APPENDIX D

Phase II Cultural Resources Testing and Evaluation Report

Santee School Development Project

Phase II Cultural Resources Testing and Evaluation Report

prepared for

J. Whalen Associates, Inc.

1660 Hotel Circle North, Suite 725

San Diego, California 92108

prepared by

Rincon Consultants, Inc.

9320 Chesapeake Drive, Suite 218

San Diego, California 92123

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RINCON CONSULTANTS, INC.

Environmental Scientists | Planners | Engineers

rinconconsultants.com

The following document has had certain graphics and attachments redacted in order to maintain confidentiality of sensitive Native American resources.

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Mark Strother, Tiffany Clark, and James Williams

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The following document contains sensitive and confidential information concerning Native American site locations and components. This report should be held confidential and is not for public distribution. A public distribution version of the report will be made available following the finalization of this report. The public version of the report will redact sensitive and confidential information that could compromise the integrity of Native American resources. Archaeological site locations are exempt from the California Public Records Act, as specified in Government Code 6254.10, and from the Freedom of Information Act (Exemption 3), under the legal authority of both the National Historic Preservation Act (PL 102-574, Section 304[a]) and the Archaeological Resources Protection Act (PL 96-95, Section 9[a]). Sections of this report contain maps and other sensitive information.

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Executive Summary

J. Whalen Associates, Inc. retained Rincon Consultants, Inc. (Rincon) to conduct a Phase II cultural resources evaluation for the Santee School Development Project (project), in the city of Santee, San Diego County, California. In April and May 2019, Rincon completed pedestrian surveys of the project site and identified several prehistoric bedrock milling features (BMFs) and the archaeological remains of the historic period Santee School. The multi-component archaeological resource was given the temporary site designation RIN-S-1. Based on the positive findings of the survey, Rincon recommended that the archaeological remains be formally recorded and that a Phase II study be conducted to evaluate the significance of RIN-S-1 for listing on the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP).

The Phase II evaluation program included field, laboratory, and archival studies. Field work was conducted by Rincon personnel between July 15 and 19, 2019. The field work effort consisted of site documentation and mapping and the excavation of 28 shovel test pits and 1 test unit (TU). A Native American monitor from Red Tail Environmental was present during the archaeological test excavations. Site documentation resulted in the recordation of 18 archaeological features, including 11 prehistoric BMFs and the remnants of 7 historic period building and structures. Test excavations revealed a low-density subsurface deposit of prehistoric artifacts was associated with the BMFs. A larger low density subsurface deposit of historic and modern artifacts was also identified extending across much of the project site. Examination of the prehistoric cultural deposits found extensive subsurface disturbance with prehistoric cultural constituents intermixed with historic and modern refuse.

Following the completion of the field work, artifact analyses were conducted of the flaked and ground stone artifacts, faunal remains, and ceramics. Special studies, including obsidian X-ray fluorescence and hydration analyses, were also undertaken to acquire lithic sourcing and chronometric data, respectively. Finally, archival research was completed to obtain information on the history and development of the Santee School.

Based on the results of the Phase II study, RIN-S-1 is recommended as ineligible for listing on the NRHP and CRHR. The prehistoric and historic components of the site are not associated with events that have made a significant contribution to broad patterns of our prehistory or history (NRHP Criterion A/ CRHR Criterion 1), nor are they associated with the lives of persons significant to our past (NRHP Criterion B/CRHR Criterion 2). They do not embody the distinctive characteristics of a type, period, or method of construction (NRHP Criterion C/ CRHR Criterion 3). Finally, test excavations indicate that the prehistoric subsurface cultural deposits are not extensive and exhibit a high level of disturbance. Data recovery efforts on these have little potential to yield additional data pertinent to addressing research questions. In addition, further study of the historic period remains at the site is also not expected to yield any new information important on either the construction or use of the Santee School. Therefore, the prehistoric or historic components of the site are recommended ineligible for listing under NRHP Criterion D/CRHR Criterion 4. No further cultural resource management is recommended for RIN-S-1.

1 Introduction

Rincon Consultants, Inc. (Rincon) was retained by J. Whalen Associates to conduct a Phase II cultural resources evaluation for the Santee School Development Project (project), in the city of Santee, San Diego County, California (Figure 1). The project site is located southeast of the intersection of Mission Gorge Road and Cottonwood Avenue (Figure 2). The project site totals 14 acres in size.

In April and May 2019, Rincon conducted pedestrian surveys of the project site and identified four prehistoric bedrock milling features (BMFs) and the remains of the historic period Santee School (Campbell-King and Duran 2019). The multi-component archaeological resource was given the temporary site designation RIN-S-1. Rincon subsequently conducted a Phase II evaluation program at RIN-S-1 to assess the significance of the cultural resource. The purpose of the Phase II work was to determine if RIN-S-1 meets the eligibility criteria for listing on the California Register of Historical Resources (CRHR) and National Register of Historic Places (NRHP). This report documents the results of the Phase II investigations.

1.1 Project Personnel

Rincon Principal Investigator Tiffany Clark, PhD, Registered Professional Archaeologist (RPA), served as the principal investigator and faunal analyst for the project. Rincon Archaeologist Breana Campbell-King, MA, RPA, acted as the project manager. Rincon archaeologists Kent Smolik and Mark Strother, MA, completed the field work for the project. Mr. Strother was also the lithic and ceramic analyst and primary author of this report. Rincon Architectural Historian James Williams, MA, conducted the archival research on the historic Santee School. Boo Padilla of Red tail Environmental, Inc., served as the Native American monitor during the field work effort. GIS Analyst Allysen Valencia, prepared the graphics. Rincon Principal Christopher Duran reviewed this report for quality control.

Figure 1 Project Vicinity Aerial Map

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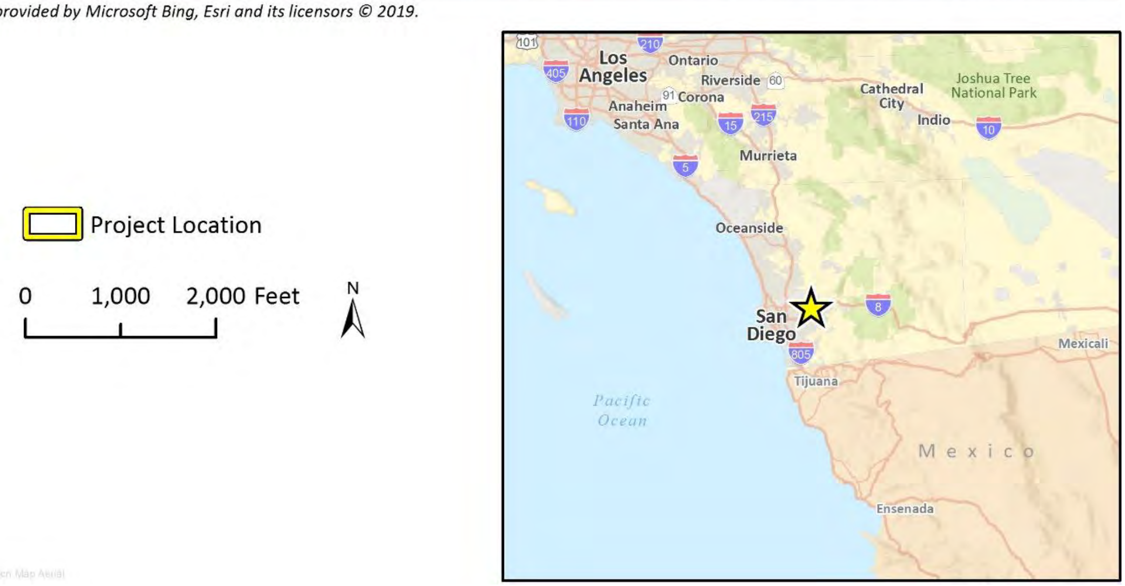

Figure 2 Project Location Aerial Map

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2 Environmental and Cultural Setting

2.1 Environmental Setting

The project site is located in a mixed residential and commercial area of the city of Santee in eastern San Diego County, 29 kilometers (km; 18 miles) east of the Pacific Ocean. It is situated within the El Cajon Valley, a broad alluvial valley surrounded by gradual hills. El Cajon Valley is home to the cities of El Cajon and Santee and is bisected by the east to west trending San Diego River. The project site is located one km (0.62 miles) south of the current banks of the San Diego River, which courses southwest from the Cuyamaca Mountains to the El Capitan Reservoir (16.9 km [10.5 miles] northeast of the site), through El Cajon Valley, and flows into the Pacific Ocean. The river has been heavily utilized throughout prehistory and history, providing water to plants, animals, and a growing human population (Brodie 2013). Today the river is managed by the San Diego River Conservancy.

San Diego County has a varied geography, with Coast, Foothills, Mountains, and Desert Transition zones. The county has seven principal rivers which are fed by several seasonal streams (listed from north to south): Santa Margarita, San Luis Rey, San Dieguito, San Diego, Sweetwater, Otay, and the Tijuana rivers. Several prominent mountain ranges drain primarily to the west, including the Cuyamaca Mountains, the Palomar Mountains, and the Otay Mountains. To the east, Hot Springs Mountain, the Laguna Mountains, and Volcan Mountain form a cismontane divide as their eastern slopes drain to the desert. Mountain-to-desert transitions are abrupt in the northern and central mountains. The transition is more gradual to the southeast, where miles of chaparral and rocky mountain ranges fill the gap between zones.

2.1.1 Climate

Throughout the Holocene, the climate of Santee has remained relatively stable: arid for much of the year with episodes of precipitation and hydrologic recharge occurring in the winter months (Smythe 1908; Hill 2002). Broader climate patterns shift to accommodate El Niño and La Niña cycles with excursions of drought and flood (Smythe 1908; Hill 2002).

San Diego County's climate is characterized by warm, dry summers and mild winters with an annual precipitation in the area of less than 30 cm. Rainfall is concentrated during the cooler parts of the year, particularly from December through March and is greater in high elevation areas. Most rainfall comes with Pacific winter storms and concentrates in mountain zones before dissipating on eastern slopes. Average temperature in the area ranges from a high of 87° Fahrenheit (F) in the summer months and a low of 42° F in the winter months (Western Regional Climate Center 2017). However, historical observations for rainfall and temperature indicate that climatic conditions in this region can vary dramatically over short geographical distances.

