Appendix 5.6-B
Phase II Test Excavations and Determinations of Significance at 12 Sites in the Centennial Project Area
PHASE II TEST EXCAVATIONS AND DETERMINATIONS OF SIGNIFICANCE AT
12 SITES IN THE CENTENNIAL PROJECT AREA,
NORTHERN LOS ANGELES COUNTY, CALIFORNIA

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Phase II test excavations and determinations of significance were conducted on twelve archaeological sites within the proposed Centennial project area, northern Los Angeles County, California. Two of these sites are historical (Euro-American) in origin; the remaining ten sites are prehistoric (Native American). The two historical sites, designated (CA-LAN-3202H [CT-11H] and CA-LAN-3204H [CT-13H] are a Depression era and later dating ranch line shack complex and trash dump. The prehistoric sites are designated CA-LAN-3211 (CT-20), - CA-LAN-3220 (CT-21), CA-LAN-3223 (CT-24), CA-LAN-3224 (CT-25), CA-LAN-3226 (CT-30), CA-LAN-3229 (CT-34), CA-LAN-3230 (CT-35), CA-LAN-3231 (CT-36), CA-LAN-3232 (CT-37) and CA-LAN-3248 (CT-54). Each of these is a small surface lithic scatter, with individual artifact assemblages ranging from 3 to 20 archaeological specimens per site. These sites were used in casual quarrying and plant exploitation activities. Recommendations for the management of each of these cultural resources are proposed.
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CHAPTER 1
INTRODUCTION

1.1 Summary and Background to the Project

Phase II archaeological test excavations and determinations of significance were conducted at 12 sites on the Centennial project area, northern Los Angeles County, California (Figures 1 and 2). This study was intended to determine the size, nature and significance of these prehistoric and historical cultural resources and thereby to provide baseline data from which an assessment of potential adverse impacts to these resources could be made. These data have been employed to develop final management recommendations for the treatment of these cultural resources.

This study was conducted by W & S Consultants during Fall 2003. David S. Whitley, Ph.D., and Joseph M. Simon served as principal investigators for the project; while the laboratory analyses were conducted by Tamara K. Whitley, M.A., and D.S. Whitley. This report was prepared by D.S. Whitley and Simon. Ernie Garcia and Kathy Morgan, representing the Tejon Tribe and Richard Angulo, representing the California Indian Foundation, served as Native American monitors and liaisons for the project.

The remainder of this chapter provides environmental and cultural background to the prehistory and history of the region, including a summary of previous archaeological research conducted in this region; and descriptions of the 12 sites considered in this study. This is followed by the field methods used at each of the sites tested during this field program, along with summaries of the field results. We then turn to an assessment of the artifact assemblages recovered from each site, and certain of the analytical conclusions derived from the study of the recovered archaeological collections. We conclude with final recommendations for each of the 12 cultural resources considered during this Phase II study.

1.2 Environmental and Cultural Overview

1.21 Environmental Background & Site Descriptions

The Centennial project area is located in northern Los Angeles County, California (Figure 1), immediately north of Quail Lake and Highway 138, approximately one mile east of Interstate 5. This places the study area at the westernmost edge of the Antelope Valley, in open, dissected topography consisting of broad and relatively low E-W trending ridge systems with small intervening drainages. Elevation averages roughly 3400 feet a.s.l.
Introduced grasses currently cover the project area, which has been used for many
years as range land. It is uncertain for this reason what the environmental setting may
have been prehistorically, and this is almost certain to have changed at various times in
the ancient past, with paleoclimatic shifts. We can conjecture that, prior to the
introduction of cattle in the 19th century, the project area may have been covered by
grasslands.

All of the sites considered during the Phase II study were first discovered during a
recent Phase I survey of the property (W & S Consultants 2002). This previous study
covered approximately 14,000 acres and resulted in the recording of 63 sites. Twelve
of these sites fall within the current proposed project area; two of these are historical
(Euro-American) in nature; the remaining 10 sites are prehistoric (Native American).
Locations of the sites are shown on Figure 2. At that time of discovery, they were
described as follows:

**CA-LAN-3202H (CT-11H):** This is a historic ranch complex or homestead at the
W end or top of the E-W tributary canyon leading to Oso Canyon mouth; two
cottonwood trees mark the location. The site contains the remnants of a fallen water
tower and two wood-frame structures. Artifacts include a medium density scatter of
framing timber, wire nails, 55 gallon drums, sheet and galvanized metal, wire mattress
springs and coils, car seat coil springs, purple glass fragments, metal stove pipe,
electrical parts, iron hay rake, and a tubular sheet metal brooder box. A small trash pit
is present at the S end of the site. The site measures roughly 100 m E-W by 50 m N-S,
and it appears to be Depression Era in age.

**CA-LAN-3204H (CT-13H):** This is a Depression era/post-prohibition dump
located on the south side of a steep slope below a dirt road above the W end of Quail
Lake. We observed a dense concentration of glass bottles; a chipped beef jar; cone top
and "church-key" beer cans; pre-World War I car engine cover and headlight reflector
pans; sanitary seal cans; AA batteries; 1 gallon kerosene cans; sardine cans; boot
soles; pots; galvanized roofing; tire rubber; miscellaneous wire and sheet metal; car
seat springs; etc. The site measures approximately 10 m E-W by 25 m N-S. It may be
associated with CA-LAN-3202H which is fairly close nearby. The dump dates primarily
to the 1930s.

**CA-LAN-3211 (CT-20):** This is a sparse lithic scatter measuring about 30 m in
diameter. We observed three archaeological specimens at this location. The site is
located approximately 10 m W of a road intersection along southern margin of a saddle,
N of the aqueduct inlet to Quail Lake.

**CA-LAN-3220 (CT-21):** This site is a low-density cobble quarry/workshop
consisting of discontinuous lithic scatters and associated cobble concentrations. These
cover an area about 75 N-S by 300 m E-W. We noted angular shatter, cores and
cobble tools. These are primarily quartzite with a few igneous cobble tools; total artifact
numbers were only about 10 specimens so artifact density is very low. The site is located approximately 200 m N of Quail Lake on a long N-S trending ridgeline that descends to the northern edge of the lake.

**CA-LAN-3223 (CT-24):** CA-LAN-3223 is a medium density cobble quarry/workshop consisting of discontinuous lithic scatters and associated cobble concentrations. It is roughly 100 m E-W by 150 m N-S in size. We observed a few dozen specimens on the site, including angular shatter, cores and cobble tools. These are primarily quartzite but a few igneous cobble tools are also present. The site is located approximately 600 m N of the Quail Lake inlet on a broad knoll that overlooks CA-LAN-3224 and the northern edge of Quail Lake.

**CA-LAN-3224 (CT-25):** This is a second medium density and relatively large (~150 m N-S by 200 m E-W) cobble quarry/workshop consisting of discontinuous lithic scatters and associated cobble concentrations. We observed about a dozen archaeological specimens consisting of angular shatter, cores and cobble tools. As at the previous sites, these are primarily quartzite with a few igneous cobble tools also present. The site is located roughly 450 m N of the Quail Lake inlet along a long, terraced N-S trending ridgeline that descends to a large saddle and knoll on the northern edge of Quail Lake.

**CA-LAN-3226 (CT-30):** This site is a low-density cobble quarry/workshop associated with a small cobble concentration. It is approximately 30 m in diameter and we observed 3 archaeological specimens at this location. This site is located about 100 m S of CT-29, along the southeastern edge of a small N-S trending ridgeline.

**CA-LAN-3229 (CT-34):** This site is another low-density cobble quarry/workshop associated with a small cobble concentration. It is approximately 30 m in diameter and we observed 4 specimens on the site. It is located approximately 125 m SE of CA-LAN-3227 along the southwestern edge of a large broad E-W trending ridgeline.

**CA-LAN-3230 (CT-35):** This site is a medium density but small (~15 m diameter) cobble quarry/workshop consisting of a lithic scatter and associated cobble concentration. Quartzite angular shatter, cores, and cobble tools (totaling approximately 15 specimens) were noted when the site was recorded. It is located about 250 m N of CA-LAN-3228 along the northeastern edge of a large broad knoll.

**CA-LAN-3231 (CT-36):** This is another low-density cobble quarry/workshop associated with small cobble concentration. It measures about 60 m in diameter and we noted about a half dozen archaeological specimens on the site surface. It is located approximately 80 m E of site CA-LAN-3223, along the southern rim of the same E-W trending ridgeline.

**CA-LAN-3232 (CT-37):** Another low density cobble quarry/workshop associated with discontinuous cobble concentrations, located along a narrow E-W trending ridge.

ridgeline that is approximately 125 m W of the paved two-lane National Cement Road. Site area is estimated at 30 m E-W by 150 m N-S. We observed 4 quartzite cobble cores at this location.

**CA-LAN-3248 (CT-54):** This is a medium density cobble quarry/workshop associated with a large continuous cobble concentration. It covers an area roughly 60 m E-W by 200 m N-S. About two-dozen archaeological specimens were noted on this site, including quartzite cobble cores, tools and angular shatter. The site is located about 200 m W of the California Aqueduct canal and 90 m SE of a large knoll (map elevation 3445 ft).

The twelve archaeological sites tested during the current study, in summary, consist of two historical sites thought to date to the same approximate time period (the Depression/post-Depression era) and believed to be functionally related; and ten prehistoric sites. All of these appeared to be lithic scatters associated with natural cobble deposits and were thought to represent small quarry/workshops, although their ages were unknown.

### 2.2 Ethnographic Background

The general vicinity of the project area was apparently a contact point between five separate ethnolinguistic groups immediately prior to the arrival of Euro-Americans in California. Combined with the fact that almost no ethnographic research was conducted in this area until well after the period of Spanish missionization – and thus long after the original inhabitants had been removed from their traditional homelands – considerable confusion has existed concerning aboriginal landholdings in this area. Recent ethnohistorical studies by John Johnson (1978, 1997a, 1997b, 2000; Johnson and Earle 1990; McLendon and Johnson 1999) and David Earle (1990) however have done much to clarify this situation. It is now apparent that this general region was occupied by the Kitanemuk, Southern Valley Yokuts, Interior Chumash, Tataviam and Kawaiisu. Of this group of five, the Kitanemuk, Interior Chumash and Tataviam are the most likely occupants of the lands comprising the study area, *per se.*

The Interior Chumash (probably speakers of the Ventureño Chumash, itself a Hokan language) controlled upper Piru Creek, Grapevine Canyon, and the Gorman area, which is just a few miles west of the study area limits. Their domain extended eastward beyond Castac (or Tejon) Lake (not modern Castaic Reservoir, which is considerably further south) on the Tejon Ranch, where the historic village of Kashtiq was located. Their territory then headed southwards to Quail Lake, known in Chumash as Shraqang (Johnson 1978). The Chumash then either occupied or lived very close to the western limits of the study area, perhaps including the area immediately around Quail Lake where the sites are located.
The Kitanemuk occupied the south and central "heart" of the Tehachapi Mountains and the adjacent northwestern end of the Antelope Valley (Blackburn and Bean 1978). These are speakers of the Serran branch of the Takic (Uto-Aztecan) language stock, and they are sometimes referred to as Haminat (Earle 1990). They were closely related linguistically to other Serran Takic groups, such as the Serrano proper and Vanyume, who lived along the northern front of the transverse ranges. The Kitanemuk however probably did not extend down onto the San Joaquin Valley floor, which was occupied by the Yokuts. The western edge of Kitanemuk territory appears to have fallen between Tunas and Paso Creeks, judging from known village locations, with most of their territory extending eastwards. The Kitanemuk, still, may have occupied the northeastern portions of the current study area, near the open flats of the Antelope Valley.

According to Kroeber (1925), a wedge of Tataviam speakers extended up into the Tehachapis, separating the Chumash from the Kitanemuk, perhaps by controlling the headwaters of Pastoria Creek. They also occupied the La Liebre Mountains and probably the westernmost end of the Antelope Valley (Johnson and Earle 1990:196). Information on the Tataviam is however very limited since, according to King and Blackburn (1978), they are now extinct and were effectively so prior to the initiation of systematic anthropological studies at the turn of the century. But, based on a few existing word lists, descriptions provided by early travelers, mission placenames, and the recollections of other aboriginal informants, Tataviam is generally accepted as representing a Takic language of the Uto-Aztecan family (ibid). In this sense, it was related to other Takic languages in the Los Angeles County region, such as Gabrielino/Fernandeño (or Tongva) of the Los Angeles Basin proper, and the Kitanemuk.

