APPENDIX G

APPENDIX G-1:

CULTURAL RESOURCES LETTER REPORT

ASM
affiliates

Elysian Mah
David Evans and Associates, Inc.
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San Diego, CA 9210

September 30, 2003

Re: Chula Vista Village 7 Project

Dear Ms. Mah:

This letter report provides an update on the previously recorded cultural resources located within the Village 7 Sectional Planning Area (SPA) and Sweetwater Union High School #13 Planning Area. Village 7 is defined as an urban village that will include single family residences, multi-family residences, a middle school, a high school, a trail connection with Wolf Canyon, and a village core area containing commercial uses, community uses, and a neighborhood park. A Program Environmental Impact Report (EIR) has been prepared for the Otay Ranch planning area; however, second-tier documents are needed to address subsequent development projects as more detailed plans are prepared.

The project area consists of approximately 412 acres located north of Otay River, east of Wolf Canyon. ASM Affiliates obtained an updated record search, and conducted literature and archival reviews to identify cultural resources that may be adversely impacted by project development. A conceptual grading plan was provided to ASM Affiliates to review when considering adverse impacts. No field work was conducted for this project. Additional testing at four archaeological sites is recommended to evaluate significant impacts to cultural resources. Three of the sites are prehistoric archaeological resources, and the fourth site is the historic Otay Ranch complex.

The project area was part of the historic 6,657-acre Otay Rancho, granted to Doña Magdalena Estudillo in 1829 (Moyer 1969: 8). The rancho was named after a Kumeyaay Indian rancheria (village complex) nearby, *Otay*. The main part of the settlement is most likely archaeological site SDI-12,809 (Mason 1993: 11). No evidence has been found of an early adobe ranch house on Otay Rancho. In 1872, Doña Estudillo received a patent to the ranch (Moyer 1969: 9). The ranch was used for cattle and sheep grazing by subsequent owners (Smith 1996: 2.1-9). Stephen Birch purchased Otay Ranch in 1936 (Rush 1965: 8). Most of the property remained as ranch land until the past few decades, when proposals for development were brought forward.

The Village 7 Sectional Planning Area has been previously surveyed for cultural resources. The results of previous cultural resource surveys is summarized below.

An overview of the cultural resources of the property, as part of the Otay River Parcel, was prepared by RECON (Ritz et al. 1989). The overview focused on previously recorded sites and a survey of the area along Otay River; no cultural resources were identified within the project area as a result of the study.

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The Otay Ranch SPA One and Annexation Project area, located north of the Village 7 project, was surveyed for cultural resources (Smith 1995). Sites were recorded along Telegraph Canyon, Poggi Canyon, and on some of the mesa tops. Most of the prehistoric sites are described as sparse scatters of lithic artifacts, and did not contain cultural deposits upon testing by Smith. Several historic sites were identified during the study, including remains of farming and ranching activities.

The eastern edge of the project area was surveyed as part of an evaluation of the cultural resources within the State Route 125 right-of-way (Rosen 1990, 1994). No historic or prehistoric archaeological sites were found along the route near the project area.

The eastern, southern, and western portions of the Otay Valley Parcel were surveyed by Brian F. Smith and Associates (Smith 1996); the project area was excluded from this survey because it was covered by a previous report (Carrico, Cooley, and Pigniolo 1993). Smith mapped previously recorded and newly discovered sites throughout the Otay Valley Parcel; however, most of the sites are concentrated along Salt Creek, Otay Valley, and at the confluence of Wolf Canyon and Otay Valley. Smith=s report describes one prehistoric site, recorded as SDI-14,176, located near the western edge of the project area, above a tributary to Wolf Canyon. The site is recorded as a temporary camp featuring stone tool debris, pottery, shellfish remains, and ground stone artifacts (Smith 1996: 3.1-1). This site is far enough from the project area to avoid any adverse impacts from the Village 7 development project.

The project area itself was surveyed for cultural resources as part of an updated ranch-wide study by Ogden Environmental (Carrico, Cooley, and Pigniolo 1993). Brian F. Smith and Associates (2003) re-surveyed a portion of the western project area for proposed SPA 2 development.

The following historic and prehistoric cultural resources were identified within or next to the project area:

SDI-11,384. This is the historic Otay Ranch complex, consisting of approximately 20 buildings and structures. It is likely that historic refuse deposits and privy pits are located within this site. It was mapped at the edge of the Village 7 project area; the site and its structures and features may not extend into the project, although they appear to be located near the proposed intersection of La Media and Birch Roads. A field check and evaluation will be needed to determine whether this resource is within the project area.

SDI-12,279. This prehistoric site is a temporary camp consisting of a scatter of artifacts, including ground stone, one flake, a core tool, and a core fragment. The site is approximately 35 meters by 60 meters in size. One piece of shell, the flake, and the core tool were collected by Ogden.

SDI-12,288. This prehistoric site is a scatter of lithic artifacts measuring 80 meters by 120 meters. One retouched flake and one core tool were collected from the site by Ogden. Lithic artifacts observed on the site included five flakes and three cores.

SDI-12,565. The site was recorded by Ogden as a low density scatter of flaked stone artifacts measuring 200 by 150 meters. One possible mano fragment was also identified.

SDI-16,680. This site was recorded by Smith (2003) as a scatter of lithic artifacts with a shallow midden deposit. Smith conducted shovel tests and an evaluation of site significance. No further work was recommended at the site.

SDI-16,681. Also recorded by Smith (2003) as a scatter of lithic artifacts with a limited subsurface component, the site was evaluated for significance. No further work was recommended at the site.

P37-14533. This resource is an isolated flake found along the western edge of the project area during a survey by Smith (1996).

In addition to these recorded archaeological sites, the following isolated artifacts were also noted and mapped by Odgen:

Isolate 409. Core
Isolate 410. Flake
Isolate 424. Flake
Isolate 426. Flake
Isolate 427. Flake
Isolate 428. Flake
Isolate 432. Core tool
Isolate 447. Core
Isolate 448. Flaked tool

Table 1 lists the cultural resources within or adjacent to the Village 7 Sectional Planning Area. Figure 1 shows the locations of these cultural resources.

No further management recommendations are given for the 9 isolated artifacts recorded by Ogden and the one (P37-14,533) recorded by Smith. Completion of site forms as accomplished by Ogden and Smith provides adequate mitigation for any adverse impacts.

Two of the sites, SDI-16,680 and SDI-16,681, were evaluated for significance by Smith (2003). Smith determined that the testing conducted at these sites exhausted their research potential, and no further work was recommended.

None of the other four cultural resources have been evaluated for importance or significance under the California Environmental Quality Act. This evaluation is the next step recommended. If the sites are found to be important or significant, as determined by applying the criteria from the California Register of Historic Places and Appendix K of the California Environmental Quality Act Guidelines, potential adverse impacts to the resource must be mitigated. Avoidance of adverse impacts to significant cultural resources through project design is the preferred mitigation measure for cultural resources. Archaeological sites can be placed within dedicated open space areas to protect them from adverse impacts. If avoidance is not possible, mitigation of impacts through a data recovery program may be acceptable.

Please let me know if additional information or clarification is required.

Sincerely,

Susan M. Hector, Ph.D.
Senior Scientist

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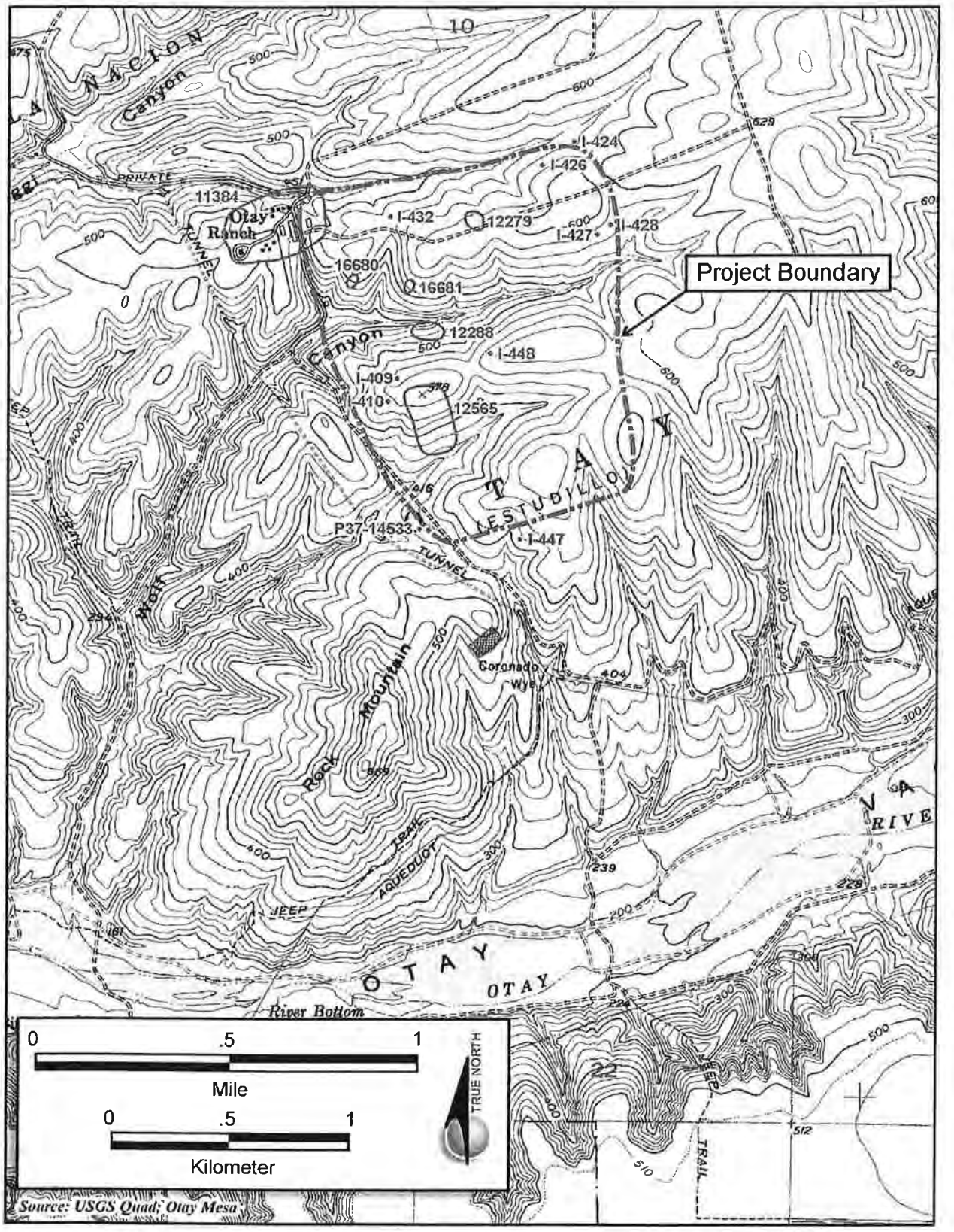

Figure 1. Location of Cultural Resources Within the Village 7 Project Area

Cultural Resource Number	Description	Potential Impact	Recommendation
CA-SDI-11,384	Historic Otay Ranch complex	Birch Road, La Media Road, Residential development	Structures and features from Otay Ranch appear to be located within the project area; these need to be mapped in relation to proposed development and evaluated for significance
CA-SDI-12,279	Prehistoric Camp	Residential development	Evaluate for significance
CA-SDI-12,288	Prehistoric Artifact Scatter	Middle school grading	Evaluate for significance; if the site is a surface scatter of artifacts, it may not be significant
CA-SDI-12,565	Prehistoric Camp	Middle school development	Evaluate for significance
CA-SDI-16,680	Scatter of lithic artifacts	None; has been tested	No further work necessary
CA-SDI-16,681	Scatter of lithic artifacts	None; has been tested	No further work necessary
Isolate 409	Core	None	No further work necessary
Isolate 410	Flake	None	No further work necessary
Isolate 424	Flake	None	No further work necessary
Isolate 426	Flake	None	No further work necessary
Isolate 427	Flake	None	No further work necessary
Isolate 428	Flake	None	No further work necessary
Isolate 432	Core tool	None	No further work necessary
Isolate 447	Core	None	No further work necessary
Isolate 448	Flaked tool	None	No further work necessary
P37-14,533	Isolated flake	None	No further work necessary

Table 1. Cultural Resources Within or Adjacent to the Village 7 Project Area

APPENDIX G-2:

CULTURAL RESOURCES EVALUATION FOR CA-SDI-12,279 AND CA-SDI-12,565

CULTURAL RESOURCES EVALUATION FOR CA-SDI-12,279 AND CA-SDI-12,565, CHULA VISTA VILLAGE 7 PROJECT, CHULA VISTA, SAN DIEGO COUNTY, CALIFORNIA

Prepared for:

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Keywords: USGS Otay Mesa 7.5-minute quadrangle; CA-SDI-12,279; evaluation; shell scatter; CA-SDI-12,565; lithic scatter.

March 2004

CULTURAL RESOURCES EVALUATION FOR CA-SDI-12,279 AND CA-SDI-12,565, CHULA VISTA VILLAGE 7 PROJECT, CHULA VISTA, SAN DIEGO COUNTY, CALIFORNIA

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MANAGEMENT SUMMARY/ABSTRACT

This report provides an evaluation of two prehistoric archaeological sites: CA-SDI-12,279, a marine shell scatter; and CA-SDI-12,565, a small lithic scatter. Both sites are located north of the Otay River Valley in Chula Vista, southern San Diego County. The sites are situated within the Village 7 Sectional Planning Area (SPA) and Sweetwater Union High School #13 Planning Area. Village 7 is defined as an urban village that will include single family residences, multi-family residences, a middle school, a high school, a trail connection with Wolf Canyon, and a village core area containing commercial uses, community uses, and a neighborhood park. A Program Environmental Impact Report (EIR) has been prepared for the Otay Ranch planning area; however, second-tier documents are needed to address subsequent development projects as more detailed plans are prepared.

The evaluation program consisted of a complete surface artifact/ecofact collection and test excavation of the two sites. CA-SDI-12,279 was tested with three STPs while CA-SDI-12,565 was tested with nine STPs. Based on the results of the testing, it is concluded that neither CA-SDI-12,279 and CA-SDI-12,565 do not meet any of the criteria for significance under the California Environmental Quality Act (CEQA) or the National Historic Preservation Act (NHPA). As such, the proposed project will not result in adverse effect to an historical property. No further work is recommended.

1. INTRODUCTION

This report provides an evaluation of CA-SDI-12,279 and CA-SDI-12,565, two prehistoric archaeological sites located north of the Otay River valley in Chula Vista, southern San Diego County (Figure 1). The sites are situated within the Village 7 Sectional Planning Area (SPA) and Sweetwater Union High School #13 Planning Area (Figure 2). Village 7 is defined as an urban village that will include single family residences, multi-family residences, a middle school, a high school, a trail connection with Wolf Canyon, and a village core area containing commercial uses, community uses, and a neighborhood park.

A Program Environmental Impact Report (EIR) has been prepared for the Otay Ranch planning area; however, second-tier documents are needed to address subsequent development projects as more detailed plans are prepared. The objective of this testing and evaluation program was to evaluate the significance of CA-SDI-12,279 and CA-SDI-12,565, the potential for adverse impacts to the site from proposed development, and mitigation measures if needed.

Figure 1. Project vicinity.

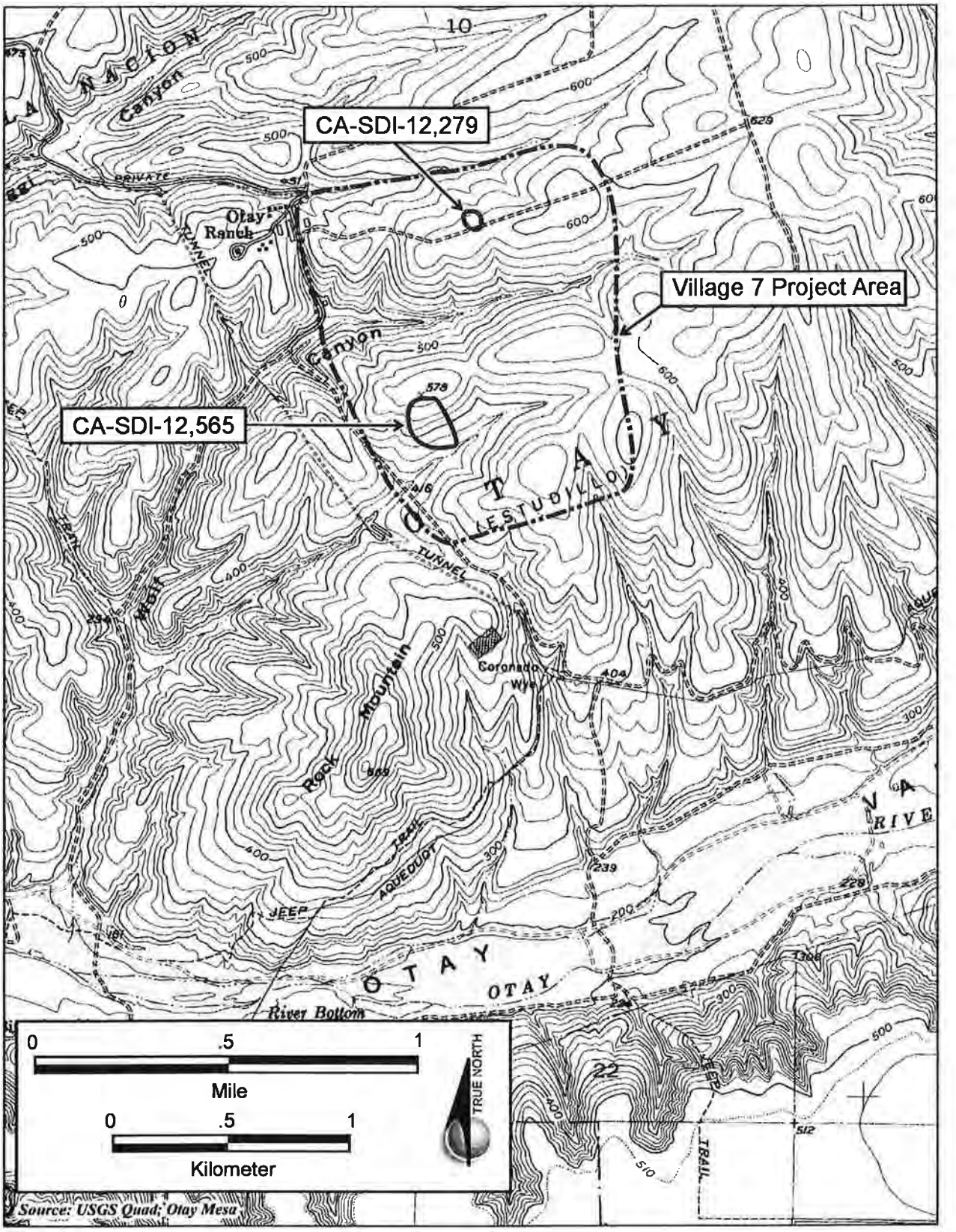

Figure 2. Project location.

2. BACKGROUND

ENVIRONMENTAL SETTING

The project area is located within a series of rolling ridges cut by seasonal gullies north of the Otay River. It lies just north of the head of Wolf Canyon which drains into the Otay River. A small seasonal drainage that drains into the larger Poggi Canyon seasonal drainage is located approximately 230 m to the north of the sites. CA-SDI12,279 and CA-SDI-12,565 are approximately 3 km north of the Otay River, which very likely contained water prehistorically throughout much of the year.

Western San Diego County, as a whole, is divisible into two geomorphic provinces on the basis of surface geology and relief: the Peninsular Range Province and the Coastal Province. The dominant relief element of the Coastal Province is a series of marine terraces, otherwise known as mesas. Three terraces are recognized within the metropolitan San Diego region. In order of increasing age, elevation, and distance from the coastline, these are designated as the La Jolla Terrace, the Linda Vista Terrace, and the Poway Terrace. The La Jolla Terrace occurs between the elevations of 50 and 70 feet above sea level and is best developed around the seaward flanks of Mt. Soledad and in the vicinity of Mission Bay. The Linda Vista Terrace occurs at elevations between 300 and 500 feet above sea level and is the most apparent and extensive of the three terraces. The surface of the Linda Vista Terrace has been considerably fragmented by stream incision. It includes most of the familiar mesas of the San Diego metropolitan area, such as Kearney Mesa, Clairmont Mesa, and Mira Mesa. The Poway Terrace is at elevations between 800 and 1200 feet above sea level. Only remnants of the Poway Terrace remain. The once continuous terrace surface has been substantially consumed by erosion. Other similar terraces occur throughout the Coastal Province, including Otay Mesa and Avondale Terrace. All of these terraces exhibit considerable surface relief and are dissected by canyon systems. The degree of dissection increases with the age of the terrace. Canyon cutting by stream erosion is a consequence both of terrace elevation relative to sea level and of the general weakness of the rocks through which the terrace canyons were cut. Mission Valley and its tributary valleys are good examples of canyons that have been cut into the Linda Vista Terrace.

The site is situated atop the Otay Formation, a sedimentary deposit which sometimes contains fossils. Soils characteristic of this formation are usually clayey and include various types of Diablo clay and Linne clay loam (USDA 1973). Diablo clay, the predominant soil in the area, is often very calcareous and may include a caliche layer.

Climate

The local climate is usually influenced by the proximity of the subtropical high pressure of the north Pacific. Although this system occasionally weakens, strengthens, or shifts location, it is generally found somewhere near southern California, displaced a little to the north in summer and

to the south in winter. In high pressure systems such as this, dry air moves toward the earth from higher altitudes and spreads out in a mild, clockwise wind pattern when it reaches the surface. This dry air is what keeps southern California in sunshine most of the time. In the fall and winter, the high pressure is sometimes centered inland, perhaps over Nevada. This produces periods of two or three days of very dry, subsiding winds from the east, which are locally known as the Santa Anas. Santa Ana winds often produce the area's annual high temperatures in August or September and can spread wildfire through the dry brush very rapidly.

The San Diego area experiences infrequent and highly seasonal rainstorms that generally occur between the months of October and April. During these months, the high-pressure system occasionally weakens or moves further south, thus allowing major storms from the Pacific to reach southern California. On the average, between 10 and 20 such storms reach San Diego County each winter, with the heaviest ones dropping one to two inches of rain in the metropolitan area. Seasonal precipitation varies throughout the county in accordance with the major landform and elevational differences. The coastal areas receive on the average between 10 and 12 inches of rainfall annually. The coastal mesas receive two to four inches more rainfall than coastal valleys and up to twice as much as the beaches. Summer thunderstorms occur occasionally in the foothills and less frequently on the coast. Temperatures also vary with elevation. Coastal areas are generally mild with occasional winter frost. A few days reach 100° F in summer and fall. Yearly temperature variation increases inland. Coastal valleys have frequent winter frost, and some weeks each summer have temperatures over 100° F.

Vegetation

The area's vegetation communities are closely related to its natural climatic and soil conditions. Coastal sage scrub vegetation was originally the dominant vegetation along the seashore, the southern coastal mesas, and the coastal valleys. Major areas of chaparral are found on the northern coastal mesas. The drier adapted chamise chaparral grows on the more exposed sites while mixed chaparral grows on the moister sites. Oak woodlands generally exist in two forms: a coastal canyon form that extends into the mountains, and the more open form of foothill mesas. Riparian woodlands are located in nearly all of the major geographic formations in San Diego County, growing in streambeds and riverbeds where soil moisture is close to the surface. In many areas, however, vegetation communities are not distinct, but blend in broad bands or ecotones at their borders. The discussions below cover the typical associations that represent the plant communities in San Diego County.

Torrey Pine woodland occurs on the coastal bluffs bearing its name just north of La Jolla. The Torrey pine is associated with a unique coastal form of mixed chaparral. The presence of this woodland is suspected to relate to the occurrence of summer fog from offshore upwelling of cold water. Oak woodlands in the area include both dense and sparse phases. Coast live oak woodland is the most common type of oak woodland in the lower elevations.

Riparian woodlands are composed mostly of winter-deciduous trees that require water near the soil surface. In this community, willow, white alder, California sycamore, ash, and cottonwood form

dense woodlands in moist canyons and drainage bottoms. Plants associated with these small- to medium-sized trees include mugwort, false indigo, mule-fat, stinging nettle, and wild grape. Riparian woodlands are of great importance as wildlife habitat, particularly for birds and several animal species. These woodlands occur in relatively small canyons in the mountains, the eastern slopes of the mountains, and local small cismontane creek beds, but their primary development was originally in the large coastal river valleys that once covered large areas. The large tracts of riparian woodland that still remain or have been restored in the county occur in the San Diego River west of Santee and east of Interstate 805, the Old Mission Dam area, and the area upstream of Sweetwater Reservoir into Sloane Canyon on the Sweetwater River, the Otay River Valley, and the Tijuana River Valley.

Most southern California natural vegetation, however, was originally composed of woody shrubs. Summer drought and periodic fires are major factors influencing the structure, morphology, and physiology of vegetation in the region. The three major shrub community types in coastal San Diego are coastal sage scrub, chamise chaparral, and mixed chaparral. Coastal sage scrub is found in the driest areas with chamise chaparral, and in moister areas with mixed chaparral. Where they come into contact, they often intergrade with one another. Coastal sage scrub consists primarily of summer drought-deciduous, aromatic shrubs and sub-shrubs. In most areas, this community is dominated by only a few species of shrubs that form a low, somewhat uniform vegetative cover. Coastal sage scrub grows in areas that receive between nine and 15 inches of rainfall each year. This is the vegetation community that has been most impacted by urbanization.

Coastal bluff areas, such as Torrey Pines and Point Loma, contain a maritime succulent scrub community that includes sage scrub and many succulent species. Typical coastal sage scrub species are mixed with succulents and cacti.

Chamise chaparral grows in areas similar to that of coastal sage scrub but that receive greater rainfall, or rainfall augmented by fog drip. Rainfall in areas of chamise chaparral ranges from about 12 to 25 inches. This plant community is found on the coastal mesas around Miramar, and the hills north of Santee and Lakeside.

Coastal salt marsh exists primarily in areas with tidal influence, although the community is occasionally found several miles upstream of such influence. Coastal salt marshes are inundated with water during very high tides and strong winter storms. Most of the plants occurring in this community type are low-growing, salt-tolerant succulents. Presently, large areas of coastal salt marsh only occur in the Tijuana River valley, the south end of San Diego Bay near the mouths of the Otay River, Sweetwater River, and Paradise Creek, the San Diego River flood control channel, and in the northeastern part of Mission Bay. The mouths of Peñasquitos Creek and the Santa Margarita River have coastal salt marsh vegetation mixed in with salt flats. Numerous other small salt marshes are located around portions of the major coastal lagoons and estuaries on the northern coast of San Diego County. Historic landfills have replaced the salt marshes that once existed where Point Loma and Lindburg Field are now located.

Freshwater marsh is emergent vegetation that grows in fresh standing water. Large areas of freshwater marsh are uncommon in San Diego County. They exist at San Elijo Lagoon, Buena Vista Lagoon, and Guajome Marsh, the lower portion of the San Diego River, and the eastern part of Sweetwater Lake.

Native grasslands have become very rare in San Diego County and are now considered sensitive due to past and ongoing disturbances. Most grasslands found throughout the county today exist in a primarily nonnative state and are made up mostly of weedy species of Mediterranean origin. This replacement of native, perennial grassland species with exotic, annual species is primarily the result of overgrazing that occurred over the past two centuries. Native grasslands are found in the mountains, foothills, and coastal regions of the county.

