


RMW
Paleo Associates

Paleontology
Archaeology
History

AUTHOR: Patrick O. Maxon, RPA

DATE: September 2000

<p style="text-align: center;">TITLE</p> <p>Cultural Resources Assessment and Treatment Plan for the Aliso Creek Emergency Sewer (ACES) Project, Aliso Water Management Agency, Aliso and Wood Canyons Wilderness Park, Orange County, California.</p>	<p style="text-align: center;">SUBMITTED BY RMW Paleo Associates Archaeology Paleontology History</p> <p style="text-align: center;">23392 Madero, Suite L Mission Viejo, California 92691 (949) 770-8042 FAX (949) 458-9058</p>	 <p style="text-align: center;">Chert Ceremonial Blade, 15 cm Length, Recovered by RMW Paleo, 1993</p>
---	---	---

SUBMITTED TO: Mr. Brian Peck
Aliso Water Management Agency
30290 Rancho Viejo Road
San Juan Capistrano, CA 92675

PROJECT NUMBER: RMW Project Number 00-1688

USGS QUADRANGLE: San Juan Capistrano, Calif. 1968; Photorevised 1981

KEYWORDS: San Juan Capistrano, Aliso and Wood Canyons Wilderness Park, Orange County; Township 7S, Range 8W; San Bernardino Base and Meridian; CA-ORA-19, CA-ORA-126, CA-ORA-395, CA-ORA-399, CA-ORA-403, CA-ORA-423, CA-ORA-581

TABLE OF CONTENTS

	Page
Maps and Table	iii
Management Summary/Abstract	iv
Contracting Information/Introduction	1
Setting: Natural	5
Cultural: Prehistoric	5
Ethnographic	7
Previous Research	10
Cultural Resources	13
Summary/Recommendations	20
References Cited	22
Appendix A: Personnel Qualifications	
Appendix B: Record Search Bibliography	
Confidential Appendix C: Site Recording Forms	
Confidential Appendix D: Site Maps (SRS 1979a)	

MAPS

	Page
Map 1: Project Vicinity Map	3
Map 2: Project Area Map	4

TABLES

	Page
Table 1	12

MANAGEMENT SUMMARY/ABSTRACT

Purpose and Scope: The Aliso Water Management Agency contracted RMW Paleo Associates to perform a cultural resources assessment and treatment plan for the Aliso Creek Emergency Sewer (ACES) project. The study was accomplished to satisfy California Environmental Quality Act (CEQA) Guidelines and Statutes pertaining to the mitigation of impacts to significant cultural resources.

Dates of the Investigation: The field portion of the investigation was accomplished on 8 and 21 August 2000. This report was completed in September 2000.

Summary of Findings: An examination of the sites to be impacted by the ACES project revealed that six known prehistoric archaeological sites (CA-ORA-19, CA-ORA-126, CA-ORA-395, CA-ORA-399, CA-ORA-403 and CA-ORA-423/-1072) will suffer at least some form of damage due to trenching for the sewer. The level of damage varies for each site and will be described below.

Significance/Summary: Nearly 30 prehistoric archaeological sites have been identified within the Aliso and Wood Canyon Wilderness Park and more than 30 additional sites exist within the Lower Aliso and Wood Creek watersheds in the immediate vicinity of the park (more than 100 sites have been identified in the entire Aliso Creek watershed). Many have undergone some form of cultural resources investigation (identification, test excavation, data recovery excavation, controlled destruction and/or monitoring). Although some have been destroyed by development and others have suffered varying degrees of damage (rodent activity, discing, plowing, planting, road construction, etc.), the information potential of the deposits remains high at many of the sites. This is potentially true for all six of the sites to be impacted during the current AWMA project. The six affected sites are deemed *significant* according to Section 15064.5(a)(3)(D) of the California Environmental Quality Act (CEQA).

The Aliso and Wood Canyon watersheds and sites within them form a self-contained area of environmental and cultural diversity on the southern margins of the Los Angeles Basin. The study of archaeological sites within the watershed provides an opportunity to answer broad questions regarding settlement-subsistence activities, cultural ecology and chronological placement relevant to Orange County and Southern California prehistory specifically, and cultural adaptation in general (SRS 1977a, 1977b, 1977c & 1979a; Demcak, et al. 1995).

Undertaking Effects: The proposed development will damage portions of six significant prehistoric archaeological sites.

Recommendations Summary: Six significant prehistoric archaeological sites will suffer some damage during trenching for installation of the sewer pipeline. See Confidential Appendix D for site maps. The following includes recommendations for mitigation of the negative effects to the sites as a result of the current project (sites are listed from north to south):

CA-ORA-423/-1072: The currently proposed trench will generally follow the existing road and will cut through a portion of the site. Mitigation measures must include the excavation of a sufficient number of units to test that portion of the site to be disturbed by the trench and Right of Way (ROW).

CA-ORA-19: The proposed trench will be excavated immediately west of and along the existing AWMA Road, through what, according to existing maps, is the center of the site. The site was essentially destroyed during grading for the Aliso Viejo Community Development (Cathy Nowak and Pam Maxwell, personal communication, 30 August 2000). The current field assessment, however, suggests that portions of the site may still exist between the engineered slope and Aliso Creek. Therefore, the ROW within the documented site boundaries must be tested with the placement of a sufficient number of excavation units to determine if portions of the site are indeed still intact. If in place deposits are discovered, additional excavation may be necessary.

CA-ORA-126: The proposed trench will be excavated immediately west of and along the existing AWMA Road, through what, according to existing maps, is the eastern portion of the site. The site was essentially destroyed during grading for the Aliso Viejo Community Development (Cathy Nowak and Pam Maxwell, personal communication, 30 August 2000). The current field assessment, however, suggests that portions of the site may still exist between the engineered slope and Aliso Creek. Therefore, the ROW within the documented site boundaries must be tested with the placement of a sufficient number of excavation units to determine if portions of the site are indeed still intact. If in place deposits are discovered, additional excavation may be necessary.

CA-ORA-403: The current proposed trenching program will essentially bisect the site. Mitigation measures must include testing the area in the ROW with the placement of a sufficient number of excavation units to mitigate the effects of the trenching.

CA-ORA-399: Previous researchers concluded that the site was redeposited material from CA-ORA-400 (SRS 1979a:161). Therefore, no controlled excavation is required prior to trenching; however, during cutting of the trench, side walls must be carefully examined for the presence of cultural material. If in place deposits are encountered, controlled excavation may be necessary.

CA-ORA-395: The proposed trenching program will essentially destroy the site. Mitigation measures must include a data recovery excavation in the ROW with the placement of a sufficient number of excavation units to mitigate the effects of the trenching after machine removal of upper two meters of sterile alluvium.

Monitoring: Because of the existence of several known archaeological sites within the Right of Way and because the potential for buried sites in the area is high, it is recommended that a qualified archaeologist be present to monitor all trenching activities. Monitoring in certain areas may not be necessary. Areas that have been determined as not needing archaeological monitoring will be identified prior to the commencement of ground disturbing activities and monitoring will

be adjusted accordingly. The monitoring archaeologist must be empowered to divert grading in the event that *in situ* archaeological deposits are exposed. Sufficient time must also be allowed for adequate evaluation and recovery operations to be completed if a site is discovered.

Disposition of Data: All field notes and other documents are on file at RMW Paleo Associates. This report will be filed with the South Central Coastal Information Center, California State University, Fullerton, with the Aliso Water Management Agency and with RMW Paleo Associates, Inc.

CONTRACTING INFORMATION/INTRODUCTION

Contract Data: The Aliso Water Management Agency contracted RMW Paleo Associates to perform a cultural resources assessment and develop a treatment plan for cultural resources to be impacted by the Aliso Creek Emergency Sewer (ACES) project, Contract 1A-96, mostly within the Aliso and Wood Canyons Wilderness Park.

Purpose: This study was completed under the provisions of the *California Environmental Quality Act* (CEQA). Public Resources Code SS5024.1, Section 15064.5 of the Guidelines and Sections 21083.2 and 21084.1 of the Statutes of CEQA were used as basic guidelines for the cultural resources study (Governor's Office of Planning and Research 1998).

Public Resources Code SS5024.1 requires evaluation of historical resources to determine their eligibility for listing on the *California Register of Historical Resources*. The purposes of the register are to maintain listings of the state's historical resources and to indicate which properties are to be protected from substantial adverse change (Office of Historic Preservation 1995a:1). The criteria for listing resources on the California Register were expressly developed to be in accordance with previously established criteria developed for listing on the *National Register of Historic Places* (NRHP).

According to Section 15064.5(a)(3)(A-D) in the revised CEQA guidelines (Governor's Office of Planning and Research 1998), a resource is considered *historically significant* if it meets at least one of the following criteria:

- A: Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
- B: Is associated with the lives of persons important in our past;
- C: Embodies the distinctive characteristics of a type, period, region or method of construction, or represents the work of an important, creative individual, or possesses high artistic values;
- D: Has yielded, or may likely yield, information important in prehistory or history.

If a resource is negatively effected by a project, measures must be implemented to mitigate the project's negative effect on the resources to less than a significant impact [Section 15064.5(b)(3)]. Mitigation measures can include avoidance of sites, deeding of sites to conservation easements, capping of sites with culturally sterile soil, incorporation of sites into open space or excavation of those portions of sites effected by the project [Section 21083.2 (b & d)].