The Tataviam are believed to have primarily inhabited the upper Santa Clarita drainage from about Piru eastwards to the Agua Dulce/Vasquez Rocks area; southwards as far as Newhall; and northwards to include the middle reaches of Piru Creek (on the west), and the Liebre Mountains and the westernmost fringe of the Antelope Valley on the east (ibid; Kroeber 1925; Earle 1990; Johnson and Earle 1990). Their northeastern boundary most likely ran along the southern foothills of the Tehachapi Mountains – thus within the study area – and then crossed to the southern slopes of the Sawmill Mountains and the Sierra Pelona, extending as far east as Soledad Pass (Earle 1990:94); Johnson and Earle (1990:195) note that they controlled Quail Lake and La Liebre Ranch, placing them within the project area. Ethnographically, at least, they do not appear to have controlled the San Andreas rift zone of Elizabeth Lake, Lake Hughes and the Leona Valley, which was occupied by the Kitanemuk, who also inhabited the eastern side of the Antelope Valley from approximately Neenach through the Fairmont Buttes area, to about the mouth of the Soledad Pass.

Only a few historic Tataviam villages have been identified (cf. Kroeber 1925); most of these are located on the southwestern side of Tataviam territory, near Piru Creek and (modern) Castaic Reservoir. But hwi’itahovea is a village at La Liebre headquarters
(CA-LAN-3254/H), south of Highway 138. According to Johnson and Earle (1990:195) this was a historic (post-Mission) period village (i.e., the Mission records do not include references to this village), and thus it may have only been occupied after circa 1830. But putatively to the south of this site, an unidentified ridge contains another important village known as kwitsa’o (Johnson and Earle 1990:195). This is the village alternatively given in the Mission records as cuecchao, quecchao and (less likely) quissaubit, from which 53 baptisms at Mission San Fernando occurred (McLendon and Johnson 1999:VIII-12; John Johnson, personal communication 2002). Note, however, that hwi’tahovea is a Serrano/Kitanemuk name (Johnson and Earle 1990:195). It thus seems possible that it is synonymous with the Tataviam name of kwitsa’o; that is, that these both refer to the same village. As this circumstance suggests, then, a fundamental lack of information on this group exists because, by 1810, all Tataviam had been baptized and they were quickly absorbed by other groups through intermarriage. The last speaker of Tataviam died in 1916 (King and Blackburn 1978).

The sum of the evidence, in other words, places the Tataviam with some certainty at La Liebre Ranch headquarters, perhaps at Quail Lake and, potentially but much less certainly, into the Tehachapi Mountains. But a reasonable case can also be made for Chumash territory extending at least to the edge of Quail Lake. The potential use of the study sites by the Kitanemuk seems least likely, but they also occupied portions of the western Antelope Valley and, for this reason, cannot be excluded as possible inhabitants either. The study area, in this sense, it probably best conceptualized as an area of contact and interaction between these various tribal groups.

Despite the proximity of the Chumash, Kitanemuk, Yokuts and Tataviam, historical accounts suggest that amity-enmity alliances may have partly structured regional inter-group relationships. The Chumash appear to have maintained an alliance with the Kitanemuk, and the Yokuts and Tataviam a similar relationship, with more strained relationships between these two alliance groups (Kroeber 1925; Blackburn and Bean 1978). Despite these possible political differences, all of the groups were culturally very similar.

The Chumash, for example, followed a hunting-gathering-fishing subsistence pattern which incorporated a heavy reliance on maritime resources, including pelagic and littoral fishes, and shellfish – at least for groups living along the coast. Indeed, the bountiful sea resources that they exploited along the Santa Barbara coast may have been a key factor in their evolutionary success (Landberg 1965): at the time of the arrival of the Spanish the Chumash had reached levels of population density, and complexities in social organization, unequaled worldwide by other non-farming groups (Moratto 1984:118). These included permanent coastal villages along the Santa Barbara Channel area containing as many as 1000 inhabitants (Brown 1967), as well as a hierarchical sociopolitical organization consisting of at least two major chiefdoms (Whitley and Beaudry 1991). Further, based on recent reconstructions using mission registers, the Chumash appear to be have a matrilocal, and perhaps matrilineal, clan-based society (Johnson 1988).
The Interior Chumash of course lacked direct access to the marine resources that contributed to such unusually high population densities along the Santa Barbara coastline. Adaptation to the environment was therefore more closely tied to terrestrial resources, including especially the acorn-bearing oak, with cultural patterns in general very similar to surrounding interior groups, such as the Yokuts. Notably, however, the Interior Chumash are particularly renowned for their rock paintings or pictographs, important concentrations of which are located on the San Emigdio Ranch and the Carrizo Plain (roughly 25 and 75 miles northwest of the Centennial study area, respectively.) Ethnographic information demonstrates that their cave paintings were made by shamans, and that they depict the supernatural experiences these medicine men had on their vision quests (Whitley 2000).

Less ethnographic information exists on the Kitanemuk and Tataviam (see Kroeber 1925; Blackburn and Bean 1978; King and Blackburn 1978). Like many south-central California groups, however, they may have been organized into recognized and distinct tribelets. These were land-owning groups linked by shared territory and descent from a common ancestor. The tribelet was headed by a chief who was assisted by a variety of assistants. A shaman also existed who served as religious officer but the shaman did not have any direct political authority in a strict sense. Like other groups in the region, their subsistence emphasized the acorn-bearing oak, with the addition of a wide variety of other plants and game.

2.3 Archaeological Background

The Tehachapi Mountains and western Antelope Valley region, even though far from remote from other portions of California, has received minimal archaeological attention compared to other areas of the state. In part this is probably due to the fact that the majority of California archaeological work has concentrated in the Sacramento Delta, Santa Barbara Channel and central Mojave Desert areas (see Moratto 1984). Although our knowledge of the prehistory of this region is therefore limited in specific details, enough is known to determine that the archaeological record is broadly similar to south-central and central California as a whole (cf. Hewes 1941; Wedel 1941; Fenenga 1952; Elsasser 1962; Fredrickson and Grossman 1977). Based on this fact, the general prehistory of the region containing the Centennial study area can be outlined as follows.

Initial occupation of the region occurred at least as early as the Paleoindian Period, or prior to about 10,000 YBP (years before present). Evidence of this early use of the region has been revealed by the discovery of characteristic fluted and stemmed points found around the margins of Tulare and Buena Vista Lakes, in the foothills of the Sierra (Fredrickson and Grossman 1977), and in the Mojave Desert proper. (In each case these are locations that are many miles distant from the study area.)

Both fluted and stemmed points are particularly common around the lake margins, suggesting a terminal Pleistocene/early Holocene lakeshore adaptation similar that
found in other portions of the far west at this same time, although little else is known about these earliest peoples. Additional finds consist of a Clovis-like projectile point discovered in a flash-flood cut-bank near White Oak Lodge in 1953, northeast of the study area (Glennan 1987a, 1987b). More recently, a similar fluted point has been found near Bakersfield (Zimmerman et al 1989), while a number are known from the Edwards Air Force Base and Boron area of the western Mojave Desert. Although it has now been well-established that human occupation of the state occurred during the Late Pleistocene, little can yet be inferred about the nature and distribution of this occupation.

Substantial evidence for human occupation of California first occurs during the middle Holocene, from roughly 7500 to 4000 YBP. This period is known as the Early Horizon, and is sometimes alternatively referred to as the Early Millingstone along the Santa Barbara Channel. In this southern area, population concentrated along the coast, with minimal visible use of inland areas. Adaptation appears to have emphasized hard seeds and nuts, with tool-kits dominated by mullers and grindstones (manos and metates). Minimal evidence of Early Horizon occupation has been found in most inland portions of the state. In part this is due to a severe cold and dry paleoclimatic period which occurred at this time.

Evidence for an Early Millingstone occupation of this specific region is, admittedly, very limited, and has been found at only two sites, located in the Santa Clara River Valley, to the south. Both of these are near Vasquez Rocks, with temporal attribution based on the presence of a small number of *Olivella* barrel beads (McIntyre 1990). Such bead types have subsequently proven unreliable temporal indicators, throwing doubt on human inhabitation of this region before about 4000 years ago. Further, recent excavations at one of these putative early locales, the Escondido Canyon Site, failed to uncover evidence for occupation prior to about 2700 years B.P. (Love 1990). Regardless of specifics, it is clear that Early Horizon population density was quite low and, if any kind of specialized subsistence adaptation existed, it was probably tied to plant food gathering rather than hunting.

Environmental conditions improved dramatically after about 4000 YBP, during the Middle Horizon (or Intermediate Period). This period is known climatically as the Holocene Maximum and it was characterized by significantly warmer and wetter conditions than were experienced previously. Archaeologically it was marked by a large population increase and radiation into new environments along the south-central California coast and the Mojave Desert (Whitley 2000). In the Delta region to the north, this same period of favorable environmental conditions was marked by the appearance of the Windmiller culture which exhibited a high degree of ritual elaboration (especially in burial practices) and perhaps even a rudimentary mound-building tradition (Meighan, personal communication, 1985). Along with ritual elaboration, Middle Horizon times experienced increasing subsistence specialization, perhaps correlating with the appearance of the acorn processing technology. Penutian speaking peoples (which would include the Yokuts) are also posited to have entered the state roughly at the
beginning of this period and, perhaps, to have brought this technology with them (cf. Moratto 1984). Likewise we have hypothesized the so-called "Shoshonean Wedge" in southern California, or the Takic speaking groups that included the Gabriélino/Fernandeño, Tataviam and Kitanemuk, may have moved into this region at this time, rather than at about 1500 BP as first suggested by Kroeber (1925).

Evidence for Middle Horizon occupation of the Upper Santa Clara/Agua Dulce region, south of the study area, is substantial, in that it has been found at a number of sites and has been based on radiocarbon, obsidian hydration and typological dating (McIntyre 1990). The Agua Dulce village complex, for example, includes occupation extending back to the Intermediate Period, at which time population of the village may have been 50 or more people (King et al n.d.). Similarly, the inhabitation of the Hathaway Ranch region, near Lake Piru, and on Newhall Ranch, near Valencia, appears to have begun during the Intermediate Period (W & S Consultants 1994). To the northwest, there is little or no evidence for pre-Middle Horizon occupation in the upper Sisquoc and Cuyama River drainages (Horne 1981). Also to the northwest, on the Carrizo Plain, appears to have experienced a major population expansion during the Middle Horizon (W & S Consultants 2003).

Assuming that the Tehachapi Mountains and western Antelope Valley region was first significantly occupied during the Middle Horizon, as existing evidence now suggests, a parallel can be drawn to the inland Ventura County region, where a similar pattern has been identified (Whitley and Beaudry 1991), as well as to the western Mojave Desert (Sutton 1988a, 1988b), the southern Sierra Nevada (W & S Consultants 1999), and the Coso Range region (Whitley et al 1988). In all of these areas a major expansion in settlement, the establishment of large site complexes, and an increase in the range of environments exploited, appear to have occurred sometime roughly around 4000 years ago. Although most efforts to explain this expansion have focused on very local circumstances and events, it is increasingly clear that this was a major southern California-wide occurrence, and therefore that any explanation of it must be sought at a larger level of analysis (Whitley 2000).

The beginning of the Late Horizon is set variously at 1500 and 800 YBP, although a consensus seems to be growing for the shorter chronology for this time period. As such, the appearance of the Late Horizon correlates with another major drought at circa A.D. 1200 which decimated major portions of western North America. This is known, climatically, as the Little Ice Age, and it extended from about A.D. 1280 to 1860. In much of inland south-central California and in the Mojave Desert, a large-scale abandonment of sites appears to have occurred at the approximate start of this period. It is not yet clear whether this site abandonment was accompanied by a true reduction in population or instead an agglomeration of the same numbers of peoples into fewer but larger villages. In either case, the Late Horizon presents a series of regional archaeological cultures that are the precursors to ethnographic Native California. The Mojave Desert, to the east, however, appears to have been all but abandoned during
this period. Not surprisingly, given the extreme drought like conditions, Late Prehistoric villages tend to be strongly tied to permanent water sources.

2.4 Historical Background

Perhaps because of its geographical remoteness from the coast, Euro-American settlement and development of the Tejon Ranch/Tehachapi Mountains region was a little later dating than in other parts of southern California. As a result, its Euro-American history to about the 1850s principally involved the explorers who traversed the area.

As a major obstacle between southern and northern California, the Tehachapis, Upper Santa Clara Valley and Antelope Valley region was traversed by a series of the most famous explorers of California during the earliest part of its history. For example, Pedro Fages crossed the area in 1772, passing through Lake Hughes and Tejon Pass; Fr. Garcés, with de Anza, traveled through the Lake Hughes and Castaic region and probably spent a week on what would become the Tejon Ranch, in 1776; Fr. Jose Maria Zaldivia, coming from Santa Barbara in 1806, found Castac Lake and Cañada de las Uvas (Grapevine Canyon); Jedediah Smith, in 1827, also went through the region during his fur-trapping expedition; as did John C. Frémont and his guides, Kit Carson and Alex Godoy, in 1830 and 1844. And in 1847-1848, Frémont spent the winter in the original Tejon Pass area, now known as Tehachapi Pass, on the Tejon Ranch (Giffen and Woodward 1942; Crowe 1957; Walker 1962; Settle 1963; Boyd et al. 1982; McIntyre 1990).