Fauna

A range of small mammals, birds, reptiles, and insects were indigenous terrestrial faunal resources exploited by prehistoric hunters and gatherers of the region. Among the mammals that occur in the area are several species of mice and bats, desert cottontail (*Sylvilagus audubonii*), California ground squirrel (*Spermophilus beecheyi*), desert wood rat (*Neotoma lepida*), bobcat (*Felis rufus*), coyote (*Canis latrans*), and mule deer (*Odocoileus hemionus*). Waterfowl, such as grebes, gulls, and ducks, also occur in the region. Herds of now-extinct pronghorn antelope (*Antilocapra americana*) occupied the coastal grassland until historic times. Even black bear (*Ursus americanus*) and mountain lion (*Felis concolor*) occurred at the higher elevations and occasionally visited the coastal zone. Marine mammals include harbor seal (*Phoca vitulina*), California sea lion (*Zalophus californianus*), southern fur seal (*Collorhinus ursinus*), and sea otter (*Enhydra leutris*).

Four major marine littoral habitats each supported different invertebrate communities. Three of these habitats supply the most common species occurring in archaeological sites: exposed sandy beaches, with California bean clam (*Donax gouldii*) and Pismo clam (*Tivela stultorum*); exposed rocky shoreline with abalone (*Haliotis* spp.) and wavy turban (*Astraea undosa*); and muddy or sandy-bottomed enclosed bays and estuaries with scallop (*Argopecten* spp.), venus clam (*Chione* spp.), giant egg cockle (*Laevicardium elatum*), and native oyster (*Ostrea lurida*). Numerous species of fish, sharks, and rays were available from several marine habitats that include rocky intertidal zones, kelp beds, offshore muddy shallows, soft sandy bottoms and inshore areas, shallow surf zones, and pelagic or open water environments (Gallegos and Kyle 1988).

PREHISTORIC CULTURAL SETTING

The prehistory of San Diego County can be divided into three temporal periods: Paleoindian, Archaic, and Late Prehistoric.

Paleoindian Period

Paleoindian cultural remains represent the earliest substantiated occupation of the region, and are estimated to date as early as 11,000 years before present (B.P.), although a date of 9,030 ± 350 B.P. is the earliest radiocarbon date that has been obtained. This tradition has been called "Early Man" by Wallace (1955) and San Dieguito by Rogers (1966) and Warren (1966, 1967, 1968). Rogers, who first described the San Dieguito assemblage, found similar remains in areas ranging from Oregon to Utah and extending as far south as the midpoint of Baja California.

Davis et al. (1969) incorporated this assemblage into the Western Lithic Co-Tradition (Gallegos et al. 1998). They characterized the typical San Dieguito assemblage as containing heavy "horse-hoof" planes, a variety of other kinds of retouched flakes which may have been hafted, choppers made on large, heavy primary flakes, a variety of large bifacial knives or points, rare crescentic stones of unknown function, thick primary flakes, cores, and associated debitage. The chipped stone technology relied on a combination of bifacial and core technologies.

More recent research seems to indicate that these assemblages have a greater complexity than previously believed. Artifact assemblages composed of points and knives, including Silver Lake points; crescents; cobble, milling, flake, and bone tools, have been found in research at Agua Hedionda in northern San Diego County dating from ca. 8,000 to 9,000 years B.P. (cf., Gallegos 1991; Moriarty 1967).

In general, this is believed to have been a hunting and gathering society, with an emphasis on hunting. The moist climate during this period resulted in widespread pinyon-juniper forests and riparian communities along watercourses. San Dieguito encampments are typically encountered on mesas or ridge tops that afford wide vistas. The terminal date for the San Dieguito occupation is generally set between 8,500 B.P. and 7,500 B.P. (Warren and True 1961).

Archaic Period

Subsequent to the San Dieguito, a pattern of material culture termed "La Jolla" was present in coastal southern California, beginning around 7,500 B.P. The La Jolla complex was a local aspect of the widespread Milling Stone Horizon which is characterized by milling equipment in the local archaeological record. The La Jolla were hunters and gatherers, with an emphasis on plant resource gathering and a heavy reliance upon marine resources. This may have resulted in a more sedentary coastal existence; however, inland resources undoubtedly also were exploited. This transition from a general diversification of resources and specialization to habitually exploited resources characterizes worldwide post-Pleistocene cultural trends (Hayden 1981). A typical La Jolla site usually has shallow middens, and artifact assemblages that contain manos, metates, flaked stone tools, drills, polished stone artifacts, and large projectile points. The La Jolla buried their dead; at early La Jolla sites this was done in living areas, but at later sites separate defined cemeteries were used for this purpose (Rogers 1939:172).

By 3,000 B.P., two separate patterns are recognizable in La Jolla deposits: (1) an inland-oriented gathering subsistence mode, and (2) a basic marine-oriented economy. A trade network may have existed by this time, by which commodities and ideas were exchanged between the coast and desert regions to the east. This contact may have been followed by actual migrations of peoples from the latter area to the coast, eventually resulting in the displacement or absorption of the La Jolla populations (Moriarty 1967:553-556; Warren 1968:2; Warren et al. 1961:28).

Moriarty (1967), Kaldenberg (1982), and Gallegos (1987) have argued for a continual cultural development of a single demographic population whose tool assemblage gradually changed through time from what is observable as the San Dieguito to the La Jolla complex. Gallegos (1987) most recently proposed this historical framework based on 27 radiocarbon dates from sites around Batiquitos Lagoon. He defined the 7,700-year span between 9,000 and 1,300 B.P. as the "Early Period" of cultural stability and continuity, marked by technological additions or modifications to the artifact assemblage in response to environmental changes or subsistence demands. He saw milling equipment in sites with both San Dieguito and La Jolla lithic assemblages dated to more than 7,000 B.P. Differences between sites with volcanic flake-based tools in inland valleys and cobble-based tools in coastal areas were seen not as representing different cultural complexes but rather reflecting proximity to different lithic sources by the same people. Gallegos also emphasized the data for major environmental changes at Batiquitos Lagoon. As elsewhere in northern San Diego County, evidence of changing shellfish species and a decrease in the number of sites after 4,000-3,000 B.P. were seen to indicate siltation of the lagoons as the Pacific Ocean reached modern maximum sea levels (Masters 1988; Miller 1966; Warren and Pavesic 1963). It has been inferred that populations in coastal northern San Diego County have shifted their major occupation areas to more favorable inland habitats or to southern San Diego County where San Diego Bay remained open and not as affected by the siltation process, except for the buildup of the Silver Strand around 6,000 B.P.

A number of possible exceptions to the siltation-migration model have been noted. Warren (1964) pointed out that Santa Margarita River and possibly San Dieguito River may have had sufficient water to enable large populations to persist for a longer period, and Gallegos (1992) stated that occupation persisted throughout the prehistoric sequence in the Peñasquitos Lagoon/Sorrento Valley area.

New research on Camp Pendleton, however, has revealed continuity in Archaic occupation of the northern coastal area from the eighth millennium B.P. into the Late Prehistoric period. These results conflict with expectations of the prevailing reconstruction for the San Diego County area (Byrd 1996a,b; Byrd et al. 1995; Reddy et al. 1996). In this area, the post-4,000 B.P. time period is well represented by coastal sites, many of these settlements are large with moderate to thick middens that were occupied for multiple seasons, and shellfish persisted as a viable economic strategy over time. In some cases, predominant shellfish species shifted from lagoonal species such as *Argopecten* sp. to sandy beach species, in particular *Donax gouldii*. The Camp Pendleton data indicate trends toward greater resource intensification as a response to environmental and demographic factors over time rather than migrations to more optimal habitat (Byrd 1996a,b; Reddy et al. 1996).

With regard to cultural continuity, Warren remains a critic of the San Dieguito to La Jolla cultural continuity concept and the construct of an "Early Period" vs. "Late Period" culture history. While Gallegos explained the predominance of cobble-based tools in coastal La Jolla sites and volcanic flaked-based tools in inland San Dieguito sites as the result of differential access to lithic source material by the same peoples, Warren (1987) emphasized differences in function, presumably by very distinct cultural entities. Warren et al. (1993) refer to the Harris Site as evidence because both cobbles and nearby volcanic sources are present, but so are very clearly distinguishable La Jolla and San Dieguito assemblages.

For the time being they propose a new chronological scheme that is based on temporally and morphologically discrete artifact assemblages. These include an Initial period between 10,500 and 8,500 B.P. represented by a Group 1 assemblage of typical San Dieguito bifaces and unifacial scrapers, followed by an early La Jolla Group 2 assemblage lacking bifaces but including milling tools, hammer/choppers, and scrapers dating between 8,600 and 7,720 B.P. This Group 2 assemblage derives from the San Dieguito Estates site complex. Contemporary with Group 2 is a "Transitional Period" assemblage, dating between 8,500 and 7,200 B.P., which combines elements of both San Dieguito and La Jolla tool kits. This is defined by a Group 3 assemblage that includes few bifaces but large numbers of scrapers, and variable numbers of cores and manos.

Warren et al. (1993) developed a set of multiple working hypotheses to test various explanations of the difference or transition from the San Dieguito to La Jolla patterns. They include abandonment, displacement, acculturation, transformation, and different subsistence variants of a single culture. These hypotheses are yet to be tested but will likely drive future inquiries.

Warren et al. (1993) divide the Archaic period in two. First is the Developmental Early Archaic between 7,200 and 4,000 B.P. The La Jolla subsistence and settlement patterns follow a continuous trajectory from the Transitional period directly through the Archaic. This is also seen in the increased frequency of milling tools, and steep angled retouched flakes, choppers, and hammers that characterize Archaic period sites through time. Small domed scrapers, knives, and projectile points become rare in the Developmental Early Archaic based on dated assemblages. The Final Early Archaic, between 4,000 and 1,300 B.P., is perceived to be marked by settlement and subsistence shifts that accompanied lagoon siltation.

Prior to lagoon siltation and the decline of northern San Diego coastal populations, we see the introduction of diagnostic projectile points and hunting technology that is characteristic of the western Great Basin and referred to as the Campbell Tradition. It includes side-notched points including Elko series points, stemmed, lanceolate, and leaf-shaped points, large knives, flake scrapers, and drill-like tools. Stone bowls, mortars, and pestles occur for the first time, suggesting more efficient technology for intensive acorn utilization. Warren (1968:2-3) saw the Campbell Tradition as intrusive to the Encinitas (La Jolla) Tradition of cobble and flake-based tools on the Santa Barbara coast, and representing a contemporary but distinct population that moved into the area from the Great Basin. Originally Warren (1964, 1966) recognized only one small Campbell Tradition assemblage in western San Diego County, the C. W. Harris Site on the San Dieguito River, that was first excavated by Malcolm Rogers. Locus II at this site, and an adjacent area,

produced broad thin knives, notched projectile points, some scrapers, and a flat milling stone that Warren (1968:3) interpreted to be the remains of an intrusive and short-lived Campbell Tradition temporary camp dating to around 5,000 B.P. A second, undated Elko point of local volcanic rock was found at a nearby locus of the Harris Site, CA-SDI-532/4935A (Carrico et al. 1991:7.36).

Elko-type and leaf-shaped points are no longer a rarity but are frequent elements of sites in the central and eastern portions of the Coastal Plain province (Cardenas and Van Wormer 1984). Cardenas (1986) registered 73 sites in San Diego County and northern Baja California with Elko series points and associated biface forms. At the time most of the sites were concentrated in the coastal plain and foothills region between Del Mar and Oceanside, particularly in the Valley Center, Escondido-San Marcos, and Green Valley areas. These site concentrations are probably a result of where previous research has been undertaken and it is likely that similar biface-bearing sites will be found in other portions of the county during the course of future investigations. Elko series points have been found in El Cajon, Rancho San Diego, the San Diego River Valley, and Otay Mesa, and more recently near Salt Creek Ranch at CA-SDI-6954.

Prevailing models based on research at Batiquitos Lagoon posit a dramatic decrease in the number of coastal La Jolla sites after 4,000 B.P., apparently in response to the loss of lagoon habitats from increasing siltation. Warren (1964) suggested that the populations moved inland and adapted existing technology to terrestrial resources. Warren et al. (1993) see the better documented Campbell Tradition assemblage at inland La Jolla sites as instrumental in that adaptation. If the Pauma complex is actually the niche-specialized assemblage of the same people who produced the coastal La Jolla pattern, then the abandonment of coastal sites starting at 4,000 B.P. may be more accurately viewed as the gradual re-orientation of seasonal scheduling and settlement patterns to existing inland terrestrial niches of the La Jolla hunting and gathering strategy. If this is confirmed, then the idea of a culturally separate inland Pauma complex (True 1980) needs to be re-evaluated. In fact, Elko-like points and other bifaces appear at inland sites by 5,000 B.P. and would therefore indicate that the Campbell Tradition had been integrated into the local La Jolla tool kit at a relatively early date (Warren 1984).

The recovery of some shellfish with Elko points at site CA-SDI-9243 on the San Diego River in Santee, and at CA-SDI-6954 near Salt Creek Ranch, suggests that the Elko points were used by people who exploited both terrestrial and marine littoral resources (Cardenas and Van Wormer 1984; Carrico et al. 1994:5.58). This occurred before the siltation of coastal lagoons north of the San Diego River, and suggests that the adoption of this point type was not contemporary with nor a response to population movements inland and the associated increased focus on terrestrial resources. The adoption of efficient dart points and atlatls at an earlier period, however, may have facilitated the re-orientation to a settlement and subsistence strategy that focused on terrestrial resources and large mammal hunting. The seed beater and other technologies associated with seed and nut exploitation may have been similarly advantageous.

Elko-type points and other finished bifaces that are associated with the hunting of large mammals continue to be largely absent from the Pacific Coast proper (Gallegos and Kyle 1988). Warren et al. (1993:III-72), incidentally, remark with clarity that Gallegos and Kyle mistakenly interpret the

land-based faunal remains at the Ballast Point site as representing the Campbell Tradition, which is defined by tool assemblages, and thereby, hunting techniques; not dietary habits nor actual resources exploited. The Ballast Point site is unusual for several reasons that can be explained by its unique geographical setting with easy access to terrestrial, marine, and San Diego Bay resources. The tool assemblage resembles most other La Jolla sites, with simple flaked and cobble based tools, but fewer scrapers and hammer/choppers, and more manos. Of particular interest are several composite bone fishhooks and bone gorges. Faunal remains show much more use of fish and sea mammals than indicated at other La Jolla sites. Fish remains indicate emphasis on species inhabiting kelp beds and rocky foreshore, and sea mammals were more common than land mammals. Except for rabbit and gopher bones, the faunal remains and associated tool assemblage are more typical of contemporary sites on the Channel Islands than the Pacific Coast (Salls 1990). The Ballast Point site may be one of the few preserved southern coastal sites dating back to 6,000-7,000 B.P. with a predominantly maritime oriented hunting and gathering adaptation. Most early sites on the present mainland were occupied during periods of lower sea levels and now lie submerged up to several miles offshore (Raab and Yatsko 1990:19).

Most of the sites recorded on Otay north of the Otay River are probably associated with the Archaic period. Ritz and Bull (1990) conducted an overview survey of the Otay Valley parcel of Otay Ranch and found isolated artifacts, small campsites, and scatters of stone tools and flakes. Smith (1996), during his resurvey of 4,182.2 acres within the Otay Valley parcel, also found a series of limited occupation sites. Many of the larger campsites are located on the rim of Otay, overlooking Otay River Valley. It is likely that the Archaic campsites were occupied to gather or hunt seasonal resources. The many scatters of lithic artifacts found in the area represent procurement of the fine-grained stone material found on Otay Mountain and the mesa tops; this material was much sought after for tool production, and was a trade item.

Late Prehistoric Period

Between about 2,000 and 1,000 years B.P., a non-ceramic Yuman horizon, presumed to be ancestral to the *Kumeyaay* occupation, appears to have emerged at certain La Jolla sites along the Pacific coast. Malcolm Rogers (1945:173-174) first postulated a non-ceramic Yuman pattern in the Mojave Desert with small triangular arrowheads, shallow-basined metates, unshaped manos, small round portable mortars, triangular knives, bone awls, and cremation burials. An actual non-ceramic Yuman assemblage was documented at the Oro Grande site on the Mojave River near Victorville (Rector et al. 1983). A typical Late Prehistoric assemblage was found but with no Desert Side-notched points or ceramics. Radiocarbon dates ranged from 1,200-700 years B.P., putting it in the Saratoga Spring Period (1,500-800 B.P.) of the Mojave Desert sequence (Warren and Crabtree 1986:191). The nature of this cultural change and specific dates in San Diego County remains very uncertain, leading to temporal gaps and inconsistencies in several of the culture histories of the area (McDonald et al. 1993). Moriarty (1966) used ^{14}C data from the stratified Spindrift site to chronicle changes in artifact assemblages through time. He noted an increased use of exotic cryptocrystalline silicates occurring around 3,000 B.P., and the diversification of pressure-flaked lithic artifacts. Cremations replace inhumation burials around 2,500 B.P. Moriarty suggested that within this time frame and by 2,000 B.P., a pre-ceramic Yuman culture had come

from the Colorado River area and merged with the local La Jolla culture. These dates and the stratigraphic integrity of the Spindriff site remain questionable, however, and it appears that many elements of a late Archaic assemblage remain until 1,300 B.P. (Warren et al. 1993). No dates have yet been provided for the introduction of Cottonwood Triangular and Desert Side-notched projectile points that signal the shift from atlatl and dart to bow and arrow hunting technology.

Non-ceramic assemblages with Cottonwood Triangular points have been observed in stratified multicomponent sites on the San Diego River, but efforts to verify their chronological validity with appropriate early dates have been thwarted by less than ideal stratigraphic integrity (Carrico et al. 1994; McDonald et al. 1994). However, these sites did demonstrate a shift in obsidian sources from Coso in the Mojave Desert during the Archaic period to Obsidian Butte in the Colorado Desert in the Late Prehistoric period.

A more convincing special purpose transitional site (CA-SDI-10,148) was also excavated in the San Diego River valley that had a more demonstrable buried and pre-ceramic phase dated between 1,600 and 2,250 B.P. (Kyle and Gallegos 1993). A living floor and hearth features were well bracketed between these two dates. Above this deeply buried component was a later, predominantly pre-ceramic component that extended up to about 800 B.P. This site appeared to have been buried under successive alluvial flood deposits of the San Diego River and was not as affected by bioturbation as other multicomponent sites. Ceramics and the usual triangular points were absent. The site appeared to have been primarily used for plant processing and most of the tools were manos, metates, and cobble-based percussing tools used to revitalize dulled milling equipment. Most of the lithic debitage was reported to be spalls from the use of battering stones. The only biface was an extremely large triangular point fashioned from naturally thin, raw seam, Monterey chert displaying cortex on both sides. The excavators provide convincing arguments that this was a trade item and contemporary with Encinitas Tradition point types in northern Los Angeles County and Santa Barbara County (Kyle and Gallegos 1993:5.26). A rare sandstone bowl completes the unusual assemblage. An obsidian flake also helped to establish that the shift to the Obsidian Butte source probably occurred by 2,000 B.P. Faunal remains indicate exploitation of animals from surrounding coastal sage scrub foothills, the riparian zone, and the Pacific Coast marine habitat.

The fully developed Late Prehistoric period between 1,000 and 300 B.P. in San Diego County is characterized by sites with small, pressure-flaked projectile points, cremation burials, the introduction of ceramics, and an emphasis on inland plant food collection, processing, and storage, especially of acorns. Inland semi-sedentary villages were established along major water courses, and montane areas were seasonally occupied to exploit acorns and piñon nuts, resulting in permanent milling stations on bedrock outcrops. Mortars for acorn processing increased in frequency relative to seed-grinding basins. Several coastal or near-coastal village sites were occupied and maritime resources continued to contribute to the native diet and lifeways.

Archaeological site CA-SDI-12,809 is located in the Otay River Valley approximately one mile south of the project area, and represents extensive occupation of the area by Late Prehistoric populations (McDonald et al. 1993). This site is a large, complex village with ten distinct areas

of artifact and midden deposition. Cremations and a possible sweathouse feature were found during excavations by Southwestern College (McGowan 1977).

Although the Yuman populations exploited the same ecological zones as the La Jolla, each relied on slightly different subsistence-settlement modes. However, both economies were centered around the gathering of acorns and seed foods, supplemented by hunting. Storage of food and the ability to accrue a food surplus were enhanced by baskets and/or ceramic vessels.

Ethnohistoric Period

The study area is within traditional Diegueño (Kumeyaay) territory (Kroeber 1925). These people are also known as the "Ipai" and "Tipai" (Luomala 1978). The Kumeyaay had a society organized around patrilineal residence groups, with hereditary positions of political and ceremonial importance (Luomala 1978). Permanent villages and campsites were located in oak woodland valleys and catchment basins in the coastal zone, the western foothills, the Peninsular Range and, to a lesser extent, in the desert further east. Resource extraction and processing sites were clustered in an optimal manner around the settlements. Temporary camps and other gathering sites were located in more distant areas. Seasonal movements were within communally-owned village territories. These movements were directly related to the changing availability of critical resources.

Kumeyaay culture and society remained stable until the advent of missionization and displacement by Hispanic populations during the late eighteenth and early nineteenth centuries. The effects of missionization, along with the introduction of European diseases, greatly reduced the native population of southern California (Cook 1976). By the early 1820s California was under Mexican rule. The establishment of ranchos under the Mexican land grant program further disrupted the way of life of the native inhabitants.

HISTORIC CULTURAL SETTING

Hispanic Period

The Hispanic Period in California's history includes the Spanish (1769-1820) and Mexican (1820-1846) periods. The era saw a transition from a society dominated by religious and governmental institutions consisting of the missions and presidios, to one made up of a civilian population residing on large ranchos or in pueblos (Chapman 1925; Jelinek 1979).

Otay Valley was the location of an Indian village called Otay that became a ranchería of Mission San Diego. The Indians of the Otay ranchería were reportedly those who attacked the San Diego Mission in 1775 (Brackett 1951:19). These Indians appear to have resisted mission influence for decades following the uprising as there are no Indians of the Otay ranchería mentioned in Mission baptismal records prior to 1797. Baptismal records for Indians from Otay ranchería were sporadic between 1797 and 1806. An increased number of baptisms recorded for Otay ranchería between

1803 and 1833 signals increasing mission influence and a decline of the native population (Mason 1993:18). Other rancherías in the Chula Vista area included Janal, which gave its name to a Mexican land grant; San Miguel or Magate; Milijo on the south bank of the Tia Juana River; and La Punta on the shore at the mouth of Otay River (Menzel 1942:7).

When Mexico won independence from Spain in 1821, the process of secularization of the Spanish missions began to unfold. There was a gradual decline in the economic strength of the missions between 1821 and the early 1830s. As the civilian population grew, there was an increasing need for privately owned land. Frustrations began to mount as the missions owned the majority of the most desirable land (Jelinek 1979:15), culminating in the secularization of mission lands with the passing of the Secularization Act by the Mexican government in 1833.

The secular land grant system in California had two phases: lands granted by the government of Spain prior to 1822 and Mexican land grants between 1822 and 1846. As the policy of the Spanish government was to discourage private ownership, few land grants were made under the Spanish government. In order to encourage colonization, the Mexican land grants policy was both generous and liberal. Up to eleven square leagues (a square league equaled 4,438 acres) could be granted to any Mexican citizen, or naturalized citizen in good standing (Menzel 1942). Land grants were free of tax for five years. By 1846, 30 ranchos had been granted in San Diego County (Pourade 1963:61-76). The period of greatest prosperity for the ranchos was between 1828 and 1846 when there was a ready market with English and American traders for the hides and tallow produced at the ranchos (Jelinek 1979:18-22).

In the Chula Vista area there were three major land grants: Rancho de la Naçion, Rancho Otay, and Rancho Janal. Rancho de la Naçion, a 27,000-acre tract, encompassed much of present-day Chula Vista and National City, extending inland to Sweetwater Reservoir. Next to the Pueblo of San Diego, this land grant was the most important in San Diego County. Originally granted under the Spanish government in 1795, this land was reserved as a grazing ground for the Presidio of San Diego. In 1845 it was granted by Governor Pio Pico to Don Juan Forster (Menzel 1942:39-45).

Rancho Janal and Otay Rancho were both granted to members of the same Estudillo family. Otay Rancho, 6,657 acres in extent and which encompasses the project area, was located southeast of present-day Chula Vista and west of Lower Otay Dam. An early grant of this land was made in 1829 by Governor José María Echeandía to Doña Magdaleña Estudillo (Moyer 1969:8). The rancho was named after a Kumeyaay Indian ranchería (village complex) nearby, Otay. The main part of the settlement is most likely archaeological site CA-SDI-12,809 (Mason 1993:11). A later re-grant was made by Governor Pio Pico in 1846 (Menzel 1942:19-21; Schaefer et al. 1994:8-11). Rancho Janal, 4,436 acres in extent, was granted to José Antonio Estudillo by Governor Echeandía in 1829. Rancho Janal was located to the north and east of Otay Rancho.

American Period

The American period saw development of San Diego County in several different areas. A frontier period from 1845 to 1870 saw the transformation of the region from its former feudal-like society to an aggressive capitalistic economy in which American entrepreneurs gained control of most of the large ranchos and transformed the pueblo into a merchant-dominated market town. During the period between 1870 and 1930, urban development established the cities of San Diego, National City, and Chula Vista, while a rural society also developed throughout the non-urbanized areas based on family-owned farms organized into rural school district communities.

The conquest of the Southwest by the United States represented more than just a transfer of territory. The feudalistic Mexican society was replaced by an aggressive capitalistic one (Garcia 1975:55). Social, political, and economic factors combined so that most Mexican rancheros and their descendants lost their large ranches. The land policy of the state of California that favored midwestern and eastern settlement patterns consisting of small farms became the most significant of these factors. The state land policy resulted from pressure by many newly arrived Yankee immigrants who could not accept the fact that thirteen million acres of the best land in California was controlled by a few hundred Mexican ranchos (Garcia 1975; Morefield 1955:22).

This pressure from recent immigrants resulted in the Land Act of 1851, which required an investigation into the legitimacy of all land claimed under Mexican-period grants. Rather than a quick and easy process, the law was written and executed so that the ordeal of investigation and confirmation took decades. Until the grant had been confirmed, claimants could not sell any part of their land, forcing many ranchers to borrow money and mortgage their property to cover court costs (Garcia 1975; Morefield 1955:22). The Estudillos' petitions for their Otay and Janal ranchos extended over a ten-year period but were finally confirmed by the U.S. Land Commission in 1872. The ranch was used for cattle and sheep grazing by subsequent owners (Smith 1996:2.1-9). Stephen Birch purchased Otay Ranch in 1936 (Rush 1965:8). Most of the property remained as ranch land until the past few decades, when proposals for development were brought forward.

Development of National City and Chula Vista

The founding of National City and Chula Vista was closely associated with the construction of the first transcontinental railroad. In 1868, Rancho Nacional became the property of the three Kimball brothers, Frank, Warren and Levi, who immediately surveyed just over five square miles in the northwestern corner of the ranch for the town site of National City. By deeding 10,000 acres of land in Rancho Nacional and in National City to the Atchison, Topeka and Santa Fe Railway Company (AT&SF), the Kimball brothers were successful in getting the Santa Fe system to extend their line to National City (Menzel 1942). The California Southern Railroad was chartered on October 12, 1880, to build the line from National City to San Bernardino. The transcontinental railroad was completed in November 1885, resulting in an unprecedented real estate boom for San Diego and National City.

