U.S. soldiers.

Finally, on November 16, 1919, the San Diego and Arizona Railroad was completed, and the first train passed through the Campo Valley, carrying prominent San Diego residents, including John D. Spreckels. While some residents felt that the new railroad line would ruin the beautiful landscape of San Diego County's backcountry, many others were strong advocates for the rail line, predicting that it would increase the economic capacity of the area by enabling the shipment of cattle and sheep as well as fruit, vegetables, and honey out of Campo (San Diego Union, 4 July 4 1915:7). The railroad finally provided a direct link for San Diego to the eastern United States.

### 1.2.2 Records Search Results on the Reservation

South Coastal Information Center (SCIC) staff conducted a records search for reservation land for the APE and a 0.25-mile buffer surrounding the APE on July 5, 2018. SCIC records indicate that 60 previous cultural resources studies have been performed within the records search area; of these, 37 have covered at least a portion of the APE (Table 1-1). ASM also prepared two studies that are not on file at the SCIC, although the site records and GIS data is. Hale et al. (2013) performed the

intensive pedestrian survey for a wind farm on the Reservation, and Daniels and Schaefer (2013) performed additional surveys as an addendum to Hale et al. 2013.

**Hale et al. (2013)**

In 2011 and 2012, ASM conducted an intensive pedestrian survey of 2,517 acres for the Shu'luuk Wind Project, which overlaps a substantial portion of the current Project. That survey (Hale et al. 2013) identified 73 archaeological sites and 63 isolates. Thirty-four of those sites are within the APE of the current Project and are incorporated herein. No resources were evaluated as part of that study.

**Daniels and Schaefer (2013)**

ASM performed an intensive pedestrian survey of an additional 70 acres for the same project, and prepared an addendum report (Daniels and Schaefer 2013) to the original report (Hale et al. 2013). That study addressed additional acreage added to that project in an attempt to avoid impacting known resources. Five previously recorded archaeological sites and five newly identified isolates were documented at that time. No resources were evaluated as part of that study, as impacts to those sites were avoided at the time.

**Table 1-1**
**Previous Studies Performed on the Reservation within 0.25 Miles of the APE**

| Author | Year | SHPO ID | Title |
|---|---|---|---|
| *Previous Studies Within the APE* | | | |
| Flower, Douglas, Darcy Ike, and Linda Roth | 1980 | SD-00642 | Archaeological, Historical and Botanical Investigation of the Starr Property, Tierra del Sol, California |
| Leach, Larry | 1978 | SD-01147 | An Archaeological Reconnaissance of a 60 Acre Parcel on the Campo Indian Reservation Near Live Oak Springs, San Diego County, California. |
| Johnson, Melissa J. | 1979 | SD-01266 | An Archaeological Survey of the McCain Valley Ranch Property |
| Johnson, Melissa J. | 1976 | SD-01267 | An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County. |
| Napton, L. Kyle, and E.A. Greathouse | 1988 | SD-01315 | Cultural Resource Assessment of the BIA Route 10 Improvement Project, Campo Indian Reservation, San Diego County, California |
| WESTEC Services Inc. | 1982 | SD-01621 | Final Report Campo Indian Reservation Cultural Resource Inventory |
| Napton, L. Kyle, and Elizabeth A. Greathouse | 1979 | SD-01756 | Archaeological Reconnaissance on the Campo Indian Reservation, San Diego County, California |
| Smith, Brian F. | 1998 | SD-03558 | Results of an Archeological Study of SDI-7151/7162 and SDI-7156 at the Big Country Specific |
| Townsend, J. | 1984 | SD-03836 | Southwest Powerlink Cultural Resources Management Plan |
| Rudolf, James L. | 1992 | SD-04219 | Campo Solid Waste Management Project, Cultural Resources Located within in the Proposed Lease Area |

**Table 1-1**
**Previous Studies Performed on the Reservation within 0.25 Miles of the APE**

| Author | Year | SHPO ID | Title |
|---|---|---|---|
| Crouthamel, Steven J. | 1995 | SD-04255 | An Archaeological Survey of the Campo Indian Reservation of Rental and Mutual Help Housing Projects |
| Stone, David, and David McDowell | 1993 | SD-04294 | Archaeological and Historical Significance Assessment for the Campo Solid Waste Management Project, Campo Indian Reservation, San Diego Campo |
| Taylor, Clifford | 1982 | SD-04365 | Final Report & Campo Indian Reservation Cultural Resource Inventory |
| WESTEC Services Inc. | 1984 | SD-04654 | Draft Environmental Impact Report, Big Country Ranch Specific Plan, County of San Diego, EAD LOG#83-21-08 |
| Rosen, Martin | 2001 | SD-08282 | Historic Property Survey Report for Old Highway 80, County of San Diego, CA |
| Cook, John R. | 1985 | SD-08653 | Archaeological Investigations at the Big Country Project in McCain Valley, California |
| McGinnis, Patrick, Kathryn Bouscaren, and Michael Baksh | 2004 | SD-09456 | Archaeological Survey Report for the Kumeyaay Wind Energy Project, San Diego County, California |
| McGinnis, Patrick | 2005 | SD-09467 | Cultural Resources Survey Report for the Campo Homes Project, Campo Indian Reservation, San Diego County, California |
| Environmental Development Agency, County of San Diego | 1975 | SD-10066 | Live Oak Springs Subregional Analysis and Draft Environmental Impact Report for TPM 10677, File No. 74-21-29201 |
| McGinnis, Patrick, and Michael Baksh | 2006 | SD-10107 | Cultural Resources Survey Report for Five Homes Located on Campo Reservation, San Diego County, CA |
| Arrington, Cindy | 2006 | SD-10551 | Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project, State of California |
| McGinnis, Patrick | 2007 | SD-11203 | Cultural Resources Survey Report for a Water Tank Replacement Project Located on Campo Indian Reservation, San Diego County, California |
| Zepeda-Herman, Carmen | 2008 | SD-11741 | Cultural Resource Survey of the ETS 7018, Wood to Steel Pole TL6931, Boulevard Project, California |
| Hall, Dan, and Jennifer Thomas | 2008 | SD-11934 | A Cultural Resources Inventory of a Proposed Wild-Land Urban Interface Fuels Reduction of the Campo Indian Reservation, San Diego County, California |
| Cook, John R., Deborah Huntley, and Sherri Andrews | 2000 | SD-12421 | Final: A Cultural Resources Inventory of the Proposed AT&T PF. NET Fiber Conduit Ocotillo to San Diego, California |
| Garcia-Herbst, Arleen, David Iversen, Don Laylander, and Brian Williams | 2010 | SD-12711 | Final Inventory Report of the Cultural Resources within the Approved San Diego Gas & Electric Sunrise Powerlink Final Environmentally Superior Southern Route, San Diego and Imperial Counties, California |
| Lavris, Jennifer, and Dan Hall | 2012 | SD-13837 | A Cultural Resources Inventory of the 2012 Proposed Hazardous Fuels Reduction Project on the Campo Indian Reservation, San Diego County, California |
| Hale, Micah J. | 2011 | SD-14001 | Management Plan for Archaeological Monitoring, Post-Review Discovery and Unanimated Effects for the Tule Wind Project, McCain Valley, San Diego County, California |

**Table 1-1**
**Previous Studies Performed on the Reservation within 0.25 Miles of the APE**

| Author | Year | SHPO ID | Title |
|---|---|---|---|
| Bowden-Renna, Cheryl | 2011 | SD-14175 | Letter Report: ETS 21541- Cultural Resources Survey for 18 Pole Replacement/Improvement Locations and Two Staging Areas, Crestwood/Live Oaks Areas, San Diego County, California-IO 7011102 |
| McGinnis, Patrick, and Michael Baksh | 2006 | SD-14560 | Cultural Resources Survey Report for Five Homes Located on Campo Indian Reservation, San Diego County, Reservation |
| McGinnis, Patrick, and Hillary Murphy | 2008 | SD-14592 | Cultural Resources Survey Report for the Campo Homes Project, Campo Reservation, California |
| McGinnis, Patrick | 2005 | SD-14601 | Cultural Resources Survey Report for the Campo Homes Project, Campo Reservation, San Diego County, California |
| Blake, Michelle | 2014 | SD-15108 | SR-94 Curve Correction Project |
| Blake, Michelle | 2014 | SD-16078 | Archaeological Survey Report for the State Route 94 Curve Realignment Project in Campo, San Diego County, California |
| Hale, Micah J., and Tony Quach | 2011 | SD-16221 | Final Addendum Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California |
| Hale, Micah | 2011 | SD-16223 | Archaeological Testing and Evaluation of Site CA-SDI-4788, Tule Wind Project, McCain Valley, San Diego County, California |
| *Previous Studies Within 0.25 Mile of the APE* | | | |
| Advanced Planning and Research Associates | 1980 | SD-00045 | Drewe Lot Split Archaeology and Biology Survey Reports TPM 15840 EAD Log # 79-21-9 Tierra del Sol, California. |
| Cupples, Sue Ann | 1975 | SD-00529 | An Archaeological Survey of Sanitation Facilities Project sites on Pala, Manzanita, Campo, and Old Campo Indian reservation, San Diego County, California |
| Flower, Douglas, and Linda Roth | 1983 | SD-00640 | Archaeological Survey Stage Coach Springs Project Live Oak Springs, California |
| Kirkish, Alex | 1980 | SD-00890 | Draft Plan and Environmental Assessment for Thing Mountain Cooperative Vegetation Management Project |
| Flower, Douglas M., Darcy Ike, Linda Roth, and Susan Sapone | 1979 | SD-00922 | Archaeological Investigation of the Millar Project San Diego County, California SDM-W-2235, SDM-W-2236 |
| Johnson, Melissa J., and Roy E. Pettus | 1978 | SD-01256 | An Archaeological Reconnaissance of a 60 Acres Parcel on the Campo Indian Reservation Near Live Oak Springs, San Diego County, California. |
| Smith, Brian F. | 1989 | SD-01419 | An Archaeological Survey of the 700-Acre Balian Subdivision, County of San Diego |
| Ritter, Eric W. | 1975 | SD-01496 | Archaeological Survey of NRL Parcel Adjoining Hill Valley |
| Taylor, Clifford V.F., and Richard L. Carrico | 1980 | SD-01548 | Final Report Cultural Resource Inventory of Manzanita Indian Reservation Manzanita, California |
| Wirth Associates Inc. | 1981 | SD-01588 | Miguel to Mountain Springs Grade (Jade) Archaeological Survey Report |
| Smith, Brian F. | 1980 | SD-01687 | A First Level Mitigation of Sites SDM-W-2724 (SDi-8234), SDM-W-2725 (SDi-8235), and SDM-W-2726 (SDi-8236) at the Drewe Lot Split Project Tierra Del Sol, California TPM 15840, Log #79-21-9 |

**Table 1-1**
**Previous Studies Performed on the Reservation within 0.25 Miles of the APE**

| Author | Year | SHPO ID | Title |
|---|---|---|---|
| Advance Planning & Research Associates | 1980 | SD-02030 | Drewe Lot Split Archaeology & Biology Survey Reports TPM 15840; EAD LOG #79-21-9; Tierra del Sol, California |
| Carrico, Richard | 1980 | SD-03260 | Final Report: Cultural Resource Inventory of Manzanita Indian Reservation, Manzanita, CA |
| Crouthamel, Steven J. | 1987 | SD-05879 | Archaeological Site Survey on Campo Indian Reservation, San Diego County, CA Proposed Housing Sites Project 80-46 |
| Pigniolo, Andrew, John Dietlier, and Michael Baksh | 2000 | SD-07426 | Archaeological Survey Report for the Manzanita Reservation Prescribed Burning Project, San Diego County, California |
| Caterino, David | 2005 | SD-09516 | The Cemeteries and Gravestones of San Diego County: An Archaeological Study |
| Smith, Brian F., and Craig Lorenz | 1982 | SD-09782 | Archaeological Investigation of the Brooks Lot Split Project, Tierra Del Sol, California, TPM 16342, Log# 79-21-20 |
| Polan, Keith | 1980 | SD-09784 | Brooks lot Split Archaeology and Botany Survey Reports, TPM 16342, EAD Log#79-21-20; TPM 16343, EAD Log# 79-21-21, Tierra Del Sol |
| Bonner, Wayne H., and Marnie Aislin-Kay | 2008 | SD-11869 | Cultural Resources Records Search and Site Visit Results for DW Horizon, LLC Facility Candidate CA1018 (Outdoor World) San Diego County, California |
| White, Laura S. | 2009 | SD-12663 | Negative Cultural Resources Survey Report: Outdoor World Wireless Telecommunication Facility |
| Thomas, Jennifer, and Dan Hall | 2010 | SD-12686 | Cultural Resources Inventory of the Phase II Southwest Fuels Reduction Project, Campo Indian Reservation San Diego County, CA |
| Baksh, Michael, Hillary Murphy, and Michael Connolly | 2013 | SD-14753 | Archaeological Survey Report for the Campo Casino Wind Turbine Project, San Diego County, CA |
| Rinehart, Niels | 2015 | SD-16482 | Archaeological Sensitivity Assessment Golden Acorn/Ensite #18864, 1800 Golden Acorn Way, Campo San Diego County, CA,EBI project #61144143 |

A total of 117 cultural resources were identified in the records search area on the Reservation. Of these, 38 resources have been recorded wholly or partially in the APE (Table 1-2). Of the 38 previously recorded resources, 23 are prehistoric archaeological sites, 3 are multicomponent sites (containing both prehistoric and historic resources), 4 are historic built environment resources, 6 are historic archaeological sites, 1 is a prehistoric isolate, and 1 is an archaeological site of indeterminate age. The cultural resources not listed in Table 1-2 are included in the report with the records search results as Confidential Appendix A.

**Table 1-2**
**Previously Recorded Resources on the Reservation within 0.25 Miles of the APE**

| Resource Number | Period | Type | Dimensions |
|---|---|---|---|
| CA-SDI-6981 | Historic | Highway | 102 km (linear) |
| CA-SDI-7258 | Indeterminate | Bedrock Milling | 100 × 100 m |

**Table 1-2**
**Previously Recorded Resources on the Reservation within 0.25 Miles of the APE**

| Resource Number | Period | Type | Dimensions |
|---|---|---|---|
| CA-SDI-8198 | Prehistoric | Ceramic Scatter | 10 × 15 m |
| CA-SDI-8939 | Prehistoric | Habitation | 150 × 150 m |
| CA-SDI-8946 | Prehistoric | Bedrock Milling | 50 × 50 m |
| CA-SDI-8962 | Prehistoric | Bedrock Milling | 7 × 5 m |
| CA-SDI-8963 | Prehistoric | Bedrock Milling | 115 × 120 m |
| CA-SDI-8968 | Prehistoric | Bedrock Milling | 2 × 2 m |
| CA-SDI-8977 | Multi-component | Temporary Camp; Historic Residence | 90 × 90 m |
| CA-SDI-8980 | Prehistoric | Rock Shelter | 4 × 2 m |
| CA-SDI-8985 | Prehistoric | Bedrock Milling | 3 × 2 m |
| CA-SDI-8986 | Prehistoric | Bedrock Milling | 1 × 1 m |
| CA-SDI-9018 | Prehistoric | Ceramic Scatter | 10 × 10 m |
| CA-SDI-9050 | Historic | Government/Educational Building Remains | 185 × 128 m |
| CA-SDI-9059 | Historic | Historic Wagon Road | Linear |
| CA-SDI-17205 | Historic | Refuse Scatter | 15 × 15 m |
| CA-SDI-20368 | Prehistoric | Habitation | 210 × 95 m |
| CA-SDI-20586 | Prehistoric | Lithic Scatter | 40 × 30 m |
| CA-SDI-20587 | Prehistoric | Artifact Scatter | 220 × 85 m |
| CA-SDI-20588 | Prehistoric | Lithic Scatter | 30 × 10 m |
| CA-SDI-20590 | Historic | Refuse Scatter | 40 × 15 m |
| CA-SDI-20591 | Multi-component | Groundstone Tool; Well/Cisterns | 19 × 12 m |
| CA-SDI-20592 | Prehistoric | Habitation | 200 × 235 m |
| CA-SDI-20593 | Prehistoric | Ceramic Scatter | 3.5 × 3 m |
| CA-SDI-20594 | Multi-component | Artifact Scatter; Historic Refuse Scatter | 55 × 50 m |
| CA-SDI-20597 | Prehistoric | Artifact Scatter | 35 × 25 m |
| CA-SDI-20598 | Prehistoric | Temporary Camp | 60 × 50 m |
| CA-SDI-20599 | Prehistoric | Bedrock Milling | 20 × 20 m |
| CA-SDI-20604 | Historic | Refuse Scatter | 10 × 8 m |
| CA-SDI-20605 | Prehistoric | Artifact Scatter | 40 × 35 m |
| CA-SDI-20607 | Prehistoric | Artifact Scatter | 45 × 30 m |
| CA-SDI-20608 | Prehistoric | Bedrock Milling | 20 × 30 m |
| CA-SDI-20610 | Historic | Refuse Scatter | 12 × 12 m |
| CA-SDI-20611 | Historic | Refuse Scatter | 10 × 5 m |
| CA-SDI-21776 | Prehistoric | Temporary Camp | 30 × 50 m |
| P-37-024023 | Historic | Road | Linear |
| P-37-025680 | Historic | Railroad | Linear |
| P-37-032854 | Prehistoric | Isolate- Lithic Flake | N/A |

### 1.2.3 Record Search Results on Private Land

A records search was performed by Dudek using SCIC data for the entire parcel of private lands under consideration of the Boulder Brush transmission line was conducted in 2017, plus a 1.0 mile buffer around the parcel. The records search identified 31 studies that have been performed in the search area, including 11 that have covered at least part of the APE (see Table 1-3). Due to the overlapping records search areas, some studies listed in Table 1-1 are repeated here. The entire parcel was surveyed in the early 1980s as part of a proposed lot split for residential development (WESTEC 1984). The 1983 cultural resource study that WESTEC Services Inc. (WESTEC) performed in support of the 1984 EIR for that project was not listed in the SCIC records, but is referenced in BFSA's 1998 study.

**Table 1-3**
**Previous Studies Performed on Private Lands within 1.0 Miles of the APE**

| Author | Year | SHPO ID | Title |
|---|---|---|---|
| *Previous Studies within the APE* | | | |
| San Diego State University | 1979 | SD-01266 | An Archaeological Survey of the Mc Cain Valley Ranch Property. |
| Brian F. Smith & Associates | 1998 | SD-03558 | Results of An Archaeological Study of SDI-7151/7162 and SDI-7156 at the Big Country Specific Plan Project |
| WESTEC Services Inc. | 1984 | SD-04654 | Draft Environmental Impact Report Big Country Ranch Specific Plan, County of San Diego, EAD Log #83-21-08 |
| Brian F. Smith & Associates | 2002 | SD-06697 | Big Country Ranch – Review of SDI-7162 & 7146 |
| ASM Affiliates | 1985 | SD-08653 | Archaeological Investigations at the Big Country Ranch Project in McCain Valley, California |
| ASM Affiliates | 2007 | SD-11373 | Archaeological Survey of Eastern San Diego County Roads, Trails, and Campgrounds |
| SWCA | 2008 | SD-11977 | FINAL CULTURAL RESOURCES SURVEY OF ALTERNATIVES FOR THE SUNRISE POWERLINK PROJECT IN IMPERIAL, ORANGE, RIVERSIDE, AND SAN DIEGO COUNTIES, CALIFORNIA |
| ASM Affiliates | 2010 | SD-12711 | Final Inventory Report of the Cultural Resources within the Approved San Diego Gas & Electric Sunrise Powerlink Final Environmentally Superior Southern Route, San Diego and Imperial Counties, California. |
| ASM Affiliates | 2011 | SD-14001 | Management Plan for Archaeological Monitoring, Post-Review, and Unanticipated Effects for the Tule Wind Project, McCain Valley, San Diego County, California |
| ASM Affiliates | 2011 | SD-16221 | Final Addendum Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California |
| ASM Affiliates | 2011 | SD-16222 | Final Class II and Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California |

**Table 1-3**
**Previous Studies Performed on Private Lands within 1.0 Miles of the APE**

| Author | Year | SHPO ID | Title |
|---|---|---|---|
| *Previous Studies within 0.25 Miles of the APE* | | | |
| U.S.D.A. Forest Service, Cleveland National Forest | 1980 | SD-00890 | Draft Plan and Environmental Assessment for Thing Mountain Cooperative Vegetation Management Project |
| WESTEC Services Inc. | 1980 | SD-01548 | Final Report Cultural Resource Inventory of Manzanita Indian Reservation Manzanita, California |
| WESTEC Services Inc. | 1982 | SD-01621 | Final Report Campo Indian Reservation Cultural Resource Inventory |
| ASM Affiliates | 1981 | SD-01990 | The Archaeology of the McCain Valley Study Area in Eastern San Diego County, California: A Scientific Class II Cultural Resource Inventory |
| Brian F. Smith | 1979 | SD-03076 | A first Level Mitigation of Archaeological Site SDI-5430 Rancho Boulevard Project, San Diego, California |
| WESTEC Services Inc. | 1980 | SD-03260 | Final Report: Cultural Resource Inventory of Manzanita Indian Reservation, Manzanita, California |
| ASM Affiliates | 1980 | SD-03285 | The Archaeology of the McCain Valley Study Area in Eastern San Diego County, California: A Scientific Class III Cultural Resource Inventory |
| Palomar College, American Indian Studies | 1995 | SD-04255 | An Archaeological Survey of the Campo Indian Reservation Rental and Mutual Help Housing Projects |
| WESTEC Services Inc. | 1982 | SD-04365 | Final Report Campo Indian Reservation – Cultural Resource Inventory |
| Tierra Environmental Services | 2000 | SD-07426 | Archaeological Survey Report for the Manzanita Reservation Prescribed Burning Project, San Diego County, California |
| Brian F. Smith & Associates | 2002 | SD-08711 | an Archaeological Survey for the Proposed Emergency Access Trail Big Country Ranch |
| Tierra Environmental Services | 2004 | SD-09456 | Archaeological Survey Report for the Kumeyaay Wind Energy Project, San Diego County, California |
| Tierra Environmental Services | 2005 | SD-09467 | Cultural Resources Survey Report for the Campo Homes Project, Campo Indian Reservation, San Diego County, California |
| David Caterino | 2005 | SD-09516 | The Cemeteries and Gravestones of San Diego County: An Archaeological Study |
| Brian F. Smith & Associates | 2002 | SD-09764 | An Archaeological Survey for the Proposed Emergency Access Trail, Big County Ranch, County of San Diego, California |
| BLM | 1982 | SD-10689 | Lark Canyon Motorcycle Trails and Trails and Trail Locations |
| Bureau of Indian Affairs | 2008 | SD-11934 | A Cultural Resources Inventory of a Proposed Wildland-Urban Interface fuels Reduction on the Campo Indian Reservation – San Diego County, California |
| ASM Affiliates | 2007 | SD-12649 | Eastern San Diego County Site Evaluations: CA-SDI-4010 AND CA-SDI-17817 |
| Tierra Environmental Services | 2005 | SD-14601 | Cultural Resources Survey Report for the Campo Homes Project, Campo Indian Reservation, San Diego County, California |
| Hale, Micah | 2011 | SD-16223 | Archaeological Testing and Evaluation of Site CA-SDI-4788, Tule Wind Project, McCain Valley, San Diego County, California |

The records search identified 162 cultural resources that have been identified within 1.0 mile of the Project Area; 16 of these are within the APE. The 16 resources in the APE include 13 prehistoric archaeological sites, 1 historic-era archaeological site, and 2 sites with both historic and prehistoric components (Table 1-4). An additional 146 resources have been recorded within 1 mile of the APE. Those resources are listed in Confidential Appendix A. Including both private and Reservation land, 36 prehistoric archaeological sites, 5 multi-component sites, 7 historic-era archaeological sites, 1 isolate, 4 built environment resources, and 1 site of indeterminate age have been recorded in the APE.

**Table 1-4**
**Previous Recorded Resources on Private Lands within 1.0 Miles of the APE**

| Resource Number | Period | Type | Dimensions |
|---|---|---|---|
| *Resources within the APE* | | | |
| CA-SDI-4005 | Prehistoric | Rock Shelter | 30 × 30 m |
| CA-SDI-7136 | Prehistoric | Temporary Camp | 30 × 30 m |
| CA-SDI-7138 | Prehistoric | Rock Shelter | 5 × 10 m |
| CA-SDI-7139 | Multi-component | Ranching; Ceramic Scatter | 100 × 100 m |
| CA-SDI-7140 | Prehistoric | Temporary Camp | 30 × 10 m |
| CA-SDI-7145 | Prehistoric | Temporary Camp | 30 × 60 m |
| CA-SDI-7146 | Multi-component | Temporary Camp; Historic Refuse Dump | 10 × 10 m |
| CA-SDI-7148 | Prehistoric | Artifact Scatter | 20 × 10 |
| CA-SDI-7149 | Prehistoric | Bedrock Milling | 20 × 20 m |
| CA-SDI-7151/7162 | Prehistoric | Habitation | 500 × 400 m |
| CA-SDI-7152 | Prehistoric | Temporary Camp | 100 × 50 m |
| CA-SDI-7156 | Prehistoric | Habitation | 300 × 250 m |
| CA-SDI-7163 | Prehistoric | Temporary Camp | 20 × 20 m |
| CA-SDI-18048 | Historic | Structure Remains | 7 × 6 m |
| CA-SDI-18049 | Prehistoric | Artifact Scatter | 30 × 25 m |
| CA-SDI-19859 | Prehistoric | Artifact Scatter | 167 × 25 m |

# 2 REGULATORY CONTEXT

This study was completed in compliance with federal cultural resources laws and regulations, including Section 106 of the NHPA. Under Section 106, historic and archaeological districts, sites, buildings, structures, and objects are assigned significance based on their exceptional value or quality in illustrating or interpreting history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance, and these are described below.

## 21 36 CFR 800 and Section 106 of the NHPA

The NHPA established the National Register of Historic Places (NRHP) and the President's Advisory Council on Historic Preservation, and provided that states may establish State Historic Preservation Officers (SHPOs) to carry out some of the functions of the NHPA. Most significantly for federal agencies responsible for managing cultural resources, Section 106 of the NHPA directs that "[t]he head of any Federal agency having direct or indirect jurisdiction over a proposed Federal or federally assisted undertaking in any State and the head of any Federal department or independent agency having authority to license any undertaking shall, prior to the approval of the expenditure of any Federal funds on the undertaking or prior to the issuance of any license, as the case may be, take into account the effect of the undertaking on any district, site, building, structure, or object that is included in or eligible for inclusion in the NRHP." Section 106 also affords the Advisory Council on Historic Preservation a reasonable opportunity to comment on the undertaking (16 USC 470f).

The protection of historic properties is covered under 36 Code of Federal Regulations, Part 800 (36 CFR 800), which implements Section 106 of the NHPA. It defines the steps necessary to identify historic properties (those cultural resources listed in or eligible for listing in the NRHP), including consultation with federally recognized Native American tribes to identify resources with important cultural values; to determine whether or not they may be adversely affected by a proposed undertaking; and to outline the process for eliminating, reducing, or mitigating the adverse effects.

The content of 36 CFR 60.4 defines criteria for determining eligibility for listing in the NRHP. The significance of cultural resources identified during an inventory must be formally evaluated for historical significance in consultation with the California SHPO to determine if the resources are eligible for inclusion in the NRHP. Cultural resources may be considered eligible for listing if they possess integrity of location, design, setting, materials, workmanship, feeling, and association.

Regarding criteria A through D of Section 106 (36 CFR 60.4), the quality of significance in American history, architecture, archaeology, engineering, and culture is present in districts,

cultural resources, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association, and that:

A. Are associated with events that have made a significant contribution to the broad patterns of our history; or

B. Are associated with the lives of persons significant in our past; or

C. 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

D. Have yielded or may be likely to yield, information important in prehistory or history.

The current evaluation of prehistoric cultural resources was performed with the intent of assessing historical significance under Criterion D. The ability of an archaeological site to yield important information to history or prehistory is based upon the site's ability to address specific research themes. The research themes addressed in this study are presented in Chapter 3, and these derive from the cultural resources overview presented in this chapter, above.

The Advisory Council on Historic Preservation provides methodological and conceptual guidance for identifying historic properties. In 36 CFR 800.4, the steps necessary for identifying historic properties include:

- Determine and document the APE (36 CFR 800.16(d)
- Review existing information on historic properties within the APE, including preliminary data
- Confer with consulting parties to obtain additional information on historic properties or concerns about effects to these
- Consult with Native American tribes (36 CFR 800.3(f)) to obtain knowledge on resources that are identified with places which they attach cultural or religious significance
- Appropriate fieldwork (including phased identification and evaluation)
- Apply NRHP criteria to determine a resource eligibility for NRHP listing

Fulfilling these steps is generally thought to constitute a reasonable effort to identify historic properties within the APE for an undertaking. The obligations of a federal agency must also assess whether an undertaking will have an adverse effect on cultural resources. An undertaking will have an adverse effect when (36 CFR Part 800.5(1)):

> …an undertaking may alter, directly or indirectly, any of the characteristics of a historic property hat qualify the property for inclusion in the National Register in a

> manner that would diminish the integrity of the property's location, design, setting, materials, workmanship, feeling, or association. Consideration shall be given to all qualifying characteristics of a historic property, including those that may have been identified subsequent to the original evaluation of the property's eligibility for the National Register. Adverse effects may include reasonably foreseeable effects caused by the undertaking that may occur later in time, be farther removed in distance or be cumulative.

The process of determining whether an undertaking may have an adverse effect requires the federal agency to confer with consulting parties in order to appropriately consider all relevant stakeholder concerns and values. Consultation regarding the treatment of a historic property may result in a Programmatic Agreement (PA) and/or Memorandum of Agreement between consulting parties that typically include the lead federal agency, SHPO, and Native American tribes if they agree to be signatories to these documents. Treatment documents—whether resource-specific or generalized—provide guidance for resolving potential or realized adverse effects to known historic properties or to those that may be discovered during implementation of the undertaking. In all cases, avoidance of adverse effects to historic properties is the preferred treatment measure and it is generally the burden of the federal agency to demonstrate why avoidance may not be feasible. Avoidance of adverse effects may not be feasible if it would compromise the objectives of an undertaking that can be reasonably said to have public benefit. Other non-archaeological considerations about the benefit of an undertaking may also apply, resulting in the determination that avoidance is not feasible. In general, avoidance of adverse effects is most difficult when a permitted undertaking is being implemented, such as identification of an NRHP-eligible archaeological resource during earthmoving.

## 2.2 Native American Graves Protection and Repatriation Act

The Native American Graves Protection and Repatriation Act (NAGPRA) of 1990, as amended (Public Law 101-601; 104 Stat. 3048; 25 USC 3001 et seq.) establishes rights of federally recognized Indian groups and Native Hawaiian organizations to claim ownership of certain cultural items (including human remains, funerary objects, sacred objects, and objects of cultural patrimony) held or controlled by federal agencies and museums that receive federal funds. NAGPRA requires agencies and museums to identify holdings of such remains and objects and to work with American Indians toward their repatriation. Permits for the excavation and/or removal of cultural items protected by the act require American Indian consultation, as do inadvertent discoveries of cultural items made during federal land use activities. When cultural items are encountered inadvertently, the person who discovered them must cease the activity that caused them to encounter the items in the area of discovery, must make a reasonable effort to protect the items discovered, and must notify, in writing, the secretary of the appropriate department or agency

head with primary management authority over the land in question and the appropriate American Indian tribe or Native Hawaiian organization with respect to tribal lands, if known or readily ascertainable (43 USC 1601 et seq.). Upon certification by these parties that notification has been received, the activity may resume after 30 days. The Secretary of the Interior's implementing regulations are codified under 43 CFR 10. The goal of this act is to reunite human remains and grave goods with the appropriate American Indian or Native Hawaiian descendants and to enter into consultation regarding the ultimate disposition of cultural items under federal control. This act contains provisions for data gathering, reporting, consultation, and issuance of permits. All federal agencies, other than the Smithsonian Institution, are required to comply with NAGPRA with federally recognized tribes.

Because a portion of the Project Site is located on Tribal land, federal laws (e.g., NAGPRA) pertaining to the discovery and treatment has been and will continue to be followed. For instance, the Tribe was contacted upon discovery of potential human remains and a site visit with Dudek and the Tribe's Secretary Marcus Cuero occurred on September 18, 2018. Following the site visit, Dr. Madeleine J. Hinkes of the San Diego County Coroner's office was contacted to make the formal identification of the remains. On September 27, 2018, Dr. Hines identified the remains as human. The BIA was informed in order to start the NAGPRA process, although the BIA determined that Campo would be the responsible agency under NAGPRA. To date, the remains are still at the site, on the ground surface where they were identified. Transmission poles and other Project components in the vicinity of the remains have been redesigned in order to avoid impacting the remains (see Confidential Appendix D).

## 2.3 Archaeological Resources Protection Act

The Archaeological Resources Protection Act (ARPA) of 1979 (as amended) protects archaeological resources on public and Indian lands. The act requires anyone that excavates or removes archaeological resources form such lands obtain a permit from the federal land manager; permits may be issued if (16 USC 470cc):

1. The applicant is qualified, to carry out the permitted activity,
2. The activity is undertaken for the purpose of furthering archaeological knowledge in the public interest,
3. The archaeological resources which are excavated or removed from public lands will remain the property of the United States, and such resources and copies of associated archaeological records and data will be preserved by a suitable university, museum, or other scientific or educational institution, and

4. The activity pursuant to such permit is not inconsistent with any management plan applicable to the public lands concerned.

Prior to the issuance of a permit of Indian lands, the individual or tribe owning the land must provide consent for the excavation or removal of archaeological resources, and any permit shall include any provisions requested by the individual or tribe. The act also prohibits the sale, exchange, or transportation of any archaeological resources obtained in violation of the act and provides for criminal and civil penalties for violations of the act.

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# 3 RESEARCH DESIGN

The objective of the evaluation portion of this Project was to obtain archaeological assemblage data that could be used to evaluate historical significance under CEQA and County guidelines. The following discussion identifies potential questions and appropriate archaeological evidence within a series of broad research themes that derive from theory about human behavior and ecology. General issues pertinent to the assessment of the sites include determination of the extent and integrity of cultural deposits, age, cultural affiliation, site function, and subsistence. Given the extensive research completed at archaeological sites in the local area, this research design has been developed to address the kinds of resources identified during the inventory completed for this Project, and to build on the extensive research completed at archaeological sites in the local area. Notably, this research design considers only the most basic historic themes since no historic refuse dumps or artifact scatters were identified in the ADI, and it is unlikely that they would be found inadvertently during excavations at prehistoric sites.

## 3.1 Integrity and Structure of Archaeological Deposits

To assess the research potential of an archaeological site, its horizontal distribution and vertical depth must be delineated. Of particular importance is the integrity of the deposits: whether or not features or surfaces are preserved and whether the potential exists for identifying horizontal and vertical spatial patterning in the evidence for prehistoric behavior.

A variety of post-depositional disturbances can greatly alter the original character of prehistoric sites (Gross and Robbins-Wade 2008; Schiffer 1987; Waters 1992). Formation processes such as alluvial deposition, erosion, bioturbation, and modern disturbance can considerably affect the integrity of archaeological sites. Here, attempts are made to identify and interpret the processes that formed the site, with particular attention given to the character of post- depositional processes and the extent to which they have affected the integrity of the archaeological deposits.

The testing program applied to archaeological deposits within the ADI has been used to address the following issues:

- Does the horizontal and vertical extent of the archaeological record represent continuous or discrete occupation?
- Is it possible to discern depositional versus post-depositional processes that have contributed to the present condition of the archaeological record? In other words, what are the factors, both natural and anthropogenic, that have altered the position and condition of artifacts?

- What kinds of features have been preserved (e.g., hearths, earth ovens)? Are there features that are highly disrupted by postdepositional processes but still recognizable? Can these features be associated with particular functions?
- By examining spatial patterns in the horizontal distribution of artifacts, is it possible to discern areas that were associated with specific functions? Do patterns in the vertical distribution of artifacts tell us anything about changes in the function, materials exploited, or human activities through time?
- At historical archaeological sites, is there evidence of overlapping dump episodes, such as multiple points of concentration or concentration of artifacts of a certain age?

Investigating the integrity of archaeological deposits has at its core investigation of the structure of these deposits. Human occupation can sometimes result in the development of discrete occupation areas that take advantage of particularly convenient landforms, or patches of useful resources. Indeed, such a "mapping-on" strategy is common to residentially mobile hunter-gatherers who are thought to have inhabited the region for the entire Holocene, and oftentimes produced occupational loci of concentrated habitation debris. If loci can be defined, several questions arise as to their interrelatedness:

- Is there any discernable spatial patterning within and between loci that can be used to interpret overall human occupation of the landscape?
- How can identified loci be managed considering site boundary requirements of the local California Historical Resource Information System (CHRIS) information center, and thus facilitate agency management of the resources?

## 3.2 Chronological Placement

Chronological issues are basic to any archaeological research design, as they provide the primary framework of prehistory. Previous research in the southern San Diego region has documented a range of prehistoric sites dating to both the Archaic (6000 BC to AD 500) and Late Prehistoric periods (post-AD 500), and more recently, even to the Paleoindian period (pre-6000 BC) with a series of roasting pits identified at SDG&E's ECO Substation radiocarbon dated as early as 9,700 years BP. Data recovery and monitoring efforts at site SDI-7074 for the ECO Substation project, located in southeastern San Diego County, documented more than 100 "thermal features" (e.g., earth ovens, roasting pits, hearths) having radiocarbon dates spanning much of the last 10,000 years of prehistory. The ECO Subsection project documented assemblages with large numbers of crude flake and cobble tools with smaller frequencies of late Holocene markers such as arrow points and ceramics. Groundstone at that site is also somewhat common, represented by millingstones and handstones (rather than mortars and pestles). The distribution of such artifacts was found to be

widespread, but also occurred in recognizable clusters. Aside from arrow points and ceramics, the same basic toolkit of crude flake and cobble tools and groundstone characterized deposits identified more than 20 feet (7 meters) deep. To be sure, thermal features were one of the most common site constituents identified on that project—these consisting mostly of a scatter of burned rock and ash-infused sediments with low frequencies of associate artifacts and virtually no faunal bone.

Potential research issues derived from this basic problem include:

- How did the transition from the Archaic period to the Late Prehistoric period occur? This transition is characterized by shifts in (i) food storage and cooking technology with the inception of ceramics, and (ii) hunting technology with the addition of the bow and arrow. These shifts did not occur simultaneously (cf. McDonald et al. 1993), and their implications for local population expansion in the Late Prehistoric period are unknown.
- Was there a shift in emphasis of acorn use during the Late Prehistoric period? The mortar and pestle appear to have been added to the repertoire of food processing tools during the Late Prehistoric period, but in limited quantities compared to handstones (Hale 2001, 2009; Hale et al. 2010). Is there evidence for earlier use of bedrock mortars? Is the addition of the mortar and pestle correlated to the inception of ceramics in the region and/or intensified use of a particular resource?

Chronological controls are essential to any archaeological investigation to develop an understanding of temporal trends in toolkits, artifact styles, and other material patterning that can inform on human behavior. When evaluating the significance of an archaeological resource, chronological control is provides the ability to place a resource in time and assess its value for contributing to local and regional patterns in prehistory. For this reason, several other basic questions concerning the temporal data potential of evaluated sites pertain to the current study, including:

- Can the chronological placement of project sites be determined?
- What kinds of chronometric data can project sites provide? How well do they correlate in terms of the age estimates they provide (e.g., projectile point types vs. obsidian hydration dates; cans vs. bottles).
- Are there data indicating the presence of multiple occupation episodes at project sites?
- Do diagnostic artifacts appear to fit with temporal patterns recognized in the surrounding region? Are there any unique diagnostic items present?
- Can chronometric data from project sites help to refine dating schemes in the local region?

Potential chronometric evidence from the APE includes radiocarbon dates, obsidian hydration measurements, and diagnostic artifact forms. Radiocarbon dates are generally the most precise and reliable form of chronometric evidence, and they provide the foundation for the region's prehistoric chronology. However, obsidian hydration measurements may have a more direct cultural interpretation as they are individually less expensive to run, and they can address very late prehistoric to protohistoric time periods that cannot be distinguished through radiocarbon dating. Chronologically diagnostic artifacts include various projectile point forms and pottery, although these only define very broad time periods. Specific types or attributes of buffware ceramics may have a potential to define somewhat more precise time ranges, but that potential is not yet well established.

For historic sites, time sensitive artifacts are usually limited to items with maker's marks, specific manufacture styles, or coins. However, it is common for particular artifact to have manufacture dates that are much broader than those for another artifact class. This makes, determining the age of consumption for any given class difficult, if not impossible. For this reason, the date of refuse disposal is more pertinent for refuse deposits that are not located at homesites; and this is usually determined by the early manufacture date on the youngest artifact for each dump event. Hale et al. (2010) document a widespread pattern of dumping items of mixed manufacture and consumption age as the result of homesite cleanup and off-site dumping. If refuse deposits are located at a homesite, assessing the age of consumption for historic artifacts is an approximation based on overlapping manufacture dates, taking into account the earliest and latest possible dates. Assemblages that cannot be securely placed chronologically would be less likely to possess a significant research potential. Of course, archival research can provide direct information on the date of construction and occupancy for historic homesites and lands used for agricultural, ranching, or mining.

## 3.3 Settlement and Site Function

Interpretation of the study sites depends upon an assessment of their places within the larger settlement-subsistence system of their occupants. Sites belonging to functional types that are relatively ubiquitous within the region would be less likely to be considered significant than unusual site types. Sites with evidence of multiple functions may possess richer information content than relatively simple sites; on the other hand, single-function sites may have a greater research potential than multiple-function sites if the residues from the various activities at the latter cannot be effectively differentiated.

Evidence for the functional uses represented by the site come from surface observations made during both the survey and testing phases, as well as through the results of subsurface excavations. Interpretations of functions rest upon both the range and the relative and absolute frequencies of various classes of features, artifacts, and ecofacts.

Widespread and substantial occupation during the Late Prehistoric period has been documented in the vicinity of the APE and within the greater Peninsular Ranges (Cook 1985; Hale et al. 2010; Hector 1984; McDonald et al. 1993; Meighan 1959; Williams et al. 2014b), particularly during the last 1,000 years, based on large numbers of ceramic sherds. The Late Prehistoric is a time when significant shifts in settlement and subsistence may have occurred.

While several important prehistoric sites and ethnohistoric villages have been extensively studied in western San Diego County, the character of settlement and subsistence shifts have not been fully explored. A key variable in understanding social organization during this time is the kind of socioeconomic shifts that occurred after adoption of the bow and arrow and the subsequent widespread use of ceramics. Specific data requirements include information on arrow point manufacture, general patterns of lithic reduction, and raw material use, including the use of exotic stone. Questions to be considered include the following:

- Was arrow point production occurring at sites in the ADI, or were points being discarded in exhausted condition?
- What does the debitage assemblage imply about the production and/or maintenance of stone tools at project sites?

Information on ceramic vessel forms and functions, and their diversity, is also critical for determining whether residential occupation was brief or prolonged. For example, data regarding the function of a vessel may help to explain whether and to what extent plant foods were exploited (Eerkens 2001). Also, evidence of clay residues and other manufacturing residues, may indicate that clay vessels were being manufactured at sites in the ADI. Finally, the manufacture and use of groundstone implements in conjunction with the ubiquitous milling elements within the DI can help clarify the nature of site occupation and settlement duration. Shaped handstones and pestles can be an indication that populations are somewhat mobile, implying use in off-site contexts; the idea being that shaping can reduce mass, thereby reducing transport costs (Hale 2001).

The single most common identifying element of archaeological sites in the APE and surrounding region is lithic quarrying for stone tool manufacture. Therefore, data from the current Project investigation can be used to clarify local settlement. Boulders and cobbles derived from the nearby Santiago Peak Formation were quarried/collected from sites surrounding the APE. What was left behind can be as valuable for understanding prehistoric mobility as the lithic materials that were discarded at nearby non-quarry sites. A detailed lithic analysis of archaeological deposits within the ADI will help clarify local hunter-gatherer mobility. These analyses can also benefit from comparison to extensive quarry studies completed for the Otay Mesa area (McDonald et al. 1993)

as well as to the east near Jacumba (Comeau and Hale 2015), or for desert pavement quarries located in the southeastern Mojave near Twentynine Palms (Giambastiani et al. 2008).

Considering historical resources, the kinds of artifacts present, the activities they represent, and their overall proportions can give some indication of where refuse originated, and why it was abandoned at its place of discard. The main question for historical archaeological sites is:

- What is the nature of refuse at historic sites? Are proportions of consumptive, household, industrial, and other artifacts substantial enough to derive context of origin(s)?
- Are any maker's marks on historic artifacts indicative of specific places of manufacture?
- Do they provide any information about where particular goods might have been purchased or otherwise obtained?

These kinds of questions are relevant for understanding the nature of historical occupation, including at homesites or agricultural facilities (i.e., field worker residential areas). Archival research helps bolster field data by documenting past historical landowners, lease holders, or residents, and by documenting historical changes in the local landscape. While it is virtually impossible to tie historic refuse deposits to residential or agricultural sites, it is possible to identify potential sources of refuse and make informed assumptions about its origin.

## 3.4 Subsistence

The issues related to subsistence are interwoven with the previously discussed settlement, and this section complements the issues discussed previously. Unfortunately, animal remains and invertebrate remains were noticeably lacking in the ADI. However, plant and animal remains may be recovered for sites which have not been evaluated yet. Some questions that can be addressed with these materials include:

- Are floral and faunal remains present in archaeological deposits?
- Which specific resources were exploited?
- Can changes in the emphasis on specific resources be detected and are these changes related to changes in procurement?
- Do recovered resources provide indications of seasonal harvesting or occupation of the area?

To address these issues, floral remains could be recovered from flotation of feature or midden soils, should they be encountered. Subsistence is often assessed indirectly through technology. Groundstone tools are a good indicator that plant processing occurred, while projectile points generally indicate animal exploitation. With such tools noticeably absent in the ADI, subsistence must be indirectly

inferred from flake-based implements. Such inferences have been the norm in greater San Diego County since the earliest archaeological work was completed, and especially during the 1960s emphasis on investigating "Millingstone Horizon" assemblages with their abundant scraping tools (Kaldenberg 1982; Warren 1967). The robust archaeological literature compiled for the region in the decades since has helped refine assumptions about the purpose of cobble tools, making inferences about subsistence less tenuous (Buonasera 2013; Hale 2001; Kowta 1969).

As with prehistoric sites, the issues related to subsistence at historic sites are also interwoven with the previously discussed settlement organization, and this section complements the issues discussed previously.

The primary question to address at historic sites is:

- Are artifacts present that provide information on the kinds of foods consumed (e.g., food cans, glass bottles)?

The data necessary to address this issue is generally limited to the kinds of food containers and food processing items found at historical archaeological sites as well as potential food remains, such as butchered animal remains.

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# 4 METHODOLOGY

This section describes the techniques employed to identify archaeological resources within the full APE. All methods exceed the Secretary of Interior's guidelines, as do all Project personnel for their respective roles. As described in Chapter 1, prior to initiating fieldwork, pre-field research was completed consisting of records searches at the SCIC to obtain records for previously recorded cultural resources and any other relevant documentation including but not limited to previous cultural resources investigation reports and GIS data. The records search for reservation land was performed with the permission of Campo Tribal Chairman Goff.