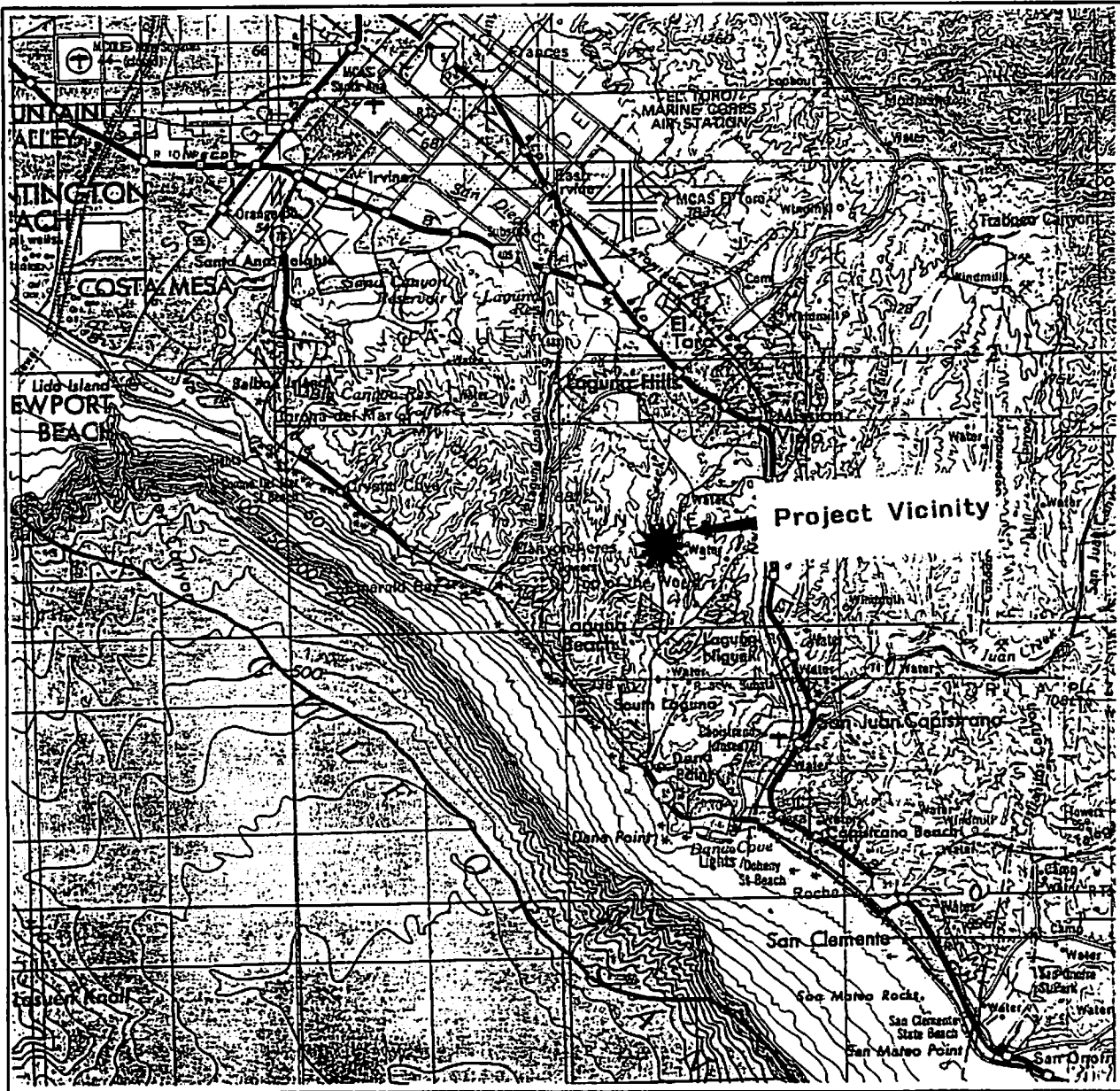
Resources that are at least 50 years old are potentially eligible for listing on the *California Register* and must be evaluated. The Office of Historic Preservation recommends *recording* all cultural resources over 45 years old. The 45 year criteria recognizes there is often a five year lag between resource identification and the date when planning decisions are made (Office of Historic

Preservation 1995b:2). The format of this report follows *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format* (Office of Historic Preservation 1990).

Undertaking: The development plan proposes the installation of an emergency sewer line from the vicinity of the intersection of Aliso Creek Road and Alicia Parkway, generally following AWMA Road to the AWMA sewage plant at the southern end of the study area.

Maps: Map 1 is a portion of the 1 by 2 degree USGS map, Santa Ana, California depicting the general vicinity of the study area. Map 2 is a portion of the USGS quadrangle, San Juan Capistrano, California depicting the subject property. The maps are located on pages three and four, below.

Personnel: Patrick Maxon is Principal Investigator and accomplished the research, field investigation and report for this study. Steven McCormick assisted in the field assessment. Resumes for both parties are contained in Appendix A.



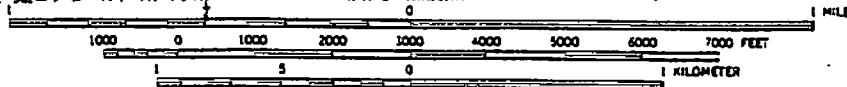
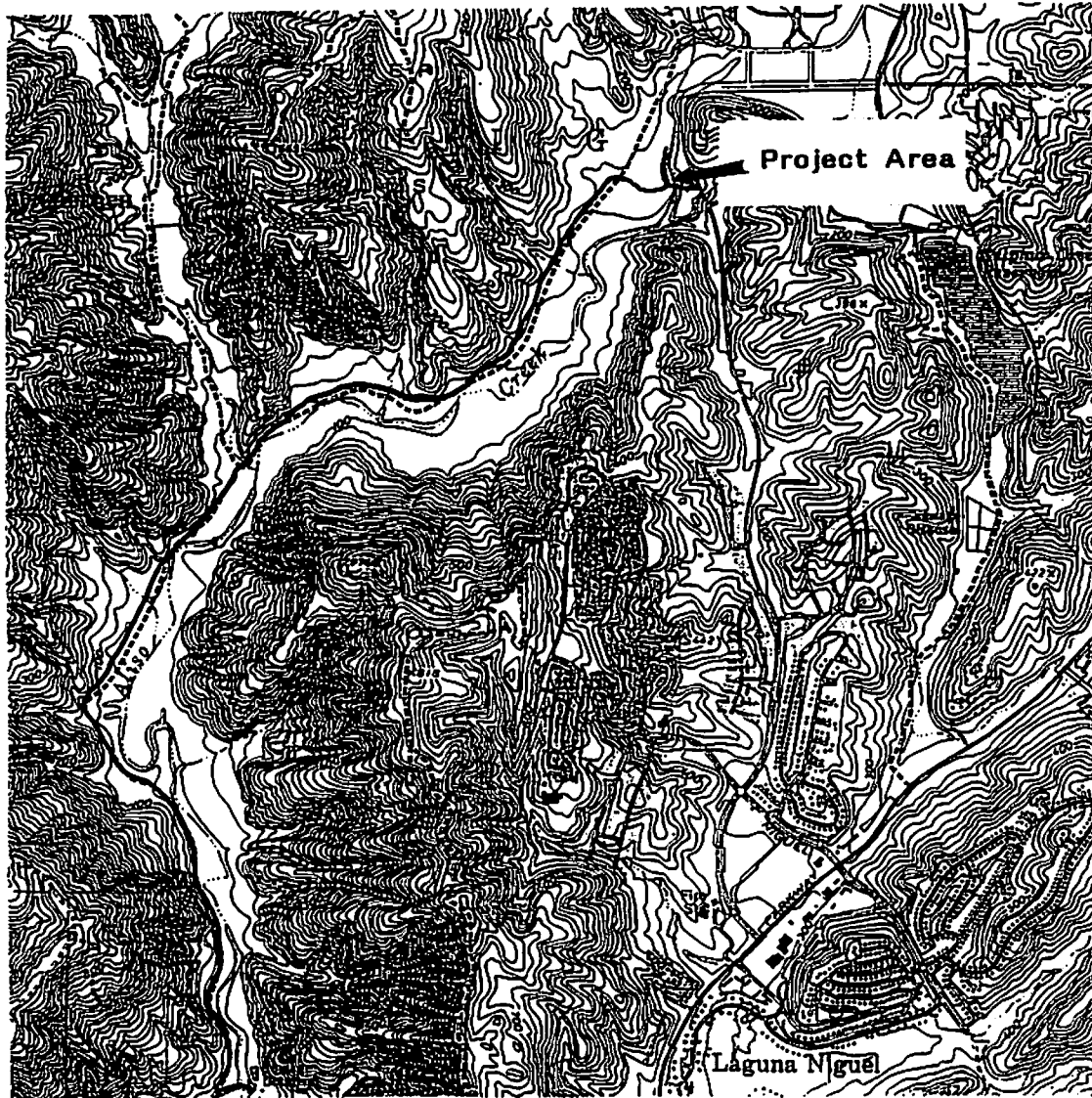
RMW Paleo Associates
Archaeology
Paleontology
History

23392 Madero, Suite L
 Mission Viejo, CA 92691
 (949) 770-8042
 FAX (949) 458-9058

Map 1: PROJECT VICINITY

Portion of 1 by 2 Degree USGS
 Santa Ana, California Map,
 1959; Revised 1979

Scale = 1:250,000



Chert Ceremonial Blade,
15 cm Length, Recovered
by RMW Paleo, 1993

**RMW Paleo Associates
Archaeology
Paleontology
History**

23392 Madero, Suite L
Mission Viejo, CA 92691
(949) 770-8042
FAX (949) 458-9058

Map 2: PROJECT AREA

Portion of USGS 7.5 Minute
Quadrangles, San Juan Capistrano,
California, 1968; Photorevised 1981.

Area shown lies in
Township 7S Range 8W

Scale = 1:24,000

SETTING

Natural

The subject property is located in an unincorporated area of Orange County, California. The northern end of the study area is immediately north of the intersection of Aliso Creek Road and Alicia Parkway. The pipeline right of way follows the existing AWMA Road to the southern end of the study area and terminates at the Aliso Water Management Agency sewage facility, some 1.5 kilometers northeast of Aliso Beach in South Laguna.