The AT&SF, which assumed control of the California Southern Railroad in April 1886, was determined to develop the town of National City. The San Diego Land and Town Company, composed of stock holders and directors of the AT&SF, was formed to develop 40,000 acres held by the Company in the National City area (Menzel 1942:63-75). The planned development included the construction of a new, exclusive town - Chula Vista; construction of the National City and Otay Railroad; and the provision of a water supply by means of the construction of the Sweetwater Dam and irrigation system.

A 5,000-acre tract of land on the southern side of the Sweetwater Valley was laid out for the new town of Chula Vista. Five-acre lots could be purchased on the condition that the purchaser would within six months build a modern house costing not less than $2,000. Houses had to be set back at least 125 feet from the street. Lots cost $500 per acre with one third paid in cash, one third within one year of purchase, and one third in two years. In 1888, one hundred houses were under construction (Menzel 1942:65). In that year a policy was introduced whereby twenty-acre tracts provided with water were offered to applicants who undertook to plant fruit trees and tend the orchards for a period of five years. The company supplied half of the lemon and orange trees. At the end of five years the company deeded 10 acres of the land to the holder and kept the remaining 10 acres.

The development of the towns of Chula Vista and National City and the agriculture in the surrounding areas depended on a reliable supply of water. To that end, the San Diego Land and Town Company undertook the construction of the Sweetwater Dam. Located in the Sweetwater Gorge, seven miles east of National City, the Sweetwater Dam was a considered a major engineering achievement at the time due to its size. It was 90 feet high and 340 feet long at the top. Constructed of granite and concrete, it varied from 46 feet at the base to 12 feet in thickness at the top. The Sweetwater Reservoir was 700 acres in extent with a capacity of 5,871 million gallons (Trook 1988:6). Work began on the dam on November 17, 1886, and it was completed on April 7, 1888. The completion of the Sweetwater Dam ushered in a new era in the development of the Chula Vista area, as fruit orchards and intensive vegetable farming quickly replaced grain farming and cattle grazing in those areas serviced by the irrigation system. Other reservoir systems followed. By 1904, the Otay Water Company (later known as the Southern California Mountain Water Company) had constructed the Upper and Lower Otay Dams on Otay and Janal ranches.

The construction of the National City and Otay Railway (NC&O) line between San Diego and National City was completed on June 16, 1887. By 1888, there were more than 30 miles of track. From National City the line extended into the Sweetwater Valley. There was a branch at Sweetwater Junction with one line extending eastward through Bonita, Sunnyside and Bonnie Brae to Sweetwater Dam and La Presa, and the other line extending southward to Otay, Fruitland, Oneonta and Tia Juana. Plans for extensions of the line were scrapped as a result of the collapse in the real estate market of 1889-1890. The Land and Town Company reported that 422,000 passengers were transported during the first eleven months of operation (Menzel 1942:74). The NC&O railway played an important role in the development of the area as it provided a necessary link with the City and between the smaller towns on the line. It also served to bring prospective land owners to Chula Vista to view lots. Excursions left San Diego early in the morning, bringing

visitors to view the Sweetwater Dam, Chula Vista, Otay, Oneonta and Tia Juana. The number of visitors on a Sunday often exceeded 2,500 (Menzel 1942:75).

Rural Settlement

While the development of the towns of National City and Chula Vista progressed in the final decades of the nineteenth century, the hinterland was being settled as a result of homesteading. Under the Homestead Act of 1862, settlers could claim up to 160 acres of public land for the cost of a filing fee of $10 on the condition that the land was occupied for at least five years and that certain improvements were made (Robinson 1979:168). Five years after the initial claim a patent was issued for the land if it could be shown that the land had been occupied and that a portion had been cultivated or used for grazing. The patents also required the construction of a house measuring at least 10 x 10 feet with at least one door and a window.

A preemption claim could also be issued to settlers on unappropriated public land as a result of the Preemption Act of 1841, whereby a settler could occupy land and make improvements before filing a Declaration of Intent with the General Land Office (Robinson 1979:167). This allowed the settler to later buy the land at a minimal price without competition. However, this Act was repealed in 1891 as a result of abuses and fraudulent entries. The Homestead Act of 1862 allowed for those with preemption claims on land to also make homestead claims for up to 160 acres.

The Homestead Act made it possible for thousands of citizens and newly arrived immigrants to the United States to acquire sufficient land to support their families. Homesteaders could also expect to benefit eventually from rising land values with increased settlement of new areas (Fite 1976). The first pioneer homesteaders came to San Diego in the 1870s as a result of the real estate promotions of Alonzo E. Horton. The earliest homesteaders moved into the choicest agricultural land in the coastal valleys and foothills. By the 1890s, a network of agricultural communities was firmly established throughout San Diego County. Homesteaders arriving in the 1890s had move into more marginal lands on mesa tops and in the foothills (Van Wormer 1986a, 1986b, 1987).

Economy

Wheat was the primary cash crop of pioneering farmers in San Diego County. It could be grown with little investment and provide a quick return in cash at the end of the first season. During the 1860s and 1870s, there was increasing experimentation to find profitable crops other than wheat that were better suited to the climate and soils of Southern California. Olives, oranges, and grapes were all found to grow well in San Diego County and moderate slopes and hills were found to be better for fruit cultivation than valley bottoms. By the early 1880s, commercial fruit cultivation had commenced in San Diego County. The completion of the transcontinental railroad in 1885 provided a link to the east and to ready markets for produce from Southern California. By the end of the 1880s, Southern California's economy had become diversified. Over one million fruit trees were planted in San Diego County by 1891. Crops of wheat, barley, oats, and corn were grown in the low-lying areas and groves of fruit including oranges, lemons, and olives were grown on the hill sides (Van Wormer 1986a).

By the late 1880s, the prime agricultural land along the coast and coastal mesas was already occupied. Those homesteaders and other settlers arriving to San Diego in the 1890s were forced to occupy more marginal lands. In 1885, land speculators began to buy up San Diego County land in anticipation of the completion of the transcontinental railroad connection to San Diego. It was anticipated that the completion of the railroad connection would bring settlers to the region and would provide a link to markets in the east for produce from San Diego. With the completion of the line San Diego's growth accelerated. In 1886, the population of the city jumped from 7,500 to 12,000 (Guinn 1907:202). San Diego's economic boom was based on land speculation. Speculators formed land companies and subdivided townsites throughout the county (Pourade 1964:167-191). The real estate boom also stimulated demand for agricultural land in the county. The number of farms in San Diego County increased from 696 to 2,474 between 1880 and 1890 (Schaefer et al. 1994). This unprecedented economic boom brought homesteaders and settlers to Proctor Valley in the mid-1880s.

During this boom, land speculators promoted the Chula Vista area as possessing an ideal climate and land for agricultural production. An advertisement published in 1888 by A. E. Higgins and N. F. Ravlin, proprietors of the town site of Sunnyside in the Sweetwater Valley, reads in part:

> "It is supplied with an abundance of pure water. None is better. It is on the line of the Motor Railroad from San Diego to Spring Valley, in view of the great Sweetwater Dam and stone quarries. No better soil in the State for all kinds of fruits and vegetables. A part of this property is covered with fruit trees, and vines of ten years' growth - lemon, orange, olive, apricots, and peach trees, and raisin and table grapes. An income is assured from the start" (Union Tribune 1937).

The completion of the Sweetwater Dam in 1888 with the promise of water for irrigation provided an added incentive to buy land in the Sweetwater Valley. With the construction of a number of reservoirs and water systems throughout the county from the 1890s, water came widely available for irrigation. Low-lying coastal and valley lands within the distribution system for a given water district experienced an immediate and dramatic rise in land value as irrigation made citrus fruit and intensive vegetable farming possible. The more marginal areas, however, did not benefit from irrigation and so continued to be used for dry framing and grazing, compounding the differential between profitable and unprofitable land.

Farmers outside the low-lying areas suitable for irrigation had to depend on annual rainfall for dry farming. The 1880s, during the real estate boom, was a good decade for dry farming as the average yearly rainfall for the decade was twelve inches. Settlers were led to believe that profitable crops could be produced without irrigation. Farmers were told that repeated ploughing following rains to work the water into the soil and careful cultivation could result in successful dry farming (Schaefer et al. 1994). The promotion of land in the Sweetwater Valley area resulted in rapid settlement of the land in the late 1880s and early 1890s as settlers claimed unoccupied government land through homesteads, timber claims and purchases. A prolonged drought during the 1890s, with average rainfall totals of only eight inches per year, forced many farmers in the coastal mesas

and marginal areas to abandon crop production. These areas then became dominated by dairy farming, ranching and poultry farms.

Economic Challenges and Disintegration of Rural Communities

Contrary to the claims of the land speculators, water was not abundantly available to the farmers of Proctor Valley and surrounding areas. At first the lack of water for irrigation did not seem to be a problem, as the wet years of the 1880s produced bountiful crops of wheat and barley. In 1887, Otay Mesa farmers averaged three tons of grain hay per acre and production remained high into 1890 (Schaefer et al. 1994). Even in the wet years, farmers had to deal with periodic water shortages when water had to be hauled in. Farmers depended for domestic water on hand dug cisterns up to 20 feet deep that collected rainwater from structure roofs for storage (Painter 1985:70).

During the 1890s, there were five years with less than six inches of annual rainfall; three of these, 1897-1900, were consecutive. The drought continued into the early 1900s. With the prolonged drought, water shortages forced many settlers to abandon their farmsteads which led to a gradual decline in the community, reflected in the San Miguel and Proctor School records. From 39 children of school age between the San Miguel and Proctor Schools in 1890, the total fell to 24 in 1900-1901. The decline in student population resulted in the closure of Proctor School in 1900 and the students were transferred to San Miguel School. Proctor Valley continued to see a decline in rural population through the first decade of the twentieth century. By 1910, there were 10 children enrolled in San Miguel School. The early 1910s saw another dry cycle and more families abandoned their farms. San Miguel School was finally closed in 1918 when there were only five students registered. The 1920s and 1930s were years of agricultural depression nationwide resulting in the gradual abandonment of small family-owned farms and ranches and the disintegration of the rural communities by the 1940s (Van Wormer 1986a).

3. RESEARCH DESIGN

The objective of this testing program was to gather information on prehistoric sites CA-SDI-12,279 and CA-SDI-12,565, located near the historic Otay Ranch complex, to evaluate their importance or significance, as determined by applying the criteria from the California Register of Historic Resources and Appendix K of the California Environmental Quality Act Guidelines. The significance, or scientific importance, of these archaeological sites is assessed with respect to their potential contribution to regional issues pertaining to southwestern California. General issues pertinent to the assessment of such sites include determination of the extent and integrity of cultural deposits; age and probable cultural affiliation; site function and subsistence strategies; overall insight into settlement organization; and the presence of any artifacts or remains having a special Native American heritage value.

If a site is found to be important or significant, potential adverse impacts must be mitigated. Avoidance of adverse impacts to significant cultural resources through project design is the preferred mitigation measure. Archaeological sites can be placed within dedicated open space areas to protect them from adverse impacts. If avoidance is not possible, mitigation of impacts through a data recovery program may be acceptable.

4. METHODS

The testing program for the two sites included surface survey, surface artifact/ecofact collection, the excavation of shovel test pits (STPs), and laboratory analysis of recovered artifacts/ecofacts. The purpose of this program was to assess site size, content, and integrity for evaluation under CEQA. Field testing was conducted for CA-SDI-12,279 on January 7, 2004, by Sherri Andrews, ASM Associate Archaeologist, and crew person Aaron Kenney, and for CA-SDI-12,565 on March 5, 2004 by ASM Associate Archaeologist Drew Pallette, assisted by Aaron Kenney, under the direction of ASM Principal Investigator, Dr. Susan Hector.

SURFACE SURVEY AND COLLECTION

Each site area was relocated by use of the recorded Universal Transverse Mercator (UTM) coordinates, as well as sketch map and surface indicators. The entire area around the recorded site location was extensively surveyed in an attempt to determine site boundaries based on surface artifact/ecofact indicators. All surface artifacts/ecofacts were pinflagged and subsequently collected for laboratory analysis.

SHOVEL TEST PITS

Shovel test pits (STPs) were used to assess the presence or absence of subsurface deposits and to assist in the delineation of site boundaries. Each STP measured 40 cm in diameter and was excavated in 20-cm levels until sterile sediment was encountered. Sediment was screened through 1/8-inch hardware mesh, and all recovered cultural material was collected, bagged, labeled, and transported to the ASM laboratory for processing. Results were documented on STP forms, which include provenience information, artifact inventory, information on sediment type and color, termination depth, and general observations.

LABORATORY METHODS

The procedures used in the processing of recovered cultural material included cleaning, sorting, and cataloging. Marine shell was assigned into collective catalog numbers for specimens sharing a common provenience. All items were weighed on a standard digital scale. Coded data were entered into a Microsoft Access 2000 database catalog that served as the master catalog. Catalogs were subsequently imported into a Microsoft Excel 2000 spreadsheet format for purposes of analysis and printing. Entries in the master catalog included the catalog number, recovery type (surface collection or STP), a provenience number, top and bottom level depths (for subsurface recovery), screening method (1/8-in. dry), and class (invertebrate remains).

A linked subcatalog was produced containing identifications for the recovered invertebrate remains. Marine shell was identified to species or genus, or to the lowest taxonomic level possible. Counts were made of pelecypod hinges and of gastropod apices as a basis for estimating the minimum numbers of individuals (MNI) represented. Only hinges or apices that were greater than 75 percent complete were included.

All recovered materials, field documentation, photographs, and artifact catalogs were prepared for curation at the San Diego Archaeological Center (SDAC) in accordance with SDAC's procedures and with the standards set forth in 36 CFR 79.

5. REPORT OF FINDINGS

CA-SDI-12,279

Prehistoric archaeological site CA-SDI-12,279 was first recorded by ERC Environmental on June 10, 1991. It was described as a light lithic scatter situated on the higher ground of a gently sloped east-west ridge about 250 m south of and above an intermittent drainage. The site consisted of several flakes, one flake tool, one hammerstone, and one possible piece of ground stone, measuring approximately 30 x 50 m in size.

The site was revisited by Ogden Environmental (Carrico et al. 1993). They described finding a light surface scatter of lithic artifacts located approximately 700 m east of the Otay Ranch complex that was bisected by a dirt road that runs east-northeast from the complex. They described the site area as approximately 30 m north/south and 50 m east/west, containing seven flakes and a core tool (scraper plane). They reported excellent visibility (90 percent) due to discing of the field.

The current condition of the site area appears to differ from that found at the time the site was originally recorded in 1991 and revisited in 1993. The original site sketch map indicates that the site was bisected by a fence and a dirt road running along a low ridge line. At the time of this testing project, there was a barbed-wire fence approximately 50 m to the north of a dirt road that runs along the top of the low hill. There was no fence adjacent this road, nor a road adjacent the barbed-wire fence. It appears that one or the other has been relocated at some point during the intervening decade.

SURFACE COLLECTION

While the site had been recorded as a lithic scatter, no lithics were visible during the surface survey; rather, a low density shell scatter was found. The entire length of the current dirt road alignment to the south of the site area was surveyed and only one piece of shell was evident. The majority of the shell scatter was found in an area of 30 x 64 m that was, in fact, bisected along its long axis by the existing barbed-wire fence (Figure 3).

Ground surface visibility on the south, or upslope, side of the barbed wire fence, was moderate (50 percent) due to recent discing and mowing. Visibility on the north side of the fence was poor (10-25 percent). Accordingly, a substantially larger amount of shell was recovered from the southern portion of the site than the northern. All surface shell was pinflagged and subsequently collected for laboratory analysis. No other artifact type was identified in the surface survey or collection. Overall, a total of 56 pieces of shell weighing 77.36 g was recovered from the site surface (Table 1).

Figure 3. Site overview toward southwest.

Table 1. Ecofacts Recovered from SDI-12,279

	Total	
Recovery Type	**Ct.**	**Wt. (g)**
STP 1	4	0.21
STP 3	6	0.39
STP Subtotal	10	0.60
Surface	56	77.36
Total	**66**	**77.96**

SHOVEL TEST PITS

A series of three shovel test pits (STPs) was excavated along the long axis of the site at 20-m intervals. Each STP was 40 cm in diameter and was excavated until sterile soils were reached. Excavation of each of the STPs encountered the same subsurface conditions. From 0-20 cm, there was a low to moderately compact loam atop an increasingly compact clayey loam speckled with

caliche. Substantial increases in compaction, clay, and caliche inclusions (sometimes up to palm-sized) were found with increased depth. STP 1 was terminated at 50 cm, and STPs 2 and 3 at 40 cm. No anthropogenic soils were in evidence.

Only STPs 1 and 3 yielded subsurface materials, comprised entirely of small, mostly unidentifiable shell fragments recovered from the 0-20-cm level. STP 1 contained four small shell fragments weighing .21 g, and STP 3 contained six small shell fragments weighing .39 g, for a total STP recovery of 10 shell fragments weighing .60 g.

INVERTEBRATE ANALYSIS

The invertebrate assemblage recovered from CA-SDI-12,279 contained seven discernable taxa (Tables 2 and 3). Six of these seven genera are native to bay/estuary habitats. Most of the shell recovered was identifiable to genus (83.3 percent by count, 96.4 percent by weight), and the majority of the identifiable shell was recovered from the surface. This is surely due to surface collection-based sampling bias, in that primarily large pieces of shell are noticeable during surface survey, while subsurface excavation and screening typically reveals smaller shell that goes unseen on the surface. The fact that the number and size of the shell fragments recovered from the STP excavations was very small and almost entirely unidentifiable seems to substantiate the conclusion that this site was largely a surface manifestation with no real subsurface deposit or integrity.

Table 2. Invertebrate Taxa Recovered from SDI-12,279

Genus	MNI	Ct.	Wt. (g)
Argopecten aequisulcatus	-	2	0.41
Cerithidea californica	1	1	0.33
Chione spp.	4	39	70.86
Crepipatella lingulata	1	1	0.21
Macoma sp.	1	1	0.25
Ostrea lurida	1	5	1.27
Tagelus californianus	1	6	1.82
unidentifiable fragment	-	11	2.81
Total	**14**	**66**	**77.96**

Table 3. Habitats for Invertebrate Taxa Recovered at SDI-12,279

	Class			Environment			
Taxon	Pelecypod	Gastropod	Other	Bay/ Estuary	Exposed Rocky Shore	Exposed Non-Rocky Shore	Not Specified
Argopecten aequisulcatus	X			X			
Cerithidea californica		X		X			
Chione spp.	X			X			
Crepipatella lingulata		X			X		
Macoma sp.	X			X			
Ostrea lurida	X			X			
Tagelus californianus	X			X			

CA-SDI-12,565

Located on a ridge top and southern slope that includes a Vortac aviation and navigation station, CA-SDI-12,565 was recorded by Ogden Environmental in 1992 (Figure 4). The site was described as small, low density lithic scatter within a 200 x 150m area. Artifacts included one patinated green aphanitic, metavolcanic unifacial tool, two metavolcanic scraper planes, one metavolcanic core, one possible granitic mano fragment, and ten flakes and angular waste of metavolcanic material. Most of the artifacts were located at the top of the ridge within the Vortac station area and a few others were scattered down slope outside the facility.

SURFACE COLLECTION AND SUBSURFACE TESTING

The site area was reexamined during the current study. A small number of lithic debitage was relocated in a 20 x 20m area within the Vortac facility. This area is highly disturbed from construction of the station and according to station personnel, is regularly graded. The Vortac station is located on the top of a hill that has been graded. Approximately four feet of fill material has been brought in to provide a 50 x 50m base for the tower. A gravel road extending along the south edge of the property provides access to a maintenance building. The fenced facility including the navigation tower, access road, maintenance building covers approximately five acres of the hill top. The northern half of CA-SDI-12,565 is located within the facility grounds. The southern portion extends outside the fenced area to the south. The construction activities including the gravel road, maintenance building, and Vortac tower and pad have severely disturbed any resources that might have been there. The original site record was completed after the tower had been built. Portions of the tower fill area, gravel road, and maintenance building are located within the northern part of the site.

The southern portion of the site, located outside and downslope from the Vortac facility was reexamined as well. No artifacts were found in the plowed and disced field that characterizes this part of the site. Ground surface visibility was adequate to determine the presence of surface materials.

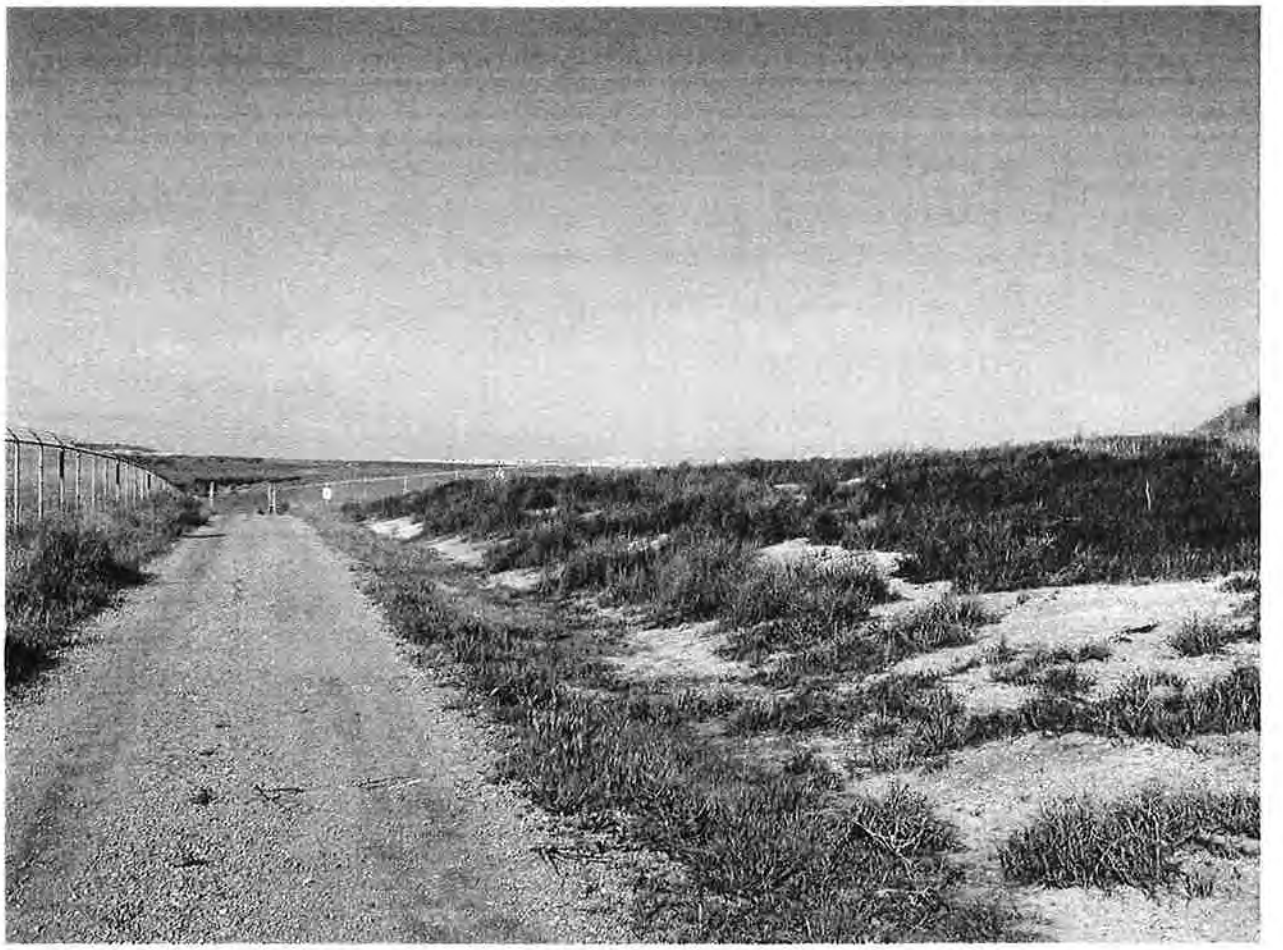

Figure 4. View of CA-SDI-12,565 looking west.

The site was surface collected and tested with nine STPs. Four STPs were placed in the area where artifacts had be found and five more were scattered across the site. All STPs were excavated to a minimum of 60 cm. No artifacts were recovered and there were no indications of subsurface cultural deposits.

LITHIC ARTIFACT ASSEMBLAGE

A total of nine flaked stone artifacts were recovered from the surface at SDI-12,565, and all were made from metavolcanic/volcanic materials. The artifacts include one unidirectional core and nine interior debitage. The core measures 89.6 x 77.9 x 34.5 mm, and may be the remnants of a large flake. The debitage range in length from 14.2-28.8 mm, and are made on several different submaterial types including fine- grained black, fine-grain green, and porphyritic gray materials. The core is made from a coarse porphyritic green material.

6. DISCUSSION/INTERPRETATION

Two archaeological sites, CA-SDI-12,279 and CA-SDI-12,565, were tested and evaluated as part of this study. Both are located within the Chula Village 7 project area.

CA-SDI-12,279

Prehistoric archaeological site CA-SDI-12,279 was tested and evaluated for this project. The site had been described when recorded in the early 1990's as a very sparse lithic scatter. When the site area was revisited for this project, no lithic artifacts were in evidence, but a sparse marine shell scatter was discovered. It is possible that artifacts from the site had been collected during an earlier project. The site area has been extensively disturbed by disking and mowing over the course of its use as ranch land for the past several decades. The lithics previously recorded may have been further redistributed by these activities over the decade since their recording, or may be obscured by grass cover.

A testing program, comprised of a complete surface artifact/ecofact collection and excavation of three STPs, was carried out at the site. Analysis of the recovered marine shell indicates that it was primarily of bay/estuarine habitat origin. The site is located approximately 11 km east of the San Diego Bay, which would have been the most likely source of the types of shell recovered. The virtual lack of subsurface deposit in the center of the shell scatter attests to temporary, short-term use of the site area. The long axis of the shell scatter corresponds with the direction of the disking along the hillside, so it is likely that a small, more spatially discrete original surface deposit was spread out along the plowing rows by ranch maintenance activities (see Figure 3).

CA-SDI-12,565

CA-SDI-12,565 was relocated, surface collected, tested, and evaluated as part of this study. The site was discovered and recorded by Ogden in 1992 and described as a sparse lithic scatter. The site was located on and around the Federal Aviation Administration's Vortac navigation tower located on one of the ridges within the Chula Vista Village project area (see Figure 2). The site was reexamined during the current study. Only a small number of the original artifacts were relocated. Most of these were found within a 20 x 20 m area within the Vortac facility grounds in the approximate area where the majority of the original site artifacts had been found. This area is highly disturbed from construction activities from the building of the Vortac facility. These activities include grading and filling for the navigation tower, and construction of a gravel road and a maintenance building. In addition, regular grading and clearing is done within the facility area. The remainder of the site extends south of the facility, down the hillside in a plowed field. No artifacts we re relocated in this portion of the site.

The site was surface collected and tested with nine STPs. None of the STPs revealed any indications of subsurface cultural deposits. Only a handful of lithic debitage was on the found on the site surface and collected. The few items appear to be what is left of a small lithic scatter that has been destroyed by construction of the Vortac facility.

7. MANAGEMENT CONSIDERATIONS

This section presents recommendations regarding the potential eligibility of cultural resources within the project area in accordance with the California Environmental Quality Act (CEQA). As of October 26,1998, revised guidelines for the evaluation of archaeological and historical resources under CEQA have been finalized by the State of California. They replace the old Appendix K and now closely parallel the evaluation criteria of the National Historic Preservation Act (36 CFR 800). Based on these new state guidelines, recommendations are provided below for significance and eligibility for the California Register of Historic Resources.

