Cultural Resources Survey Report for the Otay Pipeline 2 Segment A6 Project, Cities of San Diego and Chula Vista, San Diego County, California

LDR number:

U.S. Geological Survey 7.5-minute Quadrangle:
USGS Otay Mesa 7.5" Topographic Quadrangle

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MANAGEMENT SUMMARY

ECORP Consulting, Inc. conducted a cultural resources investigation at the request of Harris & Associates for the City of San Diego Otay Pipeline 2 Segment A6 project (Project). The Project Area comprises a 9.56-acre (4,164 feet long and 100 feet wide) pipeline corridor within a City of San Diego-owned easement that is located within the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan in San Diego County, California. The City of Chula Vista is the Lead Agency for the Project, and the City of San Diego is the Responsible Agency. This assessment was conducted in support of the California Environmental Quality Act (CEQA) environmental document for the Project and in compliance with Section 106 of the National Historic Preservation Act (NHPA) as necessary for a project permit application under Section 404 of the Clean Water Act (CWA).

The cultural resources investigation included a records search and field survey. In March 2018, a cultural resources records search of the California Historical Resources Information System (CHRIS) was requested from the South Coastal Information Center (SCIC) at San Diego State University. The CHRIS records search results indicate that 34 previous cultural resources studies have been conducted within a 0.5-mile search radius of the Project Area. Of these studies, 13 previous investigations overlapped the Project Area. A total of 67 cultural resources have been previously recorded within 0.5 mile of the Project Area, including 55 pre-contact (prehistoric) sites, eight historic-era sites, and four multi-component sites. Two pre-contact archaeological sites (P-37-014580 and P-37-014581) and one historic-era site (P-37-13460) were determined to overlap the pipeline corridor Project Area.

A search of the Sacred Lands File was requested from the Native American Heritage Commission (NAHC) in Sacramento in May 2018. The results of the Sacred Lands File search by the NAHC did not indicate the presence of Native American sacred lands within the vicinity of the Project Area. The NAHC identified 20 Native American groups and individuals with historical and traditional ties to the Project Area.

An intensive systematic pedestrian survey of the Project Area was conducted by ECORP archaeologist John O'Connor on May 15, 2018. Site P-37-013460, a historic-era trash scatter, was not relocated. Pre-contact site P-37-014580 was relocated. This site was originally described as a lithic scatter, and a core and two lithic flakes were identified within the site boundaries. Pre-contact site P-37-014581, another lithic scatter, was not relocated within the map site boundaries. However, the identification of a single lithic flake at the southern edge of the site boundary likely constitutes site relocation. A new isolated lithic flake, OTP-001-I, was recorded to the southeast of site P-37-014581. At the direction of Myra Herrmann, Senior Planner for the City of San Diego, no further testing or evaluation of these sites was completed, and the City of San Diego has determined that the resources are not eligible for inclusion in the California Register of Historical Resources (CRHR) or the National Register of Historic Places (NRHP). Procedures for construction monitoring and the management of unanticipated discoveries are provided.

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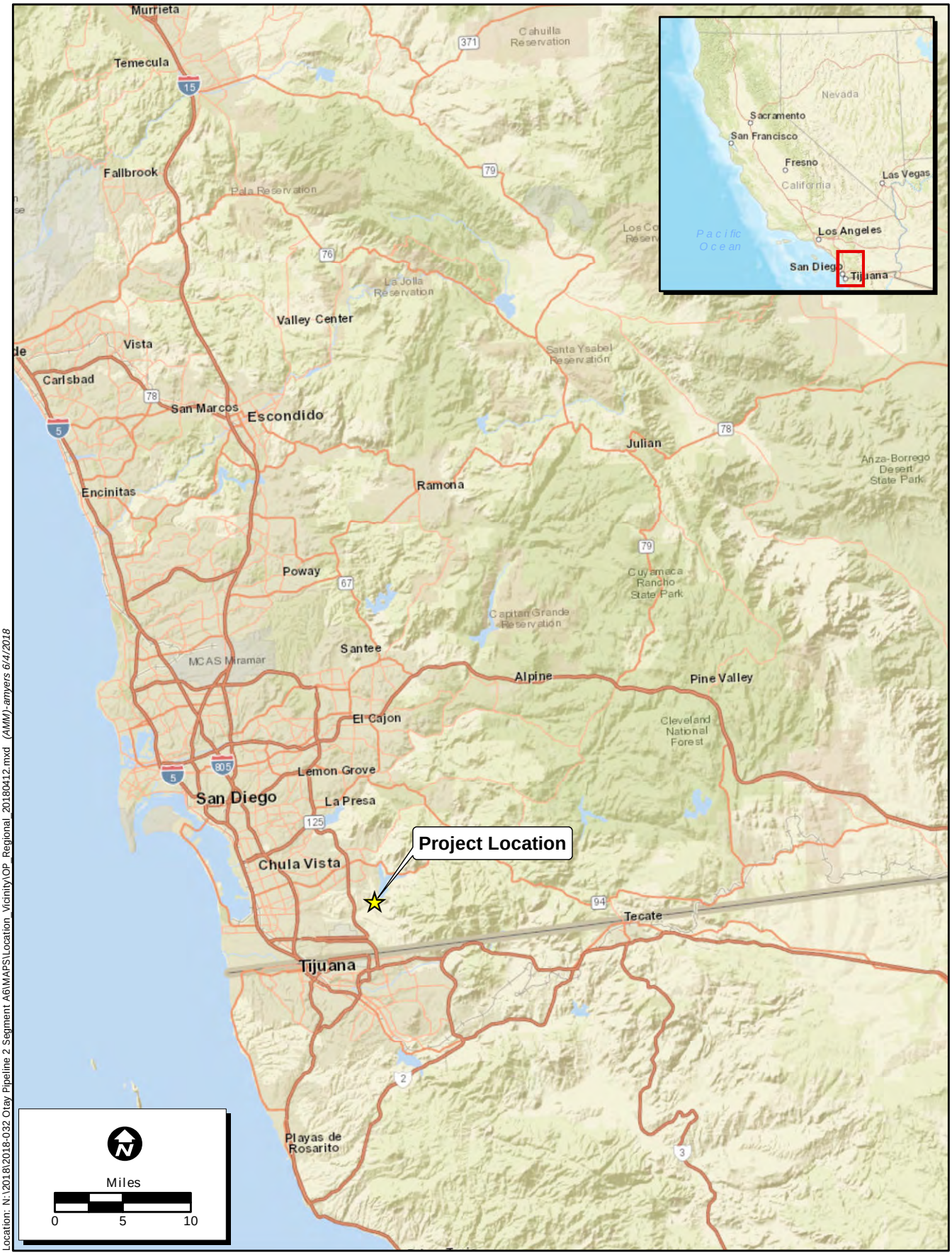
I. PROJECT DESCRIPTION AND LOCATION

The proposed Otay Pipeline 2 Segment A6 project will replace an existing water transport pipeline along a 4,164-foot by 100-foot corridor in the Otay River Valley of San Diego County (Figure 1). The pipeline will extend westward from the Otay Water Treatment Plant at the southwest edge of Lower Otay Lake. The Project Area consists of a 9.56-acre property within a City of San Diego-owned easement that is located within the City of Chula Vista Multiple Species Conservation Program (MSCP) Subarea Plan in San Diego County, California. The City of Chula Vista is the Lead Agency for the Project under CEQA, and the City of San Diego is the Responsible Agency. The Project will be accessed by hard-packed access roads throughout the easement and from paved roads connected with the Otay Water Treatment Plant.

The Project Area is located in an unsectioned portion of the Rancho Otay Landgrant, San Bernardino Base and Meridian, as depicted on the U.S. Geological Survey (USGS) 1971 Otay Mesa 7.5-minute Topographic Quadrangle map (Figure 2). The Project Area is located on the north of the Otay River in the Otay River Valley, approximately 10 miles inland from the City of Imperial Beach and four miles north of the international border between the United States and Mexico. The pipeline corridor that is the focus of the Project Area is located at the southwest edge of Lower Otay Lake and extends westward from the Otay Water Treatment Plant at 1500 Wueste Road, Chula Vista, California 91915. The Project Area sits on largely undeveloped land, though the immediate vicinity has been heavily disturbed by decades of construction related to regional water transport systems. Residential communities are located one mile to the north of the proposed Project, and the Richard J. Donovan Correctional Facility and the George F. Bailey Detention Facility are located approximately one mile to the south.

John T. O'Connor, M.A., RPA, authored the report and completed the field survey, under the direction of Lisa Westwood, RPA, who meets the qualifications for Principal Investigator (resumes in Attachment A). This report was prepared in general conformance with Appendix D of the City of San Diego's Archaeological Resources Report Form from the Historical Resources Guidelines of the Land Development Manual, which is used when no archaeological resources were identified within a project area.



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Map Date: 4/13/2018

Figure prepared by ECORP Consulting Inc.

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Figure 1. Project Vicinity

2018-032 Otay Pipeline 2 Segment A6

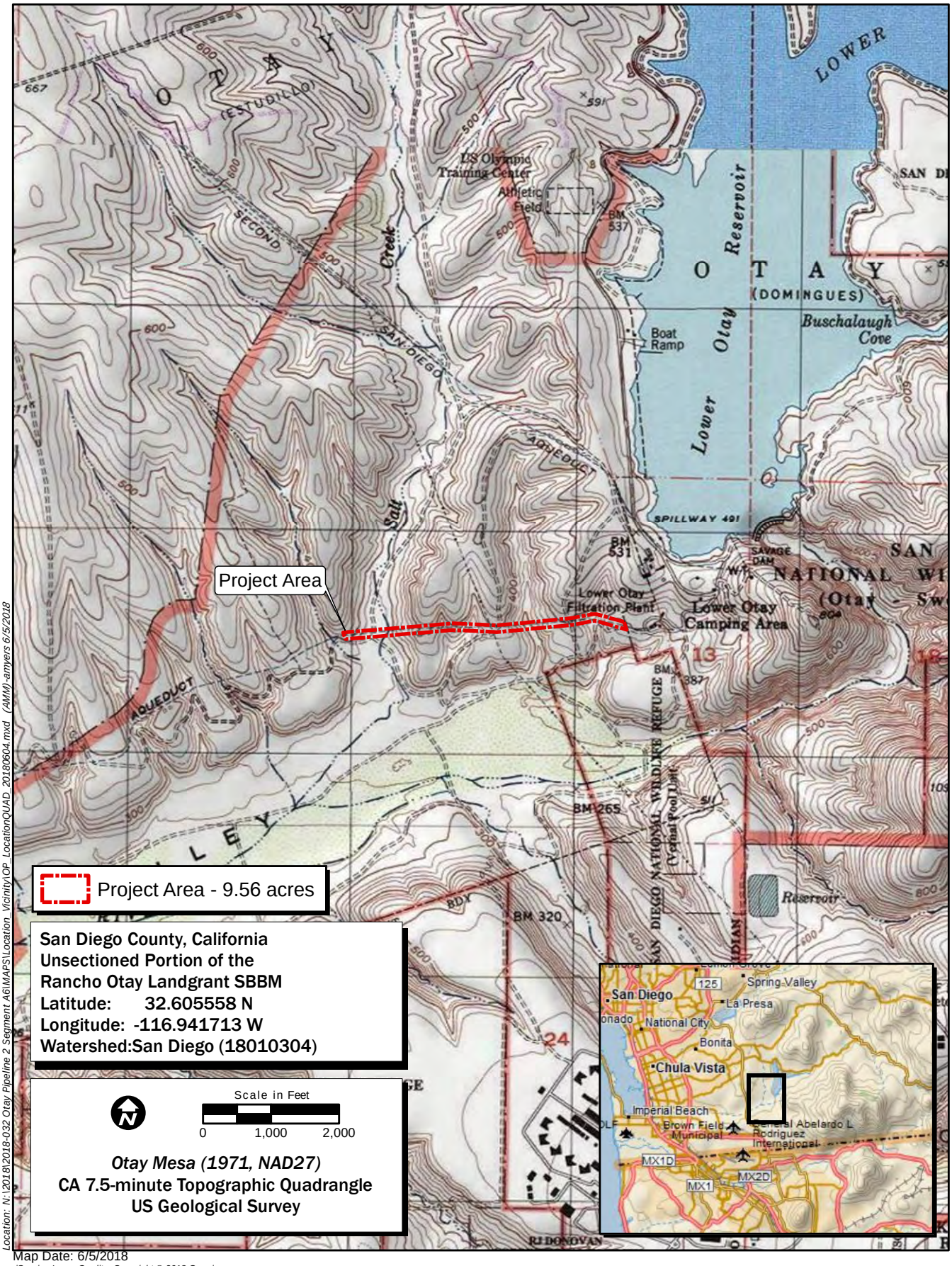

Figure 2. Project Location

2018-032 Otay Pipeline 2 Segment A6

II. SETTING

Natural Environment

The Project Area is situated along the northern edge of the Otay River Valley, where the Otay River exits Lower Otay Lake and flows westward to empty into the San Diego Bay. The Otay River is an important regional waterway that supports riparian vegetation communities at various degrees of constraint from the inland mountains to the coast. The ecological setting of the valley can be described as primarily maritime succulent scrub habitat, with Diegan coastal sage scrub and non-native grassland along the pipeline corridor, and non-native riparian and non-native riparian: broadleaf-dominated habitat in the Salt Creek marsh area at the west end of the Project Area (Holland AECOM 2012). Economic use and moderate development has altered the composition of plant communities in the Project Area. Rancho Otay was used for cattle grazing and agriculture for decades in the nineteenth and twentieth centuries. The area is now predominantly occupied by residential development in the north of the Project Area and infrastructure use in the immediate vicinity.

The geology of the Project Area is predominantly Otay Formation fanglomerate facies from the Oligocene/Miocene epoch, interspersed with middle to late Pleistocene alluvial deposits and Holocene alluvial deposits in the lower elevations near Salt Creek (Tan and Kennedy 2002). The pipeline corridor exists along the tops of ancient marine terraces, but topography varies among marine terraces, terrace escarpments, depressions, and hillslopes. Soil types are primarily Huerohuero loam alfisols on marine terraces, entisols along terrace escarpments, Diablo vertisols and Olivenhain alfisols at the west end of the Project Area, and Salinas mollisols as part of an alluvial fan extending southward into the Salt Creek marsh area (Soilweb 2018). These soils data indicate that there is a potential for buried archaeological resources, but that the probability of in situ or intact archaeological deposits is relatively low. The Project Area is hilly with steep escarpments. Though appearing relatively undeveloped, the landscape has experienced extensive disturbance due to the Otay Ranch Pipeline Project, grading and maintenance of access roads, and other construction activities.

Prehistory

The archaeological history of southern California is remarkably complex, with a great deal of variation and the overlapping of specific technological and cultural traditions from the onset of documented human habitation in the terminal Pleistocene to the period of European contact in the Late Holocene. Today, archaeology and culture history are typically described according to geological epoch, with delineations in years before present (B.P.) between the Pleistocene (>10,000 B.P.), Early Holocene (10,000-6,500 B.P.), Middle Holocene (6,500 B.P.-3,500 B.P.) and the Late Holocene (3,500 B.P. to present). This approach places human history squarely in the realm of greater ecology and geological history in a way that allows discussion of human activity through time without limitations imposed by provincial labels. In California this distinct use of geological terminology is not entirely arbitrary as elements of technological change and diversification in cultural practices are observable at the transition of temporal periods (Erlandson and Colten 1991). However, terminology that is generally accepted by California archaeologists and the California Office of Historic Preservation (OHP) is still helpful in describing ancient patterns of human

activity. Below are discussed the predominant archaeological patterns through time in San Diego County in relation to behavioral traditions and temporal periods, and in specific reference to the Project Area.

San Dieguito Complex – 10,000 to 8,500 B.P.

Terminal Pleistocene archaeological deposits are notably present on the California Channel Islands, but the onset of human activity in coastal areas of the Southern Bight appear after 10,000 B.P. (Erlandson et al. 2007). Early Holocene warming temperatures, rising sea level, and megafaunal extinction resulted in landscape and resource change that contributed to alternative subsistence strategies in local populations, with an emphasis on hunting smaller game and increasing reliance on plant gathering. Early Holocene archaeological sites in San Diego County occur around bays, sloughs, and coastal valleys that allowed early peoples continued access to aquatic resources. These coastal sites contain large amounts of marine faunal remains along with worked tools, such as lithic bifaces, milling tools, and bone tools from which archaeologists may reconstruct the human past in southern California (Gallegos 1991).

The San Dieguito Complex is a cultural tradition originating in the Early Holocene and defined by material found at the Harris archaeological site (CA-SDI-149) on the San Dieguito River near Lake Hodges in San Diego County (Warren 1968). Diagnostic artifacts associated with the San Dieguito Complex include lithic manufacturing implements and a variety of chipped stone tools, including projectile points, knives, scrapers, engraving tools, and stone crescents (Knell and Becker 2017; Koerper et al. 1991). Particular interest has been paid to the stone crescents that appear in Terminal Pleistocene and Early Holocene deposits throughout the region. Though only a single specimen was found at CA-SDI-149, this class of artifacts has come to define human-environmental interactions of the period due to association with paleoshorelines and wetland habitats that existed on the Channel Islands, along the California coast, in interior areas of California and the Great Basin, and further east in what is today Wyoming and Colorado between ~12,000-8,000 cal B.P. (Moss and Erlandson 2013). The majority of these crescents appear to be utilitarian implements for the hunting of birds (Erlandson and Braje 2008; Moss and Erlandson 2013). Sanchez et al. (2017) have confirmed a strong spatial association between stone crescents and reconstructed wetland habitats, supporting the argument that these artifacts were predominantly used for the harvesting of aquatic species and avifaunal resources that once existed along Terminal Pleistocene-Early Holocene paleoshorelines.

The San Dieguito Complex at CA-SDI-149 dates to between 9,030 ± 350 B.P. and 8,490 ± 400 B.P. (Gallegos 1991; Knell and Becker 2017). The presence of comparable artifacts and archaeological deposits are seen specifically throughout Southern California and northwestern Mexico between 9,000 and 7,000 B.P. However, it is important to note the scarcity of San Dieguito materials and radiocarbon age determinations as well as the substantial spatiotemporal overlap with artifacts and faunal assemblages typically associated with later cultural traditions (Scharlotta 2015). The established use of groundstone technologies during the Early Holocene provides support for the continuation of certain subsistence practices during the Middle Holocene concurrent with decreases in wetland associated flaked-stone lithic assemblages. Early Holocene sites in coastal San Diego County have yielded artifacts and subsistence remains characteristic of succeeding technological traditions, including manos, metates, core-cobble

tools, and species of marine shell more closely associated with the lagoon ecosystems, hotter and drier environmental contexts, and variable behavioral practices of the Middle Holocene (Gallegos 1991; Koerper et al. 1991).