The subject property lies in the Sheep Hills which form the coastal foothills portion of the San Joachin Hills. These hills are cut by several canyons formed by seasonal drainages. The study area is dominated by the perennial Aliso Creek drainage, originating in the foothills of the Santa Ana Mountains near Cook's Corner and entering the ocean at Aliso Beach in South Laguna. Aliso Canyon would have provided a convenient route of travel between the coast and interior. The side canyons are predominantly associated with alluvial fans extending into the Aliso Creek floodplain. These alluvial valleys are created by intermittent tributary streams (Sulphur Creek, Wood Creek, et al.) joining Aliso Creek at various locations.

The native vegetation communities in the study area would have included chaparral, coastal sage scrub, oak woodland, grassland, riparian and coastal tideland. They all would have been utilized in the collection of faunal and floral resources by the aboriginal inhabitants of the area.

Geologically, the study area is underlain by marine sediments of the Miocene to Pliocene Epoch Capistrano and Monterey Formations. Quaternary, non-marine alluvial deposits cover most of Aliso Creek and its floodplain (Morton and Miller 1973 in Bissell 1986a). The alluvium is derived from the Santa Ana Mountains and contains cobbles of quartz, quartzite, cryptocrystalline quartz, metavolcanics, schist, granite and other materials. These lithic resources would have furnished the bulk of tool making material for the aboriginal occupants of the area.

The climate in the vicinity of the study area is classified Mediterranean and can be described as mild, wet winters and hot, dry summers. Temperatures average about 25 degrees Celsius in the summer and about 15 degrees Celsius in the winter. Rainfall occurs primarily between November and April and averages between 25 and 40 centimeters per year. The current climatic conditions did not prevail during the entire span of time that man has been present in the area. Heusser (1978) suggests that pine forests may have occupied the coastal regions from roughly 10,000 to 6,000 B.C. The climate then became warmer and drier, resulting in replacement of the pine forests by oak woodland and grassland communities. Sage Scrub and Chaparral Communities became pronounced during the few centuries preceding the beginning of the Christian Era.

Cultural

Prehistoric: The archaeological heritage of California is quite rich, probably more so than any other North American region north of Mexico. However, the archaeology of California is not well known. The native Californians were generally quite peaceful and did not often offer warlike

resistance to European settlement. Consequently, they did not gain great notoriety during the settlement period. Also, the original Californians were first under the control of the Spanish and then the Mexican governments and only later, after much of their culture had been destroyed by disease and displacement, did they come under the control of the United States government. There was only a minor Native American presence remaining in California when it became a United States possession and massive development began. Consequently, very little interest in the natives and their prehistory was initially generated. It was many years later before the size, complexity, and extent of archaeological deposits in the state became apparent.

Humans have been present in the New World since perhaps 10,000 to 11,000 years B.C. There is growing evidence, however, that humans were present long before that date (see Dixon 1993). Linguistic and genetic studies suggest a date of 20,000 to 40,000 years ago as more realistic (LA Times 1998). The evidence of earlier occupation is not yet conclusive, but it is beginning to be accepted by archaeologists. The earliest remains that are generally accepted indicate a very small, mobile population, apparently dependent on hunting of large game animals as the primary subsistence strategy. Other resources were certainly used, but the bulk of the few traces remaining today are related to game hunting (Chartkoff and Chartkoff 1984, Moratto 1984).

Chartkoff and Chartkoff (1984) identify the earliest portion of the archaeological sequence - to about 9,000 B.C. - as the *Paleo-Indian Period*. Surviving material culture of this period consists primarily of large, extremely well made projectile points and large, crude tools, such as scrapers and choppers. Such an assemblage was utilized to exploit the large game animals available to Pleistocene Epoch populations. Encampments were not permanent, but were probably sited near a major kill. Occupation would have persisted only until the resources of that kill were exhausted. It is probable that the Paleo-Indians lived in groups no larger than extended families and that contact with other such groups was infrequent. The Pleistocene ended sometime around 9,000 B.C., and the large game animals gradually became extinct. This change in resource availability forced a major change in subsistence strategies.

A general chronology has been developed for the Southern California coastal region by Wallace (1955) for the time subsequent to the Paleo-Indian Period:

The *Millingstone Horizon* people (ca. 5,500-1,500 B.C.) practiced a mixed hunting and gathering food procurement strategy. Game hunting still played an important role in the economy, but by this time the Native Americans had learned to exploit the hard seed resources of the coastal sage scrub and chaparral ecological communities. The rapid extinction of the large mammals the Paleo-Indian had previously been exploiting necessitated this shift in resource exploitation. Manos and metates, the principle implements used to process the seeds, appear in large numbers for the first time in this horizon, and are especially numerous near the end of the period. Other specialized tools were developed to process the increased resources utilized by Millingstone people. Bone tools and shell items are uncommon; probably having decomposed over time. Settlement size seems to have increased and an annual round of seasonal migrations may have been practiced as movements coincided with ripening vegetal resources. Some formal burials are also evident.

The *Intermediate Horizon* (ca. 1,500 B.C. to A.D. 1,000), is characterized by a shift away from primarily vegetable food exploitation to a hunting and maritime subsistence strategy. In general, the use of groundstone implements gives way to the production of small, chipped stone tools, such as projectile points. It was during the Intermediate that the mortar and pestle were introduced. The mano and metate continued to be used on a somewhat reduced scale, but the introduction of the mortar and pestle signaled a shift away from the processing and consuming of hard seed resources to that of the acorn. The acorn then became the staple of the California Native Americans and remained so until European contact.

In the Intermediate Horizon, emigrants from the Great Basin appeared in the Los Angeles and Orange County area. Because it is difficult to separate the archaeological assemblages of the emigrants from those of the indigenous peoples on the basis of artifact typology alone, these peoples either were very quick to adopt most of the local traits, or brought a similar material culture with them.

In the *Late Prehistoric Horizon* (ca. A.D. 1,000 to European contact), there was a greater use of food resources with more land and sea mammal hunting to complement collecting. The material culture in the Late Horizon was more complex. More classes of artifacts were being produced and they exhibited a more sophisticated degree of workmanship. The recovery of a greater number of small, finely chipped projectile points suggests a greater utilization of the bow and arrow. Other items include steatite containers, shell fishhooks, perforated stones, bone tools, personal ornaments, asphalt adhesive and elaborate mortuary customs (Wallace 1955:195).

During the final centuries prior to Spanish contact, the archaeological record reveals great increases in population. Some villages contained as many as 1,500 persons. Apparently, many of these settlements were occupied throughout the year rather than seasonally.

Ethnographic: The subject property lies within the area occupied during the Late Prehistoric Period by the Native American groups now known as the Juaneño and Gabrielino (Bean and Smith 1978, Bean and Shipek 1978, Kroeber 1925). The name Juaneño denotes those people who were administered by the Spanish from Mission San Juan Capistrano. Therefore, the name does not identify a specific ethnic or tribal group. The names the Native Americans used to identify themselves have, for the most part, been lost. Contemporary Juaneño identify themselves as the indigenous people known as the Acagchem Nation (Belardes 1992). The name Gabrielino denotes the people controlled by the Spanish from Mission San Gabriel.

The Juaneño and Gabrielino language, as well as that of the Luiseño to the south, was derived from the Takic family, part of the Uto-Aztecian linguistic stock. By contrast, the Chumash language, from the north of the Gabrielino, is derived from the Hokan stock of the Yuman language family, representing an origin quite different from that of the Juaneño and Gabrielino. The Chumash share this trait with groups located south of the Luiseño.

The Yuman family of languages is derived from the American southwest while the Takic family can be traced to the Great Basin area (Driver 1969). Linguistic analysis has established that the

Hokan speakers of Ventura and San Diego Counties were separated some time after 500 B.C. The implication is that the southern California coastal region was once filled with Hokan speakers who were gradually separated and displaced by Tadic speaking migrants from the Great Basin area. The timing, extent and impact on local societies with regard to the migration is not well understood and any data related to it represents an important contribution to the understanding of local prehistory.

The Gabrielino may have numbered as many as 5,000 people during their peak in the precontact period; however, population estimates are very difficult to make, because many of the Indians did not come under Spanish control.

The Juaneño population during the precontact period is not known. It is known that approximately 1,300 Juaneño resided at Mission San Juan Capistrano in the year 1800 (Engelhart 1922). The mission death register shows as many as 4,000 native burials in the mission cemetery.

The center of the Juaneño and Gabrielino religion was *Chinigchinich*, the last of a series of heroic mythological figures. The heroes were originally from the stars and the sagas told of them formed the Juaneño religious beliefs. The most obvious expression of the religion was the *Wankech*, a brush enclosed area where religious observances were performed. The *Wankech* apparently contained an inner enclosure housing a representation of *Chinigchinich*, a coyote skin stuffed with feathers, claws, beaks and arrows.

Father Boscana, a priest at Mission San Juan Capistrano, recorded his observations of the Indians and left a most valuable work. Kroeber (1925:636) describes Boscana's *Chinigchinich* as, "the most intensive and best written account of the customs and religion of any group of California Indians in the mission days." Kroeber, drawing on Boscana and other sources, describes the Juaneño as having well developed religious, ritualistic and social customs.

Both boys and girls were involved in rites of initiation around the age of puberty. The rites for males included use of datura, a hallucinogen, in search for a spirit helper. Trials of endurance may also have been part of the ritual. Females were placed in a branch lined pit containing heated stones. The girl being initiated fasted in the pit for several days. Females also were introduced to tattooing during the initiation period.

The Juaneño practiced cremation of the dead; cremation usually occurring only a few hours after death. The cremation was managed by specific individuals who received pay for their services. The death of at least those of higher rank was commemorated on the first anniversary.

