Cogstone Resource Management Inc.

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ARCHAEOLOGICAL AND PALEONTOLOGICAL RESOURCES ASSESSMENT REPORT WITH MITIGATION PLAN FOR THE

SPRING TRAILS PROJECT,

CITY OF SAN BERNARDINO, CALIFORNIA

Prepared for:
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USGS Quadrangle: Devore and San Bernardino North 7.5'
Area: 353 acres
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EXECUTIVE SUMMARY

The purpose of this study was to determine the potential effects on archaeological and paleontological resources for proposed construction related to the Master Planned Development of 347 lots, including 329 single-family residential lots as well as mini-parks, water reservoir sites, internal private roads, and open space. In addition to determining the cultural sensitivity of the project area, this project also served to synthesize previous research conducted within the project boundaries. The project is located in the City of San Bernardino approximately 1.5 miles due east of the unincorporated community of Devore, CA at the junction of the I-215 and 1-15 freeways. This study was requested by the project proponent to meet CEQA standards.

The archaeological survey verified the exact location of each previously mentioned or recorded cultural resource. The condition or integrity of the resource was recorded or updated, and the proximity of the resource to areas of project impact was also noted. In total, 5 new site records were filed and 5 site records were updated. Cogstone also conducted a new survey of an area previously excluded from the project area that is now identified as a proposed road alignment. This new survey was negative for cultural resources. One resource located within the project boundaries is considered significant (as defined by CEQA) and therefore requires further mitigation. Proposed new grading for construction in the northern portion of the project area will destroy the remnant structures and subsurface historical archaeological features associated with P-36-007030, the late-19th century Cable Canyon Ranch complex. Household refuse and privies are mostly subsurface historical archaeological features that would provide new historical information. Mitigation measures must include preconstruction testing and data recovery (including a formal treatment plan) of site P-36-007030, as well as monitoring of all grubbing and de-vegetation in the site vicinity.

Geologically, the project is mapped at the southern edge of the Transverse Range Province as early Pleistocene to Holocene alluvial fans and Paleozoic to Mesozoic Devil Canyon Gneiss. Although there are several sedimentary formations that are old enough to contain the remains of extinct Pleistocene animals (older alluvial fans and young alluvial fans), these sediments within the project boundaries were extremely coarse and are unlikely to have been deposited in a manner conducive to the preservation of significant fossil resources.
The Native American Heritage Commission indicated that there are no known sacred lands within the immediate project area and recommended that seven tribes or individuals be contacted for further information. All were contacted by email or letter. No responses were received.

Seven historic archaeological resources have been adequately mitigated by documentation. Project construction would however, destroy the Cable Canyon Ranch complex. The historic remnants of a stone house and fence of Cable Canyon Ranch do not, in themselves, meet significance criteria under CEQA and they have also been documented. However, household refuse and privies are historical archaeological features that would provide new information and thereby meet criterion D. Suggested research questions are provided.

No paleontological or prehistoric archaeological resources are known within the project area. A small private cemetery was reported by locals but not located.

Impact Cult-1
Proposed new grading for construction in the northern portion of the project area will destroy the remnant structures and subsurface historical archaeological features associated with P-36-007030, the late-19th century Cable Canyon Ranch complex. Household refuse and privies are mostly subsurface historical archaeological features that would provide new historical information.

Mitigation Measure Cult-1
Preconstruction archaeological testing and data recovery by a qualified archaeologist is required to mitigate the adverse impacts of construction on historic Cable Canyon Ranch. A qualified archaeologist must be present for grubbing, de-vegetation and demolition of the remnant stone structure and fence to protect resources that may be revealed by these activities. Subsequent to vegetation removal but before construction, the archaeologist will perform controlled mechanical excavation inside and outside the house area to locate features present below the ground surface. Once located, the archaeologist should develop a formal treatment plan (plan of work including research questions to be answered and contain an agreement with an accredited repository). Excavation of subsurface features can include additional mechanical excavation or hand excavation as warranted by the features. Discovery of features and recovery of archaeological materials will require extensive sampling, documentation, laboratory work, identification, analysis and interpretation. The final report should include formal evaluation and significance assessment of each feature and the project catalog and be filed with the City, the San Bernardino Archaeological Information Center and the repository (San Bernardino County Museum recommended). The City should be refused a final occupancy permit until all mitigation is demonstrated to have been performed, including curation of the project documents and artifacts.

Impact Cult-2
Proposed new grading for construction might encounter unanticipated human remains, archaeological materials or fossils.

Mitigation Measure Cult-2
Cultural resources sensitivity training is required for all earthmoving personnel. This training will review the types of archaeological and paleontological resources that might be found along with laws for the protection of resources. In the event of an unanticipated discovery, all work must halt within a 30 radius of the find. Work may not continue until the find has been evaluated by a qualified archaeologist or paleontologist, dependent on the nature of the discovery. If an unexpected discovery of human remains is identified at any time the applicant shall follow guidelines addressed in California Health and Safety Code Section 7050.5. This requires that work in the vicinity must halt and the County Coroner must be notified immediately. If the remains are determined to be Native American, the coroner will contact the Native American Heritage Commission. All discoveries require scientific samples and documentation including a final report.

INTRODUCTION

PURPOSE OF STUDY

Cogstone Resource Management Inc. was retained to update previous cultural resources studies for the proposed Spring Trails project in the community of Verdemont, City of San Bernardino, California (Figure 1). This work was requested by the project proponent to meet CEQA requirements.

Figure 1. Project vicinity

PROJECT DESCRIPTION

Montecito Equities, Ltd. has proposed a Master Planned Development for the Martin Ranch site, an approximately 353-acre site located in an unincorporated area in the County of San Bernardino, adjacent to the northwestern boundary of the City of San Bernardino and within the City of San Bernardino Sphere of Influence. An application has been filed for the following entitlements: (1) a General Plan Amendment to prezone the project site and adjacent County area as Residential Low and Residential Estate and to establish a Hillside Management Overlay District, (2) a Conditional Use Permit required for residential subdivisions and to develop a helipad for fire emergencies, and (3) a Tentative Tract Map to subdivide the project site into approximately 347 lots, including 329 single-family residential lots, as well as mini-parks, water reservoir sites, internal private roads, and open space. The proposed project also includes a Development Agreement that would control development of the project site. Finally, there is a request for annexation into the City of San Bernardino for the project site and an adjacent 26.4 acres.

The project site is located in the community of Verdemont in the foothills of the San Bernardino Mountains on the northeast side of Meyers Road, approximately 1/3 mile northwesterly of its intersection with Little League Drive (Figure 2). The project site is approximately 1.5 miles due east of the unincorporated community of Devore and the junction of the I-215 and 1-15 freeways. Regional access to the project site is via the I-215 Freeway exiting at the Palm Avenue interchange. Local access is currently provided by Little League Drive, north to Meyers Road, which is taken west to Martin Ranch Road then northerly into the project site.

In addition to the Martin Ranch project site, an adjacent 26.4-acre area is included in the proposed annexation to prevent the area from becoming a County island. This area consists of six rural residential parcels, four of which are occupied with residences and related structures. Access to four of the parcels is from Meyers Road with the remaining two obtaining access from Martin Ranch Road prior to entering the project site.