These significance assessments are addressed with consideration towards compliance with the final CEQA guidelines:

> Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the California Register of Historical Resources (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852) including the following:
>
> A. Is associated with events that have made a significant contribution to the broad patterns pf California's history and cultural heritage; or
> B. Is associated with the lives of persons important in our past; or
> C. Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
> D. Has yielded, or may be likely to yield, information important in prehistory or history [California Environmental Quality Act, as amended 1998, Section 15064.5.a3].

Neither prehistoric archaeological sites, CA-SDI-12,279 and CA-SDI-12,565, meet any of the criteria for significance as indicated above. As a resources are ineligible for the National Register and all other registers, the proposed project will not result in adverse effect to an historical property. No further work is recommended.

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APPENDIX A

Site Record Update

Site CA-SDI-12,279 was tested and evaluated on January 7, 2004, as part of the Chula Vista Village 7 development project.

The current condition of the site area appears to differ from that found at the time the site was originally recorded in 1991 and revisited in 1993. The original site sketch map indicates that the site was bisected by a fence and a dirt road running along a low ridge line. At the time of this testing project, there was a barbed-wire fence approximately 50 m to the north of a dirt road that runs along the top of the low hill. There was no fence adjacent this road, nor a road adjacent the barbed-wire fence. It appears that one or the other has been relocated at some point during the intervening decade.

The site had been described when recorded in the early 1990's as a very sparse lithic scatter. When the site area was revisited for this project, no lithic artifacts were in evidence, but a sparse marine shell scatter was discovered. The site area has been extensively disturbed by discing and mowing over the course of its use as ranch land for the past several decades. The lithics previously recorded may have been further redistributed by these activities over the decade since their recording, or may be obscured by grass cover.

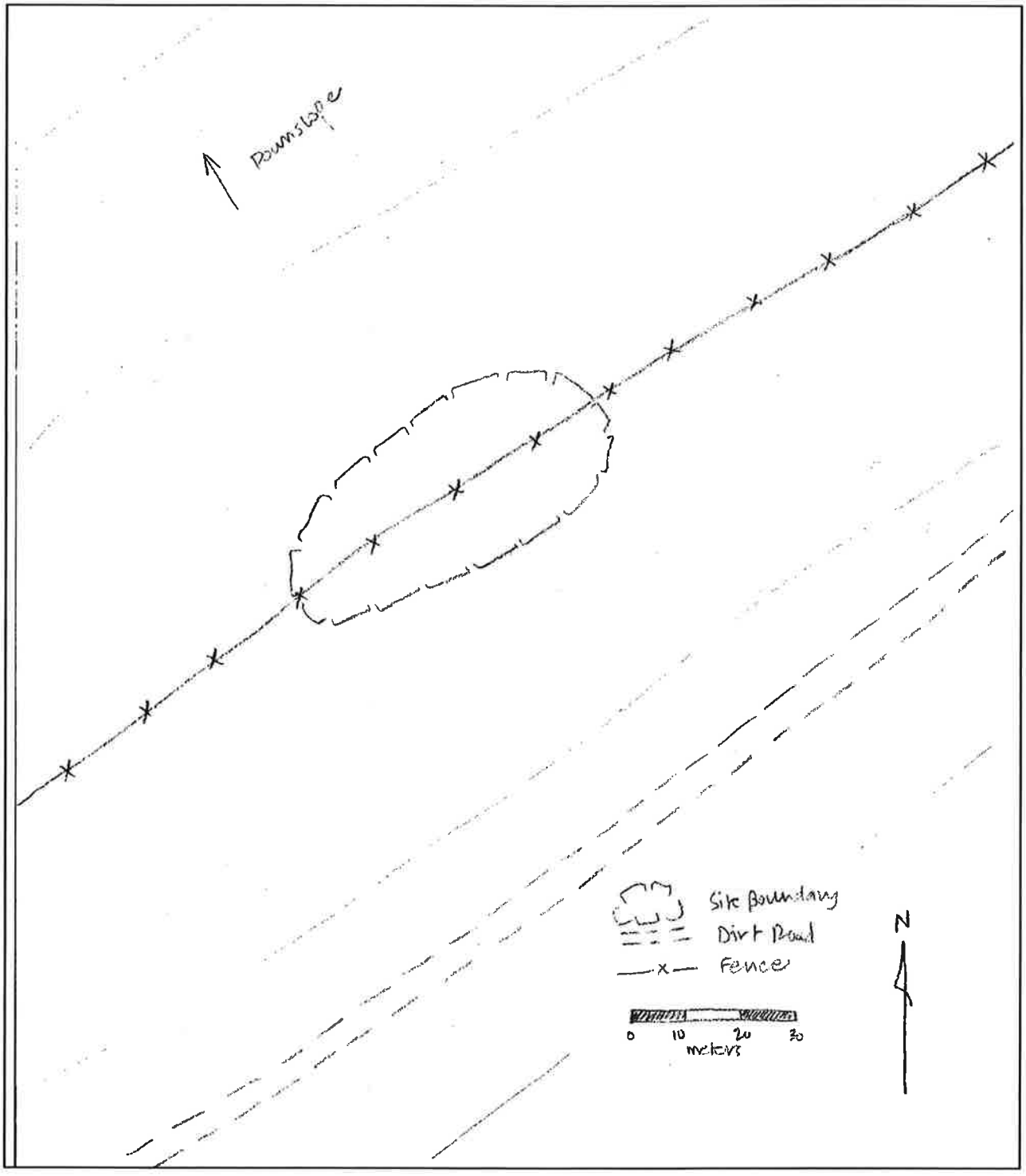
A testing program comprised of a complete surface artifact/ecofact collection and excavation of three STPs was carried out at the site. Analysis of the recovered marine shell indicates that it was primarily of bay/estuarine habitat origin. The site is located approximately 11 km east of the San Diego Bay, which would have been the most likely source of the types of shell recovered. The virtual lack of subsurface deposit in the center of the shell scatter attests to temporary, short-term use of the site area. The long axis of the shell scatter corresponds with the direction of the discing along the hillside, so it is likely that a small, more spatially compact original surface deposit was spread out along the plowing rows by the ranch's land maintenance activities.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # _____
HRI # _____
Trinomial CA-SDI-12,279

* Drawn By: S. Andrews

*Resource Name or # (Assigned by recorder) CA-SDI-12,279
* Date of map: January 7, 2004



*Required information

CA-SDI-12,565 was tested in March 2004. The following is provided as a site update. Further information can be found in the project report: ***Cultural Resources Evaluation for CA-SDI-12,279 and CA-SDI-12,565, Chula Vista Village 7 Project, Chula Vista, San Diego County, California.*** Reports authors: Susan Hector, Ph.D. and Sherri Andrews. Report prepared by ASM Affiliates, Inc. for David Evans and Associates, San Diego.

CA-SDI-12,565

Located on a ridge top and southern slope that includes a Vortac aviation and navigation station, CA-SDI-12,565 was recorded by Ogden Environmental in 1992 . The site was described as small low density lithic scatter within a 200 by 150m area. Artifacts included one patinated green aphanitic metavolcanic unifacial tool, two metavolcanic scraper planes, one metavolcanic core, one possible granitic mano fragment, and ten flakes and angular waste of metavolcanic material. Most of the artifacts were located at the top of the ridge within the Vortac station area and a few others were scatter down slope outside the facility.

SURFACE COLLECTION AND SUBSURFACE TESTING

The site area was reexamined during the current study. A small number of lithic debitage was relocated in a 20 by 20m area within the Vortac facility. This area is highly disturbed from construction of the station and according to station personnel is regularly graded. The Vortac station is located on the top of a hill that has been graded. Approximately four feet of fill material has been brought in to provide a 50 by 50m base for the tower. A gravel road extending along the south edge of the property provides access to a maintenance building. The fenced facility including the navigation tower, access road, maintenance building covers approximately five acres of the hill top. The norther half of CA-SDI-12,565 is located withing the facility grounds. The southern portion extends outside the fenced area to the south. The construction activities including the gravel road, maintenance building and Vortax tower and pad have severally disturbed any resources that might have been there. The original site record was completed after the tower had been build. Portions of the tower fill area, gravel road, and maintenance building are located within the northern part of the site.

The southern portion of the site, located outside and downslope from the Vortac facility was reexamined as well. No artifacts were found in the plowed and disced field that characterizes this part of the site. Ground surface visibility was adequate to determine the presence of surface materials.

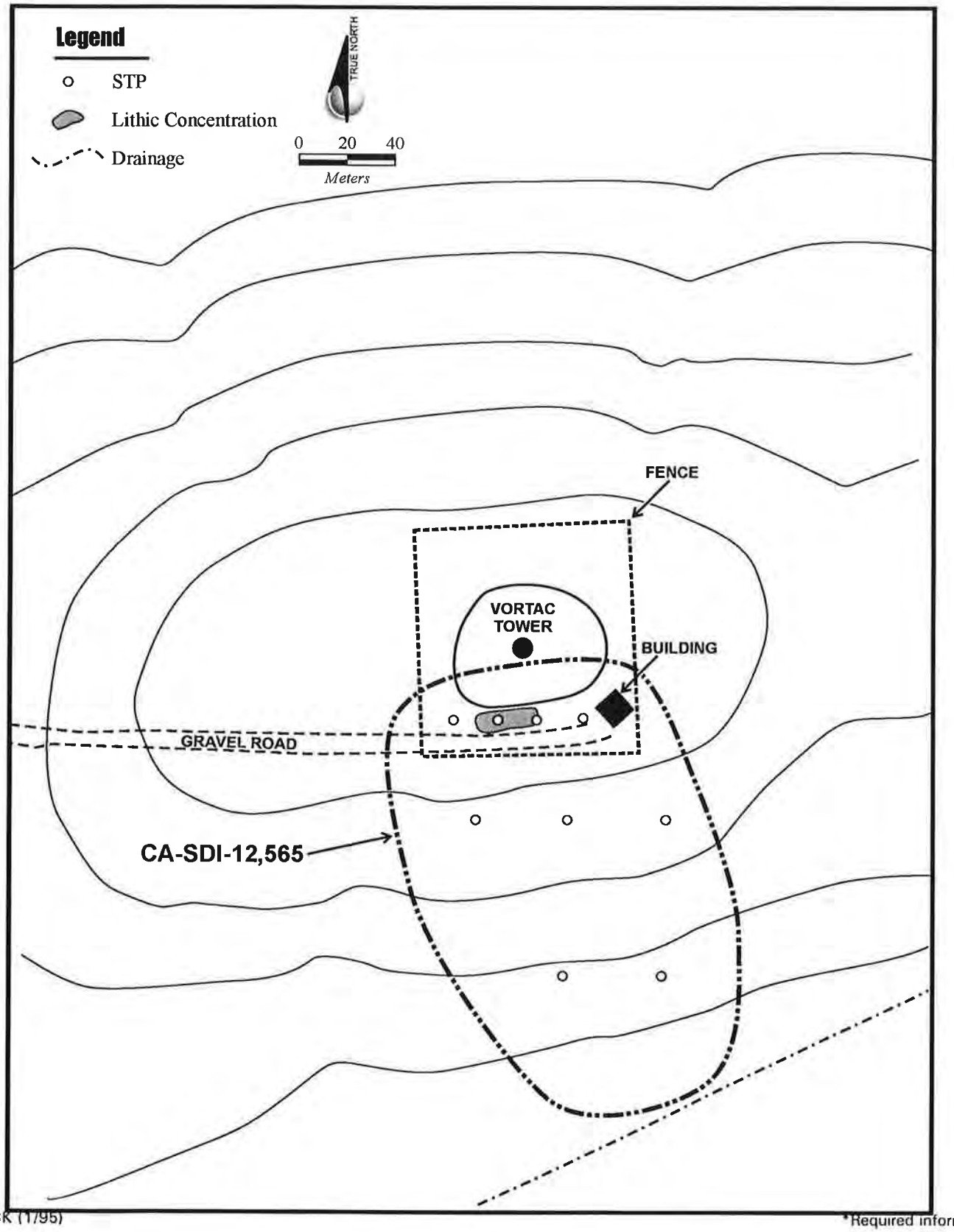
The site was surface collected and tested with nine STPs. Four STPs were placed in the area where artifacts had be found and five more were scattered across the site. All STPs were excavated to a minimum of 60 cm. No artifacts were recovered and there were no indications of subsurface cultural deposits.

A total of nine flaked stone artifacts were recovered from the surface at SDI-12,565, and all were made from metavolcanic/volcanic materials. The artifacts include one unidirectional core and nine interior debitage. The core measures 89.6 x 77.9 x 34.5 mm, and may be the remnants of a large flake. The debitage range in length from 14.2-28.8 mm, and are made on several different submaterial types including fine grained black, fine grain green, porphyritic gray materials. The core is made from a coarse porphyritic green material.

State of California – The Resources Agency
DEPARTMENT OF PARKS AND RECREATION
SKETCH MAP

Primary # _____
HRI # _____
Trinomial CA-SDI-12,565 UPDATE

*Resource Name or # (Assigned by recorder) CA-SDI-12,565
* Drawn By: Drew Pallette
* Date of map: March 2004



*Required information

APPENDIX G-3:

A REPORT OF AN ARCHAEOLOGICAL SURVEY AND EVALUATION OF CULTURAL RESOURCES WITHIN THE OTAY RANCH COMPANY OWNERSHIP AT THE OTAY RANCH VILLAGE SEVEN PROJECT

A REPORT OF AN ARCHAEOLOGICAL SURVEY AND EVALUATION OF CULTURAL RESOURCES WITHIN THE OTAY RANCH COMPANY OWNERSHIP AT THE OTAY RANCH VILLAGE SEVEN PROJECT

(Includes the Village Seven Disposal Site and SPA 2 Park Site)

CHULA VISTA, CALIFORNIA

Submitted to:
The City of Chula Vista
Community Development
276 Fourth Avenue
Chula Vista, California 91910

Prepared for:
The Otay Ranch Company
350 West Ash Street, Suite 730
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December 10, 2003
Revised February 3, 2004

National Archaeological Data Base Information

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Report Date:	December 10, 2003, Revised February 3, 2004
Report Title:	A Report of an Archaeological Survey and Evaluation of Cultural Resources Within the Otay Ranch Company Ownership at the Otay Ranch Village Seven Project
Submitted to:	The City of Chula Vista Community Development 276 Fourth Avenue Chula Vista, California 91910
Prepared for:	The Otay Ranch Company 350 West Ash Street, Suite 730 San Diego, California 92101
USGS Quadrangle:	*Otay Mesa* (7.5 minute)
Study Area:	Approximately 50 acres
Key Words:	Testing of Prehistoric Sites; SDI-16,679, SDI-16,680, SDI-16,681 and SDI-12,288; City of Chula Vista; *Otay Mesa* Quadrangle (7.5 minute); Village 7 Disposal Site

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1.0 MANAGEMENT SUMMARY/ABSTRACT

The following report describes a cultural resources study conducted by Brian F. Smith and Associates (BFSA) for the Otay Ranch Company's ownership within Otay Ranch Village Seven. The study area includes generally the western portion of Village 7, the Village 7 Disposal Site, and the SPA 2 Park site. The project is approximately 120 acres, and is located near the northwest corner of the Otay Valley Parcel, one of seven non-contiguous parcels that make up the 23,088-acre Otay Ranch. The project is located in the unsectioned portion of Rancho Otay (Estudillo), in the City of Chula Vista, and in the northwest corner of the USGS *Otay Mesa* quadrangle (Figures 2.0–1 and 2.0–2).

The archaeological survey of the project area resulted in the identification of four prehistoric archaeological sites, SDI-16,679, SDI-16,680, SDI-16,681, and SDI-12,288. In June and July 2003, Sites SDI-16,679-16,681 were tested and evaluated for significance by James Clifford, with Kevin Hunt, Scott Mattingly, Harry Moore and James Shrieve. Testing of these sites consisted of a shovel test series, one standard (one-meter-square) test unit excavation, and the collection of all observed surface artifacts. Archaeological records searches conducted at the South Coastal Information Center and the San Diego Museum of project area. Site SDI-12,288 was previously tested by BFSA as part of the Salt Creek Sewer Interceptor Project.

Based on test data, all four sites tested were determined to be not important, according to the criteria listed in the California Environmental Quality Act (CEQA), Section 15064.5 and are therefore not significant. For this reason, implementation of the development plans for this parcel will not have a significant adverse effect upon any significant cultural resources. The survey and significance testing of these sites has exhausted the information potential of the resources.

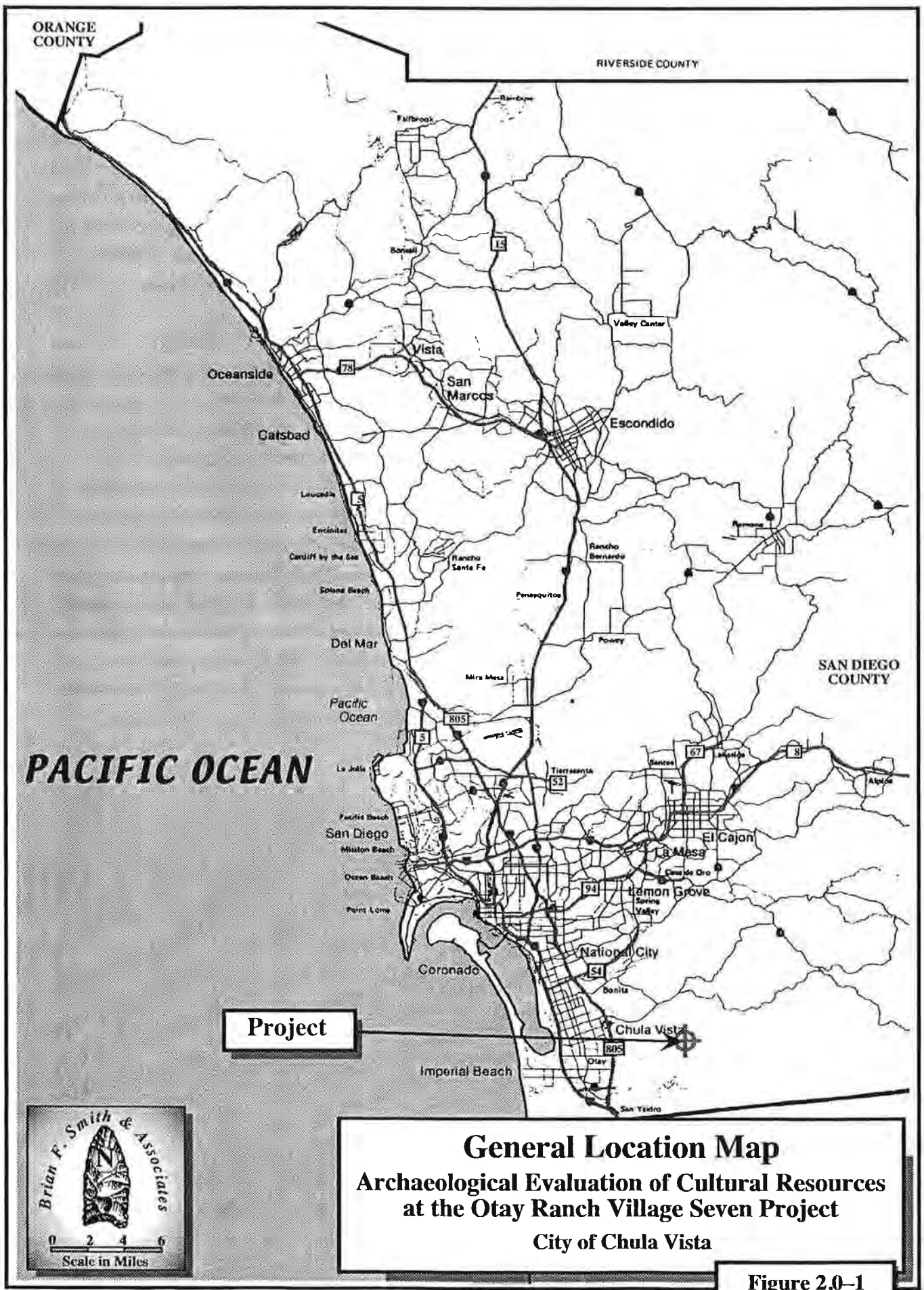
All collections, notes, photographs, and other materials related to this project will be curated at the archaeological laboratory of BFSA in Poway, California.

2.0 UNDERTAKING INFORMATION/INTRODUCTION

The archaeological evaluation program for the Otay Ranch Village Seven Disposal Site Project was required by the City of Chula Vista in conformance with CEQA and the City's environmental guidelines. The project, as proposed by the applicant, will consist of a borrow/disposal site, a community park, and residential building. BFSA conducted the archaeological survey, review of previous research (Appendix I), and significance evaluation of archaeological resources. The City required the archaeological study for the project based upon the archaeological site density of the area.

The project area is located within the incorporated boundaries of the City of Chula Vista and the unsectioned portion of Rancho Otay (Estudillo) (Figure 2.0-1). The entire project area is located north of Otay Valley, in Township 18 South, Range 1 West, in the northwest corner of the USGS *Otay Mesa* quadrangle (Figure 2.0–2). The project boundaries are depicted in Figure 2.0–2 on the appropriate portion of the USGS *Otay Mesa* 7.5-minute topographic quadrangle.

The archaeological program team consisted of Brian F. Smith, consulting archaeologist; Johnna Buysse, James Clifford, Kevin Hunt, Scott Mattingly, Harry Moore and James Shrieve. The archaeological survey identified two cultural resources within the project boundaries (Figure 2.0–3). The testing of the four prehistoric sites within this project was initiated with the collection of all surface artifacts, followed by the excavation of a shovel test series in order to identify the presence or absence of subsurface archaeological deposits. A one-meter-square test unit was also excavated at each site. All four sites were found to be lithic surface scatters with sparse subsurface deposits consisting of shell fragments. All of the sites have been marginally affected by disking. The results of these archaeological activities provided the basis for the significance evaluations.

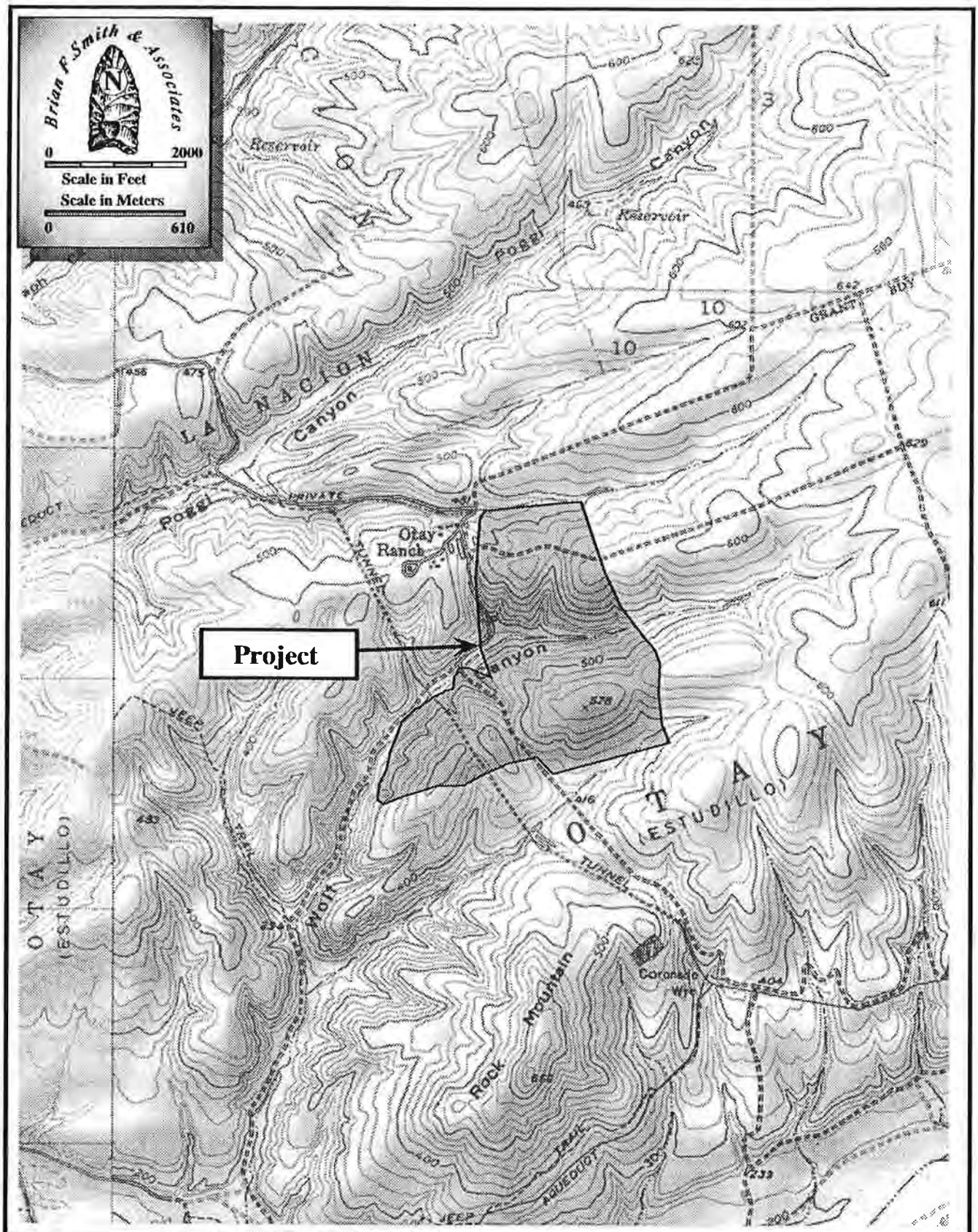


General Location Map

Archaeological Evaluation of Cultural Resources at the Otay Ranch Village Seven Project

City of Chula Vista

Figure 2.0–1



Project Location Map

Archaeological Evaluation of Cultural Resources at the Otay Ranch Village Seven Project

USGS *Otay Mesa* Quadrangle (7.5 minute series)

Figure 2.0–2

Figure 2.0–3

Cultural Resource Location Map

(Deleted for Public Review;
Bound Separately in Confidential Appendices)

3.0 SETTING

The project setting includes both physical and biological contexts of the proposed project, as well as the cultural setting of prehistoric and historic human activities in the general area.

3.1 Natural Setting

The Otay Ranch Village Seven Project is located on a series of mesa tops and canyons between Poggi Canyon to the north and Otay Valley to the south, within the corporate boundaries of the City of Chula Vista. The project is located within the unsectioned portion of Rancho Otay (Estudillo); (Figures 2.0–1 and 2.0–2). The topography within the project area is dominated by rolling agriculturized mesa tops, bordered by the seasonal drainages of Poggi Canyon to the northwest and Wolf Canyon to the south. Elevations within the project area range from approximately 380 feet AMSL (above mean sea level) in the drainages to approximately 540 feet AMSL near the mesa top.