2.1.2 Biological Resources

San Diego County supports nearly 2,000 native plant species over 2.7 million acres of land (Lightner 2011). Historically, El Cajon Valley lies in a Riparian Woodland zone characterized by flora such as willows (Salix spp.), cottonwoods (Populus spp.), California sycamore (Platanus racemosa), white alder (Alnus rhombifolia), coast live oak (Quercus agrifolia), roses (Rosa spp.), mudwort (Limosella acaulis), mule-fat (Baccharis salicifolia), and stinging nettle (Utica dioica) (Beauchamp 1986, Lightner 2011). These plant species were important resources for supporting a variety of wildlife species. Jack rabbit, ground squirrel, dove, quail, grey fox, rattlesnake, California kingsnake, bobcat, raptors (e.g., red-tailed hawk, red-shouldered hawk), and mule deer are typically found in this environmental zone (Wilken et al. 2011).

Historical agricultural use of the area made significant alterations to the natural vegetation community. Within the project area, non-native grasses such as ripgut grass (Bromus diandrus) and foxtail (Hordeum jubatum) dominate. Eucalyptus, tree tobacco, palm trees, and various types of cacti are present. Burrowing rodents and coyotes are common in this area and were frequently encountered during various stages of the project. Hawks, ground squirrels, California kingsnakes, multiple lizard species, and many birds have been documented in the area.

2.1.3 Paleoenvironment

Since the onset of the Holocene era approximately 10,000 years ago, environmental conditions have changed rapidly influencing the distribution of flora and fauna in the region. These changes in paleoenvironmental conditions likely influenced the cultural groups who occupied the San Diego region throughout the prehistoric period.

Fast paced sea level rise during the transition from the terminal Pleistocene to the early Holocene caused the paleocoastal landscape to transform significantly, shifting the shoreline eastward and inundating valley floors (Byrd 1996). Sea levels during this time rose by approximately 100 feet (ft) (30 m), creating steep and narrow bays (Byrd 1996). Prehistoric settlement of the San Diego River Valley has been documented as early as 7000 years ago with prehistoric groups seeking out alternative resources outside of those found in coastal areas (Gallegos 1992).

Palynological studies conducted near Las Pulgas Canyon in north San Diego County, indicate that considerable changes in local plant communities have occurred over the last 4,000 years. These changes tend to be associated with a gradual transition from a wetter climate to a much drier climate (Anderson 1996). Since the arrival of Europeans to southern California, there has been an influx of non-native species that have replaced many indigenous plant communities.

Changes to the paleoenvironment during the Holocene influenced the regional availability of flora and fauna available to prehistoric groups. Ongoing archaeological research has actively explored the relationship between resource availability and human adaptive responses (Arnold 2001; Gallegos 2002; Raab and Larson 1997; Redman 1999). It has been suggested that as resource availability began to fluctuate, some groups may have migrated from the coast to the interior, settling in the inland valleys and mountain areas. Seasonal availability of resources likely also influenced settlement patterns in San Diego County.

2.2 Cultural Setting

The cultural setting for the project is presented broadly in three overviews: Prehistoric, Ethnographic, and Historic. The prehistoric and historic overviews describe human occupation before and after European contact, while the ethnographic overview provides a synchronic “snapshot” of traditional Native American culture.

2.2.1 Prehistoric Overview

The project lies in California's Southern Bight, a region that extends from the Mexican border to Santa Monica and includes Orange and San Diego counties, western Riverside County, and the Southern Channel Islands (Byrd and Raab 2007). At the time of European contact, this region was occupied by the Tongva, Juaneño, Luiseño, Cupeño and Kumeyaay (Ipai and Tipai). The area that is now San Diego County was occupied by the Kumeyaay, who are divided into southern (Tipai) and northern (Ipai) groups. While territories were rather fluid, these groups generally occupied the area from the southern California coast eastward to Imperial County and southward into Baja California. The San Luis Rey River has been used as a northern boundary for the Kumeyaay with Luiseño territory (Luomala 1978). Kumeyaay territory included coast, mountain, and desert regions which each seminomadic band would utilize depending on the season.

The Kumeyaay were organized into territorial bands, each of which resided in primary villages with numerous temporary camps utilized throughout the year (Shipek 1982). Settlement patterns were heavily influenced by the San Diego River watershed, which provided riverine resources and a fresh water source for prehistoric peoples. Groups camped, collected, and hunted near creeks, rivers, and springs. Fresh water was also crucial to the preparation and storage of acorns, a staple food for the Kumeyaay. The Kumeyaay and their ancestors occupied the San Diego River watershed beginning at least 7,000-9,000 years ago and continued to exploit the varied resources of river valleys up until European contact. Archaeological and ethnographic evidence shows human modification of the San Diego River watershed to increase edible plant yields, to redirect water flow, and for erosion control (Shipek 1993).

As of 2013, 65 prehistoric archaeological sites have been recorded within 500 meters (m) of the main San Diego River alignment from the coast to the mountains (Brodie 2013). Important Kumeyaay villages such as Cosoy and Nipaguay in Mission Valley and Sinyeweche in Santee are located along the banks of the river, emphasizing the significance of this water source to prehistoric populations (Kroeber 1925). Artifact assemblages at these sites are characterized by BMFs, ground stone, ceramics, lithic tools, and other unique items. Evidence for the exploitation of riverine resources at these sites includes BMFs, and ceramics (water storage) (Brodie 2013). Material evidence associated with fishing activities, such as freshwater turtle bone/carapace, freshwater fish, and amphibian bone also indicate prehistoric exploitation of the river.

For the purposes of this study, the next sections discuss the prehistoric cultural chronology for San Diego County with a special focus on those groups inhabiting the San Diego River watershed. This chronology follows Byrd and Raab's (2007), divisions of Terminal Pleistocene to Early Holocene (11,000 BCE to 5500 BCE), Middle Holocene (5500 to 1550 BCE), and Late Holocene (1550 BCE to 250 CE).

2.2.2 Early Holocene (ca. 9600-5600 BCE)

Evidence of Paleo-Indian occupation of southern California remains very limited. Approximately 75 sites on the southern and central California coast are known that date to 7,500 years before present (B.P.; Erlandson and Colten 1991). The earliest accepted dates for human occupation of the California coast are from the Northern Channel Islands, off the Santa Barbara coast. Daisy Cave, located on San Miguel Island, dates to as early as 9,600 BCE (Erlandson et al. 1996). At the Arlington Springs site on Santa Rosa Island human remains yielded a date of approximately 10,000 BCE (Johnson et al. 2002). San Diego and Orange counties and the Southern Channel Islands have not produced dates as early as these. However, radiocarbon evidence has dated early occupation of the coastal region between circa (ca.) 8,000 and 7,000 BCE (Byrd and Raab 2007).

Traditional models describe California's first inhabitants as big-game hunters roaming North America during the end of the last Ice Age. As the Ice Age came to a close, warmer and drier climatic conditions are thought to have created wide-spread cultural responses. The pluvial lakes and streams in the desert interior began to wane and cultures dependent on these water sources migrated to areas with moister conditions, such as the southern California coast (Byrd and Raab 2007).

The San Dieguito Complex is a well-defined cultural response to these changing climatic conditions in the southern California coastal region and was originally named for the cultural sequence in western San Diego County (Rogers 1929, 1939). Leaf-shaped points and knives, crescents, and scrapers characterize the artifact assemblages throughout the region (Byrd and Raab 2007). San Dieguito sites generally show evidence of the hunting of various animals, including birds, and gathering of plant resources (Moratto 2004).

Middle Holocene (ca. 5600–1650 BCE)

The Middle Holocene is generally viewed as a time of cultural transition. During this time, the cultural adaptations of the Early Holocene gradually altered. Use of milling stone tools began to appear across most of central and southern California around 6,000-5,000 BCE, indicating a focus on the collection and processing of hard-shelled seeds. Environmental changes in the Southern Bight are thought to have been the key factor in these changing adaptations (Byrd and Raab 2007). Occupation patterns indicated semi-sedentary populations focused on the bays and estuaries of San Diego and Orange counties, with shellfish and plant resources as the most important dietary components (Warren 1968). In the San Diego area, this adaptive strategy is known as the La Jolla complex.

Sometime around 4,000 years ago, extensive estuarine silting began to cause a decline in shellfish and thus a depopulation of the coastal zone. Settlement shifted to river valleys, and resource exploitation focused on hunting small game and gathering plant resources (Warren 1968; Byrd and Raab 2007).

Late Holocene (ca. 1650 BCE – 1769 CE)

The Late Holocene witnessed numerous cultural adaptations. The bow and arrow was adopted sometime after 500 CE, and ceramics appeared in the area ca. 1000 CE. Populations were sustained by food surpluses, especially acorns (Byrd and Raab 2007; Kroeber 1925). Other exploited food resources include shellfish, fish, small terrestrial mammals, and small-seeded plants. Settlement patterns of the Late Holocene are characterized by large residential camps linked to smaller specialized camps for resource procurement (Byrd and Raab 2007).

2.2.3 Ethnographic Overview

The people who traditionally occupied the region along the Pacific coast from central San Diego County southward into Baja California and eastward into Imperial County were originally referred to by Europeans as the Diegueño or Diegueno, because they lived on the lands allotted to Mission San Diego de Alcala (Carrico 1987; Gifford 1931).Today, the Native Americans dubbed Diegueno generally refer to themselves as the Kumeyaay (Shipek 1987). Linguistic studies support the division of the Kumeyaay people into northern (Ipai) and southern (Tipai) dialect groups, while often identifying the Desert Kumeyaay of eastern San Diego County, portions of northeastern Baja California, and the majority western portion of Imperial County as Kamia (Gifford 1931; Luomala 1978). Luomala notes that anthropologists have created "hazily defined" divisions with "cultural and environmental differences shading into one another" (1978:592). Prior to European contact, the boundary between the Kumeyaay groups was not rigid and the distinction between them likely existed as a gradient rather than a clear division of cultural and political units (Carrico 1987). These groups shared closely related Yuman languages, as well as customs, beliefs, and material culture. This report will focus on the Tipai as the project is in the southern portion of Kumeyaay territory.