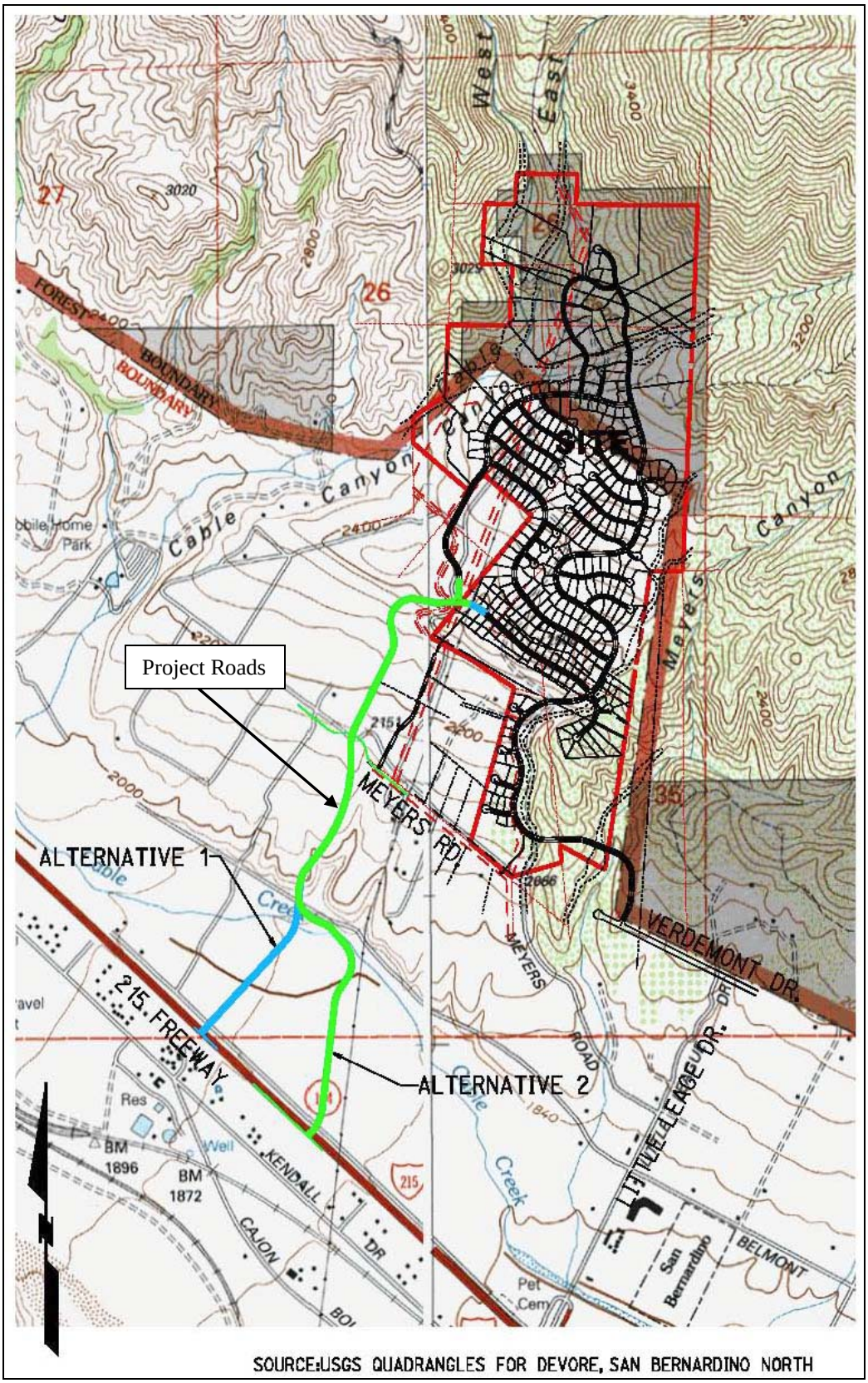

Figure 2. Project area

PROJECT PERSONNEL

Cogstone Resource Management conducted the cultural resource studies. Sherri Gust served as the Principal Investigator for the project, supervised all work, wrote segments of the report and edited this report. Gust is a Registered Professional Archaeologist and Qualified Principal Paleontologist. She has an M.S. in Anatomy (Evolutionary Morphology) from the University of Southern California, a B.S. in Anthropology from the University of California at Davis and over twenty-five years of experience in California.

Jeff Vadala, Veronica Harper and Amy Glover performed the field survey. Kim Scott performed field assessment of the project geology. Harper and Scott prepared portions of the report.

Vadala and Glover have B.A. degrees in anthropology from the University of California at Riverside. Harper has a M.A. in Anthropology from California State University at Long Beach. Scott has a B.S. in Geology with an emphasis in Paleontology from the University of California, Los Angeles. Further qualifications of Cogstone senior staff are provided (Appendix A).

REGULATORY ENVIRONMENT

STATE LAWS AND REGULATIONS

California Environmental Quality Act of 1970

CEQA declares that it is state policy to "take all action necessary to provide the people of this state with...historic environmental qualities." It further states that public or private projects financed or approved by the state are subject to environmental review by the state. All such projects, unless entitled to an exemption, may proceed only after this requirement has been satisfied. CEQA requires detailed studies that analyze the environmental effects of a proposed project. In the event that a project is determined to have a potential significant environmental effect, the act requires that alternative plans and mitigation measures be considered.

CEQA includes historic and archaeological resources as integral features of the environment. If paleontological resources are identified as being within the proposed project area, the sponsoring agency must take those resources into consideration when evaluating project effects. The level of consideration may vary with the importance of the resource.

California Register of Historical Resources

Public Resources Code § 5024.1 establishes the California Register of Historical Resources. The register is listing of all properties considered to be significant historical resources in the state. The California Register includes all properties listed or determined eligible for listing on the National Register, including properties evaluated under Section 106, and State Historical Landmarks from No. 770 on. The criteria for listing are the same as those of the National Register. The California Register statute specifically provides that historical resources listed, determined eligible for listing on the California Register by the State Historical Resources Commission, or resources that meet the California Register criteria are resources which must be given consideration under CEQA (see above). Other resources, such as resources listed on local registers of historic registers or in local surveys, may be listed if they are determined by the State Historic Resources Commission to be significant in accordance with criteria and procedures to

be adopted by the Commission and are nominated; their listing in the California Register, is not automatic.

Resources eligible for listing include buildings, sites, structures, objects, or historic districts that retain historic integrity and are historically significant at the local, state or national level under one or more of the following four criteria:

A) It is associated with events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the United States;
B) It is associated with the lives of persons important to local, California, or national history;
C) It embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a master or possesses high artistic values; or
D) It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to having significance, resources must have integrity for the period of significance. The period of significance is the date or span of time within which significant events transpired, or significant individuals made their important contributions. Integrity is the authenticity of a historical resource's physical identity as evidenced by the survival of characteristics or historic fabric that existed during the resource's period of significance. Alterations to a resource or changes in its use over time may have historical, cultural, or architectural significance. Simply, resources must retain enough of their historic character or appearance to be recognizable as historical resources and to convey the reasons for their significance. A resource that has lost its historic character or appearance may still have sufficient integrity for the California Register, if, under Criterion D, it maintains the potential to yield significant scientific or historical information or specific data.

PALEONTOLOGICAL SIGNIFICANCE CRITERIA

Only qualified, trained paleontologists with specific expertise in the type of fossils being evaluated can determine the scientific significance of paleontological resources. Fossils are considered to be significant if one or more of the following criteria apply:

1. The fossils provide information on the evolutionary relationships and developmental trends among organisms, living or extinct;
2. The fossils provide data useful in determining the age(s) of the rock unit or sedimentary stratum, including data important in determining the depositional history of the region and the timing of geologic events therein;
3. The fossils provide data regarding the development of biological communities or interaction between paleobotanical and paleozoological biotas;
4. The fossils demonstrate unusual or spectacular circumstances in the history of life;
5. The fossils are in short supply and/or in danger of being depleted or destroyed by the elements, vandalism, or commercial exploitation, and are not found in other geographic locations.

As so defined, significant paleontological resources are determined to be fossils or assemblages of fossils that are unique, unusual, rare, uncommon, or diagnostically important. Significant fossils can include remains of large to very small aquatic and terrestrial vertebrates or remains of plants and animals previously not represented in certain portions of the stratigraphy.

Assemblages of fossils that might aid stratigraphic correlation, particularly those offering data for the interpretation of tectonic events, geomorphologic evolution, and paleoclimatology are also critically important. Paleontological remains are recognized as nonrenewable resources significant to the history of life (Scott and Springer 2003).

BACKGROUND

REGIONAL SETTING

The project is mapped at the southern edge of the Transverse Range Province. These ranges are so named because the mountains and their subparallel valleys are nearly perpendicular to the rest of the mountain ranges in California. Resulting from a bend in the San Andreas Fault Zone, the mountains of the Transverse Range Province are some of the fastest growing in the world. This province includes the Little San Bernardino Mountains at the east, traces westward through the San Bernardino, San Gabriel, and Santa Monica Mountains and continues west through Ventura and southern Santa Barbara County. The Los Angeles Basin and the Santa Catalina, Santa Barbara, San Clemente, and San Nicholas Islands together with the surrounding continental shelf (cut by deep submarine fault troughs) are included in this province (Wagner 2002).

GEOLOGICAL SETTING

The project is mapped as early Pleistocene to Holocene alluvial fans and Paleozoic to Mesozoic Devil Canyon Gneiss (Morton and Miller 2003; Figure 3). Older fan sections and the gneiss are interrupted by branches of the San Andreas Fault Zone (Figure 3).

Devil Canyon Gneiss (MzPd)

Consisting of gneiss, schist, migmite, granitics and small marble inclusions, this Proterozoic to Mesozoic (between 2.5 billion and 65 million years old) metamorphic body is the base of the stratigraphic sequence in the Devil Canyon area. These highly metamorphosed units are not fossiliferous (Morton and Miller 2006).

Alluvial Fans

Alluvial fans are the result of materials sloughing off the local hillsides. Sediments concentrate in the mouths of canyons and wash into the valleys during storms. Successive storms result in gradually accumulating fans that are a reddish-brown tint from oxidation. Within the project area close to the hillsides, these sediments are very coarse and consist of sand, pebble, cobble, and boulder conglomerates.