During the latter portion of this exploratory period, from 1843 to 1846, grants for four large ranches were awarded that, eventually, would be united into the Tejon Ranch by Edward Fitzgerald Beale between 1855 and 1865. Most likely, this flourish of interest in this then isolated portion of southern California was precipitated by the discovery of gold in Placeritas Canyon, to the south of the Tejon, in 1842. The first of these awards was the Rancho Los Alamos y Agua Caliente ("cottonwoods and hot water"), acquired by Pedro Carillo from Governor Micheltorena on 2 October 1843. Less than two months later (11 November 1843), the original Rancho El Tejon ("the badger") was awarded to José Antonio Aguirre and Ignacio del Valle by the governor, representing a grant of almost 100,000 acres. Less than two weeks subsequently (22 November 1843), the approximately 22,000 acres Rancho Castac (Chumash for "spring-eye"; in Spanish "ojo de agua") was obtained by José Maria Covarrubias. Finally, on 21 April 1846, Rancho La Liebre ("the hare") was granted to José Maria Flores. It was 11 square leagues, or almost 49,000 acres in size (Giffen and Woodward 1942; Crowe 1957). The study area primarily falls within Rancho La Liebre, with a small southwestern portion of it extending into fee lands that were not originally part of these land grants.

Likely influenced by the political and other disruptions that occurred at the end of the 1840s (with the transfer to and settlement of Mexican California by Euro-Americans and
the United States government), these land grants were all but unused by their grantees. One result was an early encroachment on them by Euro-Americans who either assumed the lands were unclaimed and therefore open for settlement, or who knew about the land grants but paid them little heed. For example, in Spring, 1850, Dr. Darwin French moved onto Tejon Ranch proper and built an adobe. Due to unrest among Native Americans in the southern Sierra Nevada, he departed in 1851, subsequently becoming renowned for his involvement in the exploration and settlement of the Death Valley region. Likewise Alonzo Ridley and David McKenzie came into the Tejon region to trade with the Native Americans in May 1852. Around this same time Samuel A. Bishop moved into the area, settling on what was Castac Rancho (Giffen and Woodward 1942). But probably the best known, and ultimately most important, of the early "settlers" who, in effect, squatted on rancho lands, was Edward F. Beale, who in 1853 created the first Indian reservation on what he thought was unclaimed land, available for government use.

Beale (born 1822, died 1893), as noted above, ultimately united these four ranchos into the El Tejon Ranch between 1855 and 1865. His first purchase was Rancho La Liebre, which he acquired in 1855 for $1500.00. Beale acquired El Tejon for $21,000.00, and Los Alamos y Agua Caliente for $1700.00, in 1865. In 1866 he completed his empire with the purchase of Castac for $65,000.00 (Crowe 1957). This had passed from the original grantee, Covarrubias, to Albert Packard of Santa Barbara, who subsequently sold it to Samuel Bishop. Beale purchased it from Bishop. Because the original Spanish land-grants for these ranchos did not represent a contiguous holding, Beale "re-adjusted" the boundaries of Los Alamos y Agua Caliente northward between Castac and La Liebre to form a unified property (Latta 1976:193). The result was a ranch of about 265,000 acres – roughly half the size of the state of Rhode Island (Crowe 1957).

Note that there are certain discrepancies in the historical accounts concerning these ranchos, particularly La Liebre. While there is agreement that this rancho was first awarded to one José Maria Flores, there were a number of individuals with this name in California in 1846 and there are contradictory statements concerning which one was the recipient. According to Crowe (1957:49), Flores was the well-known secretary of Governor Micheltorena who went on to lead the Californio revolt against John C. Frémont in 1845. Bancroft (1963:741) notes that this Flores eventually left for Sonora, Mexico, in 1847, where he ended his days as a general in the Mexican army. But Bancroft (ibid) furthermore lists another José Maria Flores as the original grantee of La Liebre, and notes that he was the claimant for it in an 1853 U.S. land claim – demonstrating fairly certainly that this was not the same General Flores cited by Crowe who, because of his leadership in the Californio insurrection, was persona non-grata in California at that time. The José Maria Flores who in fact received the original grant, and petitioned for its U.S. recognition in 1853, is otherwise unmentioned in historical accounts. Giffen and Woodward (1942:46) note however that a small silver mine, La Trinidad, was discovered on La Liebre in 1859, but that this never experienced significant production.
Despite the discrepancy in the accounts, La Liebre Ranch was apparently first sold to William C. Walker on 2 August 1855 for $1500. Walker resold the 48,825 acres six days later for the same price to Beale's wife (Crowe 1957:49). This was the first land sale in the Antelope Valley. Shortly after the purchase, Beale built an adobe on the ranch and moved his family there.

Beale is an important, albeit somewhat overlooked, figure in southern California history. A descendant of a series of famous American naval heroes, he began his adulthood as a midshipman (and eventually Lieutenant) in the U.S. Navy. This brought him to California where he was a hero in the Battle of San Pasqual during the Mexican War, and served as the official messenger who brought the first word of the discovery of gold at Sutter's Fort back to Washington, D.C., in 1848 (Crowe 1957). Retiring from the Navy in 1851, he went to work as the California business agent for Commodore Stockton and Aspinwall's steamship company. In nine months he netted $100,000.00 for this company, of which $13,000.00 was his commission. This provided the foundation for his ultimate wealth, and signaled his business acumen (Bailey 1957).

Beale's personal familiarity with the Tejon region apparently began with his appointment as Commissioner of Indian Affairs for California and Nevada, by President Fillmore, in 1852 (Giffen and Woodward 1942). Unlike many associated with federal Indian affairs in the 19th century, Beale was both sympathetic towards and honest with his Indian charges. As noted above, he established the Sebastian Indian Reservation on the Tejon at the foot of the Tehachapis, near the old ranch headquarters on Paso Creek, which contained about 2500 Indians cultivating approximately 3000 acres of wheat, with 10 miles of irrigation ditches, by 1854 (Crowe 1957).

The Sebastian Reserve, as it was officially known, was originally planned to cover 75,000 acres but, probably due to political reasons, was reduced in size to only 25,000 acres, and its boundaries were never surveyed (Giffen and Woodward 1942). Its territory is hence unclear, beyond certain specifically identified village locations and the fields around them. What is certain is that the reserve fell on the open flats of the southern San Joaquin Valley, extending southwards to include the mouths of the canyons, where permanent creeks debouched onto the valley floor. Villages were established at these canyon mouths, which provided water for farming, and fields were established immediately below; large deep ditches (rather than fences) were excavated around the irrigated fields to keep out cattle. The mouth of Grapevine Canyon may have contained the westernmost village on the reserve; others are known to have existed at the mouths of Live Oak, Pastoria, El Paso, Tejon and Chanac Creeks (above), as well as at some areas in between. The reservation was, thus, a long distance north of both Rancho La Liebre and the current study area.

At this same time Beale was also instrumental in convincing the U.S. Army that a fort would be well-situated on the Tejon, both to protect the Indians on the Sebastian Reservation from exploitation by Euro-Americans, and to prevent raiding into the greater
Los Angeles Basin by "renegade" Indians from the Tulare County and Colorado River regions.

Initially a contingent of soldiers was quartered on El Paso Creek, at what was then the headquarters of the Sebastian Reserve. They were shifted to Fort Tejon, in what is now referred to as the "Tejon Pass," in 1854, and the modern town of Lebec. The fort fell on Rancho Castac, which was then owned by Bishop. The fort continued in use, with a break at one point, until the end of the Civil War. A civilian settlement sprung-up around the fort and, at its peak, it was the third largest population center in southern California (after Los Angeles and El Monte). When finally abandoned on 11 September 1864, the fort was returned to Bishop, per the original terms of his agreement with the U.S. Army. Shortly thereafter, Castac Rancho (including the fort) was acquired by Beale.

Beale's success as Commissioner of Indian Affairs was apparently his downfall, as he found that treating the Indians fairly created many enemies among those concerned with using the Bureau of Indian Affairs as a source for illicit gains. He was forced out over trumped-up charges concerning the misappropriation of funds, despite the fact that he received strong support from the press and public. After demonstrating that the charges were invalid, Beale began his acquisition of the Tejon Ranch (Giffen and Woodward 1942). With the purchase of the La Liebre Ranch, Beale moved into the Tejon region. His original home, the adobe at La Liebre Ranch headquarters, is still standing, and is the oldest structure in the Antelope Valley (Settle 1963). Ultimately Beale moved his residence to the El Tejon headquarters on El Paso Creeks. A fire in 1917 destroyed his original adobe there (Crowe 1957).

The purchase of the Tejon however did not terminate Beale's career as a public official. Subsequently he was appointed the first Surveyor-General of California and Nevada by President Lincoln; a Brigadier General for the State of California militia; and, by President Grant, Minister to the Austro-Hungarian Empire (Crowe 1957). In addition, Beale was instrumental in the creation of the U.S. Army Camel Corps, authorized by Jefferson Davis (who was then Secretary of War) in 1857. With this appointment, he brought camels into the Tejon region, where they were used for a number of years as pack animals (Bailey 1957; Boyd et al 1982).

During this period, and even though Fort Tejon was, for a decade, a "major" population center in southern California (with 920 inhabitants, exceeded only by Los Angeles, with 4385, and El Monte, with 1004), the Tejon was still geographically remote and isolated. Granted, it was traversed by the first stage route, the Butterfield Overland mail stage established in 1858, which had stops at Lake Elizabeth, Cow Springs, Fort Tejon and the "Sinks of the Tejon" ("Los Alamitos," below the confluence of the Tejon and Chanac Creeks) on the ranch (Bailey 1957; Boyd 1983). But the stage was somewhat of a draw to outlaws: for many years the ranch was known as the "Refuge of the Bandits," and served as a haunt for Joaquin Murrieta and Tiburcio Vasquez and their gangs (Latta 1976). Moreover, because of various economic competitions with the directors of the Southern Pacific Railroad, the rails were routed 50 miles to the east, through the
Antelope Valley, to avoid traversing Beale's land in 1876 (Settle 1963:23), continuing its geographical isolation from other parts of southern California.

Nonetheless the Overland stage route did cross close to the study area, skirting Quail Lake before heading to Gorman Station – the last stop before Fort Tejon. Quail Lake was originally known as La Laguna Seca, ‘dry lake’ (Latta 1976:31), and thus presumably did not hold perennial or potable water; hence the stage station at nearby Gorman. (Topographical conditions suggest that the stage route followed the path of Highway 138, south of Quail Lake and outside of our current study area, staying on the flats to the south rather than unnecessarily traversing the hilly terrain on the north). The Gorman station was built by Charles Johnson and his wife Isabel in 1863, who built a log cabin "public house" at this spot. When Johnson died his wife continued to run the establishment and it became known as Rancho La Viuda, ‘widow’s ranch.’ She eventually sold it to David Alexander (who also owned Rancho San Emigdio), and he ultimately sold it to James Gorman, Sr., who was a veteran of the Mexican War and worked as a meat-hunter for Fort Tejon (Latta 1976).

Initially, the economic emphasis of the Tejon Ranch was in sheep and, at its peak, over 125,000 were grazing on the ranch (Crowe 1957; Latta 1976). It was not until the 1880s, after a number of years of drought, that cattle were introduced on the ranch (although Beale had recorded the Tejon brand – the crescent and the cross – in 1865). By 1891, there were about 25,000 head of cattle and 7500 sheep grazing on the ranch. Following Beale's death in 1893, the ranch was inherited by his son, Truxton, who completed the transition to cattle (Crowe 1957).

Truxton Beale sold the Tejon Ranch in 1912 to a syndicate headed by Harry Chandler (original developer of the San Fernando Valley) and General Harrison Gray Otis (founder of the Los Angeles Times) for $3,000,000.00. Among the blue-ribbon subscribers to the syndicate, each of whom paid $50,000.00 to enroll, was H.J. Whitley, original developer of "Hollywoodland" (now known as "Hollywood"), along with a series of other southern California notables. This formed the nucleus of what has evolved into the modern Tejon Ranch Company. The syndicate increased the acreage of the ranch to 281,000 acres through a series of strategic purchases. Because cattle activities did not immediately prove profitable, sales of various rights-of-way to public utilities initially aided the company's cash flow. More recently, the ranch has operated in part by leasing acreage to various farming, oil and cattle interests. By 1957, 70% of the land of the Tejon Ranch was operated under lease (Crowe 1957).

The first commercial oil production on the ranch, by the Reserve Oil and Gas Company, was developed in August 1937, with the field abandoned by mid-1943. Shortly thereafter the shallower Richfield Oil Corporation pool was discovered. Originally called the "Grapevine Oil Field," this is now more commonly known as the "Tejon Oil Field." The western portion of this field was also drilled by the British-American Oil Producing Company, the Wilshire Oil Company, Chanslor-Canfield Midway Oil, and the Drilling
and Production Company. These oil fields are located on the flats of the San Joaquin Valley, far to the north of the study area.

Oil exploration within La Liebre Ranch, in contrast, was restricted to the drilling of about a half-dozen test wells in 1953 - 1954. These were shallow wells (approximately 1200 - 2400 feet) drilled in search of over-thrust oil pools. Bedrock proved to be shallow in this area, however, eliminating this potential, and the wells were all abandoned as non-producers (Jeff Warren, personal communication, 2002). No commercial oil production ever occurred within La Liebre Ranch, as a result.