La Jolla Complex – 8,500 to 1,300 B.P.

Sea levels continued to rise during the Early to Middle Holocene transition, eventually stabilizing around 6,000 B.P. and filling low-lying coastal areas and canyons in what became a relatively dense concentration of highly productive estuaries and coastal ecosystems (Masters and Gallegos 1997). The relationship of human populations to coastal resources consequently changed through time. Rocky reefs and kelp beds were more extensive during the earlier part of the Holocene and exploited by humans settling on the coast. Early Holocene coastal populations tended to aggregate around estuaries and areas of dense intertidal and littoral sustenance resources, but a greater focus on lagoon resources can be seen in later archaeological deposits. As sea level rose, a transition in species of exploited shellfish and vertebrates is seen, from rocky reef species to sandy beach species that reflects the changes in shoreline during the Middle Holocene. Western North America experienced a period of increased warmth and aridity during the Middle Holocene that likely impacted migrations and settlement patterns from the continental interior to the coast (Kennett et al. 2007). Increasingly, human populations in California began to process plant foods with the manos (pestles) and metates (mortars) in an observable shift in technology and subsistence practices that effectively replaced the San Dieguito Complex with a lengthy tradition of cultural behaviors alternately termed the La Jolla Complex (Warren et al. 1961; Byrd and Raab 2007), Encinitas Tradition (Warren 1968), and Milling Stone Period (Wallace 1955). The term "La Jolla Complex" is used here.

The La Jolla Complex is most identified with the manos and metates found along the San Diego County coast beginning about 8,500 B.P. (Sutton and Gardner 2010), but La Jolla tool kits included a wide array of lithic and bone tools. Most La Jolla Complex sites are located around Middle Holocene coastal lagoons which continued filling with sea water due to the sustained retreat of ice caps and global influx of liquid water following the last glacial maximum (LGM, ~20,000 B.P.). Shellfish from these lagoons were an important part of the diet, and most La Jolla sites are classified as shell middens. Both rocky shores shellfish, such as Mytilus sp. (mussels), and bay/estuary shellfish, such as Argopecten sp. (scallops), Chione sp. (cockles), and Ostrea lurida (oyster) are found in La Jolla sites. Rocky shores species are much reduced in quantity and almost disappear from the middens in the Late Holocene. This has been attributed to increased sediment deposition around the mouths of the lagoons along the northern and central San Diego coast, which covered the rocky habitats. Fewer sites were occupied in these areas during the Late Holocene. However, the larger bays to the south (Mission Bay and San Diego Bay) never silted in, and there are numerous La Jolla Complex sites in this area (Masters and Gallegos 1997).

The Pauma Complex is a term to describe an inland cultural pattern beginning around 7,500 B.P. in San Diego County and occurring up to approximately 1,000 B.P. (Sutton and Gardner 2010; True 1958, 1970). Pauma archaeological deposits have numerous manos and metates similar to coastal sites of the same period but lack the marine subsistence remains seen in La Jolla sites. Other Pauma Complex artifacts include core and cobble tools, scraper planes, unifacial scrapers, and infrequent cogged stones and

discoidals. In most Pauma Pattern sites, the mano-metate tool kit predominates which suggests the collection and processing of seeds and other plant materials. Pauma sites are located on older high elevation alluvial terraces in valleys and canyons. Some Pauma sites may be buried in shallow alluvium. Shared similarities between the inland Pauma Complex and the coastal La Jolla Complex may reflect extended cultural ties or different seasonal manifestations of the same people, with the La Jolla Complex emphasizing marine resources (shellfish and fish) and the Pauma Complex emphasizing hard seeds. There are more planing and scraping tools in the La Jolla Complex and more grinding tools (i.e., manos and metates) in the Pauma Complex which undoubtedly correspond to differential resource procurement and processing throughout this time period (Waugh 1986:55-56).

The San Diego coastline began to resemble its current appearance after about 3,500 B.P., with estuaries silting in and a consequential decline in lagoon resources due to increased sedimentation along the San Diego coastline (Gallegos 2002). A warming climate combined with the loss of estuarine resources during the Middle Holocene resulted in an observable transition in settlement patterns during the Late Holocene as many people moved away from the coasts to more fully exploit inland habitats, though San Diego Bay remained due to freshwater runoff and tidal flushing. Additionally, coastal sedimentation and infilling events coincided with the development of the sandy beaches seen today that eliminated majority rocky coastal environments and gave way to a shift in the kinds of subsistence resources available at these locations (Byrd and Reddy 2002). This increased reliance on sandy shore species and the dominance of small terrestrial taxa in archaeological contexts, such as lagomorphs and waterfowl, is reflective of the unique coastal environment of much of San Diego in the Late Holocene.

Late Period (Kumeyaay) - 1,300 B.P. to Contact

The Late Period (Kumeyaay) in San Diego archaeology is determined to have begun with substantial cultural and technological changes occurring around 1,300 B.P. The Late Holocene exemplified major cultural shifts with the entrance of Shoshonean language speakers, now known as the Cahuilla, Cupeño, and Luiseño, into the northern part of San Diego County sometime between and 3,500 B.P. and 1,300 B.P. This coincided with the establishment of definitive Ipai and Tipai (Kumeyaay peoples, Yuman language speakers) societal structures throughout the central and southern parts of the county. An abrupt decrease in coastal deposits appears to have occurred after 3,300 B.P. (Gallegos 2002), though increases in coastal occupation beginning around 1,600 to 1,200 B.P. appear to mirror sustained population increases throughout San Diego County during the Late Holocene to the present day (Byrd and Reddy 2002). Late Period settlement patterns are characterized by the establishment of permanent, sometimes seasonal, villages and ephemeral satellite sites dedicated to specific tasks, such as tool production, food processing, or resource acquisition (Byrd and Raab 2007). A focus on reliable water sources and intensified subsistence practices is evident in the location and nature of regional Late Period archaeological sites.

The Kumeyaay Period has been associated with population increases, particularly in coastal areas, and changes in settlement patterns (Scharlotta 2015). The Late Holocene was a time of technological change. Choices regarding technology and subsistence practices influenced the nature of human-environmental interactions with an expansion of diet breadth, the establishment of permanent villages, and changes in

hunting and gathering processes that also affected social structure during the Kumeyaay period (Bettinger 2013; Gamble and Mattingly 2012). Transition to more sedentary settlement patterns can be witnessed in aspects of technological variation such as the greater use of bedrock mortars in addition to portable milling stones (Byrd and Raab 2007). The Late Period is primarily characterized by use of the bow and arrow, which was introduced to the western United States sometime between 2,300 and 1,300 B.P. (Bettinger 2013). Bettinger argues that the adoption of bow hunting effected an expansion in the utilization of once peripheral subsistence resources (i.e. intensification of plant resource harvesting and processing) due to the increased efficacy of hunting among small groups and a shift to more localized resource harvesting among smaller family bands. Decreases in time spent hunting are thought to encourage greater time spent collecting foodstuffs once perceived as too costly.

In San Diego, principal foods for inland populations included acorns, grasses, other seeds, and lagomorphs, in addition to continued hunting of deer. However, people had returned to the coasts during the Kumeyaay Period and were exploiting a wide variety of marine resources in addition to the extensive trade networks along the southern California coast and that of Baja California (Byrd and Raab 2007). Gamble and Mattingly (2012) document over 200 fire-affected rock features at Torrey Pines State Natural Reserve, positing the use of these features in the processing of Torrey pine nuts (*Pinus torreyana*) by Kumeyaay peoples on the coast over the last two millennia. The introduction of the bow and arrow to Southern California was followed by other archaeologically observable shifts prior to European contact, such as distinguishable changes in projectile point morphology, a switch from Coso (Sierra Nevada source) to Obsidian Butte (Salton Sea) as a source for volcanic glass, and even a transition from burial to cremation for the dead (Gallegos 2002). Ceramics appear in the archaeological record of after 1,300 B.P., with the distribution of reddish-brown sherds across San Diego County from the Peninsular Ranges to the Coast that differs from a lighter-colored buff pottery found in the deserts to the east (Quinn et al. 2013). Common ceramic forms include round-bottomed jars with restricted necks, bowls, scoops, plates, and other vessels used for cooking and storage. Ceramic pipes were also made (Gallegos 2002). Recovered ceramic specimens exhibit chemical signatures derived from similar geological contexts in the Laguna and Cuyamaca Mountains, suggesting the transfer of materials from mountain to coast within the extensive trade networks that undoubtedly existed at this time (Quinn et al. 2013).

Numerous archaeological deposits have been documented along the Otay River Valley. The village of Otai (Otay) offers radiocarbon evidence of continuous occupation between 1,530 B.P. to 300 B.P. (Gallegos 2002). This Kumeyaay village was located on a low terrace on the north shore of the Otay River. Archaeological materials retrieved from subsurface testing at the site include lithic and bone tools, decorated pottery, faunal remains of terrestrial and marine species, and the trade beads linking the village of Otai to the trade networks of the California coast, the Gulf of California, and the greater Southwest region. These cultural materials support the wide-ranging influence and cultural sophistication of the dense populations existing along the beaches, bays, and inland waterways of San Diego at the time of European contact.

Ethnohistory

The Project Area is along the north edge of the lower Otay River in Chula Vista, California. This region is part of the ancestral lands of the Kumeyaay, particularly those groups identified with the Tipai language dialect prevalent in this part of southern San Diego County. The Kumeyaay, also known as Ipai and Tipai, are the Yuman-speaking native people of central and southern San Diego County and the northern Baja Peninsula in Mexico. Spanish missionaries and settlers used the collective term Diegueño for these people, which referred to people living near the presidio and mission of San Diego de Alcalá. Today, these people refer to themselves as Kumeyaay or as Ipai and Tipai, which are northern and southern subgroups of Kumeyaay language speakers, respectively (Luomala 1978). The ancestral lands of the Kumeyaay extend north from Todos Santos Bay near Ensenada, Mexico to Agua Hedionda Lagoon in north San Diego County, and east to the west side of the Imperial Valley.

The primary source of Kumeyaay subsistence was vegetal food. Seasonal travel followed the ripening of plants from the lowlands to higher elevations of the mountain slopes. Acorns, grass and sage seeds, cactus fruits, wild plums, pinyon nuts, and agave stalks were the principal plant foods. Women sometimes transplanted wild onion and tobacco plants to convenient locations and sowed wild tobacco seeds. Deer, rabbits, small rodents, and birds provided meat. Village locations were selected for seasonal use and were occupied by exogamous, patrilineal clans or bands. Three or four clans might winter together, then disperse into smaller bands during the spring and summer (Luomala 1978).

The Kumeyaay were loosely organized into exogamous patrilineal groups termed sibs, clans, gens, and tribelets by ethnographers. The Kumeyaay term was *cimul*. The *cimul* used certain areas for hunting and gathering, but apparently did not control a bounded and defended territory, as did the Luiseño and Cahuilla. In addition, members of several different *cimul* usually lived in the same residential base, unlike the Luiseño where a single party or clan controlled a village and its territory. Kumeyaay lived in residential bases during the winter and subsisted on stored resources. No permanent houses were built. Brush shelters were temporary and were not re-used the next year. Ceremonies, including rites of passage and ceremonies to insure an abundance of food, were held in the winter residential bases. The *cimul* leader directed the ceremonies and settled disputes (Christenson 1990:58, 62). One of the most important ceremonies was the mourning ceremony. Upon death, the Kumeyaay cremated the body of the deceased. Ashes were placed in a ceramic urn and buried or hidden in a cluster of rocks. The family customarily held a mourning ceremony one year after the death of a family member. During this ceremony, the clothes of the deceased individual were burned to ensure that the spirit would not return for his or her possessions (Gifford 1931; Luomala 1978).

The Kumeyaay were geographically and linguistically divided into western and eastern Kumeyaay. The western and eastern Kumeyaay spoke two different dialects (Christenson 1990:64). The western Kumeyaay lived along the coast and in the valleys along the drainages west of the mountains. The eastern Kumeyaay lived in the canyons and desert east of the mountains. The western Kumeyaay spent the winter in residential bases in the lowland valleys and then broke into smaller *cimul* groups that moved gradually eastward toward the mountains, following ripening plants and occupying temporary residential bases

along the way. Thus, each group occupied several different residential bases during the course of a year (Christenson 1990:292-293). The eastern Kumeyaay spent the winter in villages on the desert margin where water was available from springs at canyon mouths. They moved up the canyons toward the mountains during spring and summer. The eastern and western Kumeyaay met in the mountains in the fall where they gathered black oak acorns, traded, and held ceremonies (Christenson 1990:63). The large residential bases in the mountains appear archaeologically to be village sites (Gross and Sampson 1990).

The Kumeyaay population was estimated to be between 10,000 and 20,000 at the time of European contact, based on Spanish accounts and ethnographies (Gallegos 2002). Beginning in 1775, the semi-nomadic life of the Kumeyaay began to change as a result of contact with European-Americans, particularly from the influence of the Spanish missions. Through successive Spanish, Mexican, and Anglo-American control, the Kumeyaay were forced to adopt a sedentary lifestyle and accept Christianity (Luomala 1978).

History

The first European to visit California was Spanish maritime explorer Juan Rodriguez Cabrillo in 1542. Cabrillo was sent north by the Viceroy of New Spain (Mexico) to look for the Northwest Passage. Cabrillo visited San Diego Bay, Catalina Island, San Pedro Bay, and the northern Channel Islands. The English adventurer Francis Drake visited the Miwok Native American group at Drake's Bay or Bodega Bay in 1579. Sebastian Vizcaíno explored the coast as far north as Monterey in 1602. He reported that Monterey was an excellent location for a port (Castillo 1978). Vizcaíno also named San Diego Bay to commemorate Saint Didacus. San Diego began to appear on European maps of the New World by 1624 (Gudde 1998:332).

In 1769, the Gaspar de Portolá Spanish land expedition arrived in the San Diego area from New Spain (Mexico), and Mission San Diego de Alcalá was founded by Father Junipero Serra as the first of 21 Spanish missions in *Alta California*. A *presidio* (military facility for Spanish soldiers) was built near the mission. The purpose of the missions and presidios was to establish Spanish economic, military, political, and religious control over the Alta California territory. The missions sustained themselves through cattle ranching and traded hides and tallow for supplies brought by ship. Mission San Diego was established to convert the Native Americans that lived in the area, known as the Kumeyaay or Diegueño. The presidio and mission were located on a hill on the south side of the San Diego River about three miles inland from the coast. After being destroyed by attacking Kumeyaay in 1775 during an attempt to drive out the Spanish (Robinson 1948:63; Castillo 1978:103), Mission San Diego was rebuilt in its present location on the north side of the river about 5.5 miles upstream from the presidio. However, the presidio remained in its original location and a small town or *pueblo* developed around it (Caughey 1933:123).

Mexico became independent from Spain in 1821, and what is now California became the Mexican province of Alta California. The Mexican government closed the missions in the 1830s and former mission lands were granted to retired soldiers and other Mexican citizens for use as cattle ranches. Much of the land along the coast and in the interior valleys became part of Mexican land grants or "ranchos" (Robinson 1948). During the Mexican period there were small towns at San Diego (near the presidio), San

Juan Capistrano (around the mission), and Los Angeles. The rancho owners lived in one of the towns or in an adobe house on the rancho. The Mexican Period includes the years 1821 to 1848.

The American period began when the Treaty of Guadalupe Hidalgo was signed between Mexico and the United States in 1848. Alta California became part of the United States as the territory of California, officially becoming the State of California in 1850. Most Mexican land grants were confirmed to the grantees by U.S. courts, but usually with more restricted boundaries which were surveyed by the U.S. Surveyor General's office. Land that was not part of a land grant was owned by the U.S. government until it was acquired by individuals through purchase or homesteading. Floods and drought in the 1860s greatly reduced the cattle herds on the ranchos, making it difficult to pay the new American taxes on the thousands of acres they owned. At the same time, the Homestead Act of 1862 brought American settlers to southern California in search of land to claim. Many Mexican-American cattle ranchers borrowed money at usurious rates from newly arrived Anglo-Americans. The resulting foreclosures and land sales transferred most of the land grants into the hands of Anglo-Americans (Cleland 1941:137-138).

San Diego County was created in 1850 as one of the first counties within the new state of California (Coy 1973; Marschner 2000). At that time, the area designated as San Diego County included nearly all of present-day San Diego, Imperial, Riverside, and San Bernardino Counties, as well as a small portion of present-day Inyo County (Coy 1973:221; Marschner 2000:39). The City of San Diego continued as a small settlement around the presidio until a new town was platted south of the old town by Alonzo Horton, a San Francisco furniture dealer. He sold lots beginning in 1867 and built a 700-foot wharf in 1869. By 1870 San Diego had 800 buildings and a population of 3,000 (Dumke 1944:134). The completion of the California Southern Railroad from National City and San Diego to San Bernardino via Oceanside in 1883 and the completion of the Santa Fe line from Los Angeles to Oceanside (connecting to San Diego via the California Southern track) in 1888 resulted in a real estate boom and the economic development of the San Diego area (Dumke 1944:136-137). In 1887, the National City and Otay Railroad began constructing a line south toward the border (Dumke 1944:148, 270). Lots in the community of Otay (located at the terminus of the National City and Otay Motor Railway on the north side of the Otay River) were auctioned at this time (Dumke 1944:148). The population continued to increase throughout the earlier part of the 20th century.

Towns in southern San Diego County saw increased activities during Prohibition (1919-1933) as liquor was smuggled over the border and people came to vacation and drink. After the 1929 stock market crash, vacationers to the area diminished, but were replaced with families who came to homestead the land. In addition, the Civilian Conservation Corps established a camp known as Minnewawa Camp near the junction of Otay Lakes Road and Minnewawa Trail in Cedar Canyon. The camp housed 150 men who graded truck trails, cleared fire breaks, constructed telephone lines, built the fence along the international border, constructed facilities at the U.S. Forest Service ranger stations, and helped fight wildland fires. Following the attack on Pearl Harbor on December 7, 1941, military posts and bunkers were established all along the California coast to defend against potential Japanese attacks. As part of this effort, the Otay Mountain bunker complex was established with four concrete bunkers and two foundations for a radar

tower and communications antenna. The station was operated by Army personnel stationed at Camp Minnewawa (Gallegos et al. 2002).