The project area is located on the gently rolling knolls and gentle slopes at the bases of San Miguel Mountain and Mother Miguel Mountain to the north, the Jamul Mountains to the east, and the mesa edge of Otay Mesa on the south. This geologic mass consists of a series of knolls and mesas that are interrupted by small canyons and drainages located in the Coastal Plains Physiographic Province. Much of this area is composed of Pleistocene and Upper Pliocene marine deposits, currently known as the Lindavista, Sweitzer, and San Diego Formations (Biehler 1979). The San Diego Formation is composed of gray friable sandstone and conglomerate. The Lindavista and Sweitzer Formations mantle the majority of the mesa tops. These formations consist of near-shore marine and non-marine sediments deposited on a wave-cut terrace, following the deposition of the San Diego Formation. The Lindavista Formation is composed of moderate, reddish-brown, interbedded sandstone and conglomerate, and the Sweitzer Formation is composed of brown, reddish-brown, and red, poorly sorted sandstone, and conglomerate. The Otay River Valley, the major canyon bisecting Otay Mesa from east to west, is composed of Quaternary, non-marine terrace deposits and recent alluvium derived from rocks in the area. The juncture of the coastal plain and foothill provinces to the east is comprised of Plio-Pleistocene, non-marine deposits typically consisting of angular metavolcanic detritus. The hills to the east of the project area are comprised of Jurassic volcanics, a collection of mildly metamorphosed volcanic and volcanoclastic rock formations, characterized by the Black Mountain or Santiago Peak Volcanics (Biehler 1979). Santiago Peak Volcanics are represented throughout this area of San Diego County by outcrops of basalt and fine-grained, green metavolcanics known locally as felsite.

The project area also includes a variety of soils. The lower elevations consist of alluvial clays and sands indicative of a flood plain. The soil in the upper elevations consists of clay mixed with pockets of bentonite and/or cobbles, comprised mostly of granite, basalt, and quartzite. These lithic materials, generally hard and extremely resistant to erosion, were preferred by the prehistoric inhabitants of the San Diego region for the manufacture of flaked tools and grinding implements (Smith 1991, Robbins-Wade 1990).

The biological setting of the project area is dominated by an agricultural vegetative community, with small pockets of native coastal sage scrub along the steep slopes adjacent to drainages, and native wetland species along the creek in Poggi Canyon. These communities are dependent on the amount of precipitation that the area receives. The amount of seasonal precipitation is related to the major land forms that exist throughout the county. Coastal mesas, such as Otay Mesa to the south, receive an average of between 12 and 16 inches (30 to 40 centimeters) of rainfall annually, mostly between October and May (Beauchamp 1986). The project area also exhibits generally mild temperatures; however, several instances of winter frost, as well as some weeks in the summer with temperatures reaching 100° Fahrenheit, are recorded annually. These environments tend to support a wide variety of wildlife, particularly birds and small mammals (Beauchamp 1986).

The project area has been used for farming and grazing for more than 125 years and is currently used for agricultural and ranching activities. Recent plowing and cattle grazing contributed to good surface visibility during the investigation of the project area.

3.2 Cultural Setting

The cultures that have been identified in the general vicinity of the project consist of the possible Paleo-Indian manifestation of the San Dieguito Complex, the Archaic and Early Milling Stone Horizons represented by the La Jolla Complex, and the Late Prehistoric Kumeyaay culture. The area was used for ranching and farming following the Hispanic intrusion into the region, and extending into the historic period. A brief discussion of the cultural elements in the project area is provided in the following subsections.

3.2.1 Paleoenvironment

Because of the close relationship between prehistoric settlement and subsistence patterns and the environment, it is necessary to understand the setting in which these systems operated. At the end of the final period of glaciation, approximately 11,000 to 10,000 years before the present (YBP), the sea level was considerably lower than it is now; the coastline at that time would have been two to two and one-half miles west of its present location (Smith and Moriarty 1985a, 1985b). At approximately 7,000 YBP, the sea level rose rapidly, filling in many coastal canyons that had been dry during the glacial period. The period between 7,000 and 4,000 YBP was characterized by conditions that were drier and warmer than previously, followed by a cooler, moister environment, similar to the present-day climate (Robbins-Wade 1990). Changes in sea level and coastal topography are often manifested in archaeological sites in the types of shellfish that were used by prehistoric groups. Different species of shellfish prefer certain types of environments; dated sites that contain shellfish remains reflect the setting that was exploited by the prehistoric occupants.

Unfortunately, pollen studies have not been conducted for this area of San Diego; however, studies in other areas of southern California, such as Santa Barbara, indicate that the coastal plains supported a pine forest between approximately 12,000 and 8,000 YBP (Robbins-Wade 1990). After 8,000 YBP, this environment was replaced by more open habitats, which supported oak and

non-arboreal communities. The coastal sage scrub and chaparral environments of today appear to have become dominant after 2,200 YBP (Robbins-Wade 1990).

3.2.2 Prehistory

The San Dieguito Complex peoples occupied sites in this region between 10,000 and 8,000 YBP, and were related to or contemporaneous with the Paleo-Indian groups in the Great Basin area and the Midwest. The artifacts recovered from San Dieguito sites duplicate the typology attributed to the Western Pluvial Lakes Tradition (Moratto 1984; Davis et al. 1969). These artifacts generally consist of scrapers and scraper planes, choppers, and bifacially flaked knives, but few or no milling tools. The absence of grinding or milling stones suggests that cereal grains and nuts were not part of the subsistence pattern. Tools recovered from sites of the San Dieguito Complex and the general pattern of site locations indicate that they were a wandering, hunting and gathering society (Moriarty 1969; Rogers 1966).

The San Dieguito Complex is the least understood of the cultures that have inhabited San Diego County. This is primarily because San Dieguito sites rarely contain stratigraphic information or datable material. There is a current controversy among researchers centering on the relationship of the San Dieguito and the subsequent cultural manifestation in the area, the La Jolla Complex. Firm evidence has not yet been discovered to indicate whether the San Dieguito "evolved" into the La Jolla Complex, if the La Jolla Complex moved into the area and assimilated the San Dieguito people, or if the San Dieguito retreated from the area because of environmental or cultural pressures. Very little evidence of the San Dieguito Complex has been identified within the project area. It is probable that environmental changes associated with climate affected the subsistence base of the San Dieguito Complex, resulting in their exodus from this area sometime before 9,000 YBP.

The La Jolla Complex

Approximately 9,000 to 8,500 YBP, a second major cultural tradition was established in the San Diego region, primarily along the coast. At that time, the shoreline was located farther west than it is currently, because the sea level was lower during the end of the last Ice Age. Locally, this cultural tradition has been called the La Jolla Complex, and radiocarbon dates from sites attributed to this culture span a period of more than 7,000 years in this region (between 9,000 and 2,000 YBP). The La Jolla Complex is best recognized for its pattern of shell middens, grinding tools closely associated with marine resources, and flexed burials (Shumway, Hubbs and Moriarty 1961; Smith and Moriarty 1985a, 1985b).

The tool typology of the La Jolla Complex displays a wide range of sophisticated lithic manufacturing techniques. Scrapers, the most common type of flaked tool recovered from La Jolla sites, were created by either splitting cobbles or finely flaking quarried material. La Jolla sites also contain large numbers of milling tools (manos and metates) and flakes that appear to have been used to pry open shellfish (Smith and Moriarty 1985a, 1985b). Inland sites of the La Jolla Complex, sometimes called the Pauma Complex, were situated at a distance from marine food

resources and generally lack marine-related refuse, but do contain large quantities of milling tools and food bone, suggesting seasonal migration from the coast to the inland valleys (Smith 1986).

The Late Prehistoric Kumeyaay Indians

The last major migration into the coastal zone occurred approximately 1,500 YBP, when Yuman- and Shoshonean-speaking people moved from the Colorado River Basin to the coast in search of a more plentiful food supply (Moriarty 1969). This group is known locally as the Late Prehistoric Diegueño, or Kumeyaay, culture. Fortunately, ethnographic evidence is available from the period of the earliest Spanish contact to the late 1800s, providing a record of the nonmaterial aspects of these groups.

Sites associated with the Kumeyaay are focused in the foothills and mountains, rather than along the coast. Their subsistence pattern was based on the collection of seeds (especially acorns), berries, and bulbs, and the hunting of small game. Artifact collections from late prehistoric occupations include milling tools, ceramics, projectile points, scrapers, planes, beads, shaft straighteners, and hammerstones. Ethnographic information indicates that the culture of the Kumeyaay Indians consisted of a close clan system with definitive religious beliefs and complex trade associations with relatives living in the Colorado River Basin (Kroeber 1925).

The last phase of the Kumeyaay culture began approximately 400 YBP, with the first contact by Europeans (Juan Rodriguez Cabrillo, in 1542). By 1769, the time of the first European settlement in San Diego, at least 20 permanent or semi-permanent villages had been established near the Pueblo of San Diego. These living sites were primarily coastal, although some were located in valleys that were a short distance inland. For the most part, villages were located close to a supply of fresh water and plant foods. Villages that depended on springs for their water supply were usually located some distance from them, so that the animals using them would not be driven off, and also to avoid the insects that frequented the surrounding marshy areas (Moriarty 1961). Historical accounts generally agree that a few villages were located along the bay side of Point Loma, and several were scattered along the shores of Mission Bay. Others were situated in the present area of the City of San Diego and near the mouths of the major streams that emptied into San Diego Bay. Major river valleys, such as the San Diego River Valley, were well populated because of their resources of plant foods and water. Villages were also located in the La Jolla area, in Soledad Canyon, at the mouth of Rose Canyon, and in the inland valleys of the Otay Mesa, east of San Diego. A number of temporary shellfish-gathering and fishing sites were situated on the shores of bays and the ocean.

3.2.3 History

Exploration Period (1530-1769)

The historic period around San Diego Bay began with the landing of Juan Rodriguez Cabrillo and his men in 1542. Sixty years after the Cabrillo expeditions, an expedition under Sebastian Viscaíno made an extensive and thorough exploration of the Pacific Coast. Although the voyage did not extend beyond the northern limits of the Cabrillo track, Viscaíno had the most

lasting effect on the nomenclature of the coast. Many of the names he gave to places have survived, whereas practically every one of Cabrillo's has faded from use. Cabrillo gave the name of "San Miguel" to the first port at which he stopped in what is now the United States; 60 years later, Viscaíno changed it to "San Diego" (Rolle 1969).

Spanish Period (1769-1821)

The Spanish occupation of the claimed territory of Alta California took place during the reign of King Carlos III of Spain. The powerful representative of the King in Mexico was Jose de Galvez, who conceived of the plan to colonize Alta California and thereby secure the area for the Spanish crown (Rolle 1969). The effort involved both a military and a religious contingent, with the overall intent of establishing forts and missions to gain control of the land and its native inhabitants through conversion. Actual colonization of the San Diego area began on July 16, 1769, when the first Spanish exploring party, commanded by Gaspar de Portolá (with Father Junípero Serra in charge of religious conversion of the native populations), arrived in San Diego to secure California for the Spanish crown (Palou 1926). The natural attraction of the harbor at San Diego and the establishment of a military presence in the area solidified the importance of San Diego to the Spanish colonization of the region and the growth of the civilian population. Missions were constructed from San Diego to as far north as San Francisco. The mission locations were based on a number of important territorial, military, and religious considerations. Grants of land were given to persons who made applications, but many tracts reverted to the government for lack of use. As an extension of territorial control by the Spanish empire, each mission was placed so as to command as much territory and as large a population as possible. While primary access to California during the Spanish Period was by sea, the route of El Camino Real served as the land route for transportation, commercial, and military activities. This route was considered to be the most direct path between the missions (Rolle 1969). As increasing numbers of Spanish and Mexican people, and later Americans during the Gold Rush, settled in the area, the Indian populations diminished as they were displaced or decimated by disease (Carrico and Taylor 1983).

Mexican Period (1821-1846)

By 1821, Mexico had gained independence from Spain, and the northern territories were subject to political repercussions. By 1834, all the mission lands had been removed from the control of the Franciscan Order under the Acts of Secularization. Without proper maintenance, the missions quickly began to disintegrate, and after 1836, missionaries ceased to make regular visits inland to minister the needs of the Indians (Engelhardt 1920). Large tracts of land continued to be granted to persons who applied for them or to persons who had gained favor with the Mexican government. Grants of land were also made to settle government debts. The Otay Village Seven Project is located in one such tract, known as the Rancho Otay (Estudillo). Rancho Janal borders the project area on the east and Rancho de La Nacíon borders the project area on the north (see Section 3.3 for a brief rancho history).

Anglo-American Period (1846-Present)

California was invaded by United States troops during the Mexican War of 1846-1848. The acquisition of strategic Pacific ports and California land was one of the principal objectives of the war (Price 1967). At the time, the inhabitants of California were practically defenseless, and they quickly surrendered to the United States Navy in July 1847 (Bancroft 1886).

The cattle ranchers of the "counties" of southern California prospered during the cattle boom of the early 1850s. They were able to "reap windfall profit . . . pay taxes and lawyer's bills . . . and generally live according to custom" (Pitt 1966). Cattle-raising soon declined, however, contributing to the expansion of agriculture. With the passage of the "No Fence Act," San Diego's economy changed from stock-raising to farming (Rolle 1969). The act allowed for the expansion of unfenced farms, which was crucial in an area where fencing material was practically unavailable. Five years after its passage, most of the arable lands in San Diego County had been patented as either ranchos or homesteads, and growing grain crops replaced raising cattle in many of the county's inland valleys (Blick 1976; Elliott 1883 [1965]). By 1870, farmers had learned to dry-farm and were coping with some of the peculiarities of San Diego County's climate (*San Diego Union*, February 6, 1868; Van Dyke 1886). Between 1869 and 1871, the amount of cultivated acreage in the county rose from less than 5,000 acres to more than 20,000 (*San Diego Union*, January 2, 1872). Of course, droughts continued to hinder the development of agriculture (Crouch 1915; *San Diego Union*, November 10, 1870; Shipek 1977). Large-scale farming in San Diego County was limited by a lack of water and the small size of arable valleys; also, the small urban population and poor roads restricted commercial crop growing. Nevertheless, cattle continued to be grazed in inland San Diego County. For example, in the Otay Mesa area, the "No Fence Act" had little effect, because ranches were still spaced far apart, and natural ridges kept the cattle out of growing crops (Gordinier 1966).

During the first two decades of the 20th century, the population of San Diego County continued to grow. The population of the inland county declined during the 1890s, but between 1900 and 1910, it rose by about 70 percent. The pioneering efforts were over; the railroads had broken the relative isolation of southern California, and life in San Diego County became similar to other communities throughout the west. After World War I, the history of San Diego County was primarily determined by the growth of San Diego Bay. In 1919, the United States Navy decided to make the bay the home base for the Pacific Fleet (Pourade 1967). During the 1920s, the aircraft industry also established itself at the bay (Heiges 1976). The establishment of these industries led to the growth of the county as a whole; however, most of the growth occurred in the north county coastal areas, where the population almost tripled between 1920 and 1930. During this time period, the history of inland San Diego County was subsidiary to that of the city of San Diego, which became a Navy center and industrial city (Heiges 1976). In inland San Diego County, agriculture became specialized, and recreational areas were established in the mountain and desert areas. Just before World War II, urbanization began to spread to the inland county, including the area of eastern Chula Vista that contains the current study area.

3.3 History of the Otay Ranch Area

3.3.1 Rancho de La Nacíon

The earliest use of the study area by Europeans is presumed to have occurred during the Spanish Period (before 1835), when Mission Valley was included as part of the Mission San Diego de Alcalá land grant (Mission Lands), and adjacent lands were used by the Mission leadership as pasturage for cattle owned by the Mission San Diego (Brackett 1960; Caughey 1970).

The Otay Ranch Village Seven Disposal Site Project area is located within the boundaries of Rancho Otay but is bordered by Rancho de La Nacíon to the north and Rancho Janal to the east. Initial use of the lands that would become Rancho de La Nacíon is ascribed to the Mission San Diego de Alcalá, whose herds grazed on what was called La Purísima (Moyer 1969). In 1795, use of La Purísima was transferred to the military, who renamed the land El Rancho del Rey. This same land was granted as the 26,631-acre Rancho de La Nacíon to an Englishman, John (Don Juan) Forster, by his brother-in-law, Governor Pío Pico in 1845 (Bracket 1960). The adjacent Otay Rancho had been granted by Governor Echandia to Magdalena Estudillo in 1829. Following the Mexican War of 1846, Francois Louis Pioche and J. B. Bayerque, who were San Francisco Bankers, purchased the rancho from Forster in 1856, but the United States Government did not issue a patent confirming the claim until 1866 (Cowan 1977). Three brothers surnamed Kimball, all successful contractors and builders from San Francisco and led by the youngest brother Frank, signed a contract to purchase the rancho for $30,000 in 1868. Their plan was to start a new city (National City) that would rival San Diego in population and industrial importance. In 1879, the San Diego Land and Town Company was formed and began to develop the rancho. This syndicate, controlled by the Santa Fe Railroad, accepted large land gifts from the Kimball brothers in return for assurances that National City would be the western terminus of a promised railroad line that never materialized.

3.3.2 Rancho Otay (Estudillo)

Rancho Otay (Estudillo) is located immediately south of Rancho de La Nacíon and west of Rancho Janal. In 1829, the Otay and Janal Ranchos were granted to a brother and sister of a prominent California family, the Estudillos (Moyer 1969). Don José Antonio Estudillo received the 4,436-acre Rancho Janal by a grant from California Governor José María Echeandía. (According to Moyer, Janal is an Indian word meaning "spongy ground"). His sister, Doña Magdalena Estudillo, was granted the 6,657–acre Rancho Otay by the same act (Otay is a Diegueño Indian word meaning "brushy" [Kroeber 1925]). In 1846, Governor Pío Pico reaffirmed this grant, possibly in an effort to reduce confirmation problems should the Americans come to power in California (Caughey 1970). The Janal and Otay Ranchos were operated jointly for several years, although each had its own registered brand. Both the Janal and Otay ranchos were finally confirmed by the United States Land Office in 1872 (Patent Book 1, pp. 89–94 and 173–178 respectively), largely through the efforts of Don José's son, José G. Estudillo (Moyer 1969). Rancho Janal is often referred to as Rancho Otay (Domínguez) on early maps. This probably refers to Don José's widow, whose maiden name was Domínguez. This has led to some confusion

among historians regarding the location of features and events that have occurred on the two ranchos.

In 1880, Alexander Yoel sold Rancho Otay to J. and A. Fairchild (Owners of Rancho de La Nacíon) for the sum of $6,500 (San Diego Land and Town Company History Records, ND). In 1884, Marco Bruschi leased Otay Ranch from the San Diego Land and Town Company for one year (*San Diego Union,* March 1, 1884). Mr. Bruschi sublet the rancho to Anticeto Eshenique for sheep grazing. The part of the Otay/Janal parcel this involved is not clear, although Gloria Esterbloom (1960) mentions an Etcheneques family of sheep ranchers in Telegraph Canyon after 1908. These may be two variant spellings of the Basque surname Echenique. Sometime later, a subdivision map for Rancho Otay was prepared and filed with the County of San Diego (Subdivision Map 862, 1898). Since Rancho Otay has not only remained intact, but grown by accretion through the years, it is likely that this subdivision simply served to keep track of crop or land leases, and some early land sales.

Through the years, both ranchos have changed in terms of ownership and total acreage. For a time, John D. Spreckels, E. S. Babcock, and other financiers are said to have controlled both the Otay and Janal Ranchos (Moyer 1969). This data may refer to the creation of the Otay Lakes water storage system, which occupies land once part of Rancho Janal. The Southern California Mountain Water Company, led by John D. Spreckels, purchased part of the Rancho Janal for that purpose (Adams ND). By 1968, the remaining 3,500 acres of Rancho Janal became the Fenton Ranch, and grazing gave way to growing barley.

In 1935, Stephen Birch of New Jersey purchased Rancho Otay from Rube Harris (Rush 1965). Later, Birch's heirs formed United Enterprises, Inc. Birch's daughter, Mary Patrick, and her husband occupied one of the three old Spreckels hunting lodges in the northwest corner of Rancho Janal (Rojas [editor] 1991; Lansley 1993). Rancho Otay became Otay Ranch, and its holdings grew to more than 20,000 acres. Control of the land was by a combination of ownership and leases. Polled Herefords, Black Angus, and Santa Gertrudis grazed there and carried the original rancho brand. In September 1968, 3,150 acres of the ranch were sold for more than five million dollars to John Quinn and Albert Gersten for the purpose of residential and light industrial development, marking the beginning of major development projects in the project area.

3.4 Review of Previous Archaeological Investigations

As part of the current study, BFSA conducted an archaeological record search at the South Coastal Information Center at San Diego State University. A total of 61 cultural resources have been recorded within one mile of the Otay Ranch Village Seven Disposal Site Project boundaries. These sites are listed in Table 3.0–1. As is typical of Otay Mesa, most of the prehistoric sites are characterized as lithic scatters, approximately 79% (N=48), varying from two artifacts to a moderately dense scatter of lithic artifacts. In most cases, these sites were identified during surveys and have not been tested, therefore their subsurface characteristics are not known. Another eight sites are described as lithic scatters with shallow (up to 40 centimeters) subsurface deposits; these sites have been tested, which has enabled the addition of a subsurface classification to the site

descriptions. Two additional sites are temporary camps consisting of lithic scatters with marine shell (SDI-12,281 and SDI-13,864); one site exhibits lithics, ceramics, and shell fragments (SDI-14,176), and finally, one site is described as a habitation site (SDI-10,452). The final site is an historic corral and cattle chute (SDI-11,387). Most of these sites have not been subjected to testing programs.

In addition to the 61 sites, more than 90 isolated prehistoric artifacts are recorded within one mile of the Project. Most of these consist of one or two flakes or tested cobbles that are not associated with a concentration of artifacts, therefore they have been identified, mapped, and recorded. The large quantity of recorded isolates is a result of the intense usage of the Otay Mesa area as a prehistoric raw material source. The complete record searches are provided in Appendix I.

Otay Ranch has been subjected to a number of cultural resource studies related to environmental impact studies, including 31 that have occurred within one mile of the project area. These studies are listed in Table 3.0–2.

TABLE 3.0–1

Archaeological Sites Located Within One Mile of the Otay Ranch Village Seven Project

Sites	Description
SDI-4186, SDI-4256, SDI-4258, SDI-4742, SDI-7870, SDI-10,303, SDI-10,471, SDI-10,472, SDI-10,473, SDI-10,489, SDI-10,783, SDI-11,362, SDI-11,372, SDI-11,373, SDI-11,378, SDI-11,412, SDI-11,967, SDI-11,968, SDI-11,972, SDI-11,973, SDI-11,974, SDI-11,975, SDI-12,272, SDI-12,279, SDI-12,280, SDI-12,287, SDI-12,288, SDI-12,290, SDI-12,291, SDI-12,292, SDI-12,293, SDI-12,465, SDI-12,466, SDI-12,467, SDI-12,565, SDI-13,776, SDI-13,866, SDI-14,055, SDI-14,056, SDI-14,175, SDI-14,204, SDI-14,211, SDI-14,244, SDI-14,303, SDI-14,175, SDI-14,235, SDI-14,236, SDI-14,284	Lithic scatters
SDI-4738, SDI-11,145, SDI-11,146, SDI-13,862, SDI-13,863, SDI-13,865, SDI-13,867, SDI-13,868	Lithic scatter with shallow subsurface deposits (up to 40 centimeters)
SDI-12,281 and SDI-13,864	Temporary camps (lithic and shell scatters)
SDI-14,176	Temporary camps (lithic, shell, and ceramics)
SDI-10,452	Habitation site
SDI-11,387	Historic corral and cattle chute

TABLE 3.0–2

Previous Studies Conducted in the Area of
The Otay Ranch Village Seven Project

Advanced Sciences, Inc.
1991 "An Archaeological Impact Evaluation for the Otay River Valley Resource Enhancement Plan." Report on file at South Coastal Information Center, San Diego State University.

Banks, Thomas J.
1980 "An Archaeological Survey of the Otay Ranch Proposed Barrow Pit Locations San Diego County." Have Mule Will Travel. Report on file at South Coastal Information Center, San Diego State University.

Buysse, Johnna and Brian F. Smith
1999 "An Archaeological Survey and Evaluation of Cultural Resources at the Village 2 High School Site, Otay Ranch." Brian F. Smith and Associates. Report on file at South Coastal Information Center, San Diego State University.

Carrico, Richard
1976a "Archaeological Survey of Telegraph Canyon Road and Flood Channel Alignment." WESTEC Services, Inc. Report on file at South Coastal Information Center, San Diego State University.

1976b "Archaeological Survey of the El Rancho Del Rey Project." WESTEC Services, Inc. Report on file at South Coastal Information Center, San Diego State University.

1993 "Final Cultural Resources Evaluation of the 23,088 Acre Otay Ranch, San Diego County." Ogden Environmental. Report on file at South Coastal Information Center, San Diego State University.

Carrico, Richard and Brian Hunter
1979 "Archaeological Survey of the PDC Project Chula Vista, California." WESTEC Services, Inc. Report on file at South Coastal Information Center, San Diego State University.

City of San Diego
1990 "Clean Water Program for Greater San Diego Santee Basin Water Reclamation Project Draft Environmental Report." Report on file at South Coastal Information Center, San Diego State University.

County of San Diego
1983 "Supplemental Draft Environmental Impact Report Phase 2 of the Otay Mesa Land Use Plan GPA 84-01." Report on file at South Coastal Information Center, San Diego State University.

Fink, Gary R.
1973 "Preliminary Archaeological Survey of the Proposed Youth Development Center, Otay, California." San Diego County Engineer Department. Report on file at South Coastal Information Center, San Diego State University.

1974 "Further Archaeological Investigations of the Proposed Youth Development Center, Otay, California." San Diego County Engineering Department. Report on file at South Coastal Information Center, San Diego State University.

1975 "Otay Landfill Expansion Archaeological Survey Project No. UJ0144." County Department of Transportation. Report on file at South Coastal Information Center, San Diego State University.

Gallegos, Dennis and Andrew Pigniolo
1989 "Cultural Resource Survey for the Proposed Baldwin and Eastlake Reservoirs, Chula Vista, California." ERC Environmental and Energy Services Company. Report on file at South Coastal Information Center, San Diego State University.

Gallegos, Dennis, Andrew Pigniolo and Richard Carrico
1987 "Cultural Resource Survey of a Portion of the Proposed Alignment of Otay Lakes Road, San Diego County, California." WESTEC Services, Inc. Report on file at South Coastal Information Center, San Diego State University.

Gross, Timothy
1991 "Archaeological Excavations at the Del Rey Mounds Site, Chula Vista, California." Affinis. Report on file at South Coastal Information Center, San Diego State University.

Hargrove, James
1985 "Reviewers of the Otay Mesa Prison Sewer Pipeline Negative Declaration." Report on file at South Coastal Information Center, San Diego State University.

Kidder, Fred W.
1984 "Archaeological Survey of Two Sewerline Routes: Proposed Otay Mesa Prison Site, San Diego, California." CRM Center, San Diego State University. Report on file at South Coastal Information Center, San Diego State University.

Kyle, Carolyn and Dennis Gallegos
1987 "Cultural Resource Survey of the Cohen Property, Chula Vista, California." WESTEC Services, Inc. Report on file at South Coastal Information Center, San Diego State University.

1996 "Archaeological Survey Report for the Otay Annex Landfill Project." Woodward-Clyde Consultants. Report on file at South Coastal Information Center, San Diego State University.

Mooney, Brian
1992 "Evaluation of a Prehistoric Resource Processing Site CA-SDI-10452 Historic Bird Ranch CA-SDI-11386H and Water Conveyance System CA-SDI-11383H for the Otay Valley Water Reclamation Plant." Brian F. Mooney Associates. Report on file at South Coastal Information Center, San Diego State University.

Pallette, Drew and Carol Serr
1994 "Phase II Testing of Prehistoric Archaeological Sites CA-SDI-11,157, CA-SDI-11,158 and CA-SDI-12,466 Poggi Canyon San Diego County, California." CALTRANS. Report on file at South Coastal Information Center, San Diego State University.

Rosen, Martin D.
1990 "Archaeological Survey Report for Proposed State Route 125 from State Route 905 (Near the Second Border Crossing) to State Route 54 (Near the Sweetwater Reservoir), San Diego County, California." CALTRANS. Report on file at South Coastal Information Center, San Diego State University.