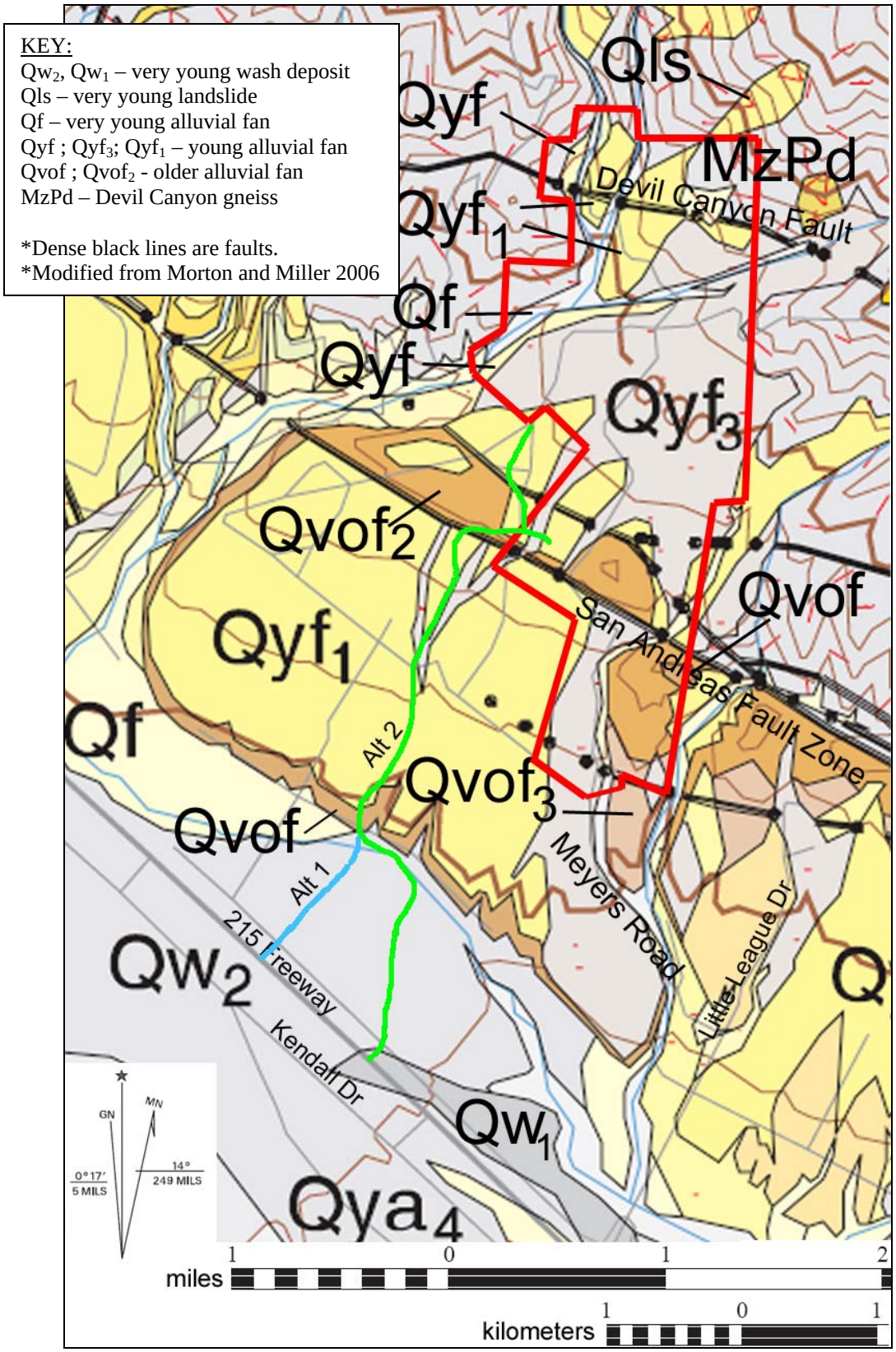

Figure 3. Project Geology

Older alluvial fan (Qvof and $Qvof_2$)

Quaternary Very Old Fan deposits are more than 780,000 years old. Qvof deposits are early to middle Pleistocene in age (1.8 million to 120,000 years old) while $Qvof_2$ deposits are early Pleistocene in age (1.8 million to 780,000 years old). Sediments are medium to dark reddish brown, and consolidated enough to form vertical faces as much as 30 feet (10 meters) thick. Overall thickness can be as much as 100 feet (30 meters) thick and some fan surfaces in the project area are cut by the Andreas Fault Zone (Morton and Miller 2006). While these formations have been known to contain the remains of extinct Pleistocene animals, "the older Pleistocene alluvial fans present within the project boundaries are derived from the San Bernardino Mountains and are unlikely to have been deposited in a manner conducive to the preservation of significant fossil resources" (Scott 2000).

Young alluvial fan (Qyf; Qyf_3; Qyf_1)

Quaternary Younger Fan deposits are more recent in age. Qyf deposits are late Pleistocene to Holocene in age (120,000 years old to recent), while Qyf_1 deposits are late Pleistocene to early Holocene in age (120,000 to 7,000 years old), and Qyf_3 deposits are middle Holocene in age (5,000 years old). Sediments are medium brown and contain a high proportion of cobbles. Overall thickness can be as much as 12 feet (4 meters) thick and some fan surfaces in the project area are cut by the Andreas Fault Zone (Morton and Miller 2006). While these formations have been known to contain the remains of extinct Pleistocene animals, these sediments within the project boundaries were extremely coarse and are unlikely to have been deposited in a manner conducive to the preservation of significant fossil resources.

Very young alluvial fan (Qf)

Similar to Quaternary young alluvial fan deposit unsectioned, unit 1 and unit 3 (Qyf_1, Qyf_3) above, these late Holocene (less than 2,500 years old) sediments are the unconsolidated, active portions of modern alluvial fans. These deposits are late Holocene in age (less than 5,000 years old). Sediments are brownish and are poorly to not consolidated. Most areas lack soil development at the surface but can be capped by weak soils south of the San Bernardino

Mountains. Surfaces can be cut by recent streams (Morton and Miller 2006). Due to the age of this deposit it is unlikely to contain fossil resources.

Very young landslide (Qls)

A single landslide barely contacts the northern-most edge of the property. These deposits are late Holocene in age (less than 5,000 years old) and may or may-not be currently active (Morton and Miller 2006).

Very young wash deposit (Qw_2, Qw_1)

These late Holocene (less than 2,500 years old) sediments are the unconsolidated, active portions of modern rivers and consist of sand to boulder clasts. In the project area, Qw sediments are mapped near Highway 215 (Morton and Miller 2006). Due to the age of this deposit it is unlikely to contain fossil resources.

PROJECT AREA HISTORY

The history of the Spring Trails project area dates back to the Mission period. The project is located on the east side of the Cajon Pass, an access point from the Mojave Desert to the interior Southern California valleys. The Cajon Canyon was used prehistorically by the occupants of southern California to travel between the two locations and in 1776, Mojave Indian guides led the Spanish priest-explorer Padre Francisco Garces along the trail and into San Bernardino. This passage became known as the Mojave Indian Trail, and follows the Mojave River up to its headwaters in the San Bernardino Mountains where it leads due south through Sawpit and Cable Canyons. The Mojave Trail would later be traveled by Jeremiah Smith in 1826 and 1827 as he led an expedition that would "open the first of the great transcontinental routes to California" (Hoover, Rensch and Rensch 1966:317). Pioneers like Smith opened the door for American settlers who began caravanning across the western United States to settle in Southern California via the Mojave Trail in the 1830s and 1840s.

In 1822, as the Mission period came to an end and California became a Mexican territory, attitudes toward land ownership changed dramatically. With the transition of political control from Spanish to Mexican officials, the Mexican government pushed for the secularization of the Missions in order to gain access to the large tracts of land owned by the church. By 1830, the Mexican government redistributed Mission lands in the form of private land grants. In 1843 a tract of land including the project area was granted to an English sailor named Michael White. This piece of land, named the Muscupiabe Rancho, was the last Mexican Land Grant issued in San Bernardino County. Its purpose was to establish a buffer zone at the mouth of the Cajon Pass as a defense against raiding Indians. Michael White, a naturalized Mexican citizen (also referred to as Miguel Blanco) received the political support of the surrounding rancheros, as well as livestock and provisions for his help in defending the San Bernardino Valley (Van Horn et al. 2004).

White built corrals and a house of earth and logs on the north side of the mouth of Cable Canyon in order to observe both the Cajon Canyon and the Mojave Indian Trail. Due to continued Indian raids, White and his family occupied the house only 6 weeks before his family moved away, and

White himself lasted only 9 months more until he abandoned the rancho and moved to Los Angeles. "The silent and crafty Indians had spirited away in the night every head of stock Michael White had" (LaFuze 1971: 17). Although Michael White no longer occupied the rancho, he retained ownership of it when America annexed California in 1847. With the help of a Los Angeles attorney, White was successful in retaining an American-recognized title to the Muscupiabe rancho. For his successful petition, White's lawyer received half of the Muscupiabe land grant in 1853. By 1859, White had sold his remaining property to Henry Hancock. Less than 10 years later, Hancock acquired the second half of the land from White's lawyer. In 1867, Hancock surveyed and mapped the entire rancho and the Federal courts upheld his ownership (Figure 4).

While Michael White, followed by Henry Hancock owned the Muscupiabe land, other families lived and worked on portions of the property. In 1853, George Martin settled with his family on a piece of the land grant currently known as "Glen Helen" near Devore. Martin established a prosperous ranch which served as a way-station for all traffic moving through the Cajon Canyon. When George Martin died in 1874, his son Archibald took over the family ranch. Archibald Martin and Henry Hancock formed a 2 year agreement in which Archibald leased the ranch land from Hancock for $300 a year. This contract was renewed until 1880 when Archibald abandoned the way-station. A second Martin son, Samuel, moved away from the family ranch in 1873 and established a homestead just outside of the Muscupiabe property boundaries. Samuel chose a location in upper Cable Canyon that included the headwaters of Cable Creek and the area became known as the "Cable Canyon Ranch" (Van Horn et al. 2004) (Figure 5). The Samuel Martin family operated the ranch through the 19th century and constructed a stone ranch house and a barn in addition to several outbuildings and probably some water distribution-related structures.