## 4.1 Survey Methods

Dudek conducted an intensive pedestrian survey of 1,401.8 acres of the APE (the remaining 1,366.2 acres were surveyed by ASM (Daniels and Schaefer 2013; Hale et al. 2013) and the results of those studies area incorporated herein). The survey was conducted by walking 15 m interval transects; however, actual survey transect spacing varied depending on ground visibility. Areas with dense vegetation utilized narrow 10 m transect spacing and areas with greater ground visibility at times allowed for the maximum transect width of 15 m. Road cuts, rodent burrows, and other areas of exposed ground were opportunistically examined for evidence of subsurface artifacts, midden soils, and other indications of potential buried materials. Bedrock outcrops were also targeted in order to identify milling features. All survey transects were oriented parallel to the long-axis of the APE, or to major topographic features. Transect spacing was kept using a combination of compasses, the Trimble GeoXT, and field tablets equipped with a mobile Esri GIS application with real-time locations plotted on aerials. The crew moved together as a team to ensure accurate transect spacing and to facilitate resource identification. Upon discovery of an artifact or feature, the entire crew stopped while the person who made the find determined what it was. At the same time, all other crew members closely inspected the area around their individual transects. Upon discovery of a site, 2–5 m interval transects were used to identify each artifact and feature.

When recording a site, visible artifacts were marked with pin flags to delineate the size and boundaries of its surface deposit. Once artifacts and features were identified, crew members completed the following tasks, irrespective of site type: fill out field versions of DPR resource forms; produce a site sketch map; make a detailed surface artifact inventory; fully describe any features; take high-resolution digital site photographs, including close-ups of important or prominent features and diagnostic artifacts; record Universal Transverse Mercator (UTM) coordinates at the locations of formal artifacts, features, and the site boundary. Each site was assigned a resource identifier for tracking during post field data processing. No artifacts were collected during the inventory.

ASM's survey (Hale et al. 2013) and supplemental survey (Daniels and Schaefer 2013) used the same general field methods for survey and recordation.

Minimally, all identified resources were recorded with a real-time corrected Trimble GeoXT Global Positioning System (GPS) receiver with sub-meter accuracy. An Apple 3rd Generation iPad equipped with the Esri ArcGIS application was also used for mapping and navigation. Standard Department of Parks and Recreation (DPR) 523 series resource forms were used to document all resources, including updating previously recorded sites. Overall, documentation of cultural resources complied with the Office of Historic Preservation (OHP) and Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation (48 FR 44716-44740) and the California Office of Historic Preservation Planning Bulletin Number 4(a). DPR site forms for each resource are included in Appendix B.

## 4.2 Evaluation Methods

The Phase II evaluation was directed at previously unevaluated sites located wholly or partially in the area of direct impacts (ADI), which comprises an area of approximately 910 acres in total (800 acres on the Campo Reservation and 110 on privately owned lands). Of the 144 extant cultural resources found within the APE, 65 are located within the ADI (41 sites, 20 isolates, and four built environment resources). Three of the built environment resources (two roads and one railroad) and 11 archaeological sites were evaluated for other projects under Section 106; these resources are discussed below, but no further evaluation efforts were performed at this time. Evaluation efforts were focused on the 30 archaeological resources within the ADI that have not yet been evaluated, as well as one historic road. None of the cultural resources located outside the ADI would be directly or indirectly impacted by the development. The resources evaluated herein consist of five historic sites, 19 prehistoric sites, six sites with both historic and prehistoric components, and one historic road. Archaeological testing efforts for each resource were focused on those portions of the site that fall within the ADI. Portions of cultural resources that fall outside the ADI were not evaluated because they would not be directly or indirectly impacted by the development.

The methods used during this archaeological evaluation have been designed according to methods and procedures developed by Dudek and others over many years of archaeological study in Southern California, and they comply with federal and state guidelines regarding cultural resource evaluations and eligibility recommendations (Giambastiani and Basgall 2000; Hale and Becker 2006; Hale and Comeau 2010; Schaefer 1994, 2000a). Field methods and techniques are intended to maximize artifact recovery from sparse archaeological deposits, while at the same time allowing for the careful documentation, exposure, and removal of surface and subsurface features and affording a practical level of provenience control. Because many known cultural deposits consist primarily of surface manifestations, having only limited quantities of artifacts buried at shallow

depths, recovery efforts must emphasize surface collection as much as subsurface testing to obtain artifact samples large enough for meaningful technological and statistical analyses. Artifact treatments focused on examining aspects of morphology, condition, technology, and function. Analytical interpretations are approached largely from a functional-materialist perspective, with patterns of artifact production, use, and discard being viewed within a framework of a socioeconomic adaptation with a utilitarian technological system.

Evaluation methods are essentially sampling methods geared toward recovering a reasonable-sized assemblage to estimate the density and diversity of the cultural deposit, and to expose enough of the site deposit to determine integrity. A general approach is described below, from surface inspection and collection to the various kinds of subsurface investigation. Considerations of site-specific methods are described next, with particular attention paid to excavation unit distribution relative to proposed areas of impact.

The first step in each site evaluation was to re-locate artifact concentrations, features, and landforms as described in the original site forms and inventory letter report. Each site was then subjected to an intensive surface survey with regular-interval (2 to 5 m) sweeps of the site surface, and pin-flagging of artifacts, concentrations, and features to confirm the originally mapped items and site boundaries. This phase was made more efficient with the use of color-coded pin flags representing diagnostic artifacts, features, etc. After the site was defined with pin-flags, the artifacts were collected and their positions were recorded with a decimeter-accurate Trimble GPS unit and an iPad equipped with georeferenced proposed Project maps.

Concentrations or areas where artifact density was relatively higher than other portions of the site were mapped and collected separately from any artifacts and materials collected at a non-specific site. Non-specific, site-wide surface collection was the minimal collection method conducted at every site where artifacts were still present. Controlled surface collection methods (CSC) were used to collect surface artifacts formal grids in order to compare surface density variations across a site. CSCs vary in size but typically measure 15 m by 15 m or 10 m by 10 m and were divided into individual 5 m by 5 m quadrants, where all cultural materials noted on the ground surface were collected by quadrant, with close attention paid to any specific spatial distributions found within the CSC. CSCs were placed in areas identified as having higher concentrations of artifacts, and when possible, at least one CSC was placed in such concentrations.

Numerous types of units were used for field evaluations for the Project. All units were excavated with square corners to enable their expansion to more thoroughly explore deposits. Shovel test pits (STPs) are small; 0.5 m × 0.25 m exploratory units excavated in 20 cm increments to depths of no more than 80 cm, and typically spaced at 10 to 20 m intervals or subjectively placed. It is Dudek's experience that excavation below 80 cm in an STP increases the probability of error in

determining the depth of artifact recovery because of the extensive sidewall scraping that occurs to remove matrix at lower depths. STPs are typically used to explore the edges of cultural deposits, providing a positive/negative indication with little reliability in terms of estimating depth of cultural deposits or integrity.

In cases where surface artifacts were present but the STPs and other units excavated strongly suggested minimal sub-surface cultural deposits, surface scrape units (SSU), typically measuring 2 × 2 m to 3 × 3 m, excavated in one 10 cm level in an effort to collected the maximum artifact deposit with only minimal excavation locations where the potential for sediment accumulation was limited (e.g., areas of near-surface bedrock, or erosional surfaces). SSUs can provide plan views of shallow features not seen from the surface, as well as help determine whether surface materials are in fact a significant subsurface deposit. If substantial quantities of artifacts are uncovered and identified during STP or SSU excavation, a 1 m × 1 m control unit (CU) or 1 m × 0.5 m shovel test unit (STU) would be used to explore the feature. CUs would typically be excavated in standard 10 cm levels. STUs are excavated in 10 cm or 20 cm levels.

All excavated matrix, regardless of unit type, was screened through 1/8 inch (3 mm) mesh. Typically, most of the excavation at prehistoric sites terminated between 20 and 40 cm below the surface, when either subcultural compact sediments or bedrock was typically encountered. Sediment profiles from STPs were recorded and photographed where appropriate, with small sediment samples taken for Munsell color and constituent classification. Should CUs be used at any sites not yet excavated, then sediment profiles will be drawn and photographed, as these will provide a better understanding of site formation processes and disturbances.

The sites were mapped using a Trimble Pathfinder GPS receiver with real-time correction capabilities and down to 10 cm accuracy to plot all surface artifacts, excavation units (STPs, CSCs, SSUs, STUs, and CUs), and the boundaries of any defined loci, concentrations, and features. The GPS was also used to record site boundaries, landform edges, drainages, roads, and other relevant surface information. In addition to the mapping, a series of overview photographs were taken to show the site landscape situation and condition. Photographs were also taken of features or other site attributes when appropriate.

Table 4-1 presents levels of field effort expended at the 30 sites that were subjected to excavation and/or additional field documentation during the evaluation within the ADI. The variation in the numbers and kinds of excavation units per site was based on the differences in size and composition of each site. Twenty-two isolates in the ADI are not included below, as no field efforts were performed for those resources.

**Table 4-1**
**Level of Effort for Evaluated Sites within the ADI**

| Primary | Trinomial | Period | Dimensions (Meters) | STP | CSC | SSU | STU |
|---|---|---|---|---|---|---|---|
| *Previously Recorded Resources* | | | | | | | |
| P-37-007139 | CA-SDI-7139 | Multi-component | 100 x 100 | 3 | 0 | 0 | 0 |
| P-37-008962 | CA-SDI-8962 | Prehistoric | 7 x 5 | 3 | 0 | 0 | 0 |
| P-37-008977 | CA-SDI-8977 | Multi-component | 90 x 90 | 2 | 0 | 0 | 0 |
| P-37-009018 | CA-SDI-9018 | Prehistoric | 10 x 10 | 2 | 0 | 0 | 0 |
| P-37-009050 | CA-SDI-9050 | Historic | 185 x 125 | 6 | 0 | 0 | 1 |
| P-37-025856 | CA-SDI-17205 | Historic | 15 x 15 | 3 | 0 | 0 | 0 |
| P-37-032166 | CA-SDI-20368 | Prehistoric | 210 x 95 | 14 | 0 | 2 | 1 |
| P-37-032441 | CA-SDI-20587 | Prehistoric | 220 x 85 | 15 | 0 | 0 | 0 |
| P-37-032442 | CA-SDI-20588 | Prehistoric | 30 x 10 | 3 | 0 | 0 | 0 |
| P-37-032444 | CA-SDI-20590 | Historic | 40 x 15 | 3 | 0 | 0 | 0 |
| P-37-032445 | CA-SDI-20591 | Multi-component | 19 x 12 | 0 | 0 | 0 | 0 |
| P-37-032446 | CA-SDI-20592 | Prehistoric | 200 x 235 | 13 | 0 | 1 | 0 |
| P-37-032447 | CA-SDI-20593 | Prehistoric | 3.5 x 3 | 1 | 0 | 1 | 0 |
| P-37-032451 | CA-SDI-20597 | Prehistoric | 35 x 25 | 6 | 0 | 0 | 0 |
| P-37-032458 | CA-SDI-20604 | Historic | 10 x 8 | 1 | 0 | 0 | 0 |
| P-37-032459 | CA-SDI-20605 | Prehistoric | 40 x 35 | 2 | 0 | 0 | 0 |
| P-37-032462 | CA-SDI-20608 | Prehistoric | 20 x 30 | 3 | 0 | 0 | 0 |
| *Newly Identified Resources* | | | | | | | |
| ECWEP-SW-011 | N/A | Prehistoric | 82 x 47 | 5 | 0 | 3 | 0 |
| CWS-S-007 | N/A | Multi-component | 50 x 40 | 5 | 0 | 0 | 0 |
| CWS-S-008 | N/A | Prehistoric | 3 x 2 | 3 | 0 | 0 | 0 |
| CWS-S-009 | N/A | Prehistoric | 4 x 2 | 3 | 0 | 0 | 0 |
| CWS-S-010 | N/A | Prehistoric | 20 x 38 | 3 | 0 | 0 | 0 |
| CWS-S-011 | N/A | Historic | 22 x 114 | 4 | 0 | 0 | 0 |
| CWS-S-012* | N/A | Prehistoric | 60 x 30 | - | - | - | - |
| TW-S-007 | N/A | Prehistoric | 150 x 118 | 8 | 0 | 2 | 1 |
| TW-S-008 | N/A | Prehistoric | 105 x 98 | 7 | 0 | 0 | 0 |
| TW-S-012 | N/A | Prehistoric | 106 x 35 | 11 | 0 | 0 | 0 |
| TW-S-015 | N/A | Multi-component | 95 x 20 | 5 | 0 | 0 | 0 |
| TW-S-017 | N/A | Prehistoric | 53 x 17 | 3 | 0 | 0 | 0 |
| TW-S-030 | N/A | Multi-component | 47 x 83 | 3 | 0 | 0 | 0 |

* Evaluation efforts pending.

## 4.3 Native American Correspondence and Participation

At least one tribal monitor was present with each survey crew. Dudek contracted Red Tail Environmental Inc. to provide monitors for survey efforts in 2017. Red Tail monitors included

Justin Linton and Gabe Kitchen. Dudek contracted the Tribe to provide tribal monitors for survey efforts in 2018. Native American monitors from the Tribe included Monique LaChappa, Andrea Najera, Lewis Connelly, Phillip Paipa, Ron Cuero, Jon Jones, and Gerricho Dyche.

Marcus Cuero, also of the Tribe, and Ron Cuero participated in site visits to identify human remains. The Kumeyaay Cultural Repatriation Committee, represented by Clint Linton, was identified as the Most Likely Descendant (MLD) for the human remains identified on privately-owned land. Bobo Linton, representing the MLD, participated in fieldwork efforts at site CA-SDI-7151/7162 and TW-S-013 that resulted from consultation efforts with the MLD.

# 5 SURVEY RESULTS

This section describes the results of the overall cultural resources study completed for the Project. Each archaeological site and historic built environment resource identified within the APE is described in detail. Resource location maps and site sketch maps are included in Confidential Appendix B. In all, the inventory resulted in the documentation of 49 previously recorded archaeological sites, 38 newly identified archaeological sites, 4 previously recorded built environment resources, and 62 isolates (Figure 5-1; Confidential Appendix B). Seven archaeological sites identified in the APE in the records search were determined to be mapped incorrectly and are outside the APE, leaving 80 extant sites. The one previously recorded isolate was not relocated. Forty-two sites, 19 isolates, and the 4 built environment resources are within the ADI for the Project.

## 5.1 Archaeological Sites

Of the 87 archaeological sites, 63 are prehistoric, 8 are multi-component, 15 are historic, and 1 is of indeterminate age. Individual site descriptions are provided below and are summarized in Table 5-1. Eight of the previously recorded sites were found to have been mapped incorrectly, leaving 79 extant archaeological sites in the APE. Of the 79 sites, 41 are within the ADI. Two sites, CA-SDI-7152/7162 and CA-SDI-7156, were previously evaluated and are considered eligible for listing in the NRHP under Criterion D, Sites that are in the APE but outside the ADI have been avoided by Project design and will be preserved.

**Table 5-1**
**Archaeological Sites Recorded Within the Project APE**

| Site Number | Period | Type | NRHP Eligibility | Within ADI | Comment |
|---|---|---|---|---|---|
| *Previously Recorded Sites* | | | | | |
| CA-SDI-4005 | Prehistoric | Rock Shelter | Not Evaluated | No | Mapped Wrong - Not in APE- Avoided |
| CA-SDI-7136 | Prehistoric | Temporary Camp | Not Eligible | No | Avoided |
| CA-SDI-7138 | Prehistoric | Rock Shelter | Not Evaluated | No | Mapped Wrong; Not in APE- Avoided |
| CA-SDI-7139 | Multi-component | Ranching; Ceramic Scatter | Not Eligible | Yes | |
| CA-SDI-7140 | Prehistoric | Temporary Camp | Not Eligible* | Yes | |
| CA-SDI-7145/7146 | Multi-component | Temporary Camp; Historic Refuse | Not Eligible* | Yes | |
| CA-SDI-7148 | Prehistoric | Artifact Scatter | Not Evaluated | No | Avoided |
| CA-SDI-7149 | Prehistoric | Bedrock Milling | Not Evaluated | No | Mapped Wrong; Not in APE- Avoided |

**Table 5-1**
**Archaeological Sites Recorded Within the Project APE**

| Site Number | Period | Type | NRHP Eligibility | Within ADI | Comment |
|---|---|---|---|---|---|
| CA-SDI-7151/7162 | Prehistoric | Temporary Camp | Eligible under Criterion D; portion within ADI not Eligible | Yes | Significant deposits avoided |
| CA-SDI-7152 | Prehistoric | Temporary Camp | Not Eligible* | Yes | |
| CA-SDI-7156 | Prehistoric | Habitation | Eligible under Criterion D | No | Avoided |
| CA-SDI-7163 | Prehistoric | Temporary Camp | Not Eligible* | Yes | |
| CA-SDI-7258 | Indeterminate | Bedrock Milling | Not Evaluated | No | Mapped Wrong; Not in APE- Avoided |
| CA-SDI-8198 | Prehistoric | Ceramic Scatter | Not Evaluated | No | Mapped Wrong; Not in APE- Avoided |
| CA-SDI-8939 | Prehistoric | Habitation | Not Evaluated | No | Avoided |
| CA-SDI-8945 | Prehistoric | Rock Circle; Artifact Scatter | Not Evaluated | No | Avoided |
| CA-SDI-8946 | Prehistoric | Bedrock Milling | Not Evaluated | No | Mapped Wrong; Not in APE- Avoided |
| CA-SDI-8962 | Prehistoric | Bedrock Milling | Not Eligible | Yes | |
| CA-SDI-8963 | Prehistoric | Bedrock Milling | Not Evaluated | No | Avoided |
| CA-SDI-8968 | Prehistoric | Bedrock Milling | Not Evaluated | No | Mapped Wrong; Not in APE - Avoided |
| CA-SDI-8977 | Multi-component | Temporary Camp; Historic Residence | Not Eligible | Yes | |
| CA-SDI-8980 | Prehistoric | Rock Shelter | Not Evaluated | No | Mapped Wrong; Not in APE - Avoided |
| CA-SDI-8985 | Prehistoric | Bedrock Milling | Not Evaluated | No | Avoided |
| CA-SDI-8986 | Prehistoric | Bedrock Milling | Not Evaluated | No | Avoided |
| CA-SDI-9018 | Prehistoric | Ceramic Scatter | Not Eligible | Yes | |
| CA-SDI-9050 | Historic | Government/Educational Building Remains | Not Eligible | Yes | |
| CA-SDI-17205 | Historic | Refuse Scatter | Not Eligible | Yes | |
| CA-SDI-18048 | Historic | Structure Remains | Not Eligible | No | |
| CA-SDI-18049 | Prehistoric | Artifact Scatter | Not Eligible | No | |
| CA-SDI-19859 | Prehistoric | Artifact Scatter | Not Evaluated | No | Avoided |
| CA-SDI-20368 | Prehistoric | Habitation | Not Eligible | Yes | |
| CA-SDI-20586 | Prehistoric | Lithic Scatter | Not Evaluated | No | Avoided |
| CA-SDI-20587 | Prehistoric | Habitation | Not Eligible | Yes | |
| CA-SDI-20588 | Prehistoric | Lithic Scatter | Not Eligible | Yes | |
| CA-SDI-20590 | Historic | Refuse Scatter | Not Eligible | Yes | |

**Table 5-1**
**Archaeological Sites Recorded Within the Project APE**

| Site Number | Period | Type | NRHP Eligibility | Within ADI | Comment |
|---|---|---|---|---|---|
| CA-SDI-20591 | Multi-component | Historic Feature; Groundstone Tool | Not Eligible | Yes | |
| CA-SDI-20592 | Prehistoric | Habitation | Not Eligible | Yes | |
| CA-SDI-20593 | Prehistoric | Ceramic Scatter | Not Eligible | Yes | |
| CA-SDI-20594 | Multi-component | Artifact Scatter; Refuse Scatter | Not Evaluated | No | Avoided |
| CA-SDI-20597 | Prehistoric | Artifact Scatter | Not Eligible | Yes | |
| CA-SDI-20598 | Prehistoric | Temporary Camp | Not Evaluated | No | Avoided |
| CA-SDI-20599 | Prehistoric | Bedrock Milling | Not Evaluated | No | Avoided |
| CA-SDI-20604 | Historic | Refuse Scatter | Not Eligible | Yes | |
| CA-SDI-20605 | Prehistoric | Artifact Scatter | Not Eligible | Yes | |
| CA-SDI-20607 | Prehistoric | Artifact Scatter | Not Evaluated | No | Avoided |
| CA-SDI-20608 | Prehistoric | Bedrock Milling | Not Eligible | Yes | |
| CA-SDI-20610 | Historic | Refuse Scatter | Not Evaluated | No | Avoided |
| CA-SDI-20611 | Historic | Refuse Scatter | Not Evaluated | No | Avoided |
| CA-SDI-21776 | Prehistoric | Temporary Camp | Not Evaluated | No | Avoided |
| *Newly Recorded Sites* | | | | | |
| CWA-S-001 | Prehistoric | Habitation | Not Evaluated | No | Avoided |
| CWA-S-004 | Multi-component | Ceramic Scatter; Human Remains; Refuse Scatter | Not Evaluated | No | Avoided |
| CWA-S-005 | Historic | Refuse Scatter | Not Evaluated | No | Avoided |
| CWS-S-006 | Historic | Refuse Scatter | Not Evaluated | No | Avoided |
| CWS-S-007 | Multi-component | Refuse Scatter; Artifact Scatter | Not Eligible | Yes | |
| CWS-S-008 | Prehistoric | Bedrock Milling | Not Eligible | Yes | |
| CWS-S-009 | Prehistoric | Bedrock Milling | Not Eligible | Yes | |
| CWS-S-010 | Prehistoric | Artifact Scatter | Not Eligible | Yes | |
| CWS-S-011 | Historic | Refuse Scatter | Not Eligible | Yes | |
| CWS-S-012 | Prehistoric | Temporary Camp | Not Eligible | Yes | Formal Evaluation in Progress |
| ECWEP-I-015 | Historic | Ranching | Not Evaluated | No | Avoided |
| ECWEP-SW-001 | Prehistoric | Artifact Scatter | Not Eligible | No | Avoided |
| ECWEP-SW-003 | Historic | Ranching | Not Eligible* | Yes | |
| ECWEP-SW-005 | Prehistoric | Bedrock Milling | Not Eligible* | Yes | |
| ECWEP-SW-006 | Historic | Refuse Deposit | Not Evaluated | No | Avoided |
| ECWEP-SW-007 | Historic | Quarry | Not Eligible* | Yes | |
| ECWEP-SW-009 | Prehistoric | Lithic Scatter | Not Evaluated | No | Avoided |
| ECWEP-SW-011 | Prehistoric | Temporary Camp | Not Eligible | Yes | |

**Table 5-1**
**Archaeological Sites Recorded Within the Project APE**

| Site Number | Period | Type | NRHP Eligibility | Within ADI | Comment |
|---|---|---|---|---|---|
| ECWEP-SW-017 | Prehistoric | Temporary Camp | Not Evaluated | No | Avoided |
| TW-S-001 | Prehistoric | Lithic Scatter | Not Evaluated | No | Avoided |
| TW-S-002 | Prehistoric | Temporary Camp | Not Evaluated | No | Avoided |
| TW-S-003 | Prehistoric | Temporary Camp | Not Evaluated | No | Avoided |
| TW-S-007 | Prehistoric | Temporary Camp | Not Eligible | Yes | |
| TW-S-008 | Prehistoric | Temporary Camp | Not Eligible | Yes | |
| TW-S-009 | Prehistoric | Ceramic Scatter | Not Evaluated | No | Avoided |
| TW-S-010 | Historic | Rock Alignment; Historic Refuse | Not Eligible* | Yes | |
| TW-S-011 | Prehistoric | Bedrock Milling | Not Eligible* | Yes | |
| TW-S-012 | Prehistoric | Temporary Camp | Not Eligible | Yes | |
| TW-S-013 | Prehistoric | Temporary Camp | Not Eligible* | Yes | |
| TW-S-014 | Prehistoric | Lithic Scatter | Not Evaluated | No | Avoided |
| TW-S-015 | Multi-component | Lithic Scatter and Refuse Scatter | Not Eligible | Yes | |
| TW-S-016 | Prehistoric | Lithic Scatter | Not Evaluated | No | Avoided |
| TW-S-017 | Prehistoric | Lithic Scatter | Not Eligible | Yes | |
| TW-S-030 | Prehistoric | Temporary Camp; Historic Refuse Scatter | Not Eligible | Yes | |
| TW-S-031 | Prehistoric | Artifact Scatter | Not Evaluated | No | Avoided |
| TW-S-033 | Prehistoric | Temporary Camp | Not Evaluated | No | Avoided |
| TW-S-034 | Prehistoric | Ceramic Scatter | Not Evaluated | No | Avoided |
| TW-S-035 | Prehistoric | Bedrock Milling | Not Evaluated | No | Avoided |

* Evaluated by Comeau et al. 2019.

### 5.1.1 Previously Recorded Sites

#### CA-SDI-4005

CA-SDI-4005 was first recorded in 1975 as a prehistoric site containing rock shelters, bedrock milling, a milling fragment, and a lithic and ceramic scatter. ASM Affiliates attempted to relocate the site in 2006 during a pedestrian survey for an SDG&E project. Archaeologists identified a natural rock shelter but no associated artifacts. ASM Affiliate revisited the mapped location of site in 2009 and did not relocate the site. In 2018, Dudek revisited the site and was unable to identify the site. It is likely the site was mapped incorrectly.

### CA-SDI-7136

CA-SDI-7136 was first recorded in 1979 as a bedrock milling feature and artifact scatter covering a 30 × 30 m area. This site is located on the edge of the valley on the west side of Tule Creek. The initial survey identified bedrock milling, 100 + ceramics, 100+ quartz flakes, 2 felsite flakes, 1 utilized felsite flake, 1 felsite tool, 1 cryptocrystalline blade tool, 1 basalt utilized flake, 1 handstone fragment, and 1 milling fragment.

In 2018, Dudek revisited the site and identified three bedrock milling features and a sparse artifact scatter expanding the site to a 74 × 75 m area. The mapped location was found to be south of the actual location, so the site was remapped. Feature 1, which was noted on the original sketch map, is located at the east end of the site and contains two mortars. Feature 2 is located on top of a knoll at the west end of the site. It contains at least four slicks and four slick remnants on a heavily weathered outcrop. Feature 3 is a small boulder south of Feature 2 that contains a single mortar. The artifact scatter includes quartz and volcanic debitage, one retouched flake, one core, brownware ceramics, three handstones, and one millingstone. Vegetation at this site includes chamise, cholla, buckwheat, Mormon tea, and mountain mahogany.

### CA-SDI-7138

CA-SDI-7138 was recorded in 1979 by M. Gonzales as a rock shelter with debitage and ceramic sherds covering a 5 × 10 m area. The initial survey identified seven brownware ceramic sherds, one felsite flake, and one quartz flake. The mapped location of the site was revisited in 2006 by ASM, who was unable to find any evidence of the site. ASM presumed the site was mapped incorrectly and was likely further off the existing dirt roads that they surveyed at the time. Dudek revisited the site in 2018 and was unable to relocate any evidence of the site at the mapped location. Based on the distances to the site from dirt roads and geographical landmarks included in the original site form, the site is likely located southwest of the mapped location, placing it outside the APE.

### CA-SDI-7139

This site was originally recorded by M. Johnson in 1979 as a multi-component site with historic rock alignments, historic refuse scatter, concrete slab, and a light scatter of Tizon brownware in a 100 × 100 m area. The site was updated in 2005 by ASM and expanded north and east. At that time, the historic refuse scatter was found to be more dispersed than previously reported. An historic water trough, fence lines, and cow pens were also recorded outside the original site boundary. The Tizon brownware sherds were not relocated at that time.

The site was revisited by Dudek in 2018. The mapped site boundary was found to be inaccurate and was revised to reflect more accurately the observed artifacts and features. The vast majority

of the site is outside the APE. Vegetation at this site included sumac, buckwheat, chamise, *Artemisia dumosa*, *Quercus agrifolia*, yucca, cheesebush, and agave.

**CA-SDI-7140**

This site was first recorded in 1979 by M. Gonzalez and M. Johnson as a temporary camp covering a 30 × 10 m area. The site is located east of the road running along the west side of McCain Valley. The initial survey identified a bedrock milling containing 6 slicks, 3 mortars, 2 basins and 50+ ceramic sherds, and 3 flakes.

In 2018, Dudek revisited the site and recorded 17 granite bedrock milling features and expanded the site to a 330 × 250 m area. Table 5-2 lists milling elements for each feature.

**Table 5-2**
**CA-SDI-7140 Bedrock Milling Features**

| Feature | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Slicks | 7 | 5 | 3 | — | — | — | 1 | 1 | 1 | 1 | 3 | 1 | 6 | 1 | 5 | 1 | 1 |
| Mortars | — | — | — | 4 | 1 | — | — | — | — | — | — | — | — | — | — | — | — |
| Basins | — | — | — | — | — | 1 | — | — | — | — | — | — | — | — | — | — | — |

The site is situated along the western edge of the large alluvial north/south drainage wash of Tule creek. The edge of the wash consists of various sized granite bedrock outcrops punctuated along the slope of hills to the west. A dirt access road generally splits the site down the middle, creating what equates to almost two halves of the site, eastern and western. The surface artifact distribution was recorded as being relatively thinly dispersed in the northern portion of the site, with a single artifact every few meters, while the densest area of surface artifacts were recorded in the southern portion of the site.

Sediments are composed predominantly of loose, light brown, sandy silty loam alluvium, and DG. Vegetation at the site contains scrub oak, *Quercus agrifolia*, buckwheat, manzanita, chamise, yerba santa, and cholla.

**CA-SDI-7145/ CA-SDI-7146**

Site CA-SDI-7145/7146 was first recorded as two separate sites in 1979 by D. Dominici and J. Underwood. CA-SDI-7145 was located on the east side of the meadow, 600 m northwest to a windmill covering a 30 × 60 m area. CA-SDI-7146 was located in the McCain meadow, 200 m at 270° to the barn covering a 10 × 10 m area. Dominici identified CA-SDI-7145 as a multicomponent site containing historic debris, three slicks on the north outcrop, four slicks

on the south outcrop, one mortar, two quartz flakes, tizon brownware sherds, unifacial felsite flake scraper, basalt core/hammerstone, tizon rim sherds, utilized flakes, one quartz hammerstone, one metate fragment, and one mano. Underwood described CA-SDI-7146 as a multicomponent site containing historic debris, one mortar, quartz angular fragments, tizon brown ware sherds, felsite and quartz flakes. The vegetation in the site includes annual grasses, prickly pear, cholla, dumosa, and buckwheat.

Both sites were revisited during the survey phase of the Project in 2018 by Dudek; the distribution of artifacts and features found at and between both sites resulted in the two sites being combined into a single site. The site identified eight bedrock milling features with a light artifact scatter covering a 347 × 127 m area. The artifact scatter includes 21 brownware ceramic body sherds, 1 brownware ceramic rim sherd, 35 volcanic debitage, 17 quartz debitage, 1 possible quartzite flake tool fragment, 1 quartz flake tool, and 1 granitic handstone.

Feature 1 is a bedrock milling feature with two basins and a slick, Feature 2 is a bedrock milling feature with two mortars and one slick. Feature 3 is a bedrock milling feature with one slick. Feature 4 is a bedrock milling feature with one mortar. Feature 5 is a bedrock milling feature with two slicks. Feature 6 is a bedrock milling with three slicks. Feature 7 is a bedrock milling with one slick. Feature 8 is a bedrock milling with one slick and two mortars. Only a small portion of the site at the north and south ends are within the APE and ADI; the majority of the site is outside the APE.

**CA-SDI-7148**

Site CA-SDI-7148 was first recorded in 1979 by J. Underwood as a small artifact scatter. CA-SDI-7148 was located in a meadow and covers a 20 × 10 m area. Artifacts recorded at the site included 1 felsite core, 1 felsite flake, 2 quartz flakes, 12 Tizon brownware sherds, and 1 possible hammerstone. Vegetation at the site included redshank, chamise, manzanita, and *Quercus agrifolia*. Dudek revisited the portion of the site mapped in the APE but did not relocate any of the artifacts. No effort was made to relocate the site outside the APE.

**CA-SDI-7149**

This prehistoric site was originally recorded by J. Underwood in 1979. The site measures 20 × 20 m. The site consists of a small bedrock milling feature with four milling slicks and one felsite lithic flake. The vegetation in the site includes annual grasses, prickly pear, cholla, dumosa, and buckwheat. The edge of the site boundary is mapped within the APE; however, neither the milling feature nor the flake were observed in the APE during the survey. No effort was made to relocate the feature outside the APE.

**CA-SDI-7151/ CA-SDI-7162**

This is a large habitation site originally recorded in 1979. It contains multiple rock shelters, bedrock milling, midden deposits, flakedstone tools, groundstone tools, ceramics, and a Hakataya figurine in a 500 × 400 m area. Possible cremations were also noted at that time. The site was revisited in 2006 and 2010 by ASM, with no substantial changes noted. In 2006 ASM noted that the site may have been evaluated for listing in the NRHP, but no report or site record update attesting to that fact was available at the time.

WESTEC combined the site with site CA-SDI-7162 in 1983 while evaluating site. WESTEC (1983) determined the site was significant but did not provide a site record update. According to BFSA (1998), the evaluation lacked sufficient mapping and did not excavate a sufficient number of STPs or control units to properly delineate site/locus boundaries and significant deposits.

BFSA performed an evaluation at the site under CEQA, the County of San Diego guidelines, and the County's Resource Protection Ordinance in 1998 to determine where significant deposits are in the site and to delineate potential open space easements for a planned lot split and residential development (BFSA 1998). That study delineated four loci (A–D) within the site and determined four areas of significant deposits that should be placed in open space. Significant areas of the site were determined based on the presence of sensitive features (such as rock shelters) or subsurface deposits of two or more artifacts in an STP or 1 × 1 m unit. A total of 27 positive STPs were documented out of 110 excavated at the site, which produced 66 total artifacts. Seven 1 × 1 m excavation units produced a further 159 artifacts.

The majority of the site is outside the APE, including large areas on BLM land, and the four areas delineated by BFSA as contributing to the significance of the site. During the current survey, the site was revisited and an expansion to the site into the APE was documented. Six loci, arbitrarily delineated based on topographic features, were documented, in order to facilitate recordation and for management of portion of the site within the APE. Each locus is situated along a dirt bike track, which was used as a partial locus boundary for each locus. The newly delineated Locus 2 corresponds to the site previously recorded as CA-SDI-7162, which was mapped incorrectly in SCIC records (CA-SDI-7162 was already combined in to CA-SDI-7151 by WESTEC in 1983). The entire site was not revisited or mapped at this time: field efforts focused on the APE, and a sufficient area to define the site boundary. Upon review of the field data and the BFSA report, the mapped site boundary was determined to be slightly offset to the east. Five of the new loci (except Locus 4) are updates/expansions to the BFSA loci; the new locus D was evaluated by BFSA but was not mapped as part of the site.

Locus 1 is situated on a northeast-southwest trending ridge flanked by two small drainages at the northwest end of the site. Locus A contains three bedrock milling features, one artifact concentration, a light scatter of debitage, ceramics, and groundstone tools, and one piece of cremated human remains. Three handstones (A4, A135, A137), one pestle (A6), one brownware rim sherd with etching (A3), one decorated buffware ceramic sherd (A1), and one retouched flake (A139) were noted on the ground surface. Concentration 1, located at the north end of the locus, consists of 50+ pieces of brownware and buffware ceramic sherds and 2 volcanic flakes in a 28 × 20 m area. The burned bone fragment was determined to be human by Dr. Hinkes during a site visit on September 15, 2018. Locus 1 is within the area of the site delineated by BFSA as Locus C, but is not part of the significant portion of the Locus C.

Locus 2 is situated on a small ridge immediately south of Locus 1. Its boundary was delineated by a small drainage to the north and west, a drainage and dirt road to the south, and a landform change to the east. Locus 2 contains 1 bedrock milling feature with 1 slick (Feature 6; mapped as BMF D by BFSA), 1 handstone, 70+ ceramic sherds, 30+ pieces of volcanic and quartz debitage, and 1 burned bone fragment. The burned bone fragment was determined to be possibly human by Dr. Hinkes during a site visit on September 15, 2018. Locus 2 is predominantly within the BFSA Locus C, but also extends further southwest outside the prior boundary. Locus 3 is also not part of the significant portion of the Locus C.

Locus 3 is located immediately east of Locus 2, on top of a large ridge. The eastern and northern boundary of the locus are arbitrarily delineated by the previously mapped site boundary as shown in SCIC records. The southern boundary generally follows the edge of a steep drainage. Locus 3 contains 100+ quartz and volcanic pieces of debitage, 150+ ceramic sherds (brownware and buffware), 2 pieces of burned bone, and 3 bedrock milling features (Features 8, 9, and 10) with at least 18 slicks and 1 mortar. One pestle (A10), one hammerstone (A11), one handstone (A12), and one millingstone (A14) are also present. The two burned bone fragments were determined to be likely human by Dr. Hinkes during a site visit on September 15, 2018. Locus 3 generally corresponds to one of two areas identified by BFSA as significant with in Locus C, however, Locus 3 includes some portions of the site outside the significant area.

Locus D contains a light scatter of lithic debitage and a few ceramic sherds located on a small knoll. The locus was distinguished from Locus F to the east by a dirt bike track; the slope of the knoll delineates the north, south, and west boundary of the locus. Seven ceramic sherds and 13 pieces of quartz and volcanic debitage were observed in the locus. This locus was evaluated as part of the BFSA study, but was not included as one of the four loci, and is outside the BFSA site boundary.

Locus 5, located at the south end of the site, contains two rock shelters (Features 12 and 13), a dense concentration (Concentration 2) of lithic debitage and ceramics adjacent to Feature 12, two

bifaces, and two millingstones. A light scatter of flakes and ceramics were observed throughout the rest of the locus. A substantial midden deposit was noted immediately west of the locus, within the previously mapped site boundary. This eastern portion of this area corresponds to part of the BFSA Locus A; the western portion is outside Locus A. Most of the BFSA Locus A was determined to be significant. Based on the features recorded both at this time and by BFSA, the significant portions of the locus are outside the ADI.

Locus 6, situated immediately east of Locus 4 and north of Locus 5, contains a light scatter of volcanic and quartz debitage, one hammerstone, and one bedrock milling feature with three slicks (Feature 11). Feature 11 is located between two large granite outcrops that may have been used as a wind/sun break/shelter, but no artifacts or other evidence confirms this. Neither Feature 11 nor the possible shelter appear to have been recorded by BFSA. Locus 6 corresponds in part to BFSA Locus B. BFSA determined Locus B to be not significant.

Sediments at the site consist predominantly of silty sandy loam and decomposing granite. A midden deposit was noted east of Locus 5, and, per the BFSA study, other shallow midden deposits are present at other loci, albeit outside the ADI of this Project. Innumerable granite boulders and bedrock outcrops are present throughout the site; it is likely that many more milling features are or were present but have been lost due to the heavy weathering and exfoliation exhibited on the rocks.

Due to the presence of human remains in two locations, the MLD requested a subsurface excavation program to be performed to determine if any additional remains may be present in the ADI. This effort was performed with evaluation efforts at other sites in the ADI and will be documented in a separate report.

**CA-SDI-7152**

Site CA-SDI-7152 was first recorded in 1979 by M. Johnson as concentrated artifact scatter. The site was initially mapped covering a 100 × 50 m area on two small knolls bisected by a drainage. The site was reported to contain chert, felsite, basalt, obsidian, and chalcedony flakes, one large chopping tool or core, one ceramic bowl, one millingstone, one handstone, and burned animal bone. Vegetation included manzanita, *Artemisia dumosa*, *Prunus* sp., and buckwheat. Sediments were described as decomposing granite.

Dudek revisited the site in 2018 and relocated the artifact scatter and one possible rock shelter (Feature 1) and a bedrock milling outcrop with two milling surfaces (Feature 2). Surface inventory within the Project boundary includes 7 volcanic flakes, 5 quartz flakes, 5 ceramic rims, 45 brownware body sherds, 17 buffware ceramic body sherds, 1 brownware ceramic bowl sherd (A1),

2 fragments of a quartz millingstone (A2), 1 granitic bifacial handstone (A3), 1 volcanic core (A4), and 2 brownware ceramic body sherds with red paint (A5).

The bowl sherd, presumably the same as the one noted in the original site record, is well outside the mapped site boundary. It appears the site was mismapped previously, and should have been shifted to the east. Survey efforts at this time focused upon the APE; the boundary of the site was modified extending to the east to cover a small knoll with the bowl sherd and possible shelter. To the west, the site does extend at least onto the adjacent knoll (as reported originally), but no effort was made to determine the full extent of the eastern expanse of the site.

**CA-SDI-7156**

Site CA-SDI-7156 was first recorded in 1979 by J. Underwood and M. Johnson as a large prehistoric habitation site consisting of midden, 3 rock shelters, cremation, bedrock milling features, hammerstones, lithic cores, lithic flakes (obsidian, quartz, and chalcedony), 3 handstones, 3 milling fragments, and over 2,000 Tizon brownware and Colorado River buffware ceramic sherds. The site was recorded as covering a 300 × 250 m area.

BFSA performed an excavation at the site in 1998 to determine where significant deposits are in the site and to delineate potential open space easements for a planned lot split and residential development (BFSA 1998). That study identified recommended the majority of the site should be placed in open space. The BFSA report noted that prior additional studies in the early 1980s by WESTEC Services Inc. (1983) and ASM (1985) performed limited excavation and surface collection and recommended the site as significant.

In 2018, Dudek relocated the site determined that the mapped location in SCIC records was inaccurate. One previously recorded bedrock milling feature and a dispersed artifact scatter was found east of the mapped boundary, and a light scatter of artifacts was found north of the mapped boundary. These areas are included in the site sketch map included in BFSA's report (1998). The site boundary was revised to incorporate the recorded cultural materials, but the full site was not revisited or mapped.

Artifacts within these areas include 1 calcined bone fragment, 300+ brownware ceramic sherds, a few buffware ceramic sherds, 300+ pieces of debitage, 3 granitic millingstone fragments, 1 granitic hammerstone, 1 muller, 2 volcanic retouched flakes, 1 granitic handstone fragment, and 1 quartz Desert Side-notched projectile point. Vegetation at this site includes buckwheat, *Quercus agrifolia*, chamise, cholla, and mormon tea. Sediments at the site are primarily composed of decomposing granite and silt. A small midden deposit was identified immediately north of the milling feature. This site will be avoided by Project design.

### CA-SDI-7163

Site CA-SDI-7163 was first recorded in by Gonzales. The site covers a 20 × 20 m area. Gonzales identified this site as a bedrock milling site containing 19 mortars and slicks, along with 1 brownware ceramic sherd and 1 felsite scraper. In 2018, Dudek revisited the site and found one or two quartz debitage and one milling feature with one mortar and two slicks. The feature and artifacts were relocated approximately 60 m south of the mapped location, but match the site record sketch map. Vegetation on this site included *Quercus agrifolia* and redshank. Sediments are composed of decomposing granite and silt. The bedrock at the site is heavily weathered, so additional feature could not be discerned.

### CA-SDI-7258

This 30 × 30 m site is an assortment of reactivated or "recent"-use milling features and tools found within the vicinity of the Mary Ann Cuero home and may no longer be extant. Vegetation at the site consists of introduced garden flora, oaks, and chamise. Alluvium and eroded hillside sedimentary deposits were observed. In 1979, Greathouse recorded two bedrock mortars, two handstones, and one granite pestle and suggested the items were used by the residents of the Cuero home. At the time, it was unknown if the mortars and groundstone tools were repurposed features and artifacts, or if they were of modern origin. This site could not be found again within the APE in 2012 by ASM.

### CA-SDI-8198

A surface scatter of prehistoric ceramics composes this site. Red shank chaparral vegetation dominates the landscape. Flower, Ike, and Roth recorded the site in 1980 as a 10 × 15 m scatter of nine brownware potsherds. The location and sketch maps in the site record indicate that site is off the reservation, although the mapped location in the SCIC records show part of the site on the reservation. Artifacts were observed within the APE at the mapped location; the site appears to be off the Reservation, as originally mapped.

### CA-SDI-8939

This is a large prehistoric habitation site, east of a water tower, south of a covered spring, and interrupted by a reservation fence and the branches of a dirt road. Riparian woodland vegetation consisting of oak, rye, and unknown grasses characterizes the site and surrounds. C. Taylor recorded the site in 1975 and noted 18 basins, eight mortars, and 24 slicks at five outcrops over a roughly 100 × 100 m area. Artifacts recorded include 125+ flakes, 200+ potsherds, and 1 blade. A fire/trash pit of unknown temporal affiliation was also noted by Taylor. Three of the features were mapped off the Reservation and two were mapped within the Reservation.

Dudek relocated the site in 2018. The mapped site boundary on file at the SCIC was found to be smaller than the originally mapped boundary and was updated to reflect more accurately the original mapping as well as the artifact scatter and features as observed at this time. One new feature was identified in the eastern part of the site, which contains three mortars. The artifact scatter is generally the same as previously described, although fewer artifacts were observed at this time, as vegetation in the area was very thick. A probable midden deposit was noted north of the milling features.

In 2019, Dudek revisited the site and found a light density artifact scatter spreading east of the site, primarily north of the dirt road that bisects the site. One core, 13 flakes (quartz and volcanic, and 40 brownware ceramic sherds were identified at that time, extending the site some 80 m to the east and 30 m to the north of the prior site boundary. One piece of possible cremated human remains was also identified at that time. On February 15, 2019, Dr. Hinkes of the San Diego County Coroner's Office visited the site and to make the formal identification. Seven additional bones were identified at that time; one was determined to be human, and seven were determined to be likely or possibly human. A proposed access road has been redesigned to avoid impacts to the human remains.

**CA-SDI-8945**

This site was originally recorded by C. Taylor in 1981 to contain a single rock circle located on a flat, granite bedrock outcrop. The rock circle was reported to measure 3 × 3.5 m and was composed of 27 rocks. Chamise, yucca, manzanita, and ceanothus were noted in the vicinity.

Dudek revisited the vicinity of the site in 2018. The rock circle is mapped outside the APE and was not relocated at this time, although no effort was made to search outside the APE. Four pieces of debitage (one volcanic primary flake, two volcanic interior flakes, and one piece of quartz shatter) were observed along the APE adjacent to the site boundary and were recorded as an update to the site. Three of the flakes were observed in the APE, and one was noted outside the APE.

**CA-SDI-8946**

This 50 × 50 m site is a milling station situated in a boulder outcrop originally recorded by C. Taylor in 1981. It rests on a small creek beneath a knoll in a narrow, oak-filled drainage that opens into a valley. Riparian woodland flora consisting of oak, buckwheat, elderberry, ceanothus, and unknown grasses characterize the site and surrounds. The site consists of three milling features containing six slicks. In 2012, ASM Affiliates revisited the location but did not relocate any of the features. It was determined at that time that the site was incorrectly mapped and should have been mapped in one of the drainages to either the east or west of the site, which are outside the APE.

**CA-SDI-8962**

This site is a bedrock milling station with one basin. It is located on 7 × 5 m boulder outcrop on a ridge top 200 m east of a drainage. Vegetation inside of and surrounding the site includes wild cherry, ribbonwood, buckwheat, ceanothus, live oak, and prickly pear. The site was revisited by Dudek in 2018 but could not be relocated. It appears that either alluvial sediments and/or vegetation obscured the feature, or the feature was mapped inaccurately.

**CA-SDI-8963**

This site was originally recorded in 1981 by C. Taylor as three bedrock milling features containing a total of nine slicks. ASM Affiliates updated the site boundary, shifting it north of the previously mapped location, and recorded an additional milling feature containing one slick. The site lies in a copse of boulders situated on both sides of a seasonal drainage, 60 m east of a stream. Riparian woodland vegetation consisting of ceanothus, oak, grasses, and redshanks and sandy loam sediment characterize the landscape. During the current survey, the site was relocated by Dudek and found to be in the same condition as reported by ASM. The site boundary was found to extend south and include the originally mapped area, which does not contain and features or artifacts. As a result, the site boundary was revised again to encompass only the extant features.