Today large-scale farming, oil and gas production, and cattle grazing continue on the ranch. The project area has, as its current primary use, livestock (cattle) grazing. These reflect the fact that this portion of the ranch is still peripheral to the major economic activities within the landholding. Moreover, this is a further reflection of the fact that the study area historically was peripheral to the major events, activities and developments on the ranch.
CHAPTER 2
FIELD METHODS

2.1 Introduction

Phase II archaeological fieldwork at the 12 study sites was intended to establish the nature and significance of each cultural resource, and to thereby provide baseline data from which a determination of the ultimate disposition of these cultural resources could be made. This required the collection of a representative sample of artifacts and archaeological indicators from each of these cultural resources, the establishment of the vertical and horizontal boundaries of each cultural deposit, and an analysis of the recovered artifact assemblage from these archaeological localities.

Procedures followed in the collection of data useful for establishing the nature and significance of the sites included mapping, surface collecting of artifacts lying on the groundsurface, mapping of surface features, and test excavation of pits to establish the presence or absence of a subsurface archaeological deposit, as well as to characterize such a deposit if found to be present on the sites considered in this study. Though these procedures were systematized so that the recovered data would be comparable between each site, as well as with previous studies in the region, the magnitude of effort varied somewhat between the sites, reflecting the field conditions specific to each locale. We discuss each of these field methods below, with details on the level of effort expended at each site provided in the subsequent chapter.

2.2 Surface Collection

In order to determine the maximum areal extent of each site, the initial field procedure was to locate, map and collect all surface remains present on the groundsurface. In order to identify all such remains, the general area of each site was walked by crew-members. Identified artifacts and archaeological indicators were then marked with flagging tape. Surface remains found within an area of approximately 3 meters-square in size (i.e., within a circle with a one-meter radius) were treated as discrete artifact associations and collected as clusters. WAAS-corrected GPS and surveyor’s chain were subsequently used to map all remains or clusters of remains, which were numbered and collected by these provenience points.

2.3 Test Excavations

Employing a procedure used at all sites tested during this Phase II project, the number and location of the test pits placed on each site were predicated on an evaluation of localized geomorphological conditions found to be immediately present. Specifically, recognizing that subsurface archaeological remains could only be expected in areas
where depositional processes contributed to the accumulation of soils, and that areas of active degradation would not only lack subsurface deposits but would also most likely contain surface finds (if found to be present) out of original context, test pits were placed in areas where the probability of deposition was deemed highest on each site, and subsequently located to delineate any such discovered deposits. In general, such depositional areas can be said to include: toeslopes and foots of hills; swales; and areas where active rodent activity or vegetative vigor indicate soil accumulation and depth. Conversely, areas of daylighting bedrock and erosional ridges, hilltops and slopes were conceded only a minimal amount of testing, because of the very limited likelihood that they could accumulate buried archaeological remains.

Excavation units dug on each site were designated numerically. All were 1x1 m in size. Each unit was dug with pick, shovel and trowel in arbitrary ten centimeter spits or levels. Spoils from each of these levels was screened through one-eighth inch mesh. All artifacts and archaeological indicators were collected and bagged by unit level. In the initial units excavated on each site or geomorphological context, excavation was continued for 20 cm beyond the apparent termination of the cultural deposit, in order to obtain a clear indication of the soils stratigraphy present. Subsequent to stratigraphic definition and profiling, excavation was continued through two culturally sterile levels (i.e., 20 centimeters), or until sterile parent soil or decomposing bedrock was encountered.
CHAPTER 3
FIELD RESULTS

3.1 Introduction

Using the procedures outlined above, Phase II fieldwork at the 12 study sites resulted in the collection of a relatively small quantity of archaeological remains, reflecting the small size of these sites. In the next chapter we discuss the recovered archaeological remains from each site in detail, including a summary of the laboratory procedures by which these collections were processed and analyzed, a review of each site’s assemblage in typological terms. Prior to considering the artifact collections in specific terms, however, below we present a summary of the field results in a more general sense, particularly in reference to the size of the surface manifestations of each site, the presence/absence of subsurface remains, the nature of the soils present, and what these features imply about each of these cultural resources. Figures 3 - 14 provide the lay-out of the units and the distribution of the surface remains recovered from each site.

3.2 Site CA-LAN-3202H (CT-11H)

For purposes of the fieldwork, site CA-LAN-3202H was divided into two loci which, though obviously related, are slightly separated in space. Locus A, the main portion of this historical site, is located to the north and consists of building structure remains and related features. Locus B, about 75 m to the south, is a small trash dump in and surrounding a large pit. Both loci are connected by a curving dirt road that trends SW-NE.

A total of 4 excavation units were dug on CA-LAN-3202H (Figure 3). Three of these were placed in Locus A and one in Locus B.

Locus A is a ranch out-station or homestead encircled by a wire fence with railroad tie posts (Figure 4). The fenced area is roughly trapezoidal and measures about 260 feet E-W; the N-S dimension on the E side is 140 feet; this same dimension on the W side is 90 feet. Locus A contains 8 identifiable features, as follows:

Feature 1: This is a shallow depression, thought to be a possible privy pit, located W of the dirt road running through the site (Figure 5). It measures 3 m N-S by 2.5 m E-W and the depression extends to about 10 cm below the groundsurface. Three wooden planks were present along the W side of the depression; three additional planks and metal fragments were located 2.5 m E, and a 55 gallon drum was 4.5 m SE.

Feature 2: This is the remnant of a wooden structure foundation, W of the dirt road (Figures 6 and 7). It measures approximately 7.2 m (~22 feet) N-S by 5 m E-W, although its dimensions were difficult to chart because of vegetation. (A stand of bushes and/or small tree appear to have once been present along side this structure,
and the decayed remains of these are piled in this location.)  Current identifiable remains consist of a few 4x4 wooden beams that appear to have been perched on fieldstones placed, at the corners, as a foundation, with the beams serving as the floor joists.  Relatively little of this structure still remains; it apparently collapsed and fell to the W where the majority of the remaining board fragments now lie.  Currently there are 15 beam/board fragments, one fieldstone in the approximate NW corner; a pile of three fieldstones at the SE; and a concrete pile serving as the NE foundation.  We could not re-locate the SW foundation stone.

This feature clearly represents the foundational remains of a relatively small, quickly and very poorly constructed wooden building.

Feature 3:  This is the remnant of a single-room wooden building (Figures 8 and 9).  It measures 7.4 m E-W by 4.2 m N-S; very close in size, in other words, to Feature 2 and, given the difficulties we encountered in measuring Feature 2, it is very likely that both buildings were originally the same size.  The dimensions of Feature 3 are certain, in fact, because the floor of this collapsed building is still intact.  The building is 3 m E of, and its narrow dimension faces, the dirt road.  Entry into the building occurred through a door on its SW corner with a railroad tie serving as the threshold.  Still present are the bottom (wall) plates, sub-floor, and portions of the floor itself.  The bottom plates are 2x4s; the sub-floor joists, which appear to sit on bare earth, are 2x6s; and the remnants of the flooring are 1x8 inch tongue and groove pine.  An enameled metal sheet -- in fact, an old enamel sign - measuring 1.1 by 0.85 m, is located on the floor in the SE corner of the building.  This probably served as a stove stand.  A “back-door” may have been present at the center-east side of the structure, as suggested by a 2x6 threshold piece.  A half-inch metal pipe runs along the exterior N side of the structure.

Substantial debris from the walls and roof still cover the floor and adjacent areas.  The sides of the building appear to have consisted of a single thickness 1x8 pine wall, probably board and batten, although this could not be positively determined from the pile of wood covering the floor.  The roof was galvanized sheet metal, sheets of which are still present, but we could not determine whether this was a flat or gabled roof.  Machine-made wire nails were used throughout for construction.  A 55 gallon drum currently sits in the approximate middle of the structural remains, on top of some of the wall and roof elements; its relationship to the feature, if any, is uncertain.

Feature 4:  Located W of the dirt road, this is a concrete foundation, collapsed water tank tower and galvanized circular metal tank (Figures 10 and 11).  The foundation consists of two adjacent small concrete slabs, measuring 1.2 x 1.2 and 1.3 x 1.0 m in size.  A U-shaped concrete footing, measuring a maximum of 2.6 m (E-W) by 1.4 m (N-S), sits alongside the two slabs.  A collapsed water tank (approximately 1000 gallons) is located 2.5 m S, with the collapsed wooden tower remnants intervening.  These are 1x12 braces with 2x4 beams, attached with galvanized lag bolts.  A wooden framed, galvanized sheet metal-lined water trough is also present in this area.

This feature is a water storage tank.  The concrete slab foundations and footing and especially the galvanized bolts suggest that it is relatively recent: if not entirely post-
World War II in age, it appears to have been used and maintained into that period, judging from the bolts.

Feature 5: This feature is located just inside the W side of the fence, and it appears to represent a board-lined well pit (Figure 12). The board-lined wall currently extends about 1 foot above the ground and the interior of the well itself is about 4 m deep. The lining wall is 1x12 planks with 2x4 corner braces. No water is visible in this well currently. A metal and wire fence gate is currently placed over the well.

Feature 6: This feature is located at the SW limit of Locus A, just outside (W) of the fence. It is a small concentration of wood boards and sheet metal, covering an area about 4.5 by 4.5 m in size. It may be a small structure foundation or, more likely, simply a pile of construction debris.

Feature 7: This feature is another shallow depression, similar and relatively close to Feature 1. It is about 4 m in diameter and a maximum of approximately 10 cm deep.

Feature 8: Located W of the dirt road, this is a concentration of natural fieldstones and a 4x4 board (Figure 13). These include 22 cobbles and a single board, with an area measuring about 6 m E-W by 3 m N-S; most of the stones are located on the E side of the feature however. This feature is most easily described as a rock cairn, but its function is unknown.

Locus B is essentially a single feature (#9): a large square pit about 4 x 4 m in size and 1.5 m deep, surrounded by a concentration of trash (Figure 14). This appears to have been excavated mechanically and it is partly filled with and is surrounded by trash. Feature 9/Locus B, in other words, is the trash pit associated with Locus A. Adjacent to this pit is an intact and complete spring harrow.

As noted above, three excavation units were dug at Locus A and one at Locus B. Details about and results of these excavations are as follows:

Unit 1: This was placed in Feature 1, a shallow depression thought potentially to represent a privy pit. It was excavated to 40 cm depth and the A Horizon soils were uniformly silty loam that is Munsell Dark Grayish Brown (10 YR 4/2). Evidence of rodent disturbance (krotovinas) was apparent in each level. Artifacts were common in the top 30 cm of the unit with a few extending to 40 cm. These appear to have been introduced by rodent disturbance.

The artifacts recovered from this unit include electrical wiring and outlet fragments; a rubber-topped veterinary medicine bottle (intended for use with a syringe); broken glass; a spark plug; nails and screws; plastic; asphalt roofing; galvanized roofing nails; etc.
Based on the shallowness of the archaeological deposit at this location -- essentially 30 cm -- Feature 1 is clearly not a privy pit, but instead may simply be a large collapsed rodent hole.

**Unit 2:** This pit was placed in Feature 2, near the NE corner and inside the structure. It was dug to 30 cm depth and rodent disturbance was evident in all levels. The top 15 cm of the unit was silty loam that is Munsell Dark Grayish Brown (10 YR 4/2). Very hard, slightly oxidized, compact gravelly alluvium is present below 15 cm; this B Horizon is Munsell Grayish Brown (10 YR 5/2). A very small quantity of remains (4 specimens) were present in the top 15 cm of the unit. Only a single artifact (a machine made nail) was recovered from 15 to 30. Unit 2 was effectively culturally sterile.

**Unit 3:** This unit was placed in Feature 7, another presumed possible privy hole. Soils were identical to those in Unit 2 with the sterile alluvium encountered at 23 cm depth, at which point excavation was terminated. Only a very small quantity of archaeological specimens was recovered from the pit, all of which are attributable to disturbance. This unit is culturally sterile and Feature 7 proved to not be a privy.

**Unit 4:** This pit was placed within Locus B, about 4 m N of the large trash pit. The pit was dug to 40 cm depth and the soils were disturbed, probably from heavy equipment movement during the excavation of the trash pit. Soils were silty loam with pebbles and they were Munsell Grayish Brown (10 YR 5/2). A very small number of archaeological specimens was present to 20 cm, with a significant drop-off in numbers below. The presence of subsurface artifacts appears attributable to rodent disturbance, which was evident to 30 cm in this unit.

In addition to the excavations and feature mapping, a small quantity of artifacts was collected from the site surface. Note, in this regard, that heavy grass cover prevented surface collecting over the majority of the site; most of the surface collecting, for this reason, occurred in the dirt road where visibility was good.