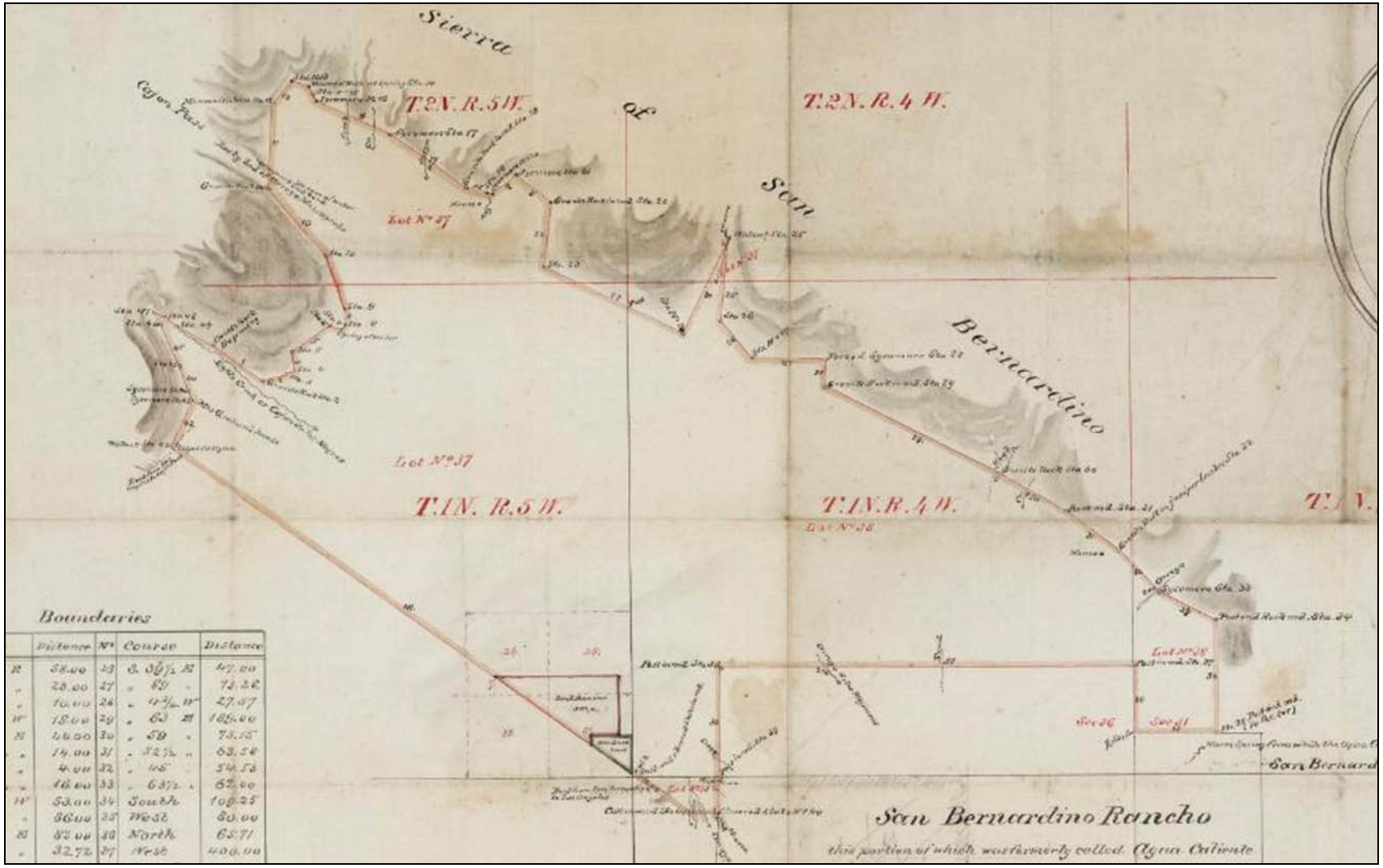

Figure 4. Muscupiabe Rancho as surveyed by Henry Hancock

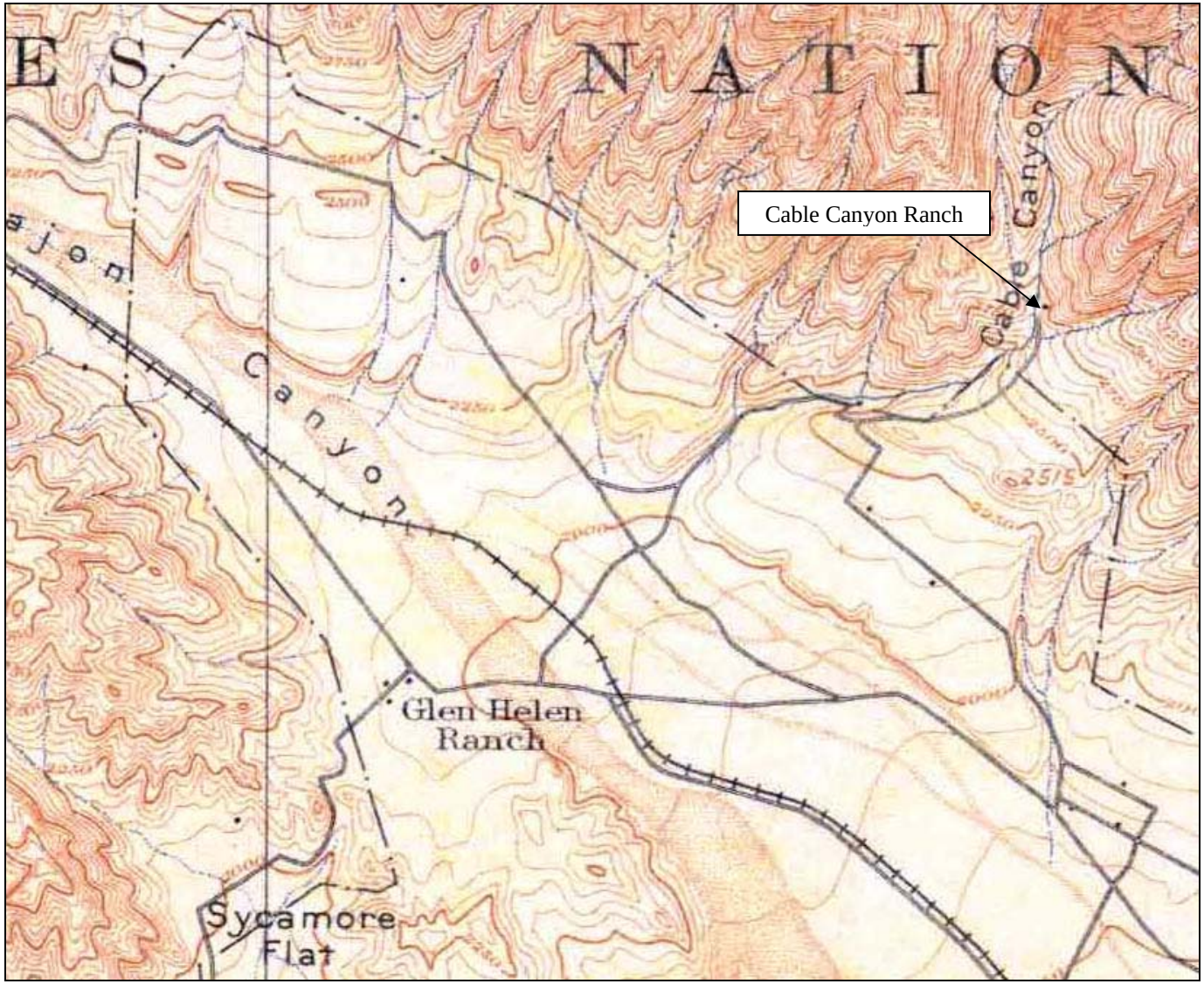

Figure 5. 1901 topographic map

In 1882, Henry Hancock sold 2,450 acres of land including the entire Cable Canyon watershed below the Martin's ranch to Julius Meyer and F.H. Barclay. Meyer and Barclay subdivided the land into 19 lots with Meyer receiving 12 of the 19 lots and Barclay receiving the remainder. All water rights accompanied the titles and in 1883, "a pipeline diversion that headed near the mouth of Cable Canyon was built to convey Cable Creek water to the service area" (Scott 1977: 123).

By the turn of the century, the Cable Canyon Ranch had become a key location in the acquisition and distribution of water rights as it encompassed the headwaters of Cable and Stump Canyons. In 1906, Samuel Martin and Julius Meyer fought in court over the water rights of Cable Canyon, Martin arguing that because the water emanated from his property he was entitled to it while Meyer argued he purchased a right to ½ of the water when he bought the property from Hancock. The court ruled in Meyer's favor. In 1914, Martin filed another complaint in court over the water rights and the case remained in litigation for five years. Before the court could reach a decision, Martin sold his property.

Water from the ranch continued to be used, however the property was never again occupied. Portions of the Muscupiabe property owned by the Meyers were cultivated for grapes and the Meyer family built and maintained a small vineyard which operated until the late 1950s.

PREVIOUS PROJECT RESEARCH

The Spring Trails project area has been studied and surveyed in five previous reports (Table 1; Figure 6). The first study consisted of a record search and field survey for the project area (Ritz and Wade 1990). The second study included intensive background research (local interviews and a more in-depth literature search) for the project area with a minor field survey for a potential road alignment (Schmidt 1998). The third study was a review of paleontological records and project geology (Scott 2000). The fourth study attempted to locate potential resources remembered by local residents and relocate previously identified resources in the project area (Van Horn et al. 2004). The fifth study provided an assessment of road construction alternatives (Dice 2008). This study relocated cultural resources, surveyed project additions, summarized all work and provided a mitigation plan (Harper et al. 2009).