In 1962, the Otay Mountain National Cooperative Land and Wildlife Management Area was established. At that time, the only developments in the Management Area were access roads, hiking trails, firefighting stations, and communications facilities (Gallegos et al. 2002). Since then, only road and border fence improvements have been permitted in the area. Federal, state, and local agencies have been cooperating together since the early 1990s to establish habitat conservation management in the region. The BLM has participated in this effort and contributed to the Multiple Species Conservation Program. In 1999, the Otay Mountain Wilderness Area was established. Other protected areas include the Cedar Canyon Area of Critical Concern (ACEC) and the Kuchamaa (Tecate Peak) ACEC.

The City of Chula Vista began in the 1880s as a land development project of the San Diego Land and Town Company. This 5,000-acre tract of land was part of the massive National Ranch, a Mexican-period rancho granted to John Forster in 1845 that originally included National City, Chula Vista, Bonita, and surrounding areas. Subsequent sales of the ranch resulted in the partitioning of land tracts, and American immigration to the area provided the catalyst for economic and residential development. The San Diego Land and Town Company saw Chula Vista as an opportunity to provide homesteads for new settlers in a location just south of the current railroad terminus at already bustling National City. Chula Vista land sales began in 1887. The Sweetwater Dam was completed in 1888 and provided a viable water source for area residents. With greater access to water, the population continued to increase in concert with the development of a citrus-focused agricultural economy in southern San Diego County. The City of Chula Vista was officially incorporated in 1911 (City of Chula Vista).

Otay Ranch, the area of the Project, originated as a land grant during the Mexican period. The Otay Rancho of 6,658 acres awarded to Magdalena Estudillo in 1829 and was located east of the current city of Imperial Beach and west of the modern-day Otay Reservoir (Aviña 1976:66; Gallegos et al. 2002; Rush 1965:8-9). Magdalena Estudillo received a patent for Rancho Otay (Estudillo) in 1872 from the U.S. Land Commission. In the following years, she sold the rancho and it passed between several investors and developers until 1936 when it was purchased by Stephen Birch, who combined it with other land holdings in the area and used it for agriculture. By the 1960s, it was being parceled and sold for urban development (Gallegos et al. 2002). Importantly, the Janal Rancho of 4,436 acres was granted to José Antonio Estudillo, brother of Magdalena Estudillo, an action contemporaneous with the establishment of Otay Rancho in 1829. The Janal Rancho was located northeast and adjacent to the Otay Rancho, often considered part of the same property. By 1901, two dams had been built on the rancho by the Southern California Mountain Water Company and were later purchased by the City of San Diego in 1913. Along with Sweetwater Dam, these dams contributed to ongoing development in the area and have enabled population expansion that we see in the area today.

III. AREA OF POTENTIAL EFFECTS (APE)

The Area of Potential Effects (APE) for the proposed Project is identical to the 9.56-acre Project Area. The APE includes the location of actual construction, equipment staging areas, and all ingress and egress routes for construction equipment and personnel. Anticipated direct, indirect, and cumulative impacts of the Project on cultural resources in the APE are expected to be negligible. Three cultural resources previously documented within the Project Area have been determined as not eligible for listing on the CRHR and the NRHP by the City of San Diego.

IV. STUDY METHODS

Records Search Methods

A cultural resources records search request was submitted on March 6, 2018, to the South Coastal Information Center (SCIC) located at San Diego State University. The records search was conducted by SCIC staff. The SCIC operates as a branch of the California Historical Resources Information System (CHRIS) and is the official repository of cultural resources reports and site records for San Diego and Imperial counties in southern California. The purpose of the records search was to determine the extent and location of previous surveys, previously identified pre-contact or historic-era archaeological site locations, architectural resources, historic properties, cultural landscapes, or ethnic resources within a 0.5-mile (805-meter) radius of the Project Area. Materials reviewed included survey and evaluation reports, archaeological site records, historic maps, and listings of resources on the NRHP, CRHR, California Points of Historical Interest, California Historical Landmarks, and National Historic Landmarks. Historic-period aerial photographs were also reviewed as a part of this study (NETROnline 2018).

A search of the Sacred Lands File was requested from the California NAHC on May 24, 2018. This search was requested to determine whether there are sensitive or sacred Native American resources in the vicinity of the Project Area that could be affected by the proposed Project. The NAHC was also asked to provide a list of Native American groups that have historic or traditional ties to the Project area.

Field Survey Methods

A field survey of the Project Area was conducted on May 15, 2018, by ECORP archaeologist John O'Connor, M.A., RPA, with the assistance of field archaeologist Jesse Shelmire. All accessible portions of the Project Area were surveyed on foot using a combination of straight transects or meandering paths based on topography. Encountered cultural resources were recorded and mapped using Collector for ArcGIS, a cloud-based geospatial software for field data collection developed by ESRI (Environmental Systems Research Institute). All sites and isolates were documented with field notes and photographs.

V. RESULTS OF STUDY

Records Search Results

The results of the CHRIS records search were received by ECORP on April 30, 2018. These results indicate that 34 cultural resources investigations have been conducted within a 0.5-mile vicinity of the Project Area

between the years of 1979 and 2013. Previous surveys cover most of the area surrounding the Project within the 0.5-mile search radius, and include projects ranging from isolated archaeological investigations to broad assessments of cultural resources in the Otay River Valley. The records search indicates that approximately 100 percent of the Project Area has been previously surveyed for cultural resources at some time in the past. Thirteen investigations conducted between 1979 and 2003 overlapped the current Project boundaries. Details of all 34 investigations are presented in Table 1.

Table 1. Previous Cultural Resources Studies Within 0.5 Mile of the Project Area

Report Number	Author(s)	Report Title	Year	Overlaps Project Area
SD-01619	WESTEC Services, Inc.	Proponents Environmental Assessment Miguel to Tijuana Interconnection Project 230 KV Transmission Line	1979	Yes
SD-00122	Banks, Thomas J.	An Archaeological Survey of the Otay Ranch Proposed Barrow Pit Locations San Diego County	1980	No
SD-00132	Archaeological Planning Collaborative	An Archaeological Records Search and Field Survey of the Janal Ranch Property, San Diego County	1980	No
SD-01758	McCorkle Apple, Rebecca	Archaeological Survey Reports for a Proposed Realignment Project at 11-SD-94 P.M. 29.9-30.3 11359-193361	1981	No
SD-01861	Hector, Susan and Stephen Van Wormer	Results of an Archaeological Test Program Conducted at SDi-10862 Lower Otay County Park County of San Diego	1982	No
SD-04853	Cultural Systems Research, Inc.	Volume I Cultural Resource Data Recovery Program of the Proposed Miguel-Tijuana 230 KV International Interconnection Project San Diego Co.	1983	No
SD-04651	WESTEC Services, Inc.	East Mesa County Detention Facility Draft Environmental Impact Report	1987	No
SD-06805	Berry, Stanley	Archaeological Overview and Planning Document for the Proposed Rancho Otay Project	1987	Yes
SD-00673	Gallegos, Dennis, Carolyn Kyle, Richard Carrico, and Roxana Phillips	Cultural Resource Survey and Testing Program for the East Mesa Detention Facility San Diego, California	1988	No
SD-00850	Kyle, Carolyn, Dennis Gallegos, and Roxana Phillips	Cultural Resource Survey and Testing Program for the East Mesa Detention Facility, San Diego, California	1988	No
SD-04653	WESTEC Services, Inc.	East Mesa Detention Facility Supplemental Environmental Impact Report Draft	1988	No
SD-05379	Gallegos, Dennis and Andrew Pigniolo	Cultural Resource Inventory Number 2 for Twenty-Seven Drill Sites Within the Amir Indian Rose Area Lease	1988	Yes
SD-01793	Schaefer, Jerry	The Lower Otay Filtration Plant (CA-SDI-11,355H)- An Historical Survey and Assessment	1989	No
SD-04260	Brian F. Mooney Associates	Cultural Resource Survey for San Diego County Water Authority Pipeline 4EII	1991	No

Table 1. Previous Cultural Resources Studies Within 0.5 Mile of the Project Area

Report Number	Author(s)	Report Title	Year	Overlaps Project Area
SD-04657	Ogden Environmental and Energy Services Co., Inc.	Draft Program Environmental Impact Report, Otay Ranch	1992	Yes
SD-02690	Carrico, Richard	Final Cultural Resources Evaluation of the 23,088 Acre Otay Ranch, San Diego County	1993	Yes
SD-02945	Kyle, Carolyn E. and Dennis R. Gallegos	Cultural Resource Survey and Test of Five Sites for the Otay Water District Central Area and Otay Mesa Interconnection Pipeline Alignments	1994	Yes
SD-03156	Smith, Brian F.	Results of an Archaeological Survey at the Otay Valley Parcel of the Otay Ranch	1996	Yes
SD-03266	Gross, Timothy, Ruth Alter, and Mary Robbins-Wade	Archaeological Survey for the Joint Task Force-Six Border Road Repair Project, Otay Mountain, California	1996	Yes
SD-03823	Kyle, Carolyn	Cultural Resource Constraint Study for the Otay Water Treatment Plant Improvements City of San Diego, California	2000	No
SD-04134	Kyle, Carolyn E.	Cultural Resource Survey for the Otay Water Treatment Plant Upgrade, City of San Diego, Ca.	2000	Yes
SD-05144	Kyle, Carolyn	Cultural Resource Survey for the Otay Water Treatment Plant Upgrade City of San Diego, California	2000	Yes
SD-08068	Gallegos, Dennis R., and Jeffrey Flenniken	Cultural Resources Test Results for the Otay Mesa Generating Project	2000	Yes
SD-05408	Raap, Allison	Draft Mitigated Negative Declaration Otay Water Treatment Plant Upgrade	2001	Yes
SD-08167	City of San Diego	Notice of Preparation of a Draft Environmental Impact Report Otay Second Pipeline Improvement Program	2003	No
SD-08421	Pierson, Larry J.	Archaeological Monitoring for Salt Creek Gravity Sewer Interceptor Phase IV Project	2003	Yes
SD-09658	Kyle, Carolyn	Cultural Resource Monitoring for the Otay Water Treatment Plant Upgrade Project City of San Diego, California	2005	No
SD-10251	Bonner, Wayne H., and Sarah A. Williams	Cultural Resource Records Search and Site Visit Results for Spirit Nextel Telecommunications Facility Candidate CA7456A (Johnson Canyon), 2270 Wueste Road, Chula Vista, San Diego County, California	2006	No
SD-13636	Whitaker, James E.	Cultural Resources Monitoring Results for the Transmission Access Road Grading, South 1, Otay Mesa/Chula Vista, San Diego County, California	2010	No
SD-13650	Clowery, Sara C., and Nicole Blotner	ETS #8360; TL 6910 Wood to Steel, Miguel to Border Substations, Cultural Resources Inventory Report	2010	No

Table 1. Previous Cultural Resources Studies Within 0.5 Mile of the Project Area

Report Number	Author(s)	Report Title	Year	Overlaps Project Area
SD-13626	Morgan, Nichole B.	TCM Access Road Grading Project, Cultural Resources Inventory Report	2011	No
SD-14334	Wilson, Stacie	Letter Report: ETS 25033 – Cultural Resources Survey for the Replacement of Pole Z81044, Community of Otay Mesa, San Diego County, California – IO 7011103	2013	No
SD-14505	Wilson, Stacie	Letter Report: ETS 25033 – Cultural Resources Monitoring Report for Replacement Activities for Pole P204015S, Community of Otay Mesa, City of San Diego, California – IO 7011103	2013	No
SD-15229	Tennesen, Kristin	ETS #24738.03, Cultural Resources Monitoring for the Intrusive Pole Inspections, Metro District, Subareas BORD, SNYS, IMPE, OTAY, SBAY, HILT, MONT, SSDE, LINC Project, San Diego County, California (HDR #207357)	2013	No

Sixty-seven previously recorded cultural resources are located within 0.5 mile of the Project Area. Documented resources include 55 pre-contact sites, eight historic-era sites, and four multi-component sites. Of these, two pre-contact lithic scatters and one historic-era trash scatter overlap the Project Area. The remaining 64 cultural resources previously documented within the 0.5-mile search area include pre-contact lithic, ceramic, and shell scatters and isolates, and historic-era features and trash scatters distributed throughout the project vicinity. Details of all 67 resources are presented in Table 2.

Table 2. Previously Recorded Resources Within 0.5 Mile of the Project Area

Site Number	Recorder and Year	Age/Period	Description	Overlaps Project Area
CA-SDI-4727 P-37-004727	Waters, M., Berg, G., 1973; Kraft, J., 2011	Pre-contact	Lithic scatter and flaked stone tool manufacture site	No
CA-SDI-4728 P-37-004728	Waters, M., Berg, G., 1973	Pre-contact	Lithic scatter	No
CA-SDI-4729 P-37-004729	Waters, M., Berg, G., 1973; Kraft, J., 2011	Pre-contact	Lithic scatter and resource procurement site	No
CA-SDI-4730 P-37-004730	Waters, M., Berg, G., 1973; Kraft, J., 2011	Pre-contact	Lithic scatter and resource procurement site	No
CA-SDI-4732 P-37-004732	Waters, M., 1973; Blotner, N., 2010	Pre-contact	Lithic isolate	No
CA-SDI-4733 P-37-004733	Waters, M., 1973	Pre-contact	Lithic scatter with tools	No

Table 2. Previously Recorded Resources Within 0.5 Mile of the Project Area

Site Number	Recorder and Year	Age/Period	Description	Overlaps Project Area
CA-SDI-4734 P-37-004734	Waters, M., 1973	Pre-contact	Lithic scatter	No
CA-SDI-4735 P-37-004735	Waters, M., 1973	Pre-contact	Lithic scatter	No
CA-SDI-4736 P-37-004736	Waters, M., 1973	Pre-contact	Midden	No
CA-SDI-4737 SDM-W-513 P-37-004737	Waters, M., 1973; Kyle, C.E., Phillips, R., Briggs, S., Tift, L., 1993.	Pre-contact	Lithic scatter with tools	No
CA-SDI-4989 SDM-W-510 P-37-004989	Waters, M., 1973	Pre-contact	Lithic scatter with tools	No
CA-SDI-7212 SDM-W-2206 P-37-007212	Day, S., Hunter, R., 1979; Clark, N., 1981; Blotner, N., 2010	Pre-contact	Lithic scatter with flaked and groundstone tools	No
CA-SDI-8649 P-37-008649 4-SDI-8649	Ainsworth, P. W., 1981; Blotner, N., 2010	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-8650 P-37-008650	Clark, N., 1981; Collett, R., 1989	Pre-contact	Lithic scatter	No
CA-SDI-10668 P-37-010668	Thesken, J., 1979; Kyle, C., 1986; Blotner, N., 2010; AECOM 2013, 2016	Pre-contact/Historic	Quarry with lithic scatter and flaked stone tools/1930s cistern with glass fragments	No
CA-SDI-10862H P-37-010862	Hector, S., Noah, A., Van Wormer, S., Haynal, P., Robbins-Wade, M., Baker, E., 1987	Historic	Structural pads with reservoir, dump	No
CA-SDI-10875 P-37-010875	Kyle, C., 1987; Smith, B. F., 1996; Blotner, N., 2010; Roy, J., 2013; AECOM 2013; Elder, J. T., 2015	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-11335H P-37-011335	Schaefer, J., 1989	Historic	Lower Otay Lakes Filtration Plant	No
CA-SDI-11370H P-37-011370	Collett, R., et al. 1989	Historic	Historic trash scatter	No
CA-SDI-11371H P-37-011371	Collett, R., et al. 1989	Historic	Historic metal scatter	No
CA-SDI-11375 P-37-011375	Ritz, F., et al. 1989; Kraft, J., 2011	Pre-contact/Historic	Lithic scatter/Historic wooden trough (no longer present)	No
CA-SDI-11377 P-37-011377	Ritz, F., et al. 1989; Kraft, J., 2011	Pre-contact/Historic	Lithic scatter/Historic wooden bridge (no longer present)	No

Table 2. Previously Recorded Resources Within 0.5 Mile of the Project Area

Site Number	Recorder and Year	Age/Period	Description	Overlaps Project Area
CA-SDI-11379 P-37-011379	Collett, R., et al. 1989	Pre-contact	Lithic scatter	No
CA-SDI-11380 P-37-011380	Ritz, F., et al. 1989	Pre-contact	Lithic scatter	No
CA-SDI-11381 P-37-011381	Collett, R., 1989	Pre-contact	Lithic scatter	No
CA-SDI-11382H P-37-011382	Ritz, F., et al. 1989	Historic	Historic trash scatter	No
CA-SDI-13453 P-37-013453	Kyle, C. E., Tift, L., 1993; Stropes, T., 2010	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-13456 P-37-013456	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic scatter	No
CA-SDI-13457 P-37-013457	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic scatter	No
CA-SDI-13458 P-37-013458	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993; Stropes, T., 2010	Pre-contact/Historic	Lithic scatter with flaked stone tools/Historic trash dump (not mentioned in update)	No
CA-SDI-13459H P-37-013459	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Historic	Historic trash dump	No
CA-SDI-13460H P-37-013460	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Historic	Historic trash scatter	Yes
CA-SDI-13461 P-37-013461	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-14535 P-37-014535	Brian F. Smith & Associates, 1996	Pre-contact	Lithic isolate	No
P-37-014538	Brian F. Smith & Associates, 1996	Pre-contact	Lithic isolate	No
P-37-014539	Brian F. Smith & Associates, 1996	Pre-contact	Lithic isolate and tool	No
CA-SDI-14212 P-37-014579	Raven-Jennings, M., 1996	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-14213 P-37-014580	Raven-Jennings, M., 1996	Pre-contact	Lithic scatter with flaked stone tools	Yes
CA-SDI-14214 P-37-014581	Raven-Jennings, M., 1996	Pre-contact	Lithic scatter with flaked stone tools	Yes
CA-SDI-14215 P-37-014582	Raven-Jennings, M., 1996	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-14216 P-37-014583	Raven-Jennings, M., 1996	Pre-contact	Lithic scatter	No