Schaefer, Jerry
1994 "Phase II Testing of Prehistoric Archaeological Sites SDI-11157 & 12466 Poggi Canyon, San Diego County." Brian F. Mooney & Associates. Report on file at South Coastal Information Center, San Diego State University.

Schaefer, Jerry, Daniel M. Sauners and Carol Serr
1994 "Phase II Archaeological Evaluation of Prehistoric Sites CA-SDI-4739, CA-SDI-4741/4742, CA-SDI-4743, CA-SDI-4789/4988, CA-SDI-11,367/11,368 and CA-SDI-11,372 in the Otay River Area San Diego County, California." CALTRANS. Report on file at South Coastal Information Center, San Diego State University.

Schaefer, Jerry, Stephen Van Wormer and Susan Walter
1994 "Historic Study Report of Sites CA-SDI-11,374H, CA-SDI-11,383H, CA-SDI-12,272H, and CA-SDI-12,273H for State Route 125 on Otay Mesa, San Diego County, California." CALTRANS. Report on file at South Coastal Information Center, San Diego State University.

Scientific Resource Surveys, Inc.
1980 "Archaeological/Paleontological/Historical Records Search and Report on the Chula Vista-Otay Valley Road Limited Industrial Project Located in the Chula Vista Area of the County of San Diego." Report on file at South Coastal Information Center, San Diego State University.

Smith, Brian F.
1987 "The Archaeological Investigations at the Otay Rio Business Park Project a Cultural Resource Survey of 210 Acres and the Evaluation of the Loci of Site W-3861." Brian F. Smith and Associates. Report on file at South Coastal Information Center, San Diego State University.

1989 "An Archaeological Survey of the Otay Ranch/Nelson and Sloan Quarry Extension." Brian F. Smith and Associates. Report on file at South Coastal Information Center, San Diego State University.

1996 "Results of an Archaeological Survey at the Otay Valley Parcel of the Otay Ranch." Brain F. Smith and Associates. Report on file at South Coastal Information Center, San Diego State University.

1997 "Results of an Archaeological Survey and the Evaluations of Cultural Resources at the Otay Ranch Village One West SPA Plan." Report on file at Brian F. Smith and Associates.

Wade, Sue and S. Hector
1989 "Archaeological Testing Excavation at SDI-9893 & Evaluation at SDI-960/961, Rancho Del Rey (SPAIII) Chula Vista, California." RECON. Report on file at South Coastal Information Center, San Diego State University.

4.0 RESEARCH DESIGN

The cultural resource survey and significance testing program for the Otay Ranch Village Seven Project was required by the City of Chula Vista. The investigation included an archaeological reconnaissance of the property, a records search, and significance testing of two prehistoric sites on the parcel. The theoretical construct or research orientation focused on the manifestation in the archaeological record of prehistoric subsistence patterns in the Otay Ranch area. The question posed as a working hypothesis is provided below.

- **Question: How did the prehistoric subsistence patterns in the Otay Ranch area change through time?**

Previous research has indicated that the majority of sites within the Otay Ranch area represent a repetitive pattern of location characteristics and artifact assemblages (Carrico et al. 1992; Smith 1995a, 1995b). Sites in the vicinity are generally located on elevations near drainages; larger, more diverse sites are located in areas of vegetation transition, while smaller sites are located in zones of single or limited biological resources. Over time, environmental changes during the Archaic Period likely had a significant impact on the subsistence pattern in the Otay Ranch area. Therefore, in inland areas of the coastal zone, such as the Otay Ranch, the semi-arid climate resulted in a concentration of water and other resources in drainage areas, resulting in a drainage-oriented settlement pattern. It follows that within the Village Seven Disposal Site Project, site location, frequency, and size would be expected to be directly related to resource abundance, particularly in ecological transition zones and drainage patterns and, furthermore, that as the environmental conditions changed, so too did the subsistence pattern.

Discriminating between the La Jolla and Kumeyaay subsistence practices is central to the issue of adaptive change. It appears likely that the transition between the foraging strategy of the La Jolla Period and the collector strategy of the Late Prehistoric Period was a gradual one, possibly fueled by the changing environmental conditions at the end of the Archaic Period. The degree to which the resulting archaeological assemblages represent adaptations to inland resources is of much interest in San Diego County (Laylander 1993). The inland expression of the La Jolla Complex is characterized by diminishing shellfish remains, a diversified tool kit made of inland quarried lithic material in addition to cobbles, a broad range of resource exploitation, increased milling, increased sedentism, and an emphasis on terrestrial hunting and gathering (Moriarty 1966; Gallegos 1991; Kaldenberg 1982; True 1958; Warren et al. 1961; Meighan 1954; and Forstadt et al. 1992). The apparent similarities between La Jolla Complex and Late Prehistoric Kumeyaay subsistence adaptations make distinguishing between the two a complicated issue, until the later appearance of pottery, smaller projectile points, cremations, and exotic lithic materials (Gallegos 1992; Christenson 1992). While it is generally understood that a gradual intensification in the use of a broad range of resources took place during this period, the ways in which this adaptation is expressed in artifact assemblages and settlement patterns is less well understood.

Determination of site function is an important aspect of this research topic, particularly as it relates to site location through time. The assignment of site function has generally been reduced to an extrapolation of primary site activities based on artifact recoveries (i.e. food processing, lithic production, milling, etc.). However, the word "function" is used to describe not only the activities conducted at a site, but also the role played by the site in the subsistence pattern of a particular group. Thus, the analysis of site function can be focused at two levels—site specific function and regional or subsistence function.

At the testing level, the small sample size taken from any one site is not typically sufficient to substantially advance our knowledge of prehistoric patterns. This is particularly true of small localized sites such as the four lithic scatters investigated during this study, where the artifact assemblage is limited to single representatives from one or two different artifact classes (i.e. a single core or a single metate fragment). However, the fact that small lithic scatters are so common, particularly on Otay Mesa, indicates the importance of understanding the role of such limited-use sites in the prehistoric subsistence system as a whole through time. It follows that each site holds the potential to contribute to this type of study, however limited the data collected. As large-scale archaeological studies in areas such as Otay Mesa progress and more is understood regarding prehistoric subsistence systems, the data gathered from small, limited-use sites may find increased significance.

The optimal data needs for this study include the determination of the cultural affiliation and general dates of use for each site. It is hoped that time- and culture-sensitive artifacts will be recovered. The identification and recovery of any faunal remains found at any of the sites is very important, and the identification of the floral materials present at the time of prehistoric occupation is also essential. Any faunal materials that are recovered must be identified to species, and any other cultural information, such as evidence of cooking, butchering, or other modifications, must be analyzed. Such analysis will provide information regarding diet and subsistence patterns by revealing the types of plant and animal resources that were exploited and the environments that existed when the exploitation took place.

5.0 METHODOLOGY

The archaeological program for the Project consisted of an archaeological survey, review of previous research, and site evaluations. Four prehistoric archaeological sites (SDI-16.679, SDI-16,680, SDI-16,681, and SDI-12,288) were identified and subjected to testing and evaluation. This archaeological study conformed to City of Chula Vista Archaeological/Historical Guidelines. Statutory requirements of CEQA (Section 15064.5) were followed in evaluating the significance of the cultural resources. Specific definitions for archaeological resource type(s) used in this report are those established by the State Historic Preservation Office (SHPO March, 1995).

5.1 Field Methodology

The first archaeological survey and site evaluation program was conducted in June and July of 2003. The cultural resource study was a process of survey, shovel test and test unit excavations, and significance evaluation. The survey phase of the program was an intensive archaeological reconnaissance consisting of a series of parallel transects, spaced at five meter intervals.

Survey conditions were good; recent plowing and grazing activities contributed to good ground visibility throughout the property. Limitations on the archaeological program included site disturbances resulting from the previous agricultural use of the project area; subsurface testing revealed the soil to have modern disturbances to the level of 20 centimeters.

Testing of each site was initiated with the collection of all artifacts from the surface of the sites. Subsequently, a series of shovel tests was instituted at each site to identify the nature and extent of any subsurface deposits. The shovel test series consisted of 30 by 30 centimeter excavations which proceeded in decimeter levels downward to a maximum depth of 30 centimeters where sufficient soils remained; excavation was occasionally discontinued at 20 centimeters because of the presence of bedrock.

All four sites consisted primarily of surface artifacts. An average of 10 shovel tests and one test unit were excavated at each site. The depth of excavations at these sites extended to 30 centimeters.

5.2 Native American Consultation

The analysis of site components and paucity of artifacts recovered indicated no identifiable Native American religious, ritual, or other special activities at this location. For these reasons, no consultation with the Native American community was sought.

6.0 REPORT OF FINDINGS

During the course of the archaeological survey of the Otay Ranch Village Seven Project, four prehistoric archaeological sites were located within project boundaries. The sites were subsequently tested for significance according to CEQA (Section 15064.5) criteria. The sites are characterized as short-use resource extraction/processing sites exhibiting moderately disturbed contexts. The following presentation describes the tested cultural resources, including details of the artifact recovery from excavations. An evaluation of the significance of these sites is presented in Section 7.0.

6.1 Site SDI-16,680

6.1.1 Site Description

Site SDI-16,680 is a prehistoric limited use area located on a north-facing slope east of the Otay Ranch Farm complex near the northern boundary of the project area. Elevations at the site range from 510 to 535 feet AMSL. Disturbance at the site included activities associated with agricultural practices, including disking; some degree of erosion has occurred. The general configuration of the resource is shown in Figure 6.1–1. The setting of the site is shown in Plate 6.1–1. Testing of the site by BFSA consisted of collection and mapping of all surface artifacts, and excavation of ten shovel tests and one standard test unit.

6.1.2 Description of Field Investigations

Field investigations at Site SDI-16,680 were conducted using the standard methodologies described in Section 4.0. Totals of four artifacts and 113.9 grams of marine shell were recovered during investigations at the site. A summary of recovery from the site is presented in Table 6.1–1.

Surface Recordation

The entire surface of the site was inspected for artifacts, ecofacts, and features, all of which were provenienced from a datum established at the site. The property had recently been disked but much of the surface was covered with cut grasses; subsequently, surface visibility was fair across the site. Datum A was established in the center of the site at a point from which the surface material and excavations could be measured. The location of the datum is shown in Figure 6.1–1.

All artifacts observed on the surface of the site were mapped and collected, the locations of which are also illustrated in Figure 6.1–1. Generally, the surface artifacts and shell were widely scattered throughout the site area. The surface collection, summarized in Table 6.1–2 and detailed in Table 6.1–3, consisted of three artifacts. The assemblage included one ground stone tool, one percussion tool, and one piece of lithic production waste. Marine mollusk shell was observed on the surface of the site and a sample was collected.

Subsurface Excavation

The potential for subsurface cultural deposits at Site SDI-16,680 was investigated by excavating a total of 10 STPs and one test unit. Shovel test pits were excavated across the entire site, but focused on the areas with the highest concentration of surface shell and artifacts. The locations of the STPs are shown in Figure 6.1–1. All the shovel tests were excavated in decimeter levels to a minimum depth of 30 centimeters. Of the 10 STPs excavated at Site SDI-16,680, one was positive for cultural material (STP 2), while six contained marine shell. Depth of recovery extended to a maximum depth of 10 centimeters in all positive STPs. Marine shell was dominated by *Chione* sp. (22.9 g.), *Ostrea* sp. (3.6 g.), *Nassarius* sp. (1.5 g), *Pecten* sp. (1.4 g.), *Tagelus* sp. (0.6 g.), *Cerithidae* sp. (0.1 g), and *Donax* sp. (0.1 g). The recovery from the STPs is summarized in Table 6.1–4 and detailed in Table 6.1–5.

Subsurface testing of Site SDI-16,680 continued with the excavation of one standard test unit. The test unit was positioned to sample the area of greatest potential to produce subsurface deposits, as identified by the STPs and surface collections. Test Unit 1 was placed in the northern portion of the site, near STP 2. The location of the test unit is illustrated in Figure 6.1–1.

The test unit was excavated in standard decimeter levels to subsoil, and all removed soils were sifted through 1/8-inch mesh hardware cloth. Recovery from the test unit consisted of 14.9 grams of marine shell. The recovered shell consisted of *Chione* sp. (9.4 g.), *Ostrea* sp. (3.3 g.), *Nassarius* sp. (0.8 g), *Pecten* sp. (0.3 g.), *Tagelus* sp. (0.8 g.), and *Cerithidae* sp. (0.2 g), An amount (0.1 g.) of unidentifiable shell was recovered from the test units as well. Marine shell was recovered to a maximum depth of 20 centimeters in Test Unit 1. The test unit recovery is summarized in Table 6.1-6 and detailed by depth level and provenience in Table 6.1–7.

The soil from Test Unit 1 was characterized as a very dark grayish brown (10YR 3/2) clay loam to a depth of approximately 10 to 15 centimeters, overlying a compact dark grayish brown (10YR 4/2) clay subsoil to the maximum depth of the unit at 30 centimeters. A drawing of the north wall of Test Unit 1 is presented in Figure 6.1–2. A color photograph of the north wall of Test Unit 1 is provided in Plate 6.1–1.

6.1.3 Laboratory Analysis

The laboratory analysis for Site SDI-16,680 included the standard procedures described in Section 4.0 of this report. All artifacts and ecofacts recovered from the field investigations conducted at the site were returned to the laboratory facility of BFSA to be cataloged and analyzed. The recovery from Site SDI-16,680 included four artifacts and 113.9 grams of marine shell, summarized in Table 6.1–1.

Lithic Artifact Analysis

Lithic production waste accounted for one category of lithic artifacts, representing 25.00% (N=1) of the lithic artifact collection, including one flake made from locally-available medium-grained metavolcanic material. The remaining lithic collection consisted of one ground stone tool, a metate fragment (25.00%), one precision tool (25.00%), and one percussion tool (25.00%). Activities indicated by the artifacts recovered from the site include a limited amount of procurement and processing of plant and animal resources, as well as lithic tool production and maintenance.

Ecofact Analysis

Ecofactual material recovered from Site SDI-16,680 included 113.9 grams of marine shell (Table 6.1–1). The shell was identified to seven genera and one species, which were dominated by *Chione* sp. (93.4 g.), *Ostrea* sp. (11.8 g.), *Pecten* sp. (3.4 g.), *Nassarius* sp. (3.0 g), *Tagelus* sp. (1.4 g.), *Cerithidae* sp. (0.3 g), and *Donax* sp. (0.1 g.), all marine genera. A small amount (0.5 g.) of unidentifiable mollusk shell was recovered from the site as well. The presence of marine shell indicates that the occupants of the site harvested resources from the coast and transported them to the site.

6.1.4 Discussion

The testing demonstrated that Site SDI-16,680 consists of a sparse surface scatter of artifact and ecofact, and a shallow subsurface deposit that contains only a light scatter of marine shell and four artifacts. The overall site dimensions, as identified by the surface distribution of artifacts, measure approximately 61 meters (200 feet) by 37 meters (121 feet), covering 1,464 square meters (15,753 square feet). The surface scatter, which has been collected, was widely scattered across the site. Test unit and shovel test excavations indicate that the subsurface deposits extend to a maximum depth of 20 centimeters. Based on the sparse nature of the deposit, and the limited variety and quantity of material recovered from the site, the site exhibits no additional research potential.

The site is interpreted as a limited use area, where activities included food resource extraction and processing, and lithic tool manufacture and maintenance. The lithic tool assemblage and marine shell indicates that both floral and faunal resources were collected and processed by the occupants of the site. The limited quantity and range of lithic material suggests a limited use of the site. No temporally diagnostic artifacts, which would aid in identifying the site to a particular time period, were recovered from the site. The research potential of the site has been exhausted with the current testing program.

6.1.5 Summary

The analysis of the cultural materials recovered from Site SDI-16,680 revealed a sparse cultural deposit at the site extending to a maximum depth of 20 centimeters. The recovered materials, including lithic artifacts and marine mollusk shell, indicate that site activities were focused on floral and faunal food procurement, processing, as well as lithic tool manufacture and maintenance. Subsistence at the site appears to have been based on both botanical and faunal resources.

Site SDI-16,680 exhibits sparse cultural deposits, with little research potential for the prehistory of the region. The research potential of this site has been exhausted with the current investigation. Based on the information derived from the testing program, Site SDI-16,680 is not considered important according to criteria listed in CEQA, Section 15064.5.

Figure 6.1–1
Excavation Location Map — Site SDI-16,680

(Deleted for Public Review;
Bound Separately in Confidential Appendices)

View of Site SDI-16,680 facing northwest.

North wall profile of Test Unit 1.

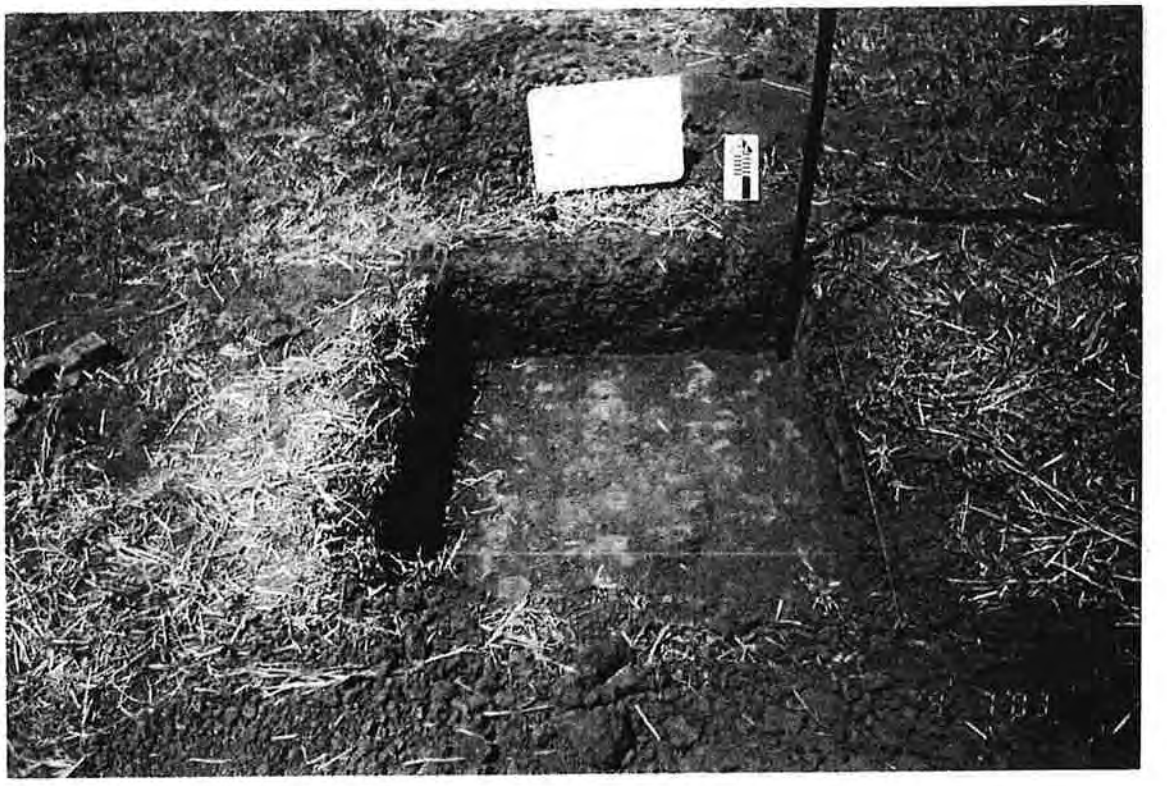
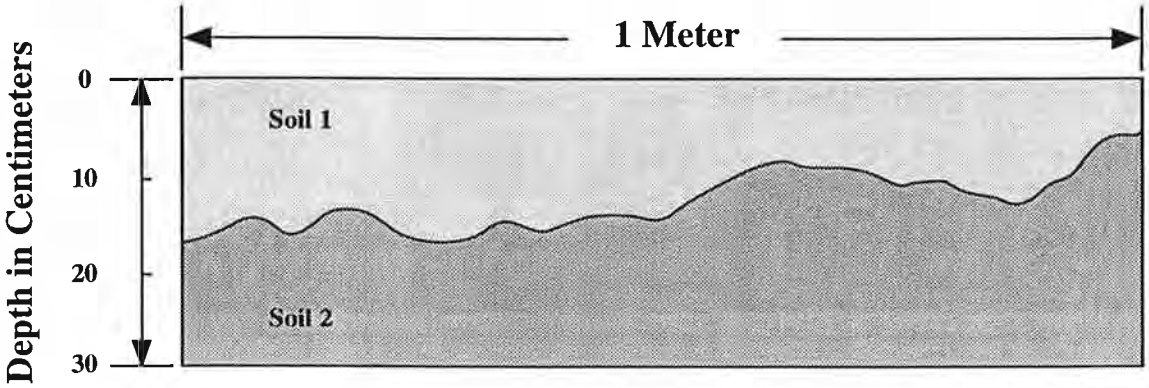


Plate 6.1–1

North Wall

Test Unit 1



1 Very dark grayish brown (10YR 3/2) clay

2 Dark grayish brown (10YR 4/2) clay

Profile of Test Unit 1

Site SDI-16,680

Archaeological Evaluation of Cultural Resources at Otay Ranch Village Seven Disposal Site Project

Figure 6.1–2

TABLE 6.1–1

Summary of Artifact Recovery
Site SDI-16,680

Recovery Category	Surface	Shovel Tests	Test Units	Total	Percent
Ecofacts:					
Marine Shell,					
Cerithidae sp.	-	0.1 g.	0.2 g.	0.3 g.	
Chione sp.	61.1 g.	22.9 g.	9.4 g.	93.4 g.	
Donax sp.	-	0.1 g.	-	0.1 g.	
Nassarius sp.	0.7 g.	1.5 g.	0.8 g.	3.0 g.	
Ostrea sp.	4.9 g.	3.6 g.	3.3 g.	11.8 g.	
Pecten sp.	1.7 g.	1.4 g.	0.3 g.	3.4 g.	
Tagelus sp.	-	0.6 g.	0.8 g.	1.4 g.	
Unidentifiable	0.4 g.	-	0.1 g.	0.5 g.	
Ground Stone Tools:					
Metate	1	-	-	1	25.00
Lithic Production Waste:					
Flake	-	1	-	1	25.00
Percussion Tools:					
Hammerstone	1	-	-	1	25.00
Precision Tools:					
Utilized Flake	1	-	-	1	25.00
Totals	3	1	0	4	100.00
Percent	75.00	25.00	0.00	100.00	

Rounded numbers may not add to 100%

TABLE 6.1–2

Summary of Surface Recovery
Site SDI-16,680

Recovery Category	Quantity	Percent
Ecofacts:		
Marine Shell,		
Chione sp.	61.1 g.	
Nassarius sp.	0.7 g.	
Ostrea sp.	4.9 g.	
Pecten sp.	1.7 g.	
Unidentifiable	0.4 g.	
Ground Stone Tools:		
Metate	1	33.33
Percussion Tools:		
Hammerstone	1	33.33
Precision Tools:		
Utilized Flake	1	33.33
Totals	3	100.00

Rounded numbers may not add to 100%

TABLE 6.1–3

Surface Recovery Data
Site SDI-16,680

Recovery Location	Location from Datum A Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
1	240°/52 Feet	11.3 g.	Marine Shell	*Chione* sp.	1
		0.4 g.	Marine Shell	*Nassarius* sp.	2
2	176°/33 Feet		Not an Artifact		3
3	95°/107 Feet	14.3 g.	Marine Shell	*Chione* sp.	4
		0.8 g.	Marine Shell	*Ostrea* sp.	5
4	284°/71 Feet	0.3 g.	Marine Shell	*Nassarius* sp.	6
		1.7 g.	Marine Shell	*Pecten* sp.	7
5	113°/74 Feet	5.0 g.	Marine Shell	*Chione* sp.	8
		4.1 g.	Marine Shell	*Ostrea* sp.	9
6	101°/119 Feet	1	Hammerstone, Circular	MGM	10
7	81°/21 Feet	1	Utilized Flake	MGM	11
		0.9 g.	Marine Shell	*Chione* sp.	12
		0.4 g.	Marine Shell	Unidentifiable	13
8	54°/52 Feet	29.6 g.	Marine Shell	*Chione* sp.	14
9	331°/79 Feet	1	Metate Fragment, Uniface	Granite	15

TABLE 6.1–4

Summary of Shovel Test Recovery
Site SDI-16,680

Recovery Category	Quantity	Percent
Ecofacts:		
Marine Shell,		
Cerithidae sp.	0.1 g.	
Chione sp.	22.9 g.	
Donax sp.	0.1 g.	
Nassarius sp.	1.5 g.	
Ostrea sp.	3.6 g.	
Pecten sp.	1.4 g.	
Tagelus sp.	0.6 g.	
Lithic Production Waste:		
Flake	1	100.00
Totals	1	100.00

Rounded numbers may not add to 100%

TABLE 6.1–5

Shovel Test Excavation Data
Site SDI-16,680

Shovel Test	Location from Datum A Azimuth/Range	Depth	Quantity/ Weight	Recovery	Description	Cat. No.
1	0°/0 Feet	0-10 cm.		No Recovery		16
		10-20 cm.		No Recovery		17
		20-30 cm.		No Recovery		18
2	330°/74 Feet	0-10 cm.	1	Flake	MGM	19
			0.1 g.	Marine Shell	*Donax* sp.	20
			1.2 g.	Marine Shell	*Ostrea* sp.	21
			0.5 g.	Marine Shell	*Tagelus* sp.	22
		10-20 cm.		No Recovery		23
		20-30 cm.		No Recovery		24
3	282°/67 Feet	0-10 cm.	18.4 g.	Marine Shell	*Chione* sp.	25
			0.6 g.	Marine Shell	*Nassarius* sp.	26
			0.3 g.	Marine Shell	*Ostrea* sp.	27
		10-20 cm.		No Recovery		28
		20-30 cm.		No Recovery		29
4	86°/100 Feet	0-10 cm.		No Recovery		30
		10-20 cm.		No Recovery		31
		20-30 cm.		No Recovery		32
5	113°/89 Feet	0-10 cm.		No Recovery		33
		10-20 cm.		No Recovery		34
		20-30 cm.		No Recovery		35
6	322°/32 Feet	0-10 cm.	0.6 g.	Marine Shell	*Chione* sp.	36
			0.5 g.	Marine Shell	*Nassarius* sp.	37
			0.9 g.	Marine Shell	*Ostrea* sp.	38
			1.0 g.	Marine Shell	*Pecten* sp.	39
		10-20 cm.		No Recovery		40

Shovel Test	Location from Datum A Azimuth/Range	Depth	Quantity/ Weight	Recovery	Description	Cat. No.
		20-30 cm.		No Recovery		41
7	81°/22 Feet	0-10 cm.		No Recovery		42
		10-20 cm.		No Recovery		43
		20-30 cm.		No Recovery		44
8	181°/33 Feet	0-10 cm.	0.1 g.	Marine Shell	*Cerithidae* sp.	45
			0.6 g.	Marine Shell	*Chione* sp.	46
			0.6 g.	Marine Shell	*Ostrea* sp.	47
		10-20 cm.		No Recovery		48
		20-30 cm.		No Recovery		49
9	33°/58 Feet	0-10 cm.	1.1 g.	Marine Shell	*Chione* sp.	50
			0.2 g.	Marine Shell	*Ostrea* sp.	51
			0.2 g.	Marine Shell	*Pecten* sp.	52
		10-20 cm.		No Recovery		53
		20-30 cm.		No Recovery		54
10	331°/93 Feet	0-10 cm.	2.2 g.	Marine Shell	*Chione* sp.	55
			0.4 g.	Marine Shell	*Nassarius* sp.	56
			0.4 g.	Marine Shell	*Ostrea* sp.	57
			0.2 g.	Marine Shell	*Pecten* sp.	58
			0.1 g.	Marine Shell	*Tagelus* sp.	59
		10-20 cm.		No Recovery		60
		20-30 cm.		No Recovery		61

TABLE 6.1–6

Summary of Test Unit Recovery
Site SDI-16,680

Artifact Category	Depth (in centimeters) 0-10	10-20	20-30	Total
Ecofacts:				
Mairne Shell,				
Cerithidae sp.	0.2 g.	-	-	0.2 g.
Chione sp.	6.3 g.	3.1 g.	-	9.4 g.
Nassarius sp.	0.5 g.	0.3 g.	-	0.8 g.
Ostrea sp.	2.5 g.	0.8 g.	-	3.3 g.
Pecten sp.	0.3 g.	-	-	0.3 g.
Tagelus sp.	0.6 g.	0.2 g.	-	0.8 g.
Unidentifiable	0.1 g.	-	-	0.1 g.