Table 1. Summary of CEQA tasks completed

	SOURCE					
TASK	**Ritz and Wade 1990**	**Schmidt 1998**	**Scott 2000**	**Van Horn et al. 2004**	**Dice 2008**	**Harper et al. 2009**
Paleontology Record Search			Project area, 2000.			
Archaeological/ Historical Record Search	Project area A, June 28, 1990.	1 mile radius of project area A, plus roads B, July 21 & 21, 1998.		Project area A, plus roads C, 2004.	Road alternatives D, 2008.	spot-check project areas A-E, review of previous studies, 2009.
Native American Consultation					Road alternatives, Oct 1, 2008	Project area, Jan 21, 2009
Archival Research		Feldham Library, local interviews		Multiple sources, local interviews		
Site Records	P36-007030, P36-007031				P36-014461, P36-014462, P36-014463, P36-014464	Updates: P36-007030, P36-007031, P36-014462, P36-014463, Plus 5 new sites P-36-014965 through P-36-014968
Survey Area	A	A,B		A, C	D	A, E
Impact Analysis						Yes
Recommendations	Yes	Yes	Yes	Yes	Yes	Yes

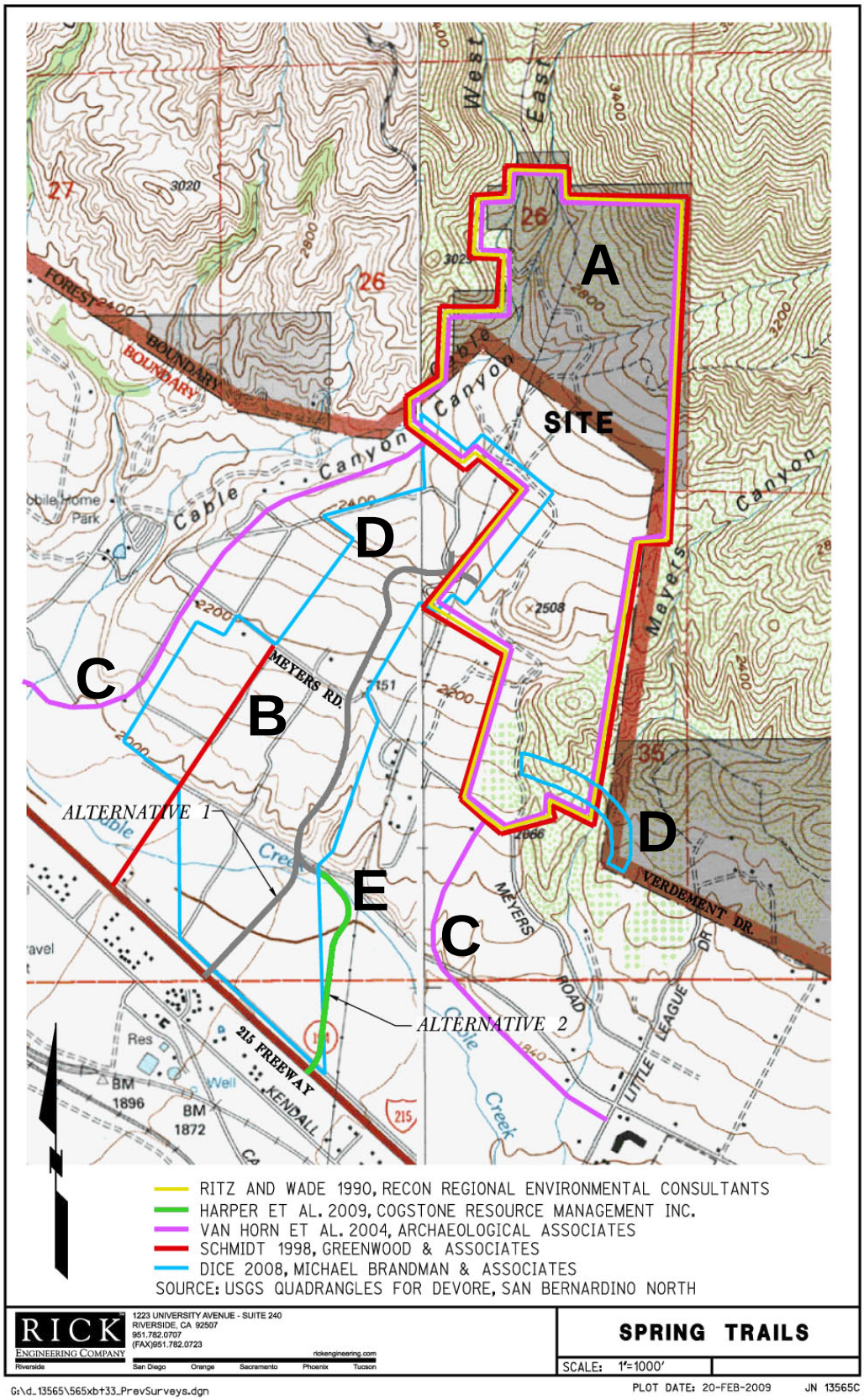

Figure 6. Project surveys

1990 Study

This study consisted of a records search and field survey of the entire project area (Ritz and Wade 1990). The literature review did not reveal any previously-known cultural resources within the project boundaries and only fragmented information on the historic Muscupiabe Rancho (includes Spring Trails) was located.

The field survey identified only two historic structures and no other resources of any kind. Descriptions and sketch maps of the Cable Canyon Ranch house (Figure 7: P4) and the Meyer Residence (Figure 7: O4) were included. Both of these historic structures were recorded and submitted to the San Bernardino County Archaeological Information Center where they were assigned Primary Numbers P-36-007030 and P-36-007031, respectively. However the physical location of the Meyers Residence was not correctly mapped and it is actually outside of the project boundaries.

1998 Study

This study was a supplemental cultural resources investigation to update the prior study and survey a proposed alternate access road (Schmidt 1998). Archival research was performed at the San Bernardino County Archaeological Information Center, as well as the California Room of the Feldhym Library, San Bernardino, California. The research provided information on at least three additional historic resources.

In addition, the research provided family names of local residents. Through personal communication with these individuals, additional resources within the project boundaries became known including a WWII small arms target range, a 19th century cabin, a small family cemetery, a late 19th and early 20th century water supply system, and a Survey Boulder. Additional descriptive information about the previously recorded structures (Cable Canyon Ranch and Meyer Residence) was also provided by the informants. Survey of the alternate road alignment (see Figure 6) did not reveal any resources but heavy vegetation made visibility poor. No site records were filed or updated.

2004 Study

This study attempted to synthesize all of the previously generated data regarding project area cultural resources. This supplemental study intended to resurvey the project area with the specific goal of locating the resources described by informants in the 1998 study and to survey two new proposed road alignments for the project. Reconnaissance in the 2004 study was greatly aided by the 2003 brush fire which had previously impeded visibility. Also as a result of the fires, survey was possible in previously inaccessible portions of the project area.

Cable Canyon Ranch House was relocated and they noted an associated spring, two reservoirs, a boundary wall and possible footings for a stable or outbuilding. The Meyer Residence was also successfully relocated. Resources stated by informants to be present including the WWII shooting range, the Hancock Survey Boulder, pieces of a water supply system, and a small portion of the Mojave Indian trail were located and described. Resources stated by informants to be present which could not be located included a small private cemetery and the remains of a 19th century cabin. No site records were filed or updated.

2008 Study

This study consisted of a records searches and survey of 287 acres south of the project area for potential road alternatives. Archival research included intensive analysis of a 1959 aerial photograph of the project area including discussion of several of the historic structures. The survey located four unrecorded historic resources. One is within the current project boundaries (Figure 7: P8) and the remainder are outside of the current project boundaries (Figure 7: O1, O2, O3). Site records were filed.

2009 Study

The goal of this study was to verify the exact location of each cultural resource, the condition or integrity of the resource, and the proximity of the resource to areas of project impact. On January 22, 23, 29 and February 11 of 2009, Cogstone conducted focused field survey to relocate previously recorded or noted resources. Site records were filed and updated. Cogstone also conducted a new survey of an area previously excluded from the project area that is now identified as a proposed road alignment. This new survey was negative for cultural resources.

SITE INVENTORY AND STATUS

Some fourteen resources have been located by archaeological survey of the project vicinity (Table 2; Figure 7; Appendix C). Eight resources are known within the project boundaries including a ranch complex (Table 2: P1-2, P4-8). One resource, a spring, is known to be in project area but vegetation prevented direct observation and thus it was not formally recorded (Table 3: P3). A small private cemetery is reported by local residents but two separate surveys failed to locate any remnants of it and it has not been recorded. Five of these resources are outside the current project boundaries and impact areas (Table 2: O1-O5).

Table 2. Site Inventory

Resource	Description	Located by	Site Record Filed by	Notes
P1 P-36-012968	Large Reservoir	Van Horn et al. 2004	Harper et al. 2009	Possibly associated with Cable Canyon Ranch Complex
P2 P-36-014964	Small Reservoir	Van Horn et al. 2004	Harper et al. 2009	Possibly associated with Cable Canyon Ranch Complex
P3	Spring	Van Horn et al. 2004		Localized lush vegetation indicates presence but obscured it from direct observation
P4 P-36-007030	Cable Canyon Ranch House/ Martin Ranch	Ritz and Wade 1990	Ritz and Wade 1990; updated by Harper et al. 2009	Part of Cable Canyon Ranch Complex
P4 P-36-007030	Cable Canyon Ranch Stable/Barn	Schmidt 1998	Harper et al. 2009	Part of Cable Canyon Ranch Complex
P4 P-36-007030	Cable Canyon Ranch Boundary Wall	Schmidt 1998	Harper et al. 2009	Part of Cable Canyon Ranch Complex
P4 P-36-007030	Drainage Channel Alignment associated with Cable Canyon House	Schmidt 1998	Harper et al. 2009	Part of Cable Canyon Ranch Complex
P5 P-36-014966	Muscupiabe Reservoir	Van Horn et al. 2004	Harper et al. 2009	
P6 P-36-014967	metal pipes	Van Horn et al. 2004	Harper et al. 2009	Possibly associated with Muscupiabe Reservoir
P7 P-36-014968	WW II target range	Schmidt 1998	Harper et al. 2009	
P8 P-36-014462	Concrete Water Reservoir and metal water tanks	Dice 2008	Dice 2008; updated by Harper et al. 2009	

Resource	Description	Located by	Site Record Filed by	Notes
O1 P-36-014460	possible milling slick	Dice 2008	Dice 2008; updated by Harper et al. 2009	Not in current project boundaries. Determined to be natural.
O2 P-36-014461	Old Lady Meyers House	Dice 2008	Dice 2008	Not in current project boundaries.
O3 P-36-014463	Rectangular rock alignment	Dice 2008	Dice 2008; updated by Harper et al. 2009	Not in current project boundaries.
O4 P-36-014464	L-shaped stone alignment	Dice 2008	Dice 2008; updated by Harper et al. 2009	Not in current project boundaries.
O5 P-36-007031	Meyer (Otto and Vera) Residence	Ritz and Wade 1990	Ritz and Wade 1990; updated by Harper et al. 2009	Not in current project boundaries.