Based on this fieldwork, and in summary, site CA-LAN-3202H proved to be 125 m N-S by 86 m E-W in maximum dimensions. Perhaps more accurately the site area should be conceptualized as triangular in shape with the base of this roughly equilateral triangle, represented by Locus A, at the N, and the apex, Locus B, at the S. From this perspective the site has a (N-S) base that is 86 m in size and (E and W) sides about 125 m long. Site area is then estimated at 10,750 meters square.

A very small quantity of historical artifacts was recovered during excavation but, in each case, these originated in disturbed contexts. Site CA-LAN-3202H, in other words, does not have an intact subsurface archaeological component but, instead, is a surface site. Although we recorded 9 surface features on this site, two (Features 1 and 7, thought in each case to be privy pits) proved to be non-archaeological and at least two others (Features 6 and 8) are ambiguous as to function. The artifacts and features from this
site, as discussed subsequently, are essentially all 20th century in origin and at least some may be post-World War II in age.

3.3 CA-LAN-3204H (CT-13H)

Site CA-LAN-3204H is located on a steep slope below (and S of) the dirt road that transects CA-LAN-3202H, about 250 m W of this previous site (Figure 15). CA-LAN-3204H is a historical trash scatter that stretches down a very small arroyo/ephemeral wash. It consists primarily of sheet metal, sanitary seal cans, machine made bottles, and Ford Model T body parts.

The location of this site, on a very steep slope (exceeding the angle of repose), effectively precluded anything other than incidental burial of historical archaeological remains in the natural downslope movement of colluvium. One excavation unit (#1) was dug on CA-LAN-3204H (Figure 4). This was placed towards the S end of the site, near the toe of the slope and, therefore, in the area that was most likely to contain subsurface remains.

Unit 1 was dug to 30 cm depth. Soils to 30 cm were silty sand, and were Munsell Very Pale Brown (10 YR 7/3). Excavation terminated at intact alluvial sands which were encountered at 30 cm.

A small quantity of historical specimens were recovered to 30 cm, a circumstance attributable to the mixing that occurs in the downslope movement of colluvial soils. All of the subsurface specimens were relatively small and fragmentary.

The surface scatter of historical trash was distributed in three concentrations or features, stretching down the small wash for a distance of about 17 meters. Feature 1, at the top (N) of the small arroyo, measured 3 x 2 m in size and consisted of sheet metal, sanitary seal cans and machine made bottles. Feature 2, located 7.4 m downslope, is 5 x 3 m in size. It contained sheet metal, sanitary seal cans, machine made bottles and Ford Model T sheet metal body parts, including a hood cover and running boards. Feature 3, another 7.5 m downslope, is 3 x 1 m in size. It consists of a pile of sheet metal and a 5 gallon steel gas can.

A representative collection of surface artifacts was also obtained from the site, with special attention paid to the acquisition of temporally diagnostic specimens. Though these are discussed in more detail below, collected specimens concentrated around Feature 2.

Based on the field results, site CA-LAN-3204H proved to be 28 m N-S by a maximum of 10 m E-W, yielding a total site area of 280 meters square. The historical artifacts collected and observed on the site are consistent with a late Depression/post-Depression era age for this trash dump.
3.4 CA-LAN-3211 (CT-20)

Three excavation units were dug on CA-LAN-3211 (Figure 16). Soils in each unit were equivalent: slightly indurated silty sand that is Munsell Light Yellowish Brown (10 YR 6/4) in color. All units were culturally sterile, and decomposing sandstone bedrock was encountered at 3 cm depth in Unit 3.

Surface collection yielded three artifacts, representing all of the archaeological specimens present on the site; one of these was recovered from the ground surface of Unit 2. The three specimens were spread over an area measured at 8.5 m (N-S) x 1 m (E-W), resulting in a site area that was 8.5 meters square. Artifact surface density then was one specimen per 3 meters square.

Site CA-LAN-3211 proved to be a very small, moderate density surface lithic scatter associated with a natural outcrop of cobbles. Phase II testing resulted in the collection of all extant archaeological specimens at this site. No subsurface archaeological deposit is present at this site.

3.5 CA-LAN-3220 (CT-21)

At CA-LAN-3220, six excavation units were dug (Figure 17). The soils in each pit were equivalent, with the A Horizon consisting of an indurated silty sand containing gravel and cobbles. This is Munsell Pale Brown (10 YR 6/3). The underlying C Horizon (reflecting the A/C Horizons contact common in southern California) is a very ancient oxidized, reddish brown silty sand Eocene alluvium with gravel. This was uniformly encountered at 10 cm depth. All pits were culturally sterile and no subsurface archaeological deposit is present at this site.

Surface collection resulted in the recovery of all extant archaeological specimens at CA-LAN-3220, which were limited to only 4 artifacts, one of which was collected from the ground surface of Unit 2. These artifacts were found in area that was 35.5 m N-S x 12 m E-W, yielding a site area that is 426 meters square. Artifact surface density then was one specimen per 107 meters square.

Site CA-LAN-3220 proved to be a small, very low density surface lithic scatter associated with a natural cobble outcrop. Fieldwork resulted in the collection of all extant archaeological remains at this location.

3.6 CA-LAN-3223 (CT-24)

Five units were excavated on CA-LAN-3223 (Figure 18). Each again had equivalent soils, and these were identical to those at the previous site. They were indurated silty
sand with gravel and angular to rounded cobbles. This A Horizon is Munsell Pale Brown (10 YR 6/3). As at the previous site, the A Horizon is underlain by Eocene alluvial sands and gravels, encountered at 7 to 15 cm in depth here. All five units were culturally sterile, although one piece of debitage was recovered on the ground surface of Unit 3.

Surface collecting resulted in the recovery of 11 archaeological specimens. A twelfth artifact (SA2) was also mapped and recorded but could not be collected. This consisted of a partly buried large quartzite boulder with an exposed area about 20 x 20 cm in size. Three flakes removals had occurred on this boulder, indicating that it functioned as a kind of minimally used quartzite quarry face. The artifacts and specimens were spread over an area measured at 16 m N-S x 20 m E-W, for a site size of 320 meters square. Artifact surface density then was one specimen per 27 meters square.

Based on the field results, site CA-LAN-3223 (CT-24) is a very low-density surface lithic scatter associated with naturally occurring cobbles, and it lacks any subsurface archaeological deposit.

### 3.7 CA-LAN-3224 (CT-25)

A total of five excavation units were dug on CA-LAN-3224 (Figure 19). Conditions in these units were equivalent across the site, and identical to those on the previous site: top soil was indurated silty sand with cobbles that is Munsell Pale Brown (10 YR 6/3) and is underlain by Eocene alluvial sands and gravels, encountered on average at 10 cm in depth. All five units likewise were culturally sterile, although one piece of debitage was recovered on the ground surface of Unit 3.

Surface collection again resulted in the recovery of 11 specimens with a twelfth mapped and recorded and left in place. This was another large, partially buried quartzite cobble (SA6), with an exposed area measuring approximately 30 x 30 cm. Six flakes had been removed from this exposed surface, providing a second example of the use of buried cobbles as quarry faces.

The surface artifacts covered an area measured at 77 meters N-S x 28 m E-W, yielding a site size of 2156 meters square. Artifact surface density was one specimen per 180 meters square.

Site CA-LAN-3224 (CT-25) is a very low-density surface lithic scatter associated with naturally occurring cobbles. It lacks a subsurface archaeological component.
3.8 CA-LAN-3226 (CT-30)

Two pits were dug on the small site of CA-LAN-3226 (Figure 20). Soils here were fully equivalent to those encountered at the previous site: indurated silty sand with cobbles, Munsell Pale Brown (10 YR 6/3) in color, with underlying Eocene alluvial sands and gravels, encountered at 10 cm in depth. Both units were culturally sterile.

A total of three archaeological specimens were identified, mapped and collected on the site surface. These were found in an area measuring 8.4 m N-S x 3 m E-W, for 25.2 meters square. Surface artifact density is one specimen per every 8 meters square.

Site CA-LAN-3226 is then a very small, low-density surface lithic scatter lacking a subsurface deposit. All extant archaeological remains were recovered from this site during the test.

3.9 CA-LAN-3229 (CT-34)

Three excavation units were dug on CA-LAN-3229 (Figure 21). Soils again were identical to those at the previous site, although somewhat shallower. Specifically they were indurated silty sand that is Munsell Pale Brown (10 YR 6/3) in color, with Eocene alluvial sands and gravels at only 5 cm in depth. All units were culturally sterile.

Surface collection yielded four archaeological specimens, found in an area measuring 10 m N-S x 4.5 m E-W, or 45 meters square. These represent all the extant archaeological specimens present, with surface artifact density then set at one specimen per every 11 meters square.

Site CA-LAN-3229 is a very small, very low density surface scatter that lacks a subsurface archaeological deposit.

3.10 CA-LAN-3230 (CT-35)

CA-LAN-3230 was another small site; two excavation units were dug on it (Figure 22). Not surprisingly, soils were identical to those encountered at the previous sites. Topsoil was indurated silty sand and gravel that is Munsell Pale Brown (10 YR 6/3). Depth of the underlying Eocene alluvial sands and gravels varied between the two units from 5 to 10 cm in depth. Both units were culturally sterile, although an artifact was present on the groundsurface of Unit 2.

Including this last specimen, surface collecting yielded 13 artifacts -- all that were present on the groundsurface. These were found in an area that was 21 m N-S x 14 m E-W, or 294 square meters total. Surface artifact density on the site was one specimen per every 23 meters square.
CA-LAN-3230 is a small, very low-density surface scatter that lacks a subsurface archaeological deposit.

3.11 CA-LAN-3231 (CT-36)

Three test pits were dug on CA-LAN-3231 (Figure 23). Soils in these were fully equivalent to those seen at the previous sites. A Horizon thus was an indurated silty sand with gravel; the soil is Munsell Pale Brown (10 YR 6/3) in color. The underlying C Horizon is Eocene alluvial sands and this was encountered at 10 cm depth. All three units were culturally sterile.

Surface collecting recovered all of the extant archaeological specimens on the site, and these totaled only 10 artifacts. They were spread over an area that was 27.5 m NE-SW x 7 m NW-SE, for 192.5 meters square. Surface artifact density was one specimen per every 19 meters square.

Site CA-LAN-3231 is a small, very low-density surface lithic scatter that lacks a subsurface archaeological deposit.

3.12 CA-LAN-3232 (CT-37)

Five units were excavated on CA-LAN-3232 (Figure 24). Soils in each case were indurated silty sand (with gravel), Munsell Pale Brown (10 YR 6/3) in color, and extending to a depth varying between 5 and 10 cm. The underlying C Horizon is Eocene alluvial sands. All units were culturally sterile.

A total of 6 extant archaeological specimens were identified on the site and mapped and surface collected. These were found in an area that is 74 m NE-SW x 17 m NW-SE, representing 1258 meters square. Surface artifact density within this relatively large site area was quite low: one specimen per every 210 meters square.

Site CA-LAN-3232 is a large but extremely low-density surface lithic scatter. It lacks a subsurface archaeological deposit.

3.13 CA-LAN-3248 (CT-54)

A total of five excavation units were dug on CA-LAN-3248 (Figure 25). Topsoil was particularly thin at this site, with ancient Eocene gravels encountered between 3 and 8 cm below the groundsurface. The topsoil itself, as at the previous sites, was indurated silty sand that is Munsell Pale Brown (10 YR 6/3) in color. All units were culturally sterile.
Surface collection resulted in the identification and mapping of all extant archaeological specimens at CA-LAN-3248 (CT-54). These totaled 20, and all but one of these was collected. The exception (SA19) was a large partly buried quartzite cobble. Its exposed surface, measuring 25 by 30 cm, has two flake scars, indicating that it was minimally exploited as a quartzite quarry face.

The surface artifacts covered an area that was 60 m NE-SW x 27 m NW-SE, for 1620 meters square. Surface artifact density was one specimen per every 81 meters square.

Site CA-LAN-3248 is a large but very low-density surface lithic scatter. It lacks a subsurface archaeological deposit.
CHAPTER 4
ARTIFACT ASSEMBLAGE AND ANALYTICAL CONCERNS

4.0 Introduction

Although the general patterns of artifact distributions, enumerated in the previous chapter, provide important information relative to the size and nature of the archaeological sites considered in this Phase II study, proper determination of the significance and scientific importance of these resources can only be obtained with a more intensive analysis of the recovered artifact assemblages. Accordingly, in this chapter we consider these assemblages in some analytical detail, and what they imply about each of the sites as well as aspects of the prehistory of the region. We begin by detailing the laboratory procedures followed in the processing and curation of the recovered remains. Subsequently we outline the taxonomic system employed to categorize and classify each site's collection. This is followed by a typological summary of the artifacts and archaeological indicators recovered from each site. Finally, we consider the scientific importance of these remains in slightly larger comparative terms. This places them in a regional perspective, and informs an understanding of their probable functions and chronological positions.