The Juaneño had medicine men (shamans), but very little is known regarding how they acquired their knowledge or their practices.

A very accurate calendar was possessed by the Juaneño. Unfortunately, knowledge of its exact working has been lost. It is known that it combined both lunar and solar elements in a fashion similar to certain Southwestern practices.

The Gabrielino also traced their descent through the male line with status being determined by both wealth and heredity. Each lineage had a leader (chief), whose authority rested in possession of a sacred bundle. The chief had several assistants to help with the many duties, including the collection of taxes (gifts from the people, primarily for consumption by guests), concluding treaties and seeing to community welfare. Subject to approval of the people, the position of chief was hereditary within the male line, though females could serve if no male heir was available. Shamans were also people of power, whose primary responsibilities were the overseeing of the various rituals.

The mainland Gabrielino practiced cremation of the dead, cremation usually occurring about three days after death. Most possessions of the deceased were also burned, though some were kept to be burned at the annual mourning ceremony, an eight day event in the fall.

The subsistence economy of both the Gabrielino and Juaneño was one of hunting and gathering. The surrounding environment was rich and varied, and the natives were able to exploit mountains, foothills, valleys, deserts and coasts. As with most native Californians, acorns were the staple food (by the Intermediate Horizon), supplemented by the roots, leaves, seeds and fruit of a wide variety of flora (i.e., cactus, yucca, sage, agave, etc.). Fresh and saltwater fish, shellfish, birds, insects, as well as large and small mammals were exploited.

An extensive inventory of tools and implements were employed to gather, collect and process food resources (McCawley 1996:118). The most important hunting tool was the bow and arrow. Traps, nets, blinds, throwing sticks and slings were also employed. Fish were an important resource and nets, traps, spears, harpoons, hooks and poisons were utilized to catch them. Ocean-going plank canoes and tule balsa canoes were used for fishing as well as for travel (Moratto 1990:63) for those groups residing near the ocean.

The processing of food resources was accomplished in a variety of ways: nuts were cracked with hammer and anvil, acorns were ground with mortar and pestle, and seeds and berries with mano and metate. Yucca was also a targeted resource and was eaten by the native peoples (as well as being exploited for its fibers). The flower stalk of the yucca was cut at the base, placed in a rock lined roasting pit, buried and cooked overnight. Although not universally accepted (see Sutton, Schneider and Yohe 1993:47-50), Kowta (1969) has suggested that scraper planes may have been utilized for processing the yucca, since they can effectively pulp and shred the fibers of its leaves.

Strainers, leaching baskets and bowls, knives, bone saws and wooden drying racks were also employed. Food was consumed from a variety of vessels. Catalina Island steatite was used to make ollas and cooking vessels (Kroeber 1925:629).

PREVIOUS RESEARCH

A review of the records housed at the South Central Coastal Information Center, University of California, Los Angeles (recently moved to California State University, Fullerton) was performed by the author on 17 July 2000. (see Appendix B). The search included a review of all recorded historic and prehistoric archaeological sites within the subject property, as well as a review of all known cultural resources survey and excavation reports.

The results of the search revealed that at least six archaeological sites lie within the Right of Way (ROW) of the currently proposed trenching program (see Confidential Appendix C for site update forms). Those sites, from north to south are:

- CA-LAN-423/-1072
- CA-LAN-19
- CA-LAN-126
- CA-LAN-403
- CA-LAN-399
- CA-LAN-395

All of the sites have undergone various forms of investigation, but all are still relatively intact and considered significant according to CEQA criteria.

Additionally, numerous surveys, excavations and other cultural resources reports have been produced for projects within and/or near the current study area. The studies listed below were used to assess the sites in the current treatment. The OR# designations denote SCCIC filing numbers. The entire list of reports can be viewed in Appendix B, below:

- PAST 1972 (OR719)
- Ellis 1973 (OR705)
- SRS 1976 (OR40), 1977a (OR255), 1977b (OR702), 1977c (OR580), 1978 (OR300a), 1979a (OR300b), 1979b (OR430)
- Bissell 1986a (OR821), 1986b (OR824), 1988 (OR938)
- Demcak 1986 (OR849)
- Demcak & Del Chario 1990a (OR1023), 1990b (OR1024)
- Langenwalter 1994 (OR1579)
- Demcak, Maxwell & Cottrell 1995 (OR1843)

Much archaeological study has been undertaken in the Aliso and Wood Canyons area since the 1970s. The following discussion presents a summary of cultural resources investigations performed in the vicinity of the study area. Only those studies that involve sites pertaining to the current study are included.

Two early surveys of portions of the current subject property, that identified many of the archaeological sites in the area, were undertaken by the Public Antiquities Salvage Team from California State University, Fullerton (OR719) and by Archaeological Research, Inc. (OR705). These were accomplished in 1972 and 1973 respectively.

The bulk of intensive cultural resources investigations in the vicinity of the subject property was accomplished by Scientific Resources Surveys, Inc. (SRS): In 1976 and 1977 three studies were undertaken to review the existing literature sources, to complete field surveys to find sites and relocate known sites, and to provide recommendations for mitigation of impacts to sites in the way of proposed development in the Aliso Canyon area (OR40, 255 & 702). That same year, SRS produced a proposal for treating all the sites. The document included a suggested research and study design (OR580). Subsequently, in 1978 and 1979, three documents were produced, reporting on the findings of test excavations of sites (including the current six sites) within the Aliso Creek area (OR300a, 300b & 430). These studies definitively determined the significance of sites in the area and provided recommendations for additional study.

In 1986, RMW Paleo Associates accomplished a salvage data recovery excavation on a portion of CA-ORA-423 (then ORA-1072) and also produced a report summarizing the status of archaeological sites on property owned by the S & S Construction Company (OR821 and 824). A 1988 report summarized the status of sites in the Wood Canyon area and provides recommendations for further work (OR938).

From 1986 to 1995, Demcak, et al. produced several reports detailing archaeological investigations in the area. A 1986 assessment of nine sites in the Aliso and Wood Canyons Regional Park (OR849) paved the way for the 1990 test excavations at CA-ORA-398 (OR1023), CA-ORA-403 (OR1025) and the 1995 study of CA-ORA-19, CA-ORA-126 and several others that will not be effected by the current development (OR1843).

The most recent report involving a site identified in the current study was authored by P. Langenwalter in 1994 and describes the excavation and analysis of three human burials recovered from CA-ORA-423 (OR1579).

More recent excavations by G. Hurd in 1998 and 1999 at CA-ORA-423 and CA-ORA-403 have not yet been documented in a report. Work on the report is currently underway (Gary Hurd, personal communication, 9 August 2000).

Finally, based on current field assessments by the author, it was apparent that sites CA-ORA-19 and CA-ORA-126 had been either damaged, destroyed or buried by recent development in the area. The construction of a fill slope immediately west of the two sites, covers the majority of the CA-ORA-19 site area and a portion of the CA-ORA-126 site area. The installation of a corn maze and related parking lots, streets, etc. lies on top of most of the CA-ORA-126 site area and a portion of the CA-ORA-19 site area.

Conversations with planners from Shea Homes (responsible for the development that created the engineered slope), as well as several officials with the County of Orange were not fruitful. Subsequent discussions with Pamela Maxwell, archaeologist with the U.S. Army Corps of Engineers, who worked on the sites a decade ago, and Cathy Nowak, a planner with the County of Orange, revealed that both sites had indeed been destroyed by grading in the late 1980s. However, it was acknowledged that portions of the sites may still remain intact adjacent to Aliso Creek. No report is known to exist that documents the measures carried out to mitigate the effects of the sites' destruction (Maxwell; Nowak, personal communication, 30 August 2000).

The following table lists the sites affected by the currently proposed trenching program. The table summarizes information on each site, including previous research and recommendations:

Aliso Water Management Agency: Aliso Canyon Archaeological Sites within ROW

Site	Reports	Status
CA-ORA-423/ -1072	*SRS 1979a *Bissell 1986b *SRS 1990	<i>Significant.</i> Much disturbance; Portion probably intact. No test of southern portion of site. Recommendations: Data recovery excavation in ROW
CA-ORA-19	*SRS 1979a *Demcak 1986 *SRS 1990 *Demcak, et al. 1995	<i>Significant.</i> Semi-permanent village. Late Prehistoric. Destroyed Recommendations: Test excavation in ROW; possible data recovery excavation
CA-ORA-126	*SRS 1979a *Demcak 1986 *SRS 1990 *Demcak, et al. 1995	<i>Significant.</i> Semi-permanent village; burials. Late Prehistoric. Destroyed Recommendations: Test excavation in ROW; possible data recovery excavation
CA-ORA-403	*SRS 1979a *Demcak 1986 *Demcak & Del Chario 1990 *SRS 1990	<i>Significant.</i> Late Prehistoric campsite/village. Several loci Recommendations: Data recovery excavation in ROW
CA-ORA-399	SRS 1979a	<i>Not Significant.</i> Shellfish remains probably washed down from ORA-400. Buried component may lie below 4 meters of alluvium. Recommendations: Monitoring of trenching; documentation of stratigraphy
CA-ORA-395	SRS 1979a	<i>Significant.</i> Rockshelter with shell midden. Will be destroyed Recommendations: Data recovery excavation in ROW

CULTURAL RESOURCES

Six known prehistoric archaeological sites will suffer damage during trenching for installation of the ACES pipeline (see Confidential Appendix D for site maps). The following discussion (summarized in the table above) notes the recording of the site, describes previous work accomplished, provides an assessment of the current condition of the site and includes recommendations for mitigation of the adverse effects to the sites as a result of the current project (sites are listed from north to south):

CA-ORA-423/-1072

This site is situated at and around the confluence of Sulphur and Aliso Creeks, along AWMA Road, at the northern end of the project area. It was originally recorded by Cooley, et al. in 1973 with the discovery of two manos, worked chert and shellfish remains. SRS (1978) decided not to test this site because of the "complex [of] underground cables, pipes, etc." in the area (1978:20).