The Tipai occupied the Pacific coast from La Jolla south to below Ensenada and Todos Santos Bay in Baja California, Mexico. The Northern Kumeyaay (Ipai) occupied the area north of La Jolla to Agua Hedionda Lagoon. Kumeyaay territory extended inland throughout the Cuyamaca and Laguna mountains into the Yuha and Anza Borrego deserts of Imperial County (Carrico 1987; Luomala 1978). The region includes tremendous environmental variation and resource zones. Neighboring groups included the Luiseño and Cupeño to the northwest, the Cahuilla to the northeast, the Quechan to the east, and the Paipai to the south (Kroeber 1925).

Tipai territory was divided among bands that typically controlled 10 to 30 linear miles in a drainage system and up to the drainage boundaries. Within each band's territory, a primary village and a number of secondary homesteads were located along tributary creeks (Shipek 1982:297). Each band was composed of five to 15 kinship groups (sibs or shiimul), some of which were divided among more than one band (Kroeber 1925:719; Shipek 1987:8). Approximately 50 to 75 named kinship groups were located throughout the entire Kumeyaay territory.

Tipai winter villages were located in sheltered valleys near reliable sources of water with the entire band present. Dwellings in the relatively permanent winter villages were semi-subterranean and roughly circular, with a wooden pole framework covered with brush thatch. The main entrance had a mat covering to keep out the wind and ensure privacy, and ritually faced the east (Luomala 1978:597). Other structures in the village consisted of family-owned platform granaries, a village-owned brush ceremonial enclosure, and sweat lodges. A semi-circular enclosure was used for the keruk mourning ceremony, and a rock wall sometimes surrounded ceremonial and dance areas. At their summer camps, ramadas and windbreaks were common and built into trees or rock shelters. Granaries and housing that was more permanent would sometimes be constructed in frequently visited oak groves in the hills and mountains of Tipai territory. The dead were cremated and the ashes buried or placed in ceramic urns that were then buried or placed in caves.

Many Tipai camped in coastal valleys at certain times of the year and gathered coastal resources. Fish were taken with hooks, nets and bows, often from tule boats. Shellfish were gathered from the sandy beaches (e.g., Chione and Donax) and rocky shores (e.g., mussels and abalone). Common game birds included doves and quail; migratory birds included geese. A primary source of protein came from rabbits, woodrats, and other small game living along the mesas and foothills. These animals were caught using throwing sticks, the bow and arrow, or in nets on community drives. Hunting large game such as deer and mountain sheep was the role of expert hunters trained in specialized hunting folklore (Luomala 1978:601). Land resources belonged generally to the bands with only a few areas considered "tribal" land and open to anyone (Shipek 1982:301).

During the winter, small game and seasonal herbs were collected in the valleys. Greens included miner's lettuce, clover, pigweed, and grasses. Seeds were harvested from buckwheat, chia and other salvias, and a variety of grasses. In the mountains and foothills, yucca was gathered for its stalks, flowers, and leaves. Elderberry, manzanita, cholla and prickly-pear Opuntia cactus, and juniper shrubs provided berries and fruit. The acorns from several species of oak were depended upon heavily, gathered during the late summer, and stored in family and village granaries. For the Tipai, and many other southern California groups, acorns were the primary staple. They were gathered, pounded into flour, and leeched of toxic tannins. During the late spring and summer, small groups foraged in favored spots, usually at progressively higher elevations as various resources ripened (Shipek 1987).

All Kumeyaay practiced plant husbandry to “maintain and increase supplies of native foods” (Shipek 1987:12). These practices included clearing lands for planting seeds of greens, shrubs, and specific trees; sowing grass seed on burned fields; and transplanting wild onions, tobacco, and cuttings of Opuntia (nopales or paddle cactus) near village sites.

Tipai clothing was minimal. Men and children wore utilitarian belt sashes and pouches designed to hold tools and small game, while women wore a one- or two-piece apron made of shredded bark, and a round, twined cap. Robes of rabbit, willow bark, or deerskin were worn in the winter and served as bedding. Sandals woven from agave fibers were worn when traveling long distances (Luomala 1978:599).

Tipai baskets were of high quality and of the same weave and forms found elsewhere in southern California; carrying nets and sacks were also made and used. Pottery was manufactured regularly in the form of water jars, cooking and storage pots, and cremation urns (Kroeber 1925:722). The Tipai made and traded curved clay pipes, stone pipes, and medicine sucking tubes.

Religious mythologies shared by the Tipai and other Kumeyaay groups include abstract spiritual concepts and a higher creator-god (Shipek 1985). Kuuchama, or Tecate Peak, was the most sacred landmark. The Kumeyaay believed the peak was designated as the location for acquiring power for good, healing, and peace. Other holy places recognized by all Kumeyaay include Wee’ishpa or Signal Mountain, Jacumba Peak, Mount Woodson, Viejas Mountain, and other mountains beside the Colorado River in the Desert Kumeyaay region (Shipek 1985, 1987:14). Ceremonies among the Kumeyaay are similar to those of other southern California native peoples (Kroeber 1925: 712-717), including puberty rites, marriage, naming, cremation of the dead, and the annual mourning ceremony (keruk) for all those of the sib who died the previous year. The ceremonial leader inherited religious position and conducted these rituals.

2.2.4 Historic Overview

The post-Contact history of California is generally divided into three periods: the Spanish period (1769–1822), the Mexican period (1822–1848), and the American period (1848–present). These historical periods are described below.

Spanish Period (1769–1822)

Juan Rodriguez Cabrillo in 1542 led the first European expedition to observe what is now called southern California. That year, he landed on Point Loma, approximately 24 km (15 miles) from the project site. For more than 200 years, Cabrillo and other Spanish, Portuguese, British, and Russian explorers sailed the Alta (upper) California coast and made limited inland expeditions, but they did not establish permanent settlements (Bean 1968; Rolle 2003).

Gaspar de Portolá and Franciscan Father Junipero Serra established the first Spanish settlement in Alta California at Mission San Diego de Alcalá in 1769. This was the first of 21 missions erected by the Spanish between 1769 and 1823. The Mission San Diego de Alcalá and its associated presidio were initially built near the Kumeyaay village of *Cosoy*, near the present site of Old Town. However, the water supply at this location was lacking and the soil was not very fertile. Thus the mission was moved in 1774 to its present location, near the Kumeyaay village of *Nipaguay* (Mission San Diego 2013; City of San Diego 2006). The missions were responsible for administering to the local tribes and converting the population (Engelhardt 1927a). In 1775 a force of Kumeyaay surrounded Mission de Alcala and set fire to the structure and fought against the small contingent of Spanish guards (Carrico 1997). The revolt against the Spanish was likely the result of increased forced conversions, rape, theft of land, and forced imprisonment of Kumeyaay by the Spanish (Carrico 1997).

During the Mission period, Spain deeded ranchos to prominent citizens and soldiers, though very few in comparison to those deeded following Mexican Period. Presidio commandants were given the authority to grant house lots and garden plots to soldiers, and sometime after 1800, soldiers and their families began to move towards the base of Presidio Hill to receive land grants from the presidio commandants (City of San Diego 2006). To manage and expand their herds of cattle on these large ranchos, colonists enlisted the labor of the surrounding Native American population (Engelhardt 1927b).

Mexican Period (1822–1848)

The Mexican period commenced when news of the success of the Mexican Revolution (1810-1821) against the Spanish crown reached California in 1822. This period was an era of extensive interior land grant development and exploration by American fur trappers west of the Sierra Nevada Mountains. The California missions declined in power and were ultimately secularized in 1834. By 1835, the presidio and Mission San Diego de Alcalá had been abandoned and lay in ruins (City of San Diego 2006). News of secularization reached Mission San Luis Rey in 1835 and it came under the control of secular administrators, many of whom gained title to mission lands (Hebert 1961; Mission San Luis Rey 2014).

The Mexican government recognized the newly established Pueblo of San Diego in 1834. The pueblo did not fare as well as other California towns during the Mexican period. Secularization of the missions caused increased hostilities by Native Americans against the *Californios* living in San Diego County during the late 1830s. Attacks on outlying ranchos and an unstable political and economic climate caused the pueblo’s population to drop from approximately 500 to 150 permanent residents by 1840. In 1838, San Diego was demoted from pueblo status and made a sub-prefecture of the Los Angeles Pueblo (City of San Diego 2006).

Rancho El Cajon was a 48,800-acre property located in present day cities of El Cajon, Bostonia, Santee, Lakeside, Flinn Springs, and the eastern part of La Mesa, San Diego County, California. Figure 3 provides a hand-drawn map of the Rancho. The land was originally called Rancho Santa Monica but was renamed Rancho El Cajon (Brackett 1939). The project site was property of the Rancho El Cajon and was given by Governor Pio Pico to Maria Antonia Estudillo, daughter of Jose Antonio Estudillo and wife of Miguel Pedrorena in 1845 (Hoffman 1862). At this time, the ranch was used for ranching and cattle grazing. Pedrorena died suddenly on March 31, 1850 and was buried in Old Town, San Diego (Haggland 1983). After his death, his wife built houses and corrals at the ranch and harvested large crops but she died shortly after in February 3, 1851. Thomas W. Sutherland, guardian of Pedrorena’s heirs, filed a claim for Rancho El Cajon as required by the Land Act of 1851 with the Public Land Commission in 1852 and was granted a patent in 1876. During the Civil War, their heirs began to sell parts of the ranch (Haggland 1983).

Figure 3 Rancho El Cajon Land Grant

Source: University of California, Berkeley 2011

American Period (1848–Present)

The American period in San Diego County began as early as 1846 when the United States (U.S.) military occupied San Diego and effectively ended *Californio* resistance in 1847. The American government assumed formal control of Alta California with the signing of the Treaty of Guadalupe Hidalgo in 1848, in which the U.S. agreed to pay Mexico $15 million for the territory that included California, Nevada, Utah, and parts of Colorado, Arizona, New Mexico, and Wyoming.