4.1 Laboratory Procedures

Following the completion of the Phase II fieldwork, the recovered artifact assemblages were taken to the W & S Consultants' laboratory for washing, processing and analysis. After each specimen was washed and labeled, metrical and typological analyses were performed. We provide measurements and weights for the various artifacts and archaeological indicators in the respective site catalogs (Tables 1 -12) included in this report.

In order to facilitate typological comparisons between the prehistoric sites, as well as to other similar sites from this same region, we have employed a standardized taxonomic system. We describe this classificatory system in some detail below.

4.12 Taxonomic Considerations

The prehistoric artifacts recovered from the Phase II investigations were categorized using a morphological stone tool typology first published by Whitley et al (1979) and now widely used in the region. This affords a number of advantages. First, because of its widespread use (e.g., Johnson 1979; W & S Consultants 1984, 1989a, 1989b) it permits easy comparability between existing studies. Second, because it is morphologically rather than functionally based, it provides greater objectivity in taxonomic assignments. Specifically, it avoids the dangers inherent in inferring dubious
functional purposes for stone tools that may have had multiple uses, and that often exhibit little in the way of formal attributes. In the inland southern California region, in particular, it is increasingly clear that most sites are characterized by expedient or casual tool assemblages, probably reflecting the fact that the sites resulted from dispersal phase activities that little emphasized formal patterns of behavior (W & S Consultants 1989b). Thus, a typology based on the elucidation of tool manufacturing stages, rather than one assuming final function of the implements, stands less chance of leading interpretations astray. However, this is not to imply that functional interpretations are unwarranted or undesired. Such is not the case; instead, it is simply to emphasize that functional interpretations must be made somewhat independent of - and therefore including other lines of evidence from - the typological assignments alone.

The morphological typology employed here is based on four major categories of stone artifacts (cf. Whitley et al 1979). These are: (i) groundstone implements; (ii) core/cobble tools; (iii) flaked stone tools; and (iv) tool manufacturing waste, or debitage. Groundstone implements are tools that have been pecked and/or ground into shape. They include manos (or mullers) and metates (or basal grinding slabs), along with mortars, pestles, stone bowls and comals (or griddles). Although there is a general association between groundstone artifacts and plant grinding, pulping and processing, as in the case of manos, metates, mortars and pestles, this is not invariably so: stone bowls and comals, for example, had other uses, with certain kinds of bowls, in particular, sometimes reserved for ceremonial purposes.

Groundstone artifacts are usually (but not invariably) made of softer lithic materials. Metates, for example, are often made from sandstone or some other sedimentary material; bowls and comals are typically manufactured from steatite (soapstone or talc schist). Manos, however, were often derived directly from river cobbles of appropriate size, so that quartzite is a common material source.

Core/cobble tools are generally large, bulky implements made by the re-use and/or modification of a river cobbles and lithic cores. They include 'hammerstones', 'choppers' and 'scraper planes'. Hammerstones are usually unshaped or minimally shaped, roughly fist-sized, stones that exhibit characteristic battering and pounding scars, but often otherwise lack modification. Choppers are cobbles or cores that have been unifacially or bifacially flaked to create a relatively sharp edge. Scraper planes are high-backed, unifacially flaked tools that are usually 'biscuit-shaped' in plan, with edge angles near perpendicular, and with heavy use-scars along their convex face.

All of these tools were apparently employed for heavy pounding, scraping and/or battering tasks. There is a frequent association of core/cobble tools with groundstone artifacts (specifically manos and metates) in the nearby Conejo Corridor region (Whitley 1979b), suggesting that the two categories may have been functionally related; that is, that core/cobble tools may have served as part of a plant acquisition and processing toolkit. This is supported in reference to the scraper planes, in particular, which are argued to represent special yucca processing tools (Kowta 1969; Salls 1985). Further,
this suggests in turn that the core/cobble tools were part of a woman's plant gathering
toolkit (W & S Consultants 1989b).

Flaked or chipped stone tools are secondary reductions from cores and cobbles. That
is, they represent tools manufactured from flakes struck-off the primary sources of lithic
materials. These flakes may be used without modification as 'utilized flakes'; they may
be bifacially flaked; or they may be unifacially flaked. It is apparent that the majority of
the flaked or chipped stone tools in the region are either utilized flakes with no
modification, or have edges that have been flaked unifacially or bifacially, but exhibit
little or no effort for further edge modification or shape regularization (W & S
Consultants 1989b). Again, this further emphasizes the casual or expedient nature of
these tools, and also implies that they may have been used for a variety of tasks with
little functional specialization.

Correspondingly, the majority of the chipped stone tools from this region are what we
have defined as biface or uniface 'edges', and they may have been used for any
number of general cutting, scraping and abrading tasks. Of course, occasional
projectile points and drills represent special types of bifaces with specific and known
functions, whereas biface 'knives' (large leaf or knife-shaped tools) are presumed to
have been used for cutting and piercing/stabbing tasks.

Generally, chipped stone tools were made from material with particular flaking
characteristics; specifically, those subject to conchoidal fracture. Crypto-crystallates
such as chert and chalcedony, therefore, are common raw materials, but fused shale,
quartzite, cherty-siltstone, rhyolite, andesite, basalt and occasionally obsidian may also
be present in a collection. Because small hand specimens of rhyolite, andesite and
basalt are, in fact, only distinguishable with petrographic analysis, we treat them all as
"fine-grained volcanics".

The final category of stone artifacts is what can be considered lithic waste or debitage.
It includes spent cores, waste flakes, and angular shatter. There are a number of
different kinds of cores and flakes, and the presence of these varieties at a site tends to
signify different types of tool reduction or manufacturing techniques. For example, the
presence of large numbers of secondary and tertiary flakes usually indicates that
chipped stone tool manufacture occurred at a locale, whereas primary flakes alone
might be associated with the making of the cruder chipped stone tools, or might be
expected at quarries where only the preliminary stages of tool manufacturing were
conducted. Similarly, relatively large proportions of tertiary flakes correlate with
habitation/campsites, in that tool maintenance and finishing occurred at these locales.
Furthermore, because different lithic materials tend to correlate with different categories
of tools, the material present in the debitage collection can also be a clue to a site's
function. Quartzite and other 'crude' lithic materials, for example, are often found where
core/cobble tools are manufactured, whereas crypto-crystallates tend to occur where
chipped stone tools are manufactured. And, in a general way, there is an association
between these last materials, chipped stone artifacts, and habitation sites (W & S Consultants 1989c).

Historic (Euro-American) artifacts, in contrast, were classified first by material (metal, glass, plastic, wood, etc.), and then by presumed function. Particular attention in the historical artifact analyses was paid to chronological indicators because of their value in determining the ages of the sites.

4.2 Artifact Assemblage: CA-LAN-3202H (CT-11H)

The artifact collection recovered from CA-LAN-3202H is summarized in Table 1. A total of 684 specimens was recovered from the site. It must be emphasized that this count represents large quantities of broken fragments of archaeological specimens (e.g., broken bottle glass, fragments of rusted tin cans), not a count of individual artifacts, per se. For example, the total includes 27 leather fragments. These were all recovered from a single provenience and most likely are fragments of a single item, not the remnants of 27 different leather artifacts.

With this proviso in mind, the collection includes the following major categories of remains, in descending numerical order of importance:

- **Construction-related items**: 354 specimens, or 52%
  These are primarily metal and predominantly nails and wood screws, but they also include a smaller quantity of fencing wire, fence staples and some asphalt roofing material. A large proportion of these are machine-made wire-cut nails, and they likely originate in the collapsed structure in Locus A. That is, this category is a mix of structure debris and building and fencing supplies.
  The large majority of the nails are machine made, wire-cut nails: the kind that are still made and used today. These first became common after about 1890. There are also a small but significant number of square nails. Square nails were first made by machine in about 1860 and they are still machine made today, and used by farriers for horse-shoeing. Horse-shoe nails are short however, and the examples from the site are long and equivalent to 16D or 12D wire nail; that is, these are not horse-shoeing nails. They probably were made in the 19th century but, given the long shelf-life of historical artifacts like nails, their deposition on the site easily could date to the 20th century.

- **Glass**: 217, or 32%
  The large majority of the glass consists of fragments of clear windowpanes, almost certainly derived from windows in one of the two structures that were once on the site. Amber bottle glass fragments are second in importance. Although these typically are very fragmentary, they are consistently small rather than large bottle in size; that is, they represent beverage bottle fragments, probably beer, rather than the thick Clorox bleach jars that are common on many historical sites.
A few of the glass artifacts are notable and warrant mention. The first of these is an embossed Coca Cola bottle base. This has a 1924 manufacture date, indicating use in the second half of the 1920s. Seven bottle fragments have turned purple. So-called amethyst glass results from the fact that, between 1880 and 1916, manganese was used as a clarifying agent in glass manufacture. These examples suggest use of the site in the late teens or 1920s. Finally, a portion of a rubber-topped veterinary medicine bottle, used to hold liquids administered with a syringe, was also recovered. Although this bottle is not chronologically sensitive, it indicates that one activity on the site was the care of livestock.

**Cans: 61, or 9%**
Tinned cans and can fragments are common at many historical sites but are relatively rare at CA-LAN-3202H. This circumstance has one of two possible explanations: either the site did not experience intensive occupation, or used cans were dumped off-site. Five of the can fragments from the site are notable. The first is an upright pocket tobacco tin. These were first made in 1909, and this can type is still made today. The second is an evaporated milk can. These were first produced in 1914 and, again, are still made. Finally, there are two cone-topped beer cans. These were first manufactured in 1935 and continued to be made into the late 1950s, although they were somewhat rare after World War II.

**Leather: 27, or 4%**
A probable single piece of decomposing leather was recovered. This may have originated in horse saddlery tack; one miscellaneous piece of metal appears to be a fragment of a saddle ornament.

**Ceramic: 5, or <1%**
Only four ceramic shards were recovered; usually these are common at historical habitation sites. These include a hand-painted porcelain dish/saucer fragment; two rim fragments from a jar; a floral print dish fragment; and a yellow glazed plate fragment. None of these has a maker's mark or is otherwise identifiable, and noticeably absent are whiteware ceramic sherd fragments, which are normally very common in late 19th and early 20th century habitation sites.

**Vehicle-related: 3, or <1%**
Three artifacts are related to vehicles. The first of these is a portion of a metal tractor steering wheel, the second is a spark plug and, the third, an internal battery rod. In general terms, these point to a twentieth century rather than 19th century use of the site.

The remaining, roughly 1.5% of the assemblage from CA-LAN-3202H are a variety of miscellaneous items. Notable among these, however is a remnant of an electrical outlet, and fragments of electrical wire. The site appears to have once been electrified. Also notable is the absence of another category of remains that, normally, are very
common on historical sites. These are gun shells which, in our experience are otherwise invariably present on rural homesteads.

The nature and age of the artifact assemblage from CA-LAN-3202H combined with the recorded features at the site and its locational context clarify the origin and function of this site. This site was originally the Pyramid Ranch headquarters and it was not a portion of the Tejon Ranch. With respect to age, it is important to keep in mind the “shelf-life” effect of certain kinds of remains. Ceramics break relatively quickly and, for this reason, often provide a good site age indicator, if they themselves can be dated, whereas other artifacts, such as nails, can sit on a workshop shelf for decades before they are used. The earliest-dating artifact for this reason does not necessarily provide a true indication of the first use of a site, but the latest-dating artifact, on the other hand, usually provides a minimum limiting age.

The latest dating artifact in the assemblage are the cone top beer cans, which indicate use by at least the mid-1930s. It is possible that earlier occupation also occurred; most likely during the 1920s. But the site as a whole can be considered Depression era in age.

Site function is slightly complicated by the apparent use of trash dumps. But the evidence for the two structures notwithstanding, CA-LAN-3202H does not appear to have been an occupation of any significance and, almost certainly, it was not a homestead occupied by a family. The evidence instead suggests that it was a seasonally occupied headquarters for the Pyramid Ranch which, otherwise, does not figure in local history.

4.3 Artifact Assemblage: CA-LAN-3204H (CT-13H)

A total of 87 archaeological specimens was recovered from CA-LAN-3204H (Table 2). Again, these were fragmentary and do not for this reason represent 87 distinct artifacts. As a general rule, however, the most fragmentary pieces came from the excavation of Unit 1, at the bottom of the slope, with the surface collection directed towards the recovery of the larger, more representative and diagnostic specimens, which were typically higher up. In numerical order of significance, the collection contains the following:

**Glass:** 68, or 78%

By far the largest category from the site, by count, is glass. Fully 53 of these specimens -- 61% of the site total -- are small pieces of bottle and jar glass recovered during the excavation. There are however 17 glass examples that are identifiable in functional terms. Eleven, or 65% of these, are fragments of liquor bottles. With one exception, the remainder are condiment or food jars and bottles; condiments (such as ketchup) seems to be particularly significant in this group. The exception is a green
Clicquot Club soda bottle fragment. Although no longer in existence, Clicquot Club still bottled soft drinks into the 1970s.

Two of the bottles are chronologically diagnostic. The first is the shoulder, neck and lip of a brandy bottle. This has a neck seam and hand applied lip, and was made between 1880 and 1890. This bottle fragment has turned purple, confirming this early age.