Figure 7. Recorded site locations

This figure provides site specific cultural resource information that is not available to the general public and is exempt from disclosure under the California Public Records Act (California Government Code Section 6254.10)"

Site P1: Large Reservoir

This site was first noted by Van Horn et al. (2004) as a reservoir potentially associated with the Cable Canyon Ranch House. The site is described as "a U-shaped structure measuring 22.6 ft. on a side and 33 ft. in length. The walls are built of rock and concrete; the concrete-lined interior sloping inward toward the bottom. A rubble buttress wall may be seen on the exterior of the west side" (Van Horn et al. 2004). Van Horn et al. (2004) suggest this may have been the reservoir involved in the Martin-Meyer water dispute. Survey by Harper et al. (2009) recorded the site as P-36-014965 (Appendix C) and described it as a U-shaped 35 ft x 33.5 ft rectangular stone laid rock alignment running NE to SW. The shape and positioning of the structure follows the natural contour of the hillside. Cement lining can still be seen on a portion of the interior (W corner of alignment) of the structure and a buttress is present around the SW base. The walls run roughly 32-55 inches in height. This may be a reservoir or water management feature, though its location northeast of the Ranch House does not necessarily mean it was the point of contention between the Martin and Meyers families.

Site P2: Small Reservoir

The small reservoir was also noted by Van Horn et al. (2004). They described the site as "a small field stone reservoir located adjacent to a shallow arroyo about 500 ft. north of the ranch house. Built of dry laid rocks, the structure measures l0 ft. (NW-SE) by 8 ft. (NE-SW) on the interior. Traces of a concrete lining may be seen on the interior. A portion of the northerly wall has collapsed." They also note that the reservoir was probably built by Samuel Martin. The Harper et al. (2009) survey recorded the site as P-36-014964 (Appendix C) and it is in similar condition to when it was described by Van Horn et al. (2004), with the exception that both the northwest and southwest walls are now collapsed. Given the proximity to the Cable Canyon Ranch House ruins, it seems likely that the two sites are associated.

Site P3: Spring

Van Horn et al. (2004) observed a spring located approximately 625 ft. northeast of the Cable Canyon Ranch House and suggest it may have been the ranch's primary domestic water source (Van Horn 2004). Van Horn et al. (2004) notes that "the spring was flowing at the time of the survey, and consisted of a small brick and mortar collection box resting adjacent to the area

where the water emerges. The box measures 34" (N-S) by 45" (E-W) and is 17" high. Remains of a wood cover may still be seen on top of the box. Three pipes extend from the box southward" (Van Horn et al. 2004). The 2009 Cogstone survey attempted to relocate the spring; however the area immediately surrounding its location was covered by extremely dense brush, making access to and visibility of the spring impossible. The abundance of vegetation in the area suggests that the spring is still active, though the state of the collection box remains unknown.

Site P4: Cable Canyon Ranch House Complex

First recorded by Ritz and Wade (1990) as P-36-007030, the site was initially described as a single-structure foundation with associated trash scatter, but has since been expanded to include other structures surrounding the Ranch house. Van Horn et al. (2004) accurately describe the ranch house site:

> The exterior walls of the house appear to have been built largely or entirely of rock and concrete reinforced with horizontal steel strapping. The plan of the walls is nearly square in configuration, forming a single room oriented roughly to the cardinal points (partition walls may have existed within the room). The eastern wall comprises a segment of a long terrace retaining wall which separates the house from the higher terrace to the east. The exterior walls average about 12" in thickness and were veneered with concrete on both the interior and the exterior. The interior had an additional finishing coat of plaster. A prominent feature is an attractive rock and concrete fireplace which forms the northeast corner of the room. The fireplace has a rectangular opening surmounted by a concrete mantle. A stove pipe was used to form the flu. Entry was by way of doorways in the southern and northern walls. The entry on the north may have been the main entry. This wall contains a second doorway leading into a small annex. The annex consists of an ell-shaped room enclosing a small square room attached to the exterior of the north wall of the house. A concrete window sill may be seen between the main entry and the entry to the annex. A 1" iron pipe extends from the terrace retaining wall into the ell and may represent a water conduit.

Van Horn et al. (2004) go on to state that the trash scatter noted in 1990 could not be relocated, possibly due to dense vegetation. The 2009 Cogstone survey could not relocate the trash scatter either, though sparse pieces of aqua and amber glass were noted in the vicinity of where the scatter was recorded. Based on recommendations from Schmidt (1998), Van Horn et al. (2004) goes on to suggest that other features in the vicinity of the house were also probably associated with the site. These features were located and recorded during the 2009 Cogstone survey and the

site record was updated to reflect the Ranch house complex, and not just the house itself (Appendix C). Newly added to the site record is a second and third rock wall located on the west side of the dirt road northwest of the structure that measures 40 ft by 10 ft. One of these features may be associated with the barn Schmidt (1998) suggests should be present in the area. A series of Eucalyptus windbreaks were also recorded, as they are non-native and parallel the rock walls surrounding the complex on the east, west and north sides. Directly to the south of the house in the drainage channel is a stone alignment that was possibly used to channel the wash, and is presumed to be associated with the ranch house complex. Finally, a scatter of bricks located east of the house complex and at the edge of the wash was also recorded.

Other features connected to the ranch house complex should be present but their locations remain unknown. Certainly there was at least one privy and additional trash disposal areas are possible. Deposits such as these are of particular importance because they typically yield period artifacts. The probability of such features being present seems high because the grounds around the house have not been subject to significant disturbance. Given the layout of the house and the time period, the privy may be located at least 20 ft from the house within the walled enclosure.

Site P5: Muscupiabe Reservoir

First noted by Van Horn et al. (2004), the Muscupiabe Reservoir is described as "a moderate-size field stone and concrete reservoir (13 ft. N-S x 11.2 ft. E-W) located just below the grant line in the northwestern portion of the study area. The reservoir is currently 4-5 feet deep, the bottom being covered with silt…Several large sheet metal pipes (both riveted and welded types) visible on the surface north of the reservoir indicate that it was filled by water originating north of the site and, therefore, north of the Muscupiabe boundary. Thus, the 'Muscupiabe Reservoir' was probably built by Julius Meyer not long after he purchased the rancho in 1882" (Van Horn et al. 2004). In 2009, Cogstone surveyors relocated and recorded the site as P-36-014966 (Appendix C). All of the features of the reservoir remain the same as in 2004, with the exception that no metal pipes were observed north of the reservoir. Instead, several pipe pieces were observed and recorded south of the reservoir. Approximately 500 ft. to the south, another series of metal pipes were observed (see below), and it is possible that these pipes all connected to the Muscupiabe reservoir.

Site P6: Metal pipes

First noted and recorded by Cogstone in 2009 as P-36-014967 (Appendix C), this feature is most likely associated with the Muscupiabe reservoir, and transported water south to the Meyer parcels. Schmidt (1998) suggested that a series of water pipes "in varying sizes, lengths, and methods of manufacture, extended southward from the general [Cable Canyon Ranch House] area", and so it is possible that these pipes correspond to the Cable Canyon complex. However, given their proximity to the Muscupiabe reservoir, it seems more likely they were associated with the reservoir and therefore used by the Meyer family. The Metal piping runs 21.5 feet in a north to south direction, and approximately 7 feet of the pipe is unexposed (lies under a dirt road). The piping may continue south, as it appears to run back under the ground.

Site P7: World War II Target Range

Originally mentioned by Schmidt (1998), the site is described as a small arms range associated with nearby Camp Ono in use during WWII. Further research by Van Horn et al. (2004) revealed that the lease agreement, identified as No. 3260 PH- Declaration of Taking, was drawn up between Henry L Stimson, Secretary of War of the United States, and Robert B. Myer, et al. for 45 acres of land. Originally, the property was acquired for the term beginning April 10, 1943 and ending June 30, 1944. The estimated compensation for this period was $122.46. However, a Supplemental Declaration of Taking was filed to extend the term for one additional year commencing July 1, 1944 and ending June30, 1945 for $100.

The Van Horn et al. (2004) survey noted four parallel berms and adjacent trenches covering an area of approximately 45 acres oriented northeast-southwest. Approximately 70 T-shaped concrete target pedestals of two sizes (tall and short) were found along the northern berm, the bulk concentrated at the eastern end. They also described two conductor field telephone lines running the distance between the east ends of the northern and southern berms as well as a number of spent cartridges believed to have been fired by military arms. They included (5) .30 MI Carbine cartridges (headstamped 1942 and 1943) which were used in the MI and M2 Carbine (light rifle), and (5) .30-'06 Springfield cartridges (headstamped 1942) used in the M1 Garand, 1903 Springfield and variants, Browning Automatic Rifle (BAR), and Browning .30 caliber machine gun (Van Horn et al. 2004). In 2009 Cogstone resurveyed and recorded the site as P-

36-014968 (Appendix C), and noted that each parallel trench and berm is still present, as well as the concrete t-shaped targets. However, neither the telephone lines nor any spent cartridges were observed.