**CA-SDI-8968**

C. Taylor recorded this site in 1981 as a single milling station. It is situated within a drainage on the eastern edge of Diabold Canyon, 50 m south of a spring. Riparian woodland vegetation such as live oak, redshanks, and mountain mahogany as well as humic and sandy soils dominate the landscape. The 2 × 2 m site consists of a single boulder containing three slicks. The portion of the mapped site boundary was revisited by Dudek in 2018, but the feature was not found. It is likely that the feature is outside the APE, but no effort was made to examine the area outside the APE.

***CA-SDI-8977***

This multi-component site contains a prehistoric temporary camp and an historic residential site. The site is located north of Campo Creek and is bisected by a dirt road. Riparian woodland vegetation such as oak, sagebrush, buckwheat, and unknown grasses populate the site and surrounding landscape. Decomposing granite and loam constitute sediments at and surrounding the site. The site was first recorded in 1981 by C. Taylor as a 30 × 60 m site with four bedrock milling features and an associated lithic and ceramic surface scatter. The milling features contain six slicks and two mortars. Artifacts at the site include five ceramic sherds and one piece of lithic debitage.

Subsequent visits to the site by Terri Jacques in 1981 and ASM in 2011 expanded it to a 90 × 90 m area. Historic period residential components of the site include a granite house foundation, a dam, an historic roadway, a refuse scatter inclusive of bottles dating to the 1940s, and the text "J.H. 1947" carved into bedrock north of the house foundation. ASM identified a previously unrecorded millingstone fragment and one additional volcanic flake. Although a very small portion of the site boundary overlaps the APE, no artifacts or features are located within the APE.

**CA-SDI-8980**

This site is a rock shelter with one core, which was originally recorded by C. Taylor in 1981. ASM revisited the site in 2011 and was unable to relocate it. It was determined at that time to have been mismapped and should have been located 270 m to the southeast, outside the APE.

**CA-SDI-8985**

C. Taylor originally recorded this site in 1981 as a bedrock mortar on a 3 × 2 m granite outcrop. It is situated in a copse of boulders at the base of a rocky hillside, south of a fence line and meadow and 275 m southwest of a house. Sandy loam sediment and vegetation such as live oak, squaw bush, coffee berry, and valley grasses characterize the landscape. The portion of the site mapped within the APE was revisited by Dudek in 2018, but the mortar was not relocated. It is likely the mortar is outside the APE.

**CA-SDI-8986**

This prehistoric site was first recorded in 1981 by C. Taylor to contain one bedrock milling station, two millingstones, and a rock enclosure. Riparian woodland vegetation including live oak and sandy loam sediment characterize the landscape. Based on the sketch map, the rock enclosure appears to be a semi-circular natural rock formation, with the opening obscured by a stacked rock wall. As mapped, the site measures 65 × 45 m, but accurate dimensions were not included in the site record.

Dudek revisited the site in 2018, identifying the milling feature outside the APE. The rock enclosure was not observed. One previously unrecorded ceramic sherd was observed at the south end of the site, within the APE.

**CA-SDI-9018**

This site is a small, light density ceramic scatter that covers a 10 × 10 m area. It was recorded in 1981 by C. Taylor on the north side of a 1958 wagon road (CA-SDI-9059) and lies 300 m east of a valley containing a seasonal creek. The site and surrounding landscape is composed of decomposing granite sediments and populated by chamise, redshank, buckwheat, ceanothus, rabbit

brush, manzanita, and Mojave yucca. The ceramic scatter includes approximately 10 brownware sherds. ASM revisited the site in 2011 and was only able to identify a single ceramic rim sherd on the south side of the extant dirt road. It was noted at the time that the dirt road had been graded and widened, likely destroying or at least displacing the site.

**CA-SDI-9050**

This site consists of the historic Campo Indian Agency/school house complex. The site consists of a chained/fenced area, ramada rubble piles, dirt roads, artifact scatters, and refuse deposits first documented by Terri Jacques in 1981. The location and contents of the site were reconfirmed by ASM Affiliates in 2011. The site is located south of Campo Creek, in a landscape dominated by oak, elm, maple, unknown grasses, and sandy loam sediments. According to Jacques, historic documents show the Agency complex was built in 1911 and used through 1933, with discontinuous use of the site through 1981 including the construction and utilization of fiesta facilities.

Eight features and several additional site components (ramada rubble piles, electric line, concrete fixtures, a chained area, a granite rock scatter/possible house foundation) constitute the roughly rectangular 185 × 128 m site, whose northwestern quadrant also hosts a network of old dirt roads. Six ramada rubble piles are dispersed throughout the features. An electric line sits in the northwest corner of the site. Two concrete fixtures – one square measuring 60 × 60 in. and one rectangle measuring 48 × 20 in., are located in the north central segment of the site. A chained area is situated in the northeast quadrant of the site and a scatter of granite rocks/possible foundation lies along the south-central site boundary. A single round, concrete water tank measuring 40 × 11 ft is present south of the main road, on a small hill. Each of the features was documented extensively in the initial recordation. Jacques (1981) indicated that the site is potentially significant but did not evaluate the site at that time.

**CA-SDI-17205**

This historic site consists of a large refuse scatter, originally recorded by Tierra Environmental in 2004. Artifacts at the site include over 600 cans, more than 100 bottles, historic ceramic fragments, a bed frame, and springs. Based on the bottles, the refuse scatter dates from the 1920s to the 1950s. Sediment at the site consist of loose sandy soil. The vegetation includes live oak, manzanita, sugar bush, white sage, scrub oak, yucca, and grasses. ASM Affiliates relocated the site in 2012 and revised the site boundary to an approximately 43 × 20 m area. ASM noted that the site is in the same general conditional as previously recorded. Dudek revisited the site in 2018 and observed the site in the same condition and location as reported by ASM.

**CA-SDI-18048**

CA-SDI-18048 was originally recorded as a historic site containing a collapsed structure and a concrete foundation by ASM Affiliates in 2006. The structure measures 15 × 12 ft. Modern refuse consisting of beer cans, broken glass dating to primarily to the 1970s and 1980s were observed on the surface. The site is located on a high ridge between Lost Valley and McCain Valley. Modern OHV trails pass on the east side of the structure. In 2018, Dudek returned to the site and found it in the same location and condition as previously reported.

**CA-SDI-18049**

CA-SDI-18049 was first recorded in 2006 by ASM Affiliates and is located approximately 100 m southwest of CA-SDI-18048 on top of a granite outcrop covered knoll. ASM identified the site as a lithic and ceramic scatter consisting of 7 lithic flakes and 10 brownware sherds in a 25 × 30 m area. ASM also noted that an OHV trail passes through the site.

In 2018, Dudek revisited the site and relocated the previously recorded artifacts. Additionally, Dudek recorded a small concentration of artifacts located approximately 30 m north of the originally mapped site. The originally mapped site was designated Locus A, and the newly identified artifacts were designated Locus B. As a result of the update, the site was expanded to cover an 84 × 34 m area. Artifacts noted at Locus B include one quartz Elko projectile point, one quartz biface thinning flake, one quartz secondary flake, three quartz interior flakes, and two volcanic interior flakes. Vegetation at this site includes chamise, scrub oak, buckwheat, and cholla.

**CA-SDI-19859**

Site CA-SDI-19859 was originally recorded by ASM Affiliates in 2009 as a lithic and ceramic scatter. The site was observed within and along a small seasonal drainage and covers a 167 × 55 m area. Artifacts include 1 handstone fragment, 24 ceramic sherds, 11 volcanic lithic flakes, and 3 quartz flakes. The artifacts are mainly concentrated in a seasonal wash that runs through the middle of the site. Vegetation at the site includes sage, oak, chamise, and buckwheat. In 2018, Dudek relocated the site and found the site to be in the same condition as previously recorded.

**CA-SDI-20368**

This multi-component site was originally recorded in 2010 by ASM Affiliates as a prehistoric habitation site spread over three loci and one historic well feature. In 2011, ASM expanded the site to include additional flakes and ceramic sherds. The site is situated in a landscape of low-lying hills and bedrock outcrops. Vegetation present includes buckwheat, black oaks, and grass. Two drainages and a road bisect the site. Overall, the site covers a 190 × 137 m area.

The site consists of three loci. Locus A measures 90 × 50 m, and is located in the center of the site, on the west shoulder of the road. It hosts Feature 1, a granite bedrock milling station containing four conical mortars and one basin. A collector's cache of 5 flakes and 56 ceramics sherds (two of which are etched) was found on top of the bedrock milling station. Additional artifacts noted in the locus include 3 interior flakes, 1 fragment of volcanic shatter, 1 granitic millingstone fragment, 18 pieces of brownware pottery, including 2 rims and 1 etched sherd, and 3 buffware potsherds.

Locus B covers a 90 × 30 m area on the eastern shoulder of the road and contains a surface scatter of formal tools, lithics, and ceramics. Tools present included one handstone, one millingstone, a retouched quartz flake, and retouched volcanic flake. Ten interior flakes, 1 secondary flake, 3 fragments of lithic debitage, 39 brownware pottery pieces, including 7 rims, and 4 buffware pottery pieces, including 2 rims, were also observed.

Locus C measures 90 × 25 m and contains Feature 2, a historic walled artesian well. The well is located in the center of Locus C, and presumably enclosed by a partially visible wall constructed of granitic cobbles and coarse gravelly mortar. A scatter of 12 flakes, 14 brownware pieces, including 1 rim, and 1 buffware rim was also noted.

**CA-SDI-20586**

This site is a sparse scatter of lithic debitage and groundstone originally recorded in 2011 by ASM. The 32 × 36 m site is situated in relatively flat terrain of exposed, weatherworn bedrock outcrops. Chaparral vegetation composed of chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei,* and unknown grasses was observed. Artifacts at the site include 13 flakes, 1 unifacial granitic millingstone, and 1 retouched flake.

**CA-SDI-20587**

This site was originally recorded by ASM as a 220 × 85 m sparse scatter of prehistoric lithic debitage, tools, and groundstone. It is located on the south slope of a gently sloping ridgeline. One drainage bisects the site and another forms its eastern boundary. Mixed chaparral vegetation types including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses punctuated by highly exfoliated granitic boulders characterize the landscape. Sediment in the area consists of decomposing granite.

The site was reported to contain a moderately dense lithic scatter that includes 60+ lithic flakes, two handstones, one pestle fragment, two early-stage quartz biface fragments, two retouched flakes, one flake with battering, and one volcanic scraper. Dense vegetative cover and correspondingly poor ground visibility means additional cultural constituents are likely present.

The site was revisited by Dudek and expanded south and west; the site now covers a 423 × 138 m area. A light-density scatter of debitage, brownware ceramics, multiple cores, and a hammerstone were observed in the expanded site area. Additional artifacts were also noted to extend east off the reservation boundary, but were not recorded at this time.

**CA-SDI-20588**

This site is a sparse scatter of prehistoric lithic debitage and one hammerstone spread over a 38 × 10 m area. It is situated near the center of a broad, north–south trending ridge, in an undulating landscape punctuated by granite bedrock outcrops. The landscape is characterized by chaparral vegetation, such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses, and decomposed granite sediments.

**CA-SDI-20590**

ASM recorded this site as a historic refuse scatter located on the southern edge of a dirt road. Chaparral vegetation types such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses populate the site. The scatter includes 40+ historic cans and two glass bottle fragments in a 38 × 12 m area. The presence of a Mayfield Glass maker's mark and condensed milk can measurements indicate the refuse was deposited in the 1950s.

**CA-SDI-20591**

This site is a historic water trough containing a disassociated prehistoric groundstone tool. It is located in an undulating field clear of vegetation, west of a dirt road. Mixed chaparral vegetation characterizes the surrounding landscape. The historic trough's exterior measures 19 × 12 ft and is 4 ft tall. "C.C.C.I.D. MAR 31, 1938" is inscribed in the trough cement – indicating the trough is associated with the Civilian Conservation Corps Indian Division (1933–1942). The trough is constructed of cement and rock, with an interior of smoothed cement. A depression at the top of the north wall separates the primary water storage area from the lower trough from which animals would drink. A single bifacial millingstone fragment was found in the trough.

**CA-SDI-20592**

This is a habitation site containing one bedrock milling feature, and midden deposit, and three concentrations of lithics, ceramics, groundstone, and charcoal. The northeast quadrant of the site hosts a flowing spring encompassed by a built berm. It is located near the center of a broad, north-south trending ridge, just west of the McCain Valley. Heavily eroded granite bedrock outcrops punctuate the landscape. A mixed chaparral environment of chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, mountain mahogany, ephedra, prickly pear, and unidentified grasses

populate the area. ASM Affiliates first recorded the site in 2011 as one bedrock milling feature and two primary concentrations of lithics, ceramic sherds, and groundstone. Later in 2011, ASM Affiliates expanded the site boundaries to include a third artifact concentration.

TAS of 2011, the 220 × 165 m site consists of one feature and three artifact concentrations. Feature 1, located in the central portion of the site, is a bedrock milling feature containing five slicks, two basins, and two mortars on a single boulder. A small deposit of midden soil is adjacent to Feature 1 and a bifacial groundstone fragment was found leaning against Feature 1. Concentration 2 surrounds Feature 1 and consists of 46 brownware sherds from at least 5 vessels, 29 pieces of volcanic and quartz debitage, 2 handstone fragments, and 2 pieces of burnt, unidentified groundstone.

Concentration 1, located east of Concentration 2, comprises most of the site. It contains 17 brownware ceramic sherds; 41 pieces of volcanic, quartz, and quartzite debitage; and 1 late-stage quartz biface fragment. Artifact Concentration 3, located west of Concentration 2, contains 10 pieces of volcanic debitage, 1 groundstone fragment, and 15+ brownware body sherds.

Dudek revisited the portion of the site in the APE and relocated most of the artifacts in Concentration 1. Additional artifacts were also observed to the northeast of the mapped site boundary, across on the other side of the spring. Artifacts in that area include 16 brownware sherds, 7 pieces of quartz debitage, and 10 pieces of volcanic debitage. One livestock trough was also noted south of the spring.

**CA-SDI-20593**

This site is a 3 × 3 m scatter of prehistoric brownware sherds. It is located in a natural clearing in a densely vegetated, undulating landscape. Surrounding vegetation includes chaparral types such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses. The scatter includes 19 brownware potsherds, which likely originate from a single vessel.

**CA-SDI-20594**

This multi-component site consists of a prehistoric pottery scatter and historic period refuse scatter covering a 55 × 50 m area. It lies in a relatively flat, moderately vegetated landscape punctuated by highly exfoliated granite boulders and surrounded by low-lying hills and mountains. Chaparral vegetation, including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses, populate the area. Sediment in the area is composed of decomposing granite.

The prehistoric potsherds are divided into two primary concentrations. The first concentration contains 20+ brownware ceramic potsherds from at least two different vessels. Five pieces of unidentified burned large mammal bone were located within the concentration. The second concentration consists

of five brownware sherds. An additional four brownware ceramic sherds decorated with red paint were noted north of Concentration 1. Historic site constituents include five purple solarized glass shards, four milk glass shards, one of which is solarized, whiteware sherds, one sherd of transferware with decorative floral pattern, metal buttons, one metal shovel head, and barbed wire. The historic-era artifacts and materials suggest an early 1900s period of deposition.

Dudek and a representative from Campo revisited the site in 2018 to relocate the burned bone to determine if it was potentially human. No faunal remains were identified, and the red painted brownware were not relocated.

**CA-SDI-20597**

This site was originally recorded by ASM as a sparse scatter of prehistoric lithics and brownware ceramic sherds in a 35 × 25 m area. It is located south of a seasonal drainage in an undulating, heavily vegetated landscape punctuated by exposed, weatherworn boulder outcrops. Mixed chaparral vegetation inclusive of chemise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses characterize the landscape. Decomposing granite sediment characterizes the site and surrounds. The 35 × 25 m site contains eight brownware ceramic sherds, one interior volcanic flake, one petrified wood flake fragment, and one quartz crystal sided-notched projectile point. Dudek revisited the site in 2018 and expanded the boundary to cover a 65 × 32 m area. Newly recorded artifacts include a concentration of debitage at the south end of the site, and a few scattered pieces of debitage east of the originally mapped boundary.

**CA-SDI-20598**

This site is a prehistoric temporary camp. It is located on a prominent ridge punctuated by highly exfoliated granitic boulder outcrops on the southern side of a steep drainage. The highly vegetated landscape hosts chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, oak trees, scrub oak, and unidentified grasses. Decomposing granite composes the sediment in the area. The 60 × 50 m site hosts three features, a lithic and ceramic artifact concentration, and a midden soil deposit in the northern segment of the site, as well as a moderately dense scatter of lithics and ceramics outside the concentration. Feature 1 contains 12 milling slicks and two basins on a granite outcrop. Feature 2 contains one slick, three saucer mortars, and one conical mortar. Feature 3 contains three slicks. Six millingstones arranged in a semi-circular pattern were observed on Feature 3. Artifacts at the site include 30+ quartz flakes, 1 obsidian fragment, and 50+ buffware ceramic sherds, some of which were burnt. In total, the site contained seven nearly complete millingstones, one millingstone fragment, and two handstones.

Dudek revisited the site in 2018 and found additional pieces of debitage and ceramics to the northeast of the previously mapped boundary. The site boundary was expanded to cover a 66 × 75 m area.

**CA-SDI-20599**

This site is composed of two prehistoric bedrock milling features. It is situated north of a seasonal wash, on one of many exposed, exfoliated granitic outcrops in a mountainous landscape. Vegetation observed includes chaparral, chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, oak trees, scrub oak, and grasses. Soil in the area consists of decomposing granite and loam. Feature 1 contains two mortars, and Feature 2 contains two slicks. Dudek revisited the site in 2018 and relocated both of the features with the APE. No changes to the condition of the site were noted.

**CA-SDI-20604**

This 10 × 8 m site is a scatter of modern and historic refuse. Vegetation consists of chaparral, including such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, scrub oak, oak trees, and unidentified grasses. Historic material includes bottle fragments and bases of green, brown, and colorless glass. Modern items include car parts, bit-metal cans, fragments of unidentified metal, and glass bottles. Dudek revisited the site in 2018 and found the site in the same condition as previously recorded.

**CA-SDI-20605**

This 40 × 35 m site is a scatter of prehistoric lithics and ceramics, located 120 m south of a creek in fairly flat, vegetated terrain punctuated by highly exfoliated granite boulder outcrops. Chaparral vegetation including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses characterize the area. Sediment at the site consists of decomposing granite. Two brownware ceramic body sherds, one interior obsidian flake, and five volcanic flakes were observed. Only a small portion of the site is within the APE.

**CA-SDI-20607**

This 45 × 30 m site consists of a sparse scatter of lithics and ceramics located on relatively flat terrain surrounded by low-lying hills. The landscape consists of mixed chaparral vegetation including buckwheat, chamise and unidentified grasses, and sediments of decomposing granite. One piece of volcanic debitage, four brownware ceramic potsherds, and a drilled brownware ceramic fragment, were observed. This site was revisited by Dudek in 2018, and it was determined that the site is located outside the Project APE.

**CA-SDI-20608**

This 20 × 10 m site consists of two prehistoric bedrock milling features. It is located on flat, sparsely vegetated terrain punctuated by weatherworn outcrops of granitic boulders. Chaparral landscape vegetation including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, oak trees, scrub oak, and unidentified grasses were noted. Decomposing granite and loam sediments were present. Feature 1 consists of one exfoliated saucer mortar on a 3.5 × 1.5 m granite boulder. Feature 2 is an exfoliated conical mortar on a 3.5 × 2 m boulder. No artifacts were observed at the site. Dudek revisited the site in 2018 and found the site in the same condition as previously recorded. Feature 2 was not relocated due to the presence of a downed oak tree on the bedrock outcrop.

**CA-SDI-20610**

This historic refuse scatter covers a 12 × 12 m area. It is located on flat terrain, containing exposed, weatherworn granite boulder outcrops, and rimmed by low-lying hills. Chaparral vegetation including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, scrub oak, oak trees, and unidentified grasses populate the area. Solder-dot milk cans constitute the majority of the historic refuse present. Historic ceramic sherds, milk glass shards, a shovel head, and various kitchen items were also observed. Dudek revisited the site in 2018 and found the site in the same condition as previously recorded.

**CA-SDI-20611**

This 10 × 5 m site is a historic refuse scatter located on flat terrain punctuated by highly degraded granite boulder outcrops. The site is interlaced by numerous ephemeral drainages. Mixed chaparral vegetation including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, scrub oak, oak trees, and grasses was observed. Artifacts present include a small scatter of 10 historic cans, including 7 sanitary church-key-opened beverage cans, and 3 hole-punched solder-dot milk cans. Unidentifiable colorless and brown bottle glass fragments were also observed. Dudek revisited the site in 2018 and found the site in the same condition as previously recorded.

**CA-SDI-21776**

The site was originally recorded by Patrick McGinnis and Hillary Murphy of Tierra Environmental as a prehistoric temporary camp situated in a copse of boulders on a steep slope. Minimal manzanita and mixed chaparral vegetation characterize the surrounding landscape. Feature 1 consists of five mortars on a single 4 × 3 m, highly exfoliated boulder. Two volcanic flakes, one green and one grey, one yellow volcanic shatter fragment, and a green volcanic hammerstone are present south of the milling feature. Overall, the site covers a 10 × 15 m area. Dudek revisited the site in 2018. Five volcanic and quartz flakes were identified, but the mortars were difficult to

discern due to the continued exfoliation of the rock. The site boundary was expanded to incorporate the newly identified flakes.

### 5.1.2 Newly Recorded Sites

**CWA-S-001**

This is a prehistoric habitation site, which contains an artifact scatter and midden deposit. The site is bisected by a regularly maintained dirt road known as Williams Road. Midden soil and artifacts were identified on the north and south sides of the road and along the eroding sidewalls of the road. Artifacts at the site include 2 volcanic flakes, 1 quartz interior, 19 brownware ceramic body sherds, and 2 granite groundstone fragments. One bedrock milling station containing one mortar was observed outside and adjacent to the Project APE. Only the portions of the site located within the Project APE were recorded at this time, so the full extent of the site has not been delineated. Currently, the site measures approximately 92 × 30 m. Sediments at the site consist of sandy loam with decomposing granite. Vegetation mainly consists of chamise, oak trees, buckwheat, and grasses.

**CWA-S-004**

This multi-component site consists of a prehistoric and historic artifact scatter and human remains. The site measures approximately 35 × 40 m. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, manzanita, buckwheat, cholla, and grasses.

This site contains four small artifact concentrations, three prehistoric and one historic. Concentration 1 artifacts include 7 stoneware bottle fragments, 5 food tins, 2 transfer print ceramic fragments, more than 10 crushed food cans, 3 crushed fuel cans, 1 metal spoon, 1 metal shovel head, barbed-wire fragments, and over 50 unidentified metal fragments. Concentration 2 artifacts include 72 brownware ceramic body sherds located within a small north-southeast seasonal wash.

Concentration 3 artifacts include 26 brownware ceramic body sherds and 1 brownware rim sherd located in a small north-southeast seasonal wash. Concentration 4 artifacts include 26 brownware ceramic body sherds, 3 brownware rim sherds, 1 brownware ceramic cup fragment, 1 volcanic biface, 1 metal spoon, 1 historic shell button, and 47 calcined bone fragments.

On September 27, 2018, forensic anthropologist Dr. Hinkes visited the site with one Dudek archaeologist and four Campo Tribal members and formally examined the bone fragments. Dr. Hinkes identified all 47 fragments as likely human bone, consisting of 6 cranial fragments and 41 long bone fragments.

Surface artifacts not located within the concentrations at the site include 30+ brownware ceramic body sherds, 100+ white glass fragments, 2 crushed oil cans, 15 whiteware ceramic fragments, 10 purple glass fragments, 15 barbed wire fragments, 3 brown glass fragments, 2 bottle finish fragments, and 100+ unidentified metal fragments.

**CWA-S-005**

This historic site consists of an historic refuse scatter. Artifacts at the site include 40+ condensed milk cans (all crushed), 20+ knifed-opened sanitary cans, 12 glass soda bottles, 5 colorless glass bottle bases, unidentifiable glass fragments, and a few historic ceramic fragments. The site measures approximately 12 × 15 m. No evidence of a subsurface deposit was observed. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, cholla, and grasses.

**CWS-S-006**

This historic site consists of an historic refuse scatter mixed with modern refuse. Artifacts at the site include approximately 50 cans consisting of paint thinner cans, rotary-opened fruit/vegetable cans, bi-metal beverage cans, and multi-serve church-key-opened sanitary cans. The site measures approximately 22 × 28 m. No evidence of a subsurface deposit was observed. Sediments at the site consist of loose, sandy loam with decomposing granite. Vegetation consists mainly of chamise, buckwheat, and grasses.

**CWS-S-007**

This multicomponent site consists of an historic artifact scatter with two prehistoric artifacts in a 50 × 40 m area. The historic artifact scatter contains 1 ceramic enameled pot and approximately 25 cans consisting of church-key-opened sanitary beverage cans, condensed milk cans, and fuel cans. Prehistoric artifacts at the site include one brownware ceramic body sherd and one interior volcanic flake. No evidence of a subsurface deposit was observed. The site is located at the base of an east-facing slope and is bisected by an east–west dirt road. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, and grasses.

**CWS-S-008**

This prehistoric site consists of a single granitic bedrock milling feature measuring 3.2 × 2.4 m. The feature contains a single conical mortar measuring 12.5 × 12.5 × 4 cm. No artifacts were observed at the site. The milling feature is heavily weathered and covered with lichen. Sediments

at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of sagebrush, chamise, buckwheat, and grasses.

**CWS-S-009**

This prehistoric site consists of a single, heavily weathered, granitic bedrock milling feature measuring 3.6 × 1.5 m. The feature contains one basin measuring 23 × 23 × 5 cm. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, and grasses.

**CWS-S-010**

This prehistoric site consists of a light density artifact scatter measuring 20 × 38 m. Artifacts at the site include four brownware ceramic body sherds, two volcanic interior flakes, and one quartz interior flake. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, and grasses.

**CWS-S-011**

This historic site consists of a historic refuse scatter mixed with modern refuse. Historic artifacts at the site include one large rectangular fuel can; two small, rectangular fuel cans; one large, round fuel can; one church-key-opened oil can; four knife-opened fuel cans; two 5-gallon buckets, nine internal friction coffee cans, church-key-opened beverage cans, and three pieces of unidentified metal fragments. The site measures approximately 22 × 114 m. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of creosote bush scrub, chaparral, buckwheat, and grasses.

**CWS-S-012**

This prehistoric temporary camp site was first recorded in 2018 by Dudek. The site rests on the top of a low-laying hill with most of the artifacts scattered down-slope (to the east) and is located 200 meters north of CA-SDI-20592. The site consists of one bedrock milling feature, a light lithic and ceramic scatter, and a possible rock blind/shelter feature. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Vegetation includes oak trees, scrub oak, buckwheat, cholla, and ephedra. Overall, the site was found to cover a 60-x-30-m area.

Artifacts identified at this site during the survey include (A1) one single groundstone tool artifact fragment (measuring 16-x-13-x-6 cm), 40 Tizon brownware ceramic fragments (3 rim, and 37 body fragments), and approximately 20 lithic artifacts (1 obsidian interior flake, 1 dark gray fine grain volcanic interior flake, 2 quartz interior flakes, and 12 quartz shatter). While the flakes were

mainly loosely scattered across the site, most of the quartz was found down-slope and east of Feature 1, and all of the Tizon fragments (save the one identified within the possible rock blind) were identified immediately to the southeast of the rock blind and scattered down-slope, and east, from this location. It is likely that the ceramic scatter represents a single pot-drop that has been scattered down-slope over time.

One single bedrock milling feature consisting of a 17-x-17-x-10 cm conical round mortar, located on a bedrock boulder measuring approximately 4-x-2 m. The feature is located immediately adjacent to the massive granitic bedrock boulder dominating the outcrop and site.

There is also evidence of a possible rock shelter/wind break immediately adjacent to the single milling element, which during the time of the survey was noted as being heavily overgrown with thick vegetation. The rock blind appears to be formed from large granitic boulders, oriented in a roughly semi-circular shape (facing east) with the semi-circle starting and ending against the large outcrop boulders overlooking the entire site. The area within the rock blind appears to be approximately 4 to 5 $m^2$ in area and although it has been heavily obscured by the current vegetation, at least one small body sherd of Tizon brownware ceramic was noted within the possible shelter area.

**ECWEP-I-015**

This resource is a historic ranching site with a water trough, well pipe, and refuse dump. The trough is approximately 7 × 7 ft, 3 ft high, with 4 in. thick walls. The well pipe consists only of the steel pipe partially sticking out of the ground, immediately north of the trough. The refuse dump consists of a tire, concrete rubble, and excess slurry. The site covers a 5 × 5 m area at the edge of an open field. Sediments at the site are composed of alluvial silty sandy loam and decomposing granite.

**ECWEP-SW-001**

This site is a sparse artifact scatter and bedrock milling features over an approximately 230 × 110 m area. Site constituents include 3 secondary volcanic flakes, 33 interior volcanic flakes, 3 secondary volcanic flakes, 2 obsidian flakes, 18 ceramic body sherds, 12 quartz flakes, and 2 ceramic rim sherds. Additionally, several tools were identified within the site including one bifacial core, two handstone fragments, one milling stone fragment, one metavolcanic core, one quartz core, one quartz biface, and one scraper. Bedrock milling features include one milling slick on a large granitic outcrop and two milling slicks on a separate large granitic outcrop. Vegetation within the site is moderately dense and consists mainly of manzanita, and scrub brush.

**ECWEP-SW-003**

This site is a late historic ranching site. The site measures 90 × 170 m. Features recorded at this site include a large main coral, secondary fenced corals, one trash dump, and one debris dump composed of ranching machinery. Features at the site include Feature 1: a corral; Feature 2: a refuse deposit; Feature 3: a refuse deposit located along a shallow drainage, located west of main corral area; and Feature 4: a refuse deposit. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of creosote bush scrub, chaparral, buckwheat, and grasses. Specifically dateable material is difficult to decipher, but the refuse appears to be from the 1960s and 1970s.

**ECWEP-SW-005**

ECWEP-SW-005 was identified as a bedrock milling site with one heavily exfoliated slick. The 15 cm diameter slick sits on a 1.5 × 1.5 m granite boulder situated on a low-lying ridge opening up to the west into an open grassland alluvial flood plain. The landscape is dotted with large granite bedrock boulders. Vegetation at the site consists of scrub oak, chamise, sugar bush, cholla, and buckwheat.

**ECWEP-SW-006**

This site consists of a two historic refuse dumps. The site covers a 20 × 40 m area. Vegetation in the area includes sagebrush, ephedra, cholla, and manzanita. Sediments at the site are composed of sandy loam alluvium and DG. Refuse dump 1 (Feature 1) contains 10 multi-serve sanitary cans, 10 hole-in-cap single-serve cans, 4 meat tins, 50+ can fragments, 1 transfer-print whiteware ceramic bowl sherd, and 1 colorless glass bottle made by the Southern Glass Company. The Southern Glass Company bottle dates to ca. 1916–1931 (glassbottlemarks.com 2008). Feature 2 contains 200+ glass fragments (aqua, brown, colorless, amethyst), 15 condensed milk cans, 1 battery, and 20 transfer print ceramics.

**ECWEP-SW-007**

This is an historic mining site with a few scattered cans within a 15 × 30 m area. The site is located within low-lying ridges opening up to the west into an open valley/grassland alluvial flood plain. Vegetation in the area includes sagebrush, ephedra, cholla, and manzanita. Sediments at the site are composed of sandy loam alluvium. The mine consists of an adit, or mine pit, cut into a quartz outcrop and a tailings pile, which extends downslope to the east. Three cans are present west of the pit across a dirt road.

**ECWEP-SW-009**

This prehistoric site consists of a small lithic scatter with site dimensions measuring 45 × 96 m. The site is situated on a small, western-facing, gentle slope. The sediments are primarily decomposing granite. Vegetation includes chamise, redshank, cholla, buckwheat, butterfly bush, and scrub oak. The lithic scatter contains 8 interior volcanic flakes, 1 primary volcanic flake, 10+ volcanic shatter, and 1 volcanic core.

**ECWEP-SW-011**

ECWEP-SW-011 was identified as a temporary camp with debitage, ceramics, flakedstone tools, groundstone tools, and bedrock milling. The site is situated on a wide terrace above the valley floor with an OHV trail running north–south through the site. Sediments at the site are composed of decomposing granite and silty sandy loam.

During the survey, Dudek identified 73 volcanic debitage, 14 quartz debitage, 13 brownware sherds, 3 millingstones, 5 handstones, 1 chert projectile point fragment, 5 cores, 2 hammerstones, and 3 bedrock milling features in an 82 × 47 m area. A deep, narrow drainage runs along the southern boundary of the site. The three milling features contain a total of six slicks. Numerous heavily weathered granite boulders and outcrops are present along the western end of the site that may have contained additional milling features.

**ECWEP-SW-017**

Site ECWEP-SW-017 was first recorded in 2017 by Dudek and is located approximately 80 m northwest of SDI-7140 and 100 m due west of an OHV trail. The site measures 25 × 73 m. Dudek identified the site as having two bedrock milling features and at least one flake. Sediments at the site consist of loose, light-brown, sandy silty loam alluvium and decomposing granite. Vegetation includes chamise, sugar bush, cholla, and buckwheat.

**TW-S-001**

This prehistoric lithic scatter site was identified during the survey phase by Dudek in 2018. The site measures approximately 83 × 33 m. The site consists of two loci; Locus A includes five volcanic flakes, and Locus B includes two volcanic flakes and four quartz flakes. One volcanic test cobble, volcanic core, and volcanic flake were identified outside of the loci. Sediments at the site are composed predominantly of loose, light-brown, sandy silty loam alluvium and decomposing granite. Vegetation at the site is moderately dense, consisting of chamise, sugar bush, cholla, and buckwheat.

**TW-S-002**

This prehistoric site was identified during the survey phase of this Project as a temporary camp covering a 69 × 32 m area. The site consists of one bedrock milling feature at the east end of the site and a sparse lithic scatter to the west. Artifacts observed include two volcanic secondary flakes, five volcanic interior flakes, and one quartz interior flake. Ground visibility is high with sediments composed predominantly of loose, light brown, sandy silty loam alluvium, and decomposing granite. Vegetation at the site is sparse consisting of chamise, sugar bush, cholla, and buckwheat.

**TW-S-003**

This site is a habitation site consisting of a rock shelter, three bedrock milling features, a large but sparse lithic scatter, and a modern/historic mining test pit. This site is located on the eastern side of a north–south running drainage and covers a 103 × 130 m area. The rock shelter is situated on the west slope of a small knoll, with a flat terrace extending from the rock shelter to the drainage.

The rock shelter (Feature 4) is formed of two upright granite boulders with a third boulder that has fallen down to form a roof. The shelter has two entrances, the western facing entrance measures 2.2 m in height and 2.7 m in width. The eastern entrance measures 1.7 m in height and 2 m in width. Inside the rock shelter is a granite bedrock milling feature (Feature 3) with two milling slicks. Artifacts observed inside the rock shelter include at least six volcanic flakes and three brownware ceramic sherds. Also observed inside the rock shelter were two probable camp fire locations with large soot stains on the ceiling above them. Sediments inside the rock shelter consist of decomposing granite and coarse sand. A pack rat midden is also inside the shelter.

Artifacts are scattered east, south, and west of the rock shelter. Artifacts observed to the east of the shelter on the knoll include 1 volcanic core, 1 granite handstone, 15 volcanic flakes, 4 volcanic shatter, 6 quartz flakes, 2 quartz shatter, and 7 brownware ceramic sherds. Artifacts identified to the west of the shelter on the terrace include 16 volcanic flakes, 3 volcanic shatter, 1 quartz core fragment, 1 medial fragment of a quartz projectile point, 18 quartz flakes, and 10 quartz shatter. Feature 1, a granite bedrock milling feature with one slick, is located approximately 60 m to the southeast of the rock shelter.

Feature 2, a granite bedrock milling feature with three mortars is located 46 m south of the rock shelter. Artifacts surrounding Feature 2 include 26 volcanic flakes, 7 quartz flakes, 1 quartz core fragment, 1 volcanic retouched flake, 16 brownware body sherds, and 1 granitic millingstone fragment. Sediments at the site are composed of coarse, light-brown, silty sand, decomposing granite, and reddish-brown silty sand. Vegetation at the site, which includes redshank, manzanita,

chamise, cholla, buckwheat, chia, and yucca, was moderately dense overall. The terrace west of the rock shelter and the knoll to the east are generally devoid of vegetation.

**TW-S-007**

This prehistoric site consists of a temporary habitation site covering a 150 × 118 m area. An OHV road runs north–south through the eastern most portion of the site. Artifacts at the site consist of 200+ brownware ceramic sherds, groundstone tools, flakes, and bedrock milling features.

**TW-S-008**

This prehistoric site is temporary camp covering a 105 × 98 m area. Site constituents include 70+ ceramic fragments, 20+ flakes, and 1 bedrock milling feature with 2 mortars. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Vegetation at the site is moderate throughout the site and includes scrub oak, buckwheat, cholla, and ephedra.

**TW-S-009**

The prehistoric site was identified as a ceramic scatter during the survey phase of this Project in 2018 by Dudek. Dudek identified nine brownware ceramic body fragments covering a 16 × 10 m area. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Vegetation includes oak trees south of the site, scrub oak, buckwheat, cholla, and ephedra.

**TW-S-010**

This site is a small rock alignment with historic refuse scatter measuring approximately 47 × 15 m. Site constituents include historic irrigational and industrial debris. The site is situated on the edge of a small drainage. The rock alignment is a small rainwater runoff diversion associated with an old dirt road/trail that runs through the center of the site. Sediments are composed of medium-brown sandy loam. Vegetation at the site consists mainly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-011**

This prehistoric temporary camp site was first recorded in 2018 by Dudek. Site covers an area of 22 × 11 m. The site is located 160 m east of TW-S-010, with an OHV road running east to west through the site. The site consists of one bedrock milling feature with two slicks and one volcanic flake. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Vegetation includes oak trees south of the site, scrub oak, buckwheat, cholla, and ephedra.

**TW-S-012**

This prehistoric site is a temporary camp consisting of three bedrock milling features and a light artifact scatter covering a 106 × 35 m area. The site is situated on a granite-outcrop-covered knoll in the east side of McCain Valley, just north of a narrow, deeply incised drainage. A north–south trending dirt bike trail runs through the site. Sediments at the site consist of brown silty sandy loam alluvium with decomposing granite. Numerous rodent burrows are present throughout the site. Vegetation includes oak trees south of the site, scrub oak, buckwheat, cholla, and ephedra.

The three bedrock milling features include Feature 1, a bedrock outcrop with one slick that is located on the northwest site of the knoll; Feature 2, a bedrock outcrop with four milling slicks on a small, low-lying, highly weathered granite boulder located approximately 26 m south of Feature 1; and Feature 3, which contains two milling slicks on a granite outcrop within the artifact concentration on the eastern boundary of the Project area.

The artifact scatter consists of low-density concentration of ceramics and debitage including 8 metavolcanic interior flakes, 1 quartz interior flake, 1 obsidian interior flake, and 16 brownware ceramic sherds. The concentration is located along the dirt bike track south of Feature 2. Two groundstone tools located outside of the artifact concentration including a granitic unifacial millingstone and a quartz bifacial handstone.

**TW-S-013**

This site is a large temporary camp situated on three adjacent knolls, separated by east–west trending drainages. Each knoll was delineated as a distinct locus for recordation purposes and does not necessarily reflect variations in activity areas or chronology/occupation. The site covers an area of 368 × 191 m. Vegetation at the site consists primarily of chamise, buckwheat, sugar bush, redshank, and cholla. Sediments at the site consist of silty sandy loan and decomposing granite. Heavily weathered granite bedrock outcrops are present throughout the site—more milling features that were recorded during the survey likely are, or at least were, present but could not be identified at this time.

Locus A is situated at the south end of the site. It contains a light, dispersed artifact scatter composed of one handstone, less than seven pieces of quarts and volcanic debitage, and eight ceramic sherds. One large, flat granite outcrop is present in the middle of the locus at the top of the knoll—this rock was likely used for milling, but no elements could be discerned due to the heavy exfoliation, weathering, and damage caused by dirt bike riding over the top. Locus B, located in the middle of the site, sits on a narrow, east–west ridge with drainages to the north, south, and west. The eastern end of the locus was delineated by a substantial decrease in artifact

density; additional flakes and tools are present east of the locus. The locus contains a moderately dense scatter of lithic debitage, ceramics, groundstone tools, one projectile point, and two bedrock milling features. Feature 1, located at the west end of the locus, contains three mortars, and Feature 2, located along the drainage near the north end of the locus, contains one slick. Four granite millingstone fragments, one granite handstone, one Quartz Cottonwood projectile point base, and one volcanic core were recorded. Other artifacts at the locus include 34 volcanic flakes, 27 quarts flakes, 2 Obsidian Butte flakes, and 160+ brownware ceramic sherds. Most of the artifacts are located on top of the knoll east of Feature 1, although many ceramic sherds and some flakes have eroded downslope to the south.

Locus C is located north of Locus B, on the other side of a small drainage. The locus is situated on primarily the south slope of a large knoll (site CA-SDI-7152 is located on the top of the knoll). Two granite outcrops with one slick each were identified along the drainage.

One artifact concentration was delineated within the dispersed artifact scatter during the survey. Concentration 1, located at the northwest end of the site, contains about 60 brownware sherds, 2 buffware sherds, 7 quartz debitage, 10 volcanic debitage, 2 millingstone fragments, 1 drill, 1 hammerstone, and 2 cores. One piece of calcined bone was found within the concentration, and was determined to be likely human by Dr. Hinkes on September 15, 2018. Outside Concentration 1, an additional 40+ volcanic debitage, 15+ volcanic debitage, 1 obsidian flake, 150+ brownware sherds, 20+ buffware sherds, and 1 handstone were observed.

Due to the presence of human remains in two locations, the MLD requested a subsurface excavation program to be performed to determine whether any additional remains may be present in the ADI. This effort was performed with evaluation efforts at site and will be documented in a separate report. No human remains were identified during those efforts.

**TW-S-014**

This prehistoric site is a very sparse lithic scatter measuring approximately 58 × 38 m. Site constituents include a concentration of lithic materials including six lithic tools. The site is situated on a relatively flat landform. Sediments are composed of medium-brown sandy loam. Vegetation at the site is moderately dense, consisting mostly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-015**

This multi-component site was identified during the survey phase of this Project as a very sparse lithic scatter and can scatter measuring approximately 95 × 20 m. Site constituents include three quartz flakes, three volcanic flakes, and five cans. The site is situated on a relatively flat landform

in the McCain Valley. Two dirt trails are present within the site, indicating modern-era disturbances to the site. Sediments are composed of medium brown sandy loam. Vegetation at the site is moderately dense, consisting mostly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-016**

This site is a very sparse lithic scatter measuring approximately 20 × 21 m. Site constituents include one volcanic simple flake tool, one quartz flake, and one volcanic flake. The site is situated on a relatively flat landform. Sediments are composed of light-brown/yellow, loosely compacted silty sand. Vegetation at the site is relatively sparse, consisting mostly of scrub oak, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-017**

This site is a sparse lithic scatter measuring approximately 53 × 17 m. Site constituents include two volcanic flakes and a possible volcanic retouched flake. The site is situated on a gentle south-facing slope. Sediments are composed of light grayish-brown, loosely compacted sandy loam. Vegetation at the site is moderately dense consisting mostly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-030**

This prehistoric site was identified during the as a temporary camp measuring approximately 47 × 83 m. Site constituents include 1 bedrock milling feature, 12 pieces of debitage, and 5 ceramic fragments. The site is situated on a small knoll with a drainage running along the northern boundary and the western boundary of the site and a large bedrock outcrop in the western portion of the site. Site disturbances include a dirt bike trail along the eastern end. The site boundary was confined to within the study area and may extend further west, however, this area was not surveyed. Sediments are composed of grayish-brown, moderately compact sandy loam intermixed with decomposing granite. Vegetation at the site is moderately dense, consisting mostly of scrub oak, yerba santa, yucca, chamise, and cholla.

**TW-S-031**

This prehistoric site is a sparse artifact scatter measuring approximately 30 × 47 m. Artifacts identified include five volcanic flakes and two ceramic brownware sherds. Three of the flakes were found placed on a bedrock possibly from a local hiker or looter. The site situated on a generally flat landform, slight slope facing south, immediately north of an ephemeral drainage and a dirt bike trail and located just south of a large bedrock outcrop within McCain Valley. There is also a

small granite outcrop on the west site of the site. Sediments are composed of grayish-brown, moderately compact sandy loam intermixed with decomposing granite. Vegetation at the site is moderately dense, consisting mainly of sagebrush, buckwheat, and manzanita. A large manzanita stand on the east side of the site has created a large amount of leaf litter in this area, obstructing ground visibility.

**TW-S-033**

This prehistoric site is a temporary camp covering a 50 × 13 m area that consists of two bedrock milling features and a sparse artifact scatter. The site is located on relatively flat terrain, just south of a series of ephemeral drainages and a dirt bike trail. Sediments are composed of grayish-brown, moderately compact sandy loam intermixed with decomposing granite. Vegetation at the site is moderately dense, consisting mostly of scrub oak, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-034**

This prehistoric site is a dense ceramic scatter on a flat landform measuring 18 × 12 m. Site constituents include 51 brownware ceramic body sherds and 3 brownware ceramic rim sherds, which are concentrated in the center and southwest corner of the site. Sediments are composed of grayish-brown, moderately compact sandy loam intermixed with decomposing granite. Vegetation at the site consists mostly of scrub oak, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

**TW-S-035**

This prehistoric site consists of one bedrock milling feature and one artifact covering a 22 × 16 m area. The site is situated on a granite outcrop west of a dirt bike track trending north–south. Vegetation at the site consists of scrub oak, grass, and buckwheat. Feature 1 is located on the southeast portion of the site and contains one slick that is exfoliated and weathered. The bedrock milling feature measures 2 × 1 m with one oval slick milling surface of 35 × 20 cm. One volcanic interior flake is located approximately 15 m north from the feature.

## 5.2 Archaeological Isolates

Sixty-three isolates were identified within the APE. Table 5-3 lists all isolates, including those newly identified during Dudek's survey (n=62), and those previously identified (n=1). The isolates are predominantly prehistoric flakes and ceramics, with two bifaces, three groundstone tools, three cores, one projectile point, one retouched flake, and one hammerstone also present. Only one historic isolate, a metal pail, was identified. The previously recorded isolate was not relocated, and one newly recorded isolate is likely a remnant of a disturbed/destroyed artifact scatter. None of the isolates are unique or have any data potential and therefore are not eligible for listing in the NRHP under any criteria.