The second is a Heinz Company screw-top ketchup bottle. This post-dates 1924. The majority of the condiment/food bottles and jars, in fact, appear to have had screw top metal lids and probably date sometime after the 1920s.

**Metal: 16, or 18%**

The majority (11 or 69%) of the metal artifacts are miscellaneous tinned can fragments. Five are functionally and/or chronologically diagnostic. The first two are cone-top beer cans, made from 1935 to the late 1950s. Next there is an evaporated milk can, post-dating 1914. There is also a fragment of a California vehicle license plate. This is black with yellow lettering. This style plate was introduced in 1963. Finally, there is an aluminum pop-top beer “Bud” can, which is clearly contemporary.

One set of metal artifacts that was observed but not collected (due to their size) and that warrants mention are sheet metal body parts from a Ford Model T. The Model T was introduced in 1909. By 1927, 15 million of them had been sold. Production slackened after that point and, by the early 1930s, only a few thousand were being manufactured per year, but a few continued to be made until 1941. Although it is less true today than in the past, cars have long “shelf-lives” in the sense that (barring accident) they are kept in operation for many years, and often many decades. The car debris for this reason would most plausibly suggest Depression era or later use of the dump.

**Ceramic: 3, or 3%**

The ceramics from the sites are limited to three examples: a fragment of a blue painted Chinese porcelain vessel; a whiteware plate rim fragment; and a fragment of a porcelain teacup handle.

The location of this site -- on a steep slope below a dirt road -- and its nature -- three concentrations of historical debris -- make the functional identification of this site straightforward: it is a historical dump. More relevant then are two questions: its primary age of use, and its relationship to CA-LAN-3202H, the Pyramid Ranch.

Although the maximum age range of the site extends from the end of the 19th century into the 1980s, the large majority of the remains appear to date to the 1930s although others are quite a bit later. As such, the site is essentially coeval with the age of CA-LAN-3202H and, based on proximity alone, is logically considered a dump associated with the ranch facility. CA-LAN-3204H, in this sense, may be understood as a dump associated with the use of CA-LAN-3202H.
4.4 Artifact Assemblage: CA-LAN-3211 (CT-20)

The prehistoric artifact assemblage from CA-LAN-3211 consists of a total of only 3 lithic artifacts (Table 3), all of which were recovered from the surface of the site. Each of these is quartzite. They include two Type 1 multiplatform cores, and one Type 1 core scraper plane (see Whitley et al 1979 for type descriptions).

The site appears to represent a small quarry/workshop directed towards the exploitation of naturally occurring quartzite cobbles. Exploitation of this quarry site was however casual, in the sense of non-systematic, and non-intensive. In fact, given the small size of the site, it may represent a single prehistoric behavioral event. No temporal diagnostics or chronometrically dateable materials were present on the site and its age is for this reason still unknown.

4.5 Artifact Assemblage: CA-LAN-3220 (CT-21)

A summary of the prehistoric artifact assemblage from site CA-LAN-3220 is provided in Table 4. This assemblage is limited to only four specimens, all of which are quartzite. The collection includes one Type 1B biface chopper; one Type 1 unmodified cobble hammerstone; one Type 1 multiplatform core; and one large piece of angular shatterdebitage (see Whitley et al 1979).

CA-LAN-3220 appears to represent a second small quarry/workshop associated with a natural outcrop of quartzite cobbles. As at the previous site, the exploitation of this resource was clearly casual and non-intensive, and the site again may represent a single behavioral event. Its age is unknown.

4.6 Artifact Assemblage: CA-LAN-3223 (CT-24)

The lithic assemblage from site CA-LAN-3223 totaled 12 specimens, eleven of which were collected (Table 4). All of these were recovered from the groundsurface. They include 2 chert, 3 andesite and 7 quartzite specimens.

The most common artifact on the site is a Type 1 multiplatform core. Three of these were recovered, all of which are locally available quartzite. The uncollected specimen is a large, partially buried quartz cobble that exhibited evidence of flaking. It, in this sense, had been used as a core or, more properly, a quarry face. Regardless of how classified, its presence further emphasizes use of the site directed towards the exploitation of local quartzite.

Debitage is also a significant component of the assemblage. This included two primary flakes and two pieces of angular shatter. With the exception of one piece of chert shatter, thedebitage was all quartzite which, again, is available on the site surface.
The three andesite artifacts are a Type 3 irregular core hammerstone, a Type 1A uniface chopper, and a large uniface flake tool. This last specimen is best described as a uniface edge in the sense that it lacks overall shaping. Andesite cobbles are also present on the site.

The final artifact in the assemblage, another but much smaller uniface edge, is made of chert.

Site CA-LAN-3223 appears to be a small quarry/workshop and general activity area. The quarrying is again directed towards cobbles of quartzite and andesite that are available on site. The presence of the other artifacts suggests that other activities were also conducted here, perhaps at the same time as the quarrying, although what these activities may have been is unclear. There are no chronological indicators on the site and its age is unknown.
4.7 Artifact Assemblage: CA-LAN-3224 (CT-25)

The artifact assemblage from CA-LAN-3224 also consisted of a total of 12 surface specimens, 11 of which again were collected (Table 6). The uncollected specimen is another example of a large, partially buried quartzite cobble that had been flaked: a quarry face or core. When this artifact is included, the distribution of lithic materials for the site is: quartzite, 6; andesite, 2; quartz, 2; and chert, 1. All of these lithic materials with the exception of the chert naturally occur on CA-LAN-3224.

Half of the assemblage isdebitage, with 4 primary flakes in the total of 6 pieces of waste lithics. Two of these primary flakes are andesite; one is quartzite; and one is quartz. This last specimen has been utilized.

The remaining artifacts are all core/cobble tools. They include two biface choppers (made of quartzite and andesite, respectively); one Type 1 multiplatform core (quartzite); one Type 2 cobble scraper plane (quartzite); and one Type 1 core scraper plane (quartz).

The function of site CA-LAN-3224 is not entirely clear. At least part of the activities on the site was oriented towards quarrying and working the quartzite, andesite and quartz cobbles that naturally occur on the site. The presence of biface choppers and scraper planes of these same materials may either indicate that these artifacts were being produced on site (with these examples discarded accidentally or as “wasters”) or, alternatively (and more likely), that other activities related to the use of these core/cobble complex tools also occurred here. In this last case this most probably would have been some kind of plant exploitation/processing, perhaps agave, although clearly not seeds, acorns or nuts, which require the use of groundstone artifacts. The absence of any temporal diagnostics or dateable materials leaves the age of this site unknown.

4.8 Artifact Assemblage: CA-LAN-3226 (CT-30)

Site CA-LAN-3226 contained only three archaeological specimens (Table 7), all of which were recovered from the ground surface. Two of these are quartzite; the third is rhyolite. Each of these materials is present on site in the form of natural cobbles.

The assemblage consists of one Type 2A split cobble hammerstone (quartzite); one Type 1 multiplatform core (rhyolite); and one large piece of quartzite angular shatter debitage.

Site CA-LAN-3226 is clearly a small quarry/workshop associated with naturally occurring cobbles. Given its small inventory, it likely represents a single behavioral event. Its age however is unknown.
4.9 Artifact Assemblage: CA-LAN-3229 (CT-34)

The artifact assemblage at site CA-LAN-3229 was limited to four surface specimens (Table 8). All of these are core/cobble complex tools. Two are quartzite and one each is quartz and chert.

The two quartzite artifacts are a Type 1 multiplatform core and a Type 2B flaked hammerstone. The quartz artifact is a Type 1 unmodified cobble hammerstone. The chert specimen is a Type 1 core scraper plane.

The first three artifacts are consistent with use of the site as a quarry/workshop directed towards the exploitation of the naturally occurring cobbles. The fourth is normally related to plant processing and, in this regard, it should be noted that scraper planes and hammerstones are also commonly associated at plant processing sites. The primary prehistoric activity at this site, in other words, can be interpreted in two possible ways: lithic quarrying or plant processing. In either case it is clear that this was a casual and non-intensive use, and the site may represent a single prehistoric behavioral event. Again, the lack of temporal diagnostics and chronometrically dateable materials on the site render its age unknown.

4.10 Artifact Assemblage: CA-LAN-3230 (CT-35)

Thirteen archaeological specimens were present at site CA-LAN-3230, all of which were collected from the ground surface (Table 9). These are entirely made of locally available quartzite. Debitage is the most common artifact class, contributing six of the 13 total. These are all examples of angular shatter. Matched against these are four cores, each of which is a Type 1 multiplatform specimen.

Two of the site artifacts are hammerstones: one is a Type 1 unmodified cobble hammerstone; the second is a Type 3 irregular core hammerstone. The final artifact from the site is a Type 1A uniface cobble chopper.

With the exception of the last artifact, all of the assemblage may be directly related to quarry/workshop activities, and the chopper may be the product of such activities. The site then appears to be a quarry/workshop but, like the other sites, its age is unknown.

4.11 Artifact Assemblage: CA-LAN-3231 (CT-36)

The artifact assemblage from site CA-LAN-3231 consists of ten surface specimens (Table 10). All of these are made of local quartzite.

Hammerstones of various kinds are the most numerous artifact class. Six of these were collected, three of which are Type 1 unmodified cobbles; one is a Type 2A minimally modified hammerstone; and two are Type 2B flaked cobble hammerstones.
A Type 1 multiplatform core was also collected. Three debitage specimens were also present on the site. These are in each case angular shatter.

Site CA-LAN-3231 appears to have been a quarry/workshop that exploited the quartzite cobbles that naturally occur on the site. Its age is unknown.

4.12 Artifact Assemblage: CA-LAN-3232 (CT-37)

Six surface artifacts were present on site CA-LAN-3232 (Table 11). One of these is andesite and the remainder is quartzite. Type 1 multiplatform cores are the most common artifact type: there are four of these, including the andesite specimen.

The remaining two specimens are debitage. In both cases these are quartzite primary flakes.

Site CA-LAN-3232 apparently served as small quarry/workshop associated with a natural outcrop of cobbles. Its small size suggests that it may have resulted from a single behavioral event. Again, there are no temporal diagnostics nor chronometrically dateable materials from this site, and its age remains unknown.

4.13 Artifact Assemblage: CA-LAN-3248 (CT-54)

Site CA-LAN-3248 had the largest artifact assemblage of the prehistoric sites considered during the project. But this totaled only 20 specimens (Table 12), however, so this site too is in fact quite small in size. Nineteen of the 20 specimens on the site were collected, all of which from the surface of the site. All of the specimens, including the uncollected artifact, are quartzite. The uncollected specimen is a large, partly buried quartzite cobble that had been flaked and therefore used as a quarry face/core.

Cores were in fact the most common artifact type on the site. In addition to the above example, another 5 Type 1 multiplatform cores were collected. This apparent emphasis on lithic reduction is also evident in the debitage. There are 7 debitage specimens. Five of these are primary flakes and the remaining two are examples of angular shatter.

The remaining artifacts include six core/cobble implements and one flaked stone tool. The core/cobble complex artifacts include 2 Type 1 core scraper planes; one Type 2A modified cobble hammerstone; and three choppers. The choppers include 1 biface chopper; 1 Type 1A uniface chopper; and 1 Type 2 core uniface chopper.

The final artifact from the site is a uniface flake tool. This is large and made of quartzite. Although made from a primary flake, is in fact “chopper” in size and therefore probably function.
The artifact assemblage from CA-LAN-3248 is a mix of quarry/workshop related tools and debris, and probable plant processing implements. Again, these appear to be related to roots and tubers, perhaps including the agave, not seeds, nuts nor acorns. Unfortunately the age of this site is unknown.

4.14 Interpretive Concerns

The ten prehistoric sites examined during this test excavation project share a series of traits important to their interpretation. They first are all located in essentially identical environmental contexts: low rolling hills/broad ridges supported by ancient Eocene alluvial deposits. For this last reason, all of the sites have equivalent soils. This fact is important in three respects. These soils contain lag deposits of polygenetic cobbles. Included in these cobbles, as emphasized above, are quartzite, quartz and andesite, in particular, all of which are usable for stone tool manufacture. In each case the ten sites are associated with exposures of these polygenetic cobbles. Further, because they all have the same soils and are similar with regard to aspect and elevation, they almost certainly have always had the same plant cover. And because of their equivalent geomorphological contexts, there was no apparent mechanism for subsurface archaeological deposits to develop on any of the sites. Phase II testing proved this last supposition correct and all of the sites are exclusively surface lithic scatters.

Second, the sites are all very small, with artifact assemblage sizes ranging from only 3 archaeological specimens (at two sites, with another two sites having only 4 artifacts) to a maximum of 20 -- which is still quite small in size. The average size for the 10 sites, in fact, is 7.9 specimens per site. To put these numbers in perspective, the average 1x1 m test pit dug in a village site will easily contain 20 or more archaeological specimens, per 10 cm thick excavation level; at larger villages sites there are sometimes literally hundreds of specimens per level.