Table 2. Previously Recorded Resources Within 0.5 Mile of the Project Area

Site Number	Recorder and Year	Age/Period	Description	Overlaps Project Area
CA-SDI-14217 P-37-014584	Raven-Jennings, M., 1996; Blotner, N., 2010	Pre-contact	Ceramic scatter and lithic scatter	No
CA-SDI-14218 P-37-014585	Raven-Jennings, M., 1996; Blotner, N., 2010	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-14219 P-37-014586	Raven-Jennings, M., 1996	Pre-contact	Lithic scatter	No
CA-SDI-14220 P-37-014587	Raven-Jennings, M., 1996; Blotner, N., 2010	Pre-contact	Lithic scatter	No
CA-SDI-14221 P-37-014588	Raven-Jennings, M., 1996; Blotner, N., 2010; Clowery, S. C., 2011	Pre-contact	Lithic scatter	No
CA-SDI-14222 P-37-014589	Raven-Jennings, M., 1996; Blotner, N., 2010	Pre-contact	Lithic scatter	No
CA-SDI-(I-221) P-37-014919	Collett, R., et al. 1989	Pre-contact	Lithic isolate	No
CA-SDI-(I-685) P-37-015383	Kyle, C. E., Tift, L., 1993	Pre-contact	Lithic isolate	No
CA-SDI-(I-686) P-37-015384	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic isolate	No
CA-SDI-(I-687) P-37-015385	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic isolate	No
CA-SDI-(I-688) P-37-015386	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic isolate	No
CA-SDI-(I-689) P-37-015387	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic isolate	No
CA-SDI-(I-693) P-37-015391	Kyle, C. E., Phillips, R., Briggs, S., Tift, L., 1993	Pre-contact	Lithic isolate	No
P-37-019182	Kyle, C., 2000	Pre-contact	Lithic isolate	No
P-37-031366	Blotner, N., 2010	Pre-contact	Lithic isolate	No
P-37-031727	Noah, A., James, D., Pettus, R., Sutton, L., 2010	Pre-contact	Lithic and shell isolate	No
CA-SDI-20160 P-37-031738	Stropes, T., 2010	Pre-contact	Lithic scatter with flaked stone tool	No
CA-SDI-20163 P-37-031741	Stropes, T., 2010	Pre-contact	Lithic scatter	No
CA-SDI-20164 P-37-031742	Stropes, T., 2010	Pre-contact	Lithic scatter with flaked stone tools	No
CA-SDI-20442 P-37-032253	Tyberg, M., 2011	Pre-contact	Lithic scatter	No

Table 2. Previously Recorded Resources Within 0.5 Mile of the Project Area

Site Number	Recorder and Year	Age/Period	Description	Overlaps Project Area
P-37-032254	Tyberg, M., 2011	Historic	Historic corral	No
CA-SDI-20443 P-37-032255	Tyberg, M., 2011	Pre-contact	Lithic scatter	No
CA-SDI-20551 P-37-032403	Stropes, T., 2012	Pre-contact	Lithic scatter	No
A2-I-3 P-37-034105	Dalope, M., Manchen, K., 2013	Pre-contact	Lithic isolate	No
A2-I-4 P-37-034106	Dalope, M., 2013	Pre-contact	Lithic isolate	No
P-37-035767	Davison, K., Phoenix, T., Robbins-Wade, M., 2016	Pre-contact	Lithic isolate	No

A review of historic-period maps was conducted for the Project Area and surrounding area. As a result, the Project Area appears to have remained largely undeveloped since the historic period. The official 1872 map of San Diego County shows the Rancho de la Nacion, Rancho Otay, and Rancho Janal boundaries, with a road from National City running west-to-east at approximately 1.5 miles north of the Project Area. Today this road is Telegraph Canyon Road. A map of San Diego County, compiled by the office of the county assessor in 1955, depicts the route of a stage line that traversed Rancho Otay between the years of 1865 and 1885. The USGS 1903 Cuyamaca (1:125000 scale) Topographic Quadrangle Map clearly shows the boundaries of the Estudillo Rancho Otay land holdings and little development throughout the Otay area. Roads present in the 1903 map tend to mirror those present today (e.g. Telegraph Canyon Road, Wueste Road, etc.) due to utilization of paths of least resistance in relation to local topography. Barring ranching and agriculture, known pipeline-related construction activity, and periodic development of the Otay Water Treatment Plant, the landscape has remained somewhat consistent with minimal disturbance from urban sprawl. The progression of the area can be seen in comparison of maps from the early 1900s to maps from later decades, such as the USGS 1955 Otay Mesa (1:24000 scale) Topographic Quadrangle Map on which the Lower Otay Filtration Plant and Aqueduct are visible and the USGS 1996 Otay Mesa (1:24000 scale) Topographic Quadrangle Map on which various local wildlife refuges and preserves are noted. The land on which the Project Area is positioned remains mapped as an unsectioned portion of the Rancho Otay land grant on the most recent USGS Otay Mesa 7.5' Topographic Quadrangle Map of southwest San Diego County.

Historic aerial photographs are available from 1953 to the present (NETROnline 2018). The pipeline tract that is the focus of this project is visible in all images, along with the Otay Water Treatment Plant located east of the project area at the base of Lower Otay Lake. Landscapes surrounding the project area, particularly substantial portions of the Otay River Valley to the south and the Otay County Open Space Preserve to the east, have remained undeveloped through time due to protections by the City of San Diego and City of Chula Vista. However, the increased density of residential and commercial development

to the north of the Project Area is evident in aerial images between 1953 and the present. This is largely due to the rapid eastward expansion of City of Chula Vista housing developments in recent decades.

A search of the Sacred Lands File was conducted by NAHC in Sacramento, California. The results of this search were received by ECORP on May 25, 2018. The NAHC Sacred Lands File search failed to indicate the presence of any Native American sacred lands within the vicinity of the Project Area. The NAHC provided ECORP with a list of 20 Native American tribal entities which may be culturally affiliated with the area. A copy of the results of the NAHC Sacred Lands File Search may be found in Appendix B.

Field Survey Results

The cultural resources inventory field survey was conducted by ECORP archaeologist John O'Connor, M.A., RPA, and assistant archaeologist Jesse Shelmire on May 15, 2018. The field survey was performed as an out-and-back pedestrian survey along a 0.75-mile length of the Otay Pipeline. The Project Area comprises a 9.56-acre (4,164 feet long and 100 feet wide) corridor with the pipeline serving as an east-to-west center line for the defined Project boundaries. Sediments were heavily disturbed along the pipeline, with ground surface visibility ranging from 95% visibility in areas close to the pipeline and as little as 5% visibility in heavily vegetated sections of the Project Area. Survey transects were not gridded in a north-south orientation due to the winding nature of the pipeline. The Project Area was surveyed with John O'Connor walking the Project Area perimeter and Jesse Shelmire walking interior transects at 10-meter spacing from the Project Area boundary. Orientation and mapping were conducted using Collector for ArcGIS on an iPhone 6s. Photographs were captured with the iPhone 6s digital camera.

Three previously recorded sites overlap the survey area. Two previously recorded pre-contact lithic scatters P-37-014580 and P-37-014581 were relocated during the field survey. One newly identified pre-contact lithic flake isolate OTP-001-I was documented. A total of five artifacts at four points were documented throughout the survey. No evidence of previously recorded historic-era trash scatter P-37-013460 was detected within the Project Area.

Previously Recorded Historic-Era Site: P-37-013460

Site P-37-013460 was not relocated. In the October 21, 1993, site record by Gallegos and Associates, this site is described as a "historic trash scatter" of household materials, farming materials, and metal strapping. No site constituents were identified during the May 15, 2018, survey, and ECORP archaeologists found no other evidence of site P-37-013460 within the Project Area. This means that the site was either incorrectly mapped when originally recorded (and is not inside the Project Area) or the site may have been affected by natural or human activity since that time. The Project Area is highly disturbed, with a variety of introduced variables that may have affected site integrity over time. Failure to relocate site P-37-013460 was recorded on an updated DPR 523 form and is provided in confidential Appendix C.

Previously Recorded Pre-Contact Sites: P-37-014580, P-37-014581

Site P-37-014580 was confirmed. This site was described in a February 15, 1996, site record by Brian F. Smith & Associates as a "lithic scatter measuring 168 meters by 76 meters," including lithic flakes, scrapers, cores, and a utilized flake. A total of three artifacts were identified that likely make up part of this site: a brownish red chert/cryptocrystalline silicate (CCS) core, a basalt tertiary flake, and a gray CCS secondary flake with minimal cortex were identified within the site boundaries during field survey (Figures 3 and 4). Geographic coordinates were recorded at the location of these artifacts. No other artifacts or site components were located in the portion of the site that falls within the Project Area. The site area was heavily disturbed and has likely undergone surface modification in the time since the previous survey. However, the observation of these three artifacts should be considered relocation of the site. An update to P-37-014580 was recorded on a DPR 523 form and is provided in confidential Appendix C.

Figure 3. Brownish red CCS core and basalt flake identified as constituents of Site P-37-014580. May 15, 2018. Photo # 1

Figure 4. Gray CCS flake identified as constituent of Site P-37-014580. May 15, 2018. Photo # 4

Site P-37-014581 was relocated as represented by a single large brownish red cortical flake at the southern edge of the site boundary (Figure 5). This lithic flake is likely a previously identified constituent of the site, and due to artifact dimensions, this flake may in fact be the core listed in the original site record. The site was described by Brian F. Smith & Associates in a February 15, 1996, site record as a "lithic scatter measuring 107 meters by 46 meters," including lithic flakes, a scraper, and a core. Again, this site appeared to be highly disturbed with redeposited sediments and subsequent vegetational growth. Geographic coordinates were recorded for the single flake and should be considered a relocation of the site based on spatial proximity, even though no other artifacts were observed. An update to P-37-014581 was recorded on a DPR 523 form and is provided in confidential Appendix C.

Figure 5. Brownish red cortical flake identified as constituent of Site P-37-014581. May 15, 2018. Photo # 3

Newly Identified Pre-Contact Isolate: OTP-001-I

OTP-001-I is a pre-contact isolated find that was identified and recorded 40 meters to the southeast of site P-37-014581. The isolate is a single gray CCS secondary lithic flake with minimal cortex. This was recorded as a new isolate due to its distance from P-37-014581, but it may be a continuation of that site. It appears similar to material found at site P-37-014580. The location of the lithic flake was documented. The isolated find was recorded on a DPR 523 form and is provided in confidential Appendix C.

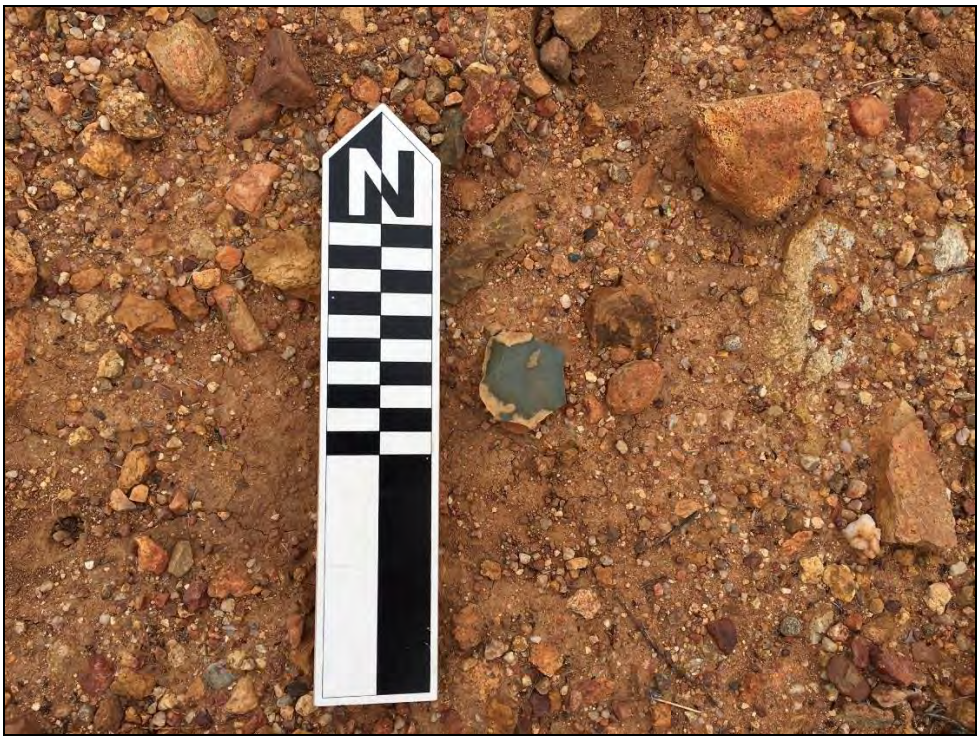

Figure 6. Isolated find OTP-001-I: gray CCS secondary flake. May 15, 2018. Photo # 2

Cultural Resources Evaluations

Under state (CEQA) and federal (NHPA) law, all cultural resources identified by the survey that will be subject to impacts as a result of the Project must be evaluated for significance using CRHR and NRHP criteria. Two previously documented pre-contact sites were confirmed and a new isolate was identified during the field survey portion of this cultural resources investigation. P-37-014580 and P-37-014581 are pre-contact lithic scatters that overlap the approximate center of the Project Area along an east-to-west trajectory. OTP-001-I is a single lithic flake identified to the southeast of site P-37-014581. Previously recorded historic-era site P-37-013460, a trash scatter, was not relocated. No further management or evaluation of the isolated artifact is warranted beyond documentation in the technical report. Evaluation of sites P-37-013460, P-37-014580, and P-37-014581 is required.

Federal Evaluation Criteria

Under federal regulations implementing Section 106 of the NHPA (36 CFR 800), cultural resources identified in the finalized Project APE must be evaluated using NRHP and eligibility criteria. The eligibility criteria for the NRHP are as follows (36 CFR 60.4):

The quality of significance in American history, architecture, archaeology, and culture is present in districts, sites, buildings, structures, and objects of state and local importance that possess aspects of integrity of location, design, setting, materials, workmanship, feeling, association, and

1. is associated with events that have made a significant contribution to the broad patterns of our history;
2. is associated with the lives of a person or persons significance in our past;
3. embodies the distinctive characteristics of a type, period, or method of construction, or represents the work of a master, or possesses high artistic value, or represents a significant and distinguishable entity whose components may lack individual distinction; or
4. has yielded or may be likely to yield information important in prehistory or history.

In addition, the resource must be at least 50 years old, except in exceptional circumstances (36 CFR 60.4).

Effects to NRHP-eligible resources (historic properties) are adverse if the Project may alter, directly or indirectly, any of the characteristics of a historic property that 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.

State Evaluation Criteria

Under state law (CEQA) cultural resources are evaluated using CRHR eligibility criteria in order to determine whether any of the sites are historical resources, as defined by CEQA. CEQA requires that impacts to historical resources be identified and, if the impacts would be significant, that mitigation measures to reduce the impacts be applied.

An historical resource is a resource that

1. is listed in or has been determined eligible for listing in the CRHR by the State Historical Resources Commission;
2. is included in a local register of historical resources, as defined in PRC 5020.1(k);
3. has been identified as significant in a historical resources survey, as defined in PRC 5024.1(g); or
4. is determined to be historically significant by the CEQA lead agency [CCR Title 14, § 15064.5(a)].

In making this determination, the CEQA lead agency usually applies the CRHR eligibility criteria.

For cultural resources within the current Study Area, only the fourth definition of a historical resource is applicable because there are no resources previously determined eligible or listed on the CRHR, there are no resources included in a local register of historical resources, and no resources identified as significant in a qualified historical resources survey.

The eligibility criteria for the CRHR are as follows [CCR Title 14, § 4852(b)]:

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

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

In addition, the resource must retain integrity. Integrity is evaluated with regard to the retention of location, design, setting, materials, workmanship, feeling, and association [CCR Title 14, § 4852(c)].

Impacts to a historical resource (as defined by CEQA) are significant if the resource is demolished or destroyed or if the characteristics that made the resource eligible are materially impaired [CCR Title 14, Section 15064.5(a)].

Evaluation of Sites P-37-013460, P-37-014580, and P-37-014581

Subsurface testing was not completed for evaluation of sites P-37-013460, P-37-014580, and P-37-014581. However, these three sites were determined to be ineligible for the CRHR and the NRHP based on a lack of integrity as determined by Myra Herrmann, Senior Planner of the City of San Diego. In an email dated October 4, 2018, Ms. Herrmann states:

> "I have determined that archaeological testing within the proposed pipeline SPE [*sic*] will not be required for this project. This is based on my review of all available information including archaeological records for the area and knowledge of pipeline construction practices. I strongly believe that the materials within the existing alignment will be heavily disturbed and out of context, and that testing will not provide any new information; however, Archaeological and Native American (Kumeyaay) monitoring will be required during all construction-related activities associated with the pipeline project."

This determination of lack of integrity means that the three sites under consideration do not meet the eligibility criteria for inclusion in the NRHP or CRHR as individual resources, nor do they contribute to any known or possible historic districts.

VI. RECOMMENDATIONS

Three pre-contact cultural resources and one historic-era cultural resource were identified within the Project Area as a component of this investigation. All resources have been evaluated by the City of San Diego as not eligible for the CRHR and NRHP. The archaeological sensitivity of the Project Area is high based on the results of this study and multiple prior cultural resources investigations. Although the Project Area has been thoroughly surveyed, there is always a potential for ground-disturbing activities to expose previously unrecorded cultural resources. CEQA requires the lead agency to address any unanticipated cultural resources discoveries during Project construction. Therefore, ECORP recommends the following mitigation measures be adopted and implemented by the Lead Agency to reduce potential adverse impacts to Less than Significant subsurface cultural resources present in the Project Area.

ECORP recommends monitoring of all ground-disturbing activities that occur during the construction of the Project by a qualified archaeologist and a Native American monitor. If subsurface deposits believed to be cultural or human in origin are discovered during construction, all work must halt within a 100-foot radius of the discovery. A qualified professional archaeologist, meeting the Secretary of the Interior's Professional Qualification Standards for prehistoric and historic archaeologist, shall be retained to evaluate the significance of the find, and shall have the authority to modify the no-work radius as appropriate, using professional judgment. The following notifications shall apply, depending on the nature of the find:

- If the professional archaeologist determines that the find does not represent a cultural resource, work may resume immediately and no agency notifications are required.