Previous Studies: Bissell accomplished salvage/data recovery work (Bissell 1986a) at the northern end of the site (previously CA-ORA-1072). Bissell's investigation resulted in the recovery of more than one thousand artifacts, including a wide range of ground and chipped stone tools and ecofactual remains consisting of shellfish as well as mammal, bird and fish bone. C-13 adjusted radiocarbon dates on three samples from the site yielded dates ranging from 1665±100 to 335±55 years ago, placing the sites in the late Intermediate through the Late Prehistoric Periods. Bissell considered CA-ORA-423 extremely significant; the largest, relatively undisturbed village site remaining in the area (Bissell 1986b:12).

In 1993, erosion along the banks of Aliso Creek exposed three human burials (Burial 1 contained two individuals), two on the west bank and one on the east bank, within the CA-ORA-423 site boundaries, in the immediate vicinity of the confluence of Aliso and Sulphur Creeks. The burials were hand excavated in 1994 by Macko Archaeological Consulting and then reinterred by representatives of the Juaneño Band of Mission Indians. The burials consisted of two males and two females; all were flexed and in various states of disintegration due to erosional processes. A black abalone (*Haliotis crachrodii*) shell was recovered from near the head of the male in Burial 1. No other grave goods were discovered. Radiocarbon dating of the abalone shell and an associated piece of mammal bone yielded C-13 adjusted dates of 4,280±50 and 3,940±60 years ago respectively; placing them well within the Millingstone Horizon (Langenwalter 1994).

Additionally, since 1998, students from Saddleback and Cypress Colleges, under the direction of Dr. Gary Hurd and Mr. Paul Langenwalter respectively, have conducted data recovery excavations on the small peninsula created by the confluence of Aliso and Sulphur Creeks at the eastern end of the site. Erosion will eventually destroy this small peninsula, necessitating the excavations. The work will continue in the future. No report on the excavations has, as yet, been produced (Steve McCormick, personal communication, 18 August 2000).

Evaluation: Based on radiocarbon dates obtained during previous excavations (Bissell 1986a; Langenwalter 1994), CA-ORA-423 was occupied from the Millingstone through the Late Period

and is probably a semi-sedentary village based on the diversity of artifact types and subsistence activities, as well as overall large size and depth. The site is considered significant, with the potential to yield important information pertinent to local prehistory.

Current Status: Natural erosion from Aliso Creek, rodent activities, the subsequent construction of the Latter Day Saints Church and the installation of roads, gravel parking lots and utilities for the museum, caused some damage to portions of the site. This damage, however, probably did not significantly alter the site's information potential.

Recommendations: The currently proposed trench will generally follow the existing AWMA road and will, therefore, cut through a portion of the site. Mitigation measures must include the excavation of a sufficient number of units to complete a data recovery excavation of that portion of the site to be disturbed by the trench and Right of Way (ROW).

CA-ORA-19

This site is located immediately southwest of CA-ORA-423, on the west side of Aliso Creek, approximately 450 meters southwest of its confluence with Sulphur Creek. Noted by Romero in 1935 (designated Camp 19, O.C.A.S.) and formally recorded in 1949 by R.J. Briggs, it was described as a camp with scattered midden material (oyster and clam shells and a large tar covered stone). SRS (1979a:78-79) named CA-ORA-19 the Dead Rat Site because of the frequency of dead Kangaroo rats (*Dipodomys spp.*) found in excavation units.

Previous Studies: SRS conducted a test excavation of 40 backhoe trenches to define the areal extent of the site and to provide information concerning the nature, depth and content of the midden. Additionally, 12 one by one-half meter excavation units and a single one by one meter unit were excavated to test various areas of the site (SRS 1979a:78). Recovery was the most diverse, in terms of artifact forms, of any site tested by SRS. It consisted of 251 artifacts including ground and chipped stone tools, shell beads, ceramic pipe fragments, etc. A diverse assemblage of ecofactual remains was also recovered. Three activity areas were identified for the site. They are located on the alluvial fan, knolltop saddle and bench. A single feature (a platform-like concentration of rocks) was exposed in a unit in the bench locus. It was hypothesized to be a burial cairn or related to Shoshonean girls initiation ceremonies (SRS 1979a:96)

An additional excavation of 23 units was undertaken by Archaeological Resource Management Corporation (ARMC) in 1988 (Demcak et al. 1995). This investigation resulted in the recovery of a similar artifact assemblage.

Evaluation: CA-ORA-19 was occupied from the Middle through the Late Period (radiocarbon dates range from A.D. 150 to later than A.D. 1800) and is considered a semi-sedentary village based on the diversity of artifact types and subsistence activities, as well as overall size (ca. 45,000 square meters) and depth (SRS 1979a:103). The site is considered significant, with the

potential to yield important information pertinent to local prehistory (SRS 1979a:103). The later excavations by Demcak et al. (1995) seems to support the earlier interpretations.

Current Status: It appears that the majority of CA-ORA-19 has been destroyed by construction activities to the northwest. A large, engineered slope covers the site area, reaching nearly to the existing AWMA Road. Portions of the site probably remain near the surface on either side of the road and to the banks of Aliso Creek.

Recommendations: The proposed trench will be excavated immediately west of and along the existing AWMA Road, through the center of the site. The ROW within the documented site boundaries must be tested with the placement of a sufficient number of excavation units to determine if portions of the site are indeed still intact. If the site is located, the excavation of a sufficient number of units to complete a data recovery excavation of that portion of the site to be disturbed by the trench is required.

CA-ORA-581, on the east side of the creek immediately adjacent CA-ORA-19, has a separate trinomial designation, but can probably be considered a locus of its larger neighbor. The midden at CA-ORA-581 has not been tested, but it will not be disturbed by the current trenching work.

CA-ORA-126

This site lies about 150 meters south-southwest of CA-ORA-19, on the west side of Aliso Creek, approximately 750 meters southwest of its confluence with Sulphur Creek. It was recorded by Warren and Lytton in 1963 and described as chipping waste and scattered shell in a 150 foot diameter area, with little soil alteration, on the north side of the stream and dirt road.

Previous Studies: The site was tested by SRS in 1979 and described as a large shell midden of some 16,000 square meters on a large alluvial fan (SRS 1979a:112). The test consisted of the excavation of 20 backhoe trenches to determine the areal extent of the site and the depth of the midden, and 13 hand excavated units, to test the area to be disturbed and to explore features (three were discovered) and burials (two were discovered). A total of 292 formal artifacts (lithics, bone and shell) were recovered during the test excavation. Ground and chipped stone tools, projectile points, utilized flakes, boiling stones, shell beads and pigment fragments were the most common artifacts recovered. A diverse assemblage of faunal remains (shellfish, fish, reptile/amphibian and small and large mammal) was also recovered (SRS 1979a:131-132). The two burials were discovered in units along the dirt road that bisects the site. They were exposed and documented *in situ*, then immediately reburied.

Additional excavation, consisting of 31 units (30, 1x1 m & 1, 1.5x1.5 m) concentrated in the western end of the site, with several units closer to Aliso Creek, was accomplished by ARMC in 1988 (Demcak, et al. 1995). Recovery at the site included 1,269 artifacts consisting of ground and chipped stone tools, shell and ceramic artifacts and waste flakes.

Evaluation: The site is considered a base camp or semi-permanent village occupied during the Late Prehistoric period and abandoned prior to European contact (radiocarbon dates range from A.D. 1450 to later than A.D. 1800). CA-ORA-126 is considered a significant site with the potential to yield important information pertinent to local prehistory (SRS 1979a:134).

Current Status: Like CA-ORA-19, It appears that the majority of CA-ORA-126 has been destroyed by construction activities to the northwest. In this case by the installation of a corn maze immediately adjacent AWMA Road, and an engineered slope, up the hill to a housing development to the west. Portions of the site probably remain near the surface on either side of the road, down to the banks of Aliso Creek, as well as west of the corn maze and east of the built slope.

Recommendations: The proposed trench will be excavated through the recorded eastern edge of the site. The ROW within the documented site boundaries must be tested with the placement of a sufficient number of excavation units to determine if portions of the site are indeed still intact. If the site is located, the excavation of a sufficient number of units to complete a data recovery excavation of that portion of the site to be disturbed by the trench is required.

CA-ORA-403

This site occupies approximately 14,000 square feet of a broad alluvial fan some 400 meters west of ORA-126, along AWMA Road and approximately 1.2 kilometers southwest of the confluence of Sulphur and Aliso Creeks. It was recorded by G. Fenenga in 1973 with the discovery of a metate fragment, fire affected rock, unfired clay and large amounts of shell. It was described as a large shell midden at the mouth of a small canyon extending to the west bank of Aliso Creek. An ephemeral tributary drainage, flowing from the north, bisects the site. SRS (1979a:163) named the site "The Canyon Spring Site."

Previous Studies: CA-ORA-403 was test excavated in 1979 by SRS (1979a) with the excavation of 17 backhoe trenches to determine the areal extent of the site and the depth of the midden, and seven hand excavated units, to test the area to be disturbed and to explore features. The excavation revealed that there exists a general light scatter of artifactual material throughout the site area, with several isolated concentrations of midden. Sixty-one formal artifacts were recovered during the investigation and include ground and chipped stone tools, cores, hammerstones, FAR, pigment chunks and shell beads. Shellfish recovered was overwhelmingly dominated by mussel (*Mytilus spp.*). Four features (three disrupted hearths and one unknown) were discovered and excavated (SRS 1979a:192).