TABLE 6.1–7

Test Unit Excavation Data
Site SDI-16,680

Test Unit	Location from Datum A Azimuth/Range	Depth	Quantity/ Weight	Recovery	Description	Cat. No.
1	334°/70 Feet	0-10 cm.	0.2 g.	Marine Shell	*Cerithidae* sp.	62
			6.3 g.	Marine Shell	*Chione* sp.	63
			0.5 g.	Marine Shell	*Nassarius* sp.	64
			2.5 g.	Marine Shell	*Ostrea* sp.	65
			0.3 g.	Marine Shell	*Pecten* sp.	66
			0.6 g.	Marine Shell	*Tagelus* sp.	67
			0.1 g.	Marine Shell	Unidentifiable	68
		10-20 cm.	3.1 g.	Marine Shell	*Chione* sp.	69
			0.3 g.	Marine Shell	*Nassarius* sp.	70
			0.8 g.	Marine Shell	*Ostrea* sp.	71
			0.2 g.	Marine Shell	*Tagelus* sp.	72
		20-30 cm.		No Recovery		73

6.2 Site SDI-16,681

6.2.1 Site Description

Site SDI-16,681 is a small prehistoric temporary camp located on a hilltop east of SDI-16,680 and the Otay Ranch Farm Complex near the eastern boundary of the project area. Elevations at the site range from 525 to 545 feet AMSL. Disturbance at the site included activities associated with agricultural practices, including disking; some degree of erosion has occurred. The general configuration of the resource is shown in Figure 6.2–1. The setting of the site is shown in Plate 6.2–1. Testing of the site by BFSA consisted of collection and mapping of all surface artifacts, and excavation of ten shovel tests and one standard test unit.

6.2.2 Description of Field Investigations

The field investigations at Site SDI-16,681 were conducted using the standard methodologies described in Section 4.0. Totals of 18 artifacts and 9.4 grams of marine shell were recovered during investigations at the site. A summary of recovery from the site is presented in Table 6.2–1.

Surface Recordation

The entire surface of the site was inspected for artifacts, ecofacts, and features, all of which were provenienced from a datum established at the site. A small portion of the property had recently been disked, but much of the surface was covered with dead grasses; subsequently, surface visibility was fair to poor across much of the site. Datum A was established in the center of the site at a point from which the surface material and excavations could be measured. The location of the datum is shown in Figure 6.2–1.

All artifacts observed on the surface of the site were mapped and collected, the locations of which are also illustrated in Figure 6.2–1. Generally, the surface artifacts and shell were widely scattered throughout the site area. The surface collection, summarized in Table 6.2-2 and detailed in Table 6.2–3, consisted of nine artifacts. The assemblage included one ground stone tool, one multi-use tool, two precision tools, and five pieces of lithic production waste. Marine mollusk shell was observed on the surface of the site and a sample was collected.

Subsurface Excavation

The potential for subsurface cultural deposits at Site SDI-16,681 was investigated by excavating a total of 10 STPs and one test unit. Shovel test pits were excavated across the entire site, but focused on the areas with the highest concentration of surface shell and artifacts. The locations of the STPs are shown in Figure 6.2–1. All the shovel tests were excavated in decimeter levels to a minimum depth of 30 centimeters. Of the 10 STPs excavated at Site SDI-16,681, six were positive for cultural materials, while four contained marine shell. Depth of recovery extended to a maximum depth of 20 centimeters in all positive STPs. Marine shell was dominated by *Chione* sp. (1.9 g.), *Ostrea* sp. (0.9 g.), *Pecten* sp. (0.1 g.), and *Tagelus* sp. (0.2 g.). The recovery from the

STPs is summarized in Table 6.2–4 and detailed in Table 6.2-5.

Subsurface testing of Site SDI-16,681 continued with the excavation of one standard test unit. The test unit was positioned to sample the area of greatest potential to produce subsurface deposits, as identified by the STPs and surface collections. Test Unit 1 was placed in the southwest portion of the site, between STP 4 and STP 5. The location of the test unit is illustrated in Figure 6.2–1.

The test unit was excavated in standard decimeter levels to subsoil, and all removed soils were sifted through 1/8-inch mesh hardware cloth. Recovery from the test unit consisted of two lithic artifacts and 3.2 grams of marine shell. The recovered lithic artifacts consisted of two pieces of lithic production waste. The recovered shell consisted of *Anomia* sp. (0.1 g), *Chione* sp. (1.1 g.), *Ostrea* sp. (0.5 g.), *Pecten* sp. (0.8 g.), and *Tagelus* sp. (0.6 g.). A small amount (0.1 g.) of unidentifiable shell was recovered from the test units as well. Cultural material was recovered to a maximum depth of 20 centimeters in Test Unit 1. The test unit recovery is summarized in Table 6.2-6 and detailed by depth level and provenience in Table 6.2–7.

The soil from Test Unit 1 was characterized as a dark grayish brown (10YR 4/2) clay loam to a depth of approximately 10 to 15 centimeters, overlying a compact dark grayish brown (10YR 4/2) clay subsoil to the maximum depth of the unit at 30 centimeters. A drawing of the north wall of Test Unit 1 is presented in Figure 6.2–2. A color photograph of the north wall of Test Unit 1 is provided in Plate 6.2–1.

6.2.3 Laboratory Analysis

The laboratory analysis for Site SDI-16,681 included the standard procedures described in Section 4.0 of this report. All artifacts and ecofacts recovered from the field investigations conducted at the site were returned to the laboratory facility of BFSA to be cataloged and analyzed. The recovery from Site SDI-16,681 included 18 artifacts and 9.4 grams of marine shell, summarized in Table 6.2–1.

Lithic Artifact Analysis

Lithic production waste accounted for the largest category of lithic artifacts, representing 77.78% (N=14) of the lithic artifact collection, including 11 flakes and two pieces of debitage made from locally-available medium- and fine-grained metavolcanic material, and one flake made from chert. The remaining lithic collection consisted of one ground stone tool, a mano (5.56%), two precision tools (11.12%), and one multi-use tool (5.56%). Activities indicated by the artifacts recovered from the site include a limited amount of procurement and processing of plant and animal resources, as well as lithic tool production and maintenance.

Ecofact Analysis

Ecofactual material recovered from Site SDI-16,681 included 9.4 grams of marine shell (Table 6.2–1). The shell was identified to five genera and one species, which were dominated by *Anomia* sp. (0.1 g), *Chione* sp. (1.1 g.), *Ostrea* sp. (0.5 g.), *Pecten* sp. (0.8 g.), and *Tagelus* sp.

(0.6 g.), all marine genera. A small amount (0.1 g.) of unidentifiable mollusk shell was recovered from the site as well. The presence of marine shell indicates that the occupants of the site harvested resources from the coast and transported them to the site.

6.2.4 Discussion

The testing demonstrated that Site SDI-16,681 consists of a sparse surface artifact and ecofact scatter and a shallow subsurface deposit that contains only a light scatter of marine shell and 18 artifacts. The overall site dimensions, as identified by the surface distribution of artifacts, measure approximately 29 meters (95 feet) by 37 meters (121 feet), covering 719.5 square meters (7,742 square feet). The surface scatter, which has been collected, was widely scattered across the site. Test unit and shovel test excavations indicate that the subsurface deposits extend to a maximum depth of 20 centimeters. Based on the sparse nature of the deposit, and the limited variety and quantity of material recovered from the site, the site exhibits no additional research potential.

The site is interpreted as a small temporary camp, where activities included food resource extraction and processing, and lithic tool manufacture and maintenance. The lithic tool assemblage and marine shell indicates that both floral and faunal resources were collected and processed by the occupants of the site. The limited quantity and range of lithic material suggests a limited use of the site. No temporally diagnostic artifacts, which would aid in identifying the site to a particular time period, were recovered from the site. The research potential of the site has been exhausted with the current testing program.

6.2.5 Summary

The analysis of the cultural materials recovered from Site SDI-16,681 revealed a sparse cultural deposit at the site, extending to a maximum depth of 20 centimeters. The recovered materials, including lithic artifacts and marine mollusk shell, indicate that site activities were focused on floral and faunal food procurement, processing, as well as lithic tool manufacture and maintenance. Subsistence at the site appears to have been based on both botanical and faunal resources.

Site SDI-16,681 exhibits sparse cultural deposits, with little research potential for the prehistory of the region. The research potential of this site has been exhausted with the current investigation. Based on the information derived from the testing program, Site SDI-16,681 is not considered important according to criteria listed in CEQA, Section 15064.5.

Figure 6.2–1
Excavation Location Map — Site SDI-16,681

(Deleted for Public Review;
Bound Separately in Confidential Appendices)

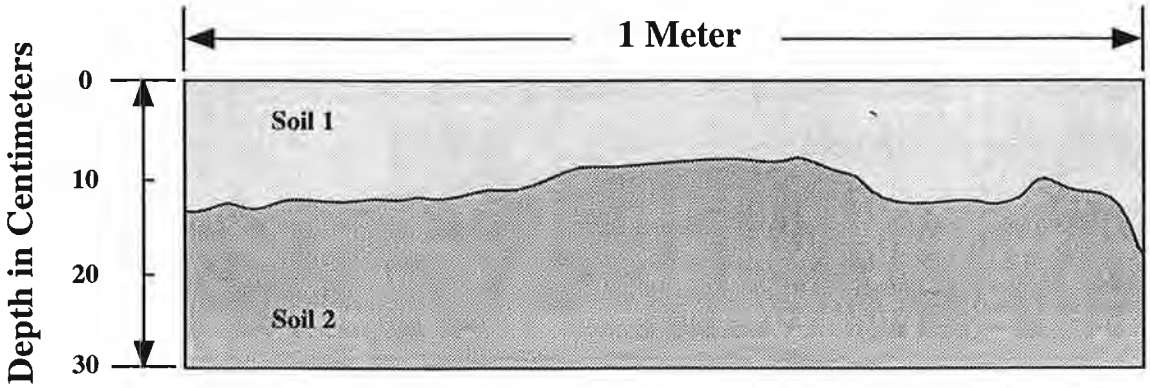
Overview of Site SDI-16,681 facing northwest.

North wall profile of Test Unit 1.

Plate 6.2–1

North Wall

Test Unit 1



1 Dark grayish brown (10YR 4/2) clay

2 Dark grayish brown (10YR 4/2) compact clay

Profile of Test Unit 1

Site SDI-16,681

Archaeological Evaluation of Cultural Resources at Otay Ranch Village Seven Disposal Site Project

Figure 6.2–2

TABLE 6.2–1

Summary of Artifact Recovery
Site SDI-16,681

Recovery Category	Surface	Shovel Tests	Test Units	Total	Percent
Ecofacts:					
Marine Shell,					
Anomia sp.	-	-	0.1 g.	0.1 g.	
Chione sp.	3.1 g.	1.9 g.	1.1 g.	6.1 g.	
Ostrea sp.	-	0.9 g.	0.5 g.	1.4 g.	
Pecten sp.	-	0.1 g.	0.8 g.	0.9 g.	
Tagelus sp.	-	0.2 g.	0.6 g.	0.8 g.	
Unidentifiable	-	-	0.1 g.	0.1 g.	
Ground Stone Tools:					
Mano	1	-	-	1	5.56
Lithic Production Waste:					
Debitage	-	1	1	2	11.11
Flakes	5	6	1	12	66.27
Precision Tools:					
Retouched Flake	1	-	-	1	5.56
Utilized Debitage	1	-	-	1	5.56
Multi-Use Tools:					
Scraper/Hammerstone	1	-	-	1	5.56
Totals	9	7	2	18	100.00
Percent	50.00	38.89	11.11	100.00	

Rounded number may not add to 100%

TABLE 6.2–2

Summary of Surface Recovery
Site SDI-16,681

Recovery Category	Quantity	Percent
Ecofacts:		
Marine Shell, *Chione* sp.	3.1 g.	
Ground Stone Tools:		
Mano	1	11.11
Lithic Production Waste:		
Flakes	5	55.56
Precision Tools:		
Retouched Flake	1	11.11
Utilized Debitage	1	11.11
Multi-Use Tools:		
Scraper/Hammerstone	1	11.11
Totals	9	100.00

Rounded numbers may not add to 100%

TABLE 6.2–3

Surface Recovery Data
Site SDI-16,681

Recovery Location	Location from Datum A Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
1	190°/43 Feet	1	Mano Fragment, Biface	Granite	1
2	98°/35 Feet	1	Retouched Flake	FGM	2
		1	Flake	FGM	3
		1	Flake	MGM	4
3	309°/38 Feet	3.1 g.	Marine Shell	*Chione* sp.	5
4	326°/48 Feet	1	Scraper/Hammerstone	FGM	6
5	245°/32 Feet	1	Utilized Debitage Fragment	FGM	7
		1	Flake	MGM	8
6	246°/73 Feet	1	Flake	MGM	9
7	10°/29 Feet	1	Flake	FGM	10

TABLE 6.2–4

Summary of Shovel Test Recovery
Site SDI-16,681

Recovery Category	Quantity	Percent
Ecofacts:		
Marine Shell,		
Chione sp.	1.9 g.	
Ostrea sp.	0.9 g.	
Pecten sp.	0.1 g.	
Tagelus sp.	0.2 g.	
Lithic Production Waste:		
Debitage	1	14.29
Flakes	6	85.71
Totals	7	100.00

Rounded numbers may not add to 100%

TABLE 6.2–5

Shovel Test Excavation Data
Site SDI-16,681

Shovel Test	Location from Datum Azimuth/Range	Depth	Quantity	Recovery	Description	Cat. No.
1	0°/0 Feet	0-10 cm.	1	Flake	FGM	11
			0.1 g.	Marine Shell	*Ostrea* sp.	12
			0.1 g.	Marine Shell	*Tagelus* sp.	13
		10-20 cm.		No Recovery		14
		20-30 cm.		No Recovery		15
2	198°/40 Feet	0-10 cm.		No Recovery		16
		10-20 cm.		No Recovery		17
		20-30 cm.		No Recovery		18
3	98°/34 Feet	0-10 cm.		No Recovery		19
		10-20 cm.	1	Flake	FGM	20
		20-30 cm.		No Recovery		21
4	262°/31 Feet	0-10 cm.	1	Flake	FGM	22
		10-20 cm.		No Recovery		23
		20-30 cm.		No Recovery		24
5	247°/68 Feet	0-10 cm.	1	Flake	Chert	25
			1	Debitage	FGM	26
			1	Flake	FGM	27
			0.6 g.	Marine Shell	*Chione* sp.	28
		10-20 cm.		No Recovery		29
		20-30 cm.		No Recovery		30
6	10°/27 Feet	0-10 cm.	1	Flake	MGM	31
			0.4 g.	Marine Shell	*Ostrea* sp.	32
			0.1 g.	Marine Shell	*Tagelus* sp.	33
		10-20 cm.		No Recovery		34

Shovel Test	Location from Datum Azimuth/Range	Depth	Quantity	Recovery	Description	Cat. No.
		20-30 cm.		No Recovery		35
7	325°/44 Feet	0-10 cm.	1.3 g.	Marine Shell	*Chione* sp.	36
			0.4 g.	Marine Shell	*Ostrea* sp.	37
			0.1 g.	Marine Shell	*Pecten* sp.	38
		10-20 cm.		No Recovery		39
		20-30 cm.		No Recovery		40
8	243°/91 Feet	0-10 cm.		No Recovery		41
		10-20 cm.		No Recovery		42
		20-30 cm.		No Recovery		43
9	126°/52 Feet	0-10 cm.		No Recovery		44
		10-20 cm.		No Recovery		45
		20-30 cm.		No Recovery		46
10	295°/65 Feet	0-10 cm.		No Recovery		47
		10-20 cm.		No Recovery		48
		20-30 cm.		No Recovery		49

TABLE 6.2–6

Summary of Test Unit Recovery
Site SDI-16,681

Artifact Category	Depth (in centimeters) 0-10	10-20	20-30	Total	Percent
Ecofacts:					
Marine Shell,					
Anomia sp.	0.1 g.	-	-	0.1 g.	
Chione sp.	1.1 g.	-	-	1.1 g.	
Ostrea sp.	0.5 g.	-	-	0.5 g.	
Pecten sp.	0.8 g.	-	-	0.8 g.	
Tagelus sp.	0.6 g.	-	-	0.6 g.	
Unidentifiable	0.1 g.	-	-	0.1 g.	
Lithic Production Waste:					
Debitage	1	-	-	1	50.00
Flake	-	1	-	1	50.00
Totals	1	1	0	2	100.00
Percent	50.00	50.00	0.00	100.00	

Rounded numbers may not add to 100%

TABLE 6.2–7

Test Unit Excavation Data
Site SDI-16,681

Test Unit	Location from Datum A Azimuth/Range	Depth	Quantity/ Weight	Recovery	Description	Cat. No.
1	249°/55 Feet	0-10 cm.	1	Debitage	FGM	50
			0.1 g.	Marine Shell	*Anomia* sp.	51
			1.1 g.	Marine Shell	*Chione* sp.	52
			0.5 g.	Marine Shell	*Ostrea* sp.	53
			0.8 g.	Marine Shell	*Pecten* sp.	54
			0.6 g.	Marine Shell	*Tagelus* sp.	55
			0.1 g.	Marine Shell	Unidentifiable	56
		10-20 cm.	1	Flake	FGM	57
		20-30 cm.		No Recovery		58

TABLE 6.2–8

Lithic Material Distribution
Site SDI-16,681

Artifact Category	Material: Chert	FGM	Granite	MGM	Total	Percent
Ground Stone Tools:						
Mano	-	-	1	-	1	5.56
Lithic Production Waste:						
Debitage	-	2	-	-	2	11.11
Flakes	1	7	-	4	12	66.27
Precision Tools:						
Retouched Flake	-	1	-	-	1	5.56
Utilized Debitage	-	1	-	-	1	5.56
Multi-Use Tools:						
Scraper/Hammerstone	-	1	-	-	1	5.56
Totals	1	12	1	4	18	100.00
Percent	5.56	66.27	5.56	22.22	100.00	

Rounded numbers may not add to 100%

6.3 Site SDI–16,679

6.3.1 Site Description

Site SDI–16,679 is a small prehistoric temporary camp located on a south-facing slope east of Wolf Canyon in the central portion of the project area. Elevations at the site range from 475 to 495 feet AMSL. Disturbance at the site included activities associated with agricultural practices, including disking; some degree of erosion has occurred. The general configuration of the resource is shown in Figure 6.3–1. The setting of the site is shown in Plate 6.3–1. Testing of the site by BFSA consisted of the collection and mapping of all surface artifacts, and the excavation of nine shovel tests and one standard test unit.

6.3.2 Description of Field Investigations

The field investigations at Site SDI–16,679 were conducted using the standard methodologies described in Section 4.0. Totals of 12 artifacts and 43.8 grams of marine shell were recovered during investigations at the site. A summary of recovery from the site is presented in Table 6.3–1.

Surface Recordation

The entire surface of the site was inspected for artifacts, ecofacts, and features, all of which were provenienced from a datum established at the site. The property had recently been disked but much of the surface was covered with cut grasses; subsequently, surface visibility was fair across the site. Datum A was established near the center of the site at a point from which the surface material and excavations could be measured. The location of the datum is shown in Figure 6.3–1.

All artifacts observed on the surface of the site were mapped and collected, the locations of which are also illustrated in Figure 6.3–1. Generally, the surface artifacts and shell were widely scattered throughout the site area. The surface collection, summarized in Table 6.3-2 and detailed in Table 6.3–3, consisted of nine artifacts. The assemblage included one ground stone tool, one multi-use tool, three core tools, two percussion tools, and three pieces of lithic production waste. Marine mollusc shell was observed on the surface of the site and a sample was collected.

Subsurface Excavation

The potential for subsurface cultural deposits at Site SDI–16,679 was investigated by excavating a total of nine STPs and one test unit. Shovel test pits were excavated across the entire site, but focused on the areas with the highest concentration of surface shell and artifacts. The locations of the STPs are shown in Figure 6.3–1. All of the shovel tests were excavated in decimeter levels to a minimum depth of 30 centimeters. Of the nine STPs excavated at Site SDI–16,679, one was positive for cultural material (STP 6), while three contained marine shell. Depth of recovery extended to a maximum depth of 10 centimeters in all positive STPs. Marine shell was dominated by *Chione* sp. (5.1 g.), *Ostrea* sp. (5.2 g.), *Pecten* sp. (3.0 g.), *Tagelus* sp. (0.1

g.), *Crucibellum* sp. (0.1 g), *Littorina* sp. (0.1 g), and *Nassarius* sp. (0.1 g). The recovery from the STPs is summarized in Table 6.3–4 and detailed in Table 6.3-5.

Subsurface testing of Site SDI–16,679 continued with the excavation of one standard test unit. The test unit was positioned to sample the area of greatest potential to produce subsurface deposits, as identified by the STPs and surface collections. Test Unit 1 was placed in the northern portion of the site, near STP 6. The location of the test unit is illustrated in Figure 6.3–1.

The test unit was excavated in standard decimeter levels to subsoil, and all removed soils were sifted through 1/8-inch mesh hardware cloth. Recovery from the test unit consisted of one lithic artifact and 14.2 grams of marine shell. The recovered lithic artifacts consisted of one piece of lithic production waste. The recovered shell consisted of *Chione* sp. (3.7 g.), *Ostrea* sp. (8.1 g.), *Pecten* sp. (0.9 g.), *Tagelus* sp. (0.2 g.), *Cerithidae* sp. (0.3 g), *Littorina* sp. (0.2 g), and *Nassarius* sp. (0.6 g). A small amount (0.2 g.) of unidentifiable shell was recovered from the test units as well. Cultural material was recovered to a maximum depth of 20 centimeters in Test Unit 1. The test unit recovery is summarized in Table 6.3-6 and detailed by depth level and provenience in Table 6.3–7.

The soil from Test Unit 1 was characterized as a very dark grayish brown (10YR 3/2) clay loam to a depth of approximately 10 to 15 centimeters, overlying a compact dark grayish brown (10YR 4/2) clay subsoil to the maximum depth of the unit at 30 centimeters. A drawing of the north wall of Test Unit 1 is presented in Figure 6.3–2. A color photograph of the north wall of Test Unit 1 is provided in Plate 6.3–1.

6.3.3 Laboratory Analysis

The laboratory analysis for Site SDI–16,679 included the standard procedures described in Section 4.0 of this report. All artifacts and ecofacts recovered from the field investigations conducted at the site were returned to the laboratory facility of BFSA to be cataloged and analyzed. The recovery from Site SDI–16,679 included 12 artifacts and 43.8 grams of marine shell, summarized in Table 6.3–1.

Lithic Artifact Analysis

Lithic production waste accounted for the largest category of lithic artifacts, representing 41.67% (N=5) of the lithic artifact collection, including five flakes made from locally-available medium- and fine-grained metavolcanic material. The remaining lithic collection consisted of one ground stone tool, a metate (8.33%), two percussion tools (16.67%), three core tools (25.00%), and one multi-use tool (8.33%). Lithic material distribution is presented in Table 6.3–8 and lithic tool measurements are provided in Table 6.3–9. Activities indicated by the artifacts recovered from the site include a limited amount of procurement and processing of plant and animal resources, as well as lithic tool production and maintenance.

Ecofact Analysis

Ecofactual material recovered from Site SDI–16,679 included 43.8 grams of marine shell (Table 6.3–1). The shell was identified to eight genera and one species, which were dominated by *Chione* sp. (23.8 g.), *Ostrea* sp. (14.1 g.), *Pecten* sp. (3.9 g.), *Tagelus* sp. (0.3 g.), *Cerithidae* sp. (0.3 g), *Littorina* sp. (0.3 g), and *Nassarius* sp. (0.8 g), and *Crucibellum* sp. (0.1 g), all marine genera. A small amount (0.2 g.) of unidentifiable mollusc shell was recovered from the site as well. The presence of marine shell indicates that the occupants of the site harvested resources from the coast and transported them to the site.

6.3.4 Discussion

The testing demonstrated that Site SDI–16,679 consists of a sparse surface artifact and ecofact scatter and a shallow subsurface deposit that contains only a light scatter of marine shell and 12 artifacts. The overall site dimensions, as identified by the surface distribution of artifacts, measure approximately 30.5 meters (107 feet) by 73 meters (239 feet), covering 1,737.9 square meters (18,700 square feet). The surface scatter, which has been collected, was widely scattered across the site. Test unit and shovel test excavations indicate that the subsurface deposits extend to a maximum depth of 20 centimeters. Based on the sparse nature of the deposit, and the limited variety and quantity of material recovered from the site, the site exhibits no additional research potential.

The site is interpreted as a small temporary camp, where activities included food resource extraction and processing, and lithic tool manufacture and maintenance. The lithic tool assemblage and marine shell indicates that both floral and faunal resources were collected and processed by the occupants of the site. The limited quantity and range of lithic material suggests a limited use of the site. No temporally diagnostic artifacts, which would aid in identifying the site to a particular time period, were recovered from the site. The research potential of the site has been exhausted with the current testing program.

6.3.5 Summary

The analysis of the cultural materials recovered from Site SDI–16,679 revealed a sparse cultural deposit at the site extending to a maximum depth of 20 centimeters. The recovered materials, including lithic artifacts and marine mollusc shell, indicate that site activities were focused on floral and faunal food procurement, processing,, as well as lithic tool manufacture and maintenance. Subsistence at the site appears to have been based on both botanical and faunal resources.

Site SDI–16,679 exhibits sparse cultural deposits, with little research potential for the prehistory of the region. The research potential of this site has been exhausted with the current investigation. Based on the information derived from the testing program, Site SDI–16,679 is not considered important according to criteria listed in CEQA, Section 15064.5.