**Table 5-3**
**Isolates Recorded within the Project APE**

| Primary Number | Temporary ID/Name | Period | Type | Description |
|---|---|---|---|---|
| *Previously Recorded Isolates* | | | | |
| P-37-032854 | CWA Isolate 1 | Prehistoric | Debitage | Two gray volcanic interior flakes; not relocated in 2018 |
| *Newly Recorded Isolates* | | | | |
| Pending | CWA-I-001 | Prehistoric | Ceramic | One brownware body sherd |
| Pending | CWA-I-002 | Prehistoric | Debitage | One quartz shatter |
| Pending | CWA-I-003 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | CWA-I-004 | Prehistoric | Debitage | One volcanic interior flake; one volcanic shatter |
| Pending | CWA-I-005 | Prehistoric | Ceramic | Four brownware ceramic body sherds |
| Pending | CWS-I-006 | Prehistoric | Ceramic | One brownware ceramic body sherd |
| Pending | CWS-I-008 | Prehistoric | Ceramic & Debitage | One volcanic interior flake, one brownware rim sherd, one quartz shatter – in secondary context due to earthwork disturbances |
| Pending | CWS-I-009 | Prehistoric | Core | One multidirectional volcanic core |
| Pending | CWS-I-010 | Prehistoric | Ceramic | One brownware body sherd |
| Pending | CWS-I-011 | Prehistoric | Core | One volcanic core |
| Pending | CWA-S-002 | Prehistoric | Ceramic | Four brownware body sherds, one brownware rim sherd |
| Pending | ECWEP-I-001 | Prehistoric | Debitage | One coarse-grained volcanic Interior flake |
| Pending | ECWEP-I-006 | Prehistoric | Ceramic | Six brownware sherds (one rim, five body) |
| Pending | ECWEP-I-008 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | ECWEP-I-009 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | ECWEP-I-012 | Prehistoric | Ceramic | Five brownware body sherds |
| Pending | ECWEP-I-013 | Prehistoric | Ceramic | One volcanic secondary flake |
| Pending | ECWEP-I-014 | Prehistoric | Ceramic | One brownware sherd |
| Pending | ECWEP-I-016 | Prehistoric | Groundstone and Debitage | One groundstone fragment, one volcanic interior flake |
| Pending | ECWEP-I-017 | Prehistoric | Handstone and Debitage | One handstone and two volcanic flakes |
| Pending | ECWEP-I-018 | Prehistoric | Debitage | One millingstone fragment and one volcanic flake |
| Pending | ECWEP-I-020 | Prehistoric | Projectile Point | One quartz desert side-notched point |
| Pending | ECWEP-I-025 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | ECWEP-I-028 | Prehistoric | Ceramic | One brownware body sherd |
| Pending | ECWEP-I-029 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | ECWEP-I-030 | Prehistoric | Debitage | One volcanic biface thinning flake |
| Pending | TW-I-001 | Prehistoric | Ceramic | One brownware body sherd |
| Pending | TW-I-002 | Prehistoric | Ceramic | One brownware body sherd |

**Table 5-3**
**Isolates Recorded within the Project APE**

| Primary Number | Temporary ID/Name | Period | Type | Description |
|---|---|---|---|---|
| Pending | TW-I-003 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-004 | Prehistoric | Ceramic | Three brownware body sherd |
| Pending | TW-I-005 | Prehistoric | Debitage | Two volcanic flakes |
| Pending | TW-I-006 | Prehistoric | Debitage | Two volcanic flakes |
| Pending | TW-I-007 | Prehistoric | Biface | Rhyolite biface fragment |
| Pending | TW-I-008 | Historic | Pail | One metal pail |
| Pending | TW-I-014 | Prehistoric | Biface | Volcanic early stage biface fragment |
| Pending | TW-I-015 | Prehistoric | Debitage | One quartz interior flake |
| Pending | TW-I-016 | Prehistoric | Core | One volcanic core fragment |
| Pending | TW-I-017 | Prehistoric | Debitage | One quartz flake |
| Pending | TW-I-018 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-019 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-020 | Prehistoric | Debitage | Two volcanic interior flakes |
| Pending | TW-I-021 | Prehistoric | Ceramic and Debitage | Two brownware sherds, two volcanic flakes |
| Pending | TW-I-022 | Prehistoric | Ceramic | One brownware body sherd |
| Pending | TW-I-023 | Prehistoric | Ceramic | One brownware body sherd |
| Pending | TW-I-024 | Prehistoric | Core | One volcanic core |
| Pending | TW-I-025 | Prehistoric | Ceramic | Six brownware sherds (one rim, five body) |
| Pending | TW-I-026 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-027 | Prehistoric | Debitage | One chert interior flake |
| Pending | TW-I-028 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-029 | Prehistoric | Debitage | Two volcanic flakes |
| Pending | TW-I-030 | Prehistoric | Retouched Flake | One volcanic retouched interior flake |
| Pending | TW-I-031 | Prehistoric | Ceramic | Three brownware body sherds |
| Pending | TW-I-033 | Prehistoric | Ceramic | Twenty-three brownware body sherds from one vessel |
| Pending | TW-I-039 | Prehistoric | Debitage | One volcanic secondary flake |
| Pending | TW-I-040 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-041 | Prehistoric | Percussing Tool | One volcanic hammerstone/core |
| Pending | TW-I-042 | Prehistoric | Debitage | One volcanic primary flake |
| Pending | TW-I-043 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-045 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-046 | Prehistoric | Debitage | One volcanic secondary flake |
| Pending | TW-I-047 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-050 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-051 | Prehistoric | Debitage | One volcanic flake |

**Table 5-3**
**Isolates Recorded within the Project APE**

| Primary Number | Temporary ID/Name | Period | Type | Description |
|---|---|---|---|---|
| Pending | TW-I-052 | Prehistoric | Debitage | One volcanic interior flake |
| Pending | TW-I-054 | Prehistoric | Millingstone | One millingstone |

## 5.3 Built Environment Resources

Four previously recorded historic built environment resources, including one railroad and three roads, were identified within the APE. No new historic built environment resources were identified. Table 5-4 lists all built environment resources. One resource, U.S. Highway 80, was determined eligible for listing in the NRHP; two have been determined not eligible for listing, and one, Lazy M Lane, has not yet been evaluated.

**Table 5-4**
**Built Environment Resources Recorded within the Project APE**

| Primary Number | Date Built | Type | Name | Within ADI | NRHP Eligibility |
|---|---|---|---|---|---|
| *Previously Recorded Resources* | | | | | |
| CA-SDI-6891 | 1911–1930 | Road | State Route 94; Campo Road; Old Route 200 | No | Not eligible |
| CA-SDI-9059 | Pre-1858 | Road | Lazy M Lane | Yes | Not evaluated |
| P-37-024023 | 1911–1918 | Road | U.S. Highway 80; Old Highway 80 | Yes | Eligible for NRHP |
| P-37-025680 | 1907–1919 | Railroad | Union Pacific Railroad; San Diego and Arizona Eastern Railway | Yes | Not eligible |

ADI = area of direct impacts; NRHP = National Register of Historic Places.

### CA-SDI-6981

This resource is a two-lane state highway (SR-94) constructed and paved between 1911 and 1930 that connects east San Diego to communities throughout southeast San Diego County. The highway routes through predominantly rural low-lying hills and mountains. Known as "Campo Road" and "Old Route 200," it roughly follows the paths of previous prehistoric trails, telegraph lines, wagon, and stage roads. The highway was paved in the late 1920s, repaved between 1981 and 2011, and has been altered and updated through modern times. The road was evaluated by Caltrans in 2011 and determined not be not eligible for listing in the NRHP or the CRHR as it no longer retains sufficient integrity to it period of significance due to numerous alterations and

upgrades over the years. During the current survey, the road was found to be in the same condition as most recently reported.

**CA-SDI-9059**

This resource is an historic wagon road. It lies 1.5 mi. south of Campo Creek, in a landscape characterized by chaparral vegetation and decomposing granite and loam soils. Jacques first recorded the site in 1981 as a 6 to 7 ft wide rutted wagon road partially overgrown with brush. Jacques notes the wagon road was indicated on an 1858 government survey map, so it therefore must pre-date that time. Revisiting the site in 2011, ASM Affiliates note the wagon road is called "Lazy M Lane" and that it has been graded and its width increased on multiple occasions. As mapped, the road crosses the Project Site in three locations. The westernmost segment is the portion referred to a "Lazy M Lane" and is still extant as the graded dirt road. The middle segment no longer appears extant, as it was not observed on the ground, nor is it visible on aerial photographs. The eastern segment intersects a graded dirt road and firebreak, which appear to have destroyed any evidence of the former road.

**P-37-024023**

This resource is the Imperial Highway, also referred to as U.S. 80 and Old Highway 80. The highway has been thoroughly documented and evaluated by Caltrans in 2000, which determined the highway to be eligible for listing in the NRHP. U.S. 80 is one of 10 transcontinental national highways, and one of the nation's earliest. It extends from San Diego, California, to Savannah, Georgia, through variegated terrain in a variety of southerly climates. The highway was constructed to promote tourism, draw commerce, and support the expansion of San Diego, as well as to take advantage of Southern California's relatively temperate climate, which allows roadways to remain open throughout the year. Construction of the highway occurred from 1911 to 1918, followed by a period of rehabilitation and upgrades from 1918 to 1933. Modifications and updates to the resource continue through the present.

**P-37-025680**

This resource is the Union Pacific Railroad, also referred to as the San Diego and Arizona Eastern Railway. It was originally recorded by JRP Consulting in 2000, who determined the resource was not eligible for NRHP listing. ASM Affiliates revisited a segment of the resource in 2013 and confirmed that finding. The railway was constructed between 1907 and 1919, extending from El Centro to San Diego, California. It was one of the last major railroads constructed in the United States. ASM Affiliates noted the resource is in good condition and retains many of its original tracks, railroad ties, and stations.

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# 6 EVALUATION RESULTS

## 6.1 Evaluation Results of Archaeological Sites Within the ADI

A total of 41 archaeological sites are located within the ADI (Table 6-1; Figure 4-1, Confidential Appendix B). Thirty of these sites (20 prehistoric, five historic, and five multi-component) were evaluated as part of this Project and are discussed below. Eleven archaeological sites within the ADI were previously evaluated and are also discussed below. Isolates and built environment resources within the ADI are discussed in separate sections, below.

The 30 archaeological sites within the ADI that were evaluated under Section 106 guidelines for this project are discussed below, with a discussion of the kinds and numbers of analytical units employed during fieldwork. Site assemblage compositions and distributions are detailed and used to assess the function and significance for each site. Sketch maps for each site showing excavation units, surface artifacts, and features, are included in Confidential Appendix B.

**Table 6-1**
**Cultural Resources Identified in the ADI**

| Resource ID/ Primary | Trinomial | Period | Type | Evaluation Reference |
|---|---|---|---|---|
| P-37-007139 | CA-SDI-7139 | Multi-component | Ranching; Ceramic Scatter | This Report |
| P-37-007140 | CA-SDI-7140 | Prehistoric | Temporary Camp | Comeau et al. 2019b |
| P-37-007145/7146 | CA-SDI-7145/7146 | Multi-component | Temporary Camp; Historic Refuse | Comeau et al. 2019b |
| P-37-007151 | CA-SDI-7151/7162 | Prehistoric | Temporary Camp | Westec 1983; BFSA 1998; Comeau et al. 2019b |
| P-37-007152 | CA-SDI-7152 | Prehistoric | Temporary Camp | Comeau et al. 2019b |
| P-37-007163 | CA-SDI-7163 | Prehistoric | Temporary Camp | Comeau et al. 2019b |
| P-37-008962 | CA-SDI-8962 | Prehistoric | Bedrock Milling | This Report |
| P-37-008977 | CA-SDI-8977 | Multi-component | Temporary Camp; Historic Residence | This Report |
| P-37-009018 | CA-SDI-9018 | Prehistoric | Ceramic Scatter | This Report |
| P-37-009050 | CA-SDI-9050 | Historic | Government/Educational Building Remains | This Report |
| P-37-025856 | CA-SDI-17205 | Historic | Refuse Scatter | This Report |
| P-37-032166 | CA-SDI-20368 | Prehistoric | Habitation | This Report |
| P-37-032441 | CA-SDI-20587 | Prehistoric | Habitation | This Report |
| P-37-032442 | CA-SDI-20588 | Prehistoric | Lithic Scatter | This Report |
| P-37-032444 | CA-SDI-20590 | Historic | Refuse Scatter | This Report |
| P-37-032445 | CA-SDI-20591 | Multi-component | Historic Feature; Groundstone Tool | This Report |

**Table 6-1**
**Cultural Resources Identified in the ADI**

| Resource ID/ Primary | Trinomial | Period | Type | Evaluation Reference |
|---|---|---|---|---|
| P-37-032446 | CA-SDI-20592 | Prehistoric | Habitation | This Report |
| P-37-032447 | CA-SDI-20593 | Prehistoric | Ceramic Scatter | This Report |
| P-37-032451 | CA-SDI-20597 | Prehistoric | Artifact Scatter | This Report |
| P-37-032458 | CA-SDI-20604 | Historic | Refuse Scatter | This Report |
| P-37-032459 | CA-SDI-20605 | Prehistoric | Artifact Scatter | This Report |
| P-37-032462 | CA-SDI-20608 | Prehistoric | Bedrock Milling | This Report |
| CWS-S-007 | - | Multi-component | Refuse Scatter; Artifact Scatter | This Report |
| CWS-S-008 | - | Prehistoric | Bedrock Milling | This Report |
| CWS-S-009 | - | Prehistoric | Bedrock Milling | This Report |
| CWS-S-010 | - | Prehistoric | Artifact Scatter | This Report |
| CWS-S-011 | - | Historic | Refuse Scatter | This Report |
| CWS-S-012 | - | Prehistoric | Temporary Camp | This Report |
| ECWEP-SW-003 | - | Historic | Ranching | Comeau et al. 2019b |
| ECWEP-SW-005 | - | Prehistoric | Bedrock Milling | Comeau et al. 2019b |
| ECWEP-SW-007 | - | Historic | Quarry | Comeau et al. 2019b |
| ECWEP-SW-011 | - | Prehistoric | Temporary Camp | This Report |
| TW-S-007 | - | Prehistoric | Temporary Camp | This Report |
| TW-S-008 | - | Prehistoric | Temporary Camp | This Report |
| TW-S-010 | - | Historic | Rock Alignment; Historic Refuse | Comeau et al. 2019b |
| TW-S-011 | - | Prehistoric | Bedrock Milling | Comeau et al. 2019b |
| TW-S-012 | - | Prehistoric | Temporary Camp | This Report |
| TW-S-013 | - | Prehistoric | Temporary Camp | Comeau et al. 2019b |
| TW-S-015 | - | Multi-component | Lithic Scatter and Refuse Scatter | This Report |
| TW-S-017 | - | Prehistoric | Lithic Scatter | This Report |
| TW-S-030 | - | Multi-component | Temporary Camp; Historic Refuse Scatter | This Report |

### *CA-SDI-7139*

This site was originally recorded by M. Johnson in 1979 as a multi-component site with historic rock alignments, historic refuse scatter, concrete slab, and a light scatter of Tizon brownware in a 100-x-100-m area. The site was updated in 2005 by ASM and expanded north and east. At that time, the historic refuse scatter was found to be more dispersed than previously reported. An

historic water trough, fence lines, and cow pens were also recorded outside the original site boundary. The Tizon brownware sherds were not relocated at that time.

The site was revisited by Dudek in 2018. The mapped site boundary was found to be inaccurate and was revised to reflect more accurately the observed artifacts and features (Comeau et al. 2019a). The vast majority of the site is outside the APE. Vegetation at this site included sumac, buckwheat, chamise, dumasa, agrifolia, yucca, cheesebush, and agave.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a resurvey of the portion of the site in the ADI and excavation of three STPs. The resurvey of the site did not identify any artifacts in the ADI. STP 1 produced one historic window glass fragment from level 0 to 20 cm and was not collected, while STPs 2 and 3 were sterile. STPs 1 and 2 were excavated to a depth of 40 cm; STP 3 was excavated to a depth of 37 cm. Sediments in all three STPs consisted of loose, light brown, sandy decomposing granite with a slight increase in compaction with depth.

Discussion and Site Summary

CA-SDI-7139 is a multi-component site consisting of historic ranching refuse and a light prehistoric ceramic scatter. Within the ADI, only a single piece of colorless window glass was identified. The lack of associated subsurface material collections, diagnostic artifacts or feature elements indicate that the portion of the site within the ADI lacks sufficient cultural material to provide information important to history or prehistory of the region.

The portion of the site outside the ADI was not evaluated and is presumed significant.

***CA-SDI-7140***

This site was first recorded in 1979 by M. Gonzalez and M. Johnson as a temporary camp covering a 30-x-10-m area. The site is located on the west side of McCain Valley. The initial survey identified bedrock milling containing six slicks, three mortars, two basins and 50+ ceramic sherds, and three flakes.

In 2017, Dudek revisited the site and found the site to be significantly larger than previously identified, expanding the site to cover a 330-x-250-m area. Dudek identified a moderately dense surface artifact scatter and a total of 17 granitic bedrock milling features. The site is situated between a drainage a series of small hills punctuated with numerous granite bedrock outcrops. A dirt road bisects the site into roughly equal halves. Vegetation at the site contains scrub oak,

agrifolia, buckwheat, manzanita, chamise, yerba santa, and cholla. Sediments comprised predominantly of loose, light brown, sandy silty loam alluvium, and DG.

Only the southern end of the site is within the ADI. This portion of the site was evaluated as part of a separate study (Comeau et al. 2019b). The artifact density identified in the evaluated portion of CA-SDI-7140 is relatively low (Comeau et al. 2019b). The depth and distribution of cultural materials recovered at subsurface testing reveals that most of the material is located within 20 cm of the surface. The absence of a midden deposits or substantial subsurface deposits suggests the site was not used for substantial habitation or occupation. Further excavation in this portion of the site would likely to produce similar quantities and varieties of materials documented at this time and would not provide any additional information regarding aboriginal occupation of the site.

As a result of the evaluation efforts described by Comeau et al. (2019b), the portion of the site within the ADI is recommended as not eligible for listing in the NRHP. Human remains were identified in two adjacent excavation units (STP 11, CU 3) during the evaluation. As a result, redesign efforts at the site are in progress to avoid effects to that part of the site.

***CA-SDI-7145/ CA-SDI-7146***

Site CA-SDI-7145/7146 was first recorded as two separate sites in 1979 by D. Dominici and J. Underwood. D. Dominici identified CA-SDI-7145 as a multicomponent site containing historic debris, three slicks on the north outcrop, four slicks on the south outcrop, one mortar, two quartz flakes, brownware ceramic sherds, an unifacial felsite flake scraper, a basalt core/hammerstone, utilized flakes, one quartz hammerstone, one millingstone fragment, and one handstone. J. Underwood described CA-SDI-7146 as a multicomponent site containing historic debris, one mortar, angular quartz fragments, brownware ceramic sherds, and felsite and quartz flakes. The vegetation in the site includes annual grasses, prickly pear, cholla, dumosa, and buckwheat.

Sites CA-SDI-7145 and CA-SDI-7146 were revisited during the survey phase of the Project in 2018 by Dudek. Dudek noted that previously undocumented bedrock milling features and prehistoric artifacts scattered on the ground surface spanned the void between the two sites, such that the two sites were combined to into a single site. During the survey a total of 10 bedrock milling features with a light artifact scatter covering a 347-x-127-m area.

Only a small portion of the combined site is within the ADI. Evaluation efforts described by Comeau et al. (2019b) determined that the portion of the site in the ADI has no data potential; therefore, that portion of the site is recommended as not eligible for listing in the NRHP. The portion of the site outside the impact area has not been evaluated and will not be impacted by the Project.

***CA-SDI-7151/ CA-SDI-7162***

This is a large habitation site originally recorded in 1979. It contains multiple rock shelters, bedrock milling, midden deposits, flakedstone tools, groundstone tools, ceramics, and a Hakataya figurine in a 500-x-400-m area. Possible cremations were also noted at that time. The site was revisited in 2006 and 2010 by ASM, with no substantial changes noted. In 2006 ASM noted that the site may have been evaluated for listing in the NRHP, but no report or site record update attesting to that fact was available at the time.

Westec combined site CA-SDI-7151 with site CA-SDI-7162 in 1983 while evaluating site. Westec (1983) determined the site was significant, but did not provide a site record update. According to BFSA (1998), the evaluation lacked sufficient mapping and did not excavate a sufficient number of STPs or control units to properly delineate site/locus boundaries and significant deposits.

BFSA performed an evaluation at the site under CEQA, the County of San Diego guidelines, and the County's RPO in 1998 to determine where significant deposits are in the site and to delineate potential open space easements for a planned lot split and residential development (BFSA 1998). That study delineated four loci (A-D) within the site and determined four areas of significant deposits that should be placed in open space. Significant areas of the site were determined based on the presence of sensitive features (such as rock shelters) or subsurface deposits of two or more artifacts in an STP or 1-x-1-m unit.

The majority of the site is outside the APE, including large areas on BLM land, and the four areas delineated by BFSA as contributing to the significance of the site. Westec (1983) and BFSA (1998) determined that this site is significant under CEQA and eligible for listing in the CRHR under Criterion 4 (data potential). BFSA (1998) also identified the site as significant under the County RPO based on the presence of multiple rock shelters. The site is also considered significant under the County RPO due to the discovery of human remains at BFSA Locus C (Locus 3 as delineated by Dudek) during this study. Four loci within the site were identified which contain significant deposits/features and/or human remains that contribute to the significance of the site; all four of these areas are outside the ADI of the Project and will be avoided.

Due to the presence of human remains in two locations, the MLD requested a subsurface excavation program to be performed to determine if any additional remains may be present in the ADI. This effort was performed for another project and was documented in a separate report (Comeau et al. 2019b). Those efforts did not identify any human remains or significant archaeological deposits within the Campo Wind Project ADI.

Evaluation efforts in the ADI, documented by Comeau et al. 2019, confirmed the results of the BFSA study that this portion of the site does not contain any significant features, archaeological deposits, or human remains. The portion of the site within the Campo Wind ADI therefore does not contribute to the overall eligibility/significance of the site. Installation of temporary fencing during construction along the ADI will reduce potential impacts to the unevaluated portion of the site to less than significant.

***CA-SDI-7152***

Site CA-SDI-7152 was first recorded in 1979 by M. Johnson as concentrated artifact scatter. The site initially measured a 100-x-50-m area and is covering two small knolls bisected by a drainage. The site contains chert, felsite, basalt, obsidian, and chalcedony flakes, one large chopping tool or core, one ceramic bowl, one millingstone, one ha;ndstone, and burned animal bone. Vegetation included manzanita, artemesia, dumosa, prunis, and buckwheat. The sediment is composed of decomposing granite.

Dudek revisited the site in 2018 and relocated the artifact scatter, one possible rock shelter (Feature 1) and a bedrock milling outcrop with two milling slicks (Feature 2). A dirt bike trail runs north-south through the site on the eastern edge of the western knoll. The possible rock shelter consist of one large granite boulder with a small concavity on the north side. A smaller boulder sits in from of the concavity, providing a wind and sun break. No evidence of midden soils or thermal features were noted in the concavity. One ceramic bowl fragment (A1), and a few small sherds, were noted adjacent to the concavity.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI. The evaluated portion of the site is not likely to yield any additional information regarding the prehistory of the region; as the site has no data potential it is not eligible for listing in the NRHP. The unevaluated portion of the site is outside the ADI and will be avoided by Project design.

***CA-SDI-7163***

Site CA-SDI-7163 was first recorded in by M. Gonzales in 1979. The site is situated on the east side of a dirt road, covering a 20-x-20 m area. Gonzales identified this site as a bedrock milling site containing 19 mortars and slicks, along with one Tizon brownware ceramic sherd, and one felsite scraper tool. Vegetation on this site included agrifolia, oak, and red shank. Sediments are composed of decomposing granite and sandy loam.

Dudek revisited the site and during the surface inventory identified only one volcanic debitage, one brownware ceramic body fragment and one milling feature. The bedrock milling feature and

artifacts were relocated approximately 60 m south of the mapped location but match the original site record sketch map.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI. The evaluated portion of the site is not likely to yield any additional information regarding the prehistory of the region and is therefore recommended as not eligible for listing in the NRHP. The unevaluated portion of the site is outside the ADI and will be avoided by Project design.

***CA-SDI-8962***

This site is a bedrock milling station with one basin. It is located on 7-x-5-m boulder outcrop on a ridge top 200 m east of a drainage. Vegetation inside of and surrounding the site includes wild cherry, ribbonwood, buckwheat, lilac, live oak, and prickly pear. The site was revisited by Dudek in 2018 but could not be relocated. It appears that either alluvial sediments and/or vegetation obscured the feature, or the feature was mapped inaccurately.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a resurvey and excavation of three STPs. The resurvey of the site did not identify any artifacts. The previously recorded bedrock milling feature was not relocated at this time. A highly exfoliated, granite outcrop was located in the site boundary within the ADI; it was noted that the milling element likely eroded away in the intervening years. STPs were placed within the site boundary adjacent to the granite outcrop.

Three STPs were excavated within the site to determine if there is any subsurface component to the site and investigate the site's integrity. All of the STPs were sterile and were terminated between 25 and 30 cmbs due to encountering decomposing granite or bedrock. All of the STPs contained loosely compacted, very dark brown to brown, damp, coarse loamy sand with increasing compaction with depth.

Discussion and Site Summary

CA-SDI-8962 is a prehistoric site reported to contain one bedrock milling feature. The presence of the bedrock milling feature noted in the original site record, indicates a limited amount of food processing occurred here. The prehistoric bedrock milling feature noted in the original site form was not relocated and no artifacts were recovered subsurface during the evaluation phase of the Project. The overall absence of artifacts and features identified in the evaluated portion of the site does not provide substantial information regarding the prehistory of the region. Due to the absence of extant features and artifacts, the site is not eligible for listing in the NRHP.

### *CA-SDI-8977*

This multi-component site contains a prehistoric temporary camp and an historic residential site. The site is located north of Campo Creek and is bisected by a dirt road. Riparian woodland vegetation such as oak, sagebrush, buckwheat, and unknown grasses populate the site and surrounding landscape. Decomposing granite and loam constitute sediments at and surrounding the site. The site was first recorded in 1981 by C. Taylor as a 30-x-60-m site with four bedrock milling features and an associated lithic and ceramic surface scatter. The milling features contain six slicks and two mortars. Artifacts at the site include five ceramic sherds and one piece of lithic debitage.

Subsequent visits to the site by Terri Jacques in 1981 and ASM in 2011 expanded it to a 90-x-90-m area. Historic period residential components of the site include a granite house foundation, a dam, an historic roadway, a refuse scatter inclusive of bottles dating to the 1940s, and the text "J.H. 1947" carved into bedrock north of the house foundation. ASM identified a previously unrecorded millingstone fragment and one additional volcanic flake. Although a very small portion of the site boundary overlaps the APE, no artifacts or features are located within the APE.

Site Structure, Artifact Recovery, and Assemblage Composition

Only the most north western portion of the site was revisited for the evaluation phase of this project, as the vast majority of the site is located outside the ADI. Evaluation efforts at the site included a resurvey and excavation of two STPs within the project's ADI. The resurvey identified two volcanic debitage, one burnt faunal (non-human) bone fragment, and one fragment of historic glass. The bedrock milling features recorded in the original site form is located outside the ADI.

Two STPs were excavated within the site boundary and ADI to determine if there is any subsurface component to the site and investigate the site's integrity. STP 1 and STP 2 were both excavated to a depth of 40 cm. The sediments in STP 1 consisted of a light brown to brown sandy DG loam with DG cobbles. The sediment in STP 2 consisted of very dark grayish brown sand clay loam with less than five percent gravels. Both STPs were sterile.

Discussion and Site Summary

CA-SDI-8977 is a multicomponent site contains bedrock milling features, light prehistoric artifact scatter, and historic refuse. Within the ADI, only two debitage, one faunal bone fragment, and one historic glass fragment were recovered. The paucity of surface artifacts and lack of associated subsurface material, diagnostic artifacts, or feature elements indicate that the portion of the site within the ADI lacks sufficient cultural material to provide information important to history or prehistory of the region. The portion outside of the ADI consists of a prehistoric temporary camp and historic residential site containing bedrock milling features and a light artifact scatter.

The presence of prehistoric pottery provides evidence the site is associated with Late Prehistoric or ethnohistoric occupation, however, there is a lack of subsurface cultural deposits in the ADI that would provide any additional information regarding the length or continuity of the occupation. The presence of debitage noted in the original site record is indicative of tool maintenance and tool processing. The presence of the bedrock milling feature noted in the original site record, suggests some degree of food processing occurred here.

The portion of the site within the ADI is not eligible for listing in the NRHP. The portion of the site outside the ADI was not evaluated and is presumed significant.

***CA-SDI-9018***

This site is a small, light density ceramic scatter that covers a 10-x-10-m area. It was recorded in 1981 by C. Taylor on the north side of a 1958 wagon road (CA-SDI-9059), and lies 300 m east of a valley containing a seasonal creek. The site and surrounding landscape is comprised of decomposing granite sediments and populated by chamise, red shank, buckwheat, lilac, rabbit brush, manzanita, and Mojave yucca. The ceramic scatter includes approximately 10 brownware sherds. ASM revisited the site in 2011 and was only able to relocate a single ceramic rim sherd on the south side of the extant dirt road. It was noted at the time that the dirt road had been graded and widened, likely destroying or at least displacing the site.

Site Structure, Artifact Recovery, and Assemblage Composition

The entire site is located within the ADI and was evaluated at this time. Evaluation efforts at the site included a resurvey and excavation of two STPs. The resurvey of the entire site did not identify any artifacts on ground surface.

Two STPs were excavated to a minimal depth of 40 cm. STP 1 and STP 2 both contained loosely compacted, brown sand-loam with up to 10 percent sub-angular gravels. Both STPs were sterile.

Discussion and Site Summary

CA-SDI-9018 is a small ceramic scatter, as recorded in the original site form. The ceramic scatter was not relocated during the evaluation phase of this project.

While the presence of prehistoric pottery provides evidence the site is associated with a Late Prehistoric or ethnohistoric occupation, there is an absence of other materials or features that could provide additional information regarding the length of and continuity of occupation. The absence of substantial subsurface deposits in the evaluated portion of the site do not provide substantial

information regarding the prehistory of the region. Therefore, based on the limited data potential, site CA-SDI-9018 is recommended as not eligible for listing in the NRHP.

***CA-SDI-9050***

This site consists of the historic Campo Indian Agency/school house complex. The site consists of a chained/fenced area, ramada rubble piles, dirt roads, artifact scatters, and refuse deposits first documented by Terri Jacques in 1981. The location and contents of the site were reconfirmed by ASM Affiliates in 2011. The site is located south of Campo Creek, in a landscape dominated by oak, elm, maple, unknown grasses, and sandy loam sediments. According to Jacques, historic documents show the Agency complex was built in 1911 and used through 1933, with discontiguous use of the site through 1981 including the construction and utilization of fiesta facilities.

Eight features and several additional site components (ramada rubble piles, electric line, concrete fixtures, a chained area, a granite rock scatter/possible house foundation) constitute the roughly rectangular 185-x-128-m site, whose northwestern quadrant also hosts a network of old dirt roads. Six ramada rubble piles are dispersed throughout the features. An electric line sits in the northwest corner of the site. Two concrete fixtures – one square measuring 60-x-60-in and one rectangle measuring 48-x-20-in, are located in the north central segment of the site. A chained area is situated in the northeast quadrant of the site and a scatter of granite rocks/possible foundation lies along the south-central site boundary. A single round, concrete water tank measuring 40-x-11-ft is present south of the main road, on a small hill. Each of the features was documented extensively in the initial recordation. Jacques (1981) indicated that the site is potentially significant but did not evaluate the site at that time.

Site Structure, Artifact Recovery, and Assemblage Composition

Only the western portion of the site is located within the ADI. It was found that Feature A (recorded as such in both this report and the original recording), a historic cobble structure, straddles the ADI boundary. It was documented extensively in the initial recordation and was updated as part of this resurvey. The northern wall, measures approximately 59 inches in width, by 111 inches in height, and a variable 24-32 inches in thickness. The door on the eastern wall has a cement frame that measures 2 inches thick. This structure is composed of granite cobbles and concrete mortar.

Surface artifacts collected included seven glass fragments, one historic ceramic fragment, and materials samples collected from the Feature A itself. These samples included a brick, mortar and concrete casing fragment.

Subsurface testing consisted of five STPs, and one STU. STP 2, 4 and 5 were positive, while STPs 1, 3 and 6 were negative. STP 2 encountered seven glass fragment and three ceramic fragment in

level 0-20, with level 20-40 yielding a total of 13 artifacts; three ceramic, four glass, and six metal. It was at 40 cm below surface that three cobbles were encountered with a small clay layer adjacent on the western side. STU 1 was placed on the adjoining western wall to chase the possible feature. STU 1 yielded one glass and one metal fragment in the 0-20 level. The 20-40 level produced eight glass fragments (one milk glass, vessel glass), three ceramic fragments, and four metal fragments. The cobbles did not extend from STP 2 and into STU 1, thus, do not constitute a feature. STP 4 was immediately to the west of Feature A. level 0-20 produced one glass and one metal fragment.

Discussion and Site Summary

The subsurface excavation at this site shows only a shallow deposit of historic materials up to a depth of 40 cm. As a result of this evaluation effort, the portion of the site within the ADI is recommended as not eligible for listing in the NRHP due to the lack of data potential. The portion of the site outside the impact area has not been evaluated and will be avoided by project design.

***CA-SDI-17205***

This historic site consists of a large refuse scatter, originally recorded by Tierra Environmental in 2004. Artifacts at the site include over 600 cans, more than 100 bottles, historic ceramic fragments, a bed frame, and springs. Based on the bottles, the refuse scatter dates from the 1920s to the 1950s. Sediment at the site consist of loose sandy soil. The vegetation includes live oak, manzanita, sugar bush, white sage, scrub oak, yucca, and grasses. ASM Affiliates relocated the site in 2012 and revised the site boundary to an approximately 43-x-20-m area. ASM noted that the site is in the same general conditional as previously recorded. Dudek revisited the site in 2018 and observed the site in the same condition and location as reported by ASM.

Site Structure, Artifact Recovery, and Assemblage Composition

The site is primarily located outside the ADI, with only its southern portion overlapping. The site was resurveyed as part of the current effort. During this effort three trash concentrations were identified, two of which were previously identified by ASM. The third concentration is identified a small dump on the eastern side of the unnamed road. Overall, this addition did not alter the basic description of the site's constituents. Surface artifacts noted at each concentration are included in Table 6-2. Each concentration consists primarily of consumables, with food cans, condiment bottle fragments, and soda/beverage bottles the most abundant. Fuel and oil cans round out the assemblage. A dirt road has been graded through the site. Concentrations 1 and 3 appear to have been redeposited by the grading into their current locations; this material likely originated with Concentration 2, which appears intact, given its location further off the road.

**Table 6-2**
**Surface Artifacts in Concentrations 1-3**

| Conc. | Type | Side Seam | Opening | Size | Label | Function | Ct. |
|---|---|---|---|---|---|---|---|
| 1 | Sanitary | Crimped | Knife Cut | 4 1/4" x 6 3/4" | N/A | Oil can | 10+ |
| 1 | Kerosene | Crimped | Screw Cap | 11" x 14" | Brayco | Kerosene | 1 |
| 1 | Flat rectangle | Crimped | Screw Cap | 5 1/2" x 8 1/2" x 10" | N/A | Solvent | 1 |
| 1 | Sanitary | Crimped | Church Key | 4 1/2" x 3 1/8" | N/A | Potted meat | 1 |
| 1 | Sanitary | Crimped | Church Key | 2 1/2" x 4" | N/A | Unknown | 1 |
| 1 | Sanitary | Crimped | Rotary | 6 1/2" x 7" | N/A | Coffee | 1 |
| 1 | Flat Top | Crimped | Church Key | 4 13/16 x 2 9/16" | N/A | Beverage | 1 |
| 1 | Sanitary | Crimped | Knife Cut | 3 3/4 x 2 1/8" x3 1/4" | N/A | Potted meat | 1 |
| 1 | Flat Top | Crimped | Church Key | 6 1/8" x 2 5/8" | N/A | Tallboy Beverage | 1 |
| 1 | Hole in top | Crimped | Knife Cut | 4 1/4" x 3 1/8" | N/A | Unknown | 1 |
| 1 | Bi-metal | Crimped | Pull tab | 4 3/4" x 2 9/16" | N/A | Beverage | 1 |
| 1 | Cone-top | Crimped | Screw Cap | 5 1/2" x 2 3/4" | N/A | Beverage | 1 |
| 1 | Sanitary | Crimped | Rotary | 4 3/8" x 3 1/16" | N/A | Food | 1 |
| 1 | Oil | Crimped | Church Key | 5 1/2" x 4 " | N/A | Unknown | 1 |
| 1 | Fuel | Crimped | Screw Cap | 10 3/8" x 8 1/2" x 5 9/16" | N/A | Raylube Motor oil can | 1 |
| 1 | Automatic Machined | Colorless | Beverage | Dr. Pepper | white and red label | Soda | 1 |
| 1 | Automatic Machined | Colorless | Wine | whole | N/A | Wine | 20+ |
| 1 | Automatic Machined | Colorless | Apple sauce | whole | N/A | Apple sauce | 20+ |
| 1 | Automatic Machined | Colorless | Ketchup | fragment | N/A | Condiment | 20+ |
| 1 | Automatic Machined | Colorless | Vinegar | whole | N/A | Condiment | 10+ |
| 2 | Automatic Machined | Colorless | Beverage | Ownes-Illinois | N/A | Soda | 1 |
| 2 | Automatic Machined | Colorless | Condiment Bottle | N/A | Condiment | 1 | 2 |
| 2 | Automatic Machined | Colorless | Small Beverage Bottle | N/A | Unknown | 1 | 2 |
| 2 | Flat Top | Crimped | Church Key | 4 1/16" x 2 9/16" | N/A | Hamms Beer | 20+ |
| 2 | Flat Top | Crimped | Church Key | 4 1/16" x 2 9/16" | N/A | Beverage | 10 |
| 2 | Sanitary | Crimped | Rotary | 4 5/16" x 3 1/8" | N/A | Food | 10 |
| 3 | Oblong | Crimped | Rotary | 10 3/8" x 7 1/4" x 4 3/4" | N/A | Canned ham | 1 |

**Table 6-2**
**Surface Artifacts in Concentrations 1-3**

| Conc. | Type | Side Seam | Opening | Size | Label | Function | Ct. |
|---|---|---|---|---|---|---|---|
| 3 | Sanitary | Crimped | Knife Cut | 10 3/4" 4" x 4" | N/A | Potted meat | 1 |
| 3 | Sanitary | Crimped | Rotary | 6 7/8" x 6 1/16" | N/A | Food | 1 |
| 3 | Sanitary | Crimped | Rotary | 6" x 4" | N/A | Milk | 1 |
| 3 | Hole in top | Crimped | Knife Cut | 3 7/8" x 2 7/8" | N/A | Food | 50+ |
| 3 | Bi-metal | Crimped | Church Key | Crushed | N/A | Food | 1 |
| 3 | Sanitary | Crimped | Tear tab | 1 3/4" x 3 1/4" | N/A | Tuna | 1 |
| | | | | | | **Total** | 44 |

A total of four STPs were placed within the site to test for subsurface deposits. All STPs tested negative. STP 1 was excavated in the ADI, in an area of low disturbance on the eastern side of the dirt road; STPs 2, 3 and 4 were placed in the concentrations. Sediments encountered in the STPs consisted of 18 to 20 cm of loose, dark grey brown to black sandy loam overlaying compact brown coarse clayey sand. STPs were excavated to depths ranging from 33 to 40 cm; all were negative.

Discussion and Site Summary

The site consists of refuse dump that was likely used multiple times and has subsequently been disturbed by more recent activity in the area. Although artifacts at the site have been pushed around, no subsurface deposit is present at the site. The site is recommended as not eligible for listing in the NRHP.

### *CA-SDI-20368*

This multi-component site was originally recorded in 2010 by ASM Affiliates as a prehistoric habitation site spread over three loci and one historic well feature. In 2011, ASM expanded the site to include additional flakes and ceramic sherds. The site is situated in a landscape of low-lying hills and bedrock outcrops. Vegetation present includes buckwheat, black oaks, and grass. Two drainages and a road bisect the site. Overall, the site covers a 190-x-137-m area.

Site Structure, Artifact Recovery, and Assemblage Composition

The ADI runs a north/south path through the eastern portion of the site. Only the portion within the ADI was tested. The ADI path follows a dirt road running in the same alignment through the site.

The site had a general surface collection in two parts (Locus A on the west side of the road, and Locus B on the east). Locus A produced a total of 12 artifacts; nine ceramic body sherds and three

rim sherds. Locus B consisted of 19 artifacts: 15 ceramic body sherds, two ceramic rim sherds, and two debitage (one quartz, and one volcanic).

The subsurface testing at this site consisted of 14 STPs, two SSUs and one STU. Only STP 9, located in Locus B, and the two SSUs were positive. STP 9 yielded two ceramic body sherds from 0-20 cm. SSU 1 was located on the east side of the road and measured 0.3 x 5 m, oriented east/west. This unit was excavated to 3 cm below the surface, yielding one ceramic body sherd. SSU 2 (0.5 x 2 m) was placed on the western side of the road between STPs 5 and 6. This unit produced one ceramic body sherd and one CCS debitage from 0-5 cm.

Sediments observed at this site showed that most of the site has shallow alluvial sandy clay loam deposits with DG bedrock observed in spots as shallow as 18 cm.

Discussion and Site Summary

The portion of the site within the ADI consists of a sparse artifact scatter, which is effectively confined to the ground surface. No features or significant subsurface deposits were identified in the ADI. This portion of the site has no potential to provide information important to history or prehistory. Therefore, the site is recommended as not eligible for listing in the NRHP. The portion of the site outside the impact area has not been evaluated and will be avoided by project design.

***CA-SDI-20587***

This site was originally recorded by ASM as a 220-x-85-m sparse scatter of prehistoric lithic debitage, tools and groundstone. It is located on the south slope of a gently sloping ridgeline. One drainage bisects the site and another forms its eastern boundary. Mixed chaparral vegetation types including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei,* and unidentified grasses punctuated by highly exfoliated granitic boulders characterize the landscape. Sediment in the area consists of decomposing granite.

The site was reported to contain a moderately dense lithic scatter that includes 60+ lithic flakes, two handstones, one pestle fragment, two early-stage quartz biface fragments, two retouched flakes, one flake with battering, and one volcanic scraper. Dense vegetative cover and correspondingly poor ground visibility means additional cultural constituents are likely present.

The site was revisited by Dudek and expanded south and west; the site now covers a 423-x-138-m area. A light density scatter of debitage, brownware ceramics, multiple cores, and a hammerstone were observed in the expanded site area. Additional artifacts were also noted to extend east off the reservation boundary but were not recorded at this time.

*Site Structure, Artifact Recovery, and Assemblage Composition*

The site and the project ADI overlap in two areas. These areas were identified as the North portion and the South portion. The north portion constitutes the far north end of the site; the south portion consists of a small sliver along the western edge of the site, near the south end. The surface inventory produced a total of 51 artifacts. These included five point provenience tool artifacts, one CCS simple flake tool, one volcanic retouched flake tool, 40 volcanic debitage, three quartz debitage, and one CCS debitage. The point collected tool artifacts are as follows: one volcanic core (A1), volcanic hammerstone (A2), granitic handstone fragment (A3), granitic millingstone (A5), and one CCS core. There was an item identified as A4 initially collected, later deaccessioned as non-cultural.

A total of 15 STPs were excavated throughout the site; all were negative for subsurface deposits. The soil profile in the area is characterized by loamy sands for the upper 30 cm, with loosely compacted DG sands below; much of the northern end is comprised of in situ decomposing granite bedrock.

*Discussion and Site Summary*

The two portions of the site evaluated at this time consist of light density lithic scatters that are confined to the surface. The quantity and variety of artifacts at the site is fairly limited; combined with the absence of subsurface deposits and features, this portion of the site is unlikely to provide information important to prehistory, other than what has been documented herein. As a result of the evaluation efforts described here, the portions of the site within the ADI is recommended as not eligible for listing in the NRHP. The portion of the site outside the impact area has not been evaluated and will be avoided by project design.

***CA-SDI-20588***

This site is a sparse scatter of prehistoric lithic debitage and one hammerstone spread over a 38-x-10-m area. It is situated near the center of a broad, north-south trending ridge, in an undulating landscape punctuated by granite bedrock outcrops. The landscape is characterized by chaparral vegetation, such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses, and decomposed granite sediments.

Site Structure, Artifact Recovery, and Assemblage Composition

This site was resurveyed as part of the evaluation phase. This survey found the totality of the site within the project ADI. Only two total artifacts were recovered from the surface inventory: one volcanic debitage, and one CCS retouched edge tool (A2). The tool as also point collected.

Testing consisted of three STPs along the length of the site. None produced subsurface artifacts. The soils observed showed DG to exist at a variable 30 to 50 cm below surface, with an alluvial sandy loam upper layer.

Discussion and Site Summary

Due to the paucity of artifacts and absence of subsurface deposit, this site does not have the potential to provide information important to prehistory. Based on the results of the current evaluation effort, the site is recommended as not eligible for listing in the NRHP.

***CA-SDI-20590***

ASM recorded this site as a historic refuse scatter located on the southern edge of a dirt road. Chaparral vegetation types such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei*, and unidentified grasses populate the site. The scatter includes 40+ historic cans and two glass bottle fragments in a 38-x-12-m area. The presence of a Mayfield Glass maker's mark and condensed milk can measurements indicate the refuse was deposited in the 1950s.

Site Structure, Artifact Recovery, and Assemblage Composition

The evaluation process included a resurvey of the site and excavation of three STPs. The surface inventory produced a total of ten artifacts in the following proportions: four miscellaneous metal fragments, three glass fragments, two ceramic fragments, and one complete metal can. A total of 64 artifacts were observed on site but not collected (Table 6-3). Identifiable artifacts are all consumables, with the exception of a single belt buckle and few pieces of a white wear ceramic vessel. Only one dateable makers maker was identified, a Maywood Glass bottle base which broadly dates from ca. 1930-1961. The remaining artifacts all have broad manufacture dates dating from the early 1900s through modern times.

All three STPs contained sandy loam with decomposing granite gravels to a depth of 40 cm, with STP 1 encountering brown sandy loam from 40-50 cm. All three STPs were negative.

**Table 6-3**
**Historic surface artifacts at CA-SDI-20590**

| Count | Type | Size (L x W x H) or (D x H) | Description |
|---|---|---|---|
| 28 | Sanitary can | 4 5/16" x 3 2/16" | Single serve standard sanitary can, rotary open |
| 15 | Milk can | 2.5" x 2.5" | Soldered dot milk can, hole punch |
| 3 | Sanitary can | 4" x 4" | Multi serve san can |
| 1 | Buckle Belt | | |
| 4 | Sanitary can | 4 5/16" x 3 2/16" | Standard single-serve knife open |

**Table 6-3**
**Historic surface artifacts at CA-SDI-20590**

| Count | Type | Size (L x W x H) or (D x H) | Description |
|---|---|---|---|
| 1 | Solder-dot | 3 14/16" x 3" | Solder-dot beverage can |
| 2 | Square tin | | Potted meat |
| 1 | Brown glass | Fragments | Bottle base, possibly Bleach ( L ) 17 embossed |
| 1 | Mason Jar | Base | |
| 1 | Alcohol Bottle | | Colorless Base |
| 1 | Oval glass | | Colorless Maywood Glass Co. base (ca 1930-1961) |
| 5 | Ceramics | | White ware |
| 1 | Hinge top tin | | Tobacco tin |

Discussion and Site Summary

The artifact assemblage of the site consists of generic food and beverage containers, with a few household gods mixed in. The site is likely a single episode dump produced through homesite cleanup. The site lacks unique material or other indicators of who specifically dumped the material, other than to say it was likely a family on the reservation, given the it must have been dumped sometime after 1930 and the reservation was established long before then, and given the paucity of material, the site lacks the potential to provide information important to prehistory. Given the current evaluation results, the site is recommended as not eligible for listing in the NRHP.

### *CA-SDI-20591*

This site is a historic water trough containing a unsassociated prehistoric groundstone tool. It is located in an undulating field clear of vegetation, west of a dirt road. Mixed chaparral vegetation characterizes the surrounding landscape. The historic trough's exterior measures 19-x-12-x-4-ft tall. "C.C.C.I.D. MAR 31, 1938" is inscribed in the trough cement – indicating the trough is associated with the Civilian Conservation Corps (CCC) Indian Division (1933-1942). The trough is constructed of cement and rock, with an interior of smoothed cement. A depression at the top of the north wall separates the primary water storage area from the lower trough from which animals would drink. A single bifacial millingstone fragment was found in the trough.