- If the professional archaeologist determines that the find does represent a cultural resource from any time period or cultural affiliation, he or she shall immediately notify the City of Chula Vista and City of San Diego. The City of Chula Vista shall consult with the City of San Diego and other parties, as deemed appropriate, on a finding of eligibility and implement appropriate treatment measures if the find is determined to be eligible for inclusion in the NRHP or CRHR. Work may not resume within the no-work radius until the City of Chula Vista, through consultation as appropriate, determines that the site either: 1) is not eligible for the NRHP or CRHR; or 2) that the treatment measures have been completed to its satisfaction.

- If the find includes human remains, or remains that are potentially human, the professional archaeologist shall ensure reasonable protection measures are taken to protect the discovery from disturbance (AB 2641). The archaeologist shall notify the San Diego County Medical Examiner (as per § 7050.5 of the Health and Safety Code). The provisions of § 7050.5 of the California Health and Safety Code, § 5097.98 of the California PRC, and AB 2641 will be implemented. If the Coroner determines the remains are Native American and not the result of a crime scene, the Coroner will notify the NAHC, which then will designate a Native American Most Likely Descendant (MLD) for the Project (§ 5097.98 of the PRC). The designated MLD will have 48 hours from the time access to the property is granted to make recommendations concerning treatment of the remains. If the landowner does not agree with the recommendations of the MLD, the NAHC can mediate (§ 5097.94 of the PRC). If no agreement is reached, the landowner must rebury the remains where they will not be further disturbed (§ 5097.98 of the PRC). This will also include either recording the site with the NAHC or the appropriate information center; using an open space or conservation zoning designation or easement; or recording a reinternment document with the county in which the property is located (AB 2641). Work may not resume within the no-work radius until the lead agencies, through consultation as appropriate, determine that the treatment measures have been completed to their satisfaction.

The lead agency is responsible for ensuring compliance with these mitigation measures because damage to significant cultural resources is in violation of CEQA. Section 15097 of Title 14, Chapter 3, Article 7 of CEQA, Mitigation Monitoring or Reporting, "the public agency shall adopt a program for monitoring or reporting on the revisions which it has required in the Project and the measures it has imposed to mitigate or avoid significant environmental effects. A public agency may delegate reporting or monitoring responsibilities to another public agency or to a private entity which accepts the delegation; however, until mitigation measures have been completed the lead agency remains responsible for ensuring that implementation of the mitigation measures occurs in accordance with the program."

VII. CERTIFICATION

Preparer: John O'Connor, MA, RPA	Title: Cultural Resources Specialist

Signature:  Date: October 31, 2018

VIII. REFERENCES CITED

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APPENDIX A

Resumes

ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

John **O'Connor**, RPA

Cultural Resources Specialist

Mr. O'Connor is the Cultural Resources Specialist at the San Diego office of ECORP Consulting, Inc. Mr. O'Connor is a Registered Professional Archaeologist (RPA) and a Ph.D. candidate in Anthropology (archaeology and human ecology) at the University of Oregon. He has nine years of archaeological experience in North America and the Pacific Islands and has worked on professional and academic projects throughout California, Oregon, Hawaii, French Polynesia, and the Kingdom of Tonga. Mr. O'Connor has extensive archaeological field experience, including exploratory and inventory survey, feature mapping, subsurface testing, data recovery, artifact analysis, lithic analysis, remote sensing data capture, and geospatial data processing. He is versed in the evaluation of impacts to cultural resources for California Environmental Quality Act (CEQA) and National Historic Preservation Act (NHPA) Section 106 projects, the review of archaeological and ethnographic reports for agreement with Archaeological Resources Protection Act (ARPA) and American Indian Religious Freedom Act (AIRFA) protocol, and the recovery and handling of cultural materials in accordance with Native American Graves Protection and Repatriation Act (NAGPRA) compliance recommendations. Mr. O'Connor has applied knowledge of museum collections management and inter-institutional coordination with American Indian and Native Hawaiian organizations for the ethical treatment of ethnographic and archaeological resources.

Education

Ph.D. candidate, Anthropology, University of Oregon (in progress)

M.A., Anthropology, University of Hawai'i at Mānoa

B.A. (Highest Honors), Anthropology, University of Hawai'i at Mānoa

Registrations, Certifications, Permits and Affiliations

- Register of Professional Archaeologists (RPA# 36341398)
- Permitted Archaeologist, Hawai'i Department of Land and Natural Resources
- Qualified Archaeologist, Oregon State Historic Preservation Office
- California Historical Resources Information System (CHRIS) Authorized User
- Hazardous Waste Operations and Emergency Response (HAZWOPER) 8-hour Refresher Training
- RAPIDGate Eid Passport credential, U.S. Department of Defense
- Sigma Xi Scientific Research Society
- Phi Beta Kappa Society
- American Association for the Advancement of Science
- Association of Environmental Professionals
- Society for American Archaeology
- Society for California Archaeology

- Society for Hawaiian Archaeology
- San Diego County Archaeological Society
- American Red Cross Adult and Pediatric First Aid/CPR/AED
- County of San Diego Bloodborne Pathogens Training

Professional Experience

Pedregal Project, El Dorado County – County of El Dorado and U.S. Army Corps of Engineers, sub to Serrano Associates, LLC (2018). Editor for cultural resources records search and literature review report in support of lead agency determination regarding impacts to Historical Resources, as defined by the California Environmental Quality Act, at Alder Creek, California. Archaeologist for analysis of findings and determination of effects to cultural resources during construction of residential development in El Dorado Hills, California. Duties include evaluation of impacts to Pedregal Archaeological District under Section 106 of the National Historic Preservation Act and the California Environmental Quality Act, application of criteria of adverse effect, and technical writing as author of finding of effect report and historic property treatment plan.

Groundwater Desalination Pilot Test Project, San Diego County – Olivenhain Municipal Water District, sub to Woodard & Curran (2018). Assistant Project Manager in charge of cultural resources assessment in support of California Environmental Quality Act compliance for test well discharge pilot project area in San Diego, California. Duties include project management of all cultural resource tasks, coordination with client and biological assessment group, records searches through California Historical Resources Information Center and Native American Heritage Commission, field inventory survey, and technical writing as report author.

Surf Cup Recycled Water Project, San Diego County – Olivenhain Municipal Water District, sub to Woodard & Curran (2018). Assistant Project Manager in charge of cultural resources assessment in support of California Environmental Quality Act compliance for recycled water service project area in San Diego, California. Duties include project management of all cultural resource tasks, coordination with client and biological assessment group, records searches through California Historical Resources Information Center and Native American Heritage Commission, field inventory survey, and technical writing as report author.

Granite Aerojet Mining Project, Sacramento County – Granite Construction (2018). Editor for cultural resources records search and literature review report in support of lead agency determination regarding impacts to Historical Resources, as defined by the California Environmental Quality Act, at Alder Creek, California.

Bridge Street Widening Project, Sutter County – City of Yuba City (2018). Editor for inventory and evaluation report related to cultural resources investigations for road construction and improvement project in Yuba City, California.

OC Loop Segment D Class 1 Bikeway Project, Orange County – California Department of Transportation (Caltrans), District 12, and Orange County Public Works (2018). Archaeologist for organization of cultural resources data and edits to archaeological survey report for a bikeway construction project in Placentia, California.

Pedley Road Intersection Improvements Project, Riverside County – California Department of Transportation (Caltrans), District 8, sub to KOA Corporation (2018). Archaeologist for completion of DPR 523 forms and organization of data for archaeological survey report related to road construction and improvement project in the City of Jurupa Valley, California.

Redlands Boulevard and California Street Intersection Improvement Project, San Bernardino County – City of Loma Linda (2018). Archaeologist and report author for cultural monitoring of road construction and intersection redevelopment in the City of Loma Linda, San Bernardino County, California. Duties include coordination with onsite archaeologists, analysis of monitoring results and recorded artifacts, completion of DPR 523 forms, and technical writing as report author.

Centennial Reservoir Project, Nevada County – Nevada Irrigation District (2018). Editor for cultural resources inventory and evaluation addendum report documenting testing and evaluation of eligibility for archaeological resources on 68-acre property in an unincorporated portion of western Nevada County, California.

Rancho Del Prado Specific Plan, San Bernardino County – KWC Engineers (2018). Archaeologist for cultural resources inventory survey of 430-acre property in an unincorporated area of southwestern San Bernardino County. Duties included review of site records, site relocation and update documentation, and evaluation of eligibility for the National Register of Historic Places and the California Register of Historical Resources, and technical writing as report co-author.

Metropolitan Airpark Project, San Diego County – Federal Aviation Administration and City of San Diego (2018). Archaeologist for review and edits of environmental documents for Metropolitan Airpark Project at Brown Field Municipal Airport (SDM) in Otay Mesa, San Diego. Duties include analysis of cultural resource management procedures, editing of Environmental Assessment (EA) documents for National Historic Preservation Act Section 106 and National Environmental Policy Act compliance, and recommendations for treatment of cultural resources within the area of potential effects for the airport redevelopment project.

Common Diversion Facility Project, Madera County – TV Trees, LLC (2018). Archaeologist for review and edits of project California Environmental Quality Act (CEQA) document. Duties include analysis of previous reports and cultural surveys, review and editing of tribal cultural resources section, and authorship of the cultural resources section for the CEQA document.

Richland Planned Communities, Inc., Riverside County TT37533 (formerly TT29262) Project, Riverside County - County of Riverside (2018). Archaeologist for review and analysis of cultural resource survey activities. Duties include coordination with field archaeologists and senior staff,

communication with California Native American tribal entities, lead agency coordination, and technical writing as report co-author.

Buena Sanitation District Master Plan Update, San Diego County - City of Vista, sub to Harris & Associates (2018). Field Director for archaeological monitoring for multiple task orders related to city-wide sewer update project in Vista, California. Duties include direction of archaeologists, lead agency coordination, archaeological monitoring of excavation and pipe replacement activities, and technical writing as report co-author.

Otay Ranch Pipeline Project, San Diego County - Cities of Chula Vista and San Diego, sub to Harris & Associates (2018). Field Director for archaeological inventory survey in support of the California Environmental Quality Act document and permitting and compliance under Section 106 of the National Historic Preservation Act and Section 404 of the Clean Water Act. Duties include direction of field crew, identification and recording of pre-contact archaeological deposits, and technical writing as report co-author.

Carlsbad Sensitivity Model Project, San Diego County - City of Carlsbad (2018). Archaeologist and Data Specialist for creation of spatial sensitivity model for cultural resource planning in Carlsbad, California. Duties include California Historical Resources Information System records requests, document and site record review, evaluation of spatial data, map creation, coordination with city officials, and technical writing as report co-author.

Feather River West Levee Project, Sutter County - Sutter Butte Flood Control Agency (2018). Archaeologist for review and analysis of cultural monitoring activities for multiple project task orders and special projects in Sutter County, California. Duties include review of site records and monitoring reports, coordination with on-site archaeological monitors, results analysis, report editing, tribal consultation, graphic design, preparation of educational outreach materials, and technical writing as report author for multiple task orders and project components.

Prima Deshecha Landfill Phase D, Orange County – OC Waste & Recycling, sub to Tetra Tech BAS (2018). Field Director for archaeological monitoring at Prima Deshecha Landfill in San Juan Capistrano. Duties include direction of archaeologists, lead agency coordination, archaeological monitoring of grading and earth moving activities, and evaluation of resource eligibility for the California Register of Historical Resources.

Osuna Valley Trail Bridge Project, San Diego County – San Dieguito River Park Joint Powers Authority, sub to Baranek Consulting Group (2018). Assistant Proposal Manager in charge of scope and costing for cultural resources survey of trail bridge replacement in Encinitas, California. Analysis will include cultural resources assessment in support of the California Environmental Quality Act document and National Historic Preservation Act Section 106 compliance for permitting under Clean Water Act Section 404.

Trail 82 Rancho Santa Fe Road Project, San Diego County – City of Encinitas, sub to KOA Corporation (2018). Assistant Proposal Manager in charge of scope and costing for cultural resources

survey of Trail 82 multi-use trail improvement project along Rancho Santa Fe Road in Encinitas, California.

Bickford Ranch Specific Plan, Placer County - MacKay & Somps Civil Engineers, Inc. (2018). Archaeologist and Data Analyst for Bickford Ranch cultural sites overview. Duties include archival research, document and site record review, map analysis, data consolidation, and assessment of preservation and mitigation measures for eligible historical resources in accordance with National Historic Preservation Act Section 106 and the California Environmental Quality Act.

High Desert Solar Project, San Bernardino County - Middle River Power (2018). Archaeologist for Phase II archaeological inventory survey of 700-acre property in West Mojave Desert. Duties include review of site records, site relocation and update documentation, identification and recording of pre-contact and post-contact archaeological deposits, evaluation of eligibility for the National Register of Historic Places and the California Register of Historical Resources, and technical writing as report co-author.

Raʻiātea Historical Ecology Project, Raʻiātea - Tumaraʻa Commune, Raʻiātea; Service de la Culture et du Patrimoine, Bureau Archéologie, Tahiti; University of Oregon (2016-2018). Principal Investigator, Project Director, and Course Instructor for collaborative academic and government project to assess chronology and settlement patterns at Tevaitoa and throughout Tumaraʻa Commune, contribute to local archaeological and historical knowledge, and make recommendations for the mitigation of negative impacts to cultural resources. Duties include archaeological inventory survey, feature identification, controlled subsurface testing, artifact inventory, and land-use planning at Raʻiātea, Society Islands, French Polynesia, with instruction of university students and local secondary school students during archaeological field schools.

Pōhakuloa Training Area Inventory Survey, Hawaiʻi - U.S. Army Corps of Engineers (2016). Archaeologist for 6,000-acre archaeological inventory survey. Duties included archaeological feature identification and mapping, controlled subsurface testing, and data recovery at Pōhakuloa Training Area, Hawaiʻi Island.

Joint Base Pearl Harbor-Hickam West Loch Inventory Survey, Oʻahu - Naval Facilities Engineering Command (NAVFAC) Hawaiʻi (2014). Archaeologist participating in archaeological inventory survey, feature identification, and mapping at West Loch of Pearl Harbor, Oʻahu.

Hauʻula Leach Field Construction Monitoring, Oʻahu - State of Hawaiʻi Department of Land and Natural Resources (2014). Archaeologist for private development leach field construction monitoring. Duties included the identification and recording of archaeological features and burials at Hauʻula, Oʻahu.

Kamehameha Schools Punaluʻu Archaeological Inventory Survey, Oʻahu - Kamehameha Schools Land Assets Division (2014). Archaeologist for archaeological inventory survey, feature identification and mapping, artifact documentation, shovel test pit excavation, and data recovery at Punaluʻu Ahupuaʻa, Oʻahu.

Kualoa Ranch Archaeological Field Project and Kualoa Field School, O'ahu - Kualoa Ranch, University of Hawai'i, University of Oregon (2013-2014). Project Coordinator and Course Instructor for collaborative academic project focusing on archaeological inventory survey, testing, and data recovery within the Kualoa Ranch, O'ahu. Duties included archaeological feature documentation and the clarification of local cultural and ecological history, while using the project as a venue for interdisciplinary undergraduate and post-graduate education.

Nu'alolo Kai State Park Restoration Project, Kaua'i - Nā Pali Coast 'Ohana, State of Hawai'i Department of Land and Natural Resources (2013). Archaeological Resources Consultant and Monitor for project monitoring and documentation of cultural feature restoration at Nu'alolo Kai, Nā Pali, Kaua'i.

Marine Corps Base Hawai'i (MCBH) MV-22 Monitoring and Testing, O'ahu - Naval Facilities Engineering Command (NAVFAC) Pacific (2013). Archaeologist and Laboratory Technician conducting archaeological inventory survey, testing, and laboratory analyses of domestic and agricultural surface features located within the Marine Corps Base Hawai'i (MCBH). This is the largest intact complex of surface archaeology on the Mokapu Peninsula.

Hau'ula Church Burial Recovery, O'ahu - Hau'ula Church; State of Hawai'i Department of Land and Natural Resources (2013). Archaeologist for emergency controlled subsurface testing and data recovery following inadvertent disruption of traditional cultural layers by private landowner at Hau'ula, O'ahu.

Nu'alolo 'Āina Archaeological Inventory Survey, Kaua'i - Nā Pali Coast 'Ohana, State of Hawai'i Department of Land and Natural Resources (2012). Archaeologist conducting archaeological inventory survey and feature mapping of domestic, agricultural, and religious surface features at Nu'alolo Valley, Nā Pali, Kaua'i. Nu'alolo Valley holds an extensive complex of pre-contact and early contact Hawaiian surface architecture.

Professional Development Courses/Training

- 2018 – Advanced Teaching Certificate, University of Oregon Teaching Engagement Program
- 2018 – NEPA Essentials Workshop, Association of Environmental Professionals
- 2018 – National Environmental Policy Act Update, Association of Environmental Professionals
- 2018 – The Basics of Mitigation Banking in San Diego County, Association of Environmental Professionals
- 2018 – Advanced AB 52 and CEQA for Planners workshop, ECORP Consulting, Inc.
- 2016 – Graduate Online Teaching Practicum, Department of Anthropology, University of Oregon
- 2015 – Graduate Teaching Fellowship Training and Practicum, Department of Anthropology, University of Oregon
- 2014 – Laboratory techniques at Center for Archaeology, Materials, and Applied Spectroscopy (CAMAS) under supervision of John Dudgeon, Ph.D., Idaho State University

- 2013 – Archaeological Field School at Kāpaeloa, O'ahu, under supervision of James Bayman, Ph.D., and Ty Kāwika Tengan, Ph.D., University of Hawai'i at Mānoa, and Windy McElroy, Ph.D., Keala Pono Archaeological Consulting, LLC
- 2013 – Teaching Assistant Training Program, Department of Anthropology, University of Hawai'i at Mānoa
- 2012 – National Science Foundation-Research Experiences for Undergraduates (NSF-REU) Grant No. 1005258, Geospatial Research and Mapping (GRAM) Field Program under supervision of Christopher Lee, Ph.D., Carl Lipo, Ph.D., and Suzanne Wechsler, Ph.D., California State University-Long Beach
- 2011 – Archaeological Field School at Makauwahi Cave, Kaua'i, under supervision of Terry Hunt, Ph.D., University of Hawai'i at Mānoa, and David Burney, Ph.D., National Tropical Botanical Garden
- 2010 – Coastal Archaeology at Rancho Peñasquitos, San Diego County, under supervision of Stephen J. Bouscaren, Ph.D., San Diego City College

Selected Professional Publications/Papers/Presentations

Peer-Reviewed Academic Journals

2018 Matthew F. Napolitano, Robert J. DiNapoli, Jessica H. Stone, Nicholas P. Jew, Maureece J. Levin, Damion Sailors, Brian G. Lane, John T. O'Connor, Scott M. Fitzpatrick. Reevaluating Human Colonization of the Caribbean using Chronometric Hygiene and Bayesian Modeling. IN REVIEW for Science Advances.