Site P8: Concrete Water Reservoir and Metal Water Tanks

First recorded by Dice (2008) as P-36-014462, the site consists of a concrete water reservoir and metal water tank. Dice (2008) recorded the site as measuring roughly 70 feet long (SE-NW) by 42 feet wide (SW-NE) by about 5 feet deep. The feature was constructed by excavating out a small amount of soil, putting down a concrete floor and walls with an interior slope, topping the walls with cemented decorative stones, and then piling dirt back on the finished sides to form a support slope. The site also exhibits a metal water tank about 6 feet across and 4 feet tall: this is located 75 meters to the northwest. Rusted metal pipes run down slope from the reservoir and water tank and likely onto former grape fields. The combination of concrete open-air reservoir and tank is common in the Inland Empire and represents attempts by locals and/or the California Conservation Corps (CCC) to capture seep and spring water for local use. The reservoir was probably gravity fed from an upstream source. No date was observed on either feature. The site was relocated and the record updated by in 2009 by Cogstone (Appendix C). The condition of the site is the same as when it was recorded in 2008, with the exception of an additional metal tank. This second 9 foot by 3 foot 3 inch tank is located next to the 6 foot x 4 foot tank and is on its side laying north to south. This feature was added to the site record.

Resource O1 – Possible Milling Slick

This depression on a small boulder was recorded as a possible milling slick by Dice (2008) as P-36-012968. However reevaluation by Cogstone determined this to be natural, not cultural (Appendix C). The surface is rough and pitted, not smooth and slick. This resource is outside the current project boundaries.

Resource O2 - Old Lady Meyers House

“Old Lady Meyers House” was first recorded by Dice (2008) as P-36-014461. The site consists of a small house about 890 square feet in size, with 2 bedrooms and one bath. The house is described as non-descript and plain, with an asphalt shingle roof and minor exterior features.

Landscaping is typical of rural properties and includes peppertrees, pines and eucalyptus. County Assessor records indicate construction was completed in 1958.

The owner of the property, Mabel Meyer, is a descendent of Julius Meyer, who bought the property along with several other parcels in 1883. Most of the Meyers family in the Verdemont area farmed (Dice 2008). By 1973 most of the other Meyer parcels had been sold, and "Old Lady Meyers House" was the last remaining Meyer parcel. This resource is outside the current project boundaries.

Resource O3 - Rectangular Rock Alignment

This site was first recorded by Dice (2008) as P-36-014463. It consists of a rectangular-shaped multi-coursed foundation comprised of large stones located within a very shallow drainage. Cogstone determined that the west wall measures 30 feet long, the north wall measures 33 feet, and the east wall measures 23 feet long. While no southern wall appears visible, a plan view map demonstrates that a south wall most likely existed at one point, as there is a fairly linear alignment of rocks completing the rectangular shape (Appendix C).

Resource O4 – L-shaped Stone Alignment

This site was first recorded by Dice (2008) as P-36-014464. It consists of a five feet long alignment of stone perpendicular to an 18 feet long stone alignment. The single course of stones are angular and only partially imbedded in the soil. Dice (2008) states that the function of the object and its age are unknown. Resurvey for the resource by Cogstone (2009) did not reveal the structure in full. A small alignment of stone was identified in the vicinity of the site location recorded by Dice (2008), however only an "L-shaped" distribution of stones were observed and they appeared to be natural in alignment and not embedded into the ground as suggested by Dice (2008).

Resource O5 - Meyer Residence

The Meyer House was first recorded by Ritz and Wade (1990) as P-36-007031. The initial recording only describes the site as a rock and mortar foundation with a cellar and trash scatter (Ritz 1990). Later research (Schmidt 1998) suggests the house was owned by Otto and Vera

Meyer, but no further information about the site in terms of local history is noted except that the home was destroyed by a fire in the late 1960s. The 2004 Archaeological Associates study suggests that the house was probably built in 1917 (Van Horn et al. 2004). The majority of the features of the site have remained the same since the initial survey in 1990.

The site is enclosed by lines of eucalyptus trees on the north and west. All that remains of the residence today is a low stone and concrete footing which is rectangular in plan and encloses a cellar in the northwest quarter. A full-length elevated concrete porch spans the southern footing. The full cellar (7 ft. deep) was contains an exterior entry at the northwest corner of the house and steps are still visible leading downward. The bathroom was located at the northeast corner of the house to judge by soil and lavatory drain pipes still present in this area. This observation is also supported by several heavy porcelain fragments observed around the pipes. The 2004 study suggests that from the elevation of the footings and a vent opening in the eastern footing that the house had an elevated wooden floor and the elevation matched that of the porch deck. However, no evidence of the floor's supporting piers was observed. The porch itself bears four rectilinear concrete piers with square, undecorated concrete caps.

The RECON surveyors reported a low (1 ft.) rock wall east of the house (Ritz and Wade 1990) and Schmidt (1998) reported abandoned car parts in the area. Neither the Van Horn et al. (2004) survey nor the Harper et al. (2009) survey found evidence of these features. The 2009 survey did reveal another rock wall running east to west just south of the front porch, parallel to the street. In addition the Harper et al. (2009) survey determined that the location of the site as originally mapped was incorrect (see Appendix C). The site is located on the east side of a dirt road and not the west as originally indicated.

NATIVE AMERICAN CONSULTATION

The Native American Heritage Commission indicated that there are no known sacred lands within the immediate project area and recommended that seven tribes or individuals be contacted for further information (Appendix B). All were contacted by email or letter. No responses were received. The access roads area was the subject of a previous Native American consultation by Dice (2008), also with negative results.

PALEONTOLOGICAL RECONNAISSANCE

Paleontology and sediment field assessment was performed by Kim Scott of Cogstone on January 23, 2009 for the original areas mapped, and on February 19, 2009 for the expanded road areas. Although there are several sedimentary formations that are old enough to contain the remains of extinct Pleistocene animals (older alluvial fans {Qvof, $Qvof_2$} and young alluvial fans {Qyf, Qyf_3, Qyf_1}), all sediments observed onsite were extremely coarse. Materials were primarily sands and gravels up to large cobbles (12.8 cm - 25.6 cm) and even boulders (> 25.6 cm). Sediment oxidation in these older deposits ranged from light brown to medium red. Typically in deposits of this type, the fossils deposited are either crushed by the cobbles in the stream channels or are weathered to nothing on the surfaces of the alluvial fans without being buried.

PREVIOUS RECOMMENDATIONS

Several of the previous studies provided recommendations regarding the cultural resources present within the Martin Ranch project boundaries. Each report's recommendations vary depending on the resources encountered in each study, and through time some of the reports incorporate suggestions put forth in the previous studies (table 3). For example, Ritz and Wade (1990) recommend conducting phase I research for historical context including archival studies at the San Bernardino City Library and Historical Society and interviews with persons knowledgeable about the history of the area. The next published report submitted by Schmidt (1998) includes background research at the San Bernardino Library as well as personal interviews. This information was then incorporated into proceeding reports as background information (Van Horn et al. 2004, Harper et al. 2009).

The majority of the recommendations put forth in the previous studies revolve around further background research (Ritz and Wade 1990, Schmidt 1998, Van Horn et al. 2004) in an effort to understand the history of the project area, and each previous report recommends some form of phase II testing. The nature of the data testing varies with each report, as each study revealed different cultural components of the project area. Some of the reports (Schmidt 1998, Van Horn et al. 2004) recommend testing of specific areas of sites while others (Dice 2008) only suggest broad phase II data testing (table 3). In addition, none of the previous studies provide a specific impact analysis component to their reports, nor do they provide specific mitigation measures (with the exception of Scott 2000).

Table 3. Previous Study Recommendations

Resource	Ritz and Wade 1990	Schmidt 1998	Scott 2000	Van Horn et al. 2004	Dice 2008	Harper et al. 2009
P1 P-36-014965 Large Reservoir				Suggest recordation on DPR 523 forms. Recommend that sections of reservoir be cleared using mechanical means to permit recording the construction and configuration of the sides and bottoms of the feature. Also suggest test excavations to better understand the method of construction.		Recorded onto DPR 523 forms. Not significant by CEQA standards.
P2 P-36-014964 Small Reservoir				Suggest recordation on DPR 523 forms. Recommend that sections of reservoir be cleared using mechanical means to permit recording the construction and configuration of the sides and bottoms of the feature. Also suggest test excavations to better understand the method of construction.		Recorded onto DPR 523 forms. Not significant by CEQA standards.
P3 Spring				Believe the spring to be related to the Cable Canyon Ranch House Complex and as such, suggest research for legal documents relating to the water distribution and Martin/Meyer water disputes in addition to excavation.		Unable to relocate due to dense vegetation. Most likely related to P-36-007030, so monitoring of area during devegetation recommended.
P4 P-36-007030 Cable Canyon Ranch House Complex	Suggest Phase I research to determine the historic context of the sites including archival studies at the San Bernardino City Library and Historical Society, interviews with persons knowledgeable about the history of the area, and chain of title searches. Also recommend Phase II testing to define the significance of the material remains and the site boundaries by clearing vegetation, probing to locate subsurface deposits, collecting and mapping artifacts, test excavation, and analysis of collected artifacts. If sites are determined significant, Ritz and Wade recommend preservation in open space easements and if this is not possible they request additional data recovery.	Suggest Historical research in published and unpublished sources, as well as intensive examination of the landform in the vicinity of the sites. Schmidt recommends the removal of vegetation to facilitate complete examination of the site elements. These efforts may need to be followed by excavation of test units. Schmidt also recommends that all brush removal activities prior to grading be conducted in the presence of an archaeological monitor.		Suggest research for maps and documents relating to Samuel Martin's original title to the Cable Canyon Ranch and legal documents relating to the water distribution and Martin/Meyer water disputes. Suggest that historic deposits should be sought using mechanical means such as backhoe trenching. Once one or more deposits have been located, they should be sampled using traditional methods of hand excavation.		Site is potentially significant by CEQA standards. Phase II testing required in conjunction with grubbing. If resources are discovered that meet CEQA significance, further data recovery is required. In addition, all devegetation within site and area surrounding P-36-007030 must be monitored.
P5 P-36-014966 Muscupiabe Reservoir				Suggest recordation on DPR 523 forms.		Recorded on DPR 523 forms. Not significant by CEQA standards.
P7 P-36-014968 WW II target range		Suggest Historical research in published and unpublished sources, as well as intensive examination of the landform in the vicinity of the sites. Schmidt recommends the removal of vegetation to facilitate complete examination of		Suggest recordation n on DPR 523 forms.		Recorded on DPR 523 forms. Not significant by CEQA standards.