During the early American period, cattle ranches dominated much of Southern California, although droughts and population growth resulted in farming and urban professions supplanting ranching through the late nineteenth century. After the U.S. took control of San Diego in 1846, the political and economic situation stabilized and population increased. The discovery of gold in northern California in 1848 led to the California Gold Rush, which resulted in a massive population increase (Guinn 1977). By 1853, the population of California exceeded 300,000. Thousands of settlers and immigrants continued to pour into the state, particularly after the completion of the transcontinental railroad in 1869. By the 1880s, the railroads had established networks throughout southern California, resulting in fast and affordable shipment of goods, as well as means to transport new residents (Dumke 1944).

San Diego County

San Diego County was organized formally in February of 1850 and grew slowly during the 1860s. The mid-1800s saw the urbanization of San Diego thanks to the development and promotion of the area by Alonzo Horton, who offered free lots to anyone who would build a house worth $500. The Santa Fe Railroad began construction in 1880, with the first trains arriving in 1882. After several population booms, San Diego reached 35,000 residents in 1888. The population fell to 17,000 in 1890 because of a real estate market crash (City of San Diego 2006).

The twentieth century brought further development to San Diego. John D. Spreckels launched a major building campaign to modernize the city. Summer cottage retreats began to develop in the seaside communities of Ocean Beach and La Jolla. Improvements in public transportation allowed development to spread to the areas of University Heights, Greater North Park, and Mission Hills. In 1915, the Panama-California Exposition was held in San Diego in celebration of the opening of the Panama Canal (City of San Diego 2006).

During the 1920s, San Diego’s population grew from 74,683 to 147,897, due to the Panama-California Exposition and efforts to attract the U.S. Navy to San Diego. The naval and military presence provided the population and economy that allowed the city further development (City of San Diego 2006). San Diego County continues to be an important military center, and as one of the largest metropolitan areas in California, San Diego County is a popular vacation destination known for its beaches, mild climate, and urban events.

City of Santee

In 1877, George A. Cowles, an early resident of San Diego County, purchased 4,000 acres of land to develop vineyards; he also introduced pomegranate, magnolia, and several other tree species to the region. Ranching activities took place during the late 19th and early 20th centuries, with large tracts of land managed by a small number of wealthy families (City of Santee 2014).

By 1891, a post office and the first school were constructed in the developing town known as Cowleston. In 1893, six years after Cowles’ death, his wife remarried and renamed the town after her new husband, Milton Santee. The Edgemoor Farm Dairy Barn was built in 1913, and still stands today. The farm was purchased by Walter Hamlin Dupee and was developed into a national award-winning dairy farm, polo pony ranch, and early tourist attraction. Santee continued to develop as the federal government purchased land to use for World War II military training and as development firms purchased large tracts of land to implement residential uses. By 1950, Santee had 2,000 residents, which continued to expand over the following twenty years, to 25,750. Due to the exponential growth, a group of volunteers established a local land use and planning advisory board in 1968. Out of this effort, Santee was incorporated officially as a city in 1980. Santee has continued to grow from a bedroom community serving the greater San Diego area to a city featuring commercial centers, a large business community, and recreational activities (City of Santee 2014).

Santee Elementary School

Established in 1891, Santee Elementary School was founded as Cowles School, the first school in what was then the rural community of Cowelston. After the community was renamed Santee in 1893, the name Santee School was adopted (Santee Historical Society 2019; Santee School District 2019). As late as 1926, Santee School remained a two-room schoolhouse “surrounded by a railroad, a dairy, a granite quarry, and a post office” (Figure 4). However, by the early 1950s, a modern, multi-building school facility was constructed on the site. The school was expanded somewhat in the 1960s, but essentially retained its physical form through the following five decades (UCSB Map & Imagery Lab 1952; NETR online). Contemporary news articles suggest that through the second half of the twentieth century, the property served in the usual capacities of a neighbor school, offering classroom instructions and occasional use of the facilities for public meetings (Newspapers.com var.). Following a steep decline in enrollments, the school was closed in 2003. Its buildings were

Figure 4 Santee School ca. 1926

Source: Santee School District 2019

razed sometime between 2005 and 2009 and the site is planned to be sold to a private real estate developer (Pearlman 2017; Santee School District 2019; NETRonline 2019).

3 Research Design

The research design presented in this chapter aims to guide the assessment of the evaluation of RIN-S-1 for listing on the CRHR and NRHP. Archaeological resources are typically considered for CRHR and NRHP eligibility under Criterion 4 / D (data potential). The Phase II investigation was designed to allow researchers to collect the necessary data with which to assess the potential of RIN-S-1 to yield pertinent information related to both the prehistoric and historic development of the Santee area. A list of possible research questions for the prehistoric and historic period site components are provided below.

3.1 Research Questions

The documentation, controlled excavation, and results of the Phase II study provided data that can be used to answer a variety of general research questions including:

- Are subsurface deposits present and, if so, do they retain integrity? Can discrete features or temporal episodes be identified in the vertical and/or horizontal layout of the sites?
- Are any discrete concentrations of artifacts present across the sites?
- When were the sites occupied?
- How does the prehistoric component relate to broader patterns of subsistence/settlement established for the region?
- What was the function of the site? Is there evidence of distinct artifact types or styles at the site?

4 Methods

The goals of the Phase II study were to obtain the necessary data with to address the research questions presented in Chapter 3 and to determine the significance of RIN-S-1. This section details the field methods used in the study, along with the laboratory and archival procedures that were employed during the Phase II evaluation program. Field work was conducted between July 15 and 19, 2019, with laboratory analyses and archival research completed in August 2019.

4.1 Field Methods

4.1.1 Site Documentation and Mapping

The project site was carefully inspected by the archaeologists at the onset of the Phase II field work in order to locate and document all prehistoric and historic period surface archaeological features at RIN-S-1. Notes and photographs were taken of each identified feature. In addition, the locations of features were mapped using a Global Positioning System (GPS) Trimble unit with sub-meter accuracy. These data were used to define the site boundaries of RIN-S-1. Information collected during this effort was also used to complete a Department of Parks and Recreation (DPR) 523 site form (see Appendix A).

4.1.2 Shovel Test Pits

Rincon excavated a total of 28 shovel test pits (STPs) within the project site. The STPs were primarily used to assess the horizontal and vertical extent of subsurface archaeological deposits at RIN-S-1. The STP locations were placed at varying intervals based on the site size, surface artifacts, topography, and existing conditions. A total of 16 STPs were excavated within the vicinity of the identified prehistoric BMFs with an additional 12 STPs positioned throughout the western two-thirds of the project site.

Each STP measured 30 to 50 centimeters (cm) in diameter and was excavated in 20 cm levels until two culturally sterile levels were reached or until a soil change occurred, such as transitioning from sandy loam to granitic bedrock. The STPs were excavated to a minimum depth of 40 cm below surface (cmbs) except in cases in which bedrock was reached at a shallower depth. In one area where bedrock was not reached, a hand auger unit (HAU) was excavated at the base of the STP.

Excavated soils from each STP will be screened through 3-millimeter (mm) (1/8-inch) wire mesh screen. Artifacts or ecofacts recovered from the STPs during screening were collected and bagged with pertinent data recorded (e.g., provenience data). A form for recording all data and observations made including the depths of recovered materials and soil descriptions was completed for each STP. All STPs were backfilled after excavation.

4.1.3 Test Unit

Based on the results of the STPs, Rincon excavated one TU (0.5 x 1 m) within an area found to contain a low-density subsurface archaeological deposit. The TU was excavated in 10 cm arbitrary levels to the culturally sterile substrate. Excavated soils were screened through 3 mm-wire mesh screen. Artifacts and ecofacts identified in the screen were bagged with pertinent data recorded (e.g., provenience data). Upon completion of excavation, information on soil types, disturbances, and any artifacts recovered from each level were recorded on an excavation form. A sidewall profile was completed for two representative sidewalls that included observed stratigraphy, disturbances, and soil descriptions. The TU was backfilled after excavation.

4.1.4 Artifact Collection

Artifacts recovered from the Phase II excavations were initially sorted in the field and placed in sterile plastic bags with provenience information (e.g., test unit number, excavation level). All collected materials from the Phase II excavations were transported to Rincon's San Diego office for cataloging and analysis.

4.2 Laboratory Methods

As part of the processing process, a Microsoft Excel database was created to catalog the recovered artifacts and ecofacts. In addition, data such as type, weights, count, and measurements were also compiled on recovered materials. Photographs were taken of diagnostic artifacts.

Recovered artifact classes include flaked and ground stone, faunal remains, and ceramics. A summary of the procedures associated with the analytical studies for each of these artifact classes is provided below.

4.2.1 Flaked Stone Analysis

The flaked stone analysis included an inventory of collected flakes and tools, and an analysis of the following:

- **Flake size**: all flakes were categorized by size (measurements were based on the screen size each flake would pass through)
- **Flake material:** flakes were described by their material type
- **Flake type:** all flakes were categorized by type
- **Tool size:** tools were measured for length, width, and thickness (all measurements were taken using digital calipers in millimeter units)
- **Tool material:** all tools were described by their material type
- **Tool type:** tools were described by their type

Lithic analysis was performed based on the methodology developed by William Bloomer (2009).

4.2.2 Ground Stone Analysis

When analyzing the ground stone artifacts, the tool type was noted, if apparent, along with the material from which it was manufactured. If the artifact was complete, this was noted and, if fragmentary, the remaining percentage of the original artifact estimated. The number of utilized/modified surfaces was recorded along with the level of use wear. The presence and pattern of any striations on the utilized surface(s) was also noted, when possible. If surface polish from use wear, pecking from re-sharpening or edge-battering was present, these features were also noted. Manufacturing elements such as edge shaping and the overall shape of the artifact were recorded with the plan-view and cross-section described.

4.2.3 Ceramics

Analysis of ceramics recovered during Phase II testing consisted of identifying the ceramic type and vessel part (rim or body). In addition, any decoration or modification (e.g., paint or slip, incising, or drill holes) was noted. Finally, the length, width, and thickness of each ceramic sherd were measured to the nearest tenth of a mm. Where possible, sherd thickness was measured at a location 1 cm below the lip of the sherd.