Figure 6.3–1
Excavation Location Map — Site SDI–16,679

(Deleted from Public Review;
Bound Separately in Confidential Appendices)

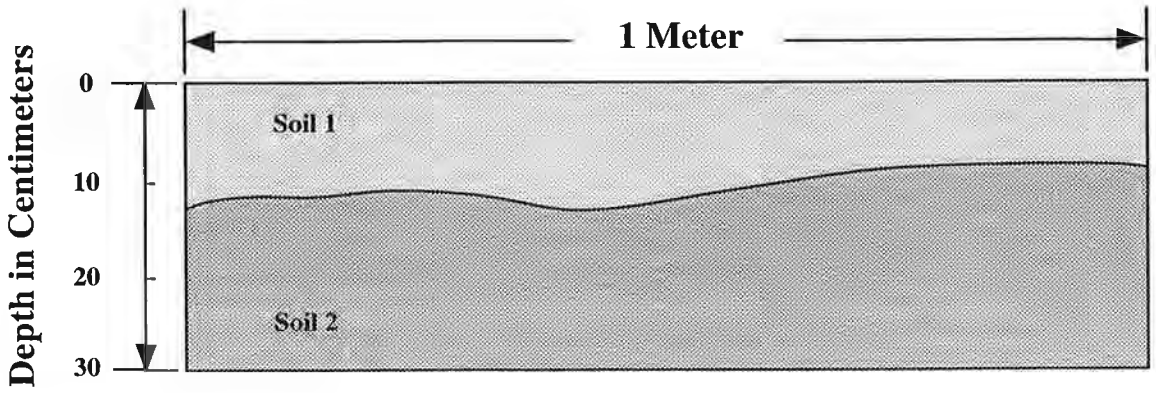
Overview of Site SDI–16,679 facing north.

North wall profile of Test Unit 1.

Plate 6.3–1

North Wall

Test Unit 1



1 Very dark grayish brown (10YR 3/2) clay

2 Dark grayish brown (10YR 4/2) clay

Profile of Test Unit 1

SDI-16,679

Archaeological Study for Otay Ranch Village 7

Figure 6.3–2

TABLE 6.3–1

Summary of Artifact Recovery
Site SDI–16,679

Recovery Category	Surface	Shovel Tests	Test Units	Total	Percent
Ecofacts:					
Marine Shell,					
Cerithidae sp.	-	-	0.3 g.	0.3 g.	
Chione sp.	15.0 g.	5.1 g.	3.7 g.	23.8 g.	
Crucibellum sp.	-	0.1 g.	-	0.1 g.	
Littorina sp.	-	0.1 g.	0.2 g.	0.3 g.	
Nassarius sp.	-	0.2 g.	0.6 g.	0.8 g.	
Ostrea sp.	0.8 g.	5.2 g.	8.1 g.	14.1 g.	
Pecten sp.	-	3.0 g.	0.9 g.	3.9 g.	
Tagelus sp.	-	0.1 g.	0.2 g.	0.3 g.	
Unidentifiable	-	-	0.2 g.	0.2 g.	
Core Tools:					
Core Tools	3	-	-	3	25.00
Ground Stone Tools:					
Metate	1	-	-	1	8.33
Lithic Production Waste:					
Flakes	3	1	1	5	41.67
Percussion Tools:					
Hammerstones	2	-	-	2	16.67
Multi-Use Tools:					
Chopper/Hammerstone	1	-	-	1	8.33
Totals	10	1	1	12	100.00
Percent	83.33	8.33	8.33	100.00	

Rounded numbers may not add to 100%

TABLE 6.3–2

Summary of Surface Recovery
Site SDI–16,679

Recovery Category	Quantity	Percent
Ecofacts:		
Marine Shell,		
Chione sp.	15.0 g.	
Ostrea sp.	0.8 g.	
Core Tools:		
Core Tools	3	30.00
Ground Stone Tools:		
Metate	1	10.00
Lithic Production Waste:		
Flakes	3	30.00
Percussion Tools:		
Hammerstones	2	20.00
Multi-Use Tools:		
Chopper/Hammerstone	1	10.00
Totals	10	100.00

Rounded numbers may not add to 100%

TABLE 6.3–3

Surface Recovery Data
Site SDI–16,679

Recovery Location	Location from Datum A Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
1	35°/134 Feet	4.4 g.	Marine Shell	*Chione* sp.	1
		0.8 g.	Marine Shell	*Ostrea* sp.	2
2	55°/117 Feet	1	Hammerstone Fragment, Spherical	FGM	3
		1	Metate Fragment, Uniface	Sandstone	4
3	64°/54 Feet	10.6 g.	Marine Shell	*Chione* sp.	5
4	60°/34 Feet	1	Core Tool	MGM	6
5	170°/70 Feet	1	Flake	FGM	7
		1	Hammerstone, Circular	MGM	8
		1	Flake	CGM	9
6	219°/62 Feet	1	Core Tool	MGM	10
7	328°/62 Feet	1	Chopper/Hammerstone	MGM	11
8	10°/48 Feet	1	Core Tool	MGM	12
		1	Flake	FGM	13

TABLE 6.3–4

Summary of Shovel Test Recovery
Site SDI–16,679

Recovery Category	Quantity	Percent
Ecofacts:		
Marine Shell,		
Chione sp.	5.1 g.	
Crucibellum sp.	0.1 g.	
Littorina sp.	0.1 g.	
Nassarius sp.	0.2 g.	
Ostrea sp.	5.2 g.	
Pecten sp.	3.0 g.	
Tagelus sp.	0.1 g.	
Lithic Production Waste:		
Flake	1	100.00
Totals	1	100.00

Rounded numbers may not add to 100%

TABLE 6.3–5

Shovel Test Excavation Data
Site SDI–16,679

Shovel Test	Location from Datum Azimuth/Range	Depth	Quantity	Recovery	Description	Cat. No.
1	0°/0 Feet	0-10 cm.		No Recovery		14
		10-20 cm.		No Recovery		15
		20-30 cm.		No Recovery		16
2	171°/67 Feet	0-10 cm.		No Recovery		17
		10-20 cm.		No Recovery		18
		20-30 cm.		No Recovery		19
3	220°/59 Feet	0-10 cm.		No Recovery		20
		10-20 cm.		No Recovery		21
		20-30 cm.		No Recovery		22
4	328°/57 Feet	0-10 cm.		No Recovery		23
		10-20 cm.		No Recovery		24
		20-30 cm.		No Recovery		25
5	11°/61 Feet	0-10 cm.		No Recovery		26
		10-20 cm.		No Recovery		27
		20-30 cm.		No Recovery		28
6	35°/130 Feet	0-10 cm.	1	Flake	MGM	29
			4.3 g.	Marine Shell	*Chione* sp.	30
			0.1 g.	Marine Shell	*Crucibellum* sp.	31
			0.1 g.	Marine Shell	*Littorina* sp.	32
			3.9 g.	Marine Shell	*Ostrea* sp.	33
			2.1 g.	Marine Shell	*Pecten* sp.	34
		10-20 cm.		No Recovery		35
		20-30 cm.		No Recovery		36
7	55°/112 Feet	0-10 cm.		No Recovery		37
		10-20 cm.		No Recovery		38
		20-30 cm.		No Recovery		39

Shovel Test	Location from Datum Azimuth/Range	Depth	Quantity	Recovery	Description	Cat. No.
8	64°/46 Feet	0-10 cm.	0.6 g.	Marine Shell	*Chione* sp.	40
			0.4 g.	Marine Shell	*Ostrea* sp.	41
			0.3 g.	Marine Shell	*Pecten* sp.	42
			0.1 g.	Marine Shell	*Tagelus* sp.	43
		10-20 cm.		No Recovery		44
		20-30 cm.		No Recovery		45
9	35°/169 Feet	0-10 cm.	0.2 g.	Marine Shell	*Chione* sp.	46
			0.2 g.	Marine Shell	*Nassarius* sp.	47
			0.9 g.	Marine Shell	*Ostrea* sp.	48
			0.6 g.	Marine Shell	*Pecten* sp.	49
		10-20 cm.		No Recovery		50
		20-30 cm.		No Recovery		51

TABLE 6.3–6

Summary of Test Unit Recovery
Site SDI–16,679

Artifact Category	Depth (in centimeters) 0-10	10-20	20-30	Total	Percent
Ecofacts:					
Marine Shell,					
Cerithidae sp.	0.2 g.	0.1 g.	-	0.3 g.	
Chione sp.	1.4 g.	2.3 g.	-	3.7 g.	
Littorina sp.	0.1 g.	0.1 g.	-	0.2 g.	
Nassarius sp.	0.6 g.	-	-	0.6 g.	
Ostrea sp.	4.8 g.	3.3 g.	-	8.1 g.	
Pecten sp.	0.4 g.	0.5 g.	-	0.9 g.	
Tagelus sp.	0.1 g.	0.1 g.	-	0.2 g.	
Unidentifiable	0.1 g.	0.1 g.	-	0.2 g.	
Lithic Production Waste:					
Flake	1	-	-	1	100.00
Totals	1	0	0	1	100.00
Percent	100.00	0.00	0.00	100.00	

Rounded numbers may not add to 100%

TABLE 6.3–7

Test Unit Excavation Data
Site SDI–16,679

Test Unit	Location from Datum A Azimuth/Range	Depth	Quantity/ Weight	Recovery	Description	Cat. No.
1	37°/124 Feet	0-10 cm.	1	Flake	MGM	52
			0.2 g.	Marine Shell	*Cerithidae* sp.	53
			1.4 g.	Marine Shell	*Chione* sp.	54
			0.1 g.	Marine Shell	*Littorina* sp.	55
			0.6 g.	Marine Shell	*Nassarius* sp.	56
			4.8 g.	Marine Shell	*Ostrea* sp.	57
			0.4 g.	Marine Shell	*Pecten* sp.	58
			0.1 g.	Marine Shell	*Tagelus* sp.	59
			0.1 g.	Marine Shell	Unidentifiable	60
		10-20 cm.	0.1 g.	Marine Shell	*Cerithidae* sp.	61
			2.3 g.	Marine Shell	*Chione* sp.	62
			0.1 g.	Marine Shell	*Littorina* sp.	63
			3.3 g.	Marine Shell	*Ostrea* sp.	64
			0.5 g.	Marine Shell	*Pecten* sp.	65
			0.1 g.	Marine Shell	*Tagelus* sp.	66
			0.1 g.	Marine Shell	Unidentifiable	67
		20-30 cm.		No Recovery		68

TABLE 6.3–8

Lithic Material Distribution
Site SDI–16,679

Artifact Category	Material CGM	FGM	MGM	Sandstone	Total	Percent
Core Tools:						
Core Tool	-	-	3	-	3	25.00
Ground Stone Tools:						
Metate	-	-	-	1	1	8.33
Lithic Production Waste:						
Flakes	1	2	2	-	5	41.67
Percussion Tools:						
Hammerstones	-	1	1	-	2	16.67
Multi-Use Tools:						
Chopper/Hammerstone	-	-	1	-	1	8.33
Totals	1	3	7	1	12	100.00
Percent	8.33	25.00	58.33	8.33	100.00	

Rounded numbers may not add to 100%

TABLE 6.3–9

Lithic Tool Measurement Data
Site SDI–16,679

Cat. No.	Tool Description	Dimensions (in centimeters) Length	Width	Thickness	Weight (in grams)	Material
Core Tools:						
Core Tools:						
6	Core Tool	8.2	8.1	3.1	259.0	MGM
10	Core Tool	8.9	7.6	5.5	382.7	MGM
12	Core Tool	6.5	5.7	3.3	147.8	MGM
Ground Stone Tools:						
Metates:						
4	Metate Fragment, Uniface	8.8	8.0	4.7	408.6	Sandstone
Percussion Tools:						
Hammerstones:						
3	Hammerstone Fragment, Spherical	6.2	5.9	5.3	242.0	FGM
8	Hammerstone, Circular	7.7	6.2	2.4	142.8	MGM
Multi-Use Tools:						
Chopper/Hammerstones:						
11	Chopper/Hammerstone	8.4	5.8	4.0	182.9	MGM

6.4 Site SDI-12,288

6.4.1 Site Description

Site SDI-12,288 is a prehistoric site located near the slopes of Wolf Canyon, within 500 feet of the Otay Ranch Farm Complex site. The site lies on a slope and hill top south of the Wolf Canyon drainage. The site was reported to include a lithic scatter with tools. Ogden made a surface collection of artifacts in 1992. A dirt trail, which represents the general proposed alignment for the sewer pipeline, passes along the Wolf Canyon drainage. The alignment corridor passes along the south side of the site. The entire site area has been disked repeatedly over the past 100 years and is currently being used for agricultural purposes and grazing. The setting of the site is shown in photographs of the site area provided in Plate 6.4–1. The general location of this resource is shown in Figure 6.4–1.

The testing program at SDI-12,288 consisted of the mapping of the site area and the excavation of ten shovel tests. Testing methods and unit sizes were consistent with those discussed in the methodology section (Section 4.0). The field investigations at this site were conducted in August, 2000.

6.4.2 Description of Field Investigations

The field investigations at SDI-12,288 were conducted using the standard methodologies described in Section 4.1. The site has been disturbed by agricultural and grazing activities over the past 100 years. The APE for the project passes along the northern side of SDI-12,288, and all field investigations were focused on the general area of potential impact.

Surface Mapping, Recording, and Collection

While surface artifacts were observed just outside of the APE, only a single metate fragment and scattered marine shell was located within the APE. Ogden reportedly collected artifacts at the site; however, a complete listing of the recovery did not appear in the 1992 report or the site form. The surface collection recovery from the current study has been provided in Table 6.4–1.

Subsurface Excavations

The potential for the existence of subsurface deposits at SDI-12,288 was investigated with the excavation of a series of ten shovel tests. The locations of the tests are shown in Figure 6.4–1. All of these tests were excavated to a minimum depth of 30 centimeters. Of the ten shovel tests excavated, none yielded any artifacts or evidence of a subsurface deposit within the site. The excavation data for the shovel tests is provided in Table 6.4–2. Because the shovel tests did not reveal any evidence of a subsurface component at the site, a test unit was not excavated as part of the significance analysis.

6.4.3 Laboratory Analysis

The laboratory analysis for SDI-12,288 was limited by the small quantity of surface artifacts. The metate fragment recovered was cataloged as having a unifacial surface, with evidence of a pecking. It showed signs of heavy use, with polished surfaces and a deep basin worn from grinding. The marine shell recovered was classified as *Chione* sp., and a total of 4.2 grams was collected from a single location. No other laboratory procedures were conducted for the collection from the site, given the sparse nature of the recovery.

6.4.4 Discussion

The testing of SDI-12,288 demonstrated that a portion of the site was located within the APE, although the elements of the site that were studied did not indicate that a subsurface deposit is located within the APE. The site has been disturbed by cultivation, which has affected the potential for buried surface deposits within the site area. The assessment of the site according to the criteria listed in Section 3.0 (integrity, variability, age, and function) is provided below:

Integrity: Within the APE, SDI-12,288 is characterized as a surface scatter of lithic artifacts and marine shell that has been intensely disturbed by repeated disking and agricultural uses. Impacts to the site have removed all evidence of the prehistoric use of the site. Therefore, its integrity is poor.

Variability: Within the APE, the cultural materials observed included lithic artifacts and marine shell, which suggests that the site was once a temporary camp; however, given that the site produced only one lithic artifact, the site is characterized as representing a very low level of variability.

Age: The age or cultural affiliation of SDI-12,288 could not be satisfactorily determined on the basis of the data collected; no culturally diagnostic artifacts were recovered.

Function: The data recorded in the site forms combined with observations at SDI-12,288 suggest the site was a temporary camp used to process food materials and to manufacture and maintain lithic tools. The function of this site is much the same as the majority of small sites situated along Salt Creek and the Otay River.

6.4.5 Summary

The testing of SDI-12,288 demonstrated that the site does not contain any significant deposits of cultural materials within the APE. The site itself was a prehistoric temporary camp that is associated with the subsistence pattern of either the Archaic (inland La Jolla Complex) or Late Prehistoric (Kumeyaay Indians) occupations of the area.

6.4.6 Evaluation

The field study conducted for Site SDI-12,288 characterize the site as a very disturbed resource. Based on the information derived from the testing program, the site area within the APE is not considered important according to CEQA criteria. Portions of the site located south of the APE may include important components of the site; however, investigations were generally limited to the area in or adjacent to the APE.

6.4.7 Impact Assessment

Site SDI-12,288 was tested because the alignment for the Wolf Canyon segment of the Salt Creek Sewer Project is tentatively designed to pass along the north side of the site. The pipeline trench is currently designed to stay within the dirt trail that passes on the north side the site. Assuming that the trench is kept within the trail and associated construction activities will be limited to an area not exceeding 20 feet on either side of the trail, then the potential impacts to SDI-12,288 will be minimal. Because the portion of SDI-12,288 within the APE was evaluated as not important, the impacts to the site within the APE will not be significant.

6.4.8 Native American Heritage Values

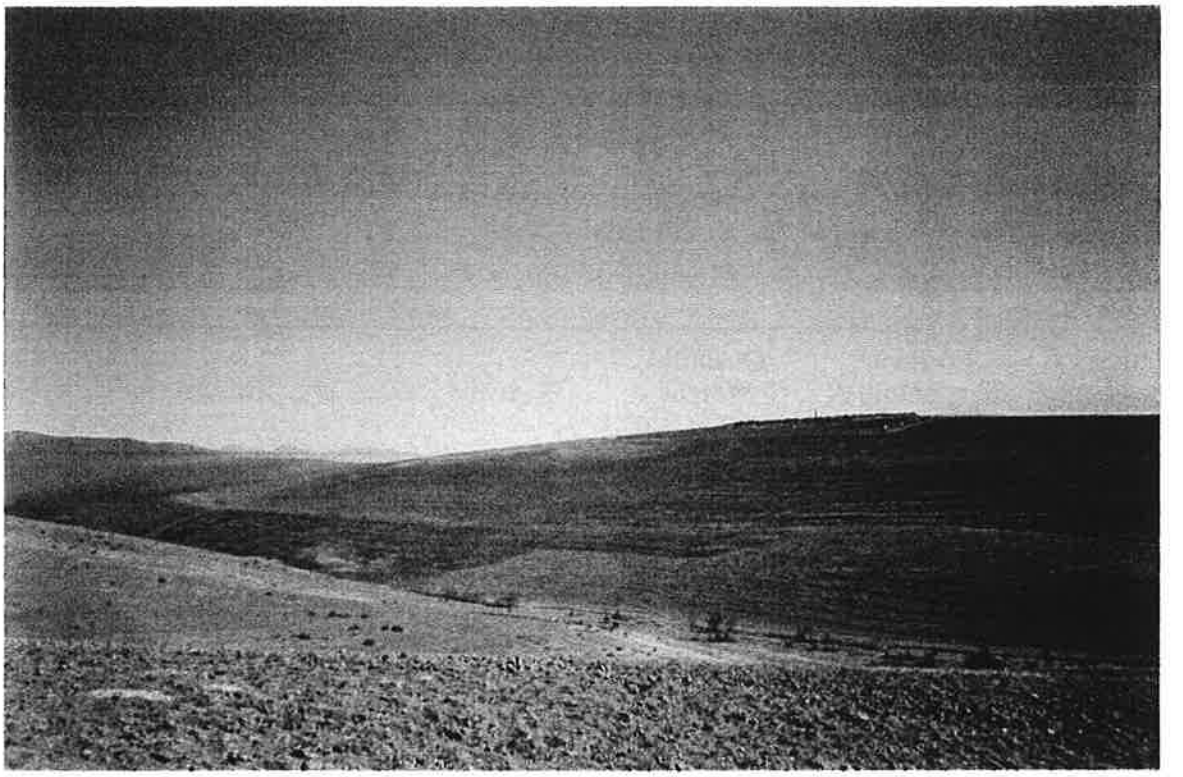
The Native American community was not contacted with regard to this site, as no archaeological materials or remains of special heritage sensitivity to the Native American community were identified at SDI-12,288.

6.4.9 Mitigation Measures

The pipeline construction will impact this site, but no mitigation measures for direct impacts will be necessary. The portion of Site SDI-12,288 within the APE has been determined to be not significant. Therefore, no mitigation measures will be required to reduce the significance of construction impacts. However, because of the potential for elements of the site to be masked or buried within the APE, monitoring of the trench excavation will be necessary. Also, because of the potential for significant components of the site outside of the APE, construction activities must be contained to the APE, and the archaeological monitor will be required to ensure that construction activities will not intrude into any untested portions of SDI-12,288.

Figure 6.4–1
Excavation Location Map — SDI-12,288

(Deleted for Public Review;
Bound Separately in Confidential Appendix)



View of SDI-12,288, looking south.

View of site SDI-12,288, looking east.

Plate 6.4–1

TABLE 6.4–1

Surface Recovery Data
Site SDI-12,288

Recovery Location	Location from Datum A Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
1	105°/47 Feet	1	Metate, Uniface, Pecked, Polished	Granite	1
2	78°/313 Feet	4.2 g.	Marine Shell	*Chione* sp.	2

TABLE 6.4–2

Shovel Test Excavation Data
Site SDI-12,288

Shovel Test	Location from Datum A Azimuth/Range	Depth	Recovery
1	92°/48 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
2	80°/109 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
3	77°/181 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
4	76°/245 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
5	78°/321 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
6	77°/375 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
7	262°/25 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
8	11°/93 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
9	55°/216 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery
10	64°/320 Feet	0-10 cm.	No Recovery
		10-20 cm.	No Recovery
		20-30 cm.	No Recovery

7.0 DISCUSSION/INTERPRETATION

The archaeological investigation and testing program for the Otay Ranch Village Seven Disposal Site Project resulted in the determination that two prehistoric sites are present within the project boundaries. Sites SDI-16,680 and SDI-16,681 were subjected to testing programs as part of this study. A brief summary of the archaeological study at the sites within the Project is provided below with significance evaluations.

SDI-16,680 This is a small prehistoric limited use area located near the northern property boundary of the project area. The testing of the site resulted in the recovery of three surface artifacts and one subsurface artifact. The site was considered as lacking any important subsurface deposits. The site does not meet the criteria for importance provided in CEQA. Impacts to the site will not be significant, and no mitigation measures are recommended.

SDI-16,681 This small prehistoric temporary camp consisted of a sparse scattering of lithic tools and marine shell. The testing of the site resulted in the recovery of nine surface artifacts and nine subsurface artifacts. The subsurface artifacts were recovered from a shallow localized area and the site was considered as lacking any important subsurface deposits. The site does not meet the criteria for importance provided in CEQA. Impacts to the site will not be significant, and no mitigation measures are recommended.

SDI-16,679 This prehistoric site is characterized as a sparse artifact scatter with asociated marine shell. Testing of the site resulted in the recovery of one lithic artifact and a small quantity of shell from the upper 20 centimeters in a very localized area. The Site lacks any important deposit and is evaluated as not significant. Impacts to the site will not be significant, and site specific mitigation measures will not be recommended.

SDI-12,288 Situated at the bottom of Wolf Canyon, this site produced two surface artifacts and no subsurface material. The site is not important and impacts to the site are not significant. No mitigation measures are recommended.

The prehistoric sites discovered within the Project correspond to consistant patterns of sites indentified on other portions of Otay Ranch (such as Village 6 and 11) on the upper mesa formations This pattern of sites is characterized by numerous, superficial sites consisting of minimal surface artifacts and very limited subsurface deposits. Within Otay Ranch, most major occupation sites are situated along the Otay River or its major tributaries. This pattern seems to be followed by both the archaic and the prehistoric cultural groups.

8.0 MANAGEMENT CONSIDERATIONS

The recorded prehistoric archaeological sites SDI-16.679, SDI-16,680, SDI-16,681, and SDI-12,688 were evaluated through archaeological testing conducted by BFSA for The Otay Ranch Company. An analysis of previous impacts and archaeological information recovered during this study demonstrated that these prehistoric sites are not important resources as defined by CEQA (Section 15064.5) and the City of Chula Vista environmental guidelines. Because the sites are not important cultural resources, any impacts to the sites resulting from the proposed project will not be significant. As a result of the investigations summarized in this report, the only mitigation measure recommended for the Otay Ranch Village Seven Project is the monitoring of grading. Monitoring of grading on adjacent portions of Otay Ranch has resulted in the discovery of buried sites, and this project even retains the potential to produce additional buried prehistoric and historic deposits. Should grading reveal the presence of historic deposits or features, or prehistoric sites, that were not previously detected, the grading will be halted at that location until the discovery can be assessed. Should any features or deposits be considered important, mitigation measures may be required to reduce impacts before resumption of grading at that location.

9.0 PERSONNEL

The archaeological survey and evaluation program for the Otay Ranch Village Seven Project was directed by Brian F. Smith, principal investigator. The testing program was conducted by James Clifford with Kevin Hunt, Scott Mattingly, Harry Moore, and James Shrieve. This report was prepared by Johnna L. Buysse and Brian F. Smith. The report graphics and production staff consisted of Brian F. Smith, Nora Collins, Robert Hernandez, and Kimberly Wade.

10.0 CERTIFICATION

The information provided in this document is correct, to the best of my knowledge, and has been compiled in accordance with the guidelines of the City of Chula Vista.

February 3, 2003

Brian F. Smith
Principal Investigator

Date

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TECHNICAL APPENDICES

Appendix

VOLUME 1

A	NOP and Responses
B	Traffic Impact Analysis Village 7, Linscott Law & Greenspan, June 7, 2004
C-1	Acoustical Impact Analysis Otay Ranch Village 7, Giroux and Associates, June 1, 2004
C-2	Revised Noise Technical Report for Otay Ranch Village 7, RECON, February 23, 2004
D	Air Quality Impact Analysis, Giroux and Associates, June 1, 2004
E-1	Preliminary Regional Drainage Study Otay Ranch SPA, P&D Consultants, October 2003
E-2	Preliminary Water Quality Technical Report for Otay Ranch Village 7, Rick Engineering Company, May 24, 2004
E-3	Master Drainage Study for Otay Ranch Village 7, Hunsaker & Associates, May 20, 2004
E-4	Preliminary Water Quality Technical Report – Hunsaker & Associates, May 21, 2004
E-5	Water and Recycled Water Study, PBS&J, March 10, 2004
E-6	Water Supply and Assessment Report, January 2004 and Recycled Water Letter, May 13, 2004, OWD

VOLUME 2

F-1	Geotechnical Investigation McMillin Otay Ranch Village 7, Geotechnics Incorporated, January 23, 2004
F-2	Geotechnical Investigation Otay Ranch Village 7, R-2, and Village 4 Community Park Chula Vista, Geocon Consultants, Inc., May 5, 2004
G-1	Cultural Resources Letter Report, ASM Affiliates, Inc., September 2003
G-2	Cultural Resources Evaluation for CA-SDI-12,279 and CA-SDI-12,565, ASM Affiliates, Inc., March 2004
G-3	A Report of an Archaeological Survey and Evaluation of Cultural Resources within the Otay Ranch Company Ownership at the Otay Ranch Village Seven Project, Brian F Smith & Associates, February 3, 2004.

VOLUME 3

H-1	**Otay Ranch Village 7 Biological Technical Report, Helix Environmental Planning Inc., May 13, 2004.**
H-2	**Biological Resources Report for Otay Ranch Village 7, Dudek & Associates, March 2004.**
H-3	**Spring 2004 Rare Plant Surveys for Village 7, Village 4, and Offsite Portions of Village 2, Dudek & Associates, Inc., May 14, 2004.**
H-4	**Biological Constraints Analysis for Otay Ranch Village 7 Connector Road Letter Report, BonTerra Consultants, June 9, 2004.**

H-5 **Wetland Delineation on Otay Land Company Parcel B, URS, May 11, 2004.**

H-6 **Biological Technical Report for the Sweetwater Union High School NO. 13, REC Consultants, Inc., March 2004.**

I **Service Agency Letters**

J **Village 7 Conceptual Sewer Study, PBS&J, April 14, 2004.**

K-1 **Phase I Environmental Site Assessment Otay Ranch Villages, P&D Consultants, January 10, 1996.**

K-2 **Phase I Environmental Assessment Otay Ranch Village 7 and Village 4 Community Park, Geocon Consultants, Inc., May 17, 2004.**

K-3 **Limited Pesticide Assessment and Soil Reuse Plan Otay Ranch Village 7 and Village 4 Community Park, Geocon Consultants, Inc., May 17, 2004.**