With the nature of this site consisting of above ground construction, no subsurface investigations were done. A thorough resurvey yielded no additional artifacts or features, including the millingstone. The trough was thoroughly photographed and documented through profile and plan drawings). This type of feature is ubiquitous in rural areas, particularly were ranching occurred. As a utilitarian type of feature, it is not architecturally unique or associated with any persons or

events important in history and has not potential to provide information important to history. Therefore, the site is recommended as not eligible for listing in the NRHP.

***CA-SDI-20592***

This is a habitation site previously documented to contain one bedrock milling feature, a midden deposit, and three concentrations of lithics, ceramics, groundstone, and charcoal. After the survey phase of the project, redesign efforts were made to limit the potential impacts to the site. The revised access roads in the area were modified to provide access to adjacent turbines, which required additional survey; this survey was performed in conjunction with the evaluation efforts where the roads intersect the margins of the site in multiple locations. The additional survey efforts outside the site boundary identified two new loci (Locus A and B) and a single milling feature outside any defined locus or concentration.

Site Structure, Artifact Recovery, and Assemblage Composition

Locus A is approximately 30 m west of the previously mapped site boundary and contains two milling features, a concentration of ceramics (Concentration 4), and a light scatter of lithic debitage, ceramics, and groundstone. Surface collections from Concentration 4 totaled 19 ceramics (18 body sherds and one rim sherd). Four volcanic flakes and nine ceramic sherds were collected from Locus A outside concentration 4. The two milling features are highly weathered granite outcrops; the smaller outcrop contains eight slicks; the larger feature immediately west cantinas on one very heavily weathered slick which is comprised of only a few polished high spots.

Locus B was identified south of site and is comprised of one milling feature and three groundstone tools. The milling feature is situated at the edge of small drainage and contains ten slicks.

Surface collections from Concentration 3 (as delineated in the prior surveys) consisted of 36 total artifacts in the following proportions: 27 ceramic body sherds, one rim sherd, two quartz debitage, and six volcanic debitage. One milling feature was also recorded east of Concentration 3, outside the ADI. It consisted of a single slick on a low-laying granite boulder. One handstone (A108) was noted on the feature but was not collected as this area will not be disturbed.

A general surface collection (SC2) was done at the southeast corner of the site where the site intersects the ADI, which yielded five quartz debitage, three volcanic debitage, one volcanic simple flake tool, and one ceramic body sherd.

Eleven point collected tool artifacts were collected from the site, and one (A108) was recorded but not collected (Table 6-4).

**Table 6-4**
**Individually Collected Surface Artifacts from CA-SDI-20592**

| Location | Field ID | Artifact Description |
|---|---|---|
| Locus A | A-100 | Granitic Handstone |
| Locus A | A-101 | Granitic Millingstone |
| Locus A | A-102 | Granitic Millingstone |
| Locus A | A-103 | Granitic Millingstone |
| Locus A | A-104 | Granitic Millingstone |
| Locus A | A-105 | Granitic Handstone |
| Locus A | A-106 | Granitic Millingstone |
| Concentration 3 | A-107 | Granitic Millingstone |
| Locus B | A-109 | Granitic Millingstone |
| Locus B | A-110 | Granitic Handstone |
| Locus B | A-111 | Granitic Handstone |

A total of 13 STP were placed in the portions of the site that intersect the ADI. STPs 1, 2 and 6, all in Locus A, were positive for artifacts in the 0-20 cm level. STP 1, in concentration 4 produced two ceramic body sherds. STP 2 produced only one quartz debitage. STP 6 had the highest yield two quartz debitage and one volcanic hammerstone fragment, before terminating at 28 cm upon encountering bedrock.

One SSU was also excavated to test the subsurface density of Concentration 1. SSU 1 measured 1 x 1 m and was excavated to 2 cm below surface. The SSU produced three ceramic body sherds.

The sediment throughout the site from 0 to 20 cm consisted of loosely compacted, dark brown, moist, sandy silty loam. From 20 to 40 cm the sediment consisted of moderately compact, light brown, sandy silty loam with approximately 25 percent gravel. Decomposing granite bedrock had variable depths with the lowest exposure at 15 cm.

Discussion and Site Summary

The portions of the site within the ADI are comprised of limited use activity areas for food processing and the manufacture of retouched flakes and other simple flakedstone tools. Concentration 4 likely represents a single broken pot. No midden deposits or other features indicative of longer-term occupation were identified in the ADI. Although other portions of the site outside the ADI have such deposits, the outlaying portions of the site in the ADI represent more ephemeral use. Given the limited quantity of artifacts, and very limited subsurface recovery, these portions of the site are unlikely to provide information important to prehistory. Per the evaluation efforts described here, the portions of the site within the ADI are recommended as not

eligible for listing in the NRHP. The portions of the site outside the impact area have not been evaluated thus will be avoided by Project activities.

### *CA-SDI-20593*

This site is a 3-x-3-m scatter of prehistoric brownware sherds. It is located in a natural clearing in a densely vegetated, undulating landscape. Surrounding vegetation includes chaparral types such as chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei,* and unidentified grasses. The scatter includes 19 brownware potsherds, which likely originate from a single vessel.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a resurvey and excavation of one SSU and one STP. The resurvey of the site relocated all 19 sherds which were collected as one sample. SSU 1 was excavated within the scatter to a depth of 2 cm, producing two sherds. The sediment in the SSU consisted of loosely compacted, dark brown, moist sandy silty loam.

One STP was excavated within the SSU to determine if there is any subsurface component to the site and investigate the site's integrity. STP 1 was excavated to a depth of 27 cm, terminating at decomposing granite. One brownware ceramic body sherd was recovered from 2 to 20 cm. The sediment from 2 to 20 cm consisted of loosely compacted, dark brown, moist, sandy silty loam. From 20 to 27 cm the sediment consisted of moderately compact, light brown, sandy silty loam with approximately 25 percent gravel.

Discussion and Site Summary

The prehistoric site consists of a ceramic pot drop that is likely from the one vessel. The presence of prehistoric pottery indicates that the site is associated with Late Prehistoric or ethnohistoric occupation, although no other dateable material was recovered which could refine the chronological association. The low density of artifacts and lack of substantial subsurface deposits in the evaluated portion of the site do not provide substantial information regarding the prehistory of the region. The site is therefore recommended as not eligible for listing in the NRHP.

### *CA-SDI-20597*

This site was originally recorded by ASM as a sparse scatter of prehistoric lithics and brownware ceramic sherds in a 35-x-25-m area. It is located south of a seasonal drainage in an undulating, heavily vegetated landscape punctuated by exposed, weatherworn boulder outcrops. Mixed chaparral vegetation inclusive of chemise, buckwheat, cholla, Mojave yucca, *Yucca whipplei,* and unidentified grasses characterize the landscape. Decomposing granite sediment characterizes the

site and surrounds. The 35-x-25-m site contains eight brownware ceramic sherds, one interior volcanic flake, one petrified wood flake fragment, and one quartz crystal sided-notched projectile point. Dudek revisited the site in 2018 and expanded the boundary to cover a 65-x-32-m area. Newly recorded artifacts include a concentration of debitage at the south end of the site, and a few scattered pieces of debitage east of the originally mapped boundary.

*Site Structure, Artifact Recovery, and Assemblage Composition*

The general surface collection produced eight ceramic body sherds. There were two volcanic and four quartz debitage recovered. This site was tested with six STPs. Results of these yielded only two positive STPs, each with a single volcanic debitage in the upper 0-20 cm level. The sediments observed indicated that this area has a homogenous matrix of very loose sandy silt loam with 25% pebbles from 0-40 cm.

Discussion and Site Summary

The presence of prehistoric pottery indicates that the site is associated with Late Prehistoric or ethnohistoric occupation, although no other dateable material was recovered which could refine the chronological association. The low density of artifacts and lack of substantial subsurface deposits in the evaluated portion of the site do not provide substantial information regarding the prehistory of the region. The site is therefore recommended as not eligible for listing in NRHP.

***CA-SDI-20604***

This 10-x-8-m site is a scatter of modern and historic refuse. Vegetation consists of chaparral, including such as chamise, buckwheat, cholla, Mohave yucca, *Yucca whipplei*, scrub oak, oak trees, and unidentified grasses. Historic material includes bottle fragments and bases of green, brown, and colorless glass. Modern items include car parts, bit-metal cans, fragments of unidentified metal, and glass bottles. Dudek revisited the site in 2018 and found the site in the same condition as previously recorded.

Site Structure, Artifact Recovery, and Assemblage Composition

The surface of the site showed multiple dumping events, with modern trash deposited on top of older deposits. To investigate the age and depositional order, STP 1 was placed in the center of the densest area. The STP recovered a total of 81 historic artifacts, listed in Table 4-6. The deposit showed evidence of multiple dump episodes at the site. Stratum I, the upper 25 cm, and Stratum III, from 35 to 52 cm contain a similar artifact assemblage of consumable goods mixed with tableware and a few household goods (Table 6-5). Stratum II appears to be a fill layer or dark brown sandy loam. This stratum appears to have been dumped on Stratum II in an attempt to cover

the trash associated with Stratum III, as if to obscure it and prevent other people from dumping trash there. Although not collected, many small pieces of plastic trash bags were noted throughout each stratum. Although different episodes can be delineated vertically, all of the material is consistent throughout the deposit, with the exception of minimal quantities of very recent material at the surface.

Numerous maker's marks on bottles (specifically Owen's Illinois), provide an approximate range of 1936 to 1967 for the site. More recent beer bottles, such as Michelob, and pull-tab bi-metal beer cans clearly show dumping occurring into the 1970s and 1980s. Artifacts recovered from the STP are highly fragmentary and are predominantly unidentifiable as to their purpose.

**Table 6-5**
**STP 1 Recovery by Level.**

| Level | Description | CT |
|---|---|---|
| 0 - 20 | Green glass fragments | 3 |
| | Brown glass fragments | 2 |
| | White milk glass; base fragment | 1 |
| | Miscellaneous metal fragments | 2 |
| | Metal-wire mesh | 3 |
| | 1 intact can top; multiple can frags | 13 |
| | Ceramic base, approximately 60% complete | 1 |
| | possibly plastic | 1 |
| | Colorless, mostly fragments but also one tip | 15 |
| 20 -40 | Miscellaneous metal fragment | 1 |
| | Composite shingle frags | 3 |
| | 1945 copper penny | 1 |
| | one nearly intact can; two can bases; multiple metal frags | 12 |
| | Green glass fragments | 2 |
| | White ware fragments | 1 |
| | Brown glass fragments | 2 |
| | Colorless glass fragments | 9 |
| 40 - 57 | Brown glass fragments | 1 |
| | Composite shingle frag | 1 |
| | Miscellaneous fragments | 3 |
| | Charcoal, cut wood | 1 |
| | Colorless glass fragments | 3 |

*Discussion and Site Summary*

This historic and modern dump site consists of predominantly consumable and household goods that seem to be opportunistically dumped while travelling one of the main roads to the Manzanita reservation. Situated at the top of as small drainage, the site was likely used by numerous people or families from Campo, Manzanita, and/or Live Oak Springs to discard daily household waste instead of taking it to a landfill or burning it. Although a deposit has developed due to likely numerous episodes of dumping, highly fragmentary nature of the deposit limits identification of the majority of materials. What information potential may exist at the site, it would be nearly impossible to relate the materials to specific households to provide the necessary historical context to the artifacts and any such data potential. Documentation herein has recovered a sufficient sample to characterize the deposit; additional efforts would only produce redundant data. The site is therefore recommended as not eligible for listing in the NRHP.

***CA-SDI-20605***

This 40-x-35-m site is a scatter of prehistoric lithics and ceramics, located 120 m south of a creek in fairly flat, vegetated terrain punctuated by highly exfoliated granite boulder outcrops. Chaparral vegetation including chamise, buckwheat, cholla, Mojave yucca, *Yucca whipplei,* and unidentified grasses characterize the area. Sediment at the site is consists of decomposing granite. Two brownware ceramic body sherds, one interior obsidian flake, and five volcanic flakes were observed. Only a small portion of the site is within the ADI, which can be avoided.

Site Structure, Artifact Recovery, and Assemblage Composition

This site was resurveyed at the time of evaluation testing. The surface inventory was quite sparse at this site. This resurvey identified one volcanic hammerstone (A1) and as one volcanic debitage.

Two STPs were placed to test for subsurface cultural deposits, however both were negative and encountered bedrock at 17 cm and 30 cm respectively. The upper layer was a very dark brown with light compaction and approximately 5% subangular gravels.

Discussion and Site Summary

Only the eastern most portion of the site is within the ADI. Testing only occurred in this area. The portion of the site within the ADI is recommended as not eligible for listing in the NRHP. The portion of the site outside the impact area has not been evaluated and will be avoided by project design.

### *CA-SDI-20608*

This 20-x-10-m site consists of two prehistoric bedrock milling features. It is located on flat, sparsely vegetated terrain punctuated by weatherworn outcrops of granitic boulders. Chaparral landscape vegetation including chamise, buckwheat, cholla, Mohave yucca, *Yucca whipplei*, oak trees, scrub oak, and unidentified grasses were noted. Decomposing granite and loam sediments were present. Feature 1 consists of one exfoliated saucer mortar on a 3.5-x-1.5-m granite boulder. Feature 2 is an exfoliated conical mortar on a 3.5-x-2-m boulder. No artifacts were observed at the site. Dudek revisited the site in 2018 and found the site in the same condition as previously recorded. Feature 2 was not relocated due to the presence of a downed oak tree on the bedrock outcrop.

Site Structure, Artifact Recovery, and Assemblage Composition

This site is partially within the ADI, with only the northern tip containing the bedrock milling feature outside the ADI. The milling feature was termed Feature 1. The boulder was extremely exfoliated and no grinding surface was observed.

A total of three STPs were placed in the ADI to test for a subsurface cultural deposit. Neither surface nor subsurface artifacts were recovered. The soil profile from 0-40 cm consisted of loosely compacted brown sand and DG loam.

Discussion and Site Summary

Given the dearth of surface and subsurface cultural deposit, the site is not likely to yield any additional information regarding either the prehistory or history of the region and is thus recommended as not eligible for listing in the NRHP.

### *CWS-S-007*

This multicomponent site consists of an historic artifact scatter with two prehistoric artifacts in a 50-x-40-m area. The historic artifact scatter contains one ceramic enameled pot and approximately 25 cans consisting of church-key opened sanitary beverage cans, condensed milk cans, and fuel cans. Prehistoric artifacts at the site include one brownware ceramic body sherd and one interior volcanic flake. No evidence of a subsurface deposit was observed. The site is located at the base of an eastern facing slope and is bisected by an east-west dirt road. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, and grasses.

*Site Structure, Artifact Recovery, and Assemblage Composition*

The majority of the site falls within the ADI, and, as such, testing included the whole site. The surface inventory identified four multi-serve sanitary food cans (likely beans), two cooking oil cans, five crushed single-serve sanitary food cans (fruit/vegetable), one 3-gallon oil can, two sanitary coffee cans, and one pail, and onecondensed milk can. The Tizon brownware ceramic body sherd was relocated and collected, but the flake was not. Five STPs were placed across the site. The soil profile observed showed a sandy loam, of a dark brown color with angular gravels up to 25% from 0-20 cm. From 20-40 there was no significant change observed aside from a well sorted decrease in gravels.

Discussion and Site Summary

Based on the absence of a subsurface deposit and the minimal quantity and variety of artifacts, the site likely represents a single dumping episode of consumable goods from a nearby homesite. The brownware sherd and the flake likely have no relation to the dumping activity, and on their own would qualify only as an isolate. Site CWS-S-007, is not likely to yield any additional information regarding the prehistory of the region and is thus recommended as not eligible for listing in the NRHP.

***CWS-S-008***

This prehistoric site consists of a single granitic bedrock milling feature measuring 3.2-x-2.4 m. The feature contains a single conical mortar measuring 12.5-x-12.5-x-4-cm. No artifacts were observed at the site. The milling feature is heavily weathered and covered with lichen. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of sagebrush, chamise, buckwheat, and grasses.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a resurvey and excavation of three STPs. The resurvey of the site identified the previously recorded bedrock milling feature with one saucer mortar, and did not identify any artifacts. Three STPs (STPs 1, 2, and 3) were excavated within the site to determine if there is any subsurface component to the site and investigate the site's integrity. All of the STPs were sterile and excavated to a depth of 40 cm. All of the STPs contained of lightly compacted, brown, sandy loam with decomposing granite.

Discussion and Site Summary

The presence of the bedrock milling feature indicates this was a limited use food processing site. The overall absence of artifacts identified in the evaluated portion of the site means that the site has not data potential.

Based on the results of this evaluation, site CWS-S-008 is not likely to yield any additional information regarding the prehistory of the region and is thus recommended as not eligible for listing in the NRHP.

***CWS-S-009***

This prehistoric site consists of a single, heavily weathered, granitic bedrock milling feature measuring 3.6-x-1.5-m. The feature contains one basin measuring 23-x-23-x-5-cm. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, and grasses.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a resurvey and excavation of three STPs. The resurvey of the site identified the previously recorded bedrock milling feature with one saucer mortar and did not identify any artifacts. Three STPs (STPs 1, 2, and 3) were excavated within the site to determine if there is any subsurface component to the site and investigate the site's integrity. All of the STPs were sterile (except for modern trash in STP 2) and excavated to a depth of 40 cm. All of the STPs contained of lightly compacted, dark brown to brown, damp, coarse loamy sand.

Discussion and Site Summary

The presence of the bedrock milling feature indicates this was a limited use food processing site. The overall absence of artifacts identified in the evaluated portion of the site means that the site has not data potential.

Based on the results of this evaluation, site CWS-S-009 is not likely to yield any additional information regarding the prehistory of the region and is thus recommended as not eligible for listing in the NRHP.

***CWS-S-010***

This prehistoric site consists of a light density artifact scatter measuring 20-x-38-m. Artifacts at the site include four brownware ceramic body sherds, two volcanic interior flakes, and one quartz

interior flake. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of chamise, buckwheat, and grasses.

Site Structure, Artifact Recovery, and Assemblage Composition

The southern third of this site falls within the ADI. Resurvey of this area was unable to relocate any of the previously identified artifacts in the ADI. Multiple rainstorms in the intervening months likely moved the loose ground sediments, obscuring the artifacts. The three STPs placed in the ADI were all negative for subsurface materials. The soils observed in these STPs was a fairly well sorted brown coarse sand with 40-50% DG gravels with low compaction.

Discussion and Site Summary

Based on the absence of cultural material in the ADI, this portion of the site is not likely to yield any additional information regarding the prehistory of the region and is thus recommended as not eligible for listing in the NRHP. The portion of the site outside the ADI will be avoided and preserved in place.

***CWS-S-011***

This historic site consists of a historic refuse scatter mixed with modern refuse. Historic artifacts at the site include one large rectangular fuel can; two small, rectangular fuel cans; one large, round fuel can; one church-key opened oil can; four knife-opened fuel cans; two five gallon buckets, nine internal friction coffee cans, church-key opened beverage cans, and three pieces of unidentified metal fragments. The site measures approximately 22-x-114-m. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of creosote brush scrub, chaparral, buckwheat, and grasses.

Site Structure, Artifact Recovery, and Assemblage Composition

The whole site is within the ADI. The surface inventory confirmed the previously recorded types and counts of cans and bottles. No surface artifacts were collected. A total of four STPs were placed in and around the trash scatter. All of the STPs were negative for subsurface deposits. The soils observed in the units were consistently dark brown coarse loamy sand, loosely compacted with less than 30% gravels.

Discussion and Site Summary

The site consists of consumable goods and fuel cans. Based on the evaluation results described herein, there is no evidence for subsurface deposits. The limited assemblage does not contain any

specifically datable material, other than a broadly dated post-1935 estimate based on the presence of church-key opened cans. The site likely represents a multiple episode dump site, with modern refuse dumped on top of an older dump episode. Site CWS-S-011 is not likely to yield any additional information regarding the history of the region and is thus recommended as not eligible for listing in the NRHP.

***ECWEP-SW-003***

This site is a late historic ranching site. The site measures 90-x-170-m. Features recorded at this site include a large main coral, secondary fenced corals, one trash dump, and one debris dump comprised of ranching machinery. Features at the site include: Feature 1: a coral; Feature 2: refuse deposit; Feature 3: refuse deposit located along a shallow drainage, located west of main coral area; and Feature 4: refuse deposit. Sediments at the site consist of loose sandy loam with decomposing granite. Vegetation mainly consists of creosote brush scrub, chaparral, buckwheat, and grasses. Specifically dateable material is difficult to decipher, but the refuse appears to be from the 1960s and 1970s.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI, although part of the site extends outside the ADI. The evaluated portion of the site is not likely to yield any additional information regarding the history of the region is therefore recommended as not eligible for listing in the NRHP. The unevaluated portion of the site is outside the ADI and will be avoided by Project design.

***ECWEP-SW-005***

ECWEP-SW-005 was identified as a bedrock milling site with one heavily exfoliated slick. The 15 cm diameter slick is sits on a 1.5-x-1.5-m granite boulder situated on a low-laying ridge opening up to the west into an open grassland alluvial flood plain. The landscape is dotted with large granite bedrock boulders. Vegetation at the site consists of scrub oak, chamise, sugar bush, cholla, and buckwheat.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI. The site was determined not likely to yield any additional information regarding the prehistory of the region and is therefore recommended as not eligible for listing in the NRHP.

***ECWEP-SW-007***

This is an historic mining site with a few scattered cans within a 15-x-30-m area. The site is located within low-laying ridges opening up to the west into an open valley/grassland alluvial flood plain. Vegetation in the area includes sagebrush, ephedra, cholla, and manzanita. Sediments at the site are comprised of sandy loam alluvium. The mine consists of an adit or mine pit cut into a quartz

outcrop and a tailings pile, which extends downslope to the east. Three cans are present west of the pit across a dirt road.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI. The site was determined not likely to yield any additional information regarding the history of the region and is therefore recommended as not eligible for listing in the NRHP.

***ECWEP-SW-011***

ECWEP-SW-011 was identified as a temporary camp with debitage, ceramics, flakedstone tools, groundstone tools, and bedrock milling. The site is situated on a wide terrace above the valley floor with an OHV trail running north-south through the site. Sediments at the site are composed of decomposing granite and silty sandy loam.

During the survey Dudek identified 73 volcanic debitage, 14 quartz debitage, 13 brownware sherds, three millingstones, five handstones, a chert projectile point fragment, five cores, two hammerstones, three bedrock milling features, and in an 82-x-47-m area (Comeau et al. 2019b). A deep, narrow drainage runs along the southern boundary of the site. The three milling features contain a total of six slicks. Numerous heavily weathered granite boulders and outcrops are present along the western end of the site that may have contained additional milling features. The majority of the site is outside the APE; the only potential impacts to the site consist of an access road that runs through the middle of the site.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a general surface collection and excavation of 3 SSUs and 5 STPs within the ADI. During the resurvey of the site, 27 surface artifacts were recorded and collected, including four tools and 25 pieces of debitage. About half (n=12) of the debitage were recovered from the southeast quarter of the ADI, with the rest roughly evenly distributed through the remainder of the ADI. The four tools included one volcanic hammerstone (Artifact 13), two granitic handstones (Artifact 14 and 15), and one volcanic retouched flake tool (Artifact 18).

SSU 1 was excavated within the densest scatter of surface artifacts to a depth of 10 cm, producing one debitage fragment. The sediment in SSU 1 consisted of grayish brown, fine grain sand with gravel inclusions. Both SSU 2 and 3 were sterile. SSU 2 was excavated to a depth of 10 cm and consisted of loosely compacted, brown (Munsell: 7.5 YR 4/2) sandy silt. The SSU 3 was excavated to a depth of 20 cm and consisted of a loosely compacted, dark gray (Munsell: 7.5 YR 4/1) sandy silt with decomposing granite.

Five STPs were excavated to a depth of 40 cm. STP 1 produced one piece of volcanic debitage from 0 to 20 cm and two pieces of debitage from 20 to 40 cm. From 0 to 5 cm the sediment consisted of light brown, loosely compact silty sand. From 5 to 20 cm the sediment consisted of loosely compacted, medium brown silty sand. From 20 to 40 cm the sediment consisted of compact, dark brown sandy silt with root and vegetation disturbances, and was terminated at 40 due to the presence of decomposing granite. STPs 2, 3, 4, and 5 contained loose to moderately compact light brown sandy silt, and were all sterile.

Discussion and Site Summary

ECWEP-SW-011 is a temporary camp with a light to moderately dense surface scatter of artifacts and bedrock milling features. Within the ADI, evaluation efforts identified a total of 27 pieces volcanic and quartz debitage, one flakedstone tool, one hammerstone, and two handstones. Lithic debitage consists almost entirely of small to medium sized interior flakes (n=20) and interior shatter (n=6) indicating production and re-sharpening of retouched flakes and non-biface derived tools. Based on the lack of subsurface deposits on minimal artifact recovery overall, the evaluated portion of the site has limited data potential. No dateable materials were recovered from this portion of the site, although a general Late Prehistoric or Ethnohistoric period designation for the overall site can be determined based on the presence of ceramics. Unfortunately the chert projectile point is only a medial fragment, so it cannot be used to help date the site.

As a result of the evaluation efforts, the portion of the site within the ADI is recommended as not eligible for listing in the NRHP. The portion of the site outside the impact area has not been evaluated and will be avoided by project design.

***TW-S-007***

This prehistoric site consists of a temporary habitation site covering a 150-x-118-m area. An OHV road runs north-south through the eastern most portion of the site. Artifacts at the site consist of 200+ brownware ceramic sherds, groundstone tools, flakes, and bedrock milling features.

Site Structure, Artifact Recovery, and Assemblage Composition

This site was resurveyed as part of the current evaluation effort. The ADI corridor passes through the site following the contour of an existing dirt road, which bisects the site. Only the portion of the site within the ADI was tested. Concentration 1 was characterized by a greater general surface density of flaked stone and ceramic materials compared to the rest of the site within the ADI. A total of 345 surface artifacts were collected from Concentration 1, in the following proportions: 306 ceramic body sherds, 20 volcanic debitage, 16 ceramic rim sherds, one quartz debitage, and one volcanic hammerstone. STP 5 and SSU 2 were both placed within the Concentration.

The general surface inventory (outside of the concentration) produced 91 artifacts, consisting of 65 ceramic body sherds, nine ceramic rim sherds, 16 volcanic debitage, and one crystalline quartz debitage.

A total of eight STPs were excavated within the ADI, one of which yielded cultural material. STP 5 in Concentration 1 produced two ceramic body sherds and three pieces of debitage (two quartz and one CCS) from 0-20 cm. From 20-40 cm, STP 5 produced three pieces of debitage (two quartz and one CCS) and one ceramic body sherd.

Two SSUs were excavated at the site. SSU 1 was located in the eastern portion and produced a total of 12 artifacts, with SSU 2 producing a total of 83 (Table 4-7). SSU 1 measured 2-x-1 m for the initial 0-5 cm level. Levels 5-10 and 10-20 were continued only on the southern half (1-x-1 m). SSU 2 was excavated as a 2-x-1-m for the first 0-10 cm level, with the subsequent levels covering only the northern half (1-x-1-m).

**Table 6-6**
**SSU Artifact Recovery by Unit**

| Unit | Level | Object | Ct |
|---|---|---|---|
| SSU 1 | 0 - 5 | Volcanic Debitage | 2 |
| | | Quartz Crystal | 2 |
| | 5 - 10 | Body Sherd | 1 |
| | | Quartz crystal | 1 |
| | 10 – 20 | Body Sherd | 1 |
| | | Volcanic Debitage | 4 |
| | | Granitic Fire-Affected Rock | 1 |
| SSU 2 | 0 - 10 | Body Sherd | 35 |
| | | Volcanic Debitage | 2 |
| | | Quartz Debitage | 2 |
| | | Rim Sherd | 4 |
| | 10 - 20 | Body Sherd | 18 |
| | 20 -30 | Body Sherd | 7 |
| | | Quartz Debitage | 5 |
| | | Volcanic Debitage | 5 |
| | 30 - 40 | Body Sherd | 2 |
| | | Quartz Debitage | 3 |

*Discussion and Site Summary*

Given the limited subsurface deposit of artifacts, and sparse surface collection, the portion of the site within the ADI is not likely to yield any additional information regarding either the prehistory

or history of the region and is thus recommended as not eligible for listing in the NRHP. The portion of the site outside the ADI was not evaluated and will be avoided by Project design.

***TW-S-008***

This prehistoric site is temporary camp covering a 105-x-98-m area. During the survey, the site was found to include 70+ ceramic fragments, 20+ flakes, and one bedrock milling feature with two mortars. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Vegetation at the site is moderate throughout the site and includes, scrub oak, buckwheat, cholla, and ephedra.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site consisted of a resurvey of the portion of the site in the ADI, surface collection, and excavation of seven STPs. The resurvey delineated one concentration of 56 ceramic sherds, six volcanic flakes, and four quartz flakes in a 13-x-7-m area near the east end of the site. The rest of the surface collection within the ADI included 70 ceramic body sherds, 14 volcanic debitage, six quartz debitage, two obsidian debitage, one volcanic hammerstone (A6), one granitic handstone (A2), one quartz core (A3), one granitic millingstone fragment (A5), and one FAR.

Seven STPs were excavated within the site to determine if there is any subsurface component to the site and investigate the site's integrity. STPs 1-6were positive for subsurface artifacts (Table 6-7); STP 7 was negative. STP 1 was placed inside of Concentration 1; the remainder of the STPs were distributed throughout the rest of the ADI. Each STP terminated between 20 and 60 cm due to the presence of decomposing granite. Sediments encountered in the STPs consisted primarily loose, dark grayish brown (Munsell: 10 YR 4/2) sandy loam with gravel and decomposing granite. Rodent burrows and small amounts of charcoal were noted in most of the STPs.

**Table 6-7**
**TW-S-008 Subsurface Artifact Recovery**

| Unit | Depth (cm) | Artifacts Recovered | Count |
|---|---|---|---|
| STP 1 | 0-20 | Ceramic body sherds | 5 |
| STP 2 | 0-20 | Ceramic body sherds | 1 |
| | | Volcanic flakes | 1 |
| STP 3 | 0-20 | Quartz flakes | 3 |
| STP 4 | 20-40 | Ceramic body sherds | 1 |
| STP 5 | 0-20 | Ceramic body sherds | 2 |
| | | Volcanic flakes | 1 |
| STP 6 | 0-20 | Ceramic body sherds | 1 |
| | | Volcanic flakes | 1 |
| | | **Total** | **16** |

Discussion and Site Summary

The site is a temporary or seasonal camp. The presence of groundstone tools and bedrock milling fragments indicate seeds and other plant materials were processed for food. The presence of prehistoric flakedstone tools and debitage is indicative of maintenance and tool processing. The presence of prehistoric pottery indicates that the site is associated with Late Prehistoric or ethnohistoric occupation, although no other dateable material was recovered which could refine the chronological association.

As a result of these evaluation efforts, the portion of the site in the ADI is not likely to yield any additional information regarding either the prehistory or history of the region and is thus recommended as not eligible for listing in the NRHP. The portion of the site outside the impact area has not been evaluated and will be avoided by Project design.

***TW-S-010***

This site is a small rock alignment with historic refuse scatter measuring approximately 47-x-15 meters. Site constituents include historic irrigational and industrial debris. The site is situated on a edge of a small drainage. The rock alignment is a small rain water runoff diversion associated with an old dirt road/trail that runs through the center of the site. Sediments are comprised of medium brown sandy loam. Vegetation at the site is consists mainly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI. The site was determined not likely to yield any additional information regarding the history of the region and is therefore recommended as not eligible for listing in the NRHP.

***TW-S-011***

This prehistoric temporary camp site was first recorded in 2018 by Dudek. The site is located 160 meters east of TW-S-010 with an OHV road running east to west through the site. The site consists of one bedrock milling feature and a light lithic scatter. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Vegetation includes oak trees south of the site, scrub oak, buckwheat, cholla, and ephedra. The milling feature contains a single, heavily weathered milling slick measuring 18-x-18-cm.

Evaluation efforts performed for another project (Comeau et al. 2019b) encompassed the entire Campo Wind ADI. The site was determined not likely to yield any additional information regarding the prehistory of the region and is therefore recommended as not eligible for listing in the NRHP.

***TW-S-012***

This prehistoric site is a temporary camp consisting of three bedrock milling features and a light artifact scatter covering a 106-x-35-m area. The site is situated on a granite outcrop covered knoll in the east side of McCain Valley, just north of a narrow, deeply incised drainage. A north-south trending dirt bike trail runs through the site. Sediments at the site consist of brown silty sandy loam alluvial with decomposing granite. Numerous rodent burrows are present throughout the site. Vegetation includes oak trees south of the site, scrub oak, buckwheat, cholla, and ephedra.

Bedrock milling features at the site include: Feature 1, a granite outcrop with one slick, located on the northwest site of the knoll; Feature 2, a granite outcrop with four milling slicks on a small, low-laying, highly weathered boulder; and Feature 3, a granite outcrop with two milling slicks near the eastern boundary of the site.

During the survey a low-density concentration of ceramics and debitage including eight metavolcanic interior flakes, one quartz interior flake, one obsidian interior flake, and 16 brownware ceramic sherds were noted in the south half of the site. The concentration is located along the dirt bike track south of Feature 2. Two groundstone tools located outside of the artifact concentration including a granitic unifacial millingstone and a quartz bifacial handstone.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site included a surface collection of all artifacts and excavation of 11 STPs. During the resurvey, a general surface collection recovered 22 ceramic sherds, 16 volcanic debitage fragments, one quartz biface fragment, one granitic millingstone fragment (A1), and one quartz handstone (A2); all but the handstone and millingstone were recovered from within the concentration. Fresh dirt bike tracks were noted on the west side of the dirt bike trail, which churned the sediment and leaf litter on the ground surface, ultimately hindering attempts at relocating the artifacts.

Eleven STPs were excavated within the site to determine if there is any subsurface component to the site and investigate the site's integrity. The STPs were generally excavated to a minimal depth of 40 cm and generally terminated upon encountering decomposing granite. Of the 11 STPs, only three produced artifacts (STPs 1, 3, and 5). The sediment in STP 1 from 0 to 40 cm consisted of loosely compacted, medium brown loam. From 40 to 60 cm the sediment consisted of loosely compacted, light brown loam with concentration small amount of charcoal. One ceramic sherd and one piece of volcanic debitage were recovered from 0 to 20 cm, while one piece of quartz debitage was recovered from 20 to 40 cm. The sediment in STP 3 from 0 to 40 cm consisted of loosely to moderately compacted, grayish brown with moderate concentration of gravel. One ceramic sherd

was recovered from 0 to 20 cm and one piece of quartz debitage was recovered from 20 to 40 cm. STP 5 produced eight ceramic body sherds from 0 to 20 cm and eleven ceramic body sherds from 20 to 40 cm. The sediment in STP 5 consisted of grayish brown sandy loam with some gravel and increasing compaction with depth and terminated at DG. The eight of the remaining STPs were sterile and contained similar sediments consisting of loosely to moderately compacted, light to medium brown sandy silt. Rodent burrows were present in each STP.

Discussion and Site Summary

The site is a temporary or seasonal camp. The presence of groundstone tools and bedrock milling slicks indicate seeds and other plant materials were processed for food. The absence of mortars indicates acorns were not processed here, even though oak trees are present in and surrounding the site. The presence of prehistoric flakedstone tools and debitage is indicative of maintenance, as almost all of the debitage is small interior flakes, and non-cortical shatter. The presence of prehistoric pottery indicates that the site is associated with Late Prehistoric or ethnohistoric occupation, although no other dateable material was recovered which could refine the chronological association.

Although a small part of the site extends outside the ADI, the entire site was evaluated. The low density of artifacts, absence of midden soils, and limited subsurface recovery do not provide substantial information regarding the prehistory of the region. Therefore, the site is recommended as not eligible for listing in the NRHP.

***TW-S-013***

This site is a large temporary camp situated on three adjacent knolls, separated by east-west trending drainages. Each knoll was delineated as a distinct locus for recordation purposes, and do not necessarily reflect variations in activity areas or chronology/occupation. Vegetation at the site consists primarily of chamise, buckwheat, sugar bush, red shank, cholla. Sediments at the site consist of silty sandy loan and decomposing granite. Heavily weathered granite bedrock outcrops are present throughout the site – more milling features were that recorded during the survey likely are, or at least were, present but could not be identified at this time.

Due to the presence of human remains, the MLD requested a subsurface excavation program to be performed to determine if any additional remains may be present in the ADI. This effort was performed with evaluation efforts at site for another project and was documented in a separate report (Comeau et al. 2019b). No human remains were identified during those efforts (Comeau et al. 2019b).

A proposed access road crosses through the center of the site for this Project. This portion of the site is within the area evaluated previously (Comeau et al. 2019b). The artifact density identified in the evaluated portion of TW-S-013 is relatively low (Comeau et al. 2019b). The depth and distribution of cultural materials recovered at subsurface testing reveals that most of the material is located within 20 cm of the surface. The absence of a midden deposits or substantial subsurface deposits suggests the site was not used for substantial habitation or occupation. Further excavation in this portion of the site would likely to produce similar quantities and varieties of materials documented at that time and would not provide any additional information regarding aboriginal occupation of the site.

As a result of the evaluation efforts described by Comeau et al. (2019b), the portion of the site within the ADI is recommended as not eligible for listing in the NRHP. The location of human remains is well outside the ADI and will not be impacted by the Project.

The majority of the site outside the impact area has not been evaluated and will be avoided by Project design (the area evaluated by Comeau et al. 2019 is larger than the Campo Wind ADI, but does not encompass the entire site).

***TW-S-015***

This multi-component site was identified during the survey phase of this project as a very sparse lithic scatter and can scatter measuring approximately 95-x-20-m. Site constituents include three quartz flakes, and three volcanic flakes and five cans. The site is situated on a relatively flat landform in the McCain Valley. Two dirt trails are present within the site, indicating modern-era disturbances to the site. Sediments are comprised of medium brown sandy loam. Vegetation at the site is moderately dense consisting mostly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation effort at the site included resurvey and surface collection of all artifacts and excavation of five STPs. The resurvey of the site was only able to relocated one volcanic flake and two quartz flakes. The five cans consist of single-serve sanitary food cans (likely fruit/vegetable cans); none of the cans were collected. Sediments in all five of the STPs consisted of decomposing granite; all five were negative. Although parts of the site extend outside the ADI, the entire site was evaluated.

Discussion and Site Summary

The overall density of artifacts identified at the site is very low. Subsurface testing revealed that all of material is located on the surface, with no artifacts below ground. The low density of artifacts

and absence of subsurface deposits in the evaluated portion of the site do not provide substantial information regarding the prehistory of the region. Therefore, the site is recommended as not eligible for listing in the NRHP.

***TW-S-017***

This site is a sparse lithic scatter measuring approximately 53-x-17 meters. Site constituents include two volcanic flakes and a possible volcanic retouched flake. The site is situated on a gentle south facing slope. Sediments are comprised of light grayish-brown, loosely compacted sandy loam. Vegetation at the site is moderately dense consisting mostly of scrub oak, large manzanita stands, chamise, sugar bush, cholla, buckwheat, and sporadic grasses. This site will be avoided by project design.

Site Structure, Artifact Recovery, and Assemblage Composition

During the evaluation phase, Dudek visited the site on 9/11/2018 and 10/1/2018, but was only able to identify two of the volcanic flakes; both were collected. Three STPs were excavated to test for the possibility of subsurface deposits; all three STPs were negative. Sediments encountered in the STPs consisted of sandy silt, gravel, and decomposing granite.

Discussion and Site Summary

The overall density of artifacts identified at the site is very low. Subsurface testing revealed that all of material is located on the surface, with no artifacts below ground. The low density of artifacts and absence of subsurface deposits in the evaluated portion of the site do not provide substantial information regarding the prehistory of the region. Therefore, the site is recommended as not eligible for listing in the NRHP.

***TW-S-030***

This site was identified during the survey as a prehistoric temporary camp measuring approximately 47-x-83-m. Site constituents include one bedrock milling feature, 12 pieces of debitage and five ceramic fragments. The site is situated on a small knoll with a drainage running along the northern boundary and the western boundary of the site and a large bedrock outcrop in the western portion of the site. Site disturbances include a dirt bike trail along the eastern end. The site boundary was confined to within the study area and may extend further west, however, this area was not surveyed. Sediments are comprised of grayish-brown, moderately compact sandy loam intermixed with decomposing granite. Vegetation at the site is moderately dense consisting mostly of scrub oak, yerba santa, yucca, chamise, cholla. Only the eastern portion of the site is located within the ADI.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts at the site consisted of a resurvey and collection of all artifacts in the eastern half of the site and excavation of three STPs. The surface collection identified six volcanic flakes and one ceramic body sherd. A light scatter of historic refuse was also noted during the evaluation, including five miscellaneous metal fragments, two metal nails, one shotgun shell primer, and nine glass fragments (colorless, aqua, and brown), all of which was collected. A portion of a stove was also noted but not collected. The three STPs were excavated to depths ranging from 10 to 40 cm, all of which contained light brown to brown (7.5 YR 3/4) loose, silty sand with decomposing granite and terminated at decomposing granite; all three were negative.

Discussion and Site Summary

The presence of the artifact scatter and bedrock milling suggests the prehistoric component of this site was a temporary camp or just a food production site with some tool maintenance also occurring. The historic component of the site consists of a very light scatter of disparate refuse that likely relates target shooting. No deposit is present, and all the artifacts are in a highly fragmented condition due having been used as targets. No dateable material was identified. The overall density of artifacts identified in the evaluated portion of the site is very low and the absence of subsurface artifacts indicates this part of the site does not have the potential to provide information important to history or prehistory.

The portion of the site within the ADI is recommended as not eligible for listing in the NRHP. The portion of the site outside the ADI, including the milling feature, has not been evaluated and will be avoided by project design.

## 6.2 Evaluation Results of Built Environment Resources

One historic-era built environment resource, CA-SDI-9059, was not previously evaluated and is therefore evaluated below.

***CA-SDI-9059***

CA-SDI-9059 is a historic wagon road, first recorded by Terri Jacques in 1981. The road was included in the 1848 government map. In 20011 ASM Affiliates revisited the "Lazy M Lane" and noted the portion of it that extends to the west of its intersection with BIA-15 has been repeatedly graded. The grading appears to have also widened the road, beyond the 6-7 feet as initially recorded by Jacques, at least for the extant portion of the site on the Reservation. The western end of the road alignment, as mapped by the SCIC, extend into a heavily vegetated area. It appears that this portion of the road has been lost to disuse and is overgrown. The APE and ADI for the Project

intersect the mapped road alignment perpendicularly in three locations. Two of these are in the graded portion of the road, and one is in the revegetated portion, which could not be positively identified as extant.

Due to repeated grading, the historic era wagon road has been destroyed where a road alignment is extant, and the non-graded portion has been lost to disuse. The resource therefore does not retain sufficient integrity to be convey and potential historical significance. The portions of the road within the ADI is recommended as not eligible for listing in the NRHP.

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# 7 SUMMARY AND MANAGEMENT CONSIDERATIONS

This report presents the results of Dudek's cultural resources inventory and evaluation for the Project, located within approximately 2,200 acres of land on the Reservation and approximately 500 acres of privately owned land. All work was performed in accordance with Section 106 of the NHPA and its implementing regulations (36 CFR Part 800) by archaeologists who meet the Secretary of the Interior's Professional Qualification Standards. Survey of the 2,700-acre APE was conducted by Hale et al. 2013, Daniels and Schaefer 2013, and Dudek (this report) in accordance with the Secretary of the Interior's standards and guidelines. Evaluation efforts performed during other projects for some resources are summarized and adapted herein, as appropriate. All resources within the ADI that were not previously evaluated for listing in the NRHP were evaluated herein.

The inventory identified a total of 146 extant cultural resources in the APE (80 archaeological sites, 4 historic period built environment resources, and 62 isolates). Of these resources, 5 were previously evaluated for eligibility for listing in the NRHP or CRHR. The final Project design would be conducted to avoid and minimize damage, alteration, or destruction to all resources in the APE in order to avoid potential adverse effects to historic properties.

CA-SDI-6891 (State Route 94), and P-37-025680 (San Diego and Arizona Eastern Railway), were evaluated in 2011 and 2000, respectively, and determined not eligible for listing in the NRHP. As they are not eligible, they are not significant under Section 106, and require no further consideration in the planning process.

P-37-024023 is Old Highway 80, which was determined eligible for listing in the NRHP in 2010 and is therefore an historic property. Damage, alteration, or destruction of the road could be an adverse effect under Section 106, although none is expected as a result of Project implementation, as construction would be implemented to avoid impacts and there would be no effect to this historic property.

Archaeological sites CA-SDI-7151/7162 and CA-SDI-7156 evaluated WESTEC (1983) and BFSA (1998) under CEQA and County guidelines. Both sites were recommended eligible for listing in the CRHR due to their data potential. As these sites are significant for their data potential, they are also eligible for listing in the NRHP under Criterion D for the same reasons. The BFSA (1998) study delineated significant deposits at each site as the contributing elements to the significance of each site and recommended open space easements be placed on these significant areas. CA-SDI-7156 will be avoided entirely; there will be no effect to this historic property. At CA-SDI-7151/7162, the significant deposits are located outside the ADI for the Project and will be preserved. The portions of the site that are in the Project ADI do not contain subsurface deposits or features that convey the significance of the site. Therefore, the Project will not have an adverse effect to this historic property. Additional

excavation efforts were performed at the site for a recent project (Comeau et al. 2019) due to the identification of human remains; no human remains were identified in the ADI for this Project. Formal documentation of that effort is included Comeau et al. 2019.

Thirty-eight archaeological sites (in addition to CA-SDI-7156, discussed above) will be been completely avoided and preserved in place; these 38 sites have not been evaluated and are presumed eligible for listing in the NRHP. Forty-one sites (including CA-SDI-7151/7162) and one built environment resource (Lazy M Lane) are wholly (20) or partially (21) in the ADI and would be damaged or destroyed by the Project. As avoidance is not possible, formal evaluation of significance under Section 106 was required in order to make a determination of effects for those resources. Evaluation of those sites did not identify significant deposits or other characteristics; therefore, none is eligible for listing in the NRHP under any criteria, and none is considered an historic property. Human remains were identified at five sites. Project design and redesign efforts have been made at each site to avoid damage to or destruction of the portions of sites with the human remains. The locations of human remains will be preserved in place.

The 62 extant isolates do not have any data potential (Criterion A); they are not related to persons or events important in history or prehistory (Criteria A and B); and they do not 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 (Criterion C). Therefore, they are not eligible for listing in the NRHP and are not historic properties.

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# 9 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Micah Hale (Dudek): Acted as Project Manager and approved the technical report.

Brad Comeau (Dudek): Acted as Principal Investigator and authored the technical report.

Angela Pham: Acted as field director and authored the technical report.

Patrick Hadel and Scott Wolf (Dudek): Acted as field directors.

David Faith, Makayla Murillo, Javier Hernandez, James Turner, Kent Smolik, Sarah Lewis, Courtney Davis, and William Blodgett: Acted as field crew.

Monique LaChappa, Andrea Najera, Lewis Connelly, Gerricho Dyche, Marcus Cuero (Campo), Justin Linton, Gabe Kitchen (Red Tail): Acted as Native American monitor during fieldwork.

Staff at the South Coastal Information Center performed the records search on the Campo Reservation.