4.2.4 Faunal Analysis

The taxonomic identification of the faunal materials was determined through comparison with modern specimens from Dr. Clark's personal reference collection. During analysis, each specimen was identified to its lowest taxonomic level and element. Unidentified remains were separated by class (e.g., Mammalia or Aves) and then sorted into rough size categories based on the shape and thickness of the bone. Once identified to taxon and element, information on cultural and natural modifications was recorded on each specimen including: degree of completeness, burning, gnawing, working, and weathering.

4.3 Special Studies

Special studies completed for the project included obsidian x-ray fluorescence and hydration analyses. A description of the methodologies associated with these studies is provided below.

4.3.1 Obsidian X-Ray Florescence (XRF) Analysis

X-ray fluorescence spectrographic analyses of trace elements in obsidian debitage recovered during Phase II testing were used to determine the geological sources of the obsidian. Richard Hughes, PhD, Director of the Geochemical Research Laboratory conducted the XRF study. Two specimens were submitted for analysis from RIN-S-1. A summary of the results can be found in Chapter 5, and the full report is available in Appendix B.

4.3.2 Obsidian Hydration Analysis

Obsidian hydration measurements are a useful relative dating method and are well suited for determining relative chronologies at sites where adequate samples are available. Hydration rim measurements in particular are highly effective for differentiating between feature areas or for identifying single or multicomponent sites that cannot otherwise be distinguished in the absence of temporally diagnostic formed tools or radiometric dating.

The rate of hydration in obsidian glasses is affected by environmental temperatures, ambient moisture, and chemical composition. Obsidian from different thermal regions and chemical sources or groups may hydrate at different rates. It is essential, then, that obsidian hydration samples only be drawn from known sources and that comparative analyses of hydration results be made among samples from a single source.

The two obsidian specimens submitted for XRF study were also sent for hydration analysis. The hydration study was conducted by Origer's Obsidian Laboratory (OOL) in Rohnert Park, California. A summary of the results can be found in Chapter 5, and the full report is available in Appendix B.

4.4 Archival Studies

Background research was conducted as part of the Phase II study to obtain information on the history and development of the Project site. Numerous sources were consulted as part of this effort including historical USGS maps, aerial imagery, historic photographs and archives of the Santee School. On-line sources of information, such as newspaper and university archives, were also reviewed to acquire information with which to reconstruct the history of development of the Santee School. The results of this study were used to develop the historical context presented in Section 2.2.4.

5 Results

5.1 Site Documentation and Mapping

Documentation and mapping efforts at RIN-S-1 resulted in the identification of 18 archaeological features located within an approximately 75 by 75 m area within the eastern portion of the project site (Figure 5). A summary of each feature is provided below. More detailed descriptions are included in the DPR form in Appendix A.

Eleven features (Features 1-11) consist of prehistoric BMFs found on granitic boulders and outcrops. All but two BMFs consist of a single slick or basin. Exceptions to this include Feature 4, which contained 3 slicks and 11 basins (Figure 6) and Feature 7, which included 2 slicks (Figure 7). BMFs 3 and 11 show signs of mechanical damage with the later feature having been moved from its original location. A summary of each BMF is provided in Table 1.

As part of the documentation of BMF 4, overburden was removed from the sides of the feature. Excavated sediments were screened through 3 mm-wire mesh screen with recovered artifacts collected for analysis. Table 3 summarizes the artifacts recovered in the overburden layer.

Table 1 Prehistoric BMFs at RIN-S-1

Feature No.	Feature Components	Length and Width of Outcrop/Boulder	Height	Comments
1	1 slick	2.3 m x 2.3 m	0.6 m	
2	1 slick	1.1 m x 1.4 m	0.4 m	
3	1 slick	2.0 x 0.6 m	0.6 m	Outcrop cut in half by drilling
4	3 slicks and 11 basins	1.8 m x 1.5 m	0.4 m	
5	1 slick	0.8 m x 0.7 m	0.1 m	
6	1 slick	1.8 m x 0.8 m	0.1 m	
7	2 slicks	1.7 m x 1.0 m	0.8 m	
8	1 slick	2.5 m x 1.3 m	0.9 m	
9	1 basin	3.5 m x 2.0 m	0.8 m	
10	1 slick	1.6 m x 0.9 m	0.6 m	
11	1 slick	1.3 m x 1.2 m	0.5 m	Exhibits mechanical damage; moved from its original location

Figure 6 Feature 4 Showing Slicks and Basins, Close-up View

Figure 7 Feature 7 Showing Two Slicks, View Northeast

In total, seven historic period archaeological features (Features 12-18), representing building and structural remnants, were recorded within the project site. As shown in Figure 5, the historic features were found to cluster around the prehistoric BMFs in the eastern portion of the project site. Identified features include a brick and mortar chimney (Figure 8), two concrete foundations (Figure 9), two poured concrete pads, a ceramic drain pipe, and one rock and mortar wall (Figure 10). All of the features are likely associated with the Santee School.

Table 2 Historic Period Archaeological Features at RIN-S-1

Feature No.	Feature Description	Length and Width of Outcrop/Boulder	Height
12	Poured concrete pad	5.3 m x 2.9 m (17 ft x 10 ft)	15 cm (0.5 ft)
13	Brick and mortar chimney on a concrete foundation	1.8 m x 1.8 m (6 ft x 6 ft)	3.0 m (10.0 ft)
14	Ceramic drainage pipe	76 cm x 76 cm (3 ft x 3 ft)	10 cm (0.3 ft)
15	Poured concrete pad	4.3 m x 4.3 m (14 ft x 14 ft)	Unknown
16	Concrete foundation	7.6 m x 4.0 m (25 ft x 13 ft)	10 cm (0.3 ft)
17	Concrete foundation	12.2 m x 7.2 m (40 ft x 23.6 ft)	10 cm (0.3 ft)
18	Rock and mortar retaining wall	12.2 m x 7.2 m (40 ft x 24 ft)	30 cm (10.0 ft)

5.2 Shovel Test Pits

As previously noted in Section 4.1.2, 28 STPs were excavated within the project site. STPs were excavated to a minimum depth of 40 cmbs, where possible (Figure 11). STPs 5, 7, 11, and 12 were terminated at 20 to 25 cmbs, when bedrock or decomposing granite was encountered. A HAU was excavated at the base of STP 6 in an attempt to locate bedrock in this area.

The test excavations resulted in 8 STPs yielding a mix of prehistoric and historic/modern materials, 16 STPs yielding exclusively historic/modern artifacts, and 4 STPs found to be sterile of cultural constituents. For the purposes of this study, prehistoric materials include faunal bone, lithic flakes, ground stone, ceramic sherds, and shell. Modern and/or historic cultural constituents include brick, ceramics, glass, metal, particle board, mortar, pencil lead, and plastic.

Based on the results of the STP excavations, the RIN-S-1 site boundary was expanded to include all of the positive STPs. In total, the site covers an area of approximately 290 m x 120 m. All of the STPs that were positive for prehistoric artifacts are located in the eastern part of the site in the vicinity of the BMFs. Results of the excavated STPs are summarized in Table 3; locations of each STP are shown in Figure 12.

Figure 8 Feature 13, View East

Figure 9 Feature 15, View Southwest

Figure 10 Feature 18, View North

Figure 11 Example of Excavated STP (STP 20), Close Up View

Table 3 Shovel Test Pit Excavation Results

No.	Maximum Excavated Depth (cmbs)	Soil	Collected Cultural Constituents (Number of Artifacts) 0-20 cmbs	20-40 cmbs	40-60 cmbs	60-80 cmbs	Below 80cmbs	Notes
STP 1	43	sandy loam	glass (2)	*ground stone (1),* brick (1)	–	N/A	N/A	
STP 2	40	sandy loam	glass (2), metal (1)	*shell (1),* glass (2), metal (1), mortar (2).	N/A	N/A	N/A	
STP 3	50	sandy loam	glass (1), metal (1), particle board (6)	*lithic flake (1),* glass (1), particle board (2)	particle board (2)	N/A	N/A	
STP 4	55	sandy loam	concrete (1) clay (3), glass (2)	glass (1)	–	N/A	N/A	
STP 5	25	sandy loam	*ground stone (2),* glass (3)	glass (1)	N/A	N/A	N/A	
STP 6	155	sandy loam, coarse alluvial sand	*lithic flake (1),* concrete (3) glass (1), metal (1), mortar (3), particle board (1)	glass (4), metal (1)	–	*shell (1), Tizon brown ware (1), faunal (1), ground stone (1),* cement (7), glass (2), lithic flakes (5), metal (1), mortar (11)	–	Hand augered from 80-155 cmbs to reach sterile decomposed granite
STP 7	20	sandy loam	glass (1)	N/A	N/A	N/A	N/A	
STP 8	40	sandy loam	concrete (2), glass (2)	glass (1)	N/A	N/A	N/A	
STP 9	100	sandy loam, coarse alluvial sand	glass (10)	glass (1)	glass (1)	glass (1)	–	
STP 10	90	sandy loam, coarse alluvial sand	glass (2)	glass (1)	glass (1)	–	–	
STP 11	20	sandy clay loam	glass (5)	N/A	N/A	N/A	N/A	
STP 12	20	sandy loam, clay loam	glass (4), plastic (1)	N/A	N/A	N/A	N/A	
STP 13	50	sandy loam	concrete (1), glass (1)	concrete (2), glass (7)	concrete (1), glass (2)	N/A	N/A	
STP 14	40	sandy loam, sandy clay	–	–	N/A	N/A	N/A	