2017 John T. O'Connor, Frances J. White, Terry L. Hunt. Fishhook Variability and Cultural Transmission in East Polynesia. Archaeology in Oceania 52, 32-44.

2015 Alex E. Morrison, John T. O'Connor. Settlement Pattern Studies in Polynesia: Past Projects, Current Progress, and Future Prospects. In: Cochrane, E. E., Hunt, T. L. (Eds.), The Oxford Handbook of Prehistoric Oceania. Oxford University Press, Oxford, pp. 450-472.

Published Abstracts (Paper Presentations)

2018 John T. O'Connor, M. Hinanui Cauchois. Polynesian Settlement at Western Ra'iātea. In: 22nd Indo-Pacific Prehistory Association Conference, Hue.

2017 Scott M. Fitzpatrick, Matthew F. Napolitano, Jessica H. Stone, Robert J. DiNapoli, Brian G. Lane, John T. O'Connor, Damion Sailors, Nicholas P. Jew, Maureece Levin, Aaron Poteate. Using Chronometric Hygiene and Bayesian Modeling to Reexamine Pre-Columbian Colonization of the Caribbean. In: 27th Congress of the International Association for Caribbean Archaeology, St. Croix.

2017 John T. O'Connor, Scott M. Fitzpatrick, Todd J. Braje, Matthew F. Napolitano, Thomas P. Leppard. Measuring Human Impacts on Islands Relative to Size. In: The Island Anthropocene, Society for American Archaeology 82nd Annual Meeting, Vancouver.

2017 M. Hinanui Cauchois, John T. O'Connor. Preliminary Investigations at Ra'iātea, Society Islands, French Polynesia (Poster). In: Oceania, Society for American Archaeology 82nd Annual Meeting, Vancouver.

2017 Robert J. DiNapoli, Matthew F. Napolitano, Jessica H. Stone, Brian G. Lane, Damion Sailors, John T. O'Connor, Nicholas P. Jew, Maureece Levin, Aaron Poteate, Scott M. Fitzpatrick. Reevaluating the Pre-Columbian Colonization of the Caribbean using Chronometric Hygiene and Bayesian Modeling. In: Sailing at the Edge of Time: Global Perspectives on Island Colonization, Society for American Archaeology 82nd Annual Meeting, Vancouver.

2015 John T. O'Connor. Artifact Networks, Cultural Transmission, and Polynesian Settlement. In: Evolution and Ecology in Oceania, Society for American Archaeology 80th Annual Meeting, San Francisco.

2015 John T. O'Connor, Frances J. White. Artifact Networks and Cultural Transmission in East Polynesia. In: Rising Tides: Global Perspectives on Island Archaeology, 68th Annual Northwest Anthropological Conference, Eugene.

2014 John T. O'Connor. Archaeological Feature Extraction from Aerial Imagery: Ahupua'a o Kōloa, Kaua'i (Poster). AAAS Pacific Division 95th Annual Meeting, Riverside.

2013 John T. O'Connor. Fishhook Variability in East Polynesia. In: Theoretical and Methodological Issues for Oceanic Colonization, Society for American Archaeology 78th Annual Meeting, Honolulu.

Lisa Westwood, RPA

Director of Cultural Resources

Lisa Westwood is a Registered Professional Archaeologist with 23 years of cultural resource management experience. She exceeds the Secretary of the Interior's Professional Qualifications Standards for prehistoric and historical archaeologist, holding a B.A. degree in Anthropology and an M.A. degree in Anthropology (Archaeology). Currently, she serves as Director of Cultural Resources for ECORP, as principal investigator and task manager for cultural resources services required for compliance with Section 106 of the National Historic Preservation Act and CEQA. Her technical areas of expertise include advanced Section 106 compliance and consultation, preparation and negotiation of agency agreement documents (Programmatic Agreements and Memoranda of Agreement), human bone (osteological) identification and analysis, historical archaeology, and lithic debitage identification. She is well versed in impact assessment and development of mitigation measures for CEQA and Section 106 projects, including on-call and task-order based contracts. Her previous experience as a CEQA/NEPA project manager gives her a broader perspective of regulatory compliance issues, and she is recognized by the private and public sector for her ability to build consensus among stakeholders and solve complex problems quickly and effectively. She is an active member of the Department of Anthropology faculty at California State University-Chico and Butte College.

Ms. Westwood provides expertise to agencies and private developers in managing their cultural resources compliance needs for highly complex projects. She recently developed, and is now implementing, complex Programmatic Agreements for large, 20-year, multi-applicant specific plan projects in Sacramento and Placer counties, which requires advanced Section 106 expertise and creative solutions. She also serves as Principal Investigator for all cultural resources studies in Northern California and others throughout California and Nevada, the majority of which require coordination with the US Army Corps of Engineers and the California Office of Historic Preservation. She is the sole, co-, or contributing author to nearly 300 cultural resources technical reports, research designs, and cultural resource management plans. She has written, contributed to, edited, and reviewed a variety of environmental compliance documents including Initial Studies (ISs), Environmental Assessments (EAs), Environmental Impact Statements (EISs), and Environmental Impact Reports (EIRs).

Education

M.A., Anthropology, Eastern New Mexico University, Portales

B.A., Anthropology and Pre-medicine, University of Iowa, Iowa

Registrations, Certifications, Permits and Affiliations

- Registered Professional Archaeologist, No. 11692

- State of Nevada Antiquities Permit-Principal Investigator (Statewide, non-federal lands)
- Bureau of Land Management, California Archaeological Investigations Permit-Principal Investigator
- Bureau of Land Management, Nevada Cultural Resource Use Permit-Principal Investigator Representative Professional Experience

Professional Experience

Feather River West Reaches 14-16 Emergency Levee Repairs Project, Sutter Butte Flood Control Agency, Sutter County. Serves as Project Manager and Principal Investigator for the emergency permitting and cultural resources compliance under Section 106 NHPA. Responsible for the cultural resources survey, evaluations of eligibility of historic and prehistoric archaeological sites, and preparation of technical reports.

Sutter Basin Flood Management Risk Project, Sutter Butte Flood Control Agency, Sutter County. Serves as Project Manager and Principal Investigator for the permitting and cultural resources compliance under Section 106 NHPA. Responsible for the cultural resources survey, evaluations of eligibility of historic and prehistoric archaeological sites, and preparation of technical reports.

Polo Ranch Estates, Santa Cruz County (2017). Served as Principal Investigator for the cultural resources testing to assist the USACE in responding to comments from the SHPO.

Dry Creek Greenway Multi-Use Trail Project (2012-2017). Cultural resources task manager and Principal Investigator for a Caltrans (District 3) Local Assistance Project in Roseville.

Capital Southeast Connector Project Segment D2 (2016-present). Cultural resources Principal Investigator for the preparation of the IS/MND/EA for Segment D2 of the Capital SouthEast Connector Project. The Capital SouthEast Connector Joint Powers Authority (JPA) is leading the effort to develop an expanded expressway serving as a 34-mile connector between Interstate 5, California State Route (SR) 99, and U.S. Highway 50 that will serve as a bypass of the City of Sacramento connecting the City of Elk Grove and El Dorado Hills. The JPA is the CEQA lead agency and Caltrans is the NEPA lead agency.

Pescadero Reclamation District 2058 Levee Critical Repair Project, San Joaquin County. Served as Principal Investigator for the cultural resources inventory and evaluations to support environmental review and permitting for the repairs.

Paradise Cut Levee Patrol Road Rehabilitation Project, San Joaquin County. Served as Principal Investigator for the cultural resources technical study to support the CEQA categorical exemption for this road improvement project proposed by the Pescadero Reclamation District 2058.

Bethel Church EIR, City of Redding. ECORP Consulting, Inc. was retained to advise the City of Redding and the preparer of the CEQA document on the requirements and thresholds for compliance with Assembly Bill 52. Because no tribes had submitted general request letters at the

time, ECORP subsequently authored the Tribal Cultural Resources section of the CEQA document that provided documentation of the AB 52 compliance and drew from other sources of information that led to a determination that no tribal cultural resources would be impacted by the proposed project.

300 Persifer Street, City of Folsom. Served as tribal liaison between the City of Folsom, United Auburn Indian Community, and the CEQA document consultant to resolve concerns over tribal cultural resources that may be affected by the redevelopment project. Designed and implemented a test excavation program in coordination with the tribe and consultant, and advised the City on a compliance strategy.

Sugar Pine Reservoir Project, Foresthill Public Utilities District, Placer County. Serves as Principal Investigator for the cultural resources compliance under Section 106 NHPA and CEQA. Responsible for the cultural resources survey, evaluations of eligibility of historic and prehistoric archaeological sites, and preparation of technical reports.

Centennial Reservoir Project, Nevada Irrigation District, Nevada County. Serves as Principal Investigator for the cultural resources compliance under Section 106 NHPA and CEQA. Responsible for the cultural resources survey, tribal consultation under AB 52, evaluations of eligibility of historic and prehistoric archaeological sites, and preparation of technical reports.

Gregory Canyon Landfill, San Diego County (2016). Tribal liaison between the applicants for a proposed landfill, the Los Angeles District of the US Army Corps of Engineers, and the Pala Tribe regarding impacts (and alternatives) to a Traditional Cultural Property. Also responsible for authoring the updated determination of effect, Historic Property Treatment Plan, and Memorandum of Agreement under Section 106 of the NHPA.

City of Carlsbad Cultural Resources Guidelines (2016–2017). Developed the updated cultural resources guidelines and procedures for the City of Carlsbad to reflect recent changes in state law and local policy as it relates to cultural, tribal, and paleontological resources.

Placer County Conservation Plan, County of Placer (2016-Present). Responsible for negotiating and developing a highly complex programmatic approach to guide multi-agency compliance with Section 106 NHPA and CEQA for this 50-year, 209,000-acre habitat conservation plan. The resulting Programmatic Agreement and Cultural Resources Management Plan, currently in development, will support an EIR/EIS and guide compliance for the US Army Corps of Engineers, US Fish and Wildlife, County of Placer, California Department of Fish and Wildlife, City of Lincoln, and the Office of Historic Preservation, and will incorporate stakeholder involvement from tribes, developers, historical societies, and the public. When complete, it will be the first HCP in California to incorporate US Army Corps of Engineers' compliance and will result in a phased delegation of authority to non-federal agencies.

Assembly Bill 52 Compliance. Contributed to the negotiation of the bill language by providing technical input to the attorneys representing the California Building Industry Association and

California Chamber of Commerce in their negotiation with the governor's office and Assemblyman Gatto's office regarding the amendment to CEQA for tribal cultural resources. Subsequently, developed an agency and planner training workshop that has been delivered and Presented over 65 times. The purpose of the training workshop is to provide an overview of the requirements, timelines, decision points, and potential liabilities to agencies and applicants.

Standard Operating Procedures for Compliance with AB 52. Developed SOPs for the County of San Bernardino, County of Contra Costa, City of Folsom, City of Belvedere, and County of Placer to assist them in developing a standardized and more legally defensible program of compliance with the new tribal consultation requirement under CEQA.

Feather River West Levee Project, Sutter County (2015-Present). Serving as a tribal liaison between the Sutter Butte Flood Control Agency and United Auburn Indian Community and mediating a Settlement Agreement between the parties that arose out of the Feather River West Levee Project.

Millerton New Town Specific Plan, Fresno County (2014–2016). Project manager and principal investigator responsible for developing and implementing a Section 106 compliance strategy in coordination with the US Bureau of Reclamation, and for serving as a liaison and third-party negotiator between the developers and the local tribes in working out a settlement agreement. Also carried out an Extended Phase 1 study and geoarchaeological assessment, prepared a cultural resources management plan with measures for avoidance and treatment incorporated, and other technical assistance.

Tesoro Viejo Specific Plan, Merced County (2014–Present). Principal Investigator responsible for coordinating the Section 106 consultation on behalf of the developer, in collaboration with the US Army Corps of Engineers and US Bureau of Reclamation. This includes ensuring no conflicts between the Section 106 process and the outcomes of the CEQA process, including its subsequent legal proceedings, which resulted in a Settlement Agreement when the EIR was challenged (ECORP was not involved in the CEQA process or the legal challenges to the project). Also responsible for an evaluation of eligibility of Lateral 6.2 and bridge crossings of the Madera Canal.

The Village of Marble Valley Specific Plan, El Dorado County (2012–Present). Principal Investigator responsible for the cultural resources survey and evaluations of the specific plan area, and co-author of technical reports. Served as liaison between the US Army Corps of Engineers, County of El Dorado, project proponent, EIR preparer (ICF) and Native American tribes (Shingle Springs Band of Miwok Indians, United Auburn Indian Community, and Wilton Rancheria) in the negotiation of avoidance/impact plans for cultural resources, and coordinated and managed overall cultural resources compliance for the project area. The Marble Valley project will involve the development of single- and multi-family lots, school, parks, a cultural arts center, commercial areas, and a large preserve area that would encompass wetland and cultural resources within the project area.

Central El Dorado Hills Specific Plan, El Dorado County (2012–Present). Principal Investigator responsible for the cultural resources compliance work and completion of the cultural resources inventories and evaluations of significance for the Pedregal and Executive Golf Course projects, which later joined and became the Central El Dorado Hills Specific Plan Project. Served as liaison between the US Army Corps of Engineers, County of El Dorado, project proponent, EIR preparer (ICF) and Native American tribes (Shingle Springs Band of Miwok Indians, United Auburn Indian Community, and Wilton Rancheria) in the negotiation of avoidance/impact plans for cultural resources, and coordinated and managed overall cultural resources compliance for the project area.

Placer Vineyards Specific Plan Environmental Services, Placer County (2012). Principal Investigator for the authoring, development, and negotiation of a complex Programmatic Agreement between the Corps of Engineers, SHPO, and 24 applicants for a 5,000 acre specific plan project. Provided technical assistance to the Corps in re-writing the EIS section. Authored the Historic Property Management Plan. Provided peer review and compliance strategy assistance to the applicants.

Twelve Bridges Specific Plan, City of Lincoln (2013-2014). Responsible for assessing the status of compliance under Section 106 for the specific plan project, and developing a compliance strategy to complete the remaining work, thereby allowing the Corps to issue a permit extension. Developed and negotiated a new Programmatic Agreement and implemented the remaining mitigation work to allow development to proceed.

Lincoln Village 1/Walkup Ranch, City of Lincoln, Placer County (2012). Cultural resources task manager and Principal Investigator for completing the cultural resources compliance, including evaluations of significance for archaeological and architectural resources within the Phase 1 project area, Native American coordination, and peer review and subsequent retrofitting previous documentation prepared by other consultants for use in the CEQA and Section 106 process.

Sierra Vista Specific Plan, Placer County (2009-2012). Principal Investigator for the cultural resources compliance under Section 106 NHPA for the USACE. Responsible for designing and overseeing a cultural resources inventory and evaluation (including a prefield records search, agency consultation, pedestrian survey, augering program, and inventory/evaluation report) for the proposed residential development near Roseville.Included plan-area wide studies, as well as separate contracts for various applicants within the specific plan, including the Conley, Chan, Mourier, DF, and Westbrook properties.

Glenborough at Easton and Easton Place, Sacramento County (2007–Present). Principal Investigator and Task Manager for the inventory and evaluation of approximately 1,533 acres of property, plus a 69kv alignment, composed largely of historic mining tailings and the Aerojet campus. Resources documented on site included: the Alder Creek District, the Natomas-Aerojet Dredge Fields, and 35 cold-war era structures. Served as task manager for the architectural history evaluation of several structures, on a team with Past Forward, Inc. Developed, negotiated, and implemented a Memorandum of Agreement, Historic Property Treatment Plan, and Determination of

Effect, and coordinated with USACE and SHPO. Responsible for carrying out all mitigation requirements, including data recovery excavations, mapping, public interpretation, and documentation. Responsible for coordinating and managing subconsultants carrying out HAER-like photo documentation, ground based laser scanning, and aircraft-mounted LIDAR scanning.

Metropolitan Airpark Project (Brown Field Municipal Airport), City of San Diego (2015 – Present). Conducted a peer review and compliance assessment for the applicability of previously-prepared cultural resources documentation under the California Environmental Quality Act for use in the Section 106 NHPA consultation process as it relates to a Section 404 permit with the US Army Corps of Engineers for a roadway improvement element of the larger project. Currently implementing the recommended strategy for compliance, which includes an updated records search, addendum field survey, and preparation of a technical report.

San Diego SCY High School Security Project, City of San Diego (2015). Under a master services agreement with the Federal Emergency Management Agency and Department of Homeland Security, reviewed project information, assessed the level of compliance, and developed a compliance strategy for FEMA to fill data gaps, and drafted tribal correspondence and FEMA's consultation letter to the State Historic Preservation Officer. Work was carried out under the 2014 Programmatic Agreement between FEMA, SHPO, and the California Governor's Office of Emergency Services.

City Creek Turnout and Pipeline Project, San Bernardino Valley Municipal Water District, City of Highlands, San Bernardino County (2015 – Present). Authored the Tribal Cultural Resources section of the Initial Study, and was responsible for updating and revising the cultural resources section that was prepared by the original CEQA consultant to ensure compliance. This involved a new records search and compliance assessment, as well as substantially revising the cultural resources chapter to increase defensibility.

Canal Road Bridge Replacement, Contra Costa County (2013). Principal Investigator and Project Manager responsible for cultural resources studies, and overall project manager for a multi-disciplinary project involving the replacement of an historic bridge that has been previously determined to be eligible as a contributing element to the Contra Costa Canal. Supervised archaeologists and architectural historians, as well as overseeing biological and permitting subconsultants.