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# APPENDIX A (CONFIDENTIAL)

*SCIC Records Search Results*

# APPENDIX B (CONFIDENTIAL)

*Confidential Figures and DPR Site Records*

# APPENDIX C

*Résumés of Key Personnel*

# Angela Ngoctien Pham, RPA

## Archaeologist

Angela. Pham has over 7 years' experience as an archaeologist and archaeological lab director, with a variety of technical skills, including surveying, excavation techniques, testing, data recovery, monitoring, artifact identification, cataloging, and preservation and curation. She is highly knowledgeable about the California Environmental Quality Act and National Historic Preservation Act Section 106 and Section 110. She works closely with Native American tribal members and manages and supervises field crews and lab technicians, and directs, plans, and organizes field projects. Ms. Pham authors site inventory reports, cultural technical reports, and Department of Parks and Recreation (DPR) site records. She conducts record searches and research using the National Archaeological Database and the California Historic Resources Information System at the South Coastal Information Center.

**EDUCATION**

San Diego State University, California
MA, Applied Anthropology, 2011
San Diego State University, California
BA, Anthropology, 2008

**CERTIFICATIONS**

Registered Professional Archaeologist

**PROFESSIONAL AFFILIATIONS**

Society for American Archaeology,
San Diego Archaeological Society
Society for California Archaeology

## Project Experience

### Development

**City of San Diego Underground Utilities On Call, City of San Diego, California.** As Principal investigator, supervised the cultural resources mitigation program during construction. Coordinated cultural field monitoring, authored technical reports, prepared DPR forms and conducted site evaluations when applicable.

**Patton State Hospital Project, California Department of General Services, County of San Bernardino, California.** As project manager, supervised the cultural resources mitigation program during construction improvements to the facility in accordance with the mitigation measures and treatment plan for the project.

**Proctor Valley Village 14 and Preserve Project, County of San Diego, California.** Conducted field survey and site evaluation, prepared cultural resources report, and an archaeological data recovery plan for a component of the Otay Ranch master-planned community.

**Archaeological Survey for the Torrey Highlands Office Project, The Preserve at Torrey Highlands LLC, San Diego County, California.** As field director, conducted intensive pedestrian survey for proposed project area. Identified all potential impacts to existing and newly recorded cultural resources. The project involves development of a 450,000-square-foot office project in the Torrey Highlands community of San Diego, located south of State Route 56 along the future extension of Camino del Sur. The area of potential effects, consisting of the 11.1-acre project site, is bounded on three sides by undeveloped land within the City's Multi-Habitat Preservation Area.

**Yokohl Ranch Cultural Resources, The Yokohl Ranch Company LLC, Tulare, California.** As crew, Ms. Conducted archaeological data recovery in Yokohl Valley.

**Archaeological Survey for the Canyon Spring Healthcare Center, City of Riverside Community and Economic Development Department, Riverside, California.** As field director, conducted intensive pedestrian survey for proposed project area. Identified all potential impacts to existing and newly recorded cultural resources.

**Archaeological Survey for Lake Mission Viejo Project, Lake Mission Viejo Association, Orange County, California.** As field director, conducted intensive pedestrian survey for proposed project area. Identified all potential impacts to existing and newly recorded cultural resources.

**Archaeological Testing and Monitoring for the Hamilton Hospital Project, Marin County, California**. As field director, conducted extended Phase I testing and monitored auguring activities for the future construction and improvement of the Hamilton Hospital. Dug shovel test units, used Global Positioning System (GPS), and documented excavation.

**Archaeological Survey and Testing for the Proctor Valley Village 14 & Preserve Project, Jackson Pendo Development, San Diego County, California.** As archaeologist, conducted intensive pedestrian survey and field testing for proposed project area. Identified all potential impacts to existing and newly recorded cultural resources.

**Archaeological Site Visit for the 888 North Sepulveda Boulevard Hotel Project, OTO Development, Los Angeles County, California.** As archaeologist, conducted a pre-construction archaeological site visit with clients and construction foreman. Discussed standard archaeological field protocols.

**Archaeological Monitoring for the Corona Brine Line Project, Santa Ana Watershed Project Authority, Riverside County, California**. As archaeologist, coordinated with Charles King Company (construction company) project managers and construction foreman, conducted archaeological monitoring for the installment of the brine line.

## Education

**Archaeological Testing for the Mission Beach Elementary School Project, San Diego County, California.** As field director, conducted Phase II of testing for future construction at the Mission Beach Elementary School. Dug shovel test units, used GPS, and documented excavation.

**Parking Structure Project, Academy of Our Lady of Peace, San Diego, California.** Conducted cultural monitoring, site evaluation, and report preparation.

**San Marcos High School Monitoring Project, San Marcos Unified School District, San Diego County, California.** As I archaeological monitor, conducted field monitoring during rough grading and trenching phases of construction at San Marcos High School.

## Energy

**Drew Solar Project, Drew Solar LLC, Imperial County, California.** As principal investigator, Ms. Pham coordinated a SCIC records search, NAHC and Native American consultation, archaeological survey, and preparation of a negative technical letter report for this solar development. The mitigation strategy did not require additional archaeological monitoring or other work based on the lack of archaeological sites, and the low potential for encountering unrecorded subsurface cultural resources. Recommendations were submitted to Imperial County.

**Jacumba Solar Extended Phase 1, NextEra, Jacumba, San Diego County, California.** As field crew, conducted site examinations and limited shovel test pit excavation; co-authered letter report of findings.

**Third Party Compliance Monitoring for the Tule Wind Project, San Diego County, California.** Archeological compliance monitor, oversaw and implemented compliance assistance to the Bureau of Land Management to ensure adherence to mitigation measures and proper treatment of cultural resources. (2012-2013)

**Inyo-Barren Ridge North American Electric Reliability Corporation (NERC) Compliance, Los Angeles Department of Water and Power, Kern, Inyo, and Mono Counties, California.** As archaeologists co-authored the monitoring project report.

**Blythe Solar Power Project, NextEra, Riverside County, California.** As lead archaeologist, conducted compliance monitoring on Bureau of Land Management (BLM) land. Responsible for on-site implementation of the archaeological monitoring program, including daily safety briefings. Oversaw field monitors. Coordinated the work of sub-consultants or other contractors participating in archaeological field investigations. Assisted with report preparation.

**McCoy Solar Energy Project, Riverside County, NextEra, California.** As lead archaeological monitor, conducted and coordinated archaeological compliance monitoring, archaeological surveys, and Section 106 testing on BLM land for construction of access roads, substation, restoration activities, and a 230-kilovolt generation tie-line for the McCoy Solar Project. Responsible for on-site implementation of the archaeological monitoring program, including daily safety briefings. Oversaw field monitors. Coordinated the work of sub-consultants or other contractors participating in archaeological field investigations. Assisted with report preparation.

**Cultural Resources for the Devers-Palo Verde 500-kilovolt (kV) Transmission Line, Southern California Edison (SCE), Riverside County, California.** Served as archaeology monitor responsible for available data review, field survey, field monitoring, and cultural resource compliance maintenance among contractors.

**Archaeological Monitoring for the Block 4N North Encanto Underground Utility Project, City of San Diego, San Diego County, California**. As archaeologist, coordinated with San Diego Gas & Electric Company (SDG&E) project managers and construction foreman, and conducted archaeological monitoring for underground utilities trenching.

**Cultural Resources On-Call Contract, SDG&E, San Diego, Riverside, Imperial, and Orange Counties, California.** As field director, organized and led archaeological surveys of project areas on an as-needed basis. Identified, recorded, and mapped sites within the project areas. Provided management recommendations, pole placement recommendations, and cultural resources monitoring. Wrote DPR forms and technical reports regarding project findings.

**Tule Wind Geotechnical Monitoring and NRHP Nomination Project, Iberdrola Renewables, San Diego County, California.** As lead project monitor, coordinated and conducted monitoring for geotechnical work during the field operations of the Tule Wind Project.

### Transportation

**California High-Speed Rail Project Construction Package 2-3, Fresno to Bakersfield, Dragados/Flatiron Joint Venture, Fresno to Bakersfield, California.** Conducted pedestrian surveys on the Fresno to Bakersfield Section of the project. Conducted daily compliance reporting.

**Archaeological Monitoring for the City of San Juan Capistrano Highway 74 Project, Caltrans, Orange County, California.** As archaeologist, coordinated with project managers and construction foreman, and conducted archaeological monitoring for Highway 74 improvements.

### Water/Wastewater

**Archaeological Testing for the Hidden Ridge Recycled Water Pipeline Project, Santa Margarita Water District, Orange County, California.** As archaeologist, conducted extended phase I testing for the installment of a recycled water line to serve the Hidden Ridge community within the Santa Margarita Water District service area.

**Archaeological Monitoring for the Line B, Project, Riverside County Flood Control and Water Conservation District, Riverside County, California.** As archaeologist, coordinated with WINCO project managers and construction foreman, conducted archaeological and paleontological monitoring for all trenching activities for the pipeline.

**Archaeological Survey for Lake Morena Dam and Outlet Project, San Diego County, California**. As field director, directed field crew and conducted intensive pedestrian survey for proposed project area. Identified all potential impacts to existing and newly recorded cultural resources.

**Archaeological Survey for Lake Morena Reservoir Project, City of San Diego Public Utilities Department, San Diego County, California.** As field director, conducted intensive pedestrian survey for proposed project area. Identified all potential impacts to existing and newly recorded cultural resources.

**Little Lake Line B Town Drain System Construction Project, Riverside County Flood Control and Water Conservation District, Riverside County, California.** Served as cultural and paleontological monitor.

## Relevant Previous Experience

**San Diego Mission de Alcala Collections Management Project, San Diego County, California.** As associate archaeologist, participated in the long-term management of the San Diego Mission artifact collections. Upgraded the archaeological collections to current archival and curation standards.

**County of San Diego Fuel Reduction Parcel Preparation Program in Julian, Whispering Pines, and Along State Route 78/79, Environmental Resource Solutions Inc., San Diego County, California, 2013.** As associate archaeologist, performed a cultural resources survey of the project area. Created avoidance measures in consultation with ERS and the County of San Diego and prepared a technical report.

**Cultural and Historical Resources Report and Impact Analysis for the Elvira to Morena Double Track Project, HDR Engineering Inc., San Diego, California 2013.** As associate archeologist, performed a cultural resources survey of the double track project area, including a visual impact of buildings within the indirect area of potential effect, and an evaluation of the railroad and associated railroad bridges and features.

**Archaeological Testing for the Sorrento to Miramar Double Track Project, BRG Consulting for San Diego Association of Governments (SANDAG), San Diego County, California, 2013.** As field director, conducted on-site water screening and lab processing with archaeological crew.

**Archaeological Survey for the Padre Trail Inn Project, Helix Environmental Planning, San Diego County, California, 2013.** As field director, conducted intensive pedestrian survey for project area. Identified all potential impacts to existing and newly recorded cultural resources.

**Stabilization and Rehabilitation of the San Diego Mission de Alcala Archaeological Collections, Mission Basilica San Diego, San Diego County, California, 2013.** As laboratory director, conducted the stabilization and rehabilitation of archaeological collections that are currently residing at the San Diego mission. Brought the collections up to present federal curation standards. Recommended options for proper long-term curation of collections.

**Archaeological Survey for the Greater Julian Tree Removal Project, Julian, County of San Diego, California, 2013.** As field director, conducted intensive pedestrian surveys for all areas that are part of the San Diego County fuels reduction program. Identified all potential impacts to existing and newly recorded cultural resources.

**Archaeological Survey for the Gateway Road Project, Helix Environmental Planning, Calexico, Imperial County, California, 2013.** As field director, conducted intensive pedestrian survey for 0.5-acre property. Recorded potential impacts to cultural resources.

**Archaeological Monitoring for the Tule Wind Project, Iberdrola Renewables Inc., San Diego County, California, 2013.** As supervisor archaeologist, conducted monitoring for geotechnical work in compliance with BLM requirements for Section 106 of the National Historic Preservation Act (NHPA). Surveyed and recorded existing and new sites located near geotechnical testing locations.

**Archaeological Monitoring for the Black Mountain MET Tower Project, BLM, Imperial County, California, 2013.** As supervisor archaeologist, conducted pedestrian survey prior to construction and created an access route to MET Towers. Monitored all construction activity.

**Archaeological Survey for the Rosemary's Mountain Quarry Expansion Project, Granite Construction, San Diego County, California, 2013.** As archaeologist, conducted an intensive pedestrian survey in order to determine if any previous or new cultural resources could be encountered during construction expansion. **Archaeological Survey for the Otay Mesa Cactus Road Project, U.S. Army Corps of Engineers, San Diego County, California, 2013.** As field director, conducted an intensive pedestrian survey in compliance with both NHPA and CEQA guidelines. Determined the presence and absence of any additional cultural resources within the project area.

**Archaeological Testing and Monitoring for the 10th Avenue and Urbana Apartments Project, H.G. Fenton Company, San Diego County, California, 2012–2013.** As supervisor archaeologist, conducted testing and trench excavation prior to construction of project area. Monitored all ground disturbance activities. Collected and recorded any cultural resources.

**Archaeological Testing and Monitoring for the 15th and Market Apartments Project, 15th and Market Investors LLC, San Diego County, California, 2012–2013.** As field director, conducted pre-construction subsoil testing and construction grading and demolition monitoring. Determined if any

significant cultural resources were either present or absent. Recorded and documented any significant structures or features during construction.

**Archaeological Testing for the Sorrento to Miramar Double Track Project, SANDAG, San Diego County, California, 2012.** As field director, conducted on-site water screening and lab processing with archaeological crew.

**Archaeological Survey for the Woodward Project, Helix Environmental Planning, San Diego County, California, 2012.** As field director, conducted Phase I cultural resources survey for future development.

**Archaeological Testing and Monitoring for the North Country Transit District, Sorrento to Miramar Project, ABC Construction, San Diego County, California, 2012.** As field director, conducted test excavation in order to determine if cultural resources were located in construction area. Also conducted construction monitoring.

**Archaeological Testing for the Padre Dam Eastern Service Area Secondary Connection-Alternative Site Location Project, Helix Environmental Planning, San Diego, California, 2012.** As field director, conducted Phase II testing for future installment of reservoir, tanks, and water pumps. Dug shovel test units, used GPS, documented excavation, and supervised field crew.

**Archaeological Evaluation for the Marine Corps Base Camp Pendleton Conjunctive Use Project, MCB Camp Pendleton, San Diego County, California, 2012.** As associate archaeologist, conducted pedestrian survey in order to identify any cultural resources located on Camp Pendleton and Fallbrook boundaries of the area of potential effect.

**Archaeological Monitoring for the Lusardi Creek Restoration Project, Dudek, San Diego County, California, 2012.** As field director, conducted monitoring for the removal of invasive species adjacent to Lusardi Creek. Identified any cultural resources that were uncovered during the removal of invasive plants.

**Archaeological Data Recovery and Monitoring for the Palomar College Mitigation Project, Palomar College District, San Diego County, California, 2012.** As associate archaeologist, conducted controlled excavation units, water screened excavated soil, and lab processed all cultural material found on site.

**Archaeological Data Recovery for the North Country Transit District, Sorrento to Miramar Project, ABC Construction, San Diego County, California, 2012.** As associate archaeologist, conducted controlled unit excavations, water screened soil, and conducted lab processing both in the field and the lab. Client Reference: ABC Construction Co., Inc., 619.239.3428.

**Archaeological Survey and Monitoring for California Department of Transportation (Caltrans) State Route 76 project, Caltrans District 11, San Diego County, California, 2011.** As field director, conducted survey and monitored trenching for proposed State Route 76 road expansion.

**Broadstone Little Italy Archaeological Testing and Monitoring, San Diego Natural History Museum, San Diego County, California.** As lead project archaeologist, conducted both the testing and monitoring during field operations and prepared the initial report for the project.

**Archaeological Survey for the De Luz Pole Replacement Project, SDG&E, San Diego County, California, 2011.** As field director, supervised and conducted cultural surveys for future power pole replacements.

**Archaeological Survey for the LNL UG Gateway, SDG&E, Laguna Nigel, Orange County, California, 2011.** As field director, supervised and conducted surveys for future power pole replacements.

**Archaeological Survey of SDG&E Power Poles, SDG&E, Palomar Mountain, San Diego County, California, 2011.** As field director, conducted preconstruction survey of 19 power poles on Palomar Mountain.

**Archaeological Survey and Monitoring for the Devers Palo Verde 2 Project, Southern California Edison, Riverside County, California, 2011.** As field director, supervised and conducted survey and monitoring for proposed substation location. Coordinated work with Southern California Edison. Marked off areas of culturally sensitive materials.

**Wood-to-Steel Preconstruction Archaeological Surveys for Tie Line Alternative Pole Replacements, SDG&E, San Diego County, California, 2011.** As archaeological field technician, conducted preconstruction survey for future power pole replacements.

**Archaeological Survey and Testing for the East County (ECO) Substation Project. SDG&E**

## Publications

Pham, A. 2011. "Historical and Archaeological Patterns of Water Use in San Diego County: A Case Study of the Whaley House Cistern/Well." Master's thesis; San Diego State University.

# Brad Comeau, MSc, RPA

## Archaeologist

Brad Comeau is an archaeologist with over 13 years' experience as a principal investigator, field director, archaeological monitor, and laboratory technician. He has conducted numerous surveys, evaluation excavations, and data recoveries, primarily in Southern California. He has extensive experience in San Diego County, with additional experience in Riverside County, the Mojave Desert, San Joaquin Valley, and Imperial County, as well as Massachusetts, Arizona, and England. His research interests include the role of experimentation in archaeology, copper production techniques, and lithic production.

**EDUCATION**

University of Sheffield

MSc, Experimental Archaeology, 2012

University of Massachusetts, Amherst
BA, Anthropology, 2004

BA, Italian Studies, 2004

**CERTIFICATIONS**

Register of Professional Archaeologists, 2013

Principal Investigator, Archaeology, State of Nevada

Occupational Health and Safety Administration Hazardous Waste Operations and Emergency Response 40-hour Course, 2011
City of San Diego, Principal Investigator, 2012

**PROFESSIONAL AFFILIATIONS**

Society for American Archaeology, 2012

Bath and Camerton Archaeological Society, 2012

Society for California Archaeology, 2008

## Project Experience

### Energy

**Archaeological Services for the McCoy Solar Energy Project, Blythe, Riverside County, California, 2014-Present.** As Principal Investigator, oversaw and implemented compliance monitoring for construction of the solar field, including archaeological significance evaluations and mitigation, tribal coordination, and documentation, under CEQA, Riverside County guidelines, and Section 106 guidelines; prepared monthly summaries and notifications of discoveries.

**Tule Wind Project, HDR Inc./Avangrid Renewables, McCain Valley, San Diego County, California.** As field director, conducted Class II and Class III intensive pedestrian surveys over 4,900 acres; coordinated multiple survey crews; scheduled and coordinated with Native American monitors; prepared site forms; co-author of ARMR-format report of findings; conducted eligibility testing for one prehistoric site, led a crew of four people, and assisted in producing an ARMR report of findings. Acting as Third Party Reviewer on behalf of the BLM for cultural resources during construction; review work products submitted by the archaeological monitoring contractor (variance requests, work summaries; testing and data recovery plans); attend on site meetings with Tribes.

**California Flats Solar, McCarthy Construction Co., Monterey and San Luis Obispo counties, California.** As Principal Investigator, oversaw and implemented compliance monitoring for construction for a 1300 acre solar project in accordance with CEQA, County, and Section 106 guidelines; prepared weekly summaries and notifications of discoveries; co-author of monitoring report; prepared DPR forms for new discoveries; directed laboratory efforts for collected artifacts**.**

**Imperial Solar Energy Center West, Tenaska Solar Ventures, Imperial County, California.** As Principal Investigator, coordinated monitors and documented post-review discoveries of cultural resources during construction of a 150 MW solar generation facility; edited and implemented a long-term archaeological monitoring plan (LTAMP) for sites within the project alignment; directing annual site visits in order to implement the LTAMP.

**Jacumba Solar Energy Project, NextEra, Jacumba, San Diego County, California.** As principal investigator, directed Phase I, Extended Phase I, and Phase II studies of 304 acre project area; directed a crew of 2-4; coordinated with Tribal monitors; documented, treated, and repatriated human remains in accordance with State law; prepared letter report of Extended Phase I study; lead author of County format CEQA report; lead author of Section 106 ARMR-format report; performed lithic, ceramic, and faunal analysis. Directed cultural resource monitoring efforts during construction of the 100 solar facility; documented discoveries, including human remains, and directed excavation of newly identified features; lead author for monitoring report; directed laboratory analysis.

**Underground Utility District Projects, City of San Diego Transportation and Storm Water Department, San Diego, California.** As co-Principal Investigator, directing archaeological and Native American monitoring of 14 projects involving the installation of underground utility lines; scheduling archaeological and Native American monitors; directed wet-screening of excavated sediments for human remains; attended pre-con meetings; providing scoping requirements for 5 other UUD projects, including archaeological excavations/evaluations;

**Ord Mountain Solar Project, NextEra Energy Resources, Inc., Lucerne Valley, San Bernardino County, California.** As Principal Investigator, directed Phase I archaeological survey of a 60 MW, 484 acre solar project; performed field survey; performed Phase II evaluation of 5 cultural resources; lead author of technical report; assisted the County and project proponent with Tribal consultation.

**Valley Center Solar Project, BayWa, San Diego County, California.** As Principal Investigator, directed archaeological and Native American monitoring for a 25 acre solar project; lead author of final report.

**Granger Solar Project, BayWa, San Diego County, California.** As Principal Investigator, directed archaeological and Native American monitoring for a 27 acre solar project; lead author of final report.

**Peterson Solar Project, BayWa, Kern County, California.** As Principal Investigator, directed archaeological monitoring for initial grading of a 14 acre solar project.

**Joshua Tree Solar Project, NextEra Energy Resources, Inc., Joshua Tree, California.** As Principal Investigator, directed archaeological and Native American monitoring for initial grading of a 20 MW, 115 acre solar project.

**Block 4N (North Encanto) Underground Utility District, City of San Diego Public Works Department, San Diego, California.** As principal investigator, directed archaeological monitoring for the installation of underground utility lines; scheduled archaeological and Native American monitors; prepared monthly summaries and a final monitoring report.

**Desert Green Solar Project, Invenergy LLC, Borrego Springs, San Diego County, California.** As principal Investigator, directed archaeological monitoring for a 50 acre, 5MW solar energy generation facility; scheduled archaeological and Native American monitors; directed excavation of newly discovery resources, including human remains; lead author of technical report.

**Block 8B Sherman Heights Underground Utility District Archaeological Monitoring, City of San Diego Public Works Department, San Diego, California.** As principal investigator, provided internal review of the construction monitoring report prepared by the archaeological subcontractor.

**Kent South Solar Substation, Dashiell Corporation, County of Kings, California.** As primary author, prepared archaeological and paleontological construction monitoring and inadvertent discovery work plan for construction of the substation.

**Tierra del Sol LLC Project, Soitec, LLC, Tierra del Sol, San Diego County, California.** As field director, conducted pedestrian survey and evaluation of the 337-acre Gen-Tie portion of the solar project; directed crew between 2 and 4 people; prepared the Gen-Tie portion of the technical report; provided internal review and editing on entire report based on agency comments; prepared cost and scoping proposal for evaluation phase.

**Rugged Solar Project, Soitec, LLC, Boulevard, San Diego County, California.** Provided internal review and editing of the evaluation report based on agency comments for the evaluation of 39 archaeological sites.

**LanWest Solar Farm Project, Soitec, LLC, Boulevard, San Diego County, California.** Provided internal review and editing based on agency comments of a 231-acre survey report.

**LanEast Solar Farm Project, Soitec, LLC, Boulevard, San Diego County, California.** Provided internal review and editing based on agency comments of a 35-acre survey report.

**Rio Mesa Solar Project, Bureau of Land Management, Riverside County, California.** Contributed to 3rd party review for the Bureau of Land Management of the Phase I pedestrian survey report.

**San Jacinto Solar Project, NextEra, Riverside County, California.** As principal investigator, performed site visit and record search review of project area; prepared constraints analysis assessing the potential for sensitive cultural materials; directed Phase I pedestrian survey of 142 acre project area; prepared negative letter report of findings.

**Occidental of Elk Hills Block Survey II, Occidental Petroleum, Taft, Kern County, California.** As field director, conducted pedestrian survey of 2,560 acres in the Elk Hills Oil Field; led a crew of six people; prepared site forms and site descriptions for technical report.

**Class III Cultural Resources Inventory, Occidental Petroleum, Taft, Kern County, California.** As field director, conducted pedestrian survey of 2,560 acres in the Elk Hills Oil Field; led a crew of six people; performed records search at the Southern San Joaquin Valley Information Center and Bureau of Land Management (BLM) Bakersfield office; prepared site forms and site descriptions for technical report.

**Five Well Pads Cultural Resources Survey, Occidental Petroleum, Kern County, California.** As field director, led a crew of two people for a Class III pedestrian survey of 60 acres near McKittrick, California; performed the record searches at the Southern San Joaquin Valley Information Center and BLM Bakersfield office.

**Vintage Kern Front Inventory, Vintage Production California LLC, Oildale, Kern County, California.** As field director, led a crew of five people for a Class III pedestrian survey of 184 acres in the Kern Front Oil Field; prepared primary record.

**Coso Geothermal Plant Road Survey, BLM, Inyo County, California.** As field director, led a crew of 2 for a Class III pedestrian survey of proposed roads associated with a geothermal plant in southern Inyo County.

**Gildred Solar Cultural Resources Survey, Gildred Building Company, Ocotillo Wells, San Diego County, California.** As field director, led a crew of four for a Class III pedestrian survey of 440 acres; coordinated Native American monitor participation: assisted with preparation of ARMR technical report.

**Silurian Valley West Cultural Resources Study, Iberdrola Renewables, Baker, San Bernardino County, California.** As crew chief, led a crew of four people for a Class II pedestrian survey of 4,500 acres within the project right-of-way; assisted the field director in organizing and scheduling two field crews; trained crew members in operation of Bluetooth-enabled laser range finder.

**TL 637 Survey Santa Ysabel to Creelman, San Diego Gas & Electric, San Diego County, California.** As archaeological monitor, performed pre-construction fielding study with engineers, biologists, and construction managers for an electrical transmission line pole replacement; located previously recorded sites; helped direct new pole locations to avoid site impacts.

**East County Substation Survey, Insignia Environmental, Jacumba, San Diego County, California.** As crew chief, conducted survey of linear electric transmission line; directed a crew of three people; recorded multiple prehistoric and multicomponent sites; prepared site forms and site descriptions for technical report of findings.

**Sunrise Powerlink Evaluations, San Diego Gas & Electric, San Diego and Imperial Counties, California.** As field director, conducted subsurface testing of 17 sites; directed a crew ranging from three to six people; helped organize laboratory artifact processing.

**Devers–Palo Verde 2 Survey, Southern California Edison, Riverside County, California.** As field director, conducted Class III intensive survey of selected portions of a transmission line area of potential effect (APE); relocated and updated previously recorded sites; identified and recorded new sites.

**Colorado River Staging Yard Survey, Southern California Edison, Riverside County, California.** As crew chief, conducted Class III pedestrian survey of the Colorado River Staging Yard for the Devers–Palo Verde 2 electric transmission line near Blythe; identified and recorded numerous World War II–era sites relating to the Desert Training Center; led a crew of two people.

**Sunrise Powerlink Survey and Monitoring, San Diego Gas & Electric, San Diego and Imperial Counties, California.** As crew chief, led survey crew of four people and two Native American monitors for Class III survey of project APE; coordinated with Native American monitors; created survey schedules in conjunction with the field director and right-of-way agents.

## Development

**Otay Ranch Village 14 and Planning Areas 16/19 Project, Jackson Pendo Development Company, San Diego County, California.** As Principal Investigator, directed Phase II evaluation of over 50 archaeological sites within the ADI for both the primary project and one alternative; performed lithic, ceramic, and groundstone analysis; lead-author of stand-alone combined Phase I and II County-formatted technical reports for the main project and the alternative; participated in on-site tribal consultation meetings with the County, project proponent, and Tribes.

**Discovery Village South Project; City of San Marcos, San Marcos, California.** As Principal Investigator, directed archaeological survey of 39 acres residential subdivision; directed evaluation excavations of five archaeological sites; co-author of technical report.

**DD Mine Project, Mitchel Chadwick, San Bernardino County, California.** As Principal Investigator, directed Phase I archeological survey of 600 acre mining site; performed Phase II evaluation of one historic-era archaeological site.

**San Miguel Commercial Development Project, SimonCRE Inc., San Luis Obispo County, California.** As Principal Investigator, directed survey of 1 acre project area; prepared scope and budget; lead author of survey report; directed archaeological and Native American monitoring during construction; lead author of monitoring report.

**Kettner Lofts Project, Citymark Development, San Diego, California.** As co-Principal Investigator, directed archaeological survey and monitoring for a 6-story residential building; co-author of survey report and monitoring reports; assisted in preparation and implementation of the testing plan.

**Pinon Hills Commercial Development Project, SimonCRE Via Soleri II, Inc., San Bernardino County, California.** As Principal Investigator, directed survey of 1.7 acre project area; prepared scope and budget; co-author of survey report.

**Truckee High School Track and Field Improvements Project, Tahoe-Truckee Unified School District, Truckee, California.** As Principal Investigator, directed Phase I inventory of QQ acre improvements to the high school track and field facilities and associated

**Palm Avenue Distribution Project, IDS Real Estate Group, City of San Bernardino, California.** As Principal Investigator, directed archaeological/paleontological monitoring for the construction of a warehouse facility on a 37 acre parcel; directed evaluation excavation of newly discovered prehistoric site; lead author of monitoring report.

**North Eastern Sphere Annexation Area, Sargent Town Planning, Inc., Rancho Cucamonga, California.** As Principal Investigator, directed Phase I inventory of 1500 acre parcel; co-author of technical report; performed field director duties for a portion of the survey.

**Five Lagunas Project, Merlone Geier Management, LLC, City of Laguna Hills, California.** As Principal Investigator, directed Phase I inventory of a 68 acre redevelopment project; prepared Phase I negative letter report documenting findings.

**Yorba Avenue Industrial Project, Pacific Industrial, Inc., City of Chino, California.** As co-Principal Investigator, managed cultural resource inventory for an 11 acre warehouse development project.

**888 N. Sepulveda Blvd. Specific Plan Project, El Segundo, California.** As Principal Investigator, coordinated Native American monitors during ground disturbing activities for the construction of a 5-story hotel; prepared a monitoring report in compliance with CEQA and the mitigation measures adopted for the project.

**Mira Loma Commerce Center, Western Realco, Jarupa Valley, Riverside County, California. As** Principal Investigator, directing cultural and paleontological monitoring for the construction of two commercial buildings on 31 acres; coordinated with Tribal monitors; lead author of technical report.

**SCE Bishop Service Center, Elements Architecture, City of Bishop, Inyo County, California.** As principal investigator, conducted a Phase I pedestrian survey of a 20 acre parcel; performed records search; prepared site forms and ARMR-format technical report in accordance with CEQA; directed archaeological and Native

American monitoring of construction grading; directed additional survey for off-site improvements; prepared revised ARMR-format technical report for Caltrans.

**Winchester 1800 Project, Van Daele Development Corporation, French Valley, Riverside County, California.** As principal investigator, directed a Phase I pedestrian survey for a 40 acre residential subdivision; primary author of ARMR-format technical report in accordance with County guidelines.

**Lone Oak Road Project, Hunsaker & Associates, San Diego, Inc., San Diego County, California.** As Principal Investigator, directed a Phase I cultural resource inventory for a 14 acre residential subdivision development; coordinated with Native American subcontractor; prepared negative letter report.

**Newland Sierra Project, Newland Sierra, LLC, San Diego County, California.** As principal investigator, directed Phase I pedestrian survey of on-site and off-site impact areas of a 1,985 acre residential and commercial subdivision; directed Phase II evaluation excavation of one significant archaeological site; participated in multiple on-site and off-site Tribal consultation meetings with the County, Tribes, and project proponent; initiated re-analysis of existing collections; co-author of revised technical report; performed lithic, groundstone, and ceramic analysis; discovered and treated human remains in accordance with state law.

**Alessandro Business Park Project, Western Realco, City of Riverside, Riverside County, California.** As primary author, prepared archaeological monitoring report, including discovery evaluation results for seven new archaeological sites. Prepared DPR forms.

**The Vineyard, Van Daele Development Corporation, Temecula, Riverside County, California.** As principal investigator, directed archaeological monitoring for construction of a 25 acre residential development; prepared a monitoring and unanticipated discoveries work plan; prepared negative monitoring letter report.

**Shearwater Creek Project, City of Temecula, Temecula, Riverside County, California.** As principal investigator, performed all aspects of a Phase 1 cultural resource study for a 7 acre residential development project; performed pedestrian survey; coordinated with Native American monitors and Tribal representative in regards to a sacred resource in the project area; primary author of the ARMR-format technical report.

**Arbor Vista Cluster Residential Project, City of Temecula, Temecula, Riverside County, California.** As principal investigator, conducted all aspects of a Phase I pedestrian survey for archaeological and paleontological resources for a 72-acre parcel; directed a crew of two people; primary author ARMR-format technical report of findings, including summation of paleontological resources.

**Navy Federal Credit Union Project, City of Temecula, Temecula, Riverside County, California.** As principal investigator, conducted Phase I pedestrian survey for archaeological and paleontological resources; lead author of ARMR-format report; prepared all archaeological portions of technical report and contributed to the paleontological portions; performed background research into historic context of the project area, incorporating results into the report.

**Artesian Road Project, The Harwood Group, Rancho Santa Fe, San Diego County, California.** As principal investigator, directed a Phase I cultural resource study for a 25 acre residential project; coordinated field crew schedule and tribal monitor; primary author of ARMR-format report according to County guidelines; performed background research into historic context of the project area, incorporating results into the report.

**Martin Residence Project, HAA Architects, Carlsbad, San Diego County, California.** As principal investigator, performed all aspects of a Phase 1 cultural resource study for a 1 acre residential development project within a known archaeological site; instructed staff and provided quality control oversight in the preparation of the ARMR-format technical report.

**St. John Garabed Church Project, San Diego County, California.** As field director, conducted site examinations and limited shovel test pit excavation for an Extended Phase 1 survey; directed a crew of two people; prepared a letter report of findings.

**Rhodes Crossing Update, Rhodes Properties, San Diego, California.** As field director, led a crew of two people for a Class III pedestrian survey of 88 acres; coordinated Native American monitor participation; assisted with preparation of Archaeological Resource Management Report (ARMR).

**Palomar Station Project Survey, Integral Communities Inc., San Marcos, San Diego County, California.** As field director, conducted Class III pedestrian survey of 14.5-acre parcel and prepared ARMR technical report of findings.

**Gregory Canyon Landfill Environmental Impact Statement PHI Assessments, PCR Services Corporation, Pala, San Diego, California.** As field director, conducted pedestrian survey of proposed landfill; relocated and verified previously recorded sites; led a crew of four people; coordinated with Native American monitors; prepared site forms and site descriptions for ARMR report.

**Robertson Ranch East Excavation, The Corky McMillin Companies, Carlsbad, San Diego County, California.** As field director, conducted controlled grading of two prehistoric sites that required directing excavation activities of multiple types of heavy machinery; led excavation of numerous roasting pit features by a crew of up to 20 people; instructed crew in carbon-14, thermoluminescence, and soil floatation sampling techniques.

**Sky Ranch Monitoring, Lennar, Santee, San Diego County, California.** As archaeological monitor, monitored mass grading activities for construction of a subdivision.

**Sky Ranch Data Recovery, Lennar, Santee, San Diego County, California.** As crew chief, conducted data recovery excavation of two prehistoric sites; led a crew of up to eight staff; drew site maps and unit profiles; collected carbon-14 and soil floatation samples.

**4S Ranch Data Recovery, 4S Ranch Company, Rancho Bernardo, San Diego County, California.** As field technician and crew chief, conducted Phase III data recovery of a large Late Prehistoric site; excavated numerous hearth features; drew site maps and unit profiles; created a site grid for unit placement; collected carbon-14 and soil floatation samples.

**Atlas Monitoring and Excavation, D. R. Horton, San Diego County, California.** As archaeological monitor, monitored building/subterranean parking structure excavation; excavated historic deposits.

**The Rock Academy Monitoring, The Rock Church, San Diego, California.** As archaeological monitor, monitored building foundation excavation, trenching, and building demolition.

**Otay Business Park Project, Paragon Management Company, LLC, San Diego County, California.** As field technician, excavated 10 prehistoric and multi-component sites as part of a Phase II evaluation project.

**Vantage Point, Point of View Monitoring LLC, San Diego County, California.** As archaeological and paleontological monitor, monitored excavation, drilling, and other construction activities during the excavation of a subterranean parking garage and building footings. Recorded and collected artifacts and marine fossils.

**Audie Murphy Ranch Monitoring, Woodside Homes, Sun City, Riverside County, California.** As archaeological monitor, monitored controlled grading of five sites in collaboration with Native American monitors; excavated hearth features; monitored construction grading.

**Roberston Ranch Data Recovery, The Corky McMillin Companies, Carlsbad, San Diego County, California.** As field technician, excavated four prehistoric sites as part of a data recovery program, including test unit excavation, wet screening, drawing and photographing profiles, excavating hearth and pit features, and artifact sorting.

**LaPozz No. 5 Lode Evaluation, Enviroscientists, Indian Wells Valley, Kern County, California.** As field director, led a crew of four people for an evaluation testing program of three prehistoric sites; prepared site form updates and site testing results for the ARMR technical report.

**Faraday Data Recovery, Carlsbad, San Diego County, California.** As field technician, excavated five prehistoric sites as part of a data-recovery program, including test unit excavation, drawing profiles, wet screening, and sorting artifacts.

## Education

**San Onofre Elementary School Project, Roesling Nakamuna Terada Architects, Inc., San Clemente, Orange County, California.** As Principal Investigator, prepared cultural resources survey report for a 23 acre school redevelopment project.

**Academy of Our Lady of Peace Parking Garage Project, T.B. Penick & Sons, Inc., San Diego, San Diego County, California.** As principal investigator, directed archaeological and Native American monitoring for construction of a new parking garage; conducted evaluation excavation of a newly discovered historic deposit; directed laboratory analysis; lead author of technical report; coordinated paleontological monitoring subcontractor.

**San Elijo Hills K-9$^{th}$ Grade Campus Project, San Marcos Unified School District, San Marcos, San Diego County, California.** As principal investigator, conducted all aspects of a Phase I pedestrian survey for a 36-acre school; prepared letter report summarizing findings.

**Palomar College 7 Building Historic Evaluation, Palomar Community College District, San Marcos, San Diego County, California.** As Global Positioning System (GPS) technician and photographer, assisted architectural historians in recording potentially historic buildings; photographed and recorded buildings with Ricoh digital camera, range finder, and Trimble GeoXH GPS.

**University House Excavation, University of California, San Diego, San Diego County, California.** As crew chief, conducted Phase II test excavation using wet screening; led a crew of five people.

**San Marcos Unified School District Monitoring, San Marcos Unified School District, San Diego County, California.** As archaeological monitor, monitored transplanting of endangered species by biologists prior to construction grading of site.

**Desert Sands Unified School District (DSUSD) High School Monitoring, DSUSD, Indio, Riverside County, California.** As archaeological monitor, monitored grading for construction of a new high school and related facilities.

**Maranatha Excavation, Maranatha Christian School, Rancho Bernardo, San Diego County, California.** As field technician, excavated test units for a Phase III data recovery of an archaic period site; drew unit profiles; sorted artifacts.

## Federal

**Bunker Hill Survey, GSR Corporation, Imperial Beach, San Diego County, California.** As field director, conducted Class III pedestrian survey of a road improvement and fence construction covering 7.6 acres for the border fence; directed a crew of two people; recorded a previously identified site for a future nomination to the National Register of Historic Places; prepared site form update; prepared ARMR technical report of findings.

**Imperial County Drill Sites Survey, United States Geological Survey, Imperial County, California.** As field director, conducted survey of two water well drilling sites; coordinated U.S. Border Patrol escort; prepared ARMR technical report of findings.

**BLM Western Expansion Survey, TEC Environmental, Johnson Valley, San Bernardino County, California.** As crew chief, surveyed various locations throughout the BLM Johnson Valley off-highway vehicle area; identified and recorded new sites; coordinated survey schedule with the field director.

**Border Fence Project Survey and Monitoring, U.S. Army Corps of Engineers, San Diego County, California, and Pima, Santa Cruz and Cochise Counties, Arizona.** As archaeological monitor, monitored construction of the U.S./Mexico border fence; surveyed locations of proposed construction activity; mapped new archaeological sites; directed construction activities away from archaeological resources.

## Military

**Tortoise Fence Installation Project, Tetra Tech, Inc., Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, San Bernardino County, California.** As Principal Investigator, directed archaeological monitoring during construction of exclusionary tortoise fencing around the western and southern expansion areas of the base for tortoise relocation; documented new isolates;

**Camp Wilson Utility Upgrades Project, RQ Construction, Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, San Bernardino County, California.** As co-Principal Investigator, directed archaeological monitoring efforts for demolition and upgrading utility lines at Camp Wilson, including water, stormwater, gas, sewer, and electric lines.

**Fort Irwin Solar Project, Soitec LLC, Fort Irwin, San Bernardino County, California.** As principal investigator, directed pedestrian survey of 12 acres for a proposed solar generation facility; also prepared the technical report.

**Level 3 Powerline Road Fiber-Optic Project, HP Communications Inc., Fort Irwin, San Bernardino County, California.** As principal investigator, conducted intensive pedestrian survey of approximately 10 acres; also prepared the ARMR technical report of findings.

**Naval Air Weapons Station (NAWS) Road Survey, Naval Facilities Engineering Command (NAVFAC) Southwest, Ridgecrest, Inyo, San Bernardino, and Kern Counties, California.** As field director, conducted Class III pedestrian survey of approximately 129 miles of existing roads; led a crew of four people; scheduled and coordinated with Explosive Ordnance Disposal escorts; prepared ARMR technical report of findings.

**NAWS Fiber-Optic Survey, Epsilon Systems Solutions, Ridgecrest, San Bernardino County California.** As crew chief, conducted Class III pedestrian survey for a proposed fiber-optic line; led a crew of two people; assisted the field director with scheduling.

**Delivery Order (DO) 30 Survey, NAVFAC Southwest, Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, San Bernardino County, California.** As crew chief, surveyed numerous proposed landing zones throughout MCAGCC; coordinated scheduling/training area access with the field director; prepared site forms and site descriptions for ARMR report.

**53 Aerial Maneuver Zone (AMZ) Survey, NAVFAC Southwest, MCAGCC Twentynine Palms, San Bernardino County, California.** As crew chief, surveyed numerous proposed landing zones throughout MCAGCC Twentynine Palms; coordinated scheduling/training area access with the field director; prepared site forms and site descriptions for ARMR report.

**Southwest Division (SWDIV)-04/DO 27 Survey, NAWS China Lake, NAVFAC Southwest, Ridgecrest, Inyo County, California.** As field technician, participated in a Class III intensive survey under Section 106 of National Historic Preservation Act; operated a Trimble GeoXH for navigation and site recording.

## Resource Management

**Dry Canyon Munition Response and Remediation.** As Principal Investigator, directed archaeological monitoring for unexploded ordinance (UXO) sampling and remediation; prepared site forms for updated and newly discovered sites and isolates; prepared ARMR-formatted technical report for the USACE.

**Ground Penetrating Radar Study at the Vista Canyon Project, Santa Clarita, California.** Conducting a GRP survey of the Mitchell Family Cemetery (in progress).

**St Algar's Farm Geochemical Testing, English Heritage, Frome, Somerset, United Kingdom.** As student volunteer, helped perform a pXRF field survey of a Roman-era glass and metalworking site; excavated a 5-by-5-meter trench.

## Transportation

**Old Otay Mesa Road Widening Project, City of San Diego, San Diego, California.** As principal investigator, directed archaeological and Native American monitoring for construction of a 2-to-4 lane road widening project; prepared final report of findings.

**Mid-Coast Rail Project, PGH Wong Engineering, Inc./AECOM, San Diego, California.** As principal investigator, directing archaeological and Native American monitoring of four concurrent railroad projects over multiple years, including double tracking of an existing railroad, installation of new light rail lines, and construction of new bridges; responsible for ensuring compliance with multiple agencies under CEQA and Section 106.

**San Elijo Lagoon Double Track Project, AECOM, Solana Beach and Encinitas, California.** As principal investigator, directing archaeological and Native American monitoring during construction of double tracking an existing railroad, responsible for ensuring compliance with multiple agencies under CEQA and Section 106; directed field excavation of one new archaeological discovery.

**San Onofre to Pulgas Double Track Project, PGH Wong Engineering, Inc., San Diego County, California.** As principal investigator, directing cultural, paleontological, and Native American monitoring of installation of second railroad track through Camp Pendleton; prepared monitoring and inadvertent discovery work plan; attended weekly construction meetings; preparing weekly monitoring schedules for all monitors, including multiple Native American Tribes; conducted evaluation excavations for two new discoveries identified during monitoring; prepared letter report summarizing discovery evaluations; prepared final mitigation monitoring and discovery report.

**Ortega Interchange Project, RBF Consulting, San Juan Capistrano, Orange County, California.** As principal investigator, directed archaeological and Native American monitoring for construction of a freeway interchange; prepared letter report of findings.

**Palomar Station Project Survey, Integral Communities Inc., San Marcos, San Diego County, California.** As field director, conducted Class III pedestrian survey of 14.5-acre parcel and prepared ARMR technical report of findings.

## Water/Wastewater

**Cultural Resource Inventory for the Barrett Reservoir, City of San Diego Public Utilities Department, San Diego County, California.** As principal investigator, directed a Phase I archaeological survey of lands recently exposed within the high-water line of the lake due to water level draw down; documented over 30 new archaeological sites; lead author of ARMR-format survey report, including recommendations to treat and prevent on-going impacts to the sites, including looting; collected selected surface artifacts potentially at risk of looting; coordinated Native American monitor.

**Little Lake MDP Line B, Stage 1 Project, Riverside County Flood Control and Water Conservation District, Riverside County, California.** As principal investigator, directing archaeological and Native American monitoring for a new underground pipeline (in progress).

**Tijuana River Valley Channel Maintenance, City of San Diego, San Diego County, California.** Assumed responsibility of principal investigator during project implementation from anther contractor; coordinated archaeological and Native American monitoring; prepared negative monitoring report; prepared budget for services.

**Cultural Resource Inventory for the Morena Reservoir, City of San Diego Public Utilities Department, San Diego County, California.** As principal investigator, directed a Phase I archaeological survey of lands recently exposed within the high-water line of the lake due to water level draw down; documented 27 new archaeological sites; lead author of ARMR-format survey report, including recommendations to treat and prevent on-going impacts to the sites, including looting; collected selected surface artifacts potentially at risk of looting; coordinated archaeological subcontractor and Native American monitor; presented findings to City and County Parks representatives to institute actions to prevent looting.

**Bear River Restoration at Rollins Reservoir Project, Nevada Irrigation District, Nevada and Placer Counties, California.** As contributing author, prepared ARMR-format report for 75 acre Phase I pedestrian survey for compliance with CEQA and Section 106 of the NHPA.

**Huntington Beach Beach Blvd. Sewer Improvements Project, Civil Source, Huntington Beach, Orange County, California.** As principal investigator, directed archeological and Native American monitoring for the installation of a 1 mile sewer line; prepared letter report of findings.

**Plano Force Main Project, Santa Margarita Wastewater District, City of Rancho Santa Margarita, Orange County, California.** As principal investigator, prepared a constraints analysis for the relocation of an existing force main; reviewed records search results and contacted Native American tribes to assess the potential for cultural resources in the project are; prepared a letter report of findings and recommendations.

**Clay Canyon Sewer Pipeline Project, Lee Lake Water District, Riverside County, California.** As principal investigator, directed a Phase I pedestrian survey for a 200 ft. pipeline installation; prepared letter report of findings.

**Recycled Water MNDs, El Toro Water District, Orange County, California.** As principal investigator, directed cultural and paleontological monitoring of a water pipeline installation project; coordinated field monitor; prepared technical report.