Demcak and Del Chario (1990b) accomplished a boundary test excavation of 43 auger holes and five backhoe trenches, designed to determine the southwestern boundary of the site. Excavations revealed that midden deposits do not exist south of the existing AWMA Road. The little cultural material recovered south of the road is most likely the result of stream redeposition (1990b:11-12).

In early 1998, erosion from the ephemeral drainage that bisects the site, exposed a mostly complete, flexed burial in the wall of the creek bank near the extreme northern end of the site. Excavations revealed that the burial was covered by a rock cairn and contained several items identified as grave goods, including three *Haliotis* shell bowls, a chert projectile point, a bone knapper, utilized chert flakes, and a deer antler and scapula (from field notes by Kenneth Reddell, provided by Steve McCormick). The burial was documented by photographs and line drawings before being reinterred by representatives of the Juaneño Band of Mission Indians. A report on the excavation is forthcoming (Gary Hurd, personal communication, 9 August 2000).

Evaluation: The site is considered a base camp settlement, probably not permanently occupied, composed of a series of discontinuous concentrations of midden with a sparse scattering of cultural debris between the concentrations. Radiocarbon dates range from A.D. 250 to A.D. 1800 and, combined with shell bead data, indicate that the site was initially occupied in the early or mid-Intermediate Period and continued through the first phase of the Late Period. (SRS 1979a:195). CA-ORA-403 is considered a significant site with the potential to yield important information pertinent to local prehistory.

Current Status: The site appears to be in relatively the same condition as last reported by Demcak and Del Chario (1990). Annual grasses cover the surface of the site, precluding the identification of cultural remains other than shell fragments seen in the drainage bisecting the site.

Recommendations: The currently proposed trenching program will essentially bisect the site. Mitigation measures must include a data recovery excavation in the ROW with the placement of a sufficient number of excavation units to mitigate the effects of the trenching.

CA-ORA-399

This site lies down Aliso Canyon, some 1.2 kilometers southwest of CA-ORA-403 and about 600 meters southwest of the confluence of Aliso and Wood Creeks. It was recorded by G. Fenenga in 1973 as a result of the discovery of shell exposed in a tributary stream skirting the southern edge of the site. The existing AWMA Road extends from northeast to the southwest through the eastern side of the site.

Previous Studies: A test excavation of the site (SRS 1979a) consisting of 16 backhoe trenches cut to a maximum depth of 4.35 meters, resulted in the discovery of a sparse scatter of fragmented shellfish interspaced between natural silts. No other cultural material was recovered. Researchers concluded (1979a:161) that the site was created by natural runoff that redeposited shellfish remains originating at CA-ORA-400, some 200 meters up the tributary drainage to the northwest. It was given the distinction "Washed Down Site" as a result. There is a possibility, however, that a buried site exists in the area under the alluvial fan.

Current Status: The site area appears to be relatively undisturbed since the last work accomplished at the site. Annual grasses obscure the ground surface, precluding the detection of

cultural material. During the current study, however, shell was seen along the bottom of the tributary drainage as far as the recorded location of CA-ORA-400 to the northwest.

Recommendations: Previous researchers concluded that the site was redeposited material from CA-ORA-400 (SRS 1979a:161). Therefore, no controlled excavation need be carried out prior to trenching; however, during cutting of the trench, side walls must be carefully examined for the presence of cultural material. If in place deposits are encountered, controlled excavation may be necessary.

CA-ORA-395

This site, recorded by G. Fenenga in 1973 with the discovery of a heavy shell concentration, consists of two small rock shelters (not large enough for habitation), immediately adjacent to the existing AWMA Road, and a halo of shell midden now mostly under the road. It is located approximately 1.2 kilometers south of CA-ORA-399 and 1.8 kilometers south of the confluence of Aliso and Wood Creeks. The site was described by Fenenga as being mostly destroyed by construction of the road. It was named "The Junk Car Site (SRS 1979a)" because an abandoned car had to be removed from in front of the shelters prior to excavation.

Previous Studies: A test excavation of the site (SRS 1979a) consisted of 15 backhoe trenches placed within and adjacent to the midden to test its subsurface extent. They were excavated to a maximum depth of four meters. The excavations revealed that the primary deposit (dominated by shellfish) is approximately two meters below the present ground surface. The majority of the shell remains consisted of *Mytilus, spp.*; many were whole pieces. Only seven artifacts (exclusive of shell remains) were recovered during the trench excavation. They consist of one core, two scrapers and four bone tool fragments (SRS 1979a:150).

Evaluation: CA-ORA-395 was apparently a special activity area or limited occupation site related to the gathering and processing of shellfish remains. The uncrushed nature of much of the shell indicates that the site was probably not occupied on a continuous basis (1979a:151). Thus, this site was probably occupied for a short time during the winter by small social units. A single radiocarbon date obtained from shell from the 210-220 centimeter level of the deposit places the initial occupation of the site at around A.D. 1400, near the end of Phase I of the Late Period (1979a:152). CA-ORA-395 is considered a significant site with the potential to yield important information pertinent to local prehistory (SRS 1979a:152-153).

Current Status: The site appears to be in relatively the same condition as reported previously, although the previous dirt road is now one of asphalt.

Recommendations: The proposed trenching program will essentially destroy the site. Mitigation measures must include a data recovery excavation in the ROW with the placement of a sufficient number of excavation units to mitigate the effects of the trenching after machine removal of upper two meters of sterile alluvium.

Monitoring

Because of the existence of several known archaeological sites within the Right of Way and because the potential for buried sites in the area is high, it is recommended that a qualified archaeologist be present to monitor all trenching activities. Monitoring in certain areas may not be necessary. Areas that have been determined as not needing archaeological monitoring will be identified prior to the commencement of ground disturbing activities and monitoring will be adjusted accordingly. The monitoring archaeologist must be empowered to divert grading in the event that *in situ* archaeological deposits are exposed. Sufficient time must also be allowed for adequate evaluation and recovery operations to be completed if a site is discovered.

SUMMARY/RECOMMENDATIONS

Six significant prehistoric archaeological sites have been identified within the Right of Way of the currently proposed AWMA project in Aliso and Wood Canyons Wilderness Park. According to Section 15064.5(a)(3)(D) in the CEQA guidelines (Governor's Office of Planning and Research 1998), a resource is considered *historically significant* if it "has yielded, or may likely yield, information important in prehistory or history." If a resource is negatively effected by a project, measures must be implemented to mitigate the project's negative effect on the resources to less than a significant impact [15064.5(b)(3)]. Mitigation measures can include avoidance of sites, deeding of sites to conservation easements, capping of sites with culturally sterile soils, incorporation of sites into open space or excavation of those portions of sites effected by the project [Section 21083.2 (b & d)].

Because preservation/protection of the sites is not feasible for this project, a program of test and data recovery excavation will be implemented to mitigate the bulk of the negative effects of the project. Other mitigation measures include stratigraphic documentation and monitoring. The following is a summary of the measures followed by a more detailed description of measures for each site:

- Testing to verify site's destruction: CA-ORA-19 and CA-ORA-126
- Data recovery excavation in ROW: CA-ORA-423, CA-ORA-403 and CA-ORA-395 (possibly ORA-19 and -126)
- Documentation of stratigraphy: CA-ORA-399
- Monitoring of trenching: All sites and potentially buried sites

CA-ORA-423/-1072: The currently proposed trench will generally follow the existing road and will, therefore, cut through a portion of the site. Mitigation measures must include the excavation of a sufficient number of units to test that portion of the site to be disturbed by the trench.

CA-ORA-19: The proposed trench will be excavated immediately west of and along the existing AWMA Road, through what, according to existing maps, is the center of the site. Discussions with planning officials at the County of Orange (Cathy Nowak, personal communication, 30 August 2000) and Pam Maxwell, archaeologist with the U.S. Army Corps of Engineers (personal communication, 30 August 2000) revealed that the site was destroyed during grading for the Aliso Viejo Community Development. The current field assessment, however, suggested that portions of the site may still exist between the engineered slope and Aliso Creek. Therefore, the ROW within the documented site boundaries must be tested with the placement of a sufficient number of excavation units to determine if portions of the site are indeed still intact. If so, additional excavation may be necessary.

CA-ORA-126: The proposed trench will be excavated immediately west of and along the existing AWMA Road, through what, according to existing maps, is the eastern portion of the site.

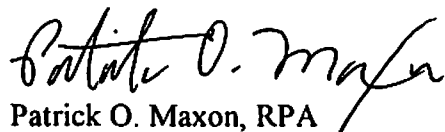
Discussions with planning officials at the County of Orange (Cathy Nowak, personal communication, 30 August 2000) and Pam Maxwell, archaeologist with the U.S. Army Corps of Engineers (personal communication, 30 August 2000) revealed that the site was destroyed during grading for the Aliso Viejo Community Development. The current field assessment, however, suggested that portions of the site may still exist between the engineered slope and Aliso Creek. Therefore, the ROW within the documented site boundaries must be tested with the placement of a sufficient number of excavation units to determine if portions of the site are indeed still intact. If so, additional excavation may be necessary.

CA-ORA-403: The current proposed trenching program will essentially bisect the site. Mitigation measures must test the area in the right of way with the placement of a sufficient number of excavation units to mitigate the effects of the trenching.

CA-ORA-399: Previous researchers concluded that the site was redeposited material from CA-ORA-400 (SRS 1979a:161). Therefore, no controlled excavation is required prior to trenching; however, during cutting of the trench, side walls must be carefully examined for the presence of cultural material. If in place deposits are encountered, controlled excavation may be necessary.

CA-ORA-395: The proposed trenching program will essentially destroy the site. Mitigation measures must include a data recovery excavation in the ROW with the placement of a sufficient number of excavation units to mitigate the effects of the trenching after machine removal of upper two meters of sterile alluvium.