Resource	Ritz and Wade 1990	Schmidt 1998	Scott 2000	Van Horn et al. 2004	Dice 2008	Harper et al. 2009
		the site elements. These efforts may need to be followed by excavation of test units. Schmidt also recommends that all brush removal activities prior to grading be conducted in the presence of an archaeological monitor.				
P8 P-36-014462 Concrete Water Reservoir and metal water tanks					Evaluate for significance (test units) if planning evidence suggests the site will be demolished during road construction. Also suggest the resource be avoided during all project-related earthmoving. If the resource cannot be avoided, it must undergo Phase II data testing before project-related earthmoving can begin.	DPR 523 forms updated. Not significant by CEQA standards.
Areas of the project Site that have not undergone plowing associated with agricultural development					No specific areas within the project boundaries are mentioned, but Dice 2008 recommends any land that has not been previously plowed receive full-time monitoring. They go on to state that in areas where plowing has occurred for grape growing, limited monitoring should occur. They define limited monitoring as "once the Project Archaeologist determines that 50% of a specific project area in the Moderate zone has been graded, the Project Archaeologist may decide to terminate monitoring in a specific area if and only if the archaeological monitor detects no prehistoric cultural resources, If any buried prehistoric cultural resources are detected during grading in the Moderate zone, full time monitoring must continue in that section of the Project Site.	No further mitigation necessary
Quaternary Older Alluvium			No program to mitigate impacts to fossil resources is recommended at this time.			Mitigation is to include paleontological monitoring of those areas of Road Alternative 1 and the project site where potentially finer alluvial fan sediments may be encountered.
O1 P-36-012968 possible milling slick					State that the supposed resource is most likely natural, but still recommend that it be avoided during all project-related earthmoving and if not it should undergo Phase II data testing.	Determined to be natural. Located outside of current project boundaries. No further mitigation necessary.
O2 P-36-014461 Old Lady Meyers House					Evaluate for significance (test units) if planning evidence suggests the site will be demolished during road construction. Also suggest the resource be avoided during all project-related earthmoving. If the resource cannot be avoided, it must undergo Phase II data testing before project-related earthmoving can begin.	Located outside of current project boundaries. No further mitigation necessary.
O3 P-36-014463 Rectangular rock					Evaluate for significance (test units) if planning evidence suggests the site will be demolished during road construction. Also	Located outside of current project boundaries. No further mitigation necessary.

Resource	Ritz and Wade 1990	Schmidt 1998	Scott 2000	Van Horn et al. 2004	Dice 2008	Harper et al. 2009
alignment					suggest the resource be avoided during all project-related earthmoving. If the resource cannot be avoided, it must undergo Phase II data testing before project-related earthmoving can begin.	
O4 P-36-014464 L-shaped stone alignment					Evaluate for significance (test units) if planning evidence suggests the site will be demolished during road construction. Also suggest the resource be avoided during all project-related earthmoving. If the resource cannot be avoided, it must undergo Phase II data testing before project-related earthmoving can begin.	Located outside of current project boundaries. No further mitigation necessary.
O5 P-36-007031 Otto and Vera Meyer House	Suggest Phase I research to determine the historic context of the sites including archival studies at the San Bernardino City Library and Historical Society, interviews with persons knowledgeable about the history of the area, and chain of title searches. Also recommend Phase II testing to define the significance of the material remains and the site boundaries by clearing vegetation, probing to locate subsurface deposits, collecting and mapping artifacts, test excavation, and analysis of collected artifacts. If sites are determined significant, Ritz and Wade recommend preservation in open space easements and if this is not possible they request additional data recovery.	Suggest Historical research in published and unpublished sources, as well as intensive examination of the landform in the vicinity of the sites. Schmidt recommends the removal of vegetation to facilitate complete examination of the site elements. These efforts may need to be followed by excavation of test units. Schmidt also recommends that all brush removal activities prior to grading be conducted in the presence of an archaeological monitor.		Historic research for legal documents relating to the water distribution and Martin/Meyer water disputes, research focusing on Otto and Vera Meyer and their relation to Julius Meyer as well as finding a photo showing the appearance of the superstructure of the house. Recommend that the interior of the foundations of the Meyer residence be tested for an archaeological deposit using conventional hand excavation methods.		Located outside of current project boundaries. No further mitigation necessary.
Parcels APN 034811140 and APN 034811141					Though it lies outside the project area, suggest survey by a qualified archaeologist and any structures aged 45 years old or more must be avoided or Phase II evaluated for significance.	Located outside of current project boundaries. No further mitigation necessary.

POTENTIAL RESOURCES

Paleontological, archaeological and historical resources are considered to be significant if they possess integrity and may contribute information important in prehistory or history. Based on the prior research and survey results, the potential to impact resources is discussed below.

PALEONTOLOGICAL RESOURCES

The project is located at the southern edge of the Transverse Range Province. Sediments of the project area consist of Pleistocene to Holocene alluvial fans and the Paleozoic to Mesozoic Devil Canyon Gneiss. Older fan sections and the gneiss are interrupted by branches of the San Andreas Fault Zone. Although there are several sedimentary formations that are old enough to contain the remains of extinct Pleistocene animals, these sediments are so coarse that they are not conducive to the preservation of significant fossil resources.

ARCHAEOLOGICAL RESOURCES

Eight historic archaeological resources are known within the project boundaries but only site P-36-007030, a historic ranch complex, meets CEQA significance criteria. In addition, two other resources have been noted in previous reports but have not been recorded. One site, a spring, is known to be in the project area but vegetation prevented direct observation. A small private cemetery has also been reported by local residents, but two separate surveys failed to locate any remnants of it.

HISTORICAL RESOURCES

There are no historic standing structures or other built environment resources within the project area.

IMPACT ANALYSIS AND MITIGATION MEASURES

Seven historic archaeological resources have been adequately mitigated by documentation. Project construction would however, destroy the Cable Canyon Ranch complex. The historic remnants of a stone house and fence of Cable Canyon Ranch do not, in themselves, meet significance criteria under CEQA and they have also been documented. However, household refuse and privies are historical archaeological features that would provide new information and thereby meet criterion D. Suggested research questions are provided (Appendix D).

No paleontological or prehistoric archaeological resources are known within the project area. A small private cemetery was reported by locals but not located.

Impact Cult-1

Proposed new grading for construction in the northern portion of the project area will destroy the remnant structures and subsurface historical archaeological features associated with P-36-007030, the late-19th century Cable Canyon Ranch complex. Household refuse and privies are mostly subsurface historical archaeological features that would provide new historical information.

Mitigation Measure Cult-1

Preconstruction archaeological testing and data recovery by a qualified archaeologist is required to mitigate the adverse impacts of construction on historic Cable Canyon Ranch. A qualified archaeologist must be present for grubbing, de-vegetation and demolition of the remnant stone structure and fence to protect resources that may be revealed by these activities. Subsequent to vegetation removal but before construction, the archaeologist will perform controlled mechanical excavation inside and outside the house area to locate features present below the ground surface (Figure 8**)**. Once located, the archaeologist should develop a formal treatment plan (plan of work including research questions to be answered and contain an agreement with an accredited repository). Excavation of subsurface features can include additional mechanical excavation or hand excavation as warranted by the features. Discovery of features and recovery of archaeological materials will require extensive sampling, documentation, laboratory work, identification, analysis and interpretation. The final report should include formal evaluation and significance assessment of each feature and the project catalog and be filed with the City, the San Bernardino Archaeological Information Center and the repository (San Bernardino County Museum recommended). The City should be refused a final occupancy permit until all mitigation is demonstrated to have been performed, including curation of the project documents and artifacts.

Figure 8. Probable locations of cultural resources located within site P-36-007030

This figure provides site specific cultural resource information that is not available to the general public and is exempt from disclosure under the California Public Records Act (California Government Code Section 6254.10)"

Impact Cult-2

Proposed new grading for construction might encounter unanticipated human remains, archaeological materials or fossils.

Mitigation Measure Cult-2

Cultural resources sensitivity training is required for all earthmoving personnel. This training will review the types of archaeological and paleontological resources that might be found along with laws for the protection of resources. In the event of an unanticipated discovery, all work must halt within a 30 radius of the find. Work may not continue until the find has been evaluated by a qualified archaeologist or paleontologist, dependent on the nature of the discovery. If an unexpected discovery of human remains is identified at any time the applicant shall follow guidelines addressed in California Health and Safety Code Section 7050.5. This requires that work in the vicinity must halt and the County Coroner must be notified immediately. If the remains are determined to be Native American, the coroner will contact the Native American Heritage Commission. All discoveries require scientific samples and documentation including a final report.

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APPENDIX A: QUALIFICATIONS

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APPENDIX B: NATIVE AMERICAN HERITAGE COMMISSION

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APPENDIX C: DPR 523 SITE FORMS

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APPENDIX D: RESEARCH QUESTIONS

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