**Water Recycling Monitoring, San Clemente Water District, San Clemente, Orange County, California.** As principal investigator, directed cultural and paleontological monitoring of a water pipeline installation project; coordinated field monitor; prepared technical report.

**Carlsbad Desal Plant Project, Poseidon Resources, Carlsbad, California.** As principal investigator, directed cultural and paleontological monitoring for the water pipeline portion of the project; coordinated and scheduled archaeological and Native American monitors; providing oversight and coordination for paleontological monitoring subcontractor; prepared letter report for Plant portion of the project; performed Phase I inventory for the Intake/Discharge modification, including preparation of negative letter report.

**Newhall County Water District Sewer Relocation Project, Alliance Engineering, Santa Clarita, Los Angeles County, California.** As principal investigator, directed a Phase I pedestrian survey of 13.4 acre sewer line project; prepared ARMR-format report in compliance with CEQA and Section 106 of the NHPA; prepared DPR site record updates.

**30" ETM Replacement at San Juan Creek, Moulton Niguel Water District, San Juan Capistrano, Orange County, California.** As principal investigator, prepared a constraints analysis for water main installation project; prepared a records search review and tribal outreach to assess the potential for cultural resources; prepared a letter report of findings.

**Poseidon Wetland Mitigation Project, Poseidon Resources, Inc., Imperial Beach, San Diego County, California.** As principal investigator, conducted all aspects of a Phase II evaluation of three prehistoric archaeological sites; performed ceramic analysis for report; prepared technical report of findings as lead author.

**Buena Vista Creek Enhancement Project, City of Vista, Vista, San Diego County, California.** As principal investigator, conducted all aspects of a Phase I pedestrian survey for archaeological resources; prepared technical report of findings.

**Construction Monitoring for the Pipeline 3 Desalination Relining and Pipeline 4 Vent Modifications Project, San Diego County Water Authority, San Diego County, California.** As principal investigator, conducted all aspects of a Phase I pedestrian survey for archaeological resources; prepared letter reports summarizing findings of each project component.

**MWD Upper Newport Backbay EIR, Metropolitan Water District, Newport Beach, Orange County, California.** Requested and reviewed records search for the project area for inclusion in the project EIR.

**Wastewater Pipeline Improvement Project, City of South Pasadena, Los Angeles County, California.** As principal investigator, conducted all aspects of a constraints analysis for a City-wide pipeline rehabilitation and replacement project; performed a limited pedestrian reconnaissance of selected pipeline segments; prepared letter report of findings.

**Temescal Canyon and Dawson Canyon Pipelines and Non-Potable Water Tank Project, Lee Lake Water District, Riverside County, California.** As principal investigator, performed Phase I intensive pedestrian survey of the project APE; also prepared letter report of findings.

**Padre Dam Data Recovery, Padre Dam Municipal Water District, Lakeside, San Diego County, California.** As field director, conducted a data recovery project of a late prehistoric site using wet screening; led a crew of six; coordinated with Native American monitors; performed shell and ceramic lab analysis studies.

## Training/Continuing Education

**Desert Geomorphology for Archaeologists. National Center for Preservation Technology and Training , Friends of the NCPTT, and the Desert Research Institute. Las Vegas, NV. May 2015.** Five day instructional course on the principals and practices of geomorphology, including field visits.

**Ground Penetrating Radar: Principals, Procedures, and Application. A 3 Day GPR Short Course. Sensors & Software, Inc., Toronto, Canada. May 2015.** Instructed in operation and survey design of multiple GPR devices; participated in in-field training with equipment; instructed in data processing and interpretation.

**Introduction to Ceramic Petrography, University of Sheffield, Sheffield, United Kingdom, September 2016.** Six day instructional course on the theories, methods, and applications of ceramic petrography to archaeological collections.

## Publications

### Professional Presentations

*Dry Run on a Dry Well: An Experimental Investigation of Sintashta Metallurgy*. Paper presented at the 78th Annual Meeting of the Society of American Archaeology. 2013. Lead author.

*Time, Space and Place: The Potential of Time/Geography, Geophysical, and Geochemical Approaches for Capturing Experimental Engagement*. Paper presented at the 78th Annual Meeting of the Society of American Archaeology. 2013. Co-author.

*Finding the Smith in Hammerscale Palais: Investigations at an Experimental Iron Production Site*. Poster presented at the 39th International Symposium on Archaeometry 2012. Co-author.

*Archaeological Investigations at Site CA-SDI-10,611: A Functional and Temporal Analysis of Subterranean Pit Features In Northern San Diego County*. Presented at Society for California Archaeology Annual Meeting 2008. Co-author.

*The Burghardts of Great Barrington: The View from the W.E.B. Du Bois Boyhood Homesite*. Presented at the Society for Historical Archaeology Conference 2005. Co-author.

### Professional Publications

Comeau, B., L.M. Cheesman, J.L. Slater, and R.C.P. Doonan.

2014 Out of the Furnace and into the Field: Reconceptualising Metallurgical Processes as Practice. *Proceedings of the 39th International Symposium for Archaeometry, Leuven*. Center for Archaeological Sciences: Leuven, Belgium. pp.293-301.

### Master's Dissertation

2012 *Investigating Metallurgical Practice: An Experimental Study of the Sintashta Well-Tunnel-Furnace (WTF) from the Middle Bronze Age, Siberia, Russia*. University of Sheffield.

## Volunteer History

**2012 Student Placement, English Heritage, Portsmouth, United Kingdom.**

## Awards/Commendations

**1999–2003 Francis Ouimet Scholar**

## Relevant Previous Experience

- **2012–present Archaeologist, Dudek, Encinitas, California**
- **2009–2011 Associate Archaeologist, ASM Affiliates Inc., Carlsbad, California**
- **2008–2009 Archaeological Monitor, E²m, Denver, Colorado**
- **2008 Archaeological Monitor/Field Technician, URS Corporation, San Diego, California**
- **2005–2008 Field Supervisor, Brian F. Smith and Associates, Poway, California**
- **2003–2004 Field/Lab Technician, University of Massachusetts Archaeological Services, Amherst, Massachusetts**
- **2003 Field School in Archaeology, University of Massachusetts Amherst/Great Barrington, Massachusetts.**

# Micah Hale, PhD, RPA

## Senior Archaeologist

Micah Hale is Dudek's cultural resources practice manager and lead principal investigator, with technical expertise as a lithic and groundstone analyst, invertebrate analyst, and in ground penetrating radar. Over the course of his 19-year career, Dr. Hale has served as a principal investigator in the public and private sector for all levels of archaeological investigation, as a public outreach coordinator and as an assistant professor at the University of California, Davis (U.C. Davis). As Dudek's cultural resources practice manager, he currently functions as a principal investigator in project oversight including proposals, research designs, fieldwork, artifact analysis, and report authorship.

**EDUCATION**

University of California, Davis
PhD, Anthropology, 2009

California State University, Sacramento
MA, Anthropology, 2001

University of California, Davis
BS, Anthropology, 1996

**CERTIFICATIONS**

Register of Professional Archaeologists (RPA), 2001

**PROFESSIONAL AFFILIATIONS**

Society for American Archaeology

Society for California Archaeology

Antelope Valley Archaeological Society

San Diego Archaeological Society

Dr. Hale's experience is both academic and professional spanning California, Arizona, Nevada, and Oregon, including work for Naval Facilities Engineering Command (NAVFAC) Southwest, California Department of Transportation (Caltrans), Western Area Power Administration, Bureau of Land Management (BLM), U.S. Army Corps of Engineers (ACOE), U.S. Fish and Wildlife Service (USFWS), California State Parks, various city and county agencies, and directly for Native American groups. Dr. Hale has supervised numerous large-scale surveys, test excavations, data recovery programs, and geoarchaeological investigations, served as a third party review consultant, and an expert witness in legal proceedings. He has authored research designs, management and treatment plans, proposals, preliminary and final reports, and technical analyses. Dr. Hale has integrated his personal research interests into projects and participated in professional symposia at local and national venues, including the Society for American Archaeology and the Society for California Archaeology. Additionally, he has conducted academic research in the Polar Arctic, Greenland. Dr. Hale's current focus is on hunter-gatherer archaeology of California and the Great Basin, applying theoretical premises of cultural evolution and human behavioral ecology.

## Project Experience

### Development

**Phase II Archaeological Data Recovery for the Newland Homes Sierra Project, San Diego County, California.** As project manager and principal investigator, supervising data recovery investigations at two significant prehistoric archaeological sites and historic archival research of a homestead in support of the Newland Sierra Environmental Impact Report (EIR). (2013-present)

**Phase I Archaeological Inventory and Phase II Archaeological Evaluation for the Yokohl Ranch Project, Tulare County, California.** As project manager and principal investigator, supervised completion of 12,000 acre survey and archaeological evaluation of 85 prehistoric and historical archaeological sites in support of the Yokohl Ranch EIR. (2012-2013)

**Phase I Inventory and Phase II Cultural Resources Evaluation for the Star Ranch Project, RBF Consulting, San Diego County, California.** As project manager and principal investigator, supervised CEQA inventory and evaluation for private development. (2011)

**Phase II Archaeological Evaluation of Two Prehistoric Sites, Torrey Pines Glider Port, San Diego County, California.** As project manager and principal investigator, supervised CEQA evaluation of two prehistoric archaeological sites for the Torrey Pines City Park General Development Plan. (2012)

**Data Recovery of One Prehistoric Site for the Rhodes Property, Sea Breeze Properties, San Diego County, California.** As project manager and principal investigator, supervised CEQA compliant data recovery of a large prehistoric site for a residential development.

**Archaeological Survey of the Paramount Mine Exploratory Drilling Project, Essex Environmental, Mono County, Nevada.** As principal investigator and field director, conducted archaeological survey for mining exploration and prepared the technical report. (2006)

**Phase I Inventory of 1,544 Acres and Phase II Evaluation of Archaeological Sites along the Western and Northwestern Boundaries, Edwards Air Force Base, Kern County, California.** As field director, supervised a Phase I inventory of 1,544 acres. Recorded 30 new archaeological sites, more than a dozen "sub-modern" refuse dumps, and a variety of isolate finds. Notable sites include several early Holocene lithic scatters (Lake Mojave-, Silver Lake-, and Pinto-age deposits), a rhyolite lithic quarry, and a complex of historic dumps associated with homesteading activities around Lone Butte. (2005)

**Archaeological Survey of the La Mesa Meadows Residential Development Project, Helix Environmental, San Diego County, California.** As principal investigator, conducted a survey of a proposed residential development in San Diego County. (2005)

**Pankey Ranch Testing, Pardee Homes, Northern San Diego County, California.** As field director, supervised excavation of shovel test pits to delineate the boundaries of site CA-SDI-682, the prehistoric village of Tom-Kav. Managed field personnel, conducted excavation, and wrote portions of technical report. (2004)

**Oceanside Hilton EIR, Dudek Associates, Oceanside, San Diego County, California.** As principal investigator and field director, conducted a survey of the proposed Hilton Hotel at the eastern end of Buena Vista Lagoon in Carlsbad and prepared portions of technical report for an EIR. (2004)

**Data Recovery of Locus O, Star Canyon Development, Agua Caliente Band of Cahuilla Indians, Palm Springs, Riverside County, California.** As field director, supervised field crews for data recovery mitigation of an archaeological deposit and human remains near Tahquitz Canyon. Coordinated with Native American representatives and prepared portions of the technical report. (2004)

**Linda Vista Survey, City of San Marcos Planning Department, San Diego County, California.** As field director, conducted a Phase I cultural resource inventory of the proposed road realignment in San Marcos. Prepared technical reports and made recommendations for additional work to be done within the project area. (2003)

**Archaeological Monitoring for Williams Communications Fiber-Optic Line, Jones and Stokes Associates, San Luis Obispo and Bakersfield, Kern and San Luis Obispo Counties, California.** As resource monitor/Native American coordinator, conducted archaeological monitoring for a fiber-optic cable installation project that spanned 180 miles from San Luis Obispo to Bakersfield. Identified and

protected archaeological resources in the project area in compliance with state and federal regulations. Managed Native American monitors and coordinated daily work with construction and environmental staff to facilitate project completion. (2001)

**Subsurface Survey of a Proposed Bicycle Path Along the Columbia River Slough in Northwest Portland, City of Portland, Multnomah County, Oregon.** As field archaeologist, conducted auger testing in a variable north-to-south transect at 30-meter intervals, and unit mapping. (2000)

**Phase II Test Excavations, AT&T, Portland, Multnomah County, Oregon, and Vancouver, Clark County, Washington.** This project determined the presence and condition of any cultural resources in the project areas that were situated on the northern and southern sides of the Columbia River in Washington and Oregon. (1999)

**AT&T Cable Removal Project, Jones and Stokes Associates, Taft to Los Angeles, Kern and Los Angeles Counties, California.** As field archaeologist, conducted a survey to determine archaeological impact by the removal of a lead-lined subsurface cable. (1998)

## Education

**Data Recovery for the Palomar North and Meadowood Projects, Palomar College, San Diego County, California.** As principal investigator, supervised Section 106 and CEQA-compliant data recovery of the ethnohistoric village of Tom-Kav. Expert witness for litigation of archaeological work for the client. (2012)

**Data Recovery Excavations in Advance of Geotechnical Coring at W-12, University of California San Diego (UCSD), San Diego County, California.** As project manager and principal investigator, supervised data recovery excavations in a midden dated as early as 9,600 years before present. (2009)

**Archaeological Test Excavations at Selected Sites on Vandenberg Air Force Base, University of California, Davis, Lompoc, Santa Barbara County, California.** As principal investigator and field director, supervised and instructed 21 students for the 2008 U.C. Davis Field School. (2008)

**Archaeological Survey and Excavations in the Polar Arctic, University of California Davis, Northwest Greenland.** As researcher, conducted a project for the National Science Foundation, National Geographic, and the Inglefieldland Polar Archaeology Expedition; U.C. Davis. (2006)

## Energy

**Phase II Evaluation of 19 Archaeological Sites for Soitec's Tierra Del Sol Solar Project, San Diego County, California.** As principal investigator, oversaw and implemented significance evaluations, including fieldwork and documentation, under CEQA and San Diego County guidelines within the development footprint. (2012-2013)

**Phase II Evaluation of 42 Archaeological Sites for Soitec's Rugged Solar Project, San Diego County, California.** As principal investigator, oversaw and implemented significance evaluations, including fieldwork and documentation, under CEQA and San Diego County guidelines within the development footprint. (2012-2013)

**Class III Cultural Resources Inventory for the Level 3 Fiber Optic Installation Project, Fort Irwin Army Reserve and BLM, San Bernardino County, California.** As Project manager and co-principal

investigator, oversaw and implemented cultural resource inventory of fiber optic corridor and recordation and evaluation of contributing elements to the NRHP-eligible LADWP transmission line corridor. (2012-2013)

**Third Party Compliance Monitoring for the Ocotillo Wind Energy Farm, Ocotillo, Imperial County, California.** As principal investigator, oversaw and implemented compliance assistance to the BLM to ensure adherence to mitigation measures and proper treatment of cultural resources. (2012-2013)

**Third Party Compliance Monitoring for the Tule Wind Project, San Diego County, California.** As principal investigator, oversaw and implemented compliance assistance to the Bureau of Land Management to ensure adherence to mitigation measures and proper treatment of cultural resources. (2012-2013)

**Third Party Compliance Monitoring for the East County Substation Project, San Diego County, California.** As principal investigator, oversaw and implemented compliance assistance to the BLM and California Public Utilities Commission (CPUC) to ensure adherence to mitigation measures and proper treatment of cultural resources. (2012-2013)

**Third Party Compliance Monitoring for the Rio Mesa Solar Project, Riverside County, California.** As principal investigator, oversaw and implemented compliance assistance to the BLM to ensure adherence to mitigation measures and proper treatment of cultural resources. (2012-2013)

**Class III Cultural Resources Inventory for Soitec's Fort Irwin Solar Project, San Bernardino County, California.** As project manager and co-principal investigator, oversaw and implemented cultural resources inventory. (2013)

**Phase II Archaeological Testing of One Historic Site for the Cool Valley Solar Project, RBF Consulting, San Diego County, California.** As project manager, supervised implementation of archaeological testing of a historic airfield near Campo. (2012)

**Phase II Archaeological Testing of Four Prehistoric Sites for the Gildred Solar Project, RBF Consulting, San Diego County, California.** As project manager, supervised implementation of archaeological testing of four small prehistoric sites along the ancient Lake Cahuilla shoreline. (2012)

**Phase II Archaeological Testing of One Prehistoric Site for the Borrego A and B Solar Projects, RBF Consulting, San Diego County, California.** As project manager, supervised implementation of archaeological testing of a large prehistoric habitation site in the Imperial Valley. (2012)

**Phase I Cultural Resources Inventories for the Sol Orchard and Sol Focus Solar Projects, RBF Consulting, San Diego County, California.** As project manager, supervised implementation of Phase I CEQA inventories for more than 22 solar projects. (2012)

**Class II Survey of 4,700 Acres for the Silurian Wind Project, Iberdrola Renewables, San Bernardino County, California..** As project manager and principal investigator, supervised Section 106 inventory of proposed renewable energy project. (2011)

**Class III and Class II Cultural Resources Inventory for the Tule Wind Alternative Energy Project, HDR Engineering for Iberdrola Renewables, San Diego County, California.** As project manager and principal investigator, supervised inventory of 6,000 acres and recordation of nearly 200 archaeological

sites, and assisted the BLM in preparation of a programmatic agreement between Iberdrola and the California State Historic Preservation Office (SHPO). (2010)

**Monitoring of the Installation of Meteorological (MET) Towers for the Tule Wind Project, HDR Engineering, San Diego County, California.** As project manager and principal investigator, supervised archaeological and Native American monitors during MET tower installation in the Tule Wind project area. (2010)

**Jamul Substation 6, San Diego Gas & Electric Company (SDG&E), Jamul, San Diego County, California.** As field director, conducted an intensive pedestrian survey of 18 acres in Jamul for a proposed substation construction project. Identified and recorded two archaeological sites within the project area. Prepared the technical report. Coordinated with paleontology subcontractor and incorporated paleontology report into ASM's archaeology technical report. (2004)

**Path 15 Transmission Line Corridor, Steigers Corporation, San Joaquin Valley, Fresno and Merced Counties, California.** As field director, supervised survey of over 87 miles of 400-foot transmission line corridor and over 46 miles of access roads in Merced and Fresno Counties. Supervised field crew, documented sites, coordinated with Native American representatives, coordinated access to survey areas, and prepared portions of technical report. (2004)

**Carmel Valley Substation Survey, SDG&E, Carmel Valley, San Diego County, California.** As field director, conducted a Phase I cultural resource inventory of a proposed power substation. (2003)

## Federal

**Ground-Penetrating Radar Survey and Class III Inventory for the Friendship Circle Project, Department of Homeland Security, Gulf South Research Corporation, San Diego County, California.** As project manager and principal investigator, supervised and implemented a ground-penetrating radar survey and surface survey for the Friendship Circle project at Border Fields State Park, San Diego.

## Healthcare

**Kaiser Permanente Murrieta Valley Medical Center Preliminary Environmental Impact Report (PEIR), City of Murrieta, California.** Dr. Hale acted as Principal Investigator on the Kaiser Murrieta project, overseeing a Phase I cultural resources inventory and Phase II archaeological significance evaluation of one prehistoric resource. Dr. Hale assisted the City with Tribal communication and analysis of potential impacts to a viewshed considered sensitive by local Native Americans. All studies were completed to comply with CEQA guidelines in support of an EIR.

## Military

**Phase II Evaluation of 31 High Complexity Sites on Edwards Air Force Base, CH2MHill/JT3, Kern and Los Angeles Counties, California.** As project manager, oversaw Section 106 test excavations at 31 prehistoric archaeological sites. (2010)

**Phase II Evaluation of 85 Archaeological Sites on Edwards Air Force Base, CH2MHill/JT3, Kern and Los Angeles Counties, California.** As project manager and principal investigator, supervised Section 106 test excavations at 42 prehistoric and 43 historic archaeological sites. (2010)

**Western Acquisition Survey, Marine Corps Air Ground Combat Center (MCAGCC) Twentynine Palms, San Bernardino County, California.** As principal investigator, managed the survey of 10,000 acres on land administered by the BLM in Johnson Valley, west of the base. Duties included project management, coordination with BLM Barstow field office and MCAGCC 29 Palms personnel, coordinating and supervising field crews, as well as document preparation. (2010)

**Management Plan for the Coso Rock Art National Historic Landmark (NHL), Naval Air Weapons Station (NAWS) China Lake, Inyo County, California.** As project manager, supervised and co-authored a management plan for the Coso Rock Art NHL, including arranging and implementing stakeholder meetings and field testing the implementation plan. (2010)

**Section 110 Intensive Archaeological Survey of the Cole Flat Training Area, NAWS China Lake, Inyo County, California.** As project manager and principal investigator, supervised the survey of 5,400 acres near the Coso Rock Art NHL. (2009)

**Phase I Survey of Selected Parcels in Five Training Areas, MCAGCC Twentynine Palms, San Bernardino County, California.** As project manager and principal investigator, supervised survey of 4,500 acres in the Blacktop, Lava, Lavic Lake, Sunshine Peak, and Quackenbush training areas. (2009)

**Phase I Survey of Aerial Maneuver Zones for the 53 Aerial Maneuver Zone (AMZ) Project, MCAGCC Twentynine Palms, California.** As project manager and principal investigator, supervised survey of 72 AMZ's. (2009) Client Reference: Leslie Glover, MCAGCC 29 Palms, 760.830.5369.

**Cultural Resources Inventory and Evaluation for the Skaggs Island Defense Base Closure and Realignment Commission (BRAC) Disposal Archaeological Survey, Naval Communications Station, Sonoma County, California.** As principal investigator, supervised survey of installation and recordation and evaluation of historic civilian and military resources. (2011-2012)

**Phase I Survey of 8,100 Acres on Edwards Air Force Base, ACOE, Kern County, California.** As principal investigator, supervised survey of 8,100 acres on Edward Air Force Base. (2008-2009)

**Phase I and II Survey of 2,500 Acres and Evaluation of 50 Sites on Edwards Air Force Base, ACOE, Kern County, California.** As principal investigator, supervised survey of 2,500 acres and evaluation of 50 sites on Edward Air Force Base. (2008)

**Cultural Resources Inventory and Evaluation for the Concord Inland BRAC Disposal Archaeological Survey, Naval Weapons Station, Seal Beach, Detachment Concord, Contra Costa County, California.** As principal investigator, supervised survey of 5,200 acres and recordation and evaluation of historic civilian and military resources, and prehistoric archaeological sites.

**Archaeological Evaluation of Eight Prehistoric Sites in the Emerson and Quackenbush Training Areas, ACOE, MCAGCC Twentynine Palms, San Bernardino County, California.** As field director, supervised excavation of eight prehistoric sites on the Marine Corps base in Twentynine Palms, California. (2005)

**Archaeological Evaluation of 22 Sites on Edwards Air Force Base, ACOE, San Bernardino County, California.** As field director, supervised the National Register evaluation of 22 sites at Edwards Air Force Base. (2005)

**Naval Base Point Loma Site Recordation, NAVFAC Southwest (SW), Point Loma, San Diego County, California.** As principal investigator and field director, supervised relocation of 33 sites located on Naval Base Point Loma. Reviewed site documentation and re-recorded sites that were improperly documented by past surveys. (2004)

**Archaeological Testing of 23 Sites in the Las Pulgas Corridor, Marine Corps Base (MCB) Camp Pendleton Environmental Security, MCB Camp Pendleton, San Diego County, California.** As field director, supervised field crews for Phase II testing and mechanical coring of 23 sites on Camp Pendleton. Coordinated with coring contractor and base personnel. Documented sites in the field. Supervised field crews and prepared portions of technical report. (2004)

**Rose-Arizone, Clay, and Photo Drainage, and Road Improvement Surveys, NAVFAC SW, San Clemente Island, Los Angeles County, California.** As field director, supervised archaeological surveys and the placement of protective signing on 750 sites. Coordinated access to the island and supervised one crew member. (2004)

**Remote Sensing, NAVFAC SW, Naval Auxiliary Landing Field (NALF) San Clemente Island, Los Angeles County, California.** As Global Positioning System (GPS) specialist, conducted data collection and image rectification for a remote sensing project in the detection of archaeological sites on the base. Supervised one crew member. (2004)

**MCB Camp Pendleton Burn Survey, MCB Camp Pendleton Environmental Security, MCB Camp Pendleton, San Diego County, California.** As field director, supervised an archaeological survey of 1,500 acres in the De Luz and Case Springs areas of Camp Pendleton. Managed field crews, documented archaeological sites, prepared site forms and portions of technical report. (2002)

**Survey of Yuma Stormwater Basin, NAVFAC SW, Marine Corps Air Station (MCAS) Yuma, Yuma County, Arizona.** As field director, supervised survey of stormwater basin along the Marine Corps airfield at MCAS Yuma. Managed field crew and prepared technical report. Client (2002)

**Archaeological Coring of The Red Beach site (SDI-811), MCB Camp Pendleton Environmental Security, MCB Camp Pendleton, San Diego County, California.** As field director, supervised first phase of a geologic coring project for a shell midden site along the coast of MCB Camp Pendleton, San Diego County. Coordinated with coring contractor and base personnel. Managed field monitors and field crew. (2002)

**Archaeological Testing and Survey of the Lemon Tank Area, NAVFAC SW, NALF San Clemente Island, Los Angeles County, California.** Conducted excavations, survey, and site recording. (2002)

**Evaluation of Nine Prehistoric Sites, Edwards Air Force Base, San Bernardino County, California.** As field archaeologist, evaluated nine sites through excavation to determine overall sensitivity and value of the archaeological remains that characterize the region. (1999)

**Evaluation of Four Prehistoric Sites, Jones and Stokes Associates, Camp Roberts National Guard, San Luis Obispo County, California.** As field technician, conducted excavation in order to determine the boundaries of the site for further mitigation. (1998)

**Archaeological Survey and Excavation, ACOE, MCAGCC Twentynine Palms, San Bernardino County, California.** As field archaeologist, participated in nine field rotations averaging 10 days each. Conducted survey of portions of the Marine Corps base to determine the distribution of cultural materials,

and subsequently excavate sites based on priority. This area is characterized as high desert with the typically associated flora and fauna and archaeological sites that range in age from Early to Late Holocene. (1998)

## Resource Management

**South Sacramento Habitat Conservation Plan (HCP) EIR, County of Sacramento, California.** Dr. Hale led the cultural resources effort on the South Sacramento HCP Project, including development of a long-term plan for analyzing cultural resources constraints and assisting multiple agencies in their tribal outreach obligations.

**Archaeological Survey of the Silver Lake Recreation Area, El Dorado Irrigation District, California.** As principal investigator and field director, supervised an archaeological survey of the Silver Lake Recreation area. (2006)

**Archaeological Data Recovery Excavations at Border Fields State Park, California State Parks, Imperial Beach, San Diego County, California.** As field director, supervised excavation of prehistoric sites located within the APE of a fence along the U.S.–Mexico Border in San Diego County. Prepared technical report. (2005)

**Archaeological Salvage Excavations of Two Ollas in Hellhole Canyon, BLM, San Diego County, California.** As principal investigator, relocated a cache of prehistoric ceramic artifacts uncovered during wildfires in San Diego County. Documented cache and collected artifacts for subsequent reconstruction in the ASM laboratory. Prepared technical report detailing project. (2005)

**Archaeological Data Recovery Excavations at CA-SDI-16691, Jackson Pendo Development Company, Escondido, San Diego County, California.** As principal investigator, supervised data recovery excavation at a Late Prehistoric site in Escondido, California. (2005)

**El Cuervo Wetlands Mitigation, City of San Diego Land Development Review Department and Mitigation Monitoring Coordination, Carmel Valley, San Diego County, California.** As co-principal investigator, supervised an archaeological monitoring project in central San Diego County, conducted test excavation of one site identified during monitoring. The site was evaluated as not significant. Prepared portions of technical report and supervised on-site monitor. (2004)

**Milk Vetch Emergency, Imperial Irrigation District (IID), Imperial County, California.** As archaeological monitor, conducted emergency monitoring along transmission line corridor in Imperial County. Coordinated with IID and construction personnel. Prepared technical report. (2002)

**Burial Salvage Excavations at the Sucking Carp Site (CA-MER-295), Great Valley Grassland State Park, California Department of Parks and Recreation, Los Banos, Merced County, California.** As field supervisor, directed excavations at CA-MER-295 in the central San Joaquin Valley in order to salvage cultural remains (including burials) from further destruction by the San Joaquin River. (1999)

## Transportation

**Ortega Highway Monitoring, City of San Juan Capistrano, Orange County, California.** As project manager, supervised Dudek's principal investigator to coordinate archaeological, tribal, and paleontological mitigation monitoring associated with the construction of water conveyance facilities and road repairs. (2013)

**Archaeological Testing and Ground Penetrating Radar Study of the Forester Creek Biological Mitigation Area, Caltrans District 11, Santee, San Diego County, California.** As principal investigator and field director, supervised archaeological testing of a private parcel. (2005)

**Rail Bridge (at mile marker 230.6) Replacement, North County Transit District, Agua Hedionda, Carlsbad, San Diego County, California.** As principal investigator and field director, managed an archaeological survey of an APE associated with the replacement of and historic railroad bridge. Recorded archaeological sites within APE and prepared portions of technical report. (2004)

**Little Lake Phase II Testing, Caltrans District 5, Little Lake, Inyo County, California.** As field director, supervised Phase II testing of four sites including the ethnohistoric village of *Pagunda* near the town of Little Lake. Supervised field crews, coordinated fieldwork with Caltrans and subcontractors, and prepared portions of technical report. (2004)

**Extended Phase I Testing, Caltrans District 05, Little Lake, Inyo County, California.** As field director, supervised fieldwork for extended Phase I testing of one prehistoric site along U.S. Route 395 (US 395) in Inyo County. Prepared portions of technical report. (2003)

**Cartago and Olancha Four-Lane Project Test Excavations, Caltrans District 05, Inyo County, California.** As field director, supervised test excavations of 15 sites for the proposed widening of US 395 near Cartago and Olancha. Supervised all fieldwork and managed a team of 12 field archaeologists. Coordinated selected specialized studies, conducted ground stone analysis, and prepared large portions of the resulting 800+-page report. (2002)

**Survey of Amtrak Second Mainline Right-of-Way, North County Transit District, Oceanside, San Diego County, California.** As co-field director, managed an archaeological survey of 6.2 miles of North County Transportation District railroad right-of-way near San Onofre, California. (2002)

**State Route 905 (SR-905) Survey, Caltrans District 11, San Diego County, California.** As co-field director, conducted survey and recording of sites along the SR-905 right-of-way in southern San Diego County. Documented three prehistoric sites within the proposed right-of-way. Created site maps and prepared site forms. (2002)

**Evaluation of 11 Sites along US 395, Caltrans District 05, Blackrock, Inyo County, California.** As crew chief, managed 6-18 personnel, prepared paperwork and report. Made decisions surrounding site excavations in Owens Valley. Project included Phase II test excavation of numerous sites ranging in age from early to late Holocene. (2002)

**Phase I Survey, Caltrans District 10, Stockton, San Joaquin County, California.** As field archaeologist, conducted various survey and excavation projects for Caltrans throughout central California. Conducted survey and excavation, operated as a graduate student assistant to the District 10 archaeologist dealing with compliance issues, prepared site mapping and technical reports including Archaeological Survey Reports (ASR), Historic Properties Survey Reports (HPSR), and Negative Declarations. (1997)

**Phase I Survey/TEA, Caltrans, Inyo and Mono Counties, California.** As field archaeologist, conducted survey of most major highways in Mono and Inyo Counties, California. Documented the distribution of all cultural material within the Caltrans right-of-way in order to determine impacts by road widening. (1996-1997)

## Tribal

**Section 106 Mitigation Development and Tribal Consultation Assistance, BLM, San Diego County, California.** As project manager, assisted the BLM in development of Historic Properties Treatment Plan, Tribal Participation Plan, and other mitigation measures for the Tule Wind project, McCain Valley California. (2011-2012)

**Mitigative Screening, Agua Caliente Band of Cahuilla Indians, Palm Springs, Riverside County, California.** As field director, supervised archaeological mitigation of an impacted burial site on the Agua Caliente Reservation. Prepared mapping of the project, coordinated field efforts with Tribal representatives, oversaw monitoring of the project, and prepared portions of the technical report. (2003)

## Water/Wastewater

**San Clemente Water Recycling Monitoring, City of San Clemente, Orange County, California.** As project manager, supervised Dudek's principal investigator to coordinate archaeological, tribal, and paleontological mitigation monitoring associated with the construction of a new water conveyance pipeline. Duties include preparation of a discovery and treatment plan. (2013)

**Poseidon Resources Desalination Plant and Pipeline Monitoring, City of Carlsbad, San Diego County, California.** As project manager, supervised Dudek's principal investigator to coordinate archaeological, tribal, and paleontological mitigation monitoring associated with the construction of the desalination plant and a new water conveyance pipeline. Duties include preparation of a discovery and treatment plan and evaluation of archaeological discoveries. (2013)

**Poseidon Resources Desalination Plant and Pipeline Wetland Mitigation Archaeological Evaluation, City of San Diego, San Diego County, California.** As project manager and principal investigator, developed methods and strategies to evaluate archaeological deposits most likely related to the 1782 ethnohistoric Kumeyaay village of La Punta located within the wetland mitigation area. Project included geotechnical coring and backhoe exploration to locate and evaluate buried archaeological deposits Duties included assistance provided to the USFWS for NAGPRA consultation and implementation. (2013)

**Lee Lake Cultural Resources Inventory, Lee Lake Water District, Riverside County, California, 2013.** As project manager, supervised Dudek's principal investigator to coordinate and implement cultural resources inventory for the construction of a new pipeline and water storage facility.

**Cultural Resources Monitoring for the City of Napa Levee Improvement Project, ACOE, Sacramento District, Sacramento, California.** As principal investigator, supervised archaeological monitoring requiring HAZWOPER certified archaeologists to treat historical archaeological discoveries for a levee and stormwater improvement project. (2010-2011)

**Data Recovery Excavations at the Ridge Hill Facilities Site (SDI-18472), Padre Dam Municipal Water District (PDMWD), San Diego County, California.** As principal investigator, supervised data recovery of a complex late prehistoric habitation site. (2009)

**San Clemente Canyon Survey, City of San Diego Metropolitan Wastewater Department, City of San Diego, San Diego County, California.** As principal investigator and field director, supervised and conducted an intensive pedestrian survey of proposed access road maintenance for the San Clemente

Canyon sewer line. Two cultural resources were identified. Conducted site documentation, prepared sites forms and technical report. Managed survey crew member. (2004)

**Lake Murray Survey, City of San Diego Metropolitan Wastewater Department, La Mesa, San Diego County, California.** As field director, conducted survey of proposed trunk sewer replacement in La Mesa. Prepared portions of the technical report. (2003)

**Phase II Testing, IID, Imperial County, California.** As field director, supervised Phase II testing of eight sites in the Colorado Desert. Managed field crews, conducted test excavations, and prepared site documentation and portions of the technical report. (2003)

**Carmel Valley Archaeological Monitoring, City of San Diego Metropolitan Wastewater Department, Carmel Valley, San Diego County, California.** As field monitor for pre-trenching for placement of sewer line, conducted monitoring and wrote portions of technical report. (2002)

## EIR/EIS Preparation

Dr. Hale currently assists in the preparation of technical descriptions and analyses for environmental impact statements and reports at the state and federal levels for Dudek projects. Examples of completed environmental sections include those prepared for the Yokohl Ranch, Rio Mesa Solar, Soitec Rugged and Tierra Del Sol Solar, SDG&E's Wood to Steel project, and various others. More details are available upon request.

## Other Relevant Experience

### Training

- 2012 - Accounting and Finance for Non-Financial Managers, UCSD Rady School of Business Management
- 2010 - ESOP Planning and Management, UCSD Rady School of Business Management
- 2004 - Ground Penetrating Radar Field Methods and Interpretation Certificate
- 2002, 2010 - GPS Field Methods Training, ASC Scientific

### Teaching

- 2008 - Assistant Professor, Archaeology, U.C. Davis
- 2008 - Instructor/ Principal Investigator, 2008 UC Davis Archaeology Field School, Vandenberg Air Force Base, California.
- 2005–2008 – Level III Teaching Assistant, U.C. Davis; taught discussion sections/ lectures for Human Evolution, Archaeology, and Human Ecology
- 1998–1999 – Acted as Public Education Coordinator for the Museum of Anthropology at UC Davis; included instructing a course teaching archaeology students how to inform the public about the value of anthropology through in-class presentations, exhibits, and the building of 'teaching trunks' for people in grades 1–12 of primary and secondary education
- 1997–1998 - Substitute teacher with an Emergency Credential in the Woodland and Davis Joint Unified School Districts for grades K–12, all subjects excluding foreign languages
- 1997–present – Regularly perform presentations about the value of archaeology in classrooms at the level of the grades 1–12
- 1996 – Teaching assistant at the U.C. Davis archaeological field school; job duties included student management and instruction in the methods of excavation and survey.

## Publications

### Selected Technical Reports

Hale, Micah J. 2010. "Limited Archaeological Excavations at SDI-4669 (SDM-W-12A)." In Advance of Geotechnical Coring, University House Rehabilitation Project, University of California at San Diego, La Jolla, California. Submitted to Ione Stiegler Architecture, La Jolla, California. Report on file at South Coastal Information Center, SDSU.

Hale, Micah J. 2010. Results of Archaeological Monitoring for Meteorological Masts in McCain Valley, San Diego County, California. Prepared for HDR Engineering Inc.

Hale, Micah J. 2007. Archaeological Survey of the Silver Lake Recreation Area, El Dorado Irrigation District, El Dorado County, California. Prepared for Trish Fernandez, El Dorado Irrigation District, El Dorado County, California.

Hale, Micah J. 2005. "Ground Stone Analysis." In From the Coast to the Inland: Prehistoric Settlement Systems Along the Las Pulgas Corridor, Camp Pendleton, California, by Micah J. Hale and Mark S. Becker. Report submitted to Southwest Division of Naval Facilities.

Hale, Micah J. 2005. Cultural Resources Inventory for the Proposed San Diego Model Schools Development Project. ASM Affiliates Inc., Carlsbad, California. Prepared for the City of San Diego, California.

Hale, Micah J. 2004. Cultural Resources Inventory for the Replacement of Bridge 230.6 over Agua Hedionda Lagoon, San Diego County, California. Submitted to North County Transit District, San Diego County, California.

Hale, Micah J. 2004. Cultural Resources Inventory for the Gawle Property, San Diego County, California. Submitted to Helix Environmental for the City of San Diego.

Hale, Micah J. 2004. Cultural Resources Inventory for the Hines Nursery, San Diego County, California. Submitted to Hines Nurseries, Rainbow Valley, California.

Hale, Micah J. 2004. Cultural Resources Inventory for the San Clemente Canyon Trunk Sewer Maintenance and Access Routes, San Diego County, California. Submitted to Metropolitan Wastewater Department, City of San Diego, California.

Hale, Micah J. 2004. Cultural Resources Inventory for the Montezuma Trunk Sewer Replacement, San Diego County, California. Submitted to Metropolitan Wastewater Department, City of San Diego, California.

Hale, Micah J. 2004. Cultural Resources Inventory for the Oceanside Hotel EIR, San Diego County, California. Submitted to Dudek for the City of Oceanside, California.

Hale, Micah J. 2004. Historic Resources Mitigation Monitoring of the El Cuervo Norte Project, San Diego County, California. Submitted to the City of San Diego.

Hale, Micah J. 2004. Emergency Test Excavations of an Exposed Olla, Riverside County, California. Submitted to BLM, Riverside County, California.

Hale, Micah J. 2004. Cultural Resources Monitoring for Geotechnical Coring Related to the All-American Canal Lining Project, Imperial County, California. Submitted to Imperial Irrigation District, Imperial County, California.

Hale, Micah J. 2004. Cultural Resources Monitoring of Geotechnical Coring Related to the Coachella Canal Lining Project, Riverside County, California. Submitted to Imperial Irrigation District, Riverside County, California.

Hale, Micah J. 2004. "Ground and Battered Stone Analysis." In Data Recovery Investigations at the Eucalyptus Site, CA-SDI-6954, San Diego County, California. Prepared by Don Laylander, ASM Affiliates Inc., Carlsbad, California. Submitted to EDAW, Inc.

Hale, Micah J. 2003. Cultural Resources Inventory for the Linda Vista Drive Re-Alignment Alternatives, City of San Marcos, California. Submitted to Nolte for the City of San Marcos.

Hale, Micah J. 2003. Cultural Resources Inventory for the Lake Murray Trunk Sewer Replacement, San Diego County, California. Submitted to the Metropolitan Wastewater Department, City of San Diego, California.

Hale, Micah J. 2000. Cultural Resource Monitoring Report. Jones and Stokes Associates Inc. Prepared for AT&T Corp., Atlanta, Georgia, for the AT&T cable removal project from Lucin, Utah, to Red Bluff, California.

Hale, Micah J. 2000. "Ground and Battered Stone Analysis." In Report on Excavations at Four Locations in the Lead Mountain Vicinity of the 29-Palms Marine Base, edited by Mark Basgall. Sacramento Archaeological Research Center.

Hale, Micah J. 2000. "Ground and Battered Stone Analysis." In Report on Excavations at CA-MER-295, edited by Mark Basgall and R. Bethard. Sacramento Archaeological Research Center.

Hale, Micah J. 2000. "Invertebrate Analysis." In Report on Excavations at CA-MER-295, edited by Mark Basgall and Mark Giambastiani. Sacramento Archaeological Research Center.

Hale, Micah J. 2000. "Site Reports for Sites SBR-9415 and SBR-9420." In Report on Excavations at Lead Mountain in Twentynine Palms Marine Corps Air Ground Combat Training Center, edited by Mark Basgall. Sacramento Archaeological Research Center.

Hale, Micah J. 1999. "Ground and Battered Stone Analysis." In Muddle in the Middle: Phase II Excavations of Five Sites in Kern County, California, edited by Mark Basgall. Prepared for V. Levulett, Environmental Management, Caltrans District 5, San Luis Obispo. Sacramento Archaeological Research Center.

Hale, Micah J., and Brad Comeau. 2009. Data Recovery Excavations at CA-SDI-18472 for the Proposed Padre Dam Municipal Water District Secondary Connection Project (Ridge Hill Facilities) Johnstown, San Diego County, California. Prepared for Mr. Albert Lau, Engineering Manager, Padre Dam Municipal Water District.

Hale, Micah, Brad Comeau, and Chad Willis. 2010. Class II and Class III Cultural Resources Inventory Report for the Tule Wind Project, McCain Valley, San Diego County, California. Prepared for HDR Engineering Inc. Report on file at the South Coastal Information Center, SDSU.

Hale, Micah J., and John R. Cook. 2005. Results of Ground Penetrating Radar Investigations at CA-SDI-10148 in the Forester Creek Biological Mitigation Site, San Diego County, California. With contributions by Jeffrey S. Patterson. Prepared for Chris White, Caltrans District 11.

Hale, Micah J., and Mark S. Becker. 2006. From the Coast to the Inland: Prehistoric Settlement Systems Along the Las Pulgas Corridor, Camp Pendleton, California. ASM Affiliates, Carlsbad, California. Submitted to Southwest Division of Naval Facilities.

Hale, Micah J., and Mark A. Giambastiani. 2010. A Cultural Resources Inventory for Sample Surveys in Selected Training Areas, Marine Corps Air Ground Combat Center (MCAGCC), Twentynine Palms, San Bernardino County, California. Prepared for Marine Air Ground Task Force Training Command, Natural Resources and Environmental Affairs, Twentynine Palms, California.

Hale, Micah, and Mark Giambastiani. 2010. Archaeological Resources Survey Report Aerial Maneuver Zone (AMZ) Project at the Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California, San Bernardino County, California. Prepared for Marine Air Ground Task Force Training Command, Natural Resources and Environmental Affairs, Twentynine Palms, California.

Hale, Micah, and Mark Giambastiani. 2010. An Archaeological Survey of 3,650 Acres at Cole Flat, Naval Air Weapons Station (NAWS), China Lake, California. Prepared for Mike Baskerville, Base Archaeologist, NAWS China Lake, California.

Hale, Micah J., Mark Giambastiani, Michael Richards, and David Iversen. 2009. Phase II Cultural Resource Evaluations at 51 Archaeological Sites in Management Regions 1A, 1B, 2B, 2C, and 3E, Bissell Hills and Paiute Ponds, Edwards Air Force Base, Kern and Los Angeles Counties, California. Prepared for U.S. Army Corps of Engineers under contract numbers W91238-07-F-0051 and W91238-07-F-0052.

Basgall, Mark, Lynn Johnson, and Micah Hale. 2002. An Evaluation of Four Archaeological Sites in the Lead Mountain Training Area, Marine Air Ground Task Force Training Command, Marine Corps Air Ground Combat Center, Twentynine Palms, California. Prepared for United States Marine Corps Air Ground Combat Center, Twentynine Palms, California. Prepared by Archaeological Research Center, Institute of Archaeology and Cultural Studies, Department of Anthropology, California State University, Sacramento.

Becker, Mark S., and Micah J. Hale. 2004. "Flaked Stone and Ground Stone Artifact Analysis." In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.

Byrd, Brian F., and Micah J. Hale. 2005. Testing and Evaluation of CA-SDI-13,930 on Camp Pendleton Marine Corps Base, San Diego County, California: A Paleoenvironmental Approach. ASM Affiliates, Carlsbad, California. Prepared for Southwest Division Naval Facilities Engineering Command.

Byrd, Brian F., and Micah J. Hale. 2004. Final Report on the Rose-Arizone Site Survey and Documentation, San Clemente Island. Prepared for Dr. Andrew Yatsko, NAVFAC SW, South Bay Area Focus Team.

Byrd, Brian F., and Micah J. Hale. 2004. Final Report on the San Clemente Island Protective Signing and Maintenance Project. Prepared for Dr. Andrew Yatsko, NAVFAC SW, South Bay Area Focus Team.

Byrd, Brian F., and Micah J. Hale. 2004. Final Report on the San Clemente Island Road Improvement Survey. Prepared for Dr. Andrew Yatsko, NAVFAC SW, South Bay Area Focus Team.

Byrd, Brian F., Micah J. Hale, and Sinéad Ní Ghabhláin. 2004. "Archaeological Testing at INY-3647." In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.

Byrd, Brian F., Micah J. Hale, and Sinéad Ní Ghabhláin. 2004. "Archaeological Testing at INY-3650/H." In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.

Byrd, Brian F., Micah J. Hale, and Sinéad Ní Ghabhláin. 2004. Archaeological Testing at INY-3826. In Phase II Archaeological Testing and Evaluation of CA-INY-3647, CA-INY-3650/H, CA-INY-3826, and P-14-7356, Little Lake Rehabilitation, U.S. 395, Inyo County, California, edited by Brian Byrd and Seetha Reddy, ASM Affiliates. Prepared for Caltrans District 6, Fresno.

Byrd, Brian F., and Micah J. Hale. 2003. Final Report on Extended Phase I Excavation at CA-INY-2207/2758, Little Lake Rehab Project, Inyo County, California. ASM Affiliates, Encinitas. Prepared for Lynn Faraone, Chief, Central California Cultural Resource Branch, California Department of Transportation.

Byrd, Brian F., and Micah J. Hale. 2002. Phase II Investigations of 15 Prehistoric Sites for the Cartago-Olancha Four-Lane Project, U.S. 395, Owens Valley, California. ASM Affiliates Inc. Prepared for Caltrans District 6, Fresno.

Byrd, Brian F., and Micah J. Hale. 2001. Research Design for Phase II Investigations of 14 Prehistoric Sites for the Cartago-Olancha Four-Lane Project, U.S. 395, Owens Valley, California. ASM Affiliates Inc. Prepared for Caltrans District 6, Fresno.