Contra Costa County Environmental Services On-Call Contract (2010-2012). Project Manager responsible for managing a three-year, multidisciplinary on-call contract. Two task orders were completed.

Alhambra Valley Road Improvements Project: Project Manager for a multidisciplinary project including biological resources (NES, BA, rare plant study, and wetland delineation), cultural resources, noise assessment, and Phase 1 ISA studies for a Caltrans local assistance project (2010-Present).

West Antioch Creek Public Safety Improvements Project: Project Manager and Principal Investigator for the cultural resources inventory of approximately 2 acres in Antioch (2010).

Castle Rock State Park, Santa Cruz County (2012-Present). Project manager and Principal Investigator for a CEQA-level cultural resources inventory for a proposed park improvement project.

PG&E Stockton "A" Reconductoring Project, City of Stockton, San Joaquin County (2011-Present). Principal Investigator for the cultural resources inventory of approximately 10 miles of existing electrical transmission lines throughout Stockton for a proposed reconductoring and pole replacement project. Co-author of the final technical report.

Nelson Lane Bridge Replacement Project, Placer County, City of Lincoln (2011-Present). Ms. Westwood was the cultural resources task manager and Principal Investigator for a cultural resources inventory and Extended Phase 1 investigation for a Caltrans District 3 Local Assistance Project near Lincoln. Senior author of the Historic Property Survey Report (HPSR), Archaeological Survey Report (ASR), Extended Phase 1 (XPI) work plan and report.

Stoneridge Quarry, Sacramento County (2011-Present). Principal Investigator responsible for revisions and updates to the original survey report for approximately 1,300 acres and served as Principal Investigator for the evaluation of three prehistoric sites and, with Past Forward, the evaluation of 46 historical archaeological sites and additional isolates that compose the Walltown Quarry Historic Mining District. Ms. Westwood co-authored the reports, including a Memorandum of Agreement, Historic Property Treatment Plan, and Determination of Effect in accordance with the requirements of 36 CFR 800. Currently, she is serving as liaison between the Sacramento County Department of Environmental Review and Assessment, the US Army Corps of Engineers, Native American tribes, and the applicant.

Folsom South of US Highway 50 Specific Plan Project, Sacramento County (2009–Present). Principal Investigator responsible for overseeing and directing the entire Section 106 NHPA compliance process for the 3,500-acre Specific Plan Area, which will affect several gold mining districts and prehistoric sites. Responsible for negotiating and designing a complex compliance strategy that allowed for projects within the specific plan area to proceed independently through the preparation of a Programmatic Agreement with an HPMP and synthesis. Under her direction, ECORP has completed, or is in the process of completing, inventory, evaluation, and effect determinations for many of the properties within the specific plan area, in compliance with the Programmatic Agreement, including: the backbone infrastructure, Carpenter Ranch, Mangini Ranch, Hillsborough/Sacramento Country Day School, Arcadian Heights, Mangini Trust, Russell Ranch (Russell-Promontory), Prairie City Road Business Park, Russell-Promontory (Russell Ranch), Folsom 138, and J&Z. Through this process, all of the cultural resources within the entire specific plan area have been mapped either in the field or through aircraft-mounted lidar laser scanning technology and entered into a customized GIS and associated database. She is also serving as a liaison between the USACE, SHPO, and the applicants in the implementation of the First Amended Programmatic Agreement, authored by Ms. Westwood.

Rio Del Oro, Sacramento County (2007-Present). Project Manager responsible for a multi-phased cultural resources compliance task that included: preparation of a research design, recording and

evaluation of the Douglas Missile Test Facility Historic District, geoarchaeological study, inventory/survey, preparation of a Memorandum of Agreement and HPTP, and agency liaison. Task manager for a two-phased geoarchaeological study. Negotiated with the USACE, California SHPO, and National Park Service regarding the scope of the HABS/ HAER studies to resolve adverse effects to the district. Currently overseeing the preparation of the HAER documentation and ensuring compliance with the MOA/HPTP.

Folsom 138, Sacramento County (2013). Project Manager and principal investigator for the cultural resources compliance for a private development within the Folsom South of US Highway 50 Specific Plan Project. Responsibilities included ensuring compliance with the First Amended Programmatic Agreement and Historic Property Management Plan (HPMP), designing and directing the cultural resources inventory and evaluation, preparation of the finding of effect, and development and negotiation of the HPMP. Also responsible for directing Native American consultation between the applicant and USACE with respect to a traditional cultural property Present within the Area of Potential Effects (APE).

RESD, Grass Valley – Grass Valley DMV (2013). ECORP was responsible for preparation of IS/MND for the California Department of Motor Vehicles (DMV) Grass Valley Field Office Replacement project. Ms. Westwood served as the cultural resources task manager and principal investigator for the cultural resources inventory that was prepared to support the IS/MND.

California State Prisons / SunEdison, Various Counties (2013). Principal Investigator and Cultural Resources Task Manager responsible for the cultural resources compliance studies required to support the preparation of CEQA documents for proposed solar facilities located on prison grounds, as part of private-public partnerships between SunEdison and the State of California:

- CA State Prison Corcoran
- Mule Creek State Prison
- Atascadero State Hospital
- Coalinga State Hospital
- Soledad Correctional Training Facility
- Salinas Valley/Soledad
- Women's Facility Chowchilla
- CA State Prison Solano
- Pleasant Valley State Prison
- Wasco State Prison Reception Center
- CA Men's Colony San Luis Obispo

Antioch AutoZone, City of Antioch (2013). Principal Investigator and Project Manager for the cultural resources inventory and evaluations of a proposed AutoZone development in the City of Antioch. The property included the archaeological site of a 19th century schoolhouse, which needed

to be evaluated for eligibility for the California Register of Historical Resources to support the preparation of a CEQA document.

Sterling Meadows, Sacramento County (2013). Principal Investigator responsible for assessing the applicability of, and then updating, the existing cultural resources compliance documentation for a proposed residential subdivision project.

Emerson Ranch, City of Oakley, Contra Costa County (2013). Project Manager and cultural resources compliance specialist retained to guide the Section 106 compliance process for the applicant and its attorneys. Provided technical assistance, guidance, liaison with the US Bureau of Reclamation, and authored a Finding of Effect for the project development and cultural resources compliance specialist retained to guide the Section 106 compliance process for the applicant and its attorneys.

RESD Bieber Fire Station/Helitack Base Relocation (2013). Principal Investigator responsible for directing a cultural resources inventory and subsequent test excavations of prehistoric and historic-era sites for a proposed CalFire helitack base.

Manikas PFE-Morgan Creek, Roseville (2013). Principal Investigator and Project Manager responsible for the cultural resources inventory of a proposed residential subdivision project in Placer County.

Placer Vineyards #7, Placer County (2013). Project Manager and principal investigator responsible for designing and overseeing the cultural resources inventory and related Native American consultation for a proposed residential subdivision within the Placer Vineyards Specific Plan.

Bickford Ranch, Placer County (2013). Principal investigator and Project Manager responsible for updating the cultural resources compliance for a large residential subdivision project, and for developing a compliance strategy.

Rocklin Meadows, Placer County (2013). Project Manager and Principal Investigator for the cultural resources testing and boundary delineation for a proposed in-fill development project near Sierra College.

City of Biggs WWTP, Butte County (2013). Project Manager and principal investigator for the cultural resources inventory of a proposed WWTP expansion project, which required compliance with the CEQA-Plus guidelines of the state water resources control board.

Rocklin Road/I-80 Interchange Project, City of Rocklin, Placer County (2012-2013). Principal Investigator and cultural resources task manager for the preparation of an Historic Property Survey Report and Archaeological Survey Report for a Caltrans local assistance project involving the reconstruction of the freeway interchange.

Timberline at Auburn, City of Auburn, Placer County (2012). Cultural resources task manager and Principal Investigator for the retrofitting of cultural resources technical documentation prepared by another consultant, including an addendum field survey, which was determined to be non-compliant

with Section 106. Native American consultation and agency liaison / support for the US Army Corps of Engineers and SHPO.

Teichert Pyramid Minerals Project, Lyon County, Nevada (2011). Principal Investigator responsible for the Class III inventory of 14 proposed drill locations and approximately eight miles of associated access roads on BLM lands near Wadsworth and Fernley, Nevada. Carried out the field survey, recorded one new prehistoric lithic scatter and one historic isolate, and prepared a technical report for the Winnemucca District Office of the BLM. Teichert Construction is seeking a permit from the BLM Winnemucca District to carry out exploratory drilling at 14 locations on BLM lands near Wadsworth.

Fiddyment Phase 1 Bike Trail Contractor Sensitivity Training for Archaeological and Paleontological Resources, Placer County (2011). Principal Investigator responsible for developing and implementing a contractor awareness training program. ECORP was contacted by the City of Roseville to conduct an archaeological and paleontological sensitivity training for construction personnel prior to ground disturbing activities for the Fiddyment Phase-1 Bike Trail. ECORP was responsible for developing protocols, preparing literature and training materials, and Presenting a training session to contractors describing potential archaeological and paleontological resources that may be discovered during ground disturbing activities.

Walker Ridge Wind EIS Peer Review, San Bernardino County (2011). Cultural Resources Task Manager responsible for conducting a peer review of the draft EIR section. As an extension of Bureau of Land Management (BLM) staff, ECORP provided technical review services of NEPA documents and technical documents associated with the NEPA process (cultural resource inventory reports, biological reports, etc.) addressing energy development (production of oil, natural gas, geothermal, wind and solar power as well as transmission lines) proposed on public lands managed by the BLM in California. The proposed project would construct and operate an electrical generating facility with a nominal capacity of 850 megawatts (MW), using concentrated solar thermal power.

Cultural Resources Inventory for the PG&E Frogtown 1702 Blitz Pole Replacement Project, Calaveras County (2011). Principal Investigator and project manager for the negative inventory of three pole replacement locations along State Route 4. Co-author of the final technical report.

Cultural Resources Inventory for the PG&E Line 400/401 (MP 95.65) Erosion Control Project, Shasta County (2011). Principal Investigator for the negative inventory of an erosion control project to control erosion around an existing gas line near Burney. Co-author of the final technical report.

Cultural Resources Inventory for the PG&E Line 400/401 (MP 213.67) Erosion Control Project, Yolo County (2011). Principal Investigator for the negative inventory of a slope repair project to control erosion around an existing gas line near Dunnigan. Co-author of the final technical report.

Class III Cultural Resources Inventory for the Pyramid Minerals Project, Lyon County, Nevada (2011). Principal Investigator for the Class III inventory of 14 proposed drill locations and approximately eight miles of associated access roads on BLM lands near Wadsworth and Fernley,

Nevada. Carried out the field survey, recorded one new prehistoric lithic scatter and one historic isolate, and prepared a technical report for the Winnemucca District Office of the BLM.

Barstow Landfill Artifacts Analysis, San Bernardino County – San Bernardino County Solid Waste (2008-2011). Archaeologist responsible for conducting a lithic analysis of over 600 flakes and flaked stone tools, and authoring a report section on the methods and results. Artifact analyses and specialized laboratory studies were conducted on hundreds of prehistoric artifacts recorded from several archaeological sites located within the proposed expansion area of the Barstow Sanitary Landfill. During previous excavation of nine sites in the Phase I Barstow Landfill expansion area, nearly 2,000 artifacts rePresenting prehistoric tool manufacture were collected. This project was conducted to implement the mitigation measure for cultural resources as specified in the EIR for the proposed Phase I landfill expansion and fence installation.

Walltown Quarry, Sacramento County (2007-2011). Ms. Westwood served as Task Manager for revisions to the original survey report for approximately 1,300 acres and currently serves as co-Principal Investigator (with Roger Mason) for the evaluation of three prehistoric sites and, with Past Forward, the evaluation of 46 historical archaeological sites and additional isolates that compose the Walltown Quarry Historic Mining District. Ms. Westwood co-authored the reports, including a Memorandum of Agreement, Historic Property Treatment Plan, and Determination of Effect in accordance with the requirements of 36 CFR 800. Currently, she is serving as liaison between the Sacramento County Department of Environmental Review and Assessment, the US Army Corps of Engineers, and the applicant.

Mooney Road Realignment Project, Lassen County-Lassen County Department of Public Works (2008-2010). Principal Investigator responsible for three phases of inventory and authored the Archaeological Survey Report and Historic Property Survey Report. Caltrans District 2 Local Assistance. In 2008, the Lassen County Department of Public Works (LDPW) retained ECORP Consulting, Inc. to conduct a cultural resources inventory for the proposed Mooney Road realignment project, approximately 14 miles north-northwest of Highway 36 and the town of Westwood, in Lassen County. The analysis included. a review of cultural resource records and literature conducted at the Northeast Information Center located at the California State University, Chico; Native American Consultation; and a field survey of the Project Area. ECORP prepared an Historic Property Survey Report (HPSR) and Archaeological Survey Report (ASR) in compliance with the Caltrans Standard Environmental Reference (SER). The prefield research and field survey resulted in the discovery of nine historic-era isolated resources.

Brookfield Castle Farms, Merced County (2007-2011). Principal Investigator responsible for the inventory of ca. 2500 acres near Merced, California. Co-author of technical report. ECORP Consulting Inc. was retained by Brookfield Lands to prepare all supporting biological and cultural resource studies related to the 2,597±-acre Brookfield Castle Farms Project, located north of West Bellevue Road, west of California State Route 59 North and east of North Franklin Road in Merced County, California. To date, ECORP biologists have conducted a preliminary wetland assessment, a special

status species assessment, jurisdictional wetland delineation, a California tiger salamander assessment, focused rare plant surveys, and nesting raptor surveys. ECORP has prepared several additional documents pertaining to cultural resources including a literature and records search, Native American consultation, and a cultural resources survey investigation. All of these documents will be used to support environmental permitting and planned development of the project.

North Star Solar, Fresno County (2010-2011). Principal Investigator responsible for a cultural resources inventory and co-author of the survey report. On behalf of RBF Consulting, ECORP conducted a biological and cultural resources constraints study within the 640-acre Northstar Mendota Solar Farm property, located southwest of the City of Mendota, Fresno County, California. Biological services provided to date include conducting a preliminary wetland and special status species literature review and site assessment/constraints study, and preparation of the associated report of findings. The cultural resources study consisted of a record search and literature review, initiation of Native American consultation, and a site visit and inspection of previously recorded cultural resources within the Project Area by ECORP archaeologists.

Cultural Resources Inventory for the Union Pacific Railroad Fresno 59.03 Bridge Replacement Project, Sacramento County (2010). Principal Investigator responsible for a cultural resources inventory and co-author of the survey report. In 2010, Olsson Associates of Lincoln, Nebraska retained ECORP to conduct an archaeological inventory for the proposed Union Pacific Railroad Fresno 59.03 Bridge Replacement Project. Union Pacific Railroad Company proposes to replace a railroad bridge that spans a marsh area associated with Laguna Creek in Sacramento County, California. To meet the regulatory requirements of this project, this cultural resources investigation was conducted pursuant to the provisions for the treatment of cultural resources contained within Section 106 of the NHPA and in CEQA.

Cordova Hills, Sacramento County (2010). Principal Investigator responsible for the test excavations and evaluations of prehistoric and historic archaeological sites, and co-author of technical report. In addition, Ms. Westwood evaluated the significance of a 1940s transmission line owned by PG&E, which passes through the project area.

Loma Rica Specific Plan EIR, City of Grass Valley, Nevada County (2009-2010). Principal Investigator and task manager for the cultural resources constraints analysis and inventory for compliance with CEQA only. Provided CEQA support to EIR preparer.

American Vineyard Village, Placer County (2005-2010). Principal Investigator responsible for the inventory of 20 acres, recording of one historical archaeological residential site, subsurface testing and evaluation of site, co-authored final technical reports. The Applicant proposes to construct a residential housing development on 20 ± acres in Placer County, California. ECORP conducted a wetland delineation, biological assessment, rare plant surveys, and raptor survey for the project. Cultural resources were evaluated in addition to biological resources to provide technical data for preparation of a Mitigated Negative Declaration by the City of Rocklin, and to secure all federal and state environmental permits. An archaeological survey was completed to identify any archaeological

resources that could be affected by the project. Environmental permits were prepared and secured from the U.S. Army Corps of Engineers, Regional Water Quality Control Board, California Department of Fish and Game.

State Route 4 Wagon Trail Realignment Project, Joint Partnership – Calaveras County of Governments and Caltrans District 10, Calaveras County (2009). Principal Investigator responsible for a constraints analysis for the realignment of State Route 4 between Angel's Camp and Copperopolis. Caltrans Local Assistance project with Calaveras County Council of Governments. Co-author of technical report.

Tenaya Lodge, Mariposa County (2009). Project Manager and Principal Investigator for the cultural resources constraints analysis for approximately 48 acres, authored letter report.

Pioneer Dam Project, City of Sparks, Washoe County, Nevada (2008-2009). Principal Investigator and task manager for a cultural resources constraints analysis, survey and inventory, and evaluation. Co-author of all technical reports.

Lovelady/Little Stony Creek, Colusa County (2007-2008). Task manager and Principal Investigator literature review and records search and constraints analysis, and follow up survey of 48 acres. Recorded two historic and one prehistoric site, authored technical report.

Granite Esparto, Yolo County-Granite Construction (2007). Principal Investigator for survey and partial evaluation of 335 acres of property on the northern bank of Cache Creek. Supervised the recording of three sites and 11 isolates, and co-authored technical report.

Westborough at Easton, City of Rancho Cordova (2007). Co-Principal Investigator (with Roger Mason) and Task Manager for the evaluation of three historical sites on 1,164 acres of property. Co-authored research design, supervised and conducted data collection, and co-authored evaluation report. Revised inventory report from a prior version.

Wyndham Pointe, City of Redding – RBF Consulting (2007). Peer-Reviewer of cultural resources investigations by Genesis (Sean Jensen), and conducting extensive Native American consultation for the project. Prepared a summary of Native American consultation for the EIR preparer.

Department of Water Resources Sites Reservoir Cultural Resource Investigations (2004-2007). Project Manager. Project management; supervision of Senior Staff Archaeologist, historians, and lab technicians; report preparation. At the request of the Department of Water Resources, the ARP was contracted to conduct archaeological consulting services in conjunction with the proposed Sites Reservoir in Colusa County, California. This project consisted of six main tasks. Task 1 is the cultural resources inventory of the proposed project area, totaling over 34,000 acres of land surveyed by ARP staff to date. Task 2 involves Native American consultation pursuant to Section 106 of the National Historic Preservation Act, and Task 3 is historical and archival research. Tasks 4, 5, and 6 are the specialized studies, administration and report preparation, and the Northern District on-call services, respectively.