No.	Maximum Excavated Depth (cmbs)	Soil	Collected Cultural Constituents (Number of Artifacts)					
			0-20 cmbs	20-40 cmbs	40-60 cmbs	60-80 cmbs	Below 80cmbs	Notes
STP 15	40	sandy loam, sandy clay	glass (1), particle board (1)	glass (1), concrete (1)	N/A	N/A	N/A	
STP 16	40	sandy loam, sandy clay	glass (1)	–	N/A	N/A	N/A	
STP 17	40	sandy loam, sandy clay	–	–	N/A	N/A	N/A	
STP 18	40	sandy loam, sandy clay loam	glass (2)	–	N/A	N/A	N/A	
STP 19	40	sandy loam, sandy clay	–	glass (7), ceramic (1), particle board (2)	N/A	N/A	N/A	
STP 20	40	sandy loam, sandy clay	glass (2)	N/A	N/A	N/A	N/A	
STP 21	40	sandy clay	–	N/A	N/A	N/A	N/A	
STP 22	80	sandy loam	*ground stone (1),* ceramic (1), glass (18), metal (1), particle board (1)	*fire affected rock (1)*, brick (3), glass (6), metal (2)	*ground stone (1) , Tizon brown ware (1),* brick (3), glass (6), metal (2), pencil lead (1)	*Tizon brown ware (1)* glass (11), metal (1), pencil lead (1)	N/A	
STP 23	40	sandy loam	*faunal (1),* glass (4), mortar (3)	brick (1), glass (1), mortar (1)	N/A	N/A	N/A	
STP 24	80	sandy loam	*lithic flake (1),* plastic (3)	*lithic flake (1)*	*lithic flake (1)*	–	N/A	
STP 25	40	sandy clay	–	N/A	N/A	N/A	N/A	
STP 26	40	sandy loam, sandy clay	glass (2), mortar (2)	glass (5), metal (2)	N/A	N/A	N/A	
STP 27	40	sandy loam, sandy clay	mortar (2)	mortar (2)	mortar (2)	N/A	N/A	
STP 28	60	sandy loam	ceramic (8), chalk (1), glass (81), metal (4), pencil lead (3), plastic (6)	brick (1), ceramic (15), chalk (4), glass (90), metal (43), pencil lead (11)	ceramic (8), glass (32), metal (24), pencil lead (3)	N/A	N/A	

No.	Maximum Excavated Depth (cmbs)	Soil	Collected Cultural Constituents (Number of Artifacts) 0-20 cmbs	20-40 cmbs	40-60 cmbs	60-80 cmbs	Below 80cmbs	Notes
BMF 4 over-burden	20	sandy loam	*ground stone (1), lithic flakes (7), Tizon brown ware (2),* brick (1), glass (9)	N/A	N/A	N/A	N/A	

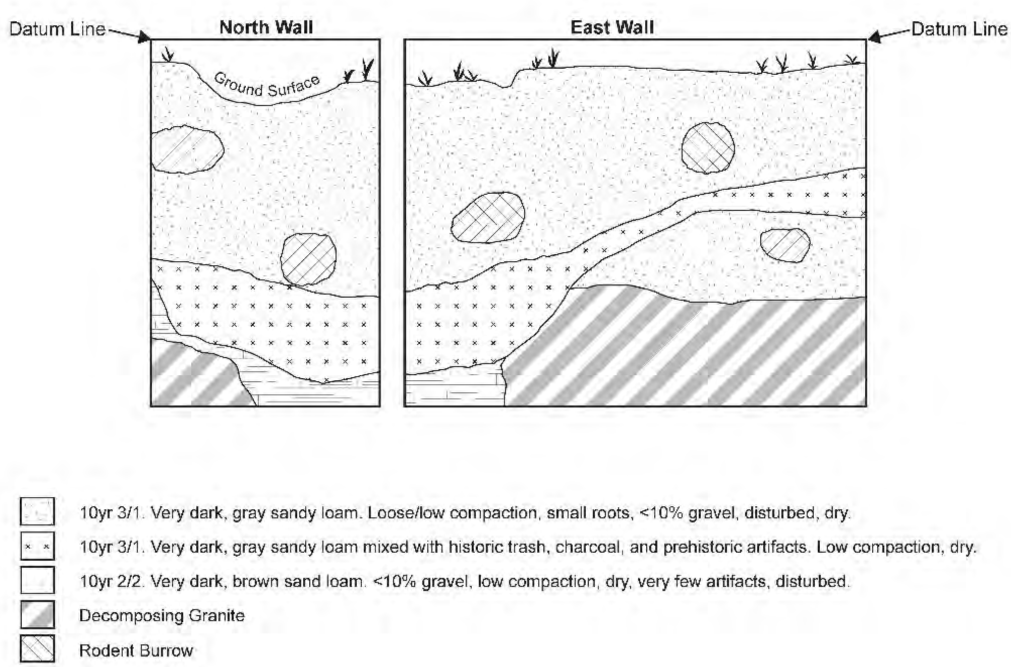
Prehistoric artifacts are italicized; "N/A" means level was not excavated; "–" means no data (i.e., level was sterile).

5.3 Test Unit

The TU was excavated on July 18 and 19, 2019. The TU was positioned within an area where STPs were positive for prehistoric and historic/modern materials (see Figure 12). The purpose of the excavation of the TU was to obtain greater horizontal and vertical exposure and determine the degree of disturbance associated with the subsurface deposits. The TU was excavated to a depth of 80 cmbd when culturally sterile sediments were encountered throughout much of the unit.

Figure 13 depicts the stratigraphic profiles of the north and east walls of the TU. The upper layer of sediment, which ranged from approximately 0 to 50 cmbd (Levels 1-5), consists of a very dark, gray sandy loam that is loose in compaction. A low density of gravel, along with small roots and krotovina, were observed throughout this stratum. Underlying the upper sediment layer is a very dark, gray sandy loam that is slightly more compact in structure; this sediment was first encountered at approximately 20 cmbd (Level 2) and extends down to 70 cmbd (Level 7) in some areas. Within the southeastern extent of the TU, a very dark, brown sandy loam is present between 40 and 60 cmbd (Levels 5-6); a low density of krotovina is noted in this sediment. The lowermost stratum consists of culturally sterile decomposed granite and bedrock. Patches of decomposed granite and bedrock were first encountered at approximately at 60 cmbd (base of Level 6) with additional exposures of these strata observed in Levels 7 and 8.

Figure 13 Test Unit Wall Profiles



Results of the TU excavation indicate that cultural deposits extend to depths of 70 cmbs in this portion of the site (Table 4). Although one piece of flaked stone was recovered in Level 8 (70 to 80 cmbd), the artifact was located within krotovina suggesting its presence was the result of the downward displacement of archaeological materials. The highest densities of cultural materials were observed in the upper 50 cm (Levels 1-5); artifact counts dropping dramatically at depths greater than 60 cmbd. Most of the recovered materials (204) are historic or modern in origin with only 47 artifacts (23 percent) dating to the prehistoric period. With the exception of Level 8, prehistoric artifacts were found intermixed with historic and/or modern materials in all excavation levels.

Table 4 Test Unit Excavation Results by Level

Level No.	Depth (cmbs)	Artifact Count	Cultural Constituents
1	0-10	37	*faunal (1), lithic flakes (3),* brick (3), glass (13) glass button (1), mortar (16)
2	10-20	29	*lithic flakes (4),* brick (4), glass (6), mortar (15)
3	20-30	40	*faunal (2), ground stone (1), lithic flakes (5),* brick (1), bullet casing (1), glass (13), metal (13), mortar (1), particle board (1), pencil lead (2)
4	30-40	36	*lithic flakes (5),* glass (9), metal (11), mortar (10), pencil lead (1)
5	40-50	40	*faunal (1), fire affected rock (7), ground stone (3), lithic flakes (4), Tizon brownware (1),* brick (1), glass (9), metal (12), mortar (2), pencil lead (1),
6	50-60	15	*lithic flakes (5),* glass (3), metal (2), mortar (5)
7	60-70	6	*faunal (1), fire affected rock (1), Tizon brownware (1)*, metal (2), mortar (1)
8	70-80	1	*lithic flake (1)*

Prehistoric artifacts are italicized.

5.4 Laboratory Analysis

5.4.1 Flaked Stone Analysis

The most abundant prehistoric artifact recovered from RIN-S-1 was flaked stone. In total, 40 flaked stone artifacts were collected from the excavation of the STPs and TU. All the recovered flaked stone materials consist of lithic debitage with no formal tools identified. Table 5 provides a summary of the flaked stone assemblage by debitage category and material type.

Although the small size of the recovered assemblage limits interpretations, some basic observations regarding flaked stone technology and use may be offered. Metavolcanics are the most common toolstone and comprises 60 percent of the assemblage. Quartzite is found in substantially lower frequencies (23 percent), as are quartz (12 percent) and obsidian (5 percent).

The majority of the debitage consists of interior flakes and shatter. Simple interior flakes are associated with early reduction related to the preparation of a core or early preparation of tools such as bifaces. Simple interior flakes typically display unidirectional scarring on the dorsal surface indicative of early hammer percussion associated with the initial shaping of the tool. The presence of a small number of biface thinning flakes and pressure flakes suggests late stage biface reduction also occurred at the site. Biface thinning flakes result from lithic reduction activities meant to reduce the cross section or thickness of a biface. Pressure flakes are created by applying pressure with the tip of a sharp object (such as a deer antler) to create fine flake scars along the edge of a biface. Pressure flakes are indicative of the final stages of tool reduction.

Table 5 Flaked Stone Artifacts from RIN-S-1

	Material			
Artifact Type	**Metavolcanics**	**Quartz**	**Quartzite**	**Obsidian**
Shatter	1	-	–	–
Simple Fragments	3	1	1	–
Cortical Fragments	1	–	–	–
Cortical	1	–	–	–
Simple Interior	7	2	8	1
Simple Interior/Complex Platform	1	–	–	-
Early Biface Thinning	2	2	–	-
Late Biface Thinning	–	–	–	1
Early Pressure Flake	3	–	–	–
Late Pressure Flake	2	–	–	–
Angular Reduction Debris	3	–	–	–
Totals	**24**	**5**	**9**	**2**

5.4.2 Ground Stone Analysis

A total of 14 ground stone artifacts were recovered during the Phase II testing at RIN-S-1. With the exception of one unidentified fragment, all of the ground stone tools were manos (Table 8). The abundance of manos in association with the BMFs suggests use of RIN-S-1 as a resource processing site. Although the majority of ground stone tools were constructed out of granitic rock, several metavolcanic specimens were also identified. Most of the ground stone artifacts were fragmentary and many appeared to have been fire affected (e.g., burned).

5.4.3 Ceramic Analysis

Seven ceramic body sherds were recovered from RIN-S-1. All of the ceramics were identified as Tizon Brownware. None of the sherds were decorated or incised. The presence of Tizon brownware ceramics suggest the site dates to the Late Prehistoric period (1000 to 200 B.P.) in the Late Holocene.

5.4.4 Faunal Analysis

A relatively small faunal assemblage, consisting of 9 bone and 2 shell fragments, was recovered from RIN-S-1. All of the bones were highly fragmented. Only one specimen, a *Lepus* femur shaft, was

Table 6 Ground Stone Artifacts from RIN-S-1

Ground Stone Type	Material	Percent Complete	Features
Mano	Granitic	>75	Bifacial, fire affected
Mano	Metavolcanic	50	Unifacial, battering on one end, fire affected
Mano	Granitic	100	Unifacial
Mano	Granitic	<50	Unifacial, fire affected
Mano	Granitic	<50	Unifacial, fire affected
Mano	Granitic	<25	Fire affected
Mano	Granitic	<50	Bifacial, fire affected
Mano	Granitic	50	Bifacial, fire affected
Mano	Granitic	<25	Fire affected
Mano	Metavolcanic	<25	Fire affected
Mano	Granitic	>75	Bifacial, fire affected
Mano	Metavolcanic	50	Fire affected
Mano	Metavolcanic	<25	Fire affected
Identified	Granitic	Unknown	Fire affected

considered identifiable. The remaining bones consisted of unidentified large (artiodacyl-sized) mammal (4), unidentified small (rabbit-sized) mammal (3), and unidentified animal (1). Due to the small size of the shell fragments, neither could be identified to genera. Approximately one-third of the assemblage exhibits signs of burning.

5.4.5 Special Studies

Obsidian XRF Study

Analyses of the two obsidian samples were conducted using a QuanX-EC™ (Thermo Electron Corporation) edxrf spectrometer (for further discussion see Appendix B). Trace elements acquired from each sample were placed into quantitative units and compared directly to known values for obsidian sources. In cases where the mean value of the source material and the artifact were within two standard deviations, the artifact is considered to be of the same source.

Both samples were found to be from the Obsidian Butte chemical type (Hughes 1986). This source is located on the southern shore of the Salton Sea in northwestern Imperial County. Obsidian Butte is commonly found in Late Prehistoric sites in San Diego County (Rincon Consultants 2019).

Obsidian Hydration Study

OOL prepared the obsidian hydration samples making two parallel cuts on the artifact, resulting in a 1-mm-thick sample. These samples were then mounted onto microslides and the appropriate thickness acquired (see Origer 1987 and 1989 for additional information on these techniques). Hydration bands were measured at several locations and the mean of the measurements calculated (see Appendix B). Dates for the specimens were calculated by adjusting their mean hydration band measurements to reflect the effective hydration temperature between where the specimens were found and where the rates were developed (for further discussion see appendix B). The obsidian flakes dated to 1,571 B.P. and 1,037 B.P., suggesting an Indeterminate-Late Prehistoric occupation in the Late Holocene.

5.4.6 Modern and Historic Materials

A variety of historic and modern materials were also recovered from the STPs and TU during the Phase II investigations. These materials were assigned into 13 different categories with counts calculated by type. These categories include: glass (394), metal (127), mortar (76), pencil lead (23), non-Native American ceramics (18), brick (19), concrete fragment (18), particle board (16), plastic (10), chalk (5), clay (3), glass button (1), and bullet casing (1). Some of the remains, specifically the chalk and pencil lead, are likely refuse associated with use of the Santee School. Other materials (glass, mortar, brick, and concrete fragments) probably represent construction debris from the school's demolition. Many of the remains were not temporally diagnostic and as such, it was not possible to determine if they are historic or modern in origin. No further analysis of these remains was undertaken for the Phase II study.

6 Resource Evaluation and Management Recommendations

6.1 Eligibility Assessment

Rincon has prepared NRHP and CRHR eligibility recommendations for the RIN-S-1. The criteria for eligibility are provided below.

6.1.1 NRHP Eligibility Criteria

A resource is considered a historic property under 36 CFR 800 if the quality of significance in American history, architecture, archaeology, engineering, or culture is present in districts, sites, buildings, structures, and objects that possess integrity of location, design, setting, materials, workmanship, feeling, and association and that correspond with any of the following:

A. Are associated with events that have made a significant contribution to the broad patterns of our history
B. Are associated with the lives of persons significant in our past
C. Embody the distinctive characteristics of a type, period, or method of installation, or that represent the work of a master, or that possess high artistic values, or that represent a significant and distinguishable entity whose components may lack individual distinction
D. Have yielded, or may be likely to yield, information important in prehistory or history

Archaeological sites are typically evaluated for NRHP eligibility against Criterion D, the site's eligibility to yield importation information about a period of prehistory or history. Each site was evaluated against Criterion D with the understanding that usually Criteria A, B, and C, do not apply to prehistoric cultural resources. To be eligible for the NRHP under Criterion D, the site must provide pertinent data to the research themes discussed in Chapter 3 and meet the needs assessment discussed below.

6.1.2 Assessment of Integrity

Although many sites may provide pertinent information to the research questions listed above, a site must also maintain integrity of location, design, setting, materials, workmanship, feeling, and association. Integrity is a property's ability to "convey its significance." Those aspects of integrity most relevant to resources eligible for the NRHP under Criterion D include location, design, materials, and association. The assessment of integrity is the final step in the evaluation of a resource. If a resource has the potential to provide data to the research design discussed in Chapter 3, but that resource lacks sufficient integrity, it would not qualify for NRHP listing. The integrity of the resource is considered during NRHP evaluation.

6.1.3 CRHR Eligibility Criteria

A resource is considered *historically significant* if it retains substantial integrity, and has any of the following attributes:

1) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage
2) Is associated with the lives of persons important in our past
3) Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values
4) Has yielded, or may be likely to yield, information important in prehistory or history

In addition, the significance of a *unique archaeological resource* is considered an archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it may have or do the following:

1) Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information
2) Has a special and particular quality such as being the oldest of its type or the best available example of its type
3) Is directly associated with a scientifically recognized important prehistoric or historic event or person

6.1.4 Evaluation of RIN-S-1

RIN-S-01 is a multi-component archaeological site that includes 11 prehistoric BMFs and 7 historic-period features surrounded by a low density subsurface artifact scatter. Test excavations at the site recovered a small assemblage of prehistoric artifacts associated with the BMFs. Analyses of these remains suggest that the area was used intermittently as a resource processing locale during the Intermediate-Late Prehistoric period in the Late Holocene. The historic period features at the site represent building and structural remnants from the Santee School, which was occupied from the late 1800s to the early 2000s. The Phase II subsurface investigations indicate a high level of disturbance with historic and modern materials intermixed with the prehistoric remains. It is likely that this disturbance is a result of both the long-term use of the area as an educational facility and ground-disturbing activities associated with the demolition of the school in the 2000s. An evaluation of RIN-S-1 indicates that the site is not eligible for listing on the NRHP or CRHR.

NRHP Criterion A/CRHR Criterion 1

The prehistoric component of the site is not associated with a specific event or pattern of events that made a significant contribution to our history. Although the historic component of RIN-S-1 is associated with the development of the Santee School District and the City of Santee, the remnant buildings and structures are not an important physical expression of the events or periods in the school district's or city's history. Thus, the prehistoric and historic components of RIN-S-1 do not meet the eligibility criteria for listing under NRHP Criterion A or CRHR Criterion 1.

NRHP Criterion B/CRHR Criterion 2

The prehistoric component of RIN-S-1 has no known association with the productive lives of persons important in local, state, or national history. Archival research found no information on the individuals that were responsible for the construction of the original schoolhouse on the project site. The subsequent expansion of the educational facilities in the 20th century was completed by the Santee School District and its contractors, not individuals. As such, there is no evidence that the building and structural remains at RIN-S-1 are directly associated with the productive lives of important individuals in local, state, or national history. Therefore, the prehistoric and historic components of RIN-S-1 do not meet the eligibility criteria for listing under NRHP Criterion B or CRHR Criterion 2.

NRHP Criterion C/CRHR Criterion 3

The BMFs and building and structural remains at RIN-S-1 do not meet NRHP Criterion C or CRHR Criterion 3 for distinctive characteristics of a type, period, and method of construction, and they do not exhibit any architectural or engineering merits. The BMFs are similar in design and construction to numerous other BMFs found throughout the region and are not extraordinary or unusual examples of the feature type. The building foundations and structural remnants that are present on the project site are so fragmentary that the original function associated with these remains is no long recognizable. Furthermore, the historic features lack any technological, architectural, or engineering merits. As such, the prehistoric and historic component of RIN-S-1 do not meet the eligibility criteria for listing under NRHP Criterion C or CRHR Criterion 3.

NRHP Criterion D/CRHR Criterion 4

The prehistoric component of RIN-S-1 has limited research potential. The BMFs have been thoroughly documented and additional study of these features is unlikely to yield information important to the study of local, state, or national history. Furthermore, test excavations indicate that the subsurface cultural deposits associated with the BMFs are not extensive and exhibit a high level of disturbance. Data recovery efforts on these have little potential to yield additional data pertinent to addressing research questions posed in the research design (Chapter 3).

The historic component also does not appear to meet NRHP Criterion D or CRHR Criterion 4 for any potential to provide information important to the study of late 19th and 20th century educational facilities. This criterion is typically reserved for archaeological resources, ruins, or rare built-environment structures of which little is already known, and that are considered the sole source of historical data. The remnant features at this location are fragmentary pieces of the former Santee School that are unable to yield any new information important to the study of the construction or use of educational facilities of its particular type or vintage in local, state, or national history. Finally, the historic period refuse at the site is not an extensive deposit that contains numerous diagnostic and datable artifacts. As such, it is unlikely that these materials will yield important information to the study of local, state, or national history. Therefore, RIN-S-01 is not eligible for listing on the NRHP and CRHR under Criterion D and Criterion 4, respectively.