Cook, John R., Collin O'Neill, and Micah J. Hale. 2001. Archaeological Survey for the Amtrak Second Main Line, San Onofre Segment, MP 210.1 to 214.7, San Diego County. ASM Affiliates Inc. Draft report prepared for North County Transit District.

Giambastiani, M., M. Hale, M. Richards, and S. Shelley. 2008. Draft Report Phase II Cultural Resource Evaluations at 47 Archaeological Sites on the East and Northeast Shores of Rogers Lake, Management Region 3, Edwards Air Force Base, Kern and Los Angeles Counties, California. Report submitted to Edward Air Force Base, Base Historic Preservation Officer.

Giambastiani, G., M. Hale, S. Ni Ghabhláin, and D. Iversen. 2006. Phase II Cultural Resource Evaluation of 21 Archaeological Sites along the Western and Northwestern Boundary Fence, Edwards AFB, Kern and Los Angeles Counties, California. Submitted to Earth Tech Inc., Colton, California.

Hector, Susan, Micah J. Hale, and Catherine Wright. 2003. Cultural Resource Inventory of the Path 15 Los Banos-Gates Transmission Line Construction Project, Merced and Fresno Counties, California. Contract No. 03-186-01-01-ASM. Prepared for Steigers Corporation, Littleton, Colorado.

Laylander, Don, and Micah J. Hale. 2004. Data Recovery Excavations at Locus O, CA-RIV-45. ASM Affiliates Inc., Carlsbad, California. Submitted to Agua Caliente Band of Cahuilla Indians.

Reddy, Seetha N., and Micah J. Hale. 2003. Archaeological Survey of Portions of the De Luz Housing Area, O'Neill Lake, and the Case Spring Highlands, Marine Corps Base Camp Pendleton, California. ASM Affiliates, Encinitas, California. Prepared for NAVFAC SW, San Diego, California.

Whitley, David, and Micah Hale. 2010. Management Plan for the Coso Rock Art District National Historic Landmark. Prepared for NAVFAC SW, San Diego County, California.

### Other Publications

Hale, Micah J. 2012. "Malcolm Rogers' Archaeology in Coastal San Diego." Book chapter in preparation; edited by Don Laylander.

Hale, Micah J. 2011. "Modeling Socioeconomic Discontinuity in Southern Alta California." In, California Archaeology 2:2: December 2010, pp. 203-250.

Hale, Micah J. 2010. "A Comment on Hildebrandt et al. (2009) Shellfish Transport, Caloric Return Rates, and Prehistoric Feasting." In California Archaeology 3:111-113.

Hale, Micah J. 2009. Santa Barbara and San Diego: Contrasting Adaptive Strategies in Southern California. PhD dissertation; University of California, Davis.

Hale, Micah J. n.d. Preserving Cultural Heritage Through Public Outreach: A Curriculum for Jr. High and High School.

Hale, Micah J. 2005. Processing Economies, Coastal Settlement, and Intensification in Northern San Diego County. In Proceedings of the Society for California Archaeology, Volume 18.

Hale, Micah J. 2001. Technological and Social Organization of the Millingstone Horizon in Southern California. Master's thesis; California State University, Sacramento.

Hale, Micah J. 2000. Consumer Anthropology: Theory and Method of Recognizing and Interpreting Consumption Patterns for Product Development and Marketing Strategies. Developed for Richard Knight, Director of Intelligent Products, Addidas, USA.

Hale, Micah J., Richard McElreath, and Robert Bettinger. 2012. (in prep.) Modeling Time Minimizing and Energy Maximizing Adaptive Strategies.

Hale, Micah J., and Peter Richerson. 2012. (in prep.) Investigating the Rate-Limiting Factors of Cultural Evolution: Archaeological Evidence from Southern California.

Hale, Micah J., and Bruce Winterhalder. 2012. (in prep.) Discontinuous Sociocultural Evolution

## Editorial Reviewer

Hale, Micah J. 2011. Editorial Reviewer, *Journal of California Archaeology*, Left Coast Press, California.

Hale, Micah J. 2011. Editorial reviewer, *Journal of California and Great Basin Anthropology*, Malki Museum Press, California.

Hale, Micah J. 2010. Editorial reviewer, *Pacific Coast Archaeology Society*, California.

## Presentations

Hale, Micah J. 2012. *The Data Matter: Contributions of the Sacramento State Archaeological Research Center*. Presented at the 2012 Society for California Archaeology Meetings, San Diego, California.

Hale, Micah J. 2012. *Andy Yatsko, the Human Transit: Celebrating His Lifetime Contributions*. Presented at the 2012 Society for California Archaeology Meetings, San Diego, California.

Hale, Micah J. 2012. *Malcolm Rogers' Work Along the San Diego Coast*. Presented at the 2012 Society for California Archaeology Meetings, San Diego, California.

Hale, Micah J. 2011. *Tracing the Origins of Processing Economies in the Far West: A View from Coastal Southern California*. Presented at the Yucca Valley Archaeopalooza Conference, 29 Palms, California.

Hale, Micah J. 2011. *Adaptive Divergence Among Southern California Hunter Gatherers*. Presented at the 2011 Society for California Archaeology Meetings, Rohnert Park, California.

Hale, Micah J. 2011. *A 10,000 Year Old Habitation at the University House, La Jolla: Implications for Trans-Holocene Socioeconomic Stability in San Diego*. Presented at the 2011 Society for American Archaeology Meetings, Sacramento, California.

Hale, Micah J. 2010. *Using the Ideal Free Distribution to Model Socioeconomic Discontinuity Among Hunter-Gatherers*. Paper presented at the 2009 Society for American Archaeology Meetings, St. Louis, Missouri. Micah Hale, Symposium Chair.

Hale, Micah J. 2005. *Investigating the Role of Acorns in Southern California Hunter-Gatherer Economies*. Guest Speaker at the Antelope Valley Archaeological Society Meeting.

Hale, Micah J. 2005. *Processing Economies, Coastal Settlement, and Intensification in Northern San Diego County*. Presented at the Society for California Archaeology, Sacramento.

Hale, Micah J. 2004. *Cultural Resource Management in Practice: An Overview of Methodological Approaches*. Presented at the Imperial Valley Desert Museum Annual Meetings.

Hale, Micah J. 2003. *The Adaptive Significance of Technological Organization during the Holocene in Southern California*. Discussant in a symposium entitled, *Change and Cultural Adaptations Along the California Coast*. Organized by Seetha Reddy for the 68th Annual Meetings of the Society for American Archaeology, Milwaukee, Wisconsin. David Yesner and Roger Colten, Chairs.

Hale, Micah J. 2003. *The Organization of Subsistence Technology in Southern California During the Holocene*. Guest Speaker for the San Diego County Archaeological Society, January 28, 2003, San Diego.

Hale, Micah J. 2002. *Prehistory Along the Southwestern Shore of Owens Lake: Preliminary Results from the Cartago-Olancha Project*. Presented at the 2002 Northern California Data Sharing Meetings, Society for California Archaeology, Santa Cruz, California.

Hale, Micah J. 2002. *Ground and Battered Stone Along the Western Shores of Owens Lake*. Presented at the 2002 Northern California Data Sharing Meetings, Society for California Archaeology, Santa Cruz, California.

Hale, Micah J. 2001. *Technological and Social Organization during the Millingstone Horizon of Southern California*. Presented at the Society for California Archaeology Annual Meeting, Modesto.

Hale, Micah J. 1999. *The Analysis Method of Formatting Presentations and Lesson Plans in Archaeology*. Presented at the Society for American Archaeology 64th Annual Meeting, Chicago, Illinois.

Hale, Micah J. 1998. *A Practical and Effective Method for Teaching Archaeology to the Public*. Presented at the Society for California Archaeology Annual Meeting, San Diego, California.

## Awards/Commendations

- 2010 – NAVFAC SW, Camp Pendleton, Research Grant, $59,000
- 2008 – U.S. Air Force, Vandenberg AFB, Radiocarbon Grant, $25,000
- 2008 – Fieldwork Fellowship, Graduate Studies, UC Davis, $2,010
- 2007 – Fieldwork Fellowship, Graduate Studies, UC Davis, $1,800
- 2006 – Fieldwork Fellowship, Graduate Studies, UC Davis, $5,650
- 2005–2009 – Graduate Fee Fellowship/Stipend, UC Davis, $74,500

## Clearances

- Department of Defense (DoD) High-Security Clearance for SPAWAR, Naval Base Point Loma, NALF San Clemente Island, Vandenberg Air Force Base, MCAGCC 29 Palms, Edwards Air Force Base, NAWS China Lake, Yuma Proving Grounds, and MCB Camp Pendleton

# APPENDIX D (CONFIDENTIAL)

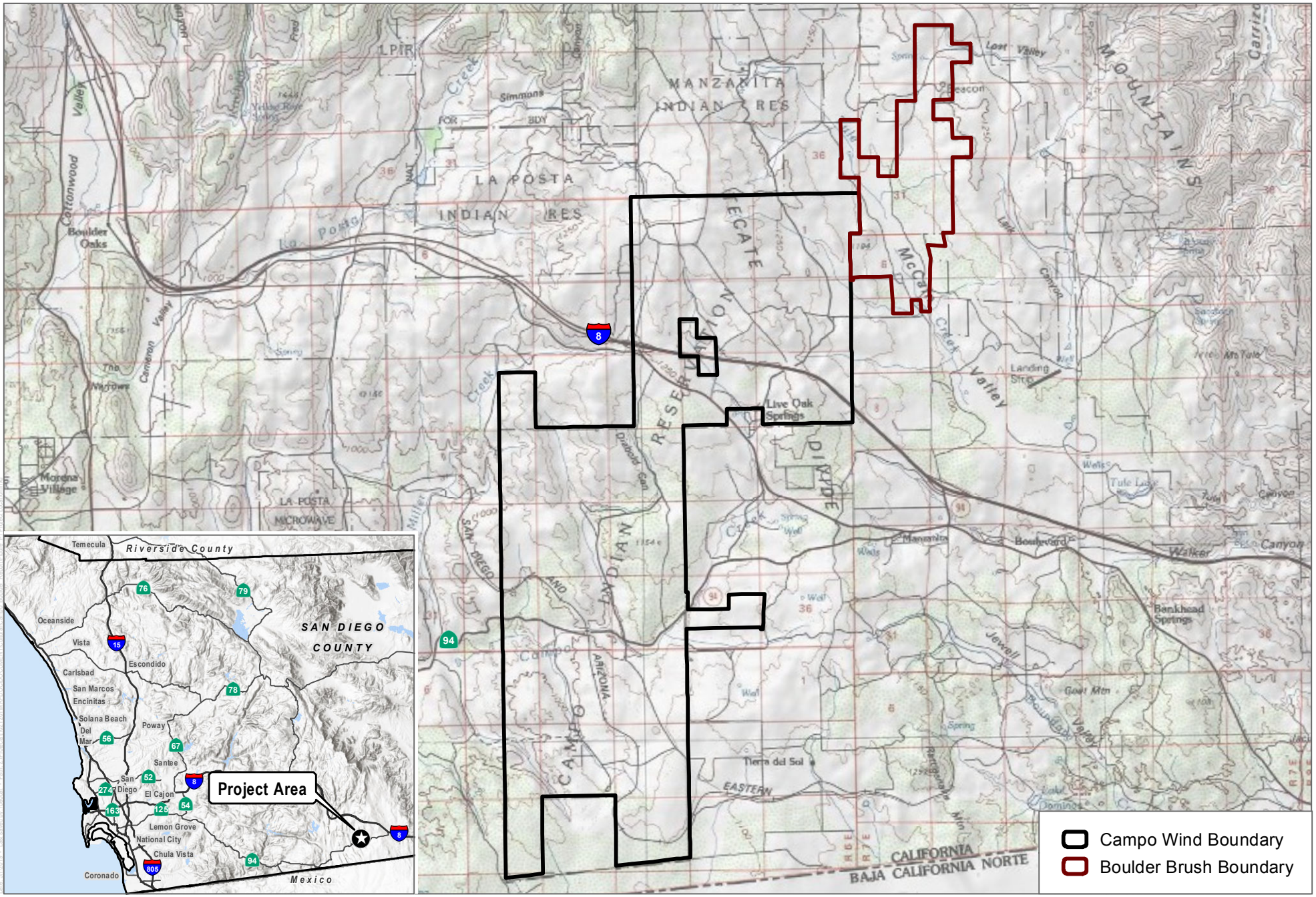
*NAGPRA Documents*

# APPENDIX E (CONFIDENTIAL)

*Previous Studies Performed by ASM in the APE*

# APPENDIX F

*Figures*




SOURCE: USGS 2018

DUDEK

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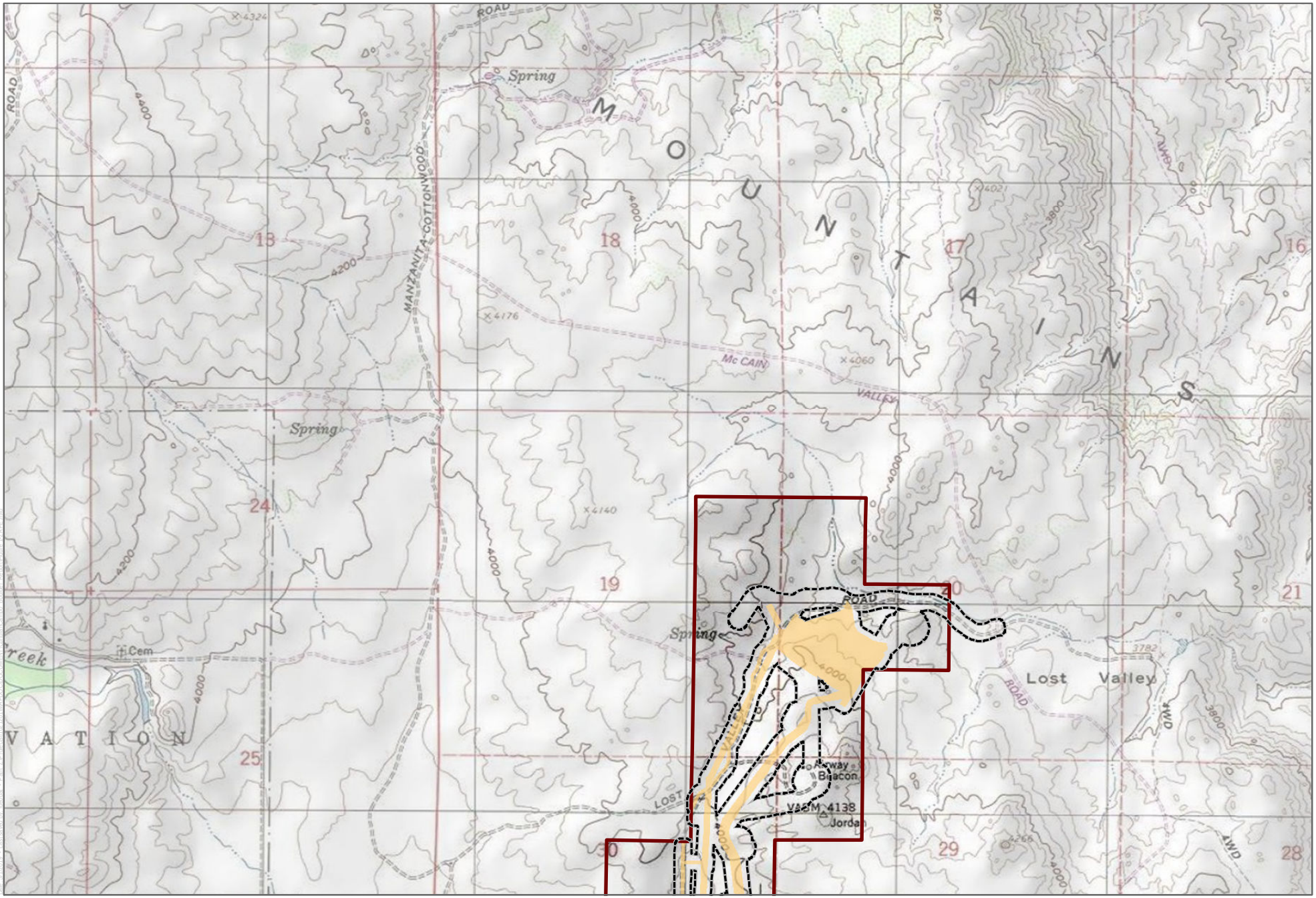
**FIGURE 1-1**

Project Location

Campo Wind with Boulder Brush Facilities




SOURCE: USGS 2018

DUDEK

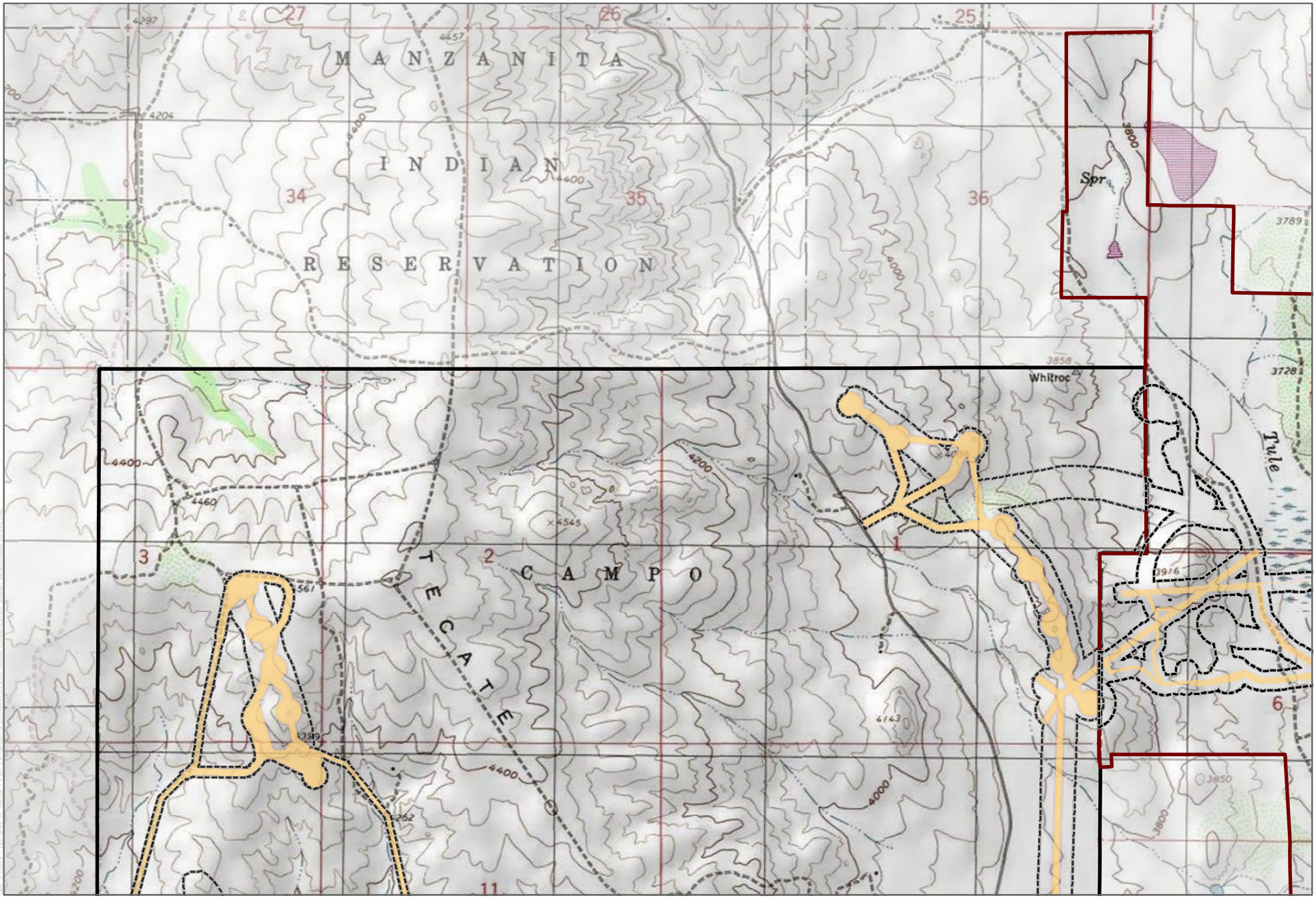
0 1,000 2,000 Feet

Campo Wind Boundary
Boulder Brush Boundary
Area of Potential Effects
Area of Direct Impacts

FIGURE 1-2

APE Map - 1

Campo Wind with Boulder Brush Facilities




SOURCE: USGS 2018

DUDEK

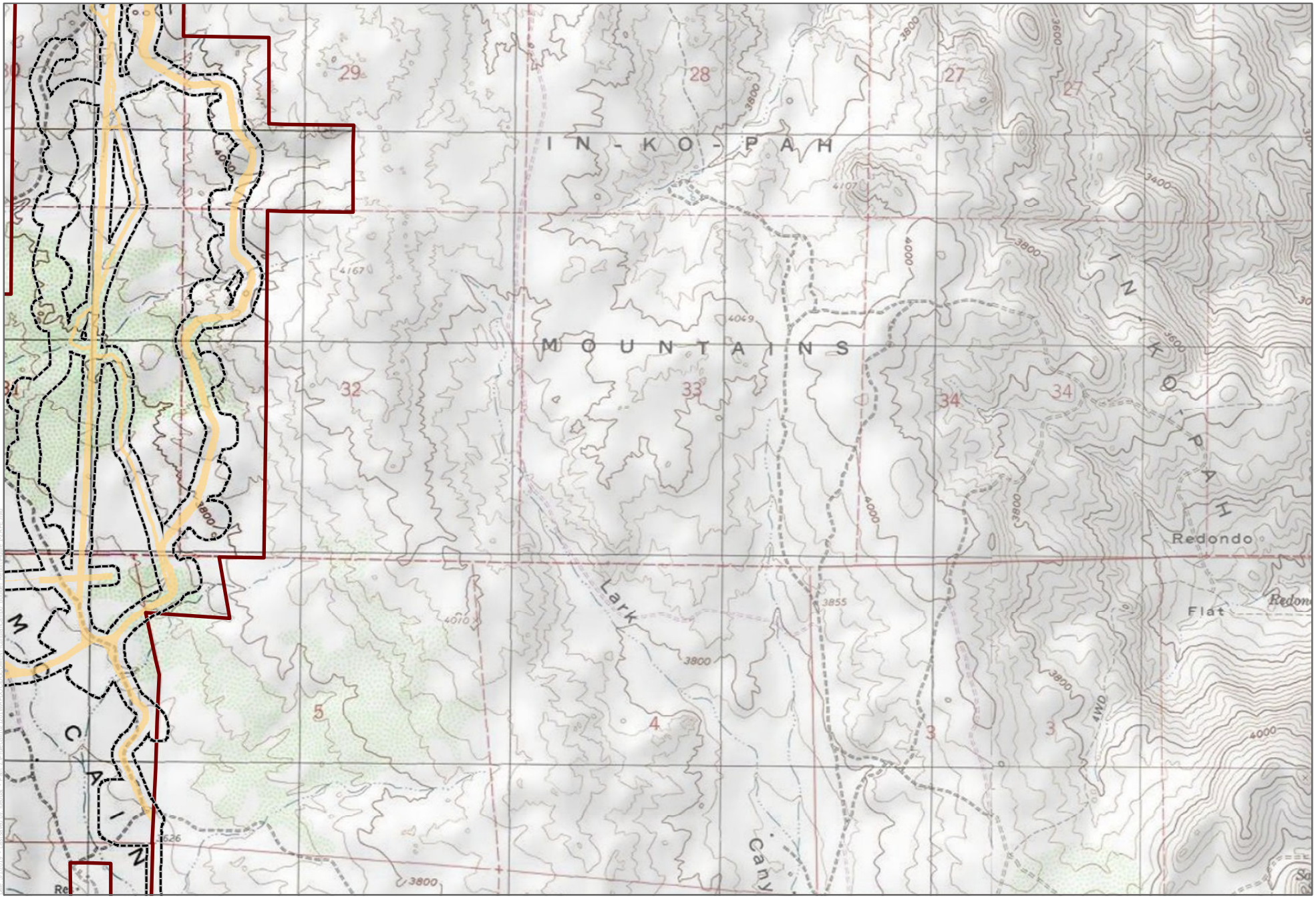
0 1,000 2,000 Feet

Campo Wind Boundary
Boulder Brush Boundary
Area of Potential Effects
Area of Direct Impacts

FIGURE 1-2

APE Map - 2

Campo Wind with Boulder Brush Facilities




SOURCE: USGS 2018

DUDEK

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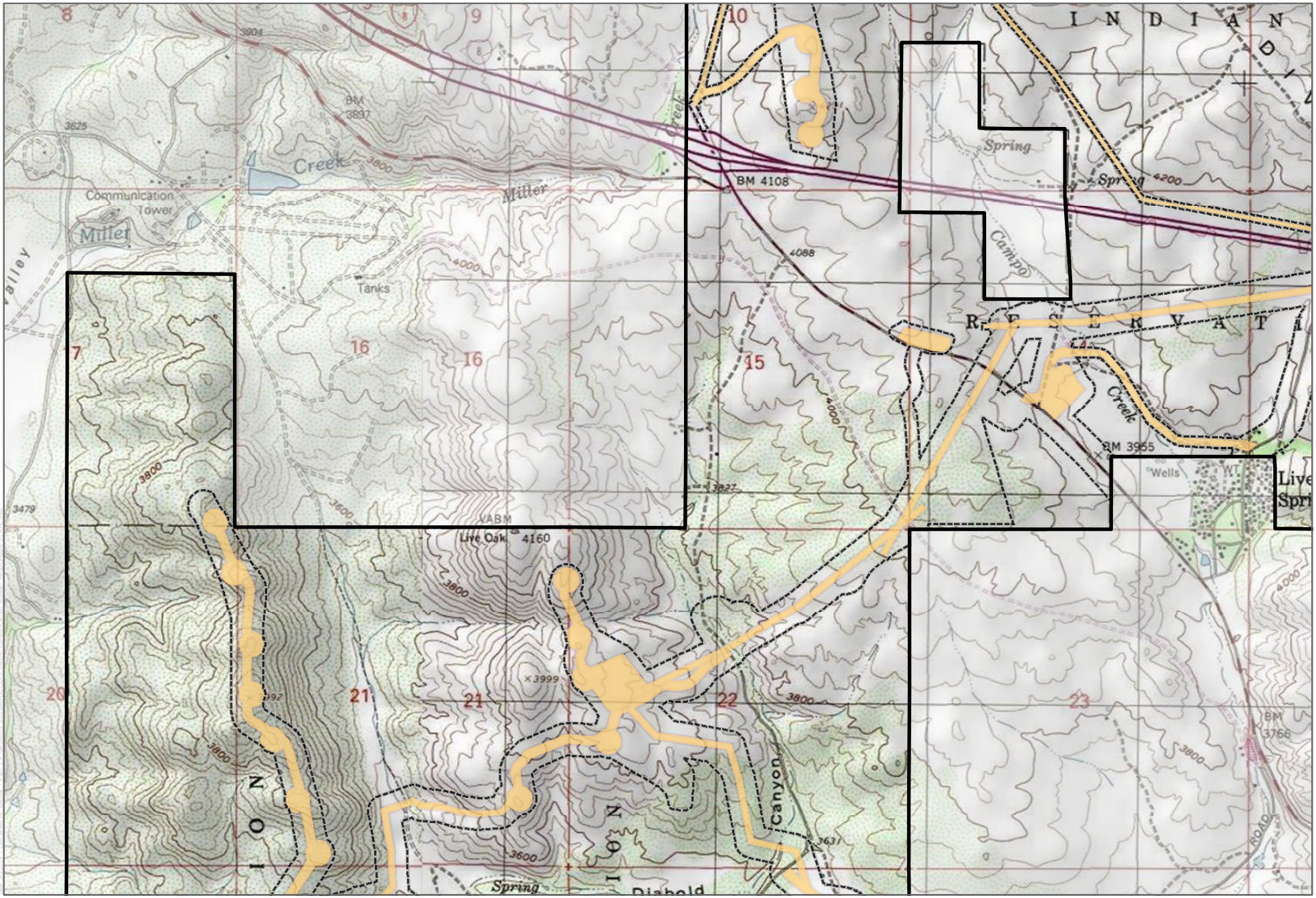
Campo Wind Boundary
Boulder Brush Boundary
Area of Potential Effects
Area of Direct Impacts

FIGURE 1-2

APE Map - 3

Campo Wind with Boulder Brush Facilities




SOURCE: USGS 2018

DUDEK

FIGURE 1-2

APE Map - 4

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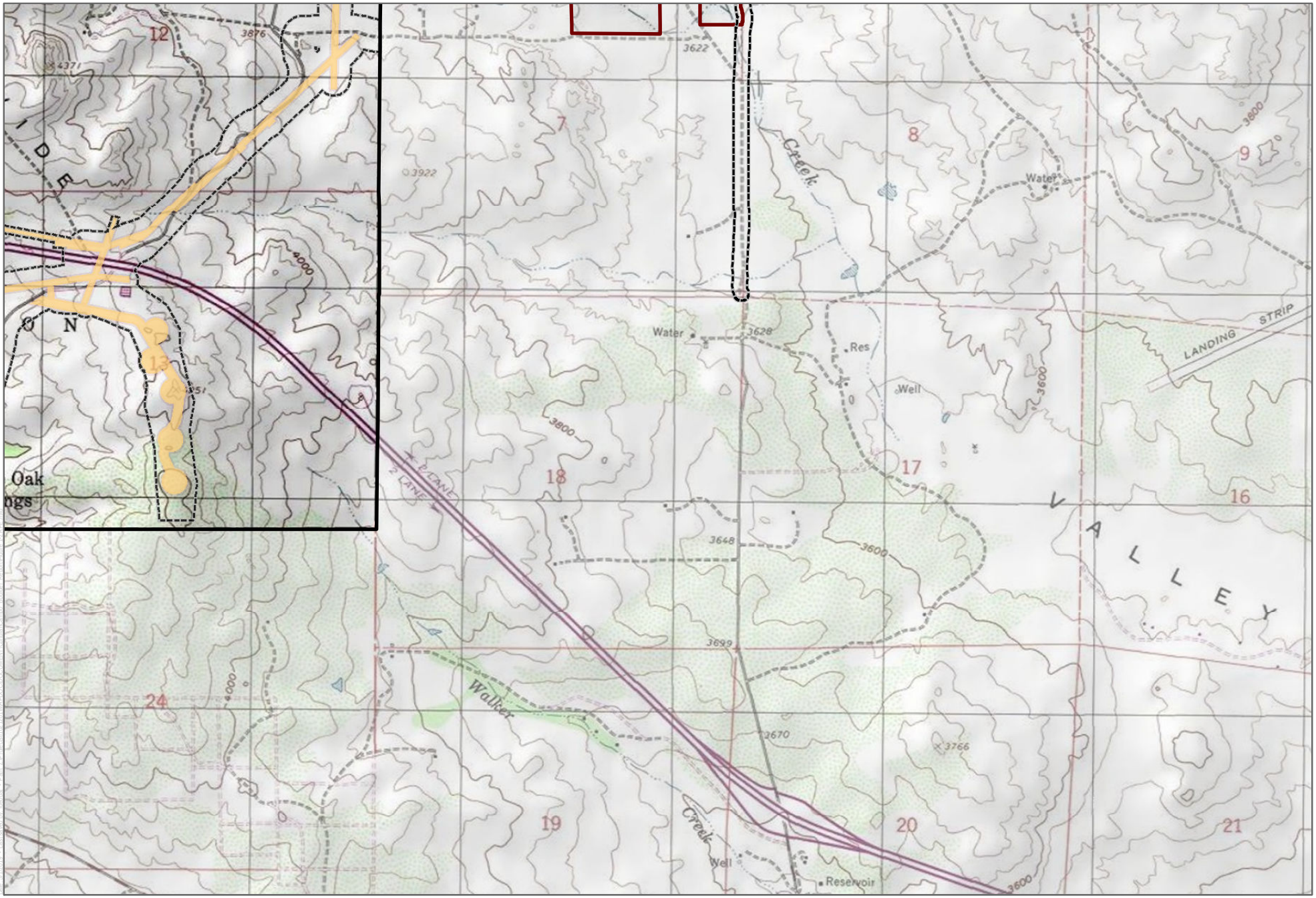


SOURCE: USGS 2018

DUDEK

FIGURE 1-2

APE Map - 5

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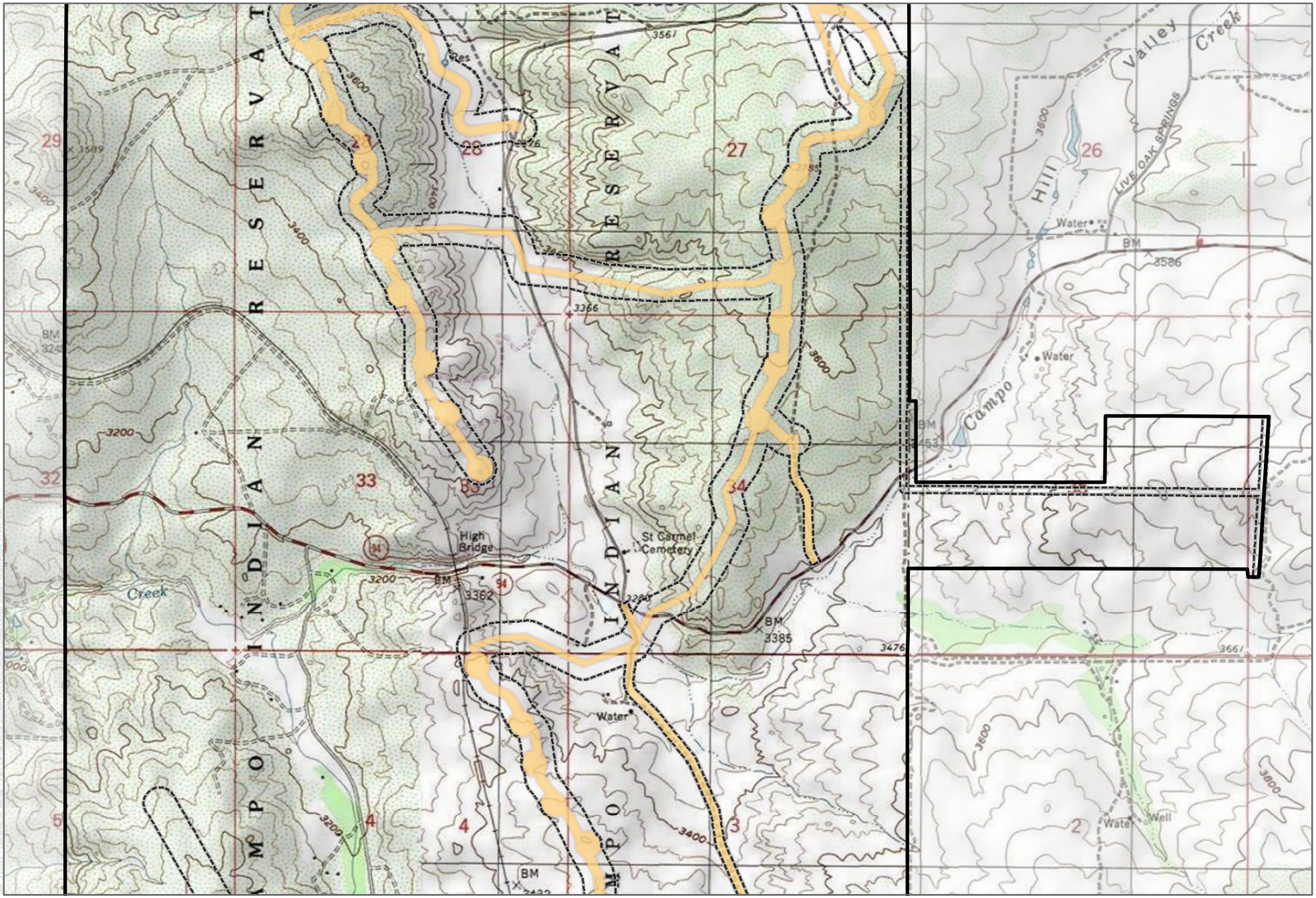


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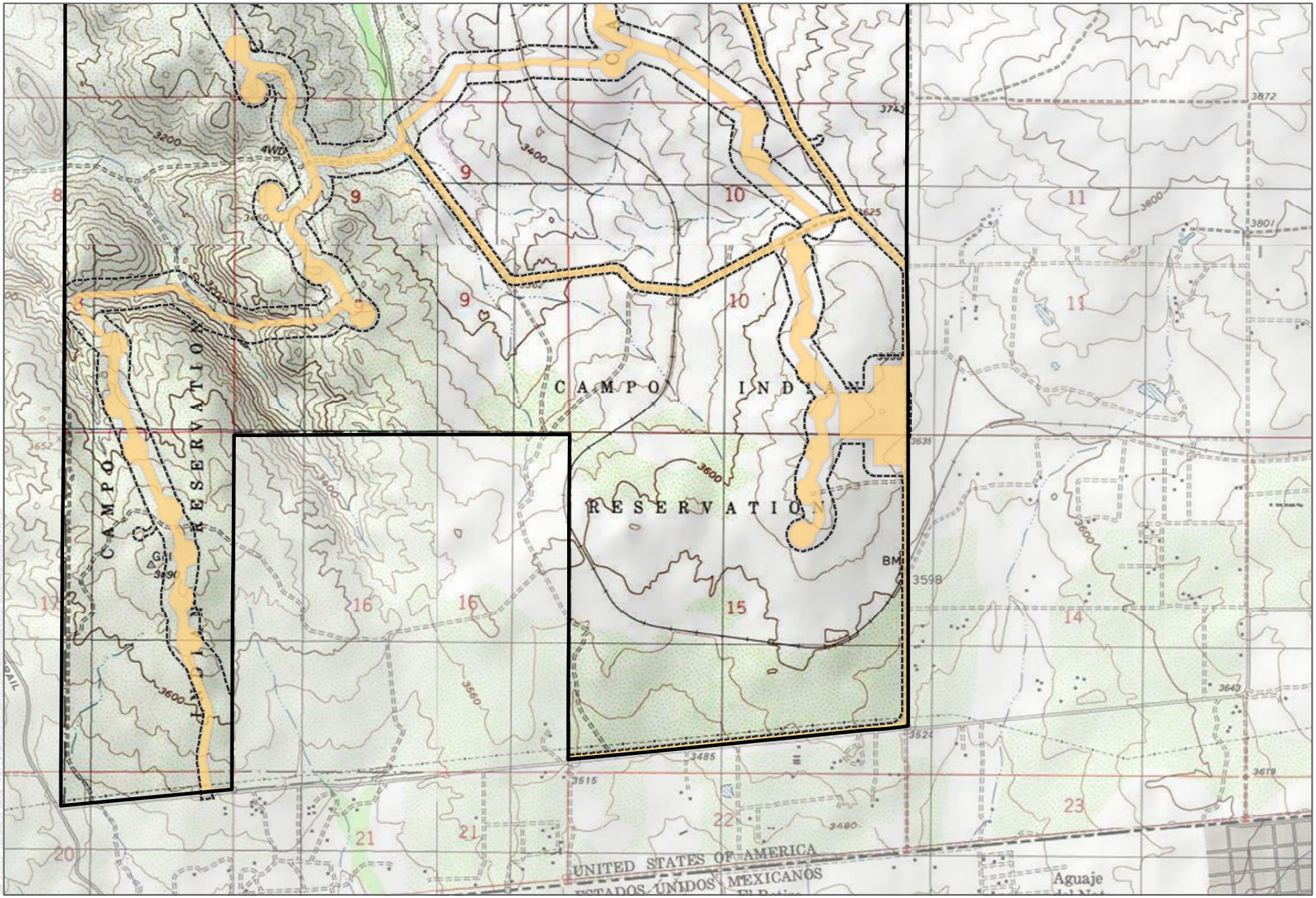
FIGURE 1-2

APE Map - 6

Campo Wind with Boulder Brush Facilities




SOURCE: USGS 2018

DUDEK

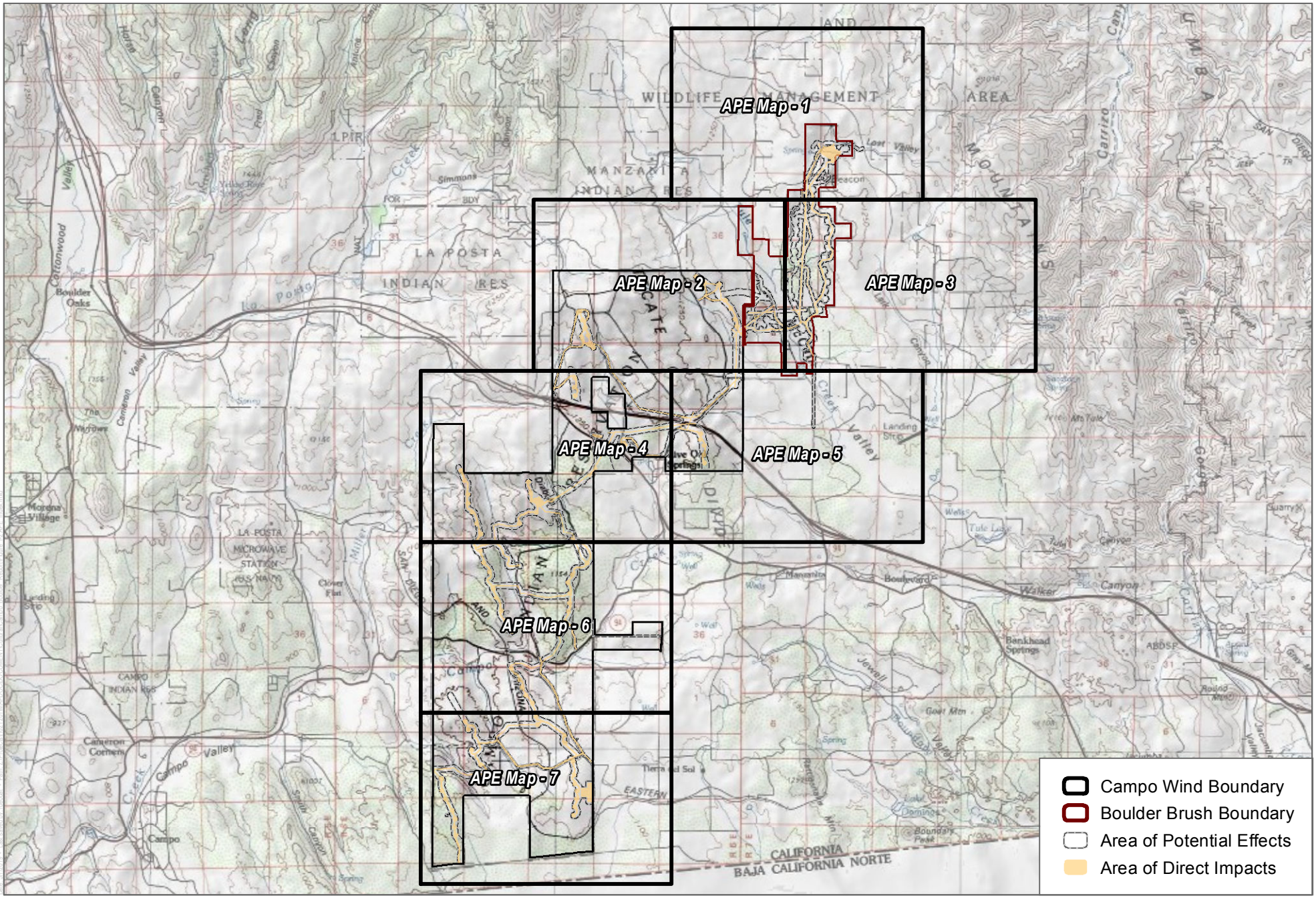
0 1,000 2,000 Feet

Campo Wind Boundary
Boulder Brush Boundary
Area of Potential Effects
Area of Direct Impacts

FIGURE 1-2

APE Map - 7

Campo Wind with Boulder Brush Facilities




SOURCE: USGS 2018

0 2 4 Kilometers

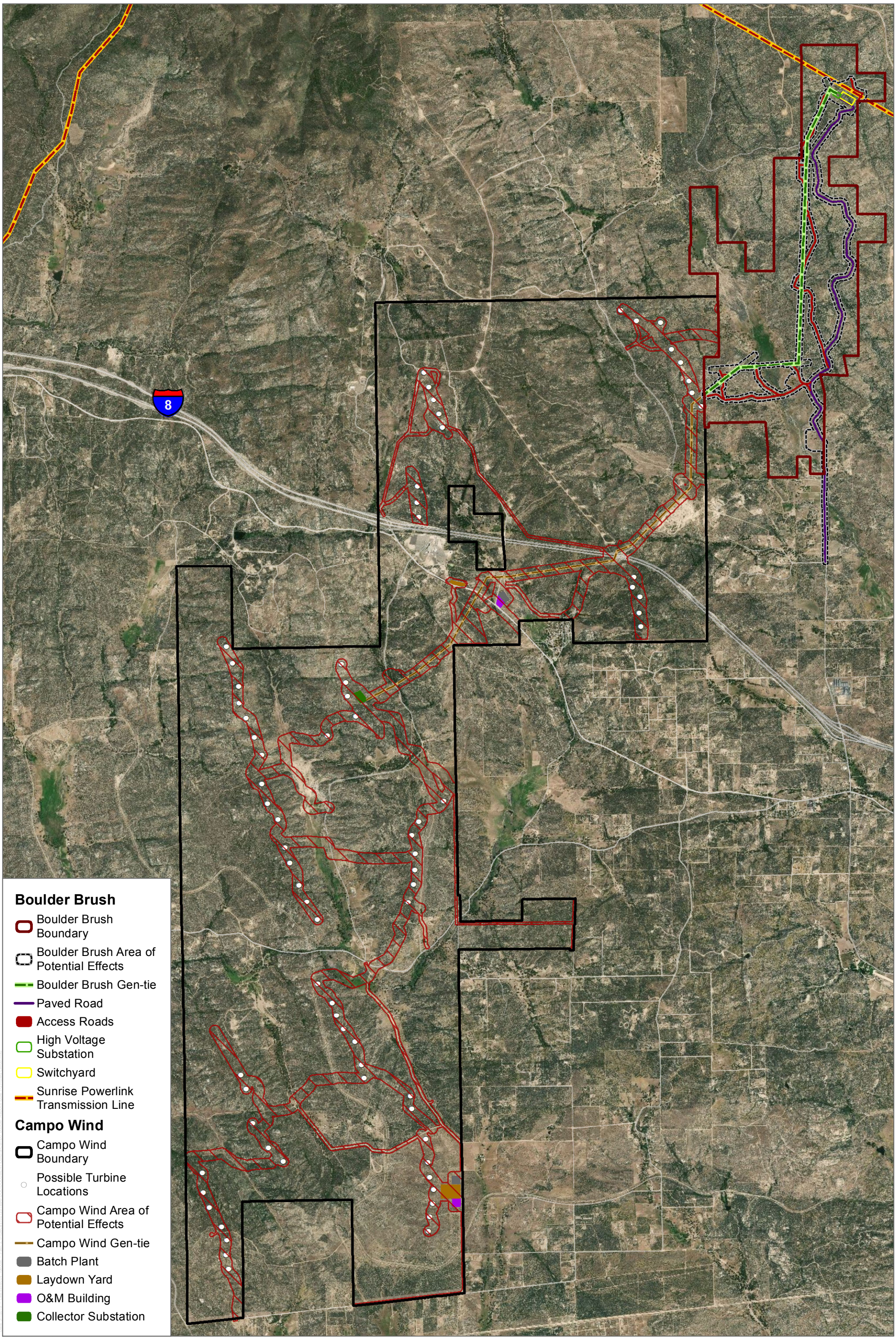
0 2 4 Miles

DUDEK

**FIGURE 1-2**

APE Index Map

Campo Wind with Boulder Brush Facilities




SOURCE: Bing 2018

DUDEK

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**FIGURE 1-3**

Project Layout

Campo Wind with Boulder Brush Facilities