The implication here is the following: all of these sites are ephemeral (in the sense of very lightly used) activity areas. At least four (and probably five) of them, noted above, may represent single prehistoric uses. In this sense these ten sites clearly reflect activities conducted by small dispersed groups, probably single family units or foraging parties, related to the occupation of larger villages located somewhere in the general region, and probably the result of passing through this particular area. The sites were in this sense not so much destinations targeted for resource exploitation but instead areas with resources that were exploited incidentally, while passing through.

Certain aspects of the function of these sites, third, are clear; others are still somewhat ambiguous. In all cases the association of the sites with the polygenetic cobbles lenses is important: these specific lithic contexts clearly were of potential use and therefore interest to prehistoric peoples. The prehistoric use of these cobbles outcrops is also clear: they served as quarry/workshops, where quartzite in particular was obtained.
That said, the nature of the lithic exploitation and subsequent production also warrants discussion. Artifact types/classes directly attributable to quarrying include debitage (primary flakes and shatter specifically), cores and (at least some) hammerstones. Those attributable to true workshop activities, where stone tools are produced or at least roughed-out, are slightly different. These would also include significant quantities of secondary (and perhaps tertiary flakes), pre-forms and wasters. In general terms the first but not second group of lithic remains is present at the sites. These sites then served as quarries but strictly not as workshops in any systematic or intensive sense.

This last point raises the question of subsequent lithic production, using the quarried stone. This is a question that must be answered on negative evidence, and negative evidence is often inconclusive. It is notable, however, that few flakes of any kind are really present on the site; more common is angular shatter. This suggests that in fact the acquisition of primary flakes, not their reduction to worked artifacts, was the primary lithic activity at these sites. Primary quartzite flakes that could subsequently be further refined or used, as-is without modification, appear to have been the intention of quarry production at these sites, with these flakes carried off for use at other locations.

Not all of the sites, nor all of the recovered artifacts, can be attributed to quarrying, however. A few of the sites had a significant number of other types of core/cobble complex tools, invariably choppers and scraper planes, and some of these types of tools were occasionally present even on the smaller sites that were predominantly quarry-related. Importantly, there is nothing that suggests that the production of these core-cobble complex tools occurred on these sites. Note further that hammerstones may have been used for lithic quarrying and for plant pulping and thus the numbers of plant-related artifacts on the sites may be greater than it would initially seem.

The mix of the two functional kinds of tools on the sites instead suggests that casual quarrying activities occurred alongside wide ranging but potentially fairly specialized plant processing. The exploitation of the locally available cobbles was in this sense opportunistic whereas the plant exploitation, requiring a heavier reliance on true formal (worked) tools, may have been the primary emphasis of the prehistoric activities in the study area. The nature of this plant exploitation is uncertain, for a number of reasons. The tools are largely unspecialized, although there is a general correlation between scraper planes and agave processing (Salls 1985). Similarly, environmental and vegetative changes make the nature of the prehistoric environment uncertain, limiting in some respects our ability to infer from environment to potential subsistence practices. And no direct subsistence remains have been preserved on these sites.

On the other hand, the complete absence of groundstone artifacts makes it quite clear that certain types of plant resources were not targeted during the use of these sites. These include seeds, nuts and acorns which, normally, were prehistoric subsistence staples.
The only reasonable interpretation that we then can provide, given these evidential constraints, is based on the demonstrated even if not invariant association of scraper planes and agave exploitation; that is, specialized agave exploitation may have been an emphasis in the use of this particular area and the creation of these sites. This certainly is plausible given the location of the sites essentially on the edge of the Mojave Desert; that is, it is at least plausible that the study area would have supported stands of agave prehistorically. At this point this is however somewhat speculative. One potential test implication of this hypothesis, however, would be the presence of agave roasting pits in and around local village sites.

This last issue raises the final topic concerning these prehistoric sites: chronology. As we have emphasized in each case above, none of the sites contained temporally diagnostic artifacts of any kind, nor any kinds of material (such as charcoal or obsidian) that can be chronometrically dated. The result is that their chronological placement remains entirely uncertain. Logically, these small sites should be associated with larger villages and habitations located somewhere in the general vicinity. There are a number of these in southern Oso Canyon and around the old La Liebre Ranch headquarters and, based on survey data, various of these sites appear to date from the Middle Horizon into the Historic Period (W&S Consultants 2002). At this point -- and until new dating techniques are invented appropriate for the kinds of materials and contexts at these sites -- the hypothesis that these sites date to sometime during the last 4000 years is the best that can be offered, general though it may be.

The study also considered two historical sites which are located in relatively close proximity. Both appear to date to the same time period. This is primarily the Depression and post-Depression era but, importantly, both have a small quantity of earlier and later dating artifacts, indicating that their chronological overlap is complete. The first site, CA-LAN-3202H (CT-11H), includes the remains of two wooden structures and related features. It appears to have been a ranch-related line shack complex that was probably seasonally occupied, but it shows no good evidence of having served as a homestead or permanent residence. The second site, CA-LAN-3204H (CT-13H), is a small dump and almost certainly was created by the users of CA-LAN-3202H (CT-11H). In this sense both sites are manifestations of mid-20th century ranching activities.
CHAPTER 5
CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary and Conclusions

Test excavations and determinations of site significance were conducted at ten prehistoric and two historical archaeological sites within the Centennial project area, Los Angeles County, California. This Phase II fieldwork involved mapping, the surface collecting of ground surface artifacts and archaeological indicators, and the hand excavation of test pits on each site, along with laboratory processing, cataloging and analyses of the recovered artifact collections.

The two historical (Euro-American) sites, given the temporary designations CA-LAN-3202H (CT-11H) and CA-LAN-3204H (CT-13H), are temporally and functionally related. Both date primarily to the Depression and post-Depression eras, although each contains much smaller quantities of slightly earlier and later artifacts. CA-LAN-3202H is interpreted as a livestock ranching-related line shack complex containing the collapsed remnants of two wooden shacks, a fallen water tower and related features. CA-LAN-3204H, located about 250 m away, is a small trash dump along the side of a steep slope. Both sites are manifestations of the mid-20th century operation of the Pyramid Ranch, and neither has an intact subsurface archaeological deposit.

The ten prehistoric (Native American) sites are all surface lithic scatters associated with natural cobble outcrops. The artifact assemblage sizes for these ten sites range from totals of 3 to 20 archaeological specimens, with an average of 7.9 specimens per site. As these figures emphasize, the sites then range from extremely small to very small in size.

Five of these sites, CA-LAN-3211, -3220, -3226, -3229, and -3232, had 6 or less archaeological specimens present apiece and most likely were created during single prehistoric incidents. The remaining five sites had larger and generally more varied site assemblages but, at best, are still only indicative of sporadic and non-intensive use. The ten sites are interpreted as resulting from two activities which were probably conducted simultaneously by small foraging parties (perhaps single family units). The first of these was the casual and sporadic exploitation of natural cobbles, principally quartzite, to produce primary flakes which were apparently turned into finished tools elsewhere. The second was plant exploitation, perhaps agave or some other root or tuber, but clearly not seeds, nuts or acorns. No temporally diagnostic artifacts nor chronometrically dateable materials were present on any of these sites and, for this reason, their ages are undetermined.
5.2 Final recommendations for CA-LAN-3202H (CT-11H)

CA-LAN-3202H is a small Depression era ranching line shack complex. Architectural features at this site have all collapsed and, for this reason, no longer maintain integrity. No intact subsurface archaeological deposit is present at this location. Phase II studies have resulted in the mapping and recording of all extant surface features at this location. This has served to collect scientifically consequential information from and about this cultural resource and, following CEQA, this has fully mitigated any potential adverse impacts that this site might suffer as a result of the proposed project. Based on this fact, no additional archaeological work is recommended at this site.

5.3 Final recommendations for CA-LAN-3204H (CT-13H)

Archaeological site CA-LAN-3204H is a small, primarily Depression era trash dump that was created along with the use of nearby site CA-LAN-3202H. Because of its location on a steep slope, CA-LAN-3204H does not contain an intact subsurface deposit and recent trash, dating to the last few decades, is mixed in with the older debris, diminishing the integrity of the site as a whole. Phase II studies, nonetheless, have resulted in the recovery of scientifically consequential information from and about this site. This has mitigated any adverse impacts to this site that might result from the proposed project. Based on this fact, no additional archaeological work is recommended at this site.

5.4 Final recommendations for CA-LAN-3211 (CT-20)

Site CA-LAN-3211 is an extremely small surface lithic scatter that contained a total of only 3 archaeological specimens. No intact subsurface archaeological deposit is present at this location. Phase II testing resulted in the recovery of all extant archaeological remains at this site. This has yielded scientifically consequential information from and about this resource, and has served to mitigate any adverse impacts that accrue as a result of construction or development at this location. No additional archaeological work is recommended for this site.

5.5 Final recommendations for CA-LAN-3220 (CT-21)

This site is an extremely small surface lithic scatter that contained only 4 extant archaeological specimens. No intact subsurface archaeological deposit is present at this location. Phase II testing resulted in the recovery of all of these and, by this fact, in the collection of scientifically consequential information from and about this cultural resource. This has served to fully mitigate any potential adverse impacts to this site that might result from the proposed project. No additional archaeological work is recommended for site CA-LAN-3220.
5.6 Final recommendations for CA-LAN-3223 (CT-24)

Site CA-LAN-3223 is a very small surface lithic scatter that contained only 12 extant archaeological specimens, eleven of which were collected from the site. No intact subsurface archaeological deposit is present at this location. This has served to obtain scientifically consequential information from and about this surface scatter. Following CEQA, this has served to fully and completely mitigate any potential adverse impacts that might accrue to this cultural resource as a result of the proposed project. No additional archaeological work is recommended at this location.

5.7 Final recommendations for CA-LAN-3224 (CT-25)

CA-LAN-3224 is a very small surface lithic that also contained 12 extant archaeological specimens. Phase II testing resulted in the recovery of 11 of these, thereby yielding scientifically consequential information from and about this site. No intact subsurface archaeological deposit is present at this location. This has fully and completely mitigated any potential adverse impacts to this resource that might result from construction or development. For this reason no additional archaeological work is recommended at this site.

5.8 Final recommendations for CA-LAN-3226 (CT-30)

Site CA-LAN-3226 is an extremely small surface lithic scatter that contained only 3 archaeological specimens, all of which were collected during Phase II fieldwork. No intact subsurface archaeological deposit is present at this location. This has resulted in the recovery of scientifically consequential information from and about this small site, and has fully mitigated any potential adverse impacts that might result from the proposed project. No additional archaeological work is recommended for site CA-LAN-3226.

5.9 Final recommendations for CA-LAN-3229 (CT-34)

This site is an extremely small surface lithic scatter. It contained only 4 archaeological specimens, all of which were collected during the Phase II field study. No intact subsurface archaeological deposit is present at this location. This has provided scientifically consequential information from and about this cultural resource, and has mitigated any potential adverse impacts that might accrue as a result of development or construction. No additional archaeological work is recommended for CA-LAN-3229.

5.10 Final recommendations for CA-LAN-3230 (CT-35)
Site CA-LAN-3230 is a very small surface lithic scatter. It contained 13 extant archaeological specimens and all of these were collected during Phase II fieldwork, yielding scientifically consequential information from and about this prehistoric cultural resource. No intact subsurface archaeological deposit is present at this location. This has served to fully and completely mitigate any potential adverse impacts to this site which might result from the proposed project. No additional archaeological work is recommended for CA-LAN-3230.

5.11 Final recommendations for CA-LAN-3231 (CT-36)

Site CA-LAN-3231 is a very small surface lithic scatter that contained 10 extant archaeological specimens. These were collected during the Phase II investigations, providing scientifically consequential information from and about this site. No intact subsurface archaeological deposit is present at this location. The Phase II study as a result has mitigated any potential adverse impacts to this site that might result from construction or development. No additional archaeological work is recommended at this site.

5.12 Final recommendations for CA-LAN-3232 (CT-37)

Site CA-LAN-3232 is an extremely small surface lithic scatter that contained only 6 extant archaeological specimens, all of which were collected during Phase II fieldwork at this location. No intact subsurface archaeological deposit is present at this location. This has served to obtain scientifically consequential information from and about this site, thereby fully mitigating any potential adverse impacts that might result from the proposed project. No additional archaeological work is recommended for this cultural resource.

5.13 Final recommendations for CA-LAN-3248 (CT-54)

CA-LAN-3248 is a very small surface lithic scatter that contained 20 extant archaeological specimens, 19 of which were collected during the Phase II test study. No intact subsurface archaeological deposit is present at this location. This has yielded scientifically consequential information from and about this site and, for this reason, has fully and completely mitigated any potential adverse impacts that might result from the proposed project. No additional archaeological work is recommended at this site.
5.14 Additional recommendations

It is recommended that an archaeological monitor be present for topsoil grading and removals on these 12 sites, to identify, record and evaluate any additional archaeological remains that might be uncovered during such activities.
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