Susanville Hospital Project, Susanville (2006). Conducted survey of approximately 10 acres and authored technical report. Conducted on-site Native American consultation with Susanville Indian Rancheria and developer regarding traditional plant gathering issues. Coordinated with architectural historian to evaluate hospital.

Lassen County Bridge Cultural Resource Evaluation, Hackstaff Lane, Lassen County (2006). Principal Investigator. Authored Archaeological Survey Report and Historic Property Survey Report.

Whitmore Rehabilitation Project, Shasta County (2006). Project Manager and Co-Principal Investigator. Supervised staff, managed budget, and wrote technical report.

Shasta State Historic Park Cultural Resource Investigation and Data Recovery Excavations (2006). Project Manager and Co-Principal Investigator. Managed project, authored data recovery work plan.

Hobbs Wall Trail Project, City of Crescent City, Del Norte County (2006). Principal Investigator. Conducted cultural resources investigation, survey, consultation, and authored Archaeological Survey Report and Historic Property Survey Report.

Lassen County Bridges Cultural Resource Evaluation, Leavitt and Lambert Lanes, Lassen County (2005). Principal Investigator. Conducted pedestrian survey and authored Archaeological Survey Report and Historic Property Survey Report.

Paradise Pines/Firhaven Shaded Fuel Break Project (2004). Principal Investigator. Co-authored final technical report.

Lassen County Bridges Cultural Resource Report Peer-Review Project (2004). Project Manager.

The Nature Conservancy Colusa Subreach Project (2004). Project Manager and Co-Principal Investigator. Managed and supervised the Section 106 compliance for the 800-acre restoration project area along the Sacramento River. Led survey crews during survey, and authored final technical report.

Sierra Slot Source, LLC, Plumas County (2004). Principal Investigator. Survey, supervision of two students, and preparation of final report. Principal Investigator for the cultural resources inventory of approximately 10 acres of property near Chilcoot. Supervised two archaeology graduate students in a pedestrian survey of the project area. Several small historical trash scatters were identified and recorded. Authored the final technical report, with contributions by students.

Spalding Wastewater Treatment Project, Spalding Tract, Lassen County (2001). Project Manager/Senior Staff Archaeologist. Conducted and supervised intensive pedestrian survey and site recording of the entire town of Spalding Tract as part of an Environmental Assessment study. Coordinated with federal agencies; Native American consultation; supervision of 7 field archaeologists, 1 field crew chief, and 1 historian.

Adobe Road and Interstate 5 Development Project, Red Bluff (2001). Project Manager/Staff Archaeologist/Principal Investigator. Conducted field survey and recorded one historic and one prehistoric archaeological site. Project was expanded to include Phase II testing and formal evaluation of the prehistoric site. Authored final survey report, testing research design, and Phase II report. Supervision of eight field technicians, Native American consultation.

Skyway Plaza Development Project, Paradise (2001). Project Manager/Staff Archaeologist. Conducted survey and site recording of 60 acres as part of an EIR for a proposed development project. Supervised one student and authored final report.

Lava Beds National Monument Cultural Resources Overview (2001). Staff Archaeologist. Conducted background research and authored chapter on ethnographic overview of the prehistoric Modoc.

Yosemite Historic Railroad Logging Survey, Yosemite National Park (2001). Staff Archaeologist. Provided technical support in the production of computerized graphics and site records.

VA Cemetery Project, Sacramento and Solano Counties (2001). Staff Archaeologist. Serve as team manager for cultural resources inventory and evaluation for 2000-acre survey as part of a NEPA study. Responsible for conducting survey, site recording, and field supervision of ten field technicians. Senior author of comprehensive report. Conducted Native American consultation.

Anderson Marsh State Historic Park Curation Project, Lake County (2000-2001). Project Manager. Supervision of 20 lab technicians and responsible for a $50,000 budget. Responsible for all phases of project, from contract set up to authoring final collection status report. Native American Consultation.

Los Angeles Department of Water and Power LA Aqueduct Project, Kern County(2000-2001). Assistant Archaeologist. Co-authored Archaeological Survey Reports and prepared archaeological site records.

PG&E Lake Britton Pit 3,4,5 Site Inspection and Record Update (2000). Staff Archaeologist. Assisted in the preparation of over 60 site records.

Chico Urban Area Nitrate Project, Chico (2000). Assistant Archaeologist. Conducted an intensive pedestrian survey of 40 linear miles of proposed sewer pipeline installation, and prepared technical report.

Day 2 & Day 3 ILA Expansion Project, Palo Cedro (2000). Project Manager/Staff Archaeologist. Conducted field survey, supervised one student, prepared letter report.

Huckleberry Timber Harvest Plan, Siskiyou County (2000). Staff Archaeologist. Inspected archaeologically and historically sensitive areas previously surveyed by Foresters, recommended protection measures for existing sites, conducted shovel testing, supervised one crew member, prepared letter report.

Level (3) Fiber Optics Monitoring Project (2000). Staff Archaeologist. Co-authored final monitoring report to Sycamore Environmental, budget tracking. The ARP was initially subcontracted by Sycamore Environmental, Inc. of Sacramento to conduct archaeological inventory and monitoring of construction largely along Highway 45. Monitoring resulted in the identification of a number of significant prehistoric archaeological deposits that led to testing and mitigation at four sites in Colusa County. The historical Colusa County Courthouse and three extensive prehistoric sites were expeditiously mitigated through data recovery excavations. In addition to the standard suite of artifact analyses, other specialized studies conducted as part of this project included radiocarbon dating, obsidian sourcing and hydration, a comprehensive geoarchaeological study, lithic source identification, dental increment analysis, and an intensive investigation of prehistoric subsistence economy through the plant macrofossil remains and faunal assemblages. Through this project, the ARP developed beneficial and successful working relationships with the Cortina Patwin Native American community.

Oroville-Marysville Freeway Project, Butte and Yuba Counties (2000). Staff Archaeologist. Prepared budget and work plan for the report task of Phase I of the project. Co-authored final Archaeological Survey Report to Caltrans. Provided technical editing support for final report.

Highway 45 Data Recovery Project, Colusa County (2000). Staff Archaeologist. Conduct laboratory identification of prehistoric materials recovered from northern California valley sites from the Highway 45 project; human osteological identifications; assist and supervise students in identifications of the above.

Carroll Ranch Timber Harvest Plan Inspection, Modoc County (2000). Staff Archaeologist. Inspected archaeologically and historically sensitive areas previously surveyed by Foresters, recommended protection measures for existing sites, recorded two historic sites and prepared site records. Supervised one undergraduate student. Preparation of letter report.

CDF Campbell Timber Harvest Plan Inspection, Tehama County (2000). Staff Archaeologist. Inspected archaeologically and historically sensitive areas previously surveyed by Foresters, recommended protection measures for existing sites, recorded two historic sites and assisted in the preparation of site records.

CDF Grizzly Ranch Timber Harvest Inspection, Portola (2000). Staff Archaeologist. Inspected archaeologically and historically sensitive areas previously surveyed by Foresters, recommended protection measures for existing sites. Prepared site records and letter report. Services included conducting a pedestrian inspection of the project area, which had been previously surveyed by a Registered Professional Forester. Recommended protection and avoidance measures for existing historical sites, including a segment of a wagon road and logging camps. Prepared DPR site records and a letter report of findings to CDF.

Alturas Intertie Project, Modoc County (1997-2000). Assistant Archaeologist. Responsibilities include prehistoric artifact analysis, faunal analysis, debitage analysis, and prehistoric site write-ups

for report. Other duties included cataloging, curation and collections management, database entry and manipulation using DBASE IV and Microsoft Access.

Plumas Land Exchange, Plumas and Butte Counties, (1997-1999). Assistant Archaeologist. Participated in archaeological site testing and recording, artifact identification, catalog and curation, collections management, initial processing of flotation samples, artifact illustration, debitage analysis, database entry and manipulation using DBASE IV, archival research, historic and prehistoric site write-ups for contribution to the final report.

This project included the cultural resources investigation of over 1,000 acres of property proposed for a land exchange between the Plumas National Forest and Sierra Pacific Industries. Services included conducting a field survey of portions of the project area; test excavations composed of shovel test units, excavation units, and surface collection units; site recording of historical mining features and prehistoric lithic scatters and bedrock mortar sites on DPR site records; artifact identification, cataloging, curation, and collections management; initial processing of soil flotation samples; artifact illustration; debitage analysis; database entry; archival research; and authoring contributions to the final technical report.

Tower House, Whiskeytown (1998-1999). Assistant Archaeologist. Responsibilities include curation and collections management, artifact illustration, database entry and manipulation using DBASE IV and ANCS+ software.

Penn Mine Long-Term Solution Project, Calaveras County (1998). Assistant Archaeologist. Responsibilities include archaeological site testing and recordation, historic artifact identification, cataloging and curation, database entry using DBASE IV, preparation of site reports.

Delta Shores, Sacramento County. Principal Investigator responsible for testing and evaluation of two historic sites and co-author of technical report. ECORP conducted a pedestrian survey and testing for an 800-acre property where a mixed-use community was proposed by SunCal Companies. The Delta Shores property was located east of the town of Freeport in southwestern Sacramento County. Regulations (36 CFR Part 800) implementing Section 106 of the NHPA required that cultural resources were identified and evaluated using NRHP eligibility criteria because the Project qualified as a federal undertaking requiring a federal permit (404 permit from the Sacramento District, USACE) in order to construct the Project. ECORP conducted testing and evaluation efforts consisting of subsurface testing and archival research in order to evaluate the significance of the two sites. In addition to cultural resource studies, ECORP conducted wetland delineation studies, arborist surveys, rare plant surveys, and special-status species assessment studies.

Diamond Heritage Survey Project, Plumas County. Technical Report Editor. Conducted a complete technical and content edit for the Diamond Heritage Survey Project Cultural Resources Inventory, Plumas National Forest, Plumas and Lassen Counties, California. Technical editor and writer for the cultural resources inventory report for the 17,605-acre study area, which was part of a larger project area that was examined as part of the implementation of the Herger Feinstein Quincy

Library Group Forest Recovery Act. The report had been provided in basic draft form, as prepared by SWCA and GPS, and required extensive writing, rewriting, editing, graphics, and formatting in order to be submitted to the Plumas National Forest. The study resulted in the identification of 95 previously recorded sites, 52 newly identified sites, and 172 newly identified isolates, which required discussion and synthesis in the final technical report. Approximately two-thirds of the cultural resources rePresented historical mining and logging activities; the balance was composed of prehistoric lithic scatters and habitation sites.

Whiskeytown National Recreation Area Cultural Resources Overview, Shasta County. Consulting Archaeologist. Conducted historical research on cultural resources within Whiskeytown NRA as part of a comprehensive non-technical report prepared for NRA internal and public consumption. Authored chapter on archaeological sites within WNRA.

- Professional Development Courses/Training
- Conservation Easement Toolbox Workshop
- Introducing the New Section 4(f) Regulations (23 CFR 774): Parks, Recreation Areas, Wildlife and Waterfowl Refuges, and Historic Sites
- Issues in Section 106: An Advanced Seminar by Thomas King, PhD
- Managing Multiple Projects, Objectives, and Deadlines
- Native American Graves Protection and Repatriation Act Workshop
- Section 106 Compliance: An Introduction to Professional Practice Under Section 106 of the National Historic Preservation Act by Thomas King, PhD
- Senate Bill 18 Consultation Workshop: The Governor's Office of Planning and Research, the Native American Heritage Commission, and others

A complete CV is available upon request.

APPENDIX B

Native American Heritage Commission Sacred Lands File Search

NATIVE AMERICAN HERITAGE COMMISSION
Cultural and Environmental Department
1550 Harbor Blvd., Suite 100
West Sacramento, CA 95691
(916) 373-3710

May 25, 2018

John O'Connor
ECORP Consulting, Inc.

Sent by E-mail: joconnor@ecorpconsulting.com

RE: Proposed Otay Pipeline 2 Segment A6 Project, City of Chula Vista; Otay Mesa USGS Quadrangle, San Diego County, California

Dear Mr. O'Connor:

A record search of the Native American Heritage Commission (NAHC) *Sacred Lands File* was completed for the area of potential project effect (APE) referenced above with negative results. Please note that the absence of specific site information in the *Sacred Lands File* does not indicate the absence of Native American cultural resources in any APE.

Attached is a list of tribes culturally affiliated to the project area. I suggest you contact all of the listed Tribes. If they cannot supply information, they might recommend others with specific knowledge. The list should provide a starting place to locate areas of potential adverse impact within the APE. By contacting all those on the list, your organization will be better able to respond to claims of failure to consult. If a response has not been received within two weeks of notification, the NAHC requests that you follow-up with a telephone call to ensure that the project information has been received.

If you receive notification of change of addresses and phone numbers from any of these individuals or groups, please notify me. With your assistance we are able to assure that our lists contain current information. If you have any questions or need additional information, please contact via email: gayle.totton@nahc.ca.gov.

Sincerely,

Gayle Totton

Gayle Totton, M.A., PhD.
Associate Governmental Program Analyst
(916) 373-3714

Native American Heritage Commission
Native American Contact List
San Diego County
5/25/2018

Barona Group of the Capitan Grande
Edwin Romero, Chairperson
1095 Barona Road Kumeyaay
Lakeside, CA, 92040
Phone: (619) 443 - 6612
Fax: (619) 443-0681
cloyd@barona-nsn.gov

Campo Band of Mission Indians
Ralph Goff, Chairperson
36190 Church Road, Suite 1 Kumeyaay
Campo, CA, 91906
Phone: (619) 478 - 9046
Fax: (619) 478-5818
rgoff@campo-nsn.gov

Ewiiaapaayp Tribal Office
Robert Pinto, Chairperson
4054 Willows Road Kumeyaay
Alpine, CA, 91901
Phone: (619) 445 - 6315
Fax: (619) 445-9126
wmicklin@leaningrock.net

Ewiiaapaayp Tribal Office
Michael Garcia, Vice Chairperson
4054 Willows Road Kumeyaay
Alpine, CA, 91901
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Fax: (619) 445-9126
michaelg@leaningrock.net

Iipay Nation of Santa Ysabel
Clint Linton, Director of Cultural Resources
P.O. Box 507 Kumeyaay
Santa Ysabel, CA, 92070
Phone: (760) 803 - 5694
cjlinton73@aol.com

Iipay Nation of Santa Ysabel
Virgil Perez, Chairperson
P.O. Box 130 Kumeyaay
Santa Ysabel, CA, 92070
Phone: (760) 765 - 0845
Fax: (760) 765-0320

Inaja Band of Mission Indians
Rebecca Osuna, Chairperson
2005 S. Escondido Blvd. Kumeyaay
Escondido, CA, 92025
Phone: (760) 737 - 7628
Fax: (760) 747-8568

Jamul Indian Village
Erica Pinto, Chairperson
P.O. Box 612 Kumeyaay
Jamul, CA, 91935
Phone: (619) 669 - 4785
Fax: (619) 669-4817
mohusky@jiv-nsn.gov

Kwaaymii Laguna Band of Mission Indians
Carmen Lucas,
P.O. Box 775 Kumeyaay
Pine Valley, CA, 91962
Phone: (619) 709 - 4207

La Posta Band of Mission Indians
Javaughn Miller, Tribal Administrator
8 Crestwood Road Kumeyaay
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
jmiller@LPtribe.net

La Posta Band of Mission Indians
Gwendolyn Parada, Chairperson
8 Crestwood Road Kumeyaay
Boulevard, CA, 91905
Phone: (619) 478 - 2113
Fax: (619) 478-2125
LP13boots@aol.com

Manzanita Band of Kumeyaay Nation
Angela Elliott Santos, Chairperson
P.O. Box 1302 Kumeyaay
Boulevard, CA, 91905
Phone: (619) 766 - 4930
Fax: (619) 766-4957

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Otay Pipeline 2 Segment A6 Project, San Diego County.

Native American Heritage Commission
Native American Contact List
San Diego County
5/25/2018

Mesa Grande Band of Mission Indians
Mario Morales, Cultural Resources Representative
PMB 366 35008 Pala Temecula Rd.
Pala, CA, 92059
Phone: (760) 622 - 1336
Kumeyaay

Mesa Grande Band of Mission Indians
Virgil Oyos, Chairperson
P.O Box 270
Santa Ysabel, CA, 92070
Phone: (760) 782 - 3818
Fax: (760) 782-9092
mesagrandeband@msn.com
Kumeyaay

San Pasqual Band of Mission Indians
Allen E. Lawson, Chairperson
P.O. Box 365
Valley Center, CA, 92082
Phone: (760) 749 - 3200
Fax: (760) 749-3876
allenl@sanpasqualtribe.org
Kumeyaay

San Pasqual Band of Mission Indians
John Flores, Environmental Coordinator
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johnf@sanpasqualtribe.org
Kumeyaay

Sycuan Band of the Kumeyaay Nation
Lisa Haws, Cultural Resources Manager
1 Kwaaypaay Court
El Cajon, CA, 92019
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lhaws@sycuan-nsn.gov
Kumeyaay

Sycuan Band of the Kumeyaay Nation
Cody J. Martinez, Chairperson
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El Cajon, CA, 92019
Phone: (619) 445 - 2613
Fax: (619) 445-1927
ssilva@sycuan-nsn.gov
Kumeyaay

Viejas Band of Kumeyaay Indians
Julie Hagen,
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Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov
Kumeyaay

Viejas Band of Kumeyaay Indians
Robert Welch, Chairperson
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Alpine, CA, 91901
Phone: (619) 445 - 3810
Fax: (619) 445-5337
jhagen@viejas-nsn.gov
Kumeyaay

This list is current only as of the date of this document. Distribution of this list does not relieve any person of statutory responsibility as defined in Section 7050.5 of the Health and Safety Code, Section 5097.94 of the Public Resource Section 5097.98 of the Public Resources Code.

This list is only applicable for contacting local Native Americans with regard to cultural resources assessment for the proposed Otay Pipeline 2 Segment A6 Project, San Diego County.

CONFIDENTIAL APPENDIX C (SEPARATELY BOUND)

California Historical Resources Information System Records Search and DPR Site Records