6.2 Management Recommendations

Based on the results of the Phase II study, Rincon recommends that RIN-S-1 is not eligible for listing on the NRHP or the CRHR. No further cultural resource management is required for this archaeological resource.

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Appendix A

Department of Parks and Recreation Series 523 Forms

Appendix B

Results of the Obsidian XRF and Hydration Study

Geochemical Research Laboratory Letter Report 2019-45

Energy Dispersive X-ray Fluorescence Analysis of Obsidian Artifacts from the Santee School, San Diego County, California

August 7, 2019

Mr. Mark Strother
Associate Archaeologist
Rincon Consultants, Inc.
9320 Chesapeake Drive, Suite 218
San Diego, CA 92123

Dear Mr. Strother:

This letter reports the results of energy dispersive x-ray fluorescence (edxrf) analysis of two obsidian artifacts from the Santee School, located in the City of Santee in San Diego County, California. This study was conducted pursuant to your letter request of July 30, 2019.

Laboratory equipment and instrumentation, and artifact-to-source (geochemical type) attribution procedures, measurement resolution limits for each element, and literature references for the present analyses are the same as I reported for artifacts from SDi-5569 (Hughes 2016).

Table 1

Quantitative Composition Estimates for Obsidian Artifacts from the Santee School

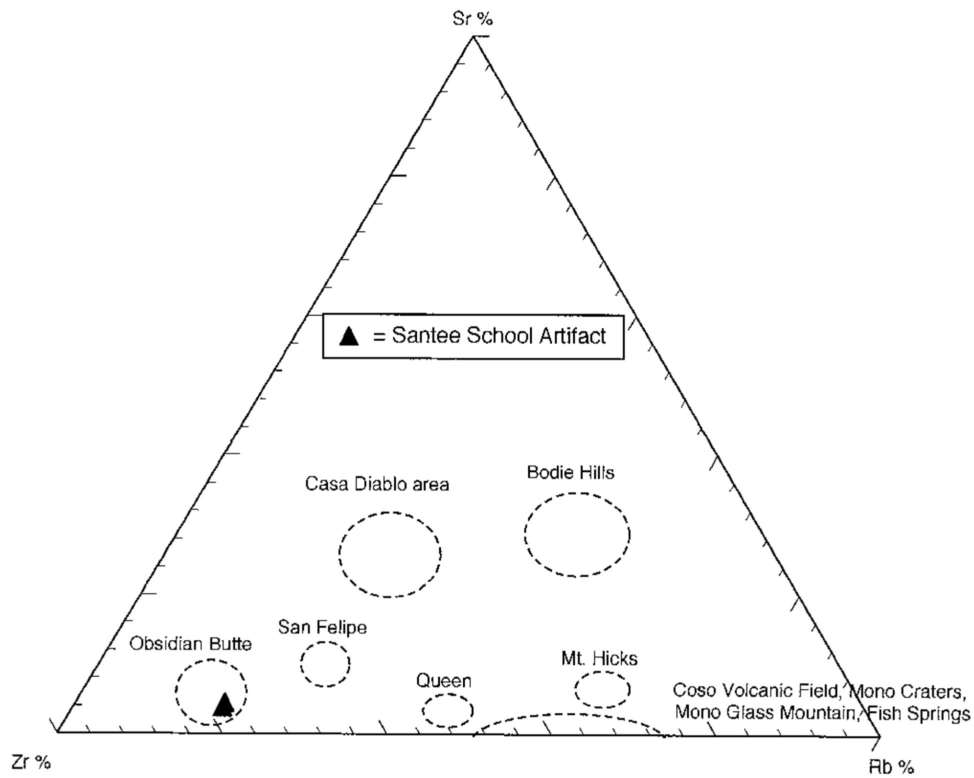
Cat. Number	Trace Element Concentrations: Zn	Ga	Rb	Sr	Y	Zr	Nb	Ba	Ti	Mn	$Fe_2O_3^T$	Ratio: Fe/Mn	Obsidian Source (Chemical Type)
Obs-001	nm	nm	149 ±4	33 ±3	143 ±4	360 ±6	37 ±3	436 ±22	nm	nm	nm	63	Obsidian Butte, CA
Obs-002	nm	nm	151 ±4	28 ±3	146 ±4	367 ±6	35 ±3	425 ±28	nm	nm	nm	64	Obsidian Butte, CA
U.S. Geological Survey Reference Standard													
RGM-1 (measured)	nm	nm	151 ±4	105 ±4	29 ±3	219 ±4	7 ±3	822 ±22	nm	nm	1.88 ±.02	64	Glass Mtn., CA
RGM-1 (recommended)[a]	32	15	149	108	25	219	9	807	1600	279	1.86	nr	Glass Mtn., CA

Values in parts per million (ppm) except total iron [in weight %] and Fe/Mn intensity ratios; ± = 2 σ expression of x-ray counting uncertainty and regression fitting error at 120-360 seconds livetime. nm= not measured. [a], (Govindaraju 1994).

Edxrf data (in Table 1), plotted in Figure 1 support the conclusion that both of the obsidian artifacts you submitted from this site were manufactured from volcanic glass of the Obsidian Butte chemical type (Hughes 1986).

Figure 1

Ternary Diagram Plots for Obsidian Artifacts from the Santee School



Dashed lines represent range of variation in geological obsidian source samples, normalized from peak counts employed to generate ppm values in Table 1. Filled triangles plot the artifacts in Table 1.

I hope you will find this information useful in your overall evaluation of the significance of this site. Please contact me (lab phone: [650] 851-1410; e-mail: rehughes@silcon.com; web site: www.geochemicalresearch.com) if I can provide any further assistance or information. As you requested, I have forwarded the artifacts to Tom Origer for obsidian hydration analysis.

Sincerely,

Richard E. Hughes, Ph.D., RPA
Director, Geochemical Research Laboratory

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ORIGER'S OBSIDIAN LABORATORY
P.O. BOX 1531
ROHNERT PARK, CALIFORNIA 94927
(707) 584-8200, FAX 584-8300
ORIGER@ORIGER.COM

August 22, 2019

Mark Strother
Rincon Consultants, Inc.
9320 Chesapeake Drive, Suite 218
San Diego, California 92123

Dear Mr. Strother:

I write to report the results of obsidian hydration band analysis of two specimens found at Santee School, Santee, San Diego County, California. This work was completed following source determination by Richard Hughes, Geochemical Research Laboratory, who forwarded the specimens to us on your behalf.

Procedures typically used by our lab for preparation of thin sections and measurement of hydration bands are described here. Specimens are examined to find two or more surfaces that will yield edges that will be perpendicular to the microslides when preparation of each thin section is done. Generally, two parallel cuts are made at an appropriate location along the edge of each specimen with a four-inch diameter circular saw blade mounted on a lapidary trimsaw. The cuts result in the isolation of small samples with a thickness of about one millimeter. The samples are removed from the specimens and mounted with Lakeside Cement onto etched glass micro-slides.

The thickness of the sample was reduced by manual grinding with a slurry of #600 silicon carbide abrasive on plate glass. Grinding was completed in two steps. The first grinding is stopped when the samples thickness is reduced by approximately one-half. This eliminates micro-flake scars created by the saw blade during the cutting process. The slide is then reheated, which liquefies the Lakeside Cement, and the sample is inverted. The newly exposed surfaces are then ground until proper thickness is attained.

Correct thin section thickness is determined by the "touch" technique. A finger is rubbed across the slide, onto the sample, and the difference (sample thickness) is "felt." The second technique used to arrive at proper thin section thickness is the "transparency" test where the micro-slide is held up to a strong source of light and the translucency of each sample is observed. The sample is reduced enough when it readily allows the passage of light. A cover glass is affixed over the sample when grinding is completed. The slide and paperwork are on file at the offices of Origer's Obsidian Laboratory under File No. OOL-1202.

The hydration bands were measured with a strainfree 60-power objective and a Bausch and Lomb 12.5-power filar micrometer eyepiece mounted on a Nikon Labophot-Pol polarizing microscope. Hydration band measurements have a range of ± 0.2 microns due to normal equipment limitations. Six measurements are taken at several locations along the edge of the thin section, and the mean of the measurements are calculated and listed on the enclosed data page.

Both specimens yielded normal hydration band measurements on non-altered surfaces.

We calculated dates for the specimens sourced to Obsidian Butte by adjusting their mean hydration band measurements to reflect the effective hydration temperature (EHT) between where the specimens were found and where the rates were developed. An EHT value for the approximate location of Santee School was estimated using temperature data collected from the El Cajon weather station. The temperature data, published on the website www.wrcc.dri.edu/summary/climsmut.htm, yielded an EHT value of 20.6 degrees centigrade for the approximate location of Santee School.

The EHT adjusted mean measurements were further adjusted by what are termed "comparison constants" (Tremaine and Fredrickson 1988). Comparison constants are calculated using data from laboratory induced hydration and determine the rate of hydration through comparison of the subject obsidian specimens to an obsidian with a well-established hydration rate (Napa Glass Mountain).

After making the necessary adjustments (i.e., EHT and rate), dates were calculated by using them in the standard diffusion formula ($T = kx^2$). "T" is the time in years before present, "k" is the hydration rate constant (153.4) for the control source (Napa Glass Mountain obsidian), and "x" is the hydration band measurement in microns.

The following table shows dates for the obtained hydration band measurements.

Hydration Lab #	Hydration Band (in microns)	EHT Adjusted Hydration Band	Rate Adjusted Hydration Band	Date (in years before present)
1	3.7	2.9	3.2	1,571
2	3.0	2.4	2.6	1,037

Please don't hesitate to contact us if you have questions regarding this hydration work.

Sincerely,

Thomas M. Origer
Director

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Submitter: M. Strother - Rincon Consultants, Inc. August 2019

Site	Lab#	Sample#	Description	Unit	Depth	Remarks	Measurements	Mean	Source
	1	001	Debitage	STP 22	60-80		3.6 3.6 3.7 3.7 3.7 3.8	3.7	
	2	002	Debitage		00-25		2.9 3.0 3.0 3.0 3.1 3.1	3.0	

Lab Accession No: OOL-1202 Technician: Thomas M. Origer

DH = Diffuse Hydration
NVB = No Visible Band
VW = Variable Width