Monitoring: Because of the existence of several known archaeological sites within the Right of Way and because the potential for buried sites in the area is high, it is recommended that a qualified archaeologist be present to monitor all trenching activities. Monitoring in certain areas may not be necessary. Areas that have been determined as not needing archaeological monitoring will be identified prior to the commencement of ground disturbing activities and monitoring will be adjusted accordingly. The monitoring archaeologist must be empowered to divert grading in the event that *in situ* archaeological deposits are exposed. Sufficient time must also be allowed for adequate evaluation and recovery operations to be completed if a site is discovered.



Patrick O. Maxon, RPA
RMW Paleo Associates, Inc.
Archaeological Field Director

REFERENCES CITED

Bean, L.J. and Florence Shipek

- 1978 Luiseño. In, *Handbook of North American Indians, California*, Vol 8, Robert F. Heizer (ed), pp. 538-549. Smithsonian Institution, Washington D. C.

Bean, L.J. and Charles R. Smith

- 1978 Gabrielino. In, *Handbook of North American Indians, California*, Vol 8, Robert F. Heizer (ed), pp. 538-549. Smithsonian Institution, Washington D. C.

Belardes, David

- 1992 Personal Communication. Mr. Belardes is the Tribal Spokesman for the Juaneño Band of Mission Indians.

Bissell, Ronald M. (OR821, 824, 938)

- 1986a Archaeological Investigations at CA-ORA-1072, the Church of Jesus Christ of Latter Day Saints Site, Laguna Niguel, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

- 1986b A Report of the Status of Archaeological Sites On and Near Property Owned By the S&S Construction Company in Laguna Niguel, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

- 1988 Status of Cultural Resources in the Wood Canyon Area, Southern Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Chartkoff, J.L. & Kerry Kona Chartkoff

- 1984 *The Archaeology of California*. Stanford University Press, Stanford, California.

Demcak, Carol (OR849, 1139 & 1140)

- 1986 Cultural Resources Assessment of Nine Archaeological Sites (CA-ORA-19, -126, -403, -582, -401, -402, -422, -20, and -400), Aliso and Wood Canyons Regional Park, County of Orange, California. On file, South Central Coastal Information Center, California State University, Fullerton.

- 1990 Cultural Resources Assessment for Phase I of the Proposed Aliso Creek Wildlife Habitat Enhancement Project. On file, South Central Coastal Information Center, California State University, Fullerton.

- 1991 Cultural Resources Assessment for Moulton Niguel Water District (MNWD) Reclaimed Water Distribution Facilities Project, South Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Demcak, Carol R. and Kathleen C. Del Chario (OR1023 & 1025)

1990a Report on Test Level Investigations at CA-ORA-398, Aliso Creek Wildlife Habitat Enrichment Project (ACWHEP), Phase I, Lower Aliso Creek, South Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

1990b Report on Boundary Test Investigations at CA-ORA-403, Aliso Creek Wildlife Habitat Enrichment Project (ACWHEP), Phase I, Lower Aliso Creek, South Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Demcak, Carol, Pamela Maxwell and Marie Cottrell (OR1843)

1995 Archaeological Investigations at the Aliso Viejo Sites, South Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Dixon, E. James

1993 *Quest for the Origins of the First Americans*. University of New Mexico Press, Albuquerque.

Driver, Harold E.

1969 *The Indians of North America*, Second Edition, Revised. The University of Chicago Press, Chicago and London.

Ellis, Robert

1973 A Final Report on the Scientific Resources Survey for Moulton Ranch. On file, South Central Coastal Information Center, California State University, Fullerton.

Englehardt, Zephyrin

1922 *The San Juan Capistrano Mission*. Zephyrin Englehardt, Los Angeles.

Governor's Office of Planning and Research

1998 *CEQA, California Environmental Quality Act Statutes and Guidelines*. Governors Office of Planning and Research, Sacramento, California.
<http://ceres.ca.gov/ceqa/rev/approval.html>

Heusser, Linda

1978 Pollen in the Santa Barbara Basin, California: A 12,000 Year Record. *Geological Society of America Bulletin*, Number 89, pp. 673-678.

Hurd, Gary (OR2019)

- 1999 Report of Literature/Records Search and Archaeological Reconnaissance Related to the Construction of Trail Bridges Within Aliso and Wood Canyon Regional Park, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Kowta, Makoto

- 1969 *The Sayles Complex: A Late Milling Stone Assemblage from Cajon Pass and the Ecological Implications of its Scraper Planes*. University of California Press. Berkeley and Los Angeles, California.

Kroeber, A. L.

- 1925 *Handbook of the Indians of California*. Bulletin of the Bureau of American Ethnology, 78. Smithsonian Institution, Washington D.C.

Langenwalter, Paul E. (OR1579)

- 1994 Description of Three Prehistoric Human Burials from Archaeological Site CA-ORA-423 in Aliso Creek, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Los Angeles Times, Orange County Edition

- 1998 *America's First Immigrants*. Article in LA Times, Orange County Edition, 26 March 1998.

McCawley, William

- 1996 *The First Angelinos: The Gabrielino Indians of Los Angeles*. Malki Museum Press and Ballena Press.

Moratto, Michael J.

- 1984 *California Archaeology*. Academic Press, San Diego.

- 1990 Cultural and Paleontological Resources in the Santa Susana and Santa Monica Mountains, Los Angeles County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Office of Historic Preservation

- 1990 *Archaeological Resource Management Reports (ARMR): Recommended Contents and Format*. Department of Parks and Recreation, Office of Historic Preservation, Sacramento, California.

- 1995a *The California Register of Historical Resources: Proposed Guidelines for the Nomination of Properties*. Office of Historic Preservation, Sacramento, California.

Office of Historic Preservation

1995b *Instructions for Recording Historical Resources*. Office of Historic Preservation, Sacramento, California.

Public Antiquities Salvage Team (OR719)

1972 Hanson Ranch. On file, South Central Coastal Information Center, California State University, Fullerton.

Scientific Resources Surveys, Inc. (OR40/1873, 255, 580, 702, 300a, 300b, 430)

1976 Archaeological Report on the Aliso Water Management Agency - Phase III Proposed Regional Wastewater Treatment Facilities, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

1977a Archaeological Report on the Aliso Creek Corridor - Planning Units 2 & 3, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

1977b Cultural Scientific Resources Report on the Aliso Viejo Company Property Located in the Southeastern Portion of the County of Orange. On file, South Central Coastal Information Center, California State University, Fullerton.

1977c The Aliso Creek Watershed, Orange County, California. A Proposal for Creating an Archaeological District for the National Register of Historic Places and a Suggested Research and Study Design. On file, South Central Coastal Information Center, California State University, Fullerton.

1978 Archaeological Report - Volume I: Executive Summary. The Test Excavation of Seven Archaeological Sites Within the Proposed AWMA Project in the Lower Aliso Creek Corridor, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

1979a Archaeological Report - Volume II: Data Presentation. The Test Excavations of Seven Archaeological Sites Within the Proposed AWMA Project in the Lower Aliso Creek Corridor, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

1979b Appendices: A Supplement to Archaeological Report - Volume II on the Test Excavation and Investigation of Nine (*sic*) Archaeological Sites Located in the Lower Aliso Creek Corridor, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

SRS

1990 Archaeological, Paleontological and Historical Literature Search and Records Check for South Coastal Orange County Central Pool Relief, Orange County, California. On file, South Central Coastal Information Center, California State University, Fullerton.

Sutton, Mark Q., Joan S. Schneider, and Robert M. Yohe

1993 The Siphon Site (CA-SBR-6580): A Milling Stone Site in Summit Valley, California. *San Bernardino County Museum Association Quarterly* 40(3).

Wallace, William J.

1955 A Suggested Chronology for Southern California Coastal Archaeology. *Southwestern Journal of Anthropology* 11(3): 215-230.

**Appendix A
Personnel Qualification**

Patrick O. Maxon, M.A., RPA
RMW Paleo Associates, Inc.
Certified Archaeologist

Professional Experience

- 1994 - present Archaeologist, RMW Paleo Associates, Mission Viejo, California
Responsibilities include project management, development of project proposals, conducting research, accomplishing field work (survey, excavation, monitoring), mapping and production of technical reports.
- 1990 - 1994 Behavioral Specialist/Job Trainer, Vantage Foundation, Costa Mesa, California.
- 1989 - 1990 House Manager, Pearlmark Group Home, Anaheim, California.
- 1988 - 1989 Instructor, United Cerebral Palsy, Santa Ana, California.

Selected Technical Reports

- 1995 Archaeological Test Excavation of Cultural Resources Located Within the Saddleback Meadows Planned Development, Orange County, California.
- 1996 Cultural Resources Reconnaissance and Impact Assessment of Proposed Development for the California State University, San Bernardino Master Plan.
- 1997 Archaeological Test Excavation of a Prehistoric Cultural Deposit at Butterfield Ranch, Tract 14425, Chino Hills, San Bernardino County, California.
- 1998 Cultural Resources Mapping of the CA-VEN-630 Site Complex for the Long Canyon Development Project on the Old Wood Ranch in Simi Valley, Ventura County, California.
- 1999 Archaeological Test and Data Recovery Excavations of CA-VEN-477 at Long Canyon, Wood Ranch, Simi Valley, California
- 2000 Archaeological Investigations for the Long Canyon Development Project on the Old Wood Ranch in Simi Valley, Ventura County, California.

Degrees

M.A. Anthropology: 1994, California State University, Fullerton. Concentration in Archaeology.
B.A. Sociology/Psychology: 1987, Towson State University, Towson, Maryland.
University of Maryland, Munich Campus, Munich, Germany

Credentials

Certified by the Register of Professional Archaeologists
Certified as an Archaeologist by the County of Orange Environmental Management Agency. Also certified by the Counties of San Diego, Los Angeles, Ventura, San Bernardino and Riverside.

Memberships

Society for American Archaeology
Society for California Archaeology
Pacific Coast Archaeological Society

Steven McCormick
RMW Paleo Associates, Inc.
Archaeologist

Professional Experience

- 6/00 - Present Archaeologist, RMW Paleo Associates, Inc.
8/99 - 5/00 Cultural Resource Field Monitor, Michael Brandman Associates
9/98 - 12/88 Teaching Assistant Field Methods in Archeology, Cypress College
9/97 - Present Excavation of CA-ORA-423, Aliso and Woods Canyons Regional Park,
Saddleback College project.
5/98 - 12/99 Archaeology Assessment of the Salton Trough area, Imperial Valley College
Desert Museum and Saddleback College.

Publications

- 1988 Gary S. Hurd and Steve McCormick, *Deer Bone Accumulations from Mountain Lion Kills* presented at the Society for California Archaeology 32nd annual meeting.
2000 Gary S. Hurd and Steve McCormick, *Development of Lake Cahuilla Fishtrap Technology*. Presented at the Society for California Archaeology 34th annual meeting.

Degrees

Graduate Program in Anthropology, emphasis in Archaeology, California State University Long Beach, California, 2000.

B.A. (Anthropology) 2000. California State University, Long Beach.

A.A. (Arts) 1994. Saddleback College.

Supplemental Course Work

- 1996 - 1997 Physical Anthropology, Archaeological Field Methods 110A, Archaeological Analysis 110B, Social Science Independent Study (Field work in La Venta and Tabasco, Mexico), Saddleback College, Mission Viejo, CA.
1994 - 1995 Human Bio-Cultural Origin, Principles of Physical Anthropology, San Diego State University.

Appendix B
Record Search Bibliography

ITEMID: OR255

DATE: 1977

PAGES: 72

AUTHOR: Anonymous

FIRM: SCIENTIFIC RESOURCE SURVEYS, INC.

TITLE: Archaeological Report on the Aliso Creek Corridor- Planning Units 2 & 3 Orange County, California

AREA:

SITES: CA-ORA-6, ORA-8/10/110, ORA-9, ORA- 17, ORA-18, ORA-19, ORA-20
CA-ORA-33, ORA-74, ORA-126, ORA-131, ORA-133, ORA-135, ORA-388
CA-ORA-388, ORA-389/580, ORA-390, ORA-395, ORA-396, ORA-397,
CA-ORA-397, ORA-398, ORA-399, ORA-400, ORA-401, ORA-402,
CA-ORA-403, ORA-404, ORA-405, ORA-406, ORA-407, ORA-40,

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR300

DATE: 1978

PAGES: 300+

AUTHOR: Anonymous

FIRM: Scientific Resource Surveys, Inc.

TITLE: Archaeological Report - Volume 1 Executive Summary. The Test Excavations of Seven Archaeological Sites Within the Proposed Awma Project in the Lower Aliso Creek Corridor, Orange County, California

AREA:

SITES: 30-000582,30-000019,30-000126,30-000403,30-000395,30-000399,30-000398,30-000581,30-000423

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR40

DATE: 1976

PAGES:

AUTHOR: Scientific Resource Surveys

FIRM: Scientific Resource Survey, Inc.

TITLE: Archaeological Report on the Aliso Water Management Agency-Phase III Proposed Regional Wastewater Treatment Facilities of Orange County, California

AREA:

SITES: CA-ORA-415/604, ORA-389, ORA-580, ORA-390, ORA-509, ORA-424 ,
ORA-423, ORA-581, ORA-19, ORA-126, ORA-401, ORA-402, ORA-403,
ORA-582, ORA-399, ORA-395, ORA-396, ORA-397, ORA-398

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR402

DATE: 1976

PAGES: 28

AUTHOR: Rice, Glen

FIRM: Glen Rice

TITLE: Archaeological Investigations at ORA 512 A Prehistoric Campsite in the South Laguna Hills

AREA:

SITES: 30-000512

QUADNAME: Laguna Beach

MEMO:

ITEMID: OR430

DATE: 1979

PAGES: 63

AUTHOR: Anonymous

FIRM: Scientific Resource Surveys, Inc.

TITLE: Appendices: A Supplement to Archaeological Report-Volume II on the Test Excavations and Investigations of Nine Archaeologica Sites Located in the Lower Aliso Creek Corridor, Orange County, California

AREA: 0

SITES: CA-ORA-19, ORA-126, ORA-395, ORA-403, ORA-582

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR549

DATE: 1976

PAGES: 8

AUTHOR: Singer, Clay A.

FIRM: Archaeological Research Inc.

TITLE: Archaeological Survey and Resource Assessment of a Portion of Laguna Niguel, Orange County, California

AREA: 1250 ac

SITES: CA-ORA-538, ORA-539, ORA-540, ORA-493

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR580

DATE: 1977

PAGES: 100

AUTHOR: Anonymous

FIRM: SCIENTIFIC RESOURCES SURVEYS, INC.

TITLE: THE ALISO CREEK WATERSHED, ORANGE COUNTY, CALIFORNIA A PROPOSAL FOR CREATING AN Archaeological DISTRICT FOR THE NATIONAL REGISTER of HISTORIC PLACES and A SUGGESTED RESEARCH and STUDY DESIGN

AREA:

SITES: none

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR702

DATE: 1977

PAGES: 152

AUTHOR: Scientific Resource Surveys

FIRM: Scientific Resources Surverys, Inc.

TITLE: Cultural Scientific Resources Report on the Aliso Viejo Company Property Located in the Southeastern Protion of the County of Orange

AREA:

SITES: CA-ORA-06, ORA -13, ORA-17, ORA-19, ORA-20, ORA-126, ORA- 177
ORA-266, ORA-388, ORA-389, ORA-390, CA-ORA-395, ORA-396,
ORA-397, ORA-398, ORA-399, ORA-400, ORA-401, ORA-402, ORA-403,
ORA-404, ORA-405, ORA-406, ORA-407, ORA-408, ORA-409, ORA-410,
ORA-411, ORA-412, OR-413, ORA-414, ORA-415, ORA-416, ORA-417,

QUADNAME: San Juan Capistrano

Laguna Beach

MEMO:

ITEMID: OR705

DATE: 1973

PAGES: 43

AUTHOR: Anonymous

FIRM: Archaeological Research Inc.

TITLE: A Final Report on the Scientific Resources Survey for Moulton Ranch

AREA: 8400 ac

SITES: CA-ORA-13, ORA-411

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR719

DATE: 1972

PAGES: 7

AUTHOR: Anonymous

FIRM: Public Antiquities Salvage Team

TITLE: Hansom Ranch

AREA: 800 ac

SITES: no trinomial given

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR757

DATE: 1985

PAGES: 9

AUTHOR: Bissell, Ronald M.

FIRM: RMW PALEO

TITLE: Archaeological Assessment LDS Church Site, Laguna Niguel, Orange County, California

AREA: 2.5 ac

SITES: CA-ORA-1072

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR821

DATE: 1986

PAGES: 90

AUTHOR: Bissell, Ronald M.

FIRM: RMW PALEO

TITLE: Archaeological Investigations at CA-Ora-1072 the Church of Jesus Christ of Latter Day Saints Site
Laguna Niguel, Orange County, California

AREA:

SITES: CA-ORA-1072, ORA-119A, ORA-133, ORA-423, ORA-509, ORA-605

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR824

DATE: 1986

PAGES:

AUTHOR: Bissel, Ronald M.

FIRM: RMW Paleo Associates

TITLE: A Report of the Status of Archaeological Sites On and Near Property Owned by the S&S Construction Company in Lajuna Niguel, Orange County, California

AREA:

SITES: CA-ORA-18, ORA-19, ORA-133, ORA-389, ORA-390, ORA-423, ORA-424
ORA-509, ORA-512, ORA-580, ORA-581, ORA-605, ORA-606, ORA-607
ORA-947, ORA-1072

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR825

DATE: 1986

PAGES: 13

AUTHOR: Breece, William H.

FIRM: RNW PALEO

TITLE: The Result of the Archaeological and Paleontological Study Undertaken for the Proposed Alicia Parkway Laguna Niguel District Orange County California

AREA: 1.5 li mi

SITES: CA-ORA-605, ORA-509

QUADNAME: San Juan Capistrano

MEMO:

ITEMID: OR849

DATE: 1986

PAGES: 16

AUTHOR: Demcak, Carol R.

FIRM: Archaeological RESOURCE MANAGEMENT CORPORATION

TITLE: Cultural ResourceS Assessment of NINE Archaeological SITES (CAORA-19, -126, -403, -582, -401, -402, -422, -20, and -400), ALISO and WOOD CANYONS REGIONAL PARK, COUNTY of ORANGE, California

AREA:

SITES: ORA-19, ORA-126, ORA-403, ORA-582, ORA-401, ORA-402,
ORA-422, ORA-20, ORA-400

QUADNAME: SAN JUAN CAPISTRANO

MEMO:

AUTHOR: Bissell, Ronald M.

FIRM: RMW Paleo Associates

TITLE: Status of Cultural Resources in the Wood Canyon Area, Southern Orange County, California

AREA: 4000 ac

SITES: CA-ORA-6, ORA-13, ORA-19, ORA-20, ORA-126, ORA-133, ORA-177,
CA-ORA-266, ORA-388, ORA-389, ORA-390, ORA-395, ORA-396,
ORA-397, ORA-398, ORA-399, ORA-400, ORA-401, ORA-402, ORA-403,
ORA-404, ORA-405, ORA-406, ORA-407, ORA-412, ORA-413, ORA-415,
ORA-415, ORA-418, ORA-422, ORA-423, ORA-424, ORA-427, ORA-436,

QUADNAME: San Juan Capistrano

Laguna Beach

MEMO: