Archaeological Survey and Evaluation for the Tierra del Sol LLC Project, San Diego County, California

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Environmental Review Project Number 3910-120005

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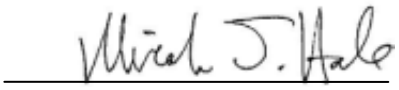

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October 2013

NATIONAL ARCHAEOLOGICAL DATABASE INFORMATION

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Firm: ASM Affiliates, Inc., and Dudek

Client/Project Proponent: Tierra del Sol, LLC, 4250 Executive Square, Suite 770, La Jolla, California 92037

Report Date: October 2013

Report Title: Archaeological Survey and Evaluation for the Tierra del Sol LLC Project, San Diego County, California

Type of Study: Phase I Survey and Phase II Archaeological Evaluation

Newly Recorded Sites: CA-SDI-20,650; CA-SDI-20,651; CA-SDI-20,652; CA-SDI-20,653; CA-SDI-20,654; CA-SDI-20,655; CA-SDI-20,656; CA-SDI-20,657; CA-SDI-20,658; CA-SDI-20,659; CA-SDI-20,660; CA-SDI-20,945; CA-SDI-20,946; CA-SDI-20,947; CA-SDI-20,948; CA-SDI-20,949; CA-SDI-20,950; CA-SDI-20,951; CA-SDI-20,952; CA-SDI-20,953; CA-SDI-20,954; CA-SDI-20,955; CA-SDI-20,956; CA-SDI-20,957; CA-SDI-20,958; CA-SDI-20,959; CA-SDI-20,960; CA-SDI-20,961; CA-SDI-20,962; CA-SDI-20,963; CA-SDI-20,964; CA-SDI-20,965; CA-SDI-20,966; CA-SDI-20,967; CA-SDI-20,968; CA-SDI-20,969; CA-SDI-20,970; CA-SDI-20,971; CA-SDI-20,972; P-37-033294; P-37-033295; P-37-033296

Isolates: P-37-032649 (TdS-01); P-37-032650 (TdS-11); P-37-032651 (TdS-12); P-37-032652 (TdS-16); P-37-032653 (TdS-17); P-37-033309 (GT-BC-ISO-1); P-37-033310 (GT-BC-ISO-2); P-37-033311 (GT-BC-ISO-3); P-37-033312 (GT-BC-ISO-4); P-37-033313 (GT-BC-ISO-5); P-37-033314 (GT-BC-ISO-6); P-37-033315 (GT-BC-ISO-7); P-37-033316 (GT-BC-ISO-8); P-37-033317 (GT-BC-ISO-9); P-37-033318 (GT-BC-ISO-10); P-37-033319 (GT-BC-ISO-11); P-37-033320 (GT-BC-ISO-12); P-37-033321 (GT-BC-ISO-14); P-37-033322 (GT-BC-ISO-16); P-37-033323 (GT-BC-ISO-17); P-37-033324 (GT-BC-ISO-18); P-37-033325 (GT-BC-ISO-20); P-37-033326 (GT-BC-ISO-21); P-37-033327 (GT-BC-ISO-22); P-37-033328 (GT-BC-ISO-23); P-37-033329 (GT-BC-ISO-24); P-37-033330 (GT-BC-ISO-25); **Sites with Updated Records:** CA-SDI-5561; CA-SDI-6999; CA-SDI-7000; CA-SDI-8218; P-37-025680;

USGS Quads: Tierra del Sol 7.5' T18S/R6E Sections 12, 13 and 24, T18S/R7E Section 7; Live Oak Springs 7.5' T17S/R7E Sections 28, 29, 31, and 32, T18S/R7E Section 6

Acreage: 762 total acres; 425 acres for the Project area, 337 acres for the Gen-Tie area

Keywords: Boulevard, Kumeyaay, Prehistoric, Historic, Bedrock Milling, Rock Shelter, Habitation Site, Lithic Scatter, Ceramic Scatter, Historic Refuse, Homesite, Positive Survey, Evaluation, Curation; Grading Monitoring, Not Significant, Not Eligible, CA-SDI-6999; CA-SDI-7000; CA-SDI-20,650; CA-SDI-20,651; CA-SDI-20,652, CA-SDI-20,653; CA-SDI-20,654; CA-SDI-20,655; CA-SDI-20,656; CA-SDI-20,657; CA-SDI-20,658; CA-SDI-20,659; CA-SDI-20,660; CA-SDI-20,945; CA-SDI-20,946; CA-SDI-20,947; CA-SDI-20,948; CA-SDI-20,949; CA-SDI-20,950; CA-SDI-20,951; CA-SDI-20,952; CA-SDI-20,953; CA-SDI-20,954; CA-SDI-20,955; CA-SDI-20,956; CA-SDI-20,957; CA-SDI-20,958; CA-SDI-20,959; CA-SDI-20,960; CA-SDI-20,961; CA-SDI-20,962; CA-SDI-20,963; CA-SDI-20,964; CA-SDI-20,965; CA-SDI-20,966; CA-SDI-20,967; CA-SDI-20,968; CA-SDI-20,969; CA-SDI-20,970; CA-SDI-20,971; CA-SDI-20,972; P-37-033294; P-37-033295; P-37-033296; P-37-033309; P-37-033310; P-37-033311; P-37-033312; P-37-033313; P-37-033314; P-37-033315; P-37-033316; P-37-033317; P-37-033318; P-37-033319; P-37-033320; P-37-033321; P-37-033322; P-37-033323; P-37-033324; P-37-033325; P-37-033326; P-37-033327; P-37-033328; P-37-033329; P-37-033330.

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ACRONYMS

ASM	ASM Affiliates, Inc.
APE	Area of Potential Effect
CEQA	California Environmental Quality Act
CHRIS	California Historical Resources Information System
CPV	concentrated photovoltaic
CRHR	California Register of Historical Resources
CRM	Cultural Resource Management
CSC	controlled surface collection
DC	direct current
DPR	California Department of Parks and Recreation
Gen-Tie	generator transmission line
GPS	global positioning system
MUP	Major Use Permit
MW	megawatts
NAHC	Native America Heritage Commission
NRHP	National Register of Historic Places
O&M	operations and maintenance
RPO	Resource Protection Ordinance
SCIC	South Coastal Information Center
SDAC	San Diego Archaeological Center
SDG&E	San Diego Gas & Electric Company
SSU	shovel scrape unit
STP	shovel test pit
USGS	U.S. Geological Survey

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EXECUTIVE SUMMARY

This document presents the results of a Phase II archaeological evaluation for the Tierra del Sol LLC Project (Project) and the results of a Phase I cultural resource inventory and Phase II archaeological evaluation of the Tierra del Sol Gen-Tie associated action. The 425-acre Project is located on privately owned lands near the unincorporated community of Boulevard, San Diego County, California. The project is located in Sections 13 and 24, Township 18S, Range 6E, on the Tierra del Sol USGS 7.5' quadrangle. The Gen-Tie is located on approximately 337 acres of privately owned lands between the project parcel and the SDGE Boulevard Substation. The Gen-Tie action is located in Section 7, Township 18S, Range 7E, and Sections 12 and 13, Township 18S, Range 6E, on the Tierra del Sol USGS 7.5' quadrangle; and is located in Section 6, Township 18S, Range 7E, and Sections 28, 29, 31, and 32, Township 17S, Range 7E, of the Live Oak Springs USGS 7.5' quadrangle. In total, the Project and Gen-Tie encompass 762 acres.

Tierra del Sol LLC Project

This study was completed to satisfy requirements of the California Environmental Quality Act (CEQA), which requires evaluation of the historical significance of cultural resources and the significance of potential adverse effects on lands planned for development. ASM prepared this report in compliance with *County of San Diego Guidelines for Determining Significance* (County of San Diego 2007a), *Report Format and Content Guidelines* (County of San Diego 2007b), Resource Protection Ordinance (RPO), Section 21083.2 of the Public Resources Code, and the San Diego County CEQA Guidelines. The results of this cultural resources evaluation program are provided to assist the County in determining the direct and indirect construction impacts to resources and in the creation of a preservation plan or mitigation for any significant resources.

Dudek, the lead environmental consultant, contracted with Brian Glenn of Pacific West Archaeology to complete a Phase I cultural resources inventory for the proposed project area of potential effects (APE). Glenn's inventory consisted of a records search conducted at the South Coastal Information Center (SCIC), initiation of Native American consultation with the Native American Heritage Commission (NAHC), and intensive pedestrian survey of the 425-acre project area. Glenn completed the inventory in February 2012, culminating in a GIS database and site forms for resources identified in the records search and pedestrian survey, but a formal inventory report was not completed by Glenn. In all, Glenn identified and recorded a total of 18 cultural resources within the project limits, including four prehistoric sites, seven historical archaeological sites, two sites with both prehistoric and historic components, and five isolated finds. Surface observations at all sites indicated that all site assemblages had low artifact density and diversity, and thus low data potential. Additionally,

some of the standing structures at one historical archaeological site (CA-SDI-7000) are in poor condition and others have been destroyed.

Following Glenn's inventory efforts, Dudek contracted with ASM Affiliates, Inc. (ASM) to complete archaeological evaluations of all 18 cultural resources identified by Glenn within the 425-acre project APE. As part of the evaluation program, ASM reviewed and compiled the results of the archaeological inventory completed by Glenn and conducted archaeological testing and evaluation of all sites. Evaluation efforts included a resurvey of each site and the surrounding area to map all artifacts and features, an intensive surface collection, and excavation to identify and index possible buried archaeological deposits. These methods were presented in a work plan submitted to and approved by the County prior to initiation of evaluation fieldwork on March 26, 2012. Evaluation fieldwork was completed by ASM between April 25 and 27, 2012.

Based on the results of the evaluation program by ASM, all of the cultural resources (sites and isolates) are recommended as not eligible for listing in the California Register of Historical Resources (CRHR) or the Local Register, and are considered not CEQA significant. Additionally, none of the archaeological sites are recommended for protection under the County Resource Protection Ordinance (RPO). These findings and recommendations are based on the lack of significant archaeological deposits; significance being based on the lack of intact cultural deposits, and low artifact density and diversity at each resource that would otherwise provide a strong research context for refining and contributing to local and regional culture histories. The single historical archaeological site, CA-SDI-7000, that contains standing structures and remnants thereof was subject to historic archival research and other historical analysis to provide a formal evaluation of historical significance pursuant to the built environment, paying particular attention to Criteria 1–3 of CEQA (events or persons important in history, or having distinctive and important design characteristics). The historical research indicates that the built aspects of CA-SDI-7000 are not significant and not eligible for listing in state or local registers. Moreover, there are no significant impacts to visual components of CA-SDI-7000.

San Diego County is the lead review agency for the this project; therefore, the sites have been evaluated for eligibility to the CRHR under CEQA Guidelines as well evaluated for importance under the County Guidelines. While the current set of evaluated cultural resources are recommended as not eligible for listing on the CRHR based primarily on CEQA Criterion 4, data potential (with all criteria being considered), under the County Guidelines all sites are considered "important." Two resources, CA-SDI-6999 and CA-SDI-20,653, were not relocated during either the evaluation and as such, the resources are not considered sites and are not considered "important" under County Guidelines. Although all sites are considered important under the County Guidelines the "importance" of sites herein recommended as not eligible for listing on the CRHR can be exhausted through the following

additional mitigation measures: curation of artifacts and monitoring of all ground disturbance during construction for the entire project parcel. The maximum depth of monitoring shall be determined in consultation with the archaeologist of record, the project proponent, and County archaeological staff, but a minimum depth of 3 feet will be subject to monitoring.

Of the five isolated artifacts recorded by Glenn, all were formally recorded on DPR Primary and Location Map forms and submitted to the SCIC along with GIS locational information. Since these isolates are not associated with archaeological site deposits and isolates are not considered significant resources under CEQA, recordation of the artifacts with the SCIC is considered sufficient mitigation to exhaust each isolate's importance and data potential. No further mitigation measures are recommended for the isolated artifacts.

Artifacts will be curated at the San Diego Archaeological Center (SDAC). California Department of Parks and Recreation (DPR) forms for each resource documented are provided as a confidential appendix to this report and have been submitted to the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) at San Diego State University.

Tierra del Sol Gen-Tie

The Phase I cultural resources inventory of the Tierra del Sol Gen-Tie was completed to satisfy requirements of CEQA for the identification and recordation of cultural resources on lands planned for development The Phase II archaeological evaluation was completed to satisfy the requirements of CEQA for the evaluation of the historical significance of cultural resources and the significance of potentially significant impacts on lands planned for development.. The APE for the proposed Gen-Tie alignment includes the planned alignment of overhead transmission poles, two sections of underground alignment, as well as multiple sections where alternate routes were considered. An underground alternative to the overhead poles, following the exact same alignment, has also been examined for that section of the Gen-Tie. In total, the Gen-Tie APE covers 337 acres.

The Phase I cultural resources inventory of the Tierra del Sol Gen-Tie included a record search of the APE and a one-quarter-mile buffer at the SCIC and an intensive pedestrian survey of the APE. The pedestrian survey was conducted by Dudek archaeologists between February 11 and March 25, 2013. The inventory of the Gen-Tie APE resulted in the identification of 56 cultural resources, including 34 sites and 22 isolates. All sites were recorded on the appropriate California DPR forms and were submitted to the SCIC with GIS locational information.

Of the 34 archaeological sites identified during the inventory, 29 were successfully avoided through project design and do not require formal evaluation. One of these sites, SDI-5561, was found to be incorrectly plotted on topography maps. According to the records search, the site

boundary overlaps the Gen-Tie APE; however, the site is actually located approximately 100 meters to the east and is entirely outside the APE. The boundary for this site was re-mapped and an updated site record was submitted to the SCIC. One other site, P-37-025680, a historic railroad, will be crossed by the underground section of the alignment and will be avoided.

Of the five sites that could not be avoided through project design, four (CA-SDI-20,945; CA-SDI-20,946; CA-SDI-20,947; CA-SDI-20,972) are located along the underground portion of the alignment and one (CA-SDI-20,948) is located along the overhead portion. Micro-siting of the overhead poles has avoided impacts to site CA-SDI-20,948; however, if the underground alternative is constructed for that portion of the Gen-Tie alignment, then the site will be impacted. CA-SDI-20,948 was therefore evaluated as it may be impacted. The five evaluated sites include three sparse prehistoric artifact scatters, one prehistoric lithic quarry, and one possible historic period site consisting of the ruins of a wooden structure and a refuse scatter. Dudek performed Phase II evaluations of all five sites, following the same basic methods utilized during evaluations for the Tierra del Sol Project as mentioned above. These methods were presented in a work plan submitted to and approved by the County prior to initiation of evaluation fieldwork on June 14, 2013. Evaluation fieldwork was completed by Dudek between June 24 and 26, 2013.

Based on the results of the evaluation program, all five sites and are recommended as not eligible for listing in the CRHR or the Local Register, and are recommended not significant under CEQA. Additionally, none of the archaeological sites are recommended for protection under the County RPO. These findings and recommendations are based on the lack of significant archaeological deposits; significance being based on the lack of intact cultural deposits, and low artifact density and diversity at each resource that would otherwise provide a strong research context for refining and contributing to local and regional culture histories. The recommendations of not significant and not eligible for site CA-SDI-20,945 are also based upon in-field documentation and historic mapping and aerial research, wherein the site could not be dated to the historic period and does not maintain integrity of any of its character defining elements.

San Diego County is the lead review agency for the this project, therefore the sites have been evaluated for eligibility to the CRHR under CEQA Guidelines, significance under the County RPO, as well evaluated for importance under the County Guidelines. While the current set of evaluated cultural resources are recommended as not eligible for listing on the CRHR based primarily on CEQA Criterion 4, data potential (with all criteria being considered), under the County Guidelines all sites are considered "important." Although all sites are considered important under the County Guidelines, the "importance" of sites herein recommended as not eligible for listing on the CRHR can be exhausted through the following additional mitigation measures: curation of artifacts and monitoring of all ground disturbance during construction for the entire project parcel. The maximum depth of monitoring shall be determined in consultation with the archaeologist of record, the project proponent, and County archaeological staff, but a minimum depth of 3 feet will be subject to monitoring.

Four of the 22 isolates recorded during the Gen-Tie will be impacted by construction activities. Two additional isolates may be impacted if the underground alternative to the overhead alignment is constructed. Since the isolates are not associated with archaeological site deposits, they are not considered significant resources under CEQA or under County Guidelines. No further mitigation measures are recommended for the isolated artifacts.

Artifacts will be curated at the San Diego Archaeological Center (SDAC). California Department of Parks and Recreation (DPR) forms for each resource are provided as a confidential appendix to this report and have been submitted to the South Coastal Information Center (SCIC) of the California Historical Resources Information System (CHRIS) at San Diego State University.

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1.0 INTRODUCTION

This report documents the results of an archaeological survey and evaluation for the Tierra del Sol LLC Project (Project) and the archaeological survey of the Tierra del Sol Gen-Tie associated action (Gen-Tie), which were conducted to provide compliance with the County of San Diego Guidelines, the County RPO, and CEQA. The project proponent is planning to install a 60-megawatt (MW) concentrated photovoltaic (CPV) electric generation system in the project area. For the Gen-Tie, the project proponent is planning to construct a 138 kV transmission line from the project area to SDG&E's proposed new SDG&E Boulevard Substation.

ASM assembled the component of this report that addresses the Project, using the documentation provided by Brian Glenn for his work on the archaeological survey, and based on an archaeological evaluation program that included field, laboratory, and analytical work. The Gen-Tie component of the report was assembled by Dudek. The report was compiled in accordance with the *County of San Diego Guidelines for Determining Significance* (County of San Diego 2007a) and *Report Format and Content Guidelines* (County of San Diego 2007b), the RPO, Section 21083.2 of the Public Resources Code (CEQA), and the County of San Diego CEQA Guidelines. This report addresses the direct construction impacts to resources within the project area and makes an assessment of impact severity as outlined in Section 4.2 of the County Guidelines, as well as any indirect impacts from the project. However, resources identified within the Gen-Tie corridor have not been formally evaluated for significance. Potential impacts have been analyzed for these sites however.

1.1 Project Description

1.1.1 Tierra del Sol Project

Not including the Gen-Tie, the 425-acre project is located on privately owned lands near the unincorporated community of Boulevard, San Diego County, California (Figure 1.1). The project is located in Sections 13 and 24, Township 18S, Range 6E, on the Tierra del Sol USGS 7.5' quadrangle (Figure 1.2).

The Project includes a Major Use Permit (MUP) to authorize a Major Impact Utility Pursuant to Sections 1350, 2705, and 2926 of the Zoning Ordinance. The Project may also require a Rezone to remove Special Area Designator "A" and ensure compliance with Section 5100 of the Zoning Ordinance. The Tierra del Sol Solar Farm Project ("Project") would produce up to 60 megawatts (MW) of solar energy. The Project would consist of approximately 2,529 concentrating photovoltaic electric generation systems (CPV Systems) utilizing dual axis tracking located on 420 acres in southeastern San Diego County near the unincorporated community of Boulevard, California. In addition to the CPV Systems and DC to AC

conversion equipment (i.e., inverter and transformer units), the Project would include the following primary components (Figure 1.3):

- A 1,000-volt direct current (DC) underground collection system and a 34.5-kV overhead and underground collection system linking the CPV Systems to the on-site project substation.
- A 4-acre operations and maintenance (O&M) site including a 60-foot x125-foot (7,500 square feet) O&M building.
- A 3-acre on-site private collector substation site would encompass an area of approximately 7,500 square feet (75 feet x 100 feet), have a maximum height of 35 feet, and include 450 square feet (15 feet x 30 feet) of metal clad switchgear.
- Depending on the inverter size selected, there would be anywhere from a minimum of 31 to a maximum of 46 DC to AC inverter stations ("Inverter Stations"). The dimensions of the Inverter Station would be either 10 feet x 25 feet (250 square feet each) with a total structure height of up to 12 feet or 10 feet x 40 feet (400 square feet each) with a total structure height of up to 12 feet.
- 13 miles of newly constructed load-bearing on-site access roads.
- 33 miles of graded, non-load bearing dirt service roads
- 1 permanent water well, which would be used to supply water to the O&M building and to facilitate washing of the CPV Trackers. Note to Reviewer: Project Applicant met with County Staff on May 17th, 2012, to discuss groundwater work completed to date. A subsequent submittal will provide the permanent groundwater wells required for project operations.
- A septic tank system and leach field for the O&M building.
- 6-foot perimeter fencing with 1 foot of security barb wire

The Project would be constructed in two phases, but would be permitted less than one Major Use Permit application according to CEQA guidelines as follows:

Phase I – Phase I is a 45-MW CPV electric generation project located on approximately 330 acres. Phase I will include construction of approximately 1, 910 CPV trackers.

Phase II – Phase II is a 15-MW CPV electric generation project located on approximately 90 acres. Phase II will include construction of approximately 619 CPV trackers.

The Project substation and Gen-Tie as well as SDG&E's interconnection facilities will be sized to accommodate both Phase I and Phase II (see Appendix A). The following sections provide a summary of components of the Project including proposed equipment, facilities and infrastructure. Additionally, an overview is provided of (i) the construction processes and phasing, and (ii) the operations and maintenance activities including the associated environmental impact of the construction and O&M activities.

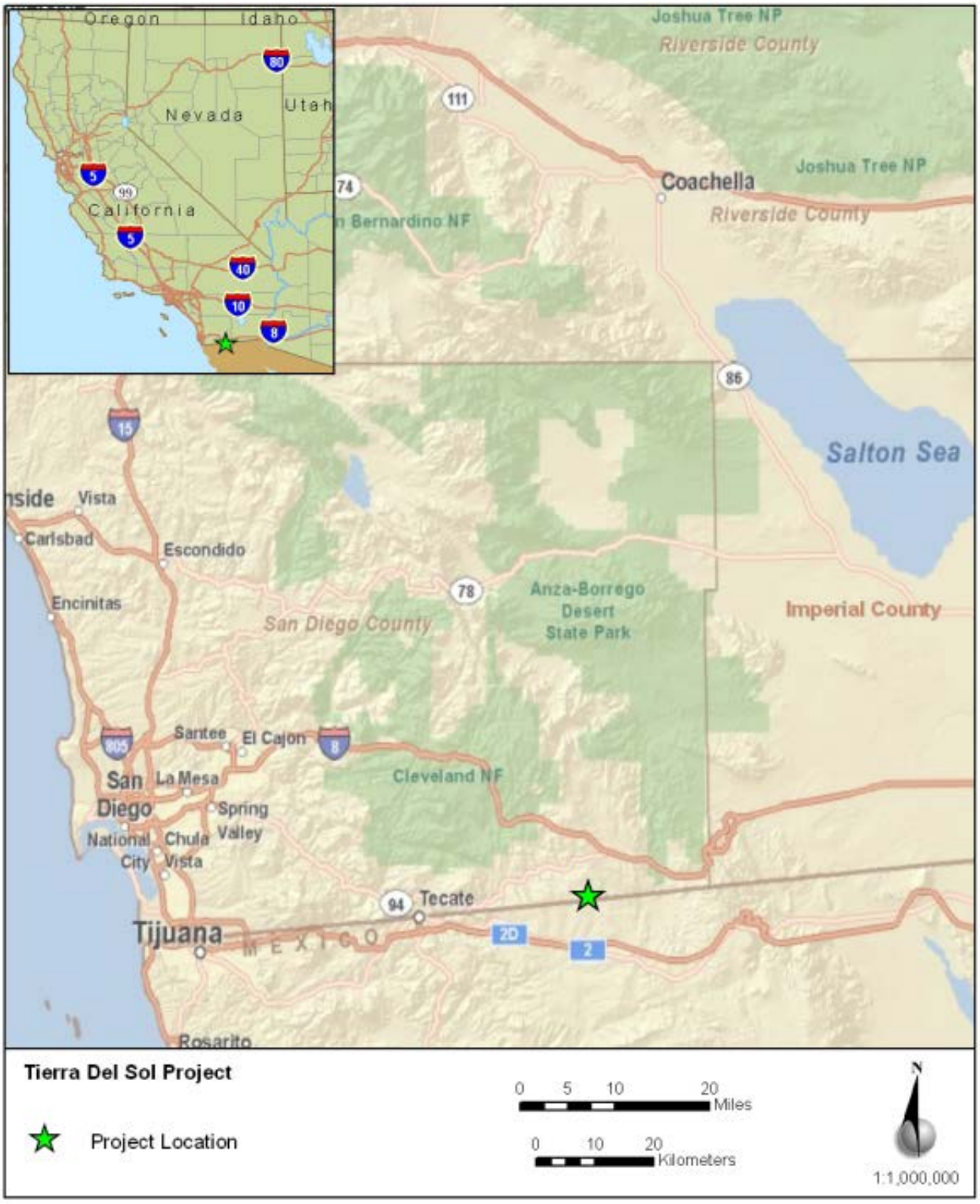

Figure 1.1 Project Vicinity Map

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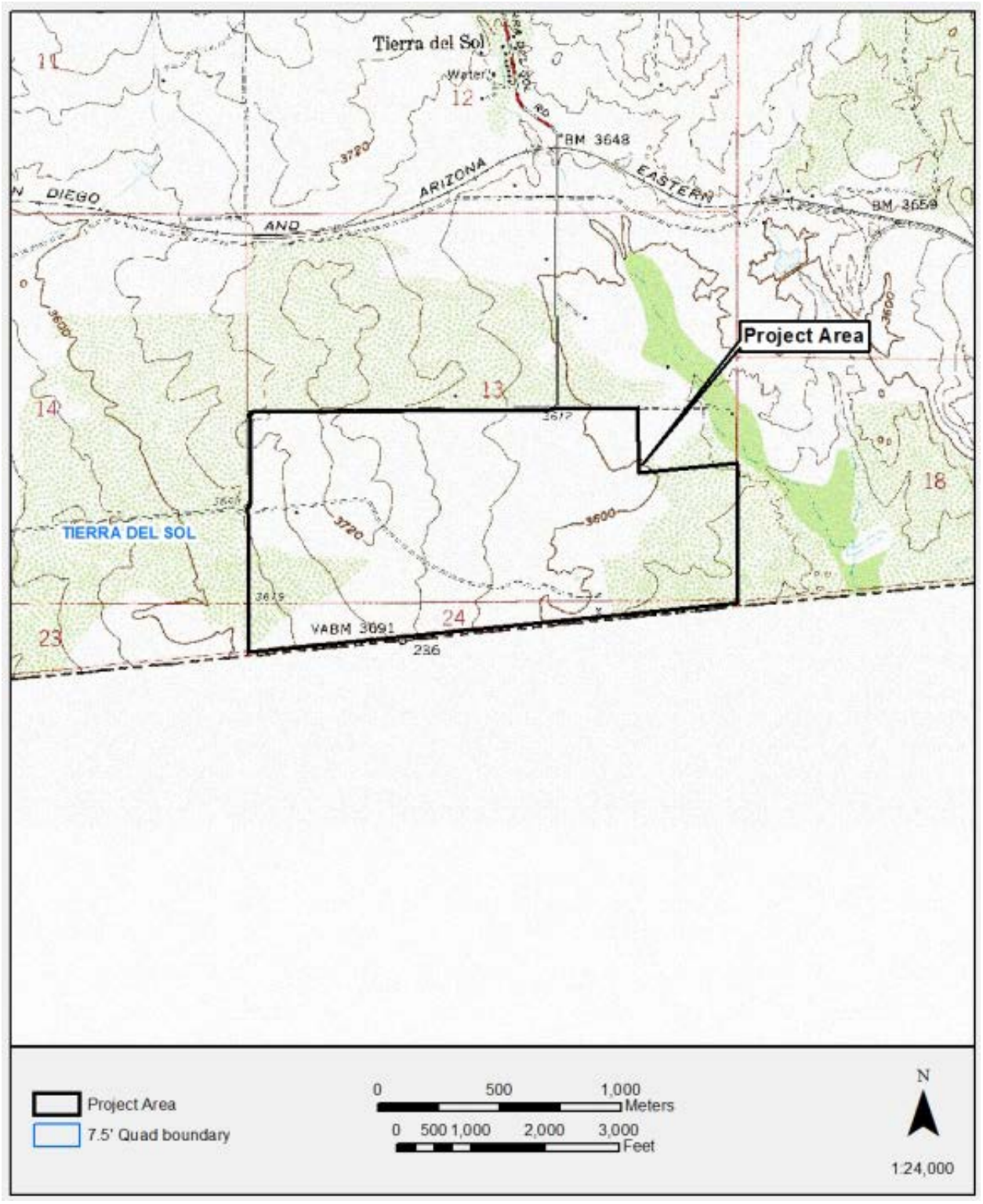

Figure 1.2 Project Location Map

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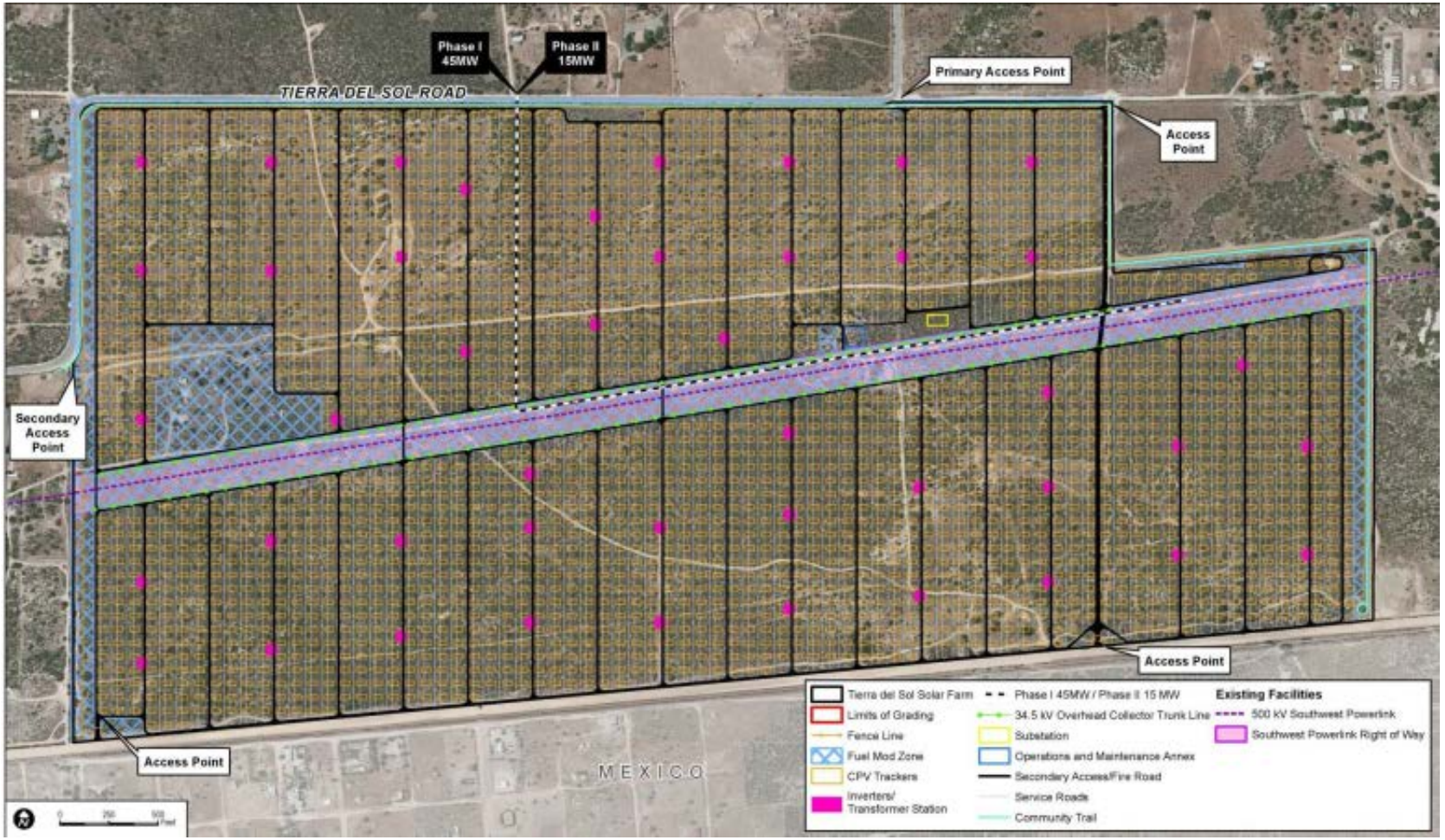

Figure 1.3 Project Design Map

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1.1.2 Tierra del Sol Gen-Tie

In order to deliver the power generated from the proposed Tierra del Sol Solar Farm, a gen-tie (i.e., transmission line) will need to be constructed. A 138 kV gen-tie transmission line would be utilized to deliver power from the project site located adjacent to Tierra del Sol Road and the U.S./Mexico International border to the Boulevard rebuilt substation, located approximately 5 miles to the northeast of the project site (Figure 1.4).

The 138 kV transmission line will consist of an underground alignment leading northward from the on-site substation along the County right-of-way within Tierra del Sol Road for approximately 0.5 miles. The alignment would then be routed to the east via a 90 degree turn that would consist of an approximately 1-mile segment. A transition pole would be constructed at this location where the transmission line would transition from an underground alignment to an overhead alignment that would extend approximately 3.3 miles east to a location near Jewel Valley Road where a second transition pole would be constructed. At this point the 138 kV alignment would transition back to underground where it would continue 1.5 miles eastward to the Boulevard substation. An underground alternative to the overhead portion of the alignment is also being considered. Details of the underground alternative are provided in the Environmental Impact Report (EIR) for the Soitec solar Development Project. Potential impacts to cultural resources resulting from the underground alternative have been considered as part of both the Phase I survey and Phase II evaluations.

1.2 Existing Conditions

This section reviews the environmental setting of the project area, along with prehistoric, ethnohistoric, and historic contexts. Previous archaeological research conducted in the area is also included. The discussion that follows is a summary describing how pertinent investigations in the general region have contributed to the current constructions of past cultural history, and is not intended to be an exhaustive account of all research conducted in the area.

1.2.1 Environmental Setting

Natural Setting

The project lies within the mountain province of San Diego County. Geologically, the project area is underlain by pre-Cretaceous rock, which outcrops as granite and gneiss, as well as other patches of exposed quartz diorite and granodiorite (Strand 1962). Much of the surrounding area contains Mesozoic granitic rocks. Metamorphic and granitic rocks provided material for milling tools used by the prehistoric inhabitants of the region, and quartz dikes within the granitic rocks provided a local material for manufacturing flaked stone tools. The region's prime source of material for flaked stone tools was the volcanic rock of the Santiago Peak formation, which is available in streambeds in low-lying areas approximately 20 km to the southwest. The valley floor is composed of Quaternary non-marine alluvium characterized by coarse loamy sand derived from granodiorite.

The climate is classified as Mediterranean Hot Summer, or Csa in the Köppen classification (Pryde 2004). Rainfall is about 33 centimeters per year, falling primarily between December and March. The average January daily minimum temperature is 4°C (39°F), and the average July daily maximum is 32°C (90°F). The climate would have imposed few constraints on prehistoric hunter-gatherers in the region.

The predominant natural vegetation community of the region is chaparral, although perhaps mixed with coastal sage scrub (Pryde 2004). Typical plant species include laurel sumac (*Rhus laurina*), black sage *(Salvia mellifera*), manzanita (*Arctostaphylos* spp.), redshank (*Adenostoma sparsifolium*), oak (*Quercus* spp.), chamise (*Adenostoma fasciculatum*), and California lilac (*Ceanothus* spp.*),* along with various grasses and legumes. Riparian species are associated with drainages. Mammals, birds, and reptiles within these communities provided potential food resources to prehistoric inhabitants. Much of the natural vegetation in low-lying areas has been displaced by modern land uses for grazing and orchards. However, the steep mountain slopes harbor relatively intact, dense chaparral and oak communities. These vegetation communities have been in place since the early Holocene, by at least 7500 B.P., when the climate became noticeably warmer and drier (Axelrod 1978).

1.2.2 Cultural Setting

Evidence for continuous human occupation in the San Diego region spans the last 10,000 years. Various attempts to parse out variability in archaeological assemblages over this broad time frame have led to the development of several cultural chronologies. Some of these are based on geologic time, most are based on temporal trends in archaeological assemblages, and others are interpretive reconstructions. Most of these reconstructions describe essentially similar trends in assemblage composition in more or less detail. The present research employs a common set of generalized terms used to describe chronological trends in assemblage composition: Paleoindian (pre-5500 B.C.), Archaic (8000 B.C.-A.D. 500), Late Prehistoric (A.D. 500-1750), and Ethnohistoric (post-A.D. 1750).

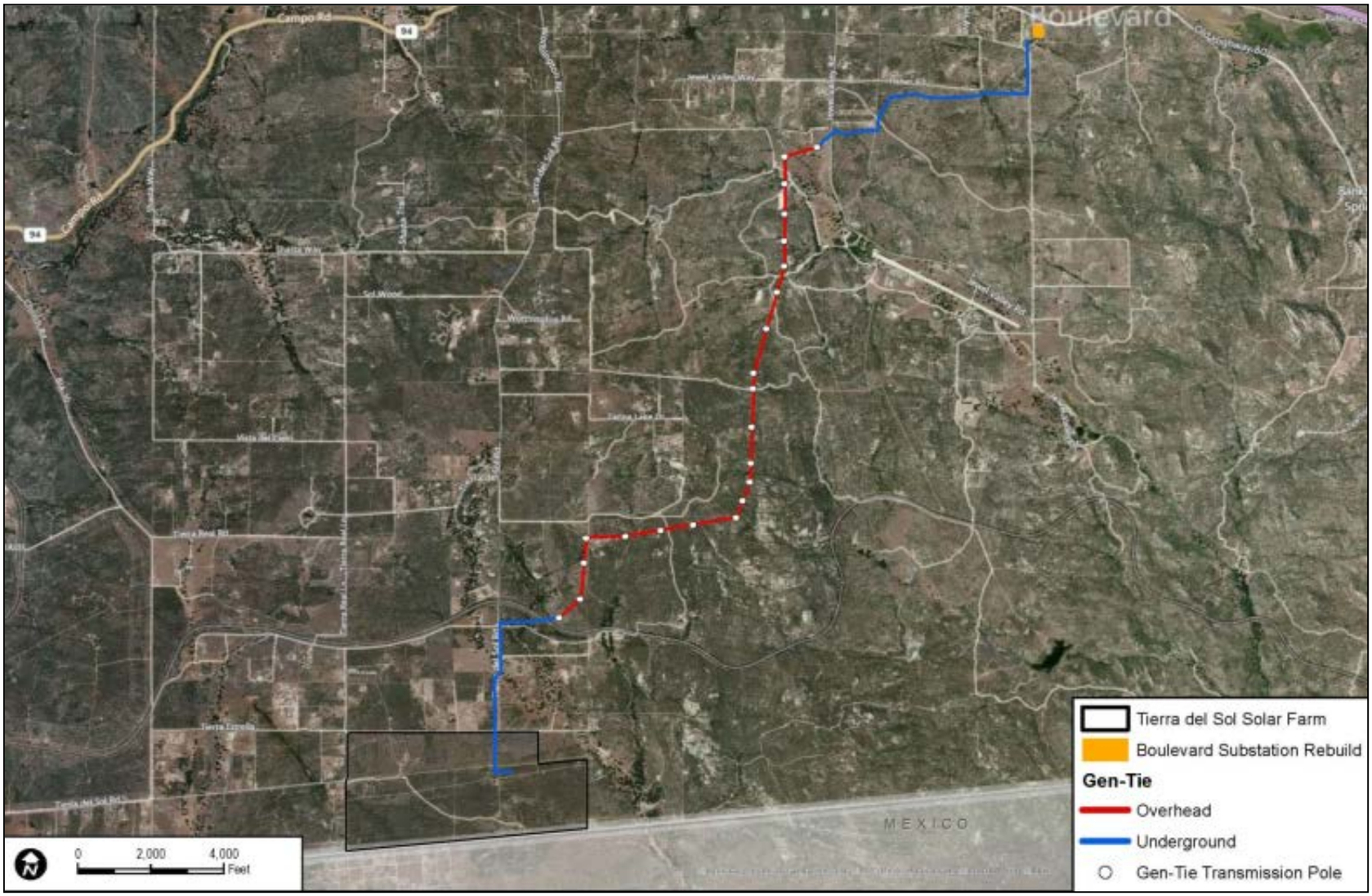

Figure 1.4 Gen-Tie Alignment Map

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Paleoindian (pre-5500 B.C.)

Evidence for Paleoindian occupation in coastal southern California is tenuous, especially considering the fact that the oldest dated archaeological assemblages look nothing like the Paleoindian artifacts from the Great Basin. One of the earliest dated archaeological assemblages in coastal southern California (excluding the Channel Islands) derives from CA-SDI-4669/W-12, in La Jolla. A human burial from CA-SDI-4669 was radiocarbon dated to 9590-9920 years before present (B.P.) (95.4% probability) (Hector 2007). The burial is part of a larger site complex that contained more than 29 human burials associated with an assemblage that fits the Archaic profile (i.e., large amounts of groundstone, battered cobbles, and expedient flake tools). In contrast, typical Paleoindian assemblages include large stemmed projectile points, high proportions of formal lithic tools, bifacial lithic reduction strategies, and relatively small proportions of groundstone tools. Prime examples of this pattern are sites that were studied by Emma Lou Davis (1978) on Naval Air Weapons Station China Lake near Ridgecrest, California. These sites contained fluted and stemmed points as well as large numbers of formal flake tools (e.g., shaped scrapers, bifaces). Other typical Paleoindian sites include the Komodo site (MNO-679), a multicomponent fluted-point site and MNO-680, a single-component Great Basin Stemmed point site (see Basgall et al. 2002). At MNO-679 and MNO-680, groundstone tools were rare, while finely made projectile points were common.

Turning back to coastal southern California, the fact that some of the earliest dated assemblages are dominated by processing tools runs counter to traditional notions of mobile hunter-gatherers traversing the landscape for highly valued prey. Evidence for the latter scenario, that is, typical Paleoindian assemblages may have been located along the coastal margin at one time, prior to glacial desiccation and a rapid rise in sea level during the early Holocene (pre-7500 B.P.) that submerged as much as 1.8 kilometers of the former coastline to the west of San Diego. If this were true, however, it would be expected that such sites would also be located on older landforms near the current coastline. Some sites, such as CA-SDI-210 along Agua Hedionda Lagoon, contained stemmed points similar in form to Great Basin Stemmed points (pre-8000 B.P.) that are commonly found at sites in California's high desert (see Basgall and Hall 1990). CA-SDI-210 yielded one corrected radiocarbon date of 8520-9520 B.P. (see Warren et al. 2008). However, sites of this nature are extremely rare and cannot be separated from large numbers of milling tools that intermingle with old projectile point forms.

Warren et al. (2008) claimed that a biface manufacturing tradition present at the Harris site complex (CA-SDI-149) is representative of typical Paleoindian occupation in the San Diego region that possibly dates between 10,365 and 8200 B.C. (Warren et al. 2008). Termed San Dieguito (see also Rogers 1945), assemblages at the Harris site are qualitatively distinct from most others in the San Diego region because the site has large numbers of finely made bifaces (including projectile points), formal flake tools, a biface reduction trajectory, and relatively small amounts of milling tools (see also Warren 1964, 1968). Despite the unique assemblage

composition, the definition of San Dieguito as a separate cultural tradition is hotly debated. Gallegos (1987) suggested that the San Dieguito pattern is simply an inland manifestation of a broader economic pattern. Gallegos' interpretation of San Dieguito has been widely accepted by some in recent years, in part because of the difficulty in distinguishing San Dieguito components from other assemblage constituents. In other words, it is easier to ignore San Dieguito as a distinct socioeconomic pattern than it is to draw it out of mixed assemblages.

The large number of finished bifaces (including projectile points), along with large numbers of formal flake tools at the Harris site complex, is very different than nearly all other assemblages throughout the San Diego region, regardless of age. Warren et al. (2008) made this point, tabulating basic assemblage constituents for key early Holocene sites. Producing finely made bifaces and formal flake tools implies that relatively large amounts of time were spent for tool manufacture. Such a strategy contrasts with the expedient flake-based tools and cobble-core reduction strategy that typifies non-San Dieguito Archaic sites. It can be inferred from the uniquely high degree of San Dieguito assemblage formality that the Harris site complex represents a distinct economic strategy from non-San Dieguito assemblages.

If San Dieguito truly represents a distinct socioeconomic strategy from the non-San Dieguito Archaic processing regime, the rarity of San Dieguito components implies not only that they were short-lived, but that they were not as economically successful as the Archaic strategy. Such a conclusion would fit with other trends in southern California deserts, wherein hunting-related tools were replaced by processing tools during the early Holocene (see Basgall and Hall 1990).

Archaic (8000 B.C.–A.D. 500)

The 2,500-year overlap between the presumed age of Paleoindian occupations and the Archaic period highlights the difficulty in defining a cultural chronology in the San Diego region. If San Dieguito is the only recognized Paleoindian component in the San Diego region, then the dominance of hunting tools implies that it derives from Great Basin adaptive strategies and is not necessarily a local adaptation. Warren et al. (2008) admitted as much, citing strong desert connections with San Dieguito. Thus, the Archaic pattern is the earliest local socioeconomic adaptation in the San Diego region (see Hale 2001, 2009).

The Archaic pattern is relatively easy to identify (albeit hard to define), with assemblages that consist primarily of processing tools: millingstones, handstones, battered cobbles, heavy crude scrapers, flake-based tools, and cobble-core reduction. These assemblages occur in all environments across the San Diego region, with little variability in tool composition. Low assemblage variability over time and space among Archaic sites has been equated with cultural conservatism (see Byrd and Reddy 2002; Warren 1968; Warren et al. 2008). Despite enormous amounts of archaeological work at Archaic sites, little change in assemblage composition has been identified until the bow and arrow was adopted at around A.D. 500, as well as ceramics at approximately the same time (Griset 1996; Hale 2009). Even then,

assemblage formality remained low. After the bow was adopted, small arrow points appeared in large quantities and already low amounts of formal flake tools were replaced by increasing amounts of expedient flake tools. Similarly, shaped millingstones and handstones decreased in proportion relative to expedient, unshaped groundstone tools (Hale 2009). Thus, the terminus of the Archaic period is equally as hard to define as its beginning, because basic assemblage constituents and patterns of manufacturing investment remained stable, complemented only by the addition of the bow and ceramics.

Late Prehistoric (A.D. 500-1750)

The interval following the Archaic and prior to ethnohistoric times (A.D. 1750) is commonly referred to as the Late Prehistoric (Rogers 1945; Wallace 1955; Warren et al. 2008). However, several other subdivisions continue to be used to describe various shifts in assemblage composition, including the addition of ceramics and cremation practices. In northern San Diego County the post-A.D. 1450 artifact assemblage is referred to as the San Luis Rey Complex (Meighan 1959), while within the same time period in southern San Diego County the Cuyamaca Complex was present, and is thought to have extended from A.D. 500 until ethnohistoric times (True 1980). Rogers (1945) also subdivided the last 1,000 years into the Yuman II and III periods, based on the distribution of ceramic types and attributes. Despite these regional complexes, each is defined by the addition of arrow points and ceramics, the widespread use of bedrock mortars, and the cremation of human remains. Vagaries in the appearance of the bow and arrow and ceramics make the temporal resolution of the San Luis Rey and Cuyamaca complexes difficult. For this reason, the term Late Prehistoric is well-suited to describe the last 1,500 years of prehistory in the San Diego region.

Temporal trends in socioeconomic adaptations during the Late Prehistoric are poorly understood. This is partly due to the fact that the fundamental Late Prehistoric assemblage is very similar to the Archaic pattern, but includes arrow points, large quantities of fine debitage from producing arrow points, ceramics, and cremations. The appearance of mortars and pestles is difficult to place in time because most mortars are on bedrock surfaces; bowl mortars are rare in the San Diego region. Some argue that the ethnohistoric intensive acorn economy extended as far back as A.D. 500 (Bean and Shipek 1978). However, there is no substantial evidence that reliance on acorns, and the accompanying use of mortars and pestles, occurred prior to A.D. 1400. Meighan (1959) argued that acorn processing and ceramic use in the northern San Diego region did not occur until the San Luis Rey pattern emerged after approximately A.D. 1450. For southern San Diego County, the picture is less clear. The Cuyamaca Complex is the southern counterpart to the San Luis Rey pattern, however, and is most recognizable after A.D. 1450 (Hector 1984). Similar to True (1980), Hale (2009) argued that an acorn economy did not appear in the southern San Diego region until just prior to ethnohistoric times, and that when it did occur, a major shift in social organization followed.

Ethnohistoric (post-A.D. 1750)

The project area lies within the territory usually ascribed to speakers of the Kumeyaay language, but near their boundary were speakers of the very closely related Ipai language to the north. Kumeyaay and Ipai are Yuman languages, with ties to other groups in northern Baja California, on the lower Colorado River, and in western Arizona. The separation of the Ipai and Kumeyaay languages from their closest relative, Cocopa in the Colorado River delta, may date back about 1,000–1,200 years, and the separation from other Yuman groups may have occurred around 1,500–2,000 years ago (Laylander 1985).

Aboriginal subsistence in the region was based largely on acquiring natural plants and animals, rather than the cultivation of agricultural crops. Acorns were a staple for the western groups, as were agave and mesquite for eastern groups. Numerous other plants were valued for the dietary contributions from their seeds, fruit, roots, stalks, or greens, and a still larger number of species had known medicinal uses. Game animals included deer first and foremost, but mountain sheep and pronghorn antelope were also present, as well as bears, mountain lions, bobcats, coyotes, and other medium-sized mammals. Small mammals were probably as important in aboriginal diets as larger animals, with jackrabbits and cottontails being preeminent, but woodrats and other rodents were commonly exploited. Various birds, reptiles, and amphibians were consumed as well; food taboos were few in number and inconsistent, judging from the surviving ethnographic record. The only precontact domesticated animal was the dog. It is not clear whether marine fish and shellfish were a mainstay for some coastal groups or merely provided supplemental or emergency food sources for groups that were oriented primarily toward terrestrial resources. Interregional exchange systems are known to have linked the coast with areas to the east in particular, but exchange may have been concerned more with facilitating social and ceremonial matters than with meeting material needs.

The Kumeyaay had developed a varied material culture that functioned well but was not highly elaborated, at least by global standards. A variety of tools were made from stone, wood, bone, and shell, and these served to procure and process the resources of the region. Needs for shelter and clothing were minimal, but considerable attention was devoted to personal decoration in the form of ornaments, painting, and tattooing. The local pottery was well-made, although infrequently decorated. Basketry was a craft that was particularly refined.

The Kumeyaay were subdivided into essentially sovereign local communities or tribelets. Community membership was generally inherited from the male line. In practice, however, some degree of intermixing of these patriclans was certainly present during the historic period, and this may have reflected a considerable degree of flexibility in community membership during prehistoric times as well. Later descriptions of the settlement systems have been inconsistent, and there may have been considerable variability in practice (cf., Laylander 1991, 1997; Owen 1965; Shipek 1982; Spier 1923). In some areas, substantially permanent, year-round villages

seem to have existed, with more remote resources beyond the daily foraging range being acquired by special task groups. In other areas, communities appear to have followed an annual circuit among seasonal settlements, or to have oscillated between summer and winter villages, often with the group splitting up into its constituent families during certain seasons. Some differences in settlement strategies may have reflected local differences in resource availability or cyclical effects of variability between times of plenty and times of stress. Rights of ownership over the land and its various resources were vested both in individual families and in the clans or communities as a whole. Leadership within communities had at least a tendency to be hereditary, but it was relatively weak; authority was more ceremonial and advisory than administrative or judicial. Headmen had assistants, and shamans exerted an important influence in community affairs, beyond their role in curing individual illness.

Historic (post-A.D. 1542)

European activity in the region began as early as A.D. 1542, when Juan Rodríguez Cabrillo landed in San Diego Bay. Sebastián Vizcaíno returned in 1602, and it is possible that there were subsequent contacts that went unrecorded. These brief encounters made the local native people aware of the existence of other cultures that were technologically more complex than their own. Epidemic diseases may also have been introduced into the region at an early date, either by direct contacts with the infrequent European visitors or through waves of diffusion emanating from native peoples farther to the east or south (Preston 2002). It is possible, but as yet unproven, that the precipitous demographic decline of native peoples had already begun prior to the arrival of Gaspar de Portolá and Junípero Serra in 1769.

Spanish colonial settlement was initiated in 1769, when multiple expeditions arrived in San Diego by land and sea, and then continued northward through the coastal plain toward Monterey. A military presidio and a mission to deal with the local Kumeyaay and Ipai were soon firmly established at San Diego, despite violent resistance to them from a coalition of native communities in 1776. Private ranchos subsequently established by Spanish and Mexican soldiers, as well as other non-natives, appropriated much of the remaining coastal or near-coastal locations (Pourade 1960–1967).

Mexico's separation from the Spanish empire in 1821 and the secularization of the California missions in the 1830s caused further disruptions to native populations in western San Diego County. Some former mission neophytes were absorbed into the work forces on the ranchos, while others drifted toward the urban centers at San Diego and Los Angeles or moved to the eastern portions of the county where they were able to join still largely autonomous native communities.

United States conquest and annexation, together with the gold rush in northern California, brought many additional outsiders into the region. Development during the following decades was fitful, undergoing cycles of boom and bust.

The Campo-Jacumba region, including McCain Valley was largely considered unsettled southern California territory; a fact that drew to the region a few prominent ranchers such as the McCain family. Originally from Arkansas and Texas, the McCain family began ranching in California as early as 1858 in the Mendocino region, and after an aborted return trip to Arkansas, decided to settle in what is now known as McCain Valley in 1868 (Ní Ghabhláin et al. 2010; Wade et al. 2009). With the McCain family alongside several small sheep and cattle ranching outfits tied to the Laguna Mountain area (just northwest of McCain Valley), ranching thrived until the mid-twentieth century. After this time, ranching dwindled in productivity due to several reasons, including more productive cattle outfits to the north, a collapse in the demand for wool, and the appropriation of some prime pasturelands (such as Laguna Meadows) by the National Parks Service for watershed protection and conservation (see Wade et al. 2009). In its heyday, cattle ranching associated with McCain Valley spread as far south as the lower portions of northern Baja (Wade et al. 2009). Not surprisingly, the intensification of ranching and homesteading in the McCain Valley area lead to conflicts with local Kumeyaay inhabitants. One such conflict, recounted by Tom Lucas, a local Kwaayimii Indian, was the apparent last stand of some Kumeyaay families in conflict with the McCain family that took place near McCain Valley in Campo or Jacumba in the 1880s (Carrico 1983, 1987). However, it is also true that many of the Native American inhabitants were employed by local ranchers, including Tom Lucas (Carrico 1983). Wade et al. (2009) provide a region-wide overview of ranching in San Diego County including eligibility considerations, and Ní Ghabhláin et al. (2010) provide a detailed historic context that covers part of the current Project area, including a NRHP evaluation of the built environment near Boulevard and historic Highway 80 (additional information on Highway 80 can be found in Krintz et al. 2012).

Railroad Development 1900-1938

Several railroad routes were planned to pass through the Campo Valley, but each was abandoned, until 1906, when John D. Spreckels incorporated the San Diego and Arizona Railroad. Construction on the railroad began in 1907 (Dodge 1956). The population in Campo Valley grew slowly during the construction of Morena Dam and the San Diego and Arizona Railroad. In the meantime, civil unrest was common across the border just several miles to the south. The Mexican Revolution began in the fall of 1910, and by the following spring a Mexican rebel camp was located just 6 miles from Campo. Refugees fled to Campo, which was partially protected by U.S. soldiers.

While mining had been taking place since the initial Western settlement of the Campo Valley it remained largely unprosperous until the summer of 1912, when a vein of ore containing gold and silver was discovered by Lee Morris and George Hornak. Small mining ventures continued, evidence of which was seen during the Star Ranch pedestrian survey in the form of a mine shaft, stand pipes, and prospect pits.

Finally, on November 16, 1919, the San Diego and Arizona Railroad was completed, and the first train passed through the Campo Valley, carrying prominent San Diego residents, including John D. Spreckels. While some residents felt that the new railroad line would ruin the beautiful landscape of San Diego County's backcountry, many others were strong advocates for the rail line, predicting that it would increase the economic capacity of the area by enabling the shipment of cattle and sheep as well as fruit, vegetables, and honey out of Campo (San Diego Union, 4 July 1915:7). The railroad finally provided a direct link for San Diego to the eastern United States.

The railroad brought further development to the area, in the form of additional settlers and businessmen. In 1927, the Standard Sanitary Manufacturing Company built a processing plant in Campo in order to grind feldspar ore produced by the local mines. The feldspar mining industry brought additional prosperity to the region. A new school was constructed along with an international border crossing for the new residents.

Tierra del Sol (Hipass) with Brian Glenn

The community of Tierra del Sol was founded as the Hipass for the San Diego and Arizona Railway section station being built in 1924 at the highest elevation along the route (calculated at the time as 1364 feet above mean sea level). Prior to the railway, little in the way of history is available. The 1872 Wheeler map indicates the area is virtually undeveloped at that time (see Appendix A, records search maps).

The plans for the station included an Operator's office and dwelling, a Section Foreman's house on the north side of the tracks, four Section Camp bunk and materials houses on the south side of the tracks and a siding. Water was provided by an off-site windmill and a 10,000-gallon water tank. The foundations of the office and foreman's house are visible on aerial images.

The development of the community is seen on the 1942 and 1959 USGS topographic maps. By 1942, the Mills Crossing station has been established where Tierra del Sol Road crosses the tracks. The Hipass station remains illustrated in 1942 and again in 1959. By 1996, neither the Hipass nor Mills Crossing stations are illustrated.

This same series of maps indicate development of the project area. The half section road is present along the north project area boundary in 1942 and a circuitous road circling within the eastern portion of the project area, passing a structure in the western portion of the project area and exiting to the west. The western portion of the road and the structure are visible on the 1959 and 1979 maps and the most recent aerials. The 1979 topographic also shows the addition of a power transmission line crossing the project area east-northeast to west-southwest.

Homesteading of the area was at its apex in the 1930s, as with much of the arid desert regions of southern California (see Giambastiani et al. 2008; Hale et al. 2010). Land patent claims

abound, even for eastern San Diego County, but the land grab of the 1930s was often characterized by insincere acquisitions of land to prove greater holdings for other purposes (see Giambastiani et al. 2008). Such a pattern is visible in many failed land patent claims and homestead claims where the claimant failed to "prove-up" their claim with necessary improvements such as growing crops or orchards, establishing a residential building, etc. It is also true that sincere land patent or homestead claims often failed because the claimant did not have enough money to finish improvements, thereby forfeiting their claim. In the Hipass/ Tierra del Sol area, the homestead of James Ennes Brown began with his claim on June 2, 1930, for the S½ of the S½ of Section 13 and the N½ of the N½ of Section 24, Township 18 South, Range 6 East, of the greater Campo Area. With typical fits and starts, the Brown family made the homestead their main residence in 1933 (General Land Office 1936; San Diego Directory Co. 1932). The remnants of the Brown homestead are affiliated with previously recorded site CA-SDI-7000 that was evaluated for this project. More details on this homestead will be provided in a discussion of CA-SDI-7000 in Chapter 4 of this report.

1.2.3 Records Search Results

Brian Glenn of Pacific West Archaeology conducted a records search at the SCIC for a one mile radius around the project area. Dudek requested a record search at the SCIC for a one-quarter mile radius around the Gen-Tie APE. The records searches involved a review of previously recorded cultural resources, previous cultural resources investigations and their limits within the project areas, historic addresses, and a historic maps database. Overall, the records search did not identify properties listed in the National Register of Historic Places (NRHP), CRHR, California State Landmarks California Points of Interest, and other historic property lists within the records search study areas. The records search documents are located in Confidential Appendix A.

1.2.3.1 Tierra del Sol Project

Previous Studies

Fifteen (15) previous cultural resource reports have addressed areas within the APE and the 1-mile record search buffer area (Table 1.1). These reports are on file at the SCIC. One previous report addresses the entire APE (Environmental Development Agency 1975); three other reports address smaller portions of the current APE (Flower et al. 1980b; Johnson 1976; Townsend 1984).

Table 1.1 Previous Cultural Resources Investigations Identified in the Records Search

NADB No.	Authors	Date	Title
1120642	Flower, Douglas, Ike Darcy, and Linda Roth	1980	Archaeological, Historical and Botanical Investigation of the Starr Property, Tierra del Sol, California.
1120643	Flower, Douglas, Ike Darcy, and Linda Roth	1980	Archaeological Investigation of the Halabu Project Tierra del Sol, California.
1121267	Johnson, Melissa J.	1976	An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County.
1121500	Wade, Sue A.	1985	SDi-4470 Archaeological Assessment. RECON.

Table 1.1 Previous Cultural Resources Investigations Identified in the Records Search

NADB No.	Authors	Date	Title
1122933	Davis, Stephen G.	1995	Tierra del Sol VMP.
1123836	Townsend, Jan	1984	Southwest Powerlink Cultural Resources Management Plan
1124219	Rudolph, James L.	1992	Campo Solid Waste Management Project, Cultural Resources located within the proposed lease area
1124294	Stone, David and David McDowell	1993	Archaeological and Historical Significance Assessment for the Campo Solid Waste Management Project, Campo Indian Reservation, San Diego County
1124423	Wirth Assoc.	1982	Draft: SDI-4470 Data Recovery Program. Writh Assoc.
1126497	Bureau of Land Management	2003	Archaeological Site SDI-4470 (Includes SDI-4468 and SDI-5163). California Desert District/BLM
1126758	Wirth Assoc.	1982	Draft-Data Recovery Program SDI-4470, 4468, 5163. Wirth Assoc.
1130066	Environmental Development Agency, County of San Diego	1975	Live Oak Springs Subregional Analysis and Draft Environmental Impact Report for TPM 10677, File No. 74-21-29201. Impact Analysis Section, Environmental Development Agency.
1131546	Rosenberg, Seth and Brian F. Smith	2008	A Class III – Intensive Field Survey for the Gapfiller Project. Brian F. Smith and Associates.
1131652	U.S. Army Corps of Engineers	2007	Section 106 Compliance for the Demolition of Illegal Tunnels by the Department of Homeland Security (DHS) and Border Protection (CBP), Office of Border Patrol (OBP) San Diego Sector, San Diego County, California. U.S. Army Corps of Engineers.
1132646	Robbins-Wade	2010	Cultural Resources Survey Report for the 2010 Revised Gapfiller Project, San Diego, California. Affinis

Previously Recorded Cultural Resources

Thirteen previously recorded cultural resources have been recorded within a 1-mile buffer around the APE (Table 1.2). Of the two previously recorded sites within the APE, one (CA-SDI-6999) is a prehistoric site that consists of a sparse ceramic scatter, and the other (CA-SDI-7000) is a historical archaeological sites consisting of remnant structures in poor condition, including a building, water tank, and historic refuse.

Table 1.2 Previously Recorded Cultural Resources Identified in the Records Search

Designation		Site Type	Report Ref. or Recorder
Primary Number P-37-	Trinomial CA-SDI-		
004465	4465	AP2. Lithic Scatter; AP4 Bedrock milling feature	Johnson 1976
004467	4467	AP16. Isolate Flake and Hammerstone	Johnson 1976
004468	4468	AP3. Ceramic Scatter; AP2. Lithic Scatter	Waldron 1976
004470	4470	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4. Bedrock Milling Feature	Johnson 1976
004472	4472	AP2. Lithic Scatter; AP4. Bedrock Milling Feature	Waldron 1976; Rosenberg 2008
005163	5163	AP2. Lithic Scatter; AP3. Ceramic Scatter	Kaldenberg and Ritter 1974
006999	6999	AP3. Ceramic Scatter	Dominici 1959
007000	7000	AH7. Railroad tracks; AH10. Automobiles and Farm Equipment; AH1. Wood and Metal Debris	Burkenroad 1959
007005	7005	AP3. Ceramic Scatter	Burkenroad 1959
008197	8197	AH5. Rock Lined Wells; AH11: Rock walls; AH9. Mined Area; AP2. Lithic Scatter	Flower and Roth 1959
008198	8198	AP3. Ceramic Scatter	Flower and Roth 1959

Table 1.2 Previously Recorded Cultural Resources Identified in the Records Search

Designation			
Primary Number P-37-	**Trinomial CA-SDI-**	**Site Type**	**Report Ref. or Recorder**
008199	8199	AP2. Lithic Scatter	Flower and Roth 1959
008304	8304	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4. Bedrock Milling Features; AP15. Habitation Debris	Flower and Roth 1980; Gilbert 1995
009275	9275	AP2. Lithic Scatter	Donovan 1982
009276	9276	AP3. Ceramic Scatter	Pierce 1982
025680	-	AH7. Railway	Williams 2009

1.2.3.2 Tierra del Sol Gen-Tie

Previous Studies

A total of 14 previous studies have been performed in the Gen-Tie records search area (Table 1.3). Seven of these cover a portion of the APE, including one unknown report (Arrington 2006; Davis 1995; Flower et al. 1980a, 1980b; Fulmer 1977; Zepeda-Herman 2008).

Table 1.3 Previous Cultural Resources Investigations Identified in the Gen-Tie Records Search

NADB No.	Authors	Date	Title
1120487	Chace, Paul G.	1979	An Archaeological Survey of the Fuquay Ranch, Boulevard, County of San Diego.
1120643	Flower, Douglas, Ike Darcy, and Linda Roth	1980	Archeological Investigation of the Halabu Project Tierra del Sol, California.
1120914	Flower, Douglas, Ike Darcy, and Linda Roth	1980	Archaeological and Biological Investigations of the Westover Project, Boulevard, California.
1121001	Fulmer, Scott	1977	Archaeological Reconnaissance of the Valley of the Jewells Campground.
1121267	Johnson, Melissa J.	1976	An Archaeological Inventory and Assessment of Corridor Segments 46 and 49, Preferred Southern Route, San Diego County.
1122933	Davis, Stephen G.	1995	Tierra del Sol VMP.
1128282	Rosen, Martin	2001	Historic Property Survey Report for Old Highway 80, San Diego County, CA.
1128422	Smith, Brian F.	2003	An Archaeological Survey Report if the Grizzle Project, McCain Valley TPM.
1130066	Environmental Development Agency, County of San Diego	1975	Live Oak Springs Subregional Analysis and Draft Environmental Impact Report for TPM 10677, File No. 74-21-29201. Impact Analysis Section, Environmental Development Agency.
1130551	Arrington, Cindy	2006	Cultural Resources Final Report of Monitoring and Findings for the Qwest Network Construction Project.
1130796	Smith, Brian F. and James Clifford	2005	An Archaeological Survey and Testing Program for the Grizzle Project.
1131741	Zepeda-Herman, Carmen	2008	Cultural Resources Survey of the ETS 7018, Wood to Steel Pole TL6931, Boulevard Project, California.
1132421	Cook, John R., Deborah Huntley, and Sherri Andrews	2000	Final: A Cultural Resources Inventory of the Proposed AT&T/PF.NET Fiber Optics Conduit Ocotillo to San Diego, California.

Previously Recorded Cultural Resources

Fourteen previously recorded cultural resources have been recorded within a one-quarter-mile buffer around the APE (Table 1.4). Three of these resources are located within the APE: CA-SDI-5561 is a prehistoric habitation site with milling stations, a variety of artifact types, and possibly midden soil; CA-SDI-8218 is a prehistoric site that consists of a sparse lithic scatter, which was previously surface collected; and P-37-025680 is the historic San Diego – Arizona Railroad.

Table 1.4 Previously Recorded Cultural Resources Identified in the Gen-Tie Records Search

Designation		Site Type	Report Ref. or Recorder
Primary Number P-37-	Trinomial CA-SDI-		
005560	5560	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4 Bedrock Milling Feature	Fulmer 1977
005561	5561	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4. Bedrock Milling Feature; AP.15 Habitation Debris	Fulmer 1977
005562	5562	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4 Bedrock Milling Feature	Fulmer 1977
005563	5563	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4. Bedrock Milling Feature; AP8. Stone Feature; AP.14. Rock Shelter	Fulmer 1977
005564	5564	AP2. Lithic Scatter; AP3. Ceramic Scatter	Fulmer 1977
006897	6897	AP2. Lithic Scatter; AP3. Ceramic Scatter	Chase 1977; Hale et al. 2010
008217	8217	AP2. Lithic Scatter	Flower et al. 1980
008218	8218	AP2. Lithic Scatter	Flower et al. 1980
008284	8284	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4. Bedrock Milling Feature; AP15. Habitation Debris	Landis 1977; Gilbert 1995
008304	8304	AP2. Lithic Scatter; AP3. Ceramic Scatter; AP4. Bedrock Milling Features; AP15. Habitation Debris	Flower and Roth 1980; Gilbert 1995
032534	20657	AH3. Landscaping/Orchard; AH5. Wells/cisterns	Glenn and Victorino, 2012
024023	-	AP3. Ceramic Scatter	Flower and Roth 1959
025680	-	AH7. Railway	Williams 2009
032157	-	AP2. Lithic Scatter	Flower and Roth 1980; Gilbert 1995

1.3 Applicable Regulations

Cultural resource regulations that apply to the project area are the County of San Diego RPO, the Local Register, CEQA, and provisions for the CRHR.

Historic and archaeological districts, sites, buildings, structures, and objects are assigned significance based on their exceptional value or quality in illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance.

1.3.1 California Register of Historic Resources and CEQA

CEQA requires that all private and public activities not specifically exempted be evaluated against the potential for environmental damage, including effects to historical resources. Historical resources are recognized as part of the environment under CEQA. The act defines historical resources as "any object, building, structure, site, area, or place that is historically significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California" (Division I, Public Resources Code, Section 5021.1[b]).

Lead agencies have a responsibility to evaluate historical resources against the CRHR criteria prior to making a finding as to a proposed project's impacts to historical resources. Mitigation of adverse impacts is required if the proposed project will cause substantial adverse change. Substantial adverse change includes demolition, destruction, relocation, or alteration such that the significance of an historical resource would be impaired. While demolition and destruction are fairly obvious significant impacts, it is more difficult to assess when change, alteration, or relocation crosses the threshold of substantial adverse change. The CEQA Guidelines provide that a project that demolishes or alters those physical characteristics of an historical resource that convey its historical significance (i.e., its character-defining features) is considered to materially impair the resource's significance. The CRHR is used in the consideration of historical resources relative to significance for purposes of CEQA. The CRHR includes resources listed in, or formally determined eligible for listing in, the National Register of Historic Places (NRHP) and some California State Landmarks and Points of Historical Interest. Properties of local significance that have been designated under a local preservation ordinance (local landmarks or landmark districts), or that have been identified in a local historical resources inventory, may be eligible for listing in the CRHR and are presumed to be significant resources for purposes of CEQA unless a preponderance of evidence indicates otherwise.

Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (Pub. Res. Code SS5024.1, Title 14 CCR, Section 4852), which consist of the following:

- 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; or
- it is associated with the lives of persons important to local, California, or national history; or
- 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
- it has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

1.3.2 San Diego County Local Register of Historical Resources

The County maintains a Local Register that was modeled after the CRHR. Significance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, or culture. Any resource that is significant at the national or state level is by definition also significant at the local level. The criteria for eligibility for the Local Register are comparable to the criteria for eligibility for the CRHR and NRHP, but significance is evaluated at the local level. Included are:

1. resources associated with events that have made a significant contribution to the broad patterns of California or San Diego County's history and cultural heritage;
2. resources associated with the lives of persons important to our past, including the history of San Diego and our communities;
3. resources that embody the distinctive characteristics of a type, period, region (San Diego County), or method of construction, or represent the work of an important creative individual, or possesses high artistic values; and
4. resources that have yielded or are likely to yield, information important in prehistory or history.

Districts are significant resources if they are composed of integral parts of the environment that collectively (but not necessarily as individual elements) are exceptional or outstanding examples of prehistory or history.

The County also treats human remains as "highly sensitive." They are considered significant if interred outside a formal cemetery. Avoidance is the preferred treatment.

Under County guidelines for determining significance of cultural and historical resources, any site that yields information or has the potential to yield information is considered a significant site (County of San Diego 2007a: 16). Unless a resource is determined to be "not significant" based on the criteria for eligibility described above, it will be considered a significant resource. If it is agreed to forego significance testing on cultural sites, the sites will be treated as significant resources and must be preserved through project design (County of San Diego 2007a:19).

1.3.3 County of San Diego Resource Protection Ordinance (RPO)

The County uses the CRHR criteria to evaluate the significance of cultural resources. In addition, other regulations must be considered during the evaluation of cultural resources. Specifically, the County of San Diego's RPO defines significant prehistoric and historic sites.

The County defines a significant prehistoric or historic site under its RPO as follows:

1. any prehistoric or historic district, site, interrelated collection of features or artifacts, building, structure, or object either:
    a. formally determined eligible or listed in the NRHP by the keeper of the National Register; or
    b. to which the Historic Resource (H designator) Special Area Regulations have been applied; or
2. one-of-a-kind, locally unique, or regionally unique cultural resources, which contain a significant volume and range of data or materials; and
3. any location of past or current sacred religious or ceremonial observances, which is either:
    a. protected under Public Law 95-341, the American Religious Freedom Act, or Public Resources Code Section 5097.9, such as burials, pictographs, petroglyphs, solstice observatory sites, sacred shrines, religious ground figures, or
    b. other formally designated and recognized sites, which are of ritual, ceremonial, or sacred value to any prehistoric or historic ethnic group.

2.0 GUIDELINES FOR DETERMINING SIGNIFICANCE

According to CEQA (§15064.5b), a project with an effect that may cause a substantial adverse change in the significance of an historical resource is a project that may have a significant effect on the environment. CEQA defines a substantial adverse change:

Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.

The significance of an historical resource is materially impaired when a project:

- demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
- demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or
- demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

Section 15064.5(c) of CEQA applies to effects on archaeological sites and contains the following additional provisions regarding archaeological sites:

When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).

If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, and this section, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.

If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21083.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique

archaeological resources. If an archaeological resource is neither a unique archaeological nor an historical resource, the effects of the project on those resources shall not be considered a significant effect on the environment. It shall be sufficient that both the resource and the effect on it are noted in the Initial Study or EIR, if one is prepared to address impacts on other resources, but they need not be considered further in the CEQA process.

Section 15064.5 (d) & (e) contain additional provisions regarding human remains. Regarding Native American human remains, paragraph (d) provides:

When an initial study identifies the existence of, or the probable likelihood, of Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the Native American Heritage Commission as provided in Public Resources Code SS5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by the Native American Heritage Commission. Action implementing such an agreement is exempt from: the general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5); and the requirement of CEQA and the Coastal Act.

Pursuant to the County of San Diego Guidelines for Determining Significance – Cultural Resources (2007), any of the following will be considered a significant impact to cultural resources:

1. The project, as designed, causes a substantial adverse change in the significance of a historical resource as defined in §15064.5 of the State CEQA Guidelines. This shall include the destruction, disturbance or any alteration of characteristics or elements of a resource that cause it to be significant in a manner not consistent with the Secretary of Interior Standards.
2. The project, as designed, causes a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 of the State CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological site that contains the potential to contain information important to history or prehistory.
3. The project, as designed, disturbs any human remains, including those interred outside of formal cemeteries.
4. The project proposes non-exempt activities or uses damaging to, and fails to preserve, significant cultural resources as defined by the Resource Protection Ordinance and fails to preserve those resources.

3.0 RESEARCH DESIGN

The objective of the current evaluation program was to obtain information from archaeological sites that could be used to evaluate each resource's historical significance under CEQA and County guidelines. Current research is typically structured in a way that links anthropologically oriented research issues to the archaeological record. The following discussion embraces this strategy, and identifies potential questions and appropriate archaeological evidence within a series of broad research themes. General issues pertinent to the assessment of the sites include determination of the extent and integrity of cultural deposits, age and probable cultural affiliation, site function and subsistence strategies, overall insight into settlement organization, and the presence of any cultural remains having special Native American or historical heritage value.

3.1 Management Concerns and Potential Regional Research Topics

3.1.1 Integrity

Delineation of the horizontal distribution and vertical depth of the site is necessary for an assessment of research potential. Of particular importance is the integrity of the deposits: whether or not features or surfaces are preserved and whether the potential exists for identifying, through analysis, horizontal and vertical spatial patterning in the evidence for prehistoric behavior.

A variety of post-depositional disturbance processes can greatly alter the original character of prehistoric sites (e.g., Gross and Robbins-Wade 2008; Schiffer 1987; Waters 1992). Formation processes such as alluvial deposition, erosion, bioturbation, and modern disturbance can considerably affect the integrity of archaeological sites. The natures of procurement, processing, and discard of secondary refuse, and whether occupation is procurement-related, seasonal, or annual, are key social factors. Here, we attempt to identify and interpret the processes that formed the site, with particular attention given to the character of post-depositional processes and the extent to which they have affected the integrity of the archaeological deposits.

The results of testing at the sites have been used to assess the following issues:

- Does the horizontal and vertical extent of the archaeological record within the sites represent continuous or discrete occupations?
- Is it possible to discern depositional versus post-depositional processes that have contributed to the present condition of the archaeological record at any of the sites? In other words, what are the factors, both natural and anthropogenic, that have altered the position and condition of artifacts from the prehistoric and historic occupations of the sites?
- What kinds of features are potentially preserved at the sites (e.g., structures, hearths, earth ovens)? Are there features that are highly disrupted by postdepositional processes but that are still recognizable? Can these features be associated with particular functions?

- By examining spatial patterns in the horizontal distribution of artifacts, is it possible to discern areas that were associated with specific functions? Do patterns in the vertical distribution of artifacts tell us anything about changes in the function, materials exploited, or human activities at the sites through time?
- At historical archaeological sites, is there evidence of overlapping dump episodes, such as multiple points of concentration or concentration of artifacts of a certain age?

The issue of integrity takes on a different meaning when considering the historical built environment. Built structures and landscape features have an intended structure that is often more durable than prehistoric features, and determining integrity is sometimes more obvious. However, the factors contributing to declining integrity of, say, a residential building, not only include exposure to the elements through neglect, but also scavenging of building materials. Scavenging was a common practice during the homestead era when building materials were at a premium and any abandoned building or equipment rarely went unnoticed. The results of scavenging can be completely destructive, but it oftentimes focused on taking easily obtained materials such as wood siding or exposed wood framework, metal piping, sheet metal, windows and doors, etc. This kind of reuse has direct effects on the integrity of historic features. Determining the impact of scavenging on integrity can be as simple as making observations about missing elements from a building. However, scavenging can go undetected if irrigation pipes were taken; the disappearance of such items would leave little to no trace of its prior existence.

3.1.2 Chronological Placement

Chronological issues are basic to any archaeological research design, as they provide the primary framework of prehistory. Previous research in the southern San Diego region has documented a range of prehistoric sites dating to both the Archaic (6000 B.C. to A.D. 500) and Late Prehistoric periods (post-A.D. 500). To the west, near Jamul, Yohe and Chace (1995) documented a late La Jollan (i.e., Millingstone) deposit dominated by millingstones, handstones, cobble tools, and other items. Rodent protein residue was collected from a basin millingstone in a buried context, implying the functional generality of such tools. In the eastern foothills and in the valley floors to the west a strong record that postdates A.D. 1000 has been documented. These sites have assemblages with large numbers of arrow points, small flake-based tools, and ceramics, but also include sizeable numbers of millingstones and handstones relative to mortars and pestles. The distribution of such artifacts is uneven at many sites in the region, and there may be temporal patterning in how sites were occupied, leaving differential traces of assemblage constituents. Along these lines, potential research issues derived from this basic problem include:

- How did the transition from the Archaic period to the Late Prehistoric period occur? This transition is characterized by shifts in food storage and cooking technology with the inception of ceramics, and a shift in hunting technology with the addition of the bow and arrow. These shifts did not occur simultaneously (cf. McDonald et al. 1993), and their implications for local population expansion in the Late Prehistoric period are unknown.

- Was there a shift in emphasis of acorn use during the Late Prehistoric period? The mortar and pestle appear to have been added to the repertoire of food processing tools during the Late Prehistoric period, but only in small numbers. Is there evidence for earlier use of bedrock mortars? Is the addition of the mortar and pestle correlated to the inception of ceramics in the region and/or intensified use of a particular resource?

Because chronological controls are essential to any archaeological investigation, several other basic questions concerning the temporal data potential of evaluated sites pertain to the current study, including:

- Can the chronological placement of project sites be determined?
- What kinds of chronometric data can project sites provide? Of those obtained during survey, how well do they correlate in terms of the age estimates they provide (e.g., projectile point types vs. obsidian hydration dates; cans vs. bottles).
- Are there data indicating the presence of multiple occupation episodes at project sites?
- Do marker artifacts appear to fit with temporal patterns recognized in the surrounding region? Are there any unique diagnostic items present?
- Can chronometric data from project sites help to refine dating schemes in the local region?

Potential chronometric evidence from the study site includes radiocarbon dates, obsidian hydration measurements, and diagnostic artifact forms. Radiocarbon dates are generally the most precise and reliable form of chronometric evidence, and they provide the foundation for the region's prehistoric chronology. However, obsidian hydration measurements may have a more direct cultural interpretation, they are individually less expensive, and they are able to address very late prehistoric to protohistoric time periods that cannot be distinguished through radiocarbon dating. Chronologically diagnostic artifacts include various projectile point forms and pottery, although these only define very broad time periods. Specific types or attributes of buffware ceramics may have a potential to define somewhat more precise time ranges, but that potential is not yet well established.

For historic sites, time sensitive artifacts are usually limited to items with maker's marks, specific can manufacture styles, or coins. However, it is common for dates of manufacture for a particular artifact to be much broader than those for another artifact class, making a determination for age of consumption for any given class difficult, if not impossible. For this reason, the date of refuse disposal is more pertinent for refuse deposits that are not located at homesites; and this is usually determined by the early manufacture date on the youngest artifact for each dump event. Hale et al. (2010) document a widespread pattern of dumping items of mixed manufacture and consumption age as the result of homesite cleanup and off-site dumping. If refuse deposits are located at a homesite, assessing the age of consumption for historic artifacts is an approximation based on overlapping manufacture dates, taking into

account the earliest and latest possible dates. Assemblages that cannot be securely placed chronologically would be less likely to possess a significant research potential. Of course, archival research can provide direct information on the date of construction and occupancy for historic homesites and lands used for agricultural, ranching, or mining.

3.1.3 Settlement and Site Function

Interpretation of the study sites depends upon an assessment of their places within the larger settlement-subsistence system of their occupants. Sites belonging to functional types that are relatively ubiquitous within the region would be less likely to be considered significant than unusual site types. Sites with evidence of multiple functions may possess a richer information content than relatively simple sites; on the other hand, single-function sites may have a greater research potential than multiple-function sites if the residues from the various activities at the latter cannot be effectively differentiated.

Evidence for the functional uses represented by the site come from surface observations made during both the survey and testing phases, as well as through the results of subsurface excavations. Interpretations of functions rest upon both the range and the relative and absolute frequencies of various classes of features, artifacts, and ecofacts.

Widespread and substantial occupation during the Late Prehistoric period has been documented in the vicinity of the APE and within the greater Peninsular Ranges (Cook 1985; Hector 1984; Meighan 1959), particular during the last 1,000 years, based on large numbers of ceramic sherds. The Late Prehistoric is a time when significant shifts in settlement and subsistence may have occurred.

While several important prehistoric sites and ethnohistoric villages have been extensively studied in the San Diego region, the character of settlement and subsistence shifts have not been fully explored. A key variable in understanding social organization during this time is the kind of socioeconomic shifts that occurred after adoption of the bow and arrow and the subsequent widespread use of ceramics. Sites from the Tierra del Sol project area may have the potential to generate important data for addressing this issue, particularly the presence of arrow points and abundant amounts of pottery. Specific data requirements include information on arrow point manufacture, general patterns of lithic reduction, and raw material use, including the use of exotic stone. Was arrow point production occurring at sites in the project area, or were points being discarded in exhausted condition? What does the debitage assemblage imply about the production and/or maintenance of stone tools at project sites?

Information on ceramic vessel forms and functions, and their diversity, is also critical for determining whether residential occupation was brief or prolonged. How many kinds of vessels are indicated in the assemblage and for what purposes were they used? The latter is particularly important for understanding intensification in the exploitation of plant foods (see

Eerkens 2001). Is there evidence, in the form of clay residues and other manufacturing residues, that clay vessels were being manufactured at sites in the project area? Finally, the manufacture and use of groundstone implements in conjunction with the ubiquitous milling elements within the project area can help clarify the nature of site occupation and settlement duration. Shaped handstones and pestles can be an indication that populations are somewhat mobile, implying use in off-site contexts; the idea being that shaping can reduce mass, thereby reducing transport costs (Hale 2001).

Considering historical archaeological sites and homesites, the kinds of artifacts present, the activities they represent, and their overall proportions can give some indication of where refuse originated, and why it was abandoned at its place of discard. The main question for historical archaeological sites is:

- What is the nature of refuse at historic sites? Are proportions of consumptive, household, industrial, and other artifacts substantial enough to derive context of origin(s)?
- Are any maker's marks on historic artifacts indicative of specific places of manufacture? Do they provide any information about where particular goods might have been purchased or otherwise obtained?

These kinds of questions are relevant for understanding the nature of historical occupation, including at homesites or agricultural facilities (i.e., field worker residential areas). Archival research helps bolster field data by documenting past historical landowners, lease holders, or residents, and by documenting historical changes in the local landscape. While it is virtually impossible to tie historic refuse deposits to residential or agricultural sites, it is possible to identify potential sources of refuse and make informed assumptions about its origin.

3.1.4 Subsistence

The issues related to subsistence orientation are interwoven with the previously discussed settlement organization, and this section complements the issues discussed previously.

Among the questions addressed are the following:

- Are floral and faunal remains present?
- Which specific resources were the focus of exploitation?
- Was there diachronic change in the emphasis on specific resources, and can these differences be related to specific factors, such as changes in procurement strategies?
- With respect to floral resources, the initial question is whether they have been preserved, as has been documented at an increasing number of coastal sites in the general region (e.g., Klug 1992; Klug and Popper 1995; Miksicek 1993). Archaeobotanical data are essential to address questions related to prehistoric plant resource exploitation and the seasonal availability of specific plant resources and their interface with settlement patterns.

- Can changes in resource emphasis be tied to alterations in settlement organization, extractive technologies, and the availability of local resources due to coastal environmental changes (Inman 1983)?
- Are artifacts present at historical archaeological sites that provide information on the kinds of foods consumed (i.e., food cans, glass bottles, etc.)?
- Are artifacts or features present?

To address these issues, a number of data sets and analytical procedures are needed. Faunal and floral remains were targeted for collection, although none were found. Fine-screen sieving (1/8-inch) of all excavated matrix was undertaken in the field to recover bone and shell remains. For historical sites, information is limited to the kinds of food containers and food processing items found at historical archaeological sites.

3.1.5 Native American Heritage Values

Federal and state laws mandate that consideration be given to the concerns of contemporary Native Americans with regard to potentially ancestral human remains, associated funerary objects, and items of cultural patrimony. Consequently, an important element in assessing the significance of the study site has been to evaluate the likelihood that these classes of items are present in areas that would be affected by the proposed project.

Also potentially relevant to prehistoric archaeological sites is the category termed Traditional Cultural Properties in discussions of cultural resource management (CRM) performed under federal auspices. According to Patricia L. Parker and Thomas F. King (1998), “traditional” in this context refers to those beliefs, customs, and practices of a living community of people that have been passed down through the generations, usually orally or through practice. The traditional cultural significance of a historic property, then, is significance derived from the role the property plays in a community’s historically rooted beliefs, customs, and practices. Examples of properties possessing such significance include:

1. a location associated with the traditional beliefs of a Native American group about its origins, its cultural history, or the nature of the world;
2. a rural community whose organization, buildings and structures, or patterns of land use reflect the cultural traditions valued by its long-term residents;
3. an urban neighborhood that is the traditional home of a particular cultural group, and that reflects its beliefs and practices;

4. a location where Native American religious practitioners have historically gone, and are known or thought to go today, to perform ceremonial activities in accordance with traditional cultural rules of practice; and
5. a location where a community has traditionally carried out economic, artistic, or other cultural practices important in maintaining its historic identity.

A traditional cultural property, then, can be defined generally as one that is eligible for inclusion in the National Register because of its association with cultural practices or beliefs of a living community that (a) are rooted in that community's history, and (b) are important in maintaining the continuing cultural identity of the community.

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4.0 ANALYSIS OF PROJECT EFFECTS

4.1 Methods

Brian Glenn of Pacific West Archaeology completed the records search with the SCIC and all survey fieldwork for the project area. ASM resurveyed the sites recorded by Glenn, and conducted evaluation fieldwork, including re-recording of all cultural resource sites. Dudek completed the record search with the SCIC and conducted survey fieldwork for the Gen-Tie alignment.

4.1.1 Field Methods

Project Area Survey Methods

The intensive pedestrian survey for the project area was completed under the supervision of Brian Glenn of Pacific West Archaeology, Inc. Field personnel included Mr. Kurt McLean, Mr. Charles Bouscaren, Ms. Hillary Warren, Ms. Stephanie Hernandez and Mr. Kyle Griffith. All personnel participated in initial identification of artifacts and features. Mr. McLean and Mr. Bouscaren shared duties as Field Director. Ms. Warren focused on photography, Ms. Hernandez on field recording and Mr. Griffith on operating the Trimble Series 6000 XH sub-meter Global Positioning System (GPS).

Ms. Whitefeather Roque participated as Native American observer on the project. Ms. Roque inspected each site where prehistoric artifacts and features were identified and provided input directly to the Principal Investigator. Ms. Roque is a member of the Campo Band of Mission Indians and familiar with the Project Area. Her observations during the survey were forwarded to the tribal council.

The entire project was surveyed by the team of archaeologists using standard pedestrian parallel transects spaced no greater than 15 meters (~50 feet). Pedestrian reconnaissance surveys of the entire project area were completed between October and December, 2011. GPS location data was recorded at each feature and visible diagnostic artifact within the sites. In addition, site boundaries were recorded as polygons in the GPS device.

The project area is dominated by introduced grasses with remnant coast live oak (*Quercus agrifolia*) in more level areas, mixed with chaparral. Though notes from Glenn are not available to report on ground visibility, ASM's visits to the general area in late 2011 and early 2012 indicate that ground surface visibility in the project area can be characterized as fair to good (between 40 and 80%). Disturbances were noted as moderate to substantial due to ranch activities, roads and various support structures and features.

Surveying efforts focused on the identification and recording of historic and prehistoric artifacts, features and sites. Prior to fieldwork, the GPS receiver was uploaded with data that included project area boundaries, previously identified cultural resources, background aerial photographs

and a data dictionary designed to note attributes necessary for completion of State of California Department of Parks and Recreation (DPR) Forms 523A through L (DPR 523), as appropriate. Map background data enabled efficient relocation of previously recorded sites and navigation.

Information gathered during site recording focused on the types and estimated amounts of artifacts, their distribution an estimation of age, perceived integrity, and boundaries of each property sufficient to permit completion and/or updating of appropriate DPR 523 forms. Photographs were taken for each site area (overviews), artifact concentrations, and features. Diagnostic artifacts and boundary information were plotted using a GPS receiver, photographed and described with emphasis on chronologically sensitive attributes. No artifact collection occurred during the survey.

Project Area Evaluation Methods

Evaluation methods have been developed and honed over decades of study in southern California (see Basgall 1993; Basgall and Giambastiani 2000; Giambastiani and Basgall 2000; Hale and Becker 2006; Hale and Comeau 2010; Hale et al. 2010, 2011; Hall 1993, McGuire and Hall 1988). A heavy emphasis on surface inventories is well suited to desert cultural deposits that are commonly aggregated in surface or near-surface contexts due to prolonged or accelerated erosion, or transient occupation. Subsurface methods while standard practice for CEQA evaluations were designed to accommodate the range of depositional variability that can be encountered in desert contexts. In all, the methods employed herein achieved data requirements for CEQA evaluations while affording a kind of flexibility that allow for reactionary allocation of field effort to maximize data potential of unanticipated deposits or assemblage constituents.

Within the confines of available field methodologies, none were necessarily excluded as possibilities for use at historic period sites. However, in keeping with regional trends in the treatment of historic refuse deposits, fieldwork levels for most sparse refuse deposits were limited to surface analysis and the collection of unique diagnostic artifacts. Excavations at these kinds of sites were limited to probing for buried deposits; though none were found to warrant more extensive excavation. Historic refuse deposits were sparse accumulations of historic debris with limited diversity and little to no potential for subsurface deposits. The surface analysis focused on recording morphology, condition, technology, and function of each artifact class. Interpretations of the analytical data derived from a functional perspective; one that considered the economics of consumption through patterns of artifact discard. This is not dissimilar to the interpretation of prehistoric artifacts, keeping in mind the idea that socioeconomic adaptation was built on utilitarian technologies.

Evaluation methods are essentially sampling methods geared toward recovering a reasonably large assemblage to estimate the density and diversity of the cultural deposit, and to expose enough of the site deposit to determine integrity. The first step in site evaluation was to re-locate datums, artifact concentrations, features, and landforms identified during the survey.

The next step was to conduct regular-interval sweeps of the site surface, pin-flagging artifacts, concentrations, and features to confirm the originally mapped items and site boundaries. This phase was made more efficient with the use of color-coded pin flags representing diagnostic artifacts, features, etc. After the site was defined with pin-flags, the artifacts were collected and their positions were recorded with a decimeter-accurate Trimble global positioning system (GPS) unit.

Because the sites were not dense in artifact concentrations and had little in the way of subsurface deposits (if any at all), just one type of unit was used for subsurface excavation, Shovel Test Pits (STPs). STPs are small, 0.5-x-0.25-meter exploratory units excavated in 20-centimeter increments to depths of no more than 80 centimeters, and typically spaced at 10–20-meter intervals or subjectively placed. It is ASM's experience that excavation below 80 centimeters in an STP increases the probability of error in determining the depth of artifact recovery because of the extensive sidewall scraping that occurs to remove matrix at lower depths. STPs are typically used to provide a positive-negative indication of the presence of cultural deposits or buried artifacts. No larger excavation units were excavated due to the scarcity of artifacts and subsurface deposits. That is, STPs determine the need for larger excavation units and at all Tierra del Sol evaluated sites; none were identified by STPs as having deposits that warranted more extensive excavation.

All excavated matrix was screened through 1/8-inch (3-millimeter) mesh. Most of the excavations terminated between 20 and 40 centimeters below the surface, either when the first two 10-centimeter excavation levels were sterile, or when bedrock was encountered.

The sites were mapped using a Trimble Pathfinder GPS receiver with real-time correction capabilities and down to 10-centimeter accuracy to plot all surface artifacts, STPs, and the boundaries of any defined concentrations and features. The GPS was also used to record site boundaries, landform edges, drainages, roads, and other relevant surface information. In addition to the mapping, a series of overview photographs were taken to show the site landscape situation. Photographs were also taken of features or other site attributes when appropriate.

Table 4.1 presents levels of field effort expended at each evaluated archaeological site within the study area. The variation in the numbers of STPs per site was based on the differences between sites; artifacts at some sites were more dispersed than others.

Table 4.1 Level of Effort for Archaeological Sites within the Tierra del Sol Study Area

Primary Number	Trinomial	Age	Number of STPs (0.5 x 0.25 m)	Surface Recordation/ Artifact Collection?
37-006999	CA-SDI-6999	Prehistoric	4	No
37-007000	CA-SDI-7000	Both	8	Yes
37-032527	CA-SDI-20,650	Prehistoric	5	Yes
37-032528	CA-SDI-20,651	Historic	2	Yes
37-032529	CA-SDI-20,652	Prehistoric	2	Yes
37-032530	CA-SDI-20,653	Prehistoric	3	Yes

Table 4.1 Level of Effort for Archaeological Sites within the Tierra del Sol Study Area

Primary Number	Trinomial	Age	Number of STPs (0.5 x 0.25 m)	Surface Recordation/ Artifact Collection?
37-032531	CA-SDI-20,654	Historic	3	Yes
37-032532	CA-SDI-20,655	Historic	6	Yes
37-032533	CA-SDI-20,656	Historic	5	Yes
37-032534	CA-SDI-20,657	Both	5	Yes
37-032535	CA-SDI-20,658	Historic	4	Yes
37-032536	CA-SDI-20,659	Historic	3	Yes
37-032537	CA-SDI-20,660	Historic	2	Yes
37-032649	Isolate	Prehistoric	0	Yes
37-032650	Isolate	Historic	0	Yes
37-032651	Isolate	Historic	2	Yes
37-032652	Isolate	Prehistoric	0	Yes
37-032653	Isolate	Historic	1	Yes
TOTAL STPs			**55**	

Evaluation also included archival research for historical resources. A qualified historian obtained documents related to historical use of the project area and local vicinity from newspaper archives, the General Land Office, historic maps and aerials, and other such documentation, as well as available literature. These efforts are crucial for understanding potential sources of historic refuse, for example, and for determining a history of occupancy and use of lands within or near the project area.

Gen-Tie Survey Methods and Conditions

The Gen-Tie pedestrian survey was conducted under the supervision of Brad Comeau of Dudek who served as Field Director. Mr. Trevor Hough, Mr. Joshua Dunn, Mr. Epifanio Figueroa, and Mr. Marshall Paymard served as field crew. All three shared identification and recordation duties including field notes, photography, and operation of a Trimble GeoXT GPS device with sub-meter accuracy. Mr. Howard Cuero of the Campo Indian Reservation served as Native American monitor.

The entire Gen-Tie route, including alternate routes, was surveyed using standard 15-meter interval transects oriented to the project alignment in February and March 2013. Upon discovery of a site, transects were reduced to 3–5 meter intervals to identify all features, artifacts, and other site constituents. All sites were recorded on the appropriate DPR 523 Series forms. Features, formed tools, and site boundaries were also recorded with GPS. In addition to site and isolate data, field notes and photographs were used to document field conditions at the time of the survey, including ground surface visibility and disturbances. No artifacts were collected during the survey.

Ground surface visibility and vegetation communities varied considerably throughout the Gen-Tie alignment. Most of the alignment is populated by moderately dense chaparral, with occasional dense clusters of red shank and manzanita stands. Visibility was less than

25% in areas of dense vegetation and upwards of 75% in low to moderately dense chaparral. Visibility in the northern half of the southern end of the alignment was 100%, as this area burned in the 2011 wildfire. Disturbances in this area are primarily related to ranching activities including animal grazing, refuse dumping, the grading of dirt roads, and off-highway vehicles.

Gen-Tie Evaluation Methods

Evaluation of the five sites along the Gen-Tie alignment followed the same basic methods as evaluations for the Project area. These methods were submitted to and approved by the County on June 14, 2013, prior to initiating field activities. Evaluation fieldwork was performed by Dudek from June 24 to June 26, 2013. Fieldwork was conducted under the supervision of Brad Comeau, with Lourdes Sanchez and Mike Ryan serving as field crew. Mr. Howard Cuero of the Campo Indian Reservation served as Native American monitor.

STPs were the primary excavation unit used to explore for subsurface deposits. As with the Project area excavations, the lack of substantial subsurface deposits identified by the STPs determined that larger excavation units were not necessary. Three of the five sites evaluated for the Gen-Tie are situated in locations where the ground surface is covered with loose, sandy sediment subject to transport by rain water runoff and wind erosion. As these sediments can easily obscure surface artifacts, Surface Scrape Units (SSU) were utilized in order to explore the potential of additional near surface artifacts. SSUs are also valuable for exploring areas of low ground surface visibility due to dense vegetation or leaf litter cover, such as at CA-SDI-20,945. SSUs are 1-x-1-meter in size and excavated in either a single 5-centimeter or 10-centimeter level.

Surface recordation and collection of artifacts at each site consisted primarily of piece-plot collection of individual artifacts. Controlled Surface Collection (CSC) units were also utilized at CA-SDI-20,948 where artifact densities were greater. CSCs consisted of 15-x-15-meter and 10-x-5-meter grids, divided into 5-x-5-meter sub-units, and single 5-x-5-meter grids, depending upon the extent of surface artifacts at any one location. Each 5-x-5-meter sub-unit and grid was assigned a letter designation; all artifacts in each grid were collected together. STPs, SSUs, and CSCs were placed subjectively in areas of highest artifact density and/or locations where the potential for subsurface deposits was highest.

Table 4.2 presents levels of field effort expended at each evaluated archaeological site within the study area. The variation in the numbers of excavation units per site was based on the differences between sites; artifacts at some sites were more dispersed than others.

Table 4.2 Level of Effort for Archaeological Sites within the Gen-Tie Study Area

Primary Number	Trinomial	Age	Number of STPs (0.5 x 0.25 m)	Number of SSUs (1 x 1 m)	Surface Recordation/ Artifact Collection?
P-37-033278	CA-SDI-20,945	Historic	2	1	Yes
P-37-033279	CA-SDI-20,946	Prehistoric	6	1	Yes
P-37-033280	CA-SDI-20,947	Prehistoric	2	1	Yes
P-37-033281	CA-SDI-20,948	Prehistoric	6	0	Yes
P-37-033308	CA-SDI-20,972	Prehistoric	2	1	Yes
TOTAL Units			**18**	**4**	

4.1.2 Laboratory and Cataloging Procedures

Initial lab procedures included cleaning (as appropriate), sorting, and cataloging of all items. Each item was individually examined and cataloged according to class, subclass, and material, counted (except for bulk invertebrate and vertebrate remains), and weighed on a digital scale. All coded data were entered into a Microsoft Access database. Data manipulation of a coded master catalog combining all sites was performed in Microsoft Excel.

The cultural material was sorted during cataloging into the following potential categories: 13 classes of prehistoric artifacts, two classes of ecofacts, ethnohistoric items, historic and modern items, and organic samples. The prehistoric artifact classes potentially included debitage, cores, utilized core tools, modified core tools, utilized flakes, retouched flakes, bifaces, percussing tools, groundstone, ceramics, bone artifacts, shell artifacts, and miscellaneous items.

When possible, cores were to be separated by platform variability into subclasses such as multidirectional, unidirectional and bifacial types. Debitage, including both flakes and debris, were sorted by material type and cortical variation (primary, secondary, and interior) during cataloging. Length, width, and thickness measurements were to be taken for all tools and cores using a sliding caliper.

Percussing tools, potentially including hammers and abraders, were defined based on their morphology and the type of macroscopic use-wear they exhibit. Groundstone artifacts were classified by type, including millingstones and handstones. Length, width, and thickness measurements were taken on complete groundstone items.

Organic artifact classes (ecofacts) consisted of vertebrate and shell specimens. After shell was cataloged, it was sorted to taxon and coded into an Access subcatalog. Modified bone and shell

artifacts were to be separated from the unmodified bone and shell assemblages. Finally, other organic samples were cataloged by type.

After preliminary cataloging of the material was completed, more detailed attribute analysis of lithics and groundstone was performed. Stone artifacts (both flaked and ground) were individually analyzed for selected morphological and technological attributes, as well as material and condition, in an attempt to gain insight into the period of occupation and the range of activities undertaken. Specific analytical methods are described in the analytical results chapter. All artifacts, ecofacts, and samples were subject to appropriate conservation in the field and laboratory, including proper packaging and handling.

4.1.3 Native American Participation

Brian Glenn requested that the NAHC search their files for any recorded Native American heritage sites located within 0.5 mile of the APE. Dave Singleton of the NAHC responded that no tribally significant Native American cultural resources have been documented within 0.5 mi. of the APE. During the current testing, Howard Cuero of the Campo Kumeyaay Nation acted as the Native American monitor during the evaluation phase, and Ms. Whitefeather Roque acted as the Native American monitor during the pedestrian survey by Brian Glenn. Howard Cuero acted as the Native American monitor during the pedestrian survey and evaluation phases of the Gen-Tie route completed by Dudek.

4.1.4 Curation

All materials recovered by ASM and Dudek during the surveys and evaluations were placed in 4-mil bags, along with artifact tags providing catalog number, artifact description, and provenience information. All artifactual material was then placed in archival-quality boxes. The collection was prepared according to the standards prescribed by the SDAC. At the completion of the project, all materials and associated documentation will be turned over for permanent curation at the SDAC. All DPR forms and updates, along with historical archival materials, will be submitted to the SCIC at the completion of the project. Currently, all collected artifacts are stored at Dudek's laboratory in San Marcos, California.

4.2 Field Results

A total of 18 cultural resources are located within the Project study area (Figure 4.1; Confidential Appendix B). Thirteen of those resources were formally evaluated for significance during the current investigation. The remaining five resources are isolates and are not considered eligible for listing in the CRHR or the Local Register, are not considered important under County Guidelines, are not significant under County RPO, and were thus not formally evaluated.

A total of 56 cultural resources were identified in the Gen-Tie corridor. Of these, 22 are isolates and will also not require formal evaluation. Of the 34 sites identified in the Gen-Tie corridor, five were formally evaluated for significance during the current investigation.

Figure 4.1 Location map of cultural resources identified in the Tierra del Sol project area (Confidential Appendix B)

4.2.1 Project Survey Results

In general, all sites are located on the gentle slope of a southeast-facing alluvial fan formation that is moderately to densely covered by chaparral with patches of exposed boulder and bedrock outcrops, and sparsely scattered oaks. A small valley located in the southeastern part of the project area is covered by grass and has been extensively used for livestock grazing and other agricultural activities. Soils show minimal variation in composition, ranging from the predominant coarse granitic sand on the upper slopes to silty granitic sand in the lower elevations. Overall visibility is fair, but the ground surface is generally visible beneath the chaparral, except in the randomly dense patches of understory grass, and in the low-lying grassland.

The following descriptions of cultural resources present previously recorded sites first, followed by isolated artifacts. These descriptions were generated during Brian Glenn's pedestrian survey, and edited for incorporation in this report. Some detail was found to be lacking from the inventory notes, but it resolved in the subsequent discussions of individual site evaluations.

Cultural Resource Sites

CA-SDI-6999

This previously recorded prehistoric ceramic scatter was first recorded by Dominici in 1978 during a survey for a proposed transmission line. The site was reported to consist of 15 pieces of Tizon Brown Ware sherds within a 5-x-15-meter area just northwest of a "junkyard." The site was not relocated during the survey for this project and it was not clear if the ceramics were collected as part of the original recording effort. No evidence of ceramics or other prehistoric or historic occupation was identified on the surface. Additionally, there was no direct evidence of recent human activity in the area that could account for the lack of artifacts at this location.

CA-SDI-7000

Site CA-SDI-7000 was first recorded by Burkenroad in 1978 during survey for a proposed transmission line. Burkenroad described the site as a ranch/dwelling site with several automobiles, old and new; agricultural machinery, portion of railroad track; metal and wood debris. The 1978 record did not provide dimensions or area of the site.

The site was relocated during the current survey in the western part of the current project area as covering a 194-x-161-meter area. The current survey identified the previously recorded historic structure and other resources. Noted features include three structures/foundations (one of which includes adobe brick walls of unknown age), a water tank, a possible well head, and a refuse deposit. The water tank feature is inscribed with a date of May 27, 1950, into the cement base. Artifacts visible on the surface included a variety of consumer refuse, various structural elements, interior debris and appliances, and automotive portions and parts. Glenn noted that there was little potential for buried cultural deposits, given that bedrock is near to the ground surface and soils are comprised of silty granitic sand.

CA-SDI-20650 (TdS-02)

CA-SDI-20650 was recorded as a prehistoric lithic scatter spread over a 38-x-27-meter area. No features were identified and all artifacts consisted of pieces of metavolcanic and quartz debitage. No temporally diagnostic artifacts were identified. Visibility was somewhat hampered by moderate to dense chaparral but enough of the surface was visible to suggest that substantially more artifacts are not obscured by vegetation. The general lack of cultural material other than debitage suggests that this site represents a temporary hunter-gatherer stopover used for tool manufacture or tool rejuvenation and it is unlikely that substantial buried deposits or features are present. No midden soils were identified.

CA-SDI-20651 (TdS-03)

CA-SDI-20651 was recorded as consisting of two concentrations of historic refuse contained in a 40-x-10-meter area. Artifacts visible on the surface included a partial 1940s era automotive body and miscellaneous parts, sanitary food cans, bottle and jar fragments, paint cans, and livestock wire. Aside from the car parts, the only temporally diagnostic materials identified included Hazel-Atlas clear glassware fragments with manufacture dates ranging from 1923 to 1964 (Toulouse 1971). Both concentrations were loosely defined but were generally contained in 5-x-5-meter areas. The presence of course granitic sands with low silt content indicated a low potential for buried archaeological deposits, though it was reported that some artifacts may be obscured by a veneer of sand.

CA-SDI-20652 (TdS-04)

CA-SDI-20652 was recorded as a bedrock milling site covering a 13-x-8-meter area. The current survey identified a single cup mortar on a low boulder. A single artifact was found that may be associated with the feature; one complete unifacial granite handstone. No temporally diagnostic materials were found that could place the site in time. Visibility of the surface was generally good, obscured in places by moderately dense grass and leaf litter. No midden soils were identified, though it is possible that a small number of artifacts may be present in near-surface contexts.

CA-SDI-20653 (TdS-05)

CA-SDI-20653 was recorded as a bedrock milling site consisting of one milling feature and four pieces of metavolcanic debitage contained in a 50-x-27-meter area. The milling feature consists of a single possible mortar; evidence of use was difficult to observe because of the poor condition of the bedrock boulder. No temporally diagnostic materials or midden soils were identified and the area was characterized as having little potential for buried deposits.

CA-SDI-20654 (TdS-06)

CA-SDI-20654 was recorded as a historic refuse deposit contained in a 54-x-28-meter area. Artifacts visible on the surface included oil and fuel cans, solder-top condensed milk cans, and several screw-top jars with Hazel-Atlas maker's marks. Hazel-Atlas glassware has manufacture dates ranging from 1923 to 1964 (Toulouse 1971). All artifacts appeared to be confined to the surface with the coarse granitic sands holding little potential for a substantial buried deposit.

CA-SDI-20655 (TdS-07)

CA-SDI-20655 was recorded as a historic homesite complex contained in a 247-x-150-meter area. The current survey identified four loci: Locus A contains residential features, Locus B is a walled reservoir, Locus C is the remains of an orchard, and Locus D is a can dump. Features included rock and mortar retaining walls, a well casing, a rock and mortar reservoir and a series of stand pipes associated with the orchard. Elements within the complex appear to relate to the orchard and its water supply. Artifacts visible on the surface (predominantly within Locus D) included condensed milk cans and single- and multi-serve sanitary cans. The only temporally diagnostic material identified was a Latchford Marble glass fragment with manufacture dates ranging from 1939 to 1957 (Toulouse 1971). Little other information was given by Glenn as to the size of each locus, feature dimensions, or of the composition of the refuse deposits.

CA-SDI-20656 (TdS-08)

CA-SDI-20656 was reported to consist of a historic refuse deposit and earthen berm contained in a 43-x-120-meter area (Figure 29). Artifacts visible on the surface included a number of solder-top condensed milk cans, various gallon-sized bottle fragments, a rotary open coffee can and various automotive and workshop materials. Temporal analysis of the glassware fragments indicates a possible range from 1939–1957 based on the presence of a Latchford Marble Glass bottle base (Toulouse 1971). The depositional context is primarily granitic sand with no evidence of buried cultural deposits.

CA-SDI-20657 (TdS-09)

CA-SDI-20657 was recorded as a historic refuse deposit with possible earthen berms contained in a 42-x-52-meter area. A majority of the site area is located within the Southwest Powerlink transmission line right of way. Possible historic features included a 52-inch diameter metal water

tank on a concrete pad and a parallel alignment of poured concrete of unknown function. Artifacts visible on the surface included domestic and ranch related materials, consumer goods (food and beverage cans), chicken wire and an automobile axle. The entire deposit appears to have been pushed into its current configuration. No temporally diagnostic materials were evident. Extensive grading within the site limits has disturbed the distribution of artifacts and exposed areas that would have contained buried cultural material, although none was identified.

CA-SDI-20658 (TdS-10)

CA-SDI-20658 was recorded as a historic refuse deposit contained in a 104-x-22-meter area. Overall, the site consists of one large and two small refuse deposits, although all three are sparse. Locus A included single- and multi-serve sanitary cans, oil and transmission fluid cans, bottle fragments and tires. No temporally diagnostic materials or maker's marks were identified. No burned or buried deposits were identified or suspected and the general lack of silty sands suggested that the refuse deposits did not have buried components but were confined to the surface.

CA-SDI-20659 (TdS-13)

CA-SDI-20659 was recorded as a historic refuse deposit contained in a 3-x-13-meter area. Artifacts visible on the surface included a 1930s–1940s era automotive fender, various other automotive frame and body parts, chicken wire, and metal workshop materials. Aside from the auto parts, no temporally diagnostic artifacts were identified. All artifacts appeared to be haphazardly spread over the general surface without evidence for buried cultural deposits.

CA-SDI-20660 (TdS-15)

CA-SDI-20660 was recorded as a historic refuse deposit contained in a 10-x-15-meter area. Artifacts visible on the surface included various clear glass and ceramic fragments, sanitary cans, condensed milk cans, and motor oil cans. No maker's marks were immediately evident on artifacts. The sanitary cans and milk cans were consistent with a 1920s–1940s age of consumption (Rock 1980); although no formal age estimates were taken on the cans. During the inventory, Glenn noted that this site had moderate potential for buried cultural deposits.

Isolates

- P-37-032649 (TdS-01) is a single red-brown, porphyritic, metavolcanic flake located 90 meters west of the western edge of site CA-SDI-19902 and 70 meters north of the northern edge of site CA-SDI-6902/16785.
- P-37-032650 (TdS-11) is a marker of the U.S. General Land Office Survey dated 1916. The marker is stamped with a one-quarter section mark and reference to Sections 13 and 24.

- P-37-032651 (TdS-12) is a marker of the U.S. General Land Office Survey dated 1916. The marker is stamped with a one-quarter section mark and reference to Section 13.
- P-37-032652 (TdS-16) is a Pinto-style projectile point of red cryptocrystalline silicate (Figure 4.2). Pinto-series points are thought to be atlatl tips and range from 8,500–4,500 years B.P. in the Mojave (see Hale 2009). Dart points are somewhat rare in the San Diego region, but of the types that have been found, Pinto series points are common.
- P-37-032653 (TdS-17) is a granite handstone fragment with one moderately ground wear facet.

Figure 4.2 Isolate P-37-032652, a metavolcanic Pinto-style projectile point

Summary

Brian Glenn's inventory of the current Tierra del Sol project area identified two previously recorded cultural resource sites within the project limits: CA-SDI-6999 is a prehistoric ceramic scatter that was not relocated by Glenn, and CA-SDI-7000 is a historic site with structural remains and refuse—this site was relocated and re-recorded. Glenn also identified 11 new cultural resource sites and five isolates. The 11 new sites include one prehistoric lithic scatter and two prehistoric bedrock milling sites, along with eight historical archaeological sites (one site CA-SDI-20,657 contained both prehistoric and historic artifacts); most of these are refuse deposits while some also contain structural remains. The five isolated finds include two

benchmarks (dated to 1915 and 1916, respectively), one metavolcanic flake, one handstone, and one metavolcanic Pinto-style projectile point. Cultural resource evaluations were completed for all sites and these results are presented in the next section.

4.2.2 Evaluated Sites

This section presents the results of cultural resource evaluations completed for all identified cultural resources within the Tierra del Sol project area, except CA-SDI-6999, which was not relocated during Glenn's survey, or ASM's evaluation. Sketch maps for each site showing the placement of STPs, location of features, artifacts, and concentrations are referenced as figures in this section, but all maps have been placed in Confidential Appendix B.

Previously Recorded Sites

CA-SDI-6999

The site was recorded by Deb Dominici in December of 1978 as 15 Tizon Brownware ceramic sherds contained in a 5-x-5-meter area. No artifacts were relocated by Brian Glenn in his survey for the current project, and ASM did not re-locate the ceramic sherds during the current evaluation. The mapped location for SDI-6999 is situated in a partially open field dominated by northern mixed chaparral and flat-topped buckwheat. During the current evaluation, visibility of the ground surface ranged from less than 10% to more than 60%. As the site was not re-located, it is possible that it may have been destroyed by the grading of the transmission access road.

Site Structure, Artifact Recovery, and Assemblage Composition

ASM intensively inspected the ground surface, moving vegetation and inspecting rodent burrows and other exposed areas. No surface artifacts were observed within or near to the recorded boundaries for this site. To be sure, a total four STPs were placed within the recorded boundary of SDI-6999 (Figure 4.3; see Confidential Appendix B). All STPs were excavated to a depth of 40 centimeters below the surface. No potential midden soils or other traces of human occupation were found.

Figure 4.3 Sketch map of evaluation work conducted at the location of CA-SDI-6999 (Confidential Appendix B); no cultural material was identified at this site during evaluation

Discussion and Site Summary

The site was not re-located during the current evaluation. No subsurface material was observed during testing. The lack of any other artifacts on the surface or from STP excavation demonstrates that the recorded site does not have cultural deposits. These efforts indicate that CA-SDI-6999 is not considered an archaeological site and thus is not a significant historical

resource. Based on the lack of cultural material, SDI-6999 does not meet the criteria for listing in the CRHR or the local register, it is not considered a significant historical resource under County RPO or CEQA, and it is not considered important under County guidelines. As the site no longer exists, it cannot be impacted and therefore no mitigation measures are necessary. Monitoring of all ground disturbing activities at this location is recommended under the project-wide monitoring recommendation.

CA-SDI-7000: James Ennes Brown Homestead

CA-SDI-7000 was initially recorded in 1978 by David Burkenroad. He noted ranch buildings/dwellings, several automobiles (both old and new), agricultural machinery, portions of a railroad track, as well as metal and wood refuse. The survey conducted by Glenn for this project relocated the site and recorded five ranching-related features. These included a concrete water tank, a kitchen structure, a possible habitation structure, a collapsed structure, and a well. During fieldwork for the current evaluation, ASM found the site to generally correspond with Glenn's description.

CA-SDI-7000 consists of a historical building complex, historical refuse, and prehistoric artifact scatter measuring 215 x 175 meters. It is located approximately 400 meters south of Tierra del Sol Road. The site is situated on a low hill that is covered with a number of large granitic boulders and dominated by mixed chaparral, flat-topped buckwheat, and nonnative vegetation. During the current evaluation, visibility of the ground surface ranged from less than 10% to more than 50%. Notable disturbances have included grading of dirt roads and portions of the site area and partial demolition of the structures, as well as general neglect. A large pile of concrete and other building materials was noted to the north of the structures, in the northern portion of the site.

Historical Information (with Sarah Stringer-Bowsher)

ASM conducted archival research for the Tierra del Sol project area, and in so doing, identified CA-SDI-7000 as the remains of the James Ennes Brown homestead that dates to the early 1930s. Earliest available General Land Office maps do not depict a homestead or historic road in the project area, though those maps are not definitive and are only indicators of potential historical resources. The project area is near the United States-Mexico border and was not surveyed in the 1850s but later surveyed in 1923 (General Land Office 1859, 1923). The greater Campo area of Township 18 South, Range 6 East was sparsely populated by 1910 (Alexander 1910; San Diego County 1891, 1896). Military maps from ca. 1900 and 1913 do not depict primary and/or secondary roads through the project area (United States Army Corps of Engineers 1913; Wilcox 1900). A 1928 aerial shows that the homestead site associated with SDI-7000 had not yet been developed, but there was a partial east/west-trending road that extended east from the intersection of Tierra del Sol Road and Tierra De Luna Road. The road later would provide

access to the James Ennes Brown homestead and would be further extended (Figure 4.4; 1928 aerial) (Tax Factor 1928).

James Ennes Brown homesteaded the site as part of a large 262.07-acre property. Essentially the property included the S½ of the S½ of Section 13 and the N½ of the N½ of Section 24, Township 18 South, Range 6 East. The 21-year-old Brown had a post office box in Carlsbad when he filed a claim for the property on June 2, 1930, and began living on the property. Typical of many homesteaders, he and his family were intermittently absent from the property for work or health reasons, including, in the case of the Browns, the birth of a son. However, beginning in May 10, 1933, they made the homestead their main residence (General Land Office 1936; San Diego Directory Co. 1932). Although he made his final proof of the homestead on August 14, 1935, the property was officially patented on December 18, 1936 (General Land Office 1936).

In 1930, Brown had constructed a house as his main residence on the site. It was a 14-x-16-foot, two-room house constructed of "adobe," which likely meant he used earth and other nearby materials to construct a portion of the house. He also had sunk an 8-foot-deep domestic well (another had already run dry by 1935); constructed three rabbit hutches, two hen houses, and created a 0.6-mile road through his property; and fenced a portion of the property. A 1939 survey shows that the road north of the homestead site was extended eastward, likely by Brown. This road segment and unimproved others provided connections to Hipass, Campo, and Highway 94 (General Land Office 1936; United States Geological Survey 1939). A limited water supply meant that the domestic well not only served the household but also cultivation. This in turn limited the number of acres that could be converted to agriculture and was the reason Brown encountered a long patent process. He was able to secure his homestead entry patent even though he could not cultivate more than 15 acres. Harvests from the garden and grain crops were small because of the terrain and lack of water (General Land Office 1936).

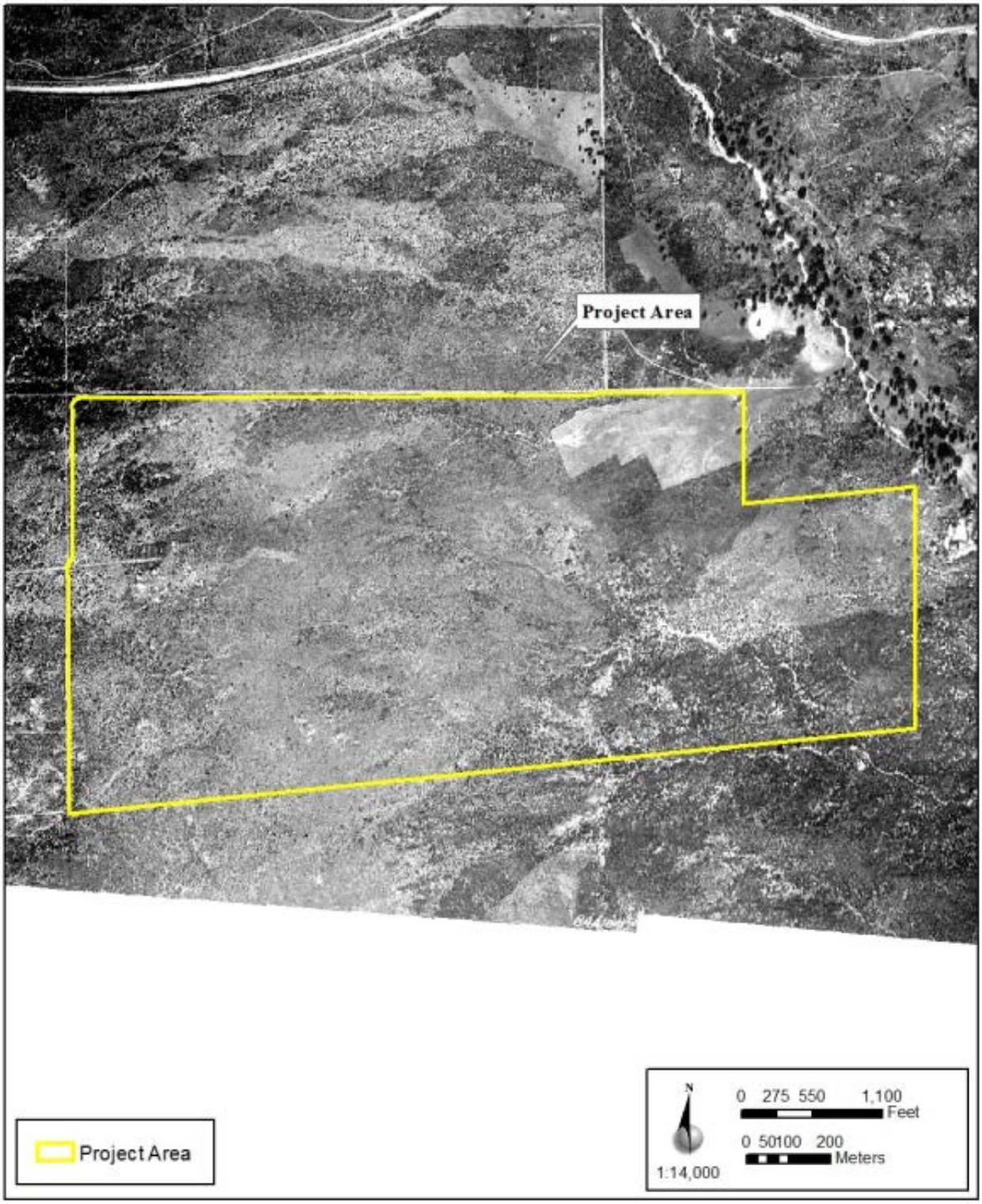

Figure 4.4 1928 aerial of the project area; note the road segment protruding into the project area from the west, providing access for the James Ennes Brown homestead

By 1936, James worked his land as a rancher and the Brown family included his wife Luz and four children (General Land Office 1936; San Diego Directory Co. 1936). The Browns' property was formally recorded with the County of San Diego on March 6, 1937, and they retained the property until July 8, 1943, when it was sold to Phillip and Mary Jones (Kiely 2012).

Luz Brown was the third owner of the Wisteria Candy Cottage in Boulevard off of historic Highway 80 that opened in 1921. She took over the business in 1960. Luz was affectionately known locally as the "Candy Cottage Lady" and made her candy from recipes that had been passed down from reportedly centuries-old recipes followed by all three owners. Originally from Caborca, Mexico, Luz and her husband James had moved to Ajo, Arizona in 1923. The family moved to San Diego County seven years later when they homesteaded near present-day Tierra del Sol. They eventually had five children (General Land Office 1936; Traitel 1994).

The property changed hands from Phillip and Mary Jones to W. G. Gillen in 1946 and then to Margaret Marpine in 1953, after which another Brown (Joseph H.) acquired the property in 1963 (Kiely 2012). In 1959, the alignment of the road north of the main residence remained the same, though a segment in the SE¼ of Section 13 was not maintained (United States Geological Survey 1959). On a 1979 aerial prepared for the Department of Treasury United States Customs Service, the property was identified as Brown's Ranch (United States Geological Services 1979).

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts initiated with an intensive pedestrian survey, conducted in 5-meter intervals. Surface artifacts and features were flagged and recorded, and a representative sample of diagnostic historical-period bottles (fragmentary and complete) and ceramics, as well as prehistoric artifacts, were collected and assigned artifact numbers. Cans and other metal items were recorded on site and left in place. A 1-centimeter metal probe was used to test areas of loose soil for potential artifact deposits. This probe was pushed into the ground in areas thought to have a greater potential for buried deposits, such as a privy. This method did not result in the identification of buried deposits.

The two prehistoric artifacts recorded in this area on the surface included a green porphyritic volcanic interior flake and a granitic unifacial portable milling slab (Figure 4.4; Confidential Appendix B). The context of these artifacts is uncertain since no prehistoric features or midden soils were identified, and these two items appear to be isolated finds. However, it is also possible that the prehistoric component was destroyed by the historic period occupation through grading and artifact collection. The millingstone could have also been scavenged from another site and brought to the homesite. As such, these two prehistoric artifacts are not considered evidence that prehistoric occupation once occurred at this site.

Figure 4.5 Sketch map of CA-SDI-7000 (Confidential Appendix B)

Historical automobile, railroad, and domestic debris was noted throughout the recorded boundary of CA-SDI-7000. Most historic artifacts consist of cans and metal fragments and these are spread over the south-central portion of the site. In total, cans included 24 knife-cut-opened oil cans, three oil filter, and a fuel can. Hubcaps, car parts, and railroad items were noted in the immediate area of the can scatter (Tables 4.3 and 4.4).

Table 4.3 Surface Collected Artifacts from All Evaluated Sites in the Tierra del Sol Project Area

	Prehistoric Classes					Historic Classes					
Site No.	Handstone	Milling Slab	Biface	Retouched Flake	Debitage	Glass Container/Bottle/Jar	Ceramic Plateware	Glass Plateware	Decorated/Diagnostic Glass Fragment	Metal Container	Total
SDI-7000		1			1	13	3	1	1	1	21
SDI-20650			1		14						15
SDI-20652	1										1
SDI-20657	1			1		1					3
SDI-20658						4					4
SDI-20659		1									1
SDI-20660						1					1
Total	2	2	1	1	15	19	3	1	1	1	46

A number of diagnostic bottles and other items were collected from the site. The oldest of these were noted to be north of the east/west trending dirt road that bisects the northern portion of CA-SDI-7000 (see Figure 4.5; Table 4.4). These artifacts included an oblong colorless bottle base with an Illinois Pacific Glass mark of "I.P.G." below a triangle, all within larger triangle (1925–1932); a small colorless eight-sided medicine bottle with "Freezone" along the shoulder and a Owens-Illinois maker's mark of "O" superimposed over a diamond and "/ 2 . ."(1932–1952); a colorless oval base with a Maywood Glass Co. maker's mark of an interlocked "MG" in tetrahedral form (1930-1959); and a cobalt blue glass bottle base with an x over M-in-circle maker's mark from Maryland Glass Co. (ca. 1907–1970s) (Toulouse 1971). A complete Gebhardt Eagle brand chili powder glass bottle was also recorded. The Owens-Illinois maker's mark on the bottom of this bottle consists of "PATENTED / 7 – I" within an O, superimposed over a diamond "– 2. 7. / DESIGN." A broad date for this item ranges from 1932–1947, though based on the dots following the manufacturing date codes, the bottle was likely made between 1942 and 1947 (Toulouse 1971). An unusual solarized amethyst glass vessel shard with a mark "1 - s in Star – 29" on its insweep (1916–1931) was also collected in this area (Toulouse 1971). The purple solarization of this vessel suggests that it was likely manufactured prior to 1920 since manganese ceased to be imported as a glass clarifying agent during World War I. Assorted non-diagnostic items also included two Mason jar lids with milk glass inserts, two perfume bottles, one decorative solarized amethyst glass vessel fragment, a metal lighter with built-in cigarette case (Figure 4.6), a canning jar with a mirrored "G" mark, and a canning jar with diamond.

Table 4.4 Inventory of Historic Artifacts from the Surface of CA-SDI-7000

Class	Specific Function	Indet.	Mason Jar	Medicine	Other/ Unk.	Perfume	Plate	Spice	Three Piece Cyl.	Grand Total
Ceramic Tableware	Plate						3			3
Glass Bottle	Chili Powder							1		1
	Medicine			1						1
	Other/Unknown	1			3					4
	Perfume					2				2
Glass Jar	Fruit/Vegetable		1							1
	Other/Unknown		1		2					3
Glass Tableware	Bowl/Plate				1					1
Tin Can	Automotive Oil								25	25
	Cigarette Case with Lighter				1					1
	Oil Filter								3	3
	Other/Unknown								1	1
Total		1	2	1	7	2	3	1	29	46

Figure 4.6 Historic lighter from CA-SDI-7000 (catalog #23)

Figure 4.7 Historic colorless bottle base from CA-SDI-7000 (catalog #19)

A crate of canning jars was observed on the southern side of the road, just north of the structures. One jar with an Owens-Illinois mark "23 – I" "O – 60" was recorded (ca. 1960; Toulouse 1971) (Figure 4.7). It may be assumed that the bottles were placed there some time after that date. Also found in this area was a stoneware ("whiteware") plate with two red concentric decorative lines around the rim. A green maker's backstamp reads "SHENANGO CHINA / NEW CASTLE. PA. / U.S. ARMY MEDICAL DEPT. / 1941." Above this is a cross-legged Native American with a feather in his hair, fashioning some manner of vessel. No reference could be found for this item.

Excluding outliers, the dates of manufacture provided by bottle marks and the ceramic plate indicate a range from 1916–1960, but the average date range centers between 1939 and 1950. It is unlikely that the entire artifact assemblage resulted from single occupancy, however, and the range of artifacts probably represents overlapping refuse disposal events, from historic to modern in age. All artifacts represent domestic household and ranching consumption with artifacts such as medicine bottles, spice jars, food and beverage containers, a cigarette lighter, and various metal parts and fuel/oil cans from automobiles. These artifacts are consistent with residential occupation. However, no artifacts were identified that would specifically point to a certain group of people, such as fine feminine items (jewelry, perfume, etc.), or children's toys. It is possible that such items were either retained by the residents upon leaving or that they were scavenged from the site at a later time.

Structures/Features

The homestead consists of two buildings; neither of which are adobe, indicating that neither is the original two-bedroom "adobe" constructed by the original occupant. Based on historic topography maps and archival records, the buildings were likely constructed between 1930 and

1940 (Figures 4.8–4.10). Both buildings were constructed in the Vernacular style and are currently vacant. The dwelling is a one-story building located northwest of the ancillary building. The residence has a wood frame, and a nearly rectangular floor plan with a concrete and stone foundation. The exterior is clad in horizontal wood board siding covered by chicken wire and concrete plaster. The roof is a moderately pitched front gable roof with shallow eaves and clad in corrugated metal sheets covered by plywood boards. There is also a one-story extension located on the south section of the building, with a roof covered in flat metal sheets. The primary entrance is located on the north elevation. The doors and windows have been removed from the building. On the west elevation, a tree has fallen onto the building and has partially collapsed the roof and wall. Modifications to the building include the removal of doors and windows as well as the slow decay of the siding material. Landscape features include mature trees and overgrown vegetation surrounding the properties.

Figure 4.8 Overview of the main residential structure at CA-SDI-7000

Figure 4.9 Overview of the interior of the main structure at CA-SDI-7000

Figure 4.10 Overview of the ancillary (kitchen) structure at CA-SDI-7000

The ancillary building is a one-story building located southeast of the main dwelling building. The ancillary building has a wood frame, and a nearly rectangular floor plan with a concrete and stone foundation. The exterior is clad in horizontal wood board siding covered by chicken wire and concrete plaster as well as corrugated metal sheets. The roof is a moderately pitched side gable roof with shallow eaves and clad in corrugated metal sheets covered by plywood boards. The primary entrance is located on the north elevation and consists of a five-panel wooden door. The doors and windows have been removed from the building. Modifications to the building include the removal of doors and windows as well as the slow decay of the siding material. Landscape features include mature trees and overgrown vegetation surrounding the properties.

Figure 4.11 Overview of the concrete well at CA-SDI-7000

Excavation Results

A total of eight STPs were excavated within CA-SDI-7000 in areas that had the highest potential for buried cultural material, based on sediment composition and surface artifacts (see Figure 4.5; Confidential Appendix B). Of these, four yielded cultural material. STP-1, located in the northern portion of the site, yielded 16 colorless bottle fragments and small pieces of ferrous metal that could not be counted due to disintegration from 0–20 centimeters below the surface. The final level, 20–40 centimeters, was sterile. STP-2, STP-6, and STP-7 were also positive, though yielding a combined total of three metal fragments and 12 pieces of glass. No additional material was recorded below a depth of 20 centimeters (Table 4.5). Overall, STPs indicate that no significant subsurface deposits are present at the site. Rather, artifacts recovered from below the surface are small fragments of glass or metal and were vertically transported beneath the surface through post-depositional processes.

Table 4.5 STP Results from CA-SDI-7000

Provenience		Class		
STP No.	Level (cmbs)	Generic Glass Fragment(s)	Metal Tool/Hardware	Total
STP-01	00-00	0	0	
	00-20	16	0	16
Subtotal	All Levels	16	0	16
STP-02	00-00	0	0	
	00-20	5	0	5
Subtotal	All Levels	5	0	5
STP-06	00-00	0	0	
	00-20	4	3	7
Subtotal	All Levels	4	3	7
STP-07	00-00	0	0	
	00-20	3	0	3
Subtotal	All Levels	3	0	3
Grand Total		28	3	31

Note: STPs 3, 4, and 5 were negative.

Discussion and Site Summary

CA-SDI-7000 is the remains of the James Ennes Brown homestead dating to the early 1930s. The original Brown family occupied the site for nearly two decades before it changed hands several times. The final owner was another Brown (James T.), relation unknown, who acquired the property in 1963 and it became known as Brown Ranch. The two original structures constructed by the James Ennes Brown family are still present but are in poor condition. Occupation into the modern era is likely to have altered archaeological deposits; the latter are relatively meager considering the near two-decades of historical occupation. Continuous occupation probably resulted in multiple rounds of site clean-up, removing older refuse deposits. This scenario likely accounts for the scant diagnostic historical archaeological assemblage.

The overall artifact assemblage reflects general domestic occupation. The permanency of the well, ancillary kitchen structure, habitation structure and other features indicates that this was an established historical homesite. That there was a separate kitchen building may indicate that the site was occupied by field laborers, rather than a nuclear family or homesteader. In any case, available chronological indicates place occupation of the site as early as 1916 and as late as the 1960s. A more likely date for occupation would range from the 1940s to the 1960s.

The prehistoric component of this site is represented by one piece of debitage and one millingstone. No prehistoric cultural deposits are present at the site and the context of these artifacts is unknown (i.e., whether they derive from a primary occupation for which no other evidence currently exists, or whether they were imported by the historic occupants).

No significant archaeological deposits relating to occupation of this historic site were identified on the surface, or in STP excavations. The current evaluation included intensive surface inspection and artifact recording, as well as collection of diagnostic artifacts and STP excavation. Given the long history of historical and modern occupation of the homesite, it is

likely that historical refuse related to the earliest occupants has been removed from the site, assuming that the original residents dumped their refuse nearby. These methods have exhausted the data potential of the archaeological deposits. As such, the archaeological components of this site are not considered historically significant and do not meet the criteria for listing in the CRHR or local register.

James Brown, his wife Luz, and their four children lived on the land until 1943, when the property was sold to Phillip and Mary Jones. In 1946, the Joneses sold the property to W. G. Gillen. Six years later, Gillen sold it to Margaret Marpine, after which another Brown (Joseph H.) acquired the property in 1963. The last known resident to the property was Joseph H. Brown, as indicated in a 1979 aerial. Today, the property is vacant. James Ennes Brown reportedly constructed a two-bedroom adobe house on the property. Currently, there are two buildings on the property, neither of which is constructed of adobe material, and a well; but the rabbit hutches and two hen houses are no longer standing. A historic topography map from 1939 indicates that one building was on the property. Visual observation and the information obtained by archival records and maps indicate that the buildings were likely constructed between 1930 (main dwelling) and 1940 (ancillary building).

The homestead complex was likely used for agricultural purposes up until its vacancy; however, thorough archival research could not indicate a specific type of agricultural endeavor, if there was any, after the Browns homesteaded the property in 1936. The site was likely used as a homestead site for the owners who resided there. Although associated with the historic contexts of farming and agriculture in the community of Tierra del Sol and the larger area of Campo, themes that made a significant contribution to the history of the backcountry of San Diego County, these two homestead buildings at the Tierra del Sol Homestead are not an important illustration of those historic contexts, nor do they possess enough of the physical features necessary to convey that aspect of local agricultural history. Therefore, these buildings are not recommended as eligible for the CRHR under Criterion 1. Archival research did not reveal that any previous owners of the Tierra del Sol homestead were historically significant individuals in this area of Tierra del Sol and nearby Boulevard. While Luz Brown acquired ownership of the locally famous “Candy Cottage,” she did not attain ownership of the commercial store until 1960, 17 years after she left the property at Tierra del Sol. Based on contacts with the president of the Mountain Empire Historical Society, none of the other subsequent owners of the property, Phillip and Mary Jones, W. G. Gillen, Margaret Marpine, and Joseph H. Brown, were found to be historically significant individuals at the local, state or national level. Therefore, the two buildings at the Tierra del Sol homestead are not recommended as eligible for the CRHR under Criterion 2. Additionally, these buildings do not sufficiently represent a particular property type, period, or method of construction, nor do they represent the work of a master, possess high artistic values, or represent significant and distinguishable entities whose components may lack individual distinction. Therefore, the buildings at Tierra del Sol are not recommended as eligible for the CRHR under Criterion 3. The buildings are not recommended as eligible under Criterion

4, as they do not have the potential to provide information significant in the history of the local area or greater region. The Tierra del Sol homestead is not recommended as eligible for CRHR listing under any of the criteria. It follows that the homestead and its features are not eligible for listing in the local register. The Tierra del Sol buildings also do not meet any of the definitions set forth by the RPO. The Tierra del Sol buildings are not formally determined eligible or listed in the NRHP; they have not been given an H designator; and they are not one-of-a-kind, locally unique, or regionally unique cultural resources that contain a significant volume and range of data or materials. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

Newly Discovered Sites

CA-SDI-20,650 (TdS-02)

The site was initially recorded by Brian Glenn during the pedestrian survey for the current project. Glenn described the site as a scatter of quartz and metavolcanic debitage. For the current evaluation, ASM observed the site to be in the same condition as previously recorded, but expanded the site slightly to the east and south due to the identification of additional pieces of debitage. The site was defined during evaluation as a sparse prehistoric scatter of lithic debitage with the occasional lithic tool spread thinly over a 50-x-50-meter area. The site is located approximately 50 meters south of the SDG&E Southwest Powerlink transmission line and nearly a half kilometer north of the U.S.-Mexico international border. The site is situated on a low hill covered by chaparral, obscuring nearly two-thirds of the ground surface at eye-level, although exposed matrix was visible at the base of shrubs.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with an intensive pedestrian survey of the site, conducted in 5-meter intervals. A total of 15 artifacts were identified on the surface (see Table 4.3; Figure 4.12; Confidential Appendix B). These included 14 pieces of quartz and volcanic debitage and one quartz biface (Figure 4.13). All debitage and both formed artifacts were collected individually as piece plots. The site was expanded from its original size by 15 meters to the east and by 6 meters to the south.

Figure 4.12 Sketch map of CA-SDI-20,650 (Confidential Appendix B)

Debitage was consistent with expedient flake tool production. Nearly all debitage consisted of interior flakes (n=11), with one primary decortication flake and two secondary decortication flakes. Tool maintenance would have produced smaller, more refined debitage, such as biface thinning flakes or pressure flakes (see Hale 2009). It may be that a prepared cobble was on hand and reduced on site. The single complete biface an early to middle stage biface, measuring 3.5-x-2.3-x-1.1-centimeters, and shows no signs of use.

Figure 4.13 Biface collected from CA-SDI-20650

Excavation Results

A total of five STPs were placed within and surrounding the recorded boundary for the CA-SDI-20,650. STP placement was somewhat subjective, but keeping to a 10–15-meter distance and placed in areas to provide sample testing coverage since no areas in particular had surface indications of buried deposits. No STPs yielded subsurface cultural material and no midden soils were identified. All STPs were excavated until encountering bedrock or until a depth of 40 centimeters. Excavated sediments revealed a 20-centimeter-thick level of light brown clay silty sand above very compact light brownish-yellow silty sand with high gravel content.

Discussion and Site Summary

CA-SDI-20,650 is a sparse lithic retooling station comprised of a handful of debitage and a biface, all of which were confined to the surface. This limited assemblage reflects a short-term stopover for tool production, possibly for exploitation of immediately available resources (i.e., small animals or the like). Evaluation fieldwork recovered all cultural material from the site and

testing demonstrated that no significant subsurface cultural deposits are present at the site. These efforts recovered all of the identified archaeological material. The site is not considered historically significant; it does not meet the criteria for CRHR or local register listing. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

CA-SDI-20,651 (TdS-03)

CA-SDI-20,651 was initially recorded by Brian Glenn during the inventory for this project as a scatter of 1940s-era automotive body and miscellaneous parts, sanitary food cans, glass bottle and jar fragments, paint cans, and chicken wire within two distinct loci. ASM subsequently evaluated this site for the current project, finding that the site generally corresponded with the survey description. The site consists of a sparse historic refuse deposit scattered over a 45-x-15-meter area. The site is located approximately 300 meters south of the SDG&E Southwest Powerlink transmission line and a relatively short distance from the U.S.-Mexico international border. It is situated along an ephemeral drainage covered by relatively sparse chaparral and oak grassland, with at least 70% of the ground surface being visible. No significant ground disturbance was observed, aside from natural deflation of sediments.

Site Structure, Artifact Recovery, and Assemblage Composition

During evaluation fieldwork, this site was intensively inspected. Both original concentrations were relocated and mapped. Each concentration fits in an approximate 25 m^2 area (Figure 4.14; Confidential Appendix B). The westerly concentration contained fragments of automobile body paneling and unidentified auto parts, as well as two paint cans and miscellaneous crushed can fragments. The easterly concentration contained mostly sanitary Carnation milk cans (n=10), small fragments of clear glass bottles and condiment jars, unidentifiable metal fragments, and chicken wire. A single stovepipe section was also identified between concentrations.

No artifacts were collected from this site, as it was determined that their research value was exhausted through field recordation and because of the fragmentary and non-diagnostic nature of most artifacts. A single temporally diagnostic item first identified by Glenn during the inventory was relocated. The colorless canning jar with Hazel-Atlas “A” beneath “H” mark dates from 1932–1964 (Toulouse 1971). The milk can dimensions correspond with those that were manufactured after 1950 (Rock 1980). The exceptionally good condition of the canning jar, coupled with the post-1950s manufacture date for the milk cans indicates that refuse at this site was deposited after the 1950s. The automobile parts were readily identifiable as to make, model, and date of manufacture. Regardless of the possible ages of other unidentifiable cans/can fragments and other refuse (automobile parts), it is likely that all refuse was deposited in a single dump event after 1950. With the advent of the automobile, it was a common occurrence for new

occupants at historically occupied homesites to clean up the homesite and dump refuse in remote locations away from the home (see Hale et al. 2010). This practice resulted in mixing of historic and modern artifacts and collective deposition, and may account for any disparities in assemblage composition.

Figure 4.14 Sketch map of CA-SDI-20,651 (Confidential Appendix B)

Excavation Results

To test for buried refuse or burn pits, two STPs were excavated to a depth of 40 centimeters below the surface, each placed near one of the historical refuse concentrations (see Figure 4.14; Confidential Appendix B). No cultural material or cultural deposits was identified in either of the STPs.

Discussion and Site Summary

The site appears to be associated with a post-1950 refuse dump event. While most artifacts appear to post-date 1950, it is possible that artifacts consumed at an earlier date were gathered together at their place of consumption and transported to the place of deposition. This is especially likely since there is no evidence of overprinting of earlier and later dump events at the site. Two STPs were excavated and no subsurface material was recovered. Evaluation efforts demonstrate that this site contributes little to a regional understanding of historic refuse disposal patterns and no unique assemblage constituents were identified. As such, the site is not considered historically significant, nor does meet the criteria for listing in the CRHR or local register. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through monitoring of project-related ground disturbance.

CA-SDI-20,652 (TdS-04)

CA-SDI-20,652 consists of a bedrock milling site measuring 10 x 10 meters, located less than 350 meters south of the SDG&E Southwest Powerlink transmission line and just over 100 meters north of the U.S.-Mexico international border. Brian Glenn first recorded the site during the pedestrian survey for the current project, describing the site as a single cupule mortar on a boulder with no evidence of other milling on this or other rocks, with a single granite handstone located nearby. During the current evaluation, ASM relocated the site and found the feature and the handstone as Glenn had described (Figure 4.15; Confidential Appendix B).

The site is situated along an ephemeral drainage in an area populated by chaparral, redshank, and scrub oak. Relatively thick vegetation surrounding the outcrop allowed for somewhat obscured

broad visibility but the ground surface was observable underneath the shrubs. The site has not been subject to any significant disturbances aside from seasonal rains and deflation of sediments.

Figure 4.15 Sketch map of CA-SDI-20,652 (Confidential Appendix B).

Site Structure, Artifact Recovery, and Assemblage Composition

The single handstone identified by Glenn during the survey was relocated and collected from the surface during evaluation (see Table 4.3). The handstone is broken, but enough remains to determine that it was used lightly on one surface, showing grinding wear and polish but no rejuvenation. The mortar measures approximately 12 centimeters in diameter and less than 15 centimeters deep; it is situated on a 9-x-6-x-1.5-meter boulder (Figure 4.16). This grinding element exhibits the general form of a conical mortar; however, the interior of the mortar is extremely exfoliated, as is the bedrock outcrop. Two STPs were place in the vicinity of this site, one just east of the milling and the other to the north. Neither of these STPs yielded cultural material, and were each excavated to a depth of 40 centimeters.

Figure 4.16 Overview of bedrock milling outcrop containing a single conical mortar; note extensive exfoliation on the boulder

Discussion and Site Summary

This site represents a limited activity local used for food processing, as indicated by the bedrock mortar surface and a handstone. However, the lack of cultural deposits, more artifacts, and additional bedrock milling surfaces suggests that this milling element was used for a short period of time, if occasionally. More substantial occupation or more intensive processing is likely to have produced more milling surfaces and a noticeable tool assemblage (see Hale and Becker 2006). This site does not have the data potential to be considered historically significant and it does not meet the criteria for CRHR or local register listing; it is not considered significant. While the site is not significant under RPO guidelines, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

CA-SDI-20,653 (TdS-05)

The site consists of a lithic scatter and possible milling outcrop covering a 45-x-35-meter area, located less than a half kilometer south of the SDG&E Southwest Powerlink transmission line and less than 100 meters north of the U.S.-Mexico international border. The site is situated on a low hill with numerous highly weathered granite outcrops. The area is covered by relatively dense chaparral and scrub oak. Surface visibility was hampered by dense vegetation but the surface was visible beneath shrubs. The site has not been subject to any significant disturbances aside from natural erosion and sediment deflation.

Glenn first recorded this site during the inventory phase for the current project, describing it as having a possible bedrock mortar and three pieces of volcanic debitage. During evaluation fieldwork, ASM revisited the recorded location of the site, and the surrounding area but could not identify any bedrock milling features or debitage.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation efforts essentially involved an intensive survey at less than 2-meter intervals in an attempt to identify the feature and debitage recorded by Glenn. These efforts proved fruitless; no artifacts or cultural features were observed within the recorded boundaries for this site, or in the general area. All bedrock outcrops were thoroughly inspected; however, no surfaces exhibited traces of grinding use.

To be sure, three STPs were placed within the site boundaries (Figure 4.17; Confidential Appendix B). STP-3 encountered bedrock at 28 centimeters in depth, while the other two STPs were excavated to a depth of 40 centimeters. STPs were placed in locations likely to encounter subsurface cultural deposits, based on the previous recordation by Brian Glenn. No subsurface cultural material was recovered through testing.

Figure 4.17 Sketch map of STP testing at the recorded location of SDI-20,653; no features or artifacts were identified at the site (Confidential Appendix B)

Discussion and Site Summary

Despite extensive surface inspection and testing, no artifacts or features were identified at this site or in the surrounding area. Glenn's survey description of the bedrock milling feature as a "possible" feature indicates that the original survey crew was uncertain about whether there was a cultural feature present. Thus, it is not surprising that evaluation fieldwork failed to identify a mortar or any other milling surface after close examination of all bedrock. The three pieces of debitage initially described by Glenn were not relocated; it is possible that these items have since been buried or obscured in some other way. Nevertheless, the lack of any other artifacts on the surface or from STP excavation demonstrates that the recorded site does not have cultural deposits. These efforts indicate that CA-SDI-20,653 is not considered an archaeological site and thus is not a significant historical resource. It follows that it does not meet the criteria for listing in the CRHR or local register. The site is not significant under County RPO, and, as it was not relocated, it is not considered important under County guidelines. No further archaeological work or mitigation measures are required for this site. Monitoring at this location is recommended under the project-wide monitoring recommendation.

CA-SDI-20,654 (TdS-06)

CA-SDI-20,654 consists of a sparse historic refuse scatter covering a 50-x-35-meter area, located less than a half kilometer south of the SDG&E Southwest Powerlink transmission line and just north of the U.S.-Mexico international border. This site is situated mostly south of an ephemeral drainage in an area covered by sparse chaparral and scrub oak, leaving much of the ground surface observable. Only natural erosion and deflation of sediments have disturbed the site area, although a road runs east-west along the international border and an ephemeral trail is located just west of the site.

The site was initially recorded by Brian Glenn during the inventory phase for this project as a scatter of oil and fuel cans, condensed milk cans, and canning jars with Hazel-Atlas maker's marks. ASM relocated the site during the evaluation phase finding the site to match Glenn's inventory description.

Site Structure, Artifact Recovery, and Assemblage Composition

Intensive surface inspection during the evaluation phase documented a sparse historic refuse deposit consisting of mostly generic artifacts without strong chronological control (i.e., most artifacts had a wide manufacturing age range) (Table 4.6). Because of this, evaluation focused on intensive field recordation of all artifacts and the excavation of STPs to test for buried deposits. No surface artifacts were collected since the field recordation effort expended the assemblage research potential.

Table 4.6 Inventory of Historic Artifacts from the Surface of CA-SDI-20,654

Class	Specific Function	Hole in Top	Mason Jar	Charcoal (n)	Grand Total
Charcoal				20	20
Glass Bottle	Fruit/Vegetable		3		3
Tin Can	Milk	5			5
Grand Total		5	3	20	28

A small, loose concentration of small fragments of charcoal, approximately five holes in top milk cans in varying condition, and a caning jar base with a Hazel-Atlas maker's mark were noted within the western portion of the site covering an approximate 5-x-7-meter area (Figure 4.18; Confidential Appendix B). No fire-affected material was noted in this concentration, indicating that the charcoal was likely dumped with the refuse rather than resulting from burning of the dump in place. Outside of the concentration, two colorless canning jars with Hazel-Atlas "A" beneath "H" marks were re-located near the southern extent of the site; these have a manufacture date of between 1932 and 1964 (Toulouse 1971). Solder-dot milk cans were also observed near the center of the site. Cans within and outside the concentration measured 215/16 x 314.5/16 inches, corresponding with a post-1950 manufacture date (Rock 1980).

Figure 4.18 Sketch map of CA-SDI-20654 (Confidential Appendix B)

Excavation Results

A total of three STPs were excavated, each to a depth of 40 centimeters below the surface. STP-1 yielded one non-diagnostic clear glass shard from the 0-20-centimeter level (Table 4.7). No additional material was recovered from this STP. Neither of the remaining STPs contained any cultural artifacts or cultural deposits. Excavated soils consisted of coarse granitic silty sand, exhibiting signs of mild deflation and compaction.

Table 4.7 STP Excavation Results from CA-SDI-20,654

Provenience		Class	
STP No.	Level (cmbs)	Glass Fragment(s)	Total
STP-01	00-00	0	0
	00-20	1	1
Total	All Levels	1	1

Discussion and Site Summary

This historic refuse deposit consists of a small, single dump episode containing milk cans, canning-jar fragments, and a few oil/fuel cans. Available chronological information on cans indicates that their manufacture date was after 1950; this fits within the manufacture age range of 1932 to 1964 for the canning jars. There was no evidence of overlapping dumps; all material was deposited at the same time in this location. Thus, a post-1950s age for the deposit is likely. STP excavation

failed to document buried cultural deposits. Historic refuse at this site is consistent with general residential occupation, whether for ranching or other purposes. No additional information can be gleaned from the site because of the assemblage's limited diversity. Evaluation fieldwork was sufficient to determine that the site is not considered historically significant and does not meet the criteria for listing in the CRHR, or the local register. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through monitoring of project-related ground disturbance.

CA-SDI-20,655 (TdS-07A, C, D)

The site consists of a ranching complex and sparse historic refuse scatter measuring distributed in three main loci, all contained in an approximate 220-x-200-meter area (Figure 4.19; Confidential Appendix B). Locus A of this site straddles the U.S.-Mexico international border; it extends approximately 80 meters north from the border road, running roughly 160 meters east-west along the border. The next largest locus is Locus C, located in the northern part of the site; it covers an approximate 80-x-65-meter area that has been largely cleared of chaparral (see Figure 4.19). Locus B is relatively small and abuts the southern edge of Locus C. Locus D, also small, is located between loci A and C along the eastern site boundary. Glenn first recorded this site as part of the inventory phase for this project, describing the four loci as: Locus A, a residential site; Locus B, a walled reservoir; Locus C, remains of an orchard; and Locus D, a can dump. ASM relocated the site during the current evaluation and generally confirmed the four areas within this site identified by Glenn.

Figure 4.19 Sketch map of CA-SDI-20,655 (Confidential Appendix B)

The site has been extensively disturbed by modern border-related traffic, as well as historical/modern civilian use of the area. This is evident in the numerous well-used and ephemeral roads and trails crossing through all parts of the site. Historic modification of the site includes clearing of chaparral from many areas, construction of a possible residence, reservoir, and orchard, and general occupation.

<u>Site Structure, Artifact Recovery, and Assemblage Composition</u>

An intensive pedestrian survey was conducted of all previously noted loci. The current evaluation effort merged Locus B and Locus C, finding no reason to keep the two separate (see Figure 4.19). Locus A, originally recorded by Brian Glenn as a residential site containing rock and mortar retaining walls, was relocated and intensively mapped. A previously unmapped semicircular wall feature was recorded between two redshank shrubs near the central-western portion of the site. The retaining walls are constructed of locally available granite and coarse mortar, roughly measuring less than 18 inches thick. However, there is no direct evidence that the rock and mortar retaining walls were foundations of a

residential building or other kinds of buildings. No building materials were identified. The lack of native vegetation along with the presence of several established trees (species unknown) would suggest that a residence was once present, however.

STP-4 was excavated within the semi-circular rock-wall feature in Locus C to a depth of 40 cm; no cultural material was recovered and there was no soil differentiation that would indicate the feature was a privy. A wind-powered well or other such device is symbolized on 1956-1961 USGS maps as being present along the border fence, within the southern portion of the site. The wind-powered feature was not observed during the current evaluation, nor was it recorded by Brian Glenn. It is likely that this feature was destroyed during the building of the Border Patrol road that runs adjacent to the international border fence.

Two additional STPs were placed within Locus A. STP-5, near the western extent of the site, was negative to a depth of 40 centimeters. STP-6, placed near the center of the site yielded two colorless glass shards, small pieces of charcoal, ferrous metal fragments, and small pieces of mortar or concrete from the 0–20 centimeter level. Charcoal and two glass shards (one colorless, one brown) were recorded from 20–40 centimeters below the surface. Excavation was terminated at a depth of 60 centimeters. The presence of roots and rodent burrows accounts for the scant charcoal and glass fragments throughout the STP; there was no evidence that an intact buried deposit was present. No diagnostic artifacts were recovered from STP excavation.

Due to their proximity, Locus B and Locus C were merged. This area consists of a historical-period concrete cistern measuring 20 x 10 x 5 feet and three of concrete slab fragments (see Figure 4.1). One brown bottle base was recorded to the north of this cistern with a Latchford Marble maker's mark. Both the cistern and a wind-powered feature along the border were first added to USGS maps between 1956 and 1961. This dating corresponds with the Latchford Marble ("LM" in circle "– 57") glass base that was recorded on the western side of the cistern (1939–1957) (Toulouse 1971). It is possible that the mark represents a 1950s manufacturing date, which would correspond with the added feature symbol on the USGS maps shortly thereafter in 1957. To the north of the cistern is an open field with a number of metal pipes protruding vertically from the surface. These are associated with the orchard previously described during the survey. An earthen reservoir recorded as part of CA-SDI-20,656, located 40 meters to the north, may actually be related to the current site, CA-SDI-20,655, but no direct evidence or archival documentation could link these two sites. Approximately 20 meters south of the cistern are a number of concrete slab fragments and a cable that were previously grouped as Locus B. The original slab appears to have been destroyed through a combination of grading activity and natural processes, being pushed around and subject to weathering. STP-1, placed near the concrete slab fragments, yielded one shard of colorless glass and two concrete fragments from 0–20 centimeters; no additional artifacts were recovered in the remaining 20-39 centimeters level. Excavation was terminated when bedrock was encountered.

Lastly, Locus D consists of a concentration of three hole in top milk cans and two crushed sanitary cans. The milk cans measure $2^{15}/_{16}$ x $3^{14}/_{16}$ inches, with "punch here" embossed (1935–1945) (Rock 1980). STP-3 was placed near this concentration. This STP did not yield any subsurface cultural material, or cultural deposits.

Discussion and Site Summary

Based on USGS maps and the available artifact maker's marks, the site dates to the late 1940s to late 1950s. Features at this site are generic and provide little information on the kinds of things constructed at the site, other than a well/cistern, and generic concrete slabs and retaining walls. It is probably safe to assume that a residence once existed here, at Locus A, given the retaining walls and established trees. However, no other direct evidence of a residence or other buildings was identified during evaluation fieldwork or archival research. It is possible that historical refuse and building debris was cleaned up during recent times, either associated with border-related work or general homesite cleanup during the 1960s and later, but such speculation could not be confirmed. The small, limited artifact assemblage, coupled with generic features and a lack of archival information on historical occupation, indicates that this site is not historically significant and does not meet the criteria for listing in the CRHR or local register. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

CA-SDI-20,656 (TdS-08)

CA-SDI-20,656 consists of a concentration of historic refuse and an earthen reservoir contained in a 120-x-50-meter area. The site is located less than 200 meters south of the SDG&E Southwest Powerlink transmission line and the same distance north of the U.S.-Mexico international border, straddling an ephemeral drainage. Chaparral and scrub oak are sparsely to moderately distributed over the general area, although the site is primarily within an open area (i.e., vegetation appears to have been cleared for the construction and use of the earthen berm. The construction of the berm created a shallow retention pond, and thus the site area is characterized by near complete disturbance. Several trails leading to the pond area have been used by livestock in the past.

Glenn initially recorded the site during the survey phase for this project, describing constituents that were also noted during this evaluation phase, such as the earthen berm and retention pond, and a low density scatter of historic refuse.

Site Structure, Artifact Recovery, and Assemblage Composition

Intensive surface inspection during the evaluation phase delineated the discernible limits of the earthen berm to the west of the borrow pit used as a retention pond (Figure 4.20; see Confidential Appendix B). No specific construction method or shape could be discerned from the borrow pit, and the retention pond limits are defined by the amount of seasonal water draining into the pond. The berm appears to have been constructed using a bulldozer or other heavy equipment, although no tracks were identified. The berm measures approximately 125-x-45-feet and is less than 8 feet high.

Surface inspection defined a low density concentration of historic refuse contained in an approximate 7-x-8-meter area along the western margin of the site, with a few isolated pieces of metal scattered about the site surface outside of the concentration (Figure 4.21) (Table 4.8). Within the concentration, seven bottles and large bottle fragments (4 colorless and 3 brown bottles) were recorded. Diagnostic bottle marks include Anchor Hocking "3 – H" superimposed over an Anchor "– 42" (1942); a Latchford Marble "LM" in circle (1939–1957); Hazel-Atlas "A" beneath "H" (1932–1964); and Glass Container Co. (1933–1983) (Toulouse 1971). A total of 25 cans were recorded within the concentration. Types included 11 sanitary food and beverage cans, two solder-dot milk cans, one hole-in-cap food can, one paint can, two lighter fluid cans, and four undifferentiated cans. Milk cans measured, 215/16 x 314.5/16 inches, indicating a manufacturing date post-1950 (IMACS; Rock 1980). A "HILLS BROS. COFFEE" can exhibits a decorative style that dates between 1945 and 1963 (Rock 1980) (Figure 4.22). Artifacts noted outside of the concentration include two crushed milk cans, and several unidentifiable metal can fragments.

Figure 4.20 Sketch map of CA-SDI-20,656 (Confidential Appendix B)

Figure 4.21 Overview of historic refuse concentration at CA-SDI-20,656

Table 4.8 Inventory of Historic Artifacts from the Surface of CA-SDI-20,656

Class	Specific Function	Cylin.	Elixir	Flat Top	Hole in Cap	Hole in Top	Indet	Other	Pail	Pop Top	Sanitary	Grand Total
Glass Bottle	Beverage									1		1
	Condiment									1		1
	Other		1				4					5
Glass Bottle Total			1				4			2		7
Tin Can	Auto Oil	3										3
	Beverage				1						1	2
	Canteen							1				1
	Coffee	4										4
	Lighter Fluid			2								2
	Milk					11						11
	Paint								1			1
	Planter							1				1
Tin Can Total		7		2	1	11		2	1		1	25
Grand Total		7	1	2	1	11	4	2	1	2	1	32

Figure 4.22 Hills Brothers coffee can from CA-SDI-20,656 that was manufactured from 1945 to 1963

Excavation Results

Five STPs were excavated within the site area; each spaced approximately 20 meters apart to test for buried cultural deposits. Aside from two STPs that encountered bedrock just below 20 centimeters, all STPs were excavated to a depth of at least 40 centimeters below the surface. Subsurface testing yielded no cultural material and identified deflated, coarse granitic sand.

Discussion and Site Summary

Can and bottle dates indicate that the deposition of this material likely occurred sometime after 1950—the earliest manufacture date for the cans, since the spatial concentration of refuse indicates a single dump episode. It is possible that items of varying age were consumed at different times in another location, gathered together and dumped on site. It is uncertain if these artifacts correspond with the construction of the earthen reservoir, though the spatial association is suggestive of that. The close proximity of CA-SDI-20,655 to the south also suggests some kind of ranching-related association of the two sites, although this could not be determined from historical records and maps. Overall, evaluation of this site highlighted its limited research potential based on a meager artifact assemblage and generic retention pond feature. Even if this site were part of a larger homesite complex, there are no elements at CA-SDI-20,656 that could be considered contributing elements. The site is not considered to be a significant resource and does not meet the criteria for listing in the CRHR or local registers. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

CA-SDI-20,657 (TdS-09)

CA-SDI-20,657 consists of a historic refuse scatter, agricultural features, and one prehistoric artifact contained in a 90-x-85-meter area. The site is located under the SDG&E Southwest Powerlink transmission line and less than a half kilometer north of the U.S.-Mexico international border. It is situated largely within a graded area, surrounded by moderately dense chaparral. The majority of the site surface has been cleared of plants and leveled, allowing for nearly complete visibility of the ground. The area has been heavily disturbed, possibly as part of the construction of the SDG&E Southwest Powerlink transmission line in the early 1980s (Figure 4.23; Confidential Appendix B).

The site was initially recorded by Brian Glenn during the inventory phase of this project as consisting of a water tank, two parallel concrete linear features, and domestic and ranch-related refuse including wood, cans, glass fragments, chicken wire, and an automobile axle. ASM relocated and recorded the site during the evaluation phase.

Figure 4.23 Sketch map of CA-SDI-20,657 (Confidential Appendix B)

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with a recordation of all features at the site, including the water tank and two linear concrete features. The linear concrete features may be remnants of a foundation, but this could not be confirmed. Each concrete feature is approximately 6–8 inches wide with the eastern feature measuring approximately 56 feet long and the other less than 35 feet long. Both have been partly demolished, thus the original dimensions could not be ascertained. The water tank is constructed of corrugated metal and is located in the northern extreme of the site. A small section of water pipe, measuring approximately 33 feet in length is located approximately 50 feet west of the water tank and it is oriented roughly east-west. It appears to have been moved from its original location, possibly when the access road to the SDG&E transmission line tower was graded.

A number of historical-period items were observed embedded in a dirt berm that is built up along the southern edge of the site, and scattered on the margins of the cleared area (see Figure 4.21). These include various sized fragments of milled lumber, pieces of chicken wire, an automobile axle, indeterminate can fragments and approximately 10 cans, including food cans and four automobile oil cans. No chronological information was discernible from these generic artifacts since measurements could not be taken (most were crushed or in poor condition).

One artifact, however, did have a maker's mark and was collected. It is a wine bottle with a "ELLENA BROS." label and Owens-Illinois maker's mark embossed with "20 – I" within an "O" superimposed over a diamond "– 0" (Figure 4.24). The name of the Ellena Brothers wine, owned by John B. Ellena, was changed to Regina in 1948 (Sullivan 1998). The history of this San Bernardino County vineyard suggests that the bottle dates to between 1930 and 1940 (Toulouse 1971).

ASM identified and collected one prehistoric artifact. This was a volcanic retouched lithic tool that was recovered from the disturbed soil within the earthen berm along the eastern part of the site bordering a maintained road (see Figure 4.21).

Figure 4.24 Ellena Brothers wine bottle from CA-SDI-20,657 (catalog #4)

Excavation Results

Five STPs were excavated within the site area, all to a depth of at least 40 centimeters below the surface. All STPs were negative, with the exception of STP-4, which yielded a single fragment of non-diagnostic clear bottle glass from 0–20 centimeters below the surface (Table 4.9). The bottle glass fragment appears to be modern but no diagnostic elements on the glass were identified, including coloring agents (i.e., manganese).

Table 4.9 STP Excavation Results from CA-SDI-20,657

Provenience		Class	
STP No.	Level (cmbs)	Modern Glass	Total
STP-04	00-00	0	0
	00-20	1	1
Total	All Levels	1	1

Discussion and Site Summary

The site consists of historical-period agricultural features, historical refuse, and one prehistoric lithic tool. The area has been substantially impacted by grading activities likely associated with construction of the SDG&E Southwest Powerlink transmission line. The site has been essentially destroyed by recent and historic grading activities, although modern grading redistributed historic materials and destroyed parts of the concrete foundation. The function of this site is probably related to ranching, but no specific function could be determined. The refuse deposit has been heavily impacted by grading; evident in the location of artifacts within graded berms,

and the crushing of cans. However, one Ellena Brothers wine bottle was dated to a period from 1930–1940. Little other information on historical occupation of the site can be generated from the archaeological record or available historical documentation (i.e., the site does not appear on historical maps). As such the site is not considered historically significant under CEQA or RPO, and does not meet the criteria for listing in the CRHR or local register. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

CA-SDI-20,658 (TdS-10)

CA-SDI-20,658 is a sparse historic refuse deposit spread thinly over a 70-x-35-meter area. The site is located less than 400 meters south of the SDG&E Southwest Powerlink transmission line and a little more than 100 meters north of the U.S.-Mexico international border. The site area is characterized by somewhat sparse chaparral and seasonal grasses with a few scrub oaks dotting the landscape. Erosion has deflated sediments within and around the sites, exposing loosely consolidated granitic sand. At least half of the surface was immediately visible.

The site was initially recorded by Brian Glenn during the inventory phase of this project. Glenn described the site as a refuse dump containing single- and multi-serve food cans, oil and transmission fluid cans, bottle fragments, and tires. During the current evaluation, the site was relocated by ASM finding Glenn's initial description to be generally accurate.

Site Structure, Artifact Recovery, and Assemblage Composition

Intensive survey of the site during evaluation identified a concentration in the northwestern corner of the site measuring approximately 10-x-15 meters in size (Figure 4.25; see Confidential Appendix B). This concentration is thought to be the source of all other historic refuse in the site boundary; the latter having been dispersed downslope to the southeast (Figure 4.26). An ephemeral drainage runs through the concentration to the southeast and it is possible that occasional drainage events transported artifacts to the south. It is also possible that livestock facilitated movement of artifacts, kicking the cans downslope.

Figure 4.25 Sketch map of CA-SDI-20,658 (Confidential Appendix B)

Figure 4.26 Overview to the northwest of the main concentration at CA-SDI-20,658

Overall, the artifact assemblage was dominated by metal cans (n=110) (Table 4.10). Most of the identifiable cans were identified in the concentration, including 25 crimped seam food cans, 10 beverage cans, 25 milk cans (post-1950), 12 coffee cans, one spice can, one meat can, five automobile antifreeze cans, one "HANCOCK AUTOMATIC TRANSMISSION FLUID" can, and one dish soap can. A total of 19 colorless bottles (complete and fragmentary) were also recorded in the concentration. Bottle maker's marks were noted to include Hazel-Atlas (1939–1957), Glass Co. (1933–1983), Owens-Illinois (1929–1954; 1954–present), Ball (1933–1988), and Brockway Glass Company (1933–1988) (Toulouse 1971). More precise Owens-Illinois dates included 1960, 1957, and 1959 for three separate clear glass containers of unknown content. Other artifacts in the concentration include a deteriorated rubber automobile tire, and various unidentifiable metal fragments.

The general scatter of artifacts outside of the concentration included seven milk cans with measurements of $2^{15}/_{16}$ x $3^{14.5}/_{16}$ inches (post-1950; IMACS, Rock 1980), and seven beverage and food cans of unknown origin and manufacture date. A total of six colorless and four brown bottles were recorded, including one "CLOROX" bottle, one shampoo bottle, one perfume bottle, and an unknown beverage bottle. One Owens-Illinois base provided a date on the base of the beverage bottle was consistent with a 1958 date of manufacture (Toulouse 1971).

Excavation Results

A total of four STPs were placed throughout the site vicinity (see Figure 4.22). STP-2, placed near the center of the site, yielded 13 fragments of colorless bottle glass in the 0–20-centimeters level. The remaining 20–40- centimeters level was sterile. The other three STPs were sterile. All STPs were excavated to a depth of at least 40 centimeters below the surface, and all were characterized by loosely consolidated silty granitic sand.

Discussion and Site Summary

Overall, this refuse deposit appears to represent a single dump episode that occurred sometime after 1960—the latest manufacture date on an Owens-Illinois glass container. In that some items have manufacture dates that terminate prior to 1960, it is likely that all the refuse at this site was gathered together at a distant homesite and dumped at this location. All artifacts are representative of general domestic functions, including food and beverage containers, personal hygiene, and automotive products. The main concentration retains somewhat intact, although artifacts have been dispersed through post depositional processes downslope to the southeast. STP excavation failed to identify buried cultural deposits and the field inventory, along with collection of a sample of diagnostic materials, demonstrates that the site's contribution to regional patterns of historical occupation is minimal. The site is not considered a significant historical resource under CEQA and it does not meet the criteria for listing in the CRHR or local register. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

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Table 4.10 Inventory of Historic Artifacts from the Surface of CA-SDI-20,658

Class	Specific Function	Astringent Bottle	Mach. Bottle	Mach. Cup	Mach. Jar	Bleach Bottle	Drum	Flat Top	Hole in Top	Indet.	Jar	Liquor	Meds.	Other	Sanitary	Spice	Tonic	Grand Total
Glass Bottle	Astringent	3																3
	Bleach Bottle					1												1
	Condiment		7															7
	Liquor											1						1
	Medicine												2					2
	Beverage		1															1
	Other		1							16								17
	Shampoo																1	1
	Vinegar		2															2
	Water		1															1
Glass Bottle Total		3	12			1				16		1	2				1	36
Glass Jar	Coffee				1													1
	Fruit/ Veg.										1							1
	Large Jar				1													1
	Mason Jar				8													8
	Mustard				1													1
	Other				1									1				2
	Pickle										1							1
	Syrup				1													1
Glass Jar Total					13						2			1				16
Glass Table-ware	Cup			1														1
Tin Can	Anti-freeze														6			6
	Auto Oil														15			15
	Coffee														12			12
	Fruit/ Veg.														22			22

Table 4.10 Inventory of Historic Artifacts from the Surface of CA-SDI-20,658

Class	Specific Function	Astringent Bottle	Mach. Bottle	Mach. Cup	Mach. Jar	Bleach Bottle	Drum	Flat Top	Hole in Top	Indet.	Jar	Liquor	Meds.	Other	Sanitary	Spice	Tonic	Grand Total
	Meat														1			1
	Milk/ Beverage								7						3			10
	Other								25	2					12			39
	Paint						1											1
	Popcorn														1			1
	Soap							1										1
	Spice															1		1
	Trans Fluid														1			1
Tin Can Total							1	1	32	2					73	1		110
Grand Total		**3**	**12**	**1**	**13**	**1**	**1**	**1**	**32**	**18**	**2**	**1**	**2**	**1**	**73**	**1**	**1**	**163**

Note: Unk, unknown; Mach., Machined; Indet., Indeterminate; Sanit., Sanitary; Meds., Medicine; Undiff., Undifferentiated

CA-SDI-20,659 (TdS-13)

CA-SDI-20,659 is a sparse historic refuse deposit spread over a small, 15-x-15-meter area; it is located less than 150 meters north of the SDG&E Southwest Powerlink transmission line and more than 300 meters south of Tierra del Sol Road. A well-used dirt road that runs east to west passes by the northern boundary of this site. The general area is moderately covered with chaparral, but the ground surface is otherwise relatively unobstructed from view. Erosion and livestock have disturbed the general area. Brian Glenn initially recorded this site during the inventory phase of this project. Glenn described the site as a small, sparse scatter of 1930s–1940s refuse including an automobile fender, various other automotive frame and body parts, chicken wire, and metal workshop materials. ASM relocated the site during the current evaluation and confirmed the general accuracy of Glenn's description.

Site Structure, Artifact Recovery, and Assemblage Composition

The site was intensively inspected during the evaluation phase, identifying the historical refuse contained in an approximate 15-x-15-meter area with no apparent dump point; artifacts were randomly distributed within the site boundary (Figure 4.27; see Confidential Appendix B). Specific items identified include one automobile fender in poor condition (make, model, and year could not be ascertained), one segment of automobile frame, 25 miscellaneous auto body parts (metal) of unknown origin, two small patches of chicken wire, and various small metal fragments of unknown origin. None of these artifacts exhibited maker's marks or other such diagnostic elements.

Excavation Results

Three STPs were excavated across the site; two within the boundaries and one just outside the site to the west in areas thought to have the highest potential to recover buried artifacts (see Figure 4.27). All STPs were excavated to a depth of 40 centimeters below the surface within loosely consolidated silty, coarse granitic sand; none yielded subsurface material.

Figure 4.27 Sketch map of CA-SDI-20,659 (Confidential Appendix B)

Discussion and Site Summary

This refuse deposit produced little information. Comprised mostly of automobile parts and fragments thereof, along with some other metal objects (i.e., chicken wire and sheet metal), this site represents a single dump episode of domestically consumed industrial objects. No chronological information was available on any of the objects recorded at this refuse deposit. STP excavations failed to identify buried cultural deposits. This site is not considered historically significant and does not meet the criteria for listing in the CRHR or local register because it contributes little to a local or regional understanding of historic occupation. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

CA-SDI-20,660 (TdS-15)

CA-SDI-20,660 is a historic refuse deposit scattered thinly over a 10-x-12-meter area, located approximately 100 meters south of the SDG&E Southwest Powerlink transmission line and more than 300 meters north of the U.S.-Mexico international border. Moderately dense chaparral covers the site. A rut running through the site from northwest to southeast appears to have been cut into the site with heavy machinery, although surface erosion makes this determination tenuous (Figure 4.28; Figure 4.29, Confidential Appendix B).

The site was initially recorded by Brian Glenn during the inventory phase of this project as a scatter of historic glass and ceramic fragments, sanitary cans, condensed milk cans, and motor oil cans. The findings of the current ASM evaluation generally corresponded with the location and size of this previous recordation.

Figure 4.28 Overview to the north of CA-SDI-20,660; a historic refuse deposit

Figure 4.29 Sketch map of CA-SDI-20,660 (Confidential Appendix B)

Site Structure, Artifact Recovery, and Assemblage Composition

Intensive inspection of this site during evaluation focused on finding areas of higher potential for buried deposits since Glenn's inventory suggested the site had moderate potential for subsurface artifacts. In so doing, the entire surface assemblage was inventoried and recorded (Table 4.11).

One artifact was a complete brown "*Schilling*" liquid flavor bottle with an Owens-Illinois mark (1938-1948) (Toulouse 1971) (Figure 4.30). The remaining glass artifacts included two colorless and two brown glass bottles (unidentifiable), more than 20 colorless glass bottle fragments, and more than 10 brown glass fragments. The single diagnostic can noted in this concentration was a "HILLS BROS. COFFEE" container with a brand style used in 1952–1963 (Rock 1987) (Figure 4.31). Non-diagnostic cans include three beverage cans, seven crimped-seam food cans, and six undifferentiated and crushed cans. Other items included a bundle of 5 gauge wire, parts of a metal stove, one metal bushing, and a clock mechanism.

Table 4.11 Inventory of Historic Artifacts from the Surface of CA-SDI-20,660

Class	Specific Func	Mach. Bottle	Mach. Dish	Mach. Jar	Bowl	Cup	Cylin.	Dec.	Drum	Indet.	Plate	Sanit.	Med. Bottle	Grand Total
Ceramic Table-ware	Unk.				1			1			1			3
Glass Bottle	Meds.	1												1
	Unk.												1	1
Glass Bottle Total		1											1	2
Glass Table-ware	Baking Dish		1											1
	Drinking Glass					1								1
	Mason Jar			1										1
Glass Table-ware Total			1	1		1								3
Tin Can	Beverage						3							3
	Coffee								1					1
	Fruit/ Veg.											7		7
	Unknown									6				6
Tin Can Total							3		1	6		7		17
Undiff. Glass	Other									30				30
Grand Total		1	1	1	1	1	3	1	1	36	1	7	1	55

Note: Unk, unknown; Mach., Machined; Indet., Indeterminate; Sanit., Sanitary; Meds., Medicine; Undiff., Undifferentiated.

Figure 4.30 A historic "*Schilling*" liquid flavor brown glass bottle collected from CA-SDI-20,660 (catalog #1)

Figure 4.31 A historic "Hills Bros. Coffee" can from CA-SDI-20,660 (catalog #2)

Excavation Results

Two STPs were placed within the concentration of historic refuse. In the 0–20-centimeters level of STP-1, a number of colorless and brown glass bottle shards, including one Owens-Illinois base (1938–1948), and small ferrous metal fragments (Table 4.12). The 0–40-centimeters level contained no other cultural material. STP-2 yielded no subsurface cultural material from 0–40 centimeters below the surface. Rodent burrowing was evident on the surface and within both STPs, likely accounting for the recovery of artifact fragments in low quantities just below the surface in STP-1.

Table 4.12 STP Excavation Results from CA-SDI-20,660

Provenience		Modern Refuse Classes		Historic Artifact Classes				
STP No.	Level (cmbs)	Modern Glass	Modern Plastic	Glass Container/Bottle/ Jar	Generic Glass Fragment(s)	Metal Tool/Hardware	Generic Metal Fragment(s)	Total
STP-01	00-20	43	1	3	6	1	47	101
	20-40	0	0	0	0	0	0	0
Total	**All Levels**	**43**	**1**	**3**	**6**	**1**	**47**	**101**

Discussion and Site Summary

Bottle and can dates suggest that the deposition of this historical refuse likely occurred sometime in the early 1950s or later as a single event. There was no evidence of overlapping dump episodes and the concentration of debris in a limited area suggests that the dispersion of artifacts occurred through post-depositional processes. Thus, the early manufacture date of 1952 for the coffee can suggests that items consumed at different dates and in a different location were gathered together and dumped at this location in one event. This was a common practice of homesite cleanup, leading to the spatial association within refuse dumps of items of different age. Overall, this refuse dump had little information to offer regarding historic consumption or occupation; all artifacts are relatively common and the low frequency and diversity of items in this deposit holds little interpretive value. Moreover, STP excavations did not identify substantial or significant buried cultural deposits. Rather, fragments of metal and glass artifacts are similar to those on the surface. Their recovery below surface (in the 0–20 centimeters level of STP 1) is not indicative of intended burial of the refuse, but these artifacts became buried through post-depositional disturbances such as erosion and rodent burrowing. These finding nullify the inventory assumption by Glenn that significant subsurface deposits may have been present. As such, CA-SDI-20,660 is not considered historically significant under CEQA and does not meet the criteria for listing in the CRHR or local register. While the site is not significant under County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through curation of artifacts and monitoring of project-related ground disturbance.

4.2.3 Previously Recorded Isolated Finds

P-37-032649 (TdS-01)

The isolate was first recorded by Brian Glenn of Pacific West Archaeology in 2012 as a single metavolcanic flake. The isolate was not revisited during the current ASM study, as it was not part of the approved testing plan.

P-37-032650 (TdS-11)

The isolate was first recorded by Brian Glenn of Pacific West Archaeology in 2012 as a U.S. General Land Office survey marker with "US GLO 1916 1/4 S13/S24" stamped on its brass cap. During the recent evaluation by ASM, the isolate was noted to be in the same general location and condition as previously recorded.

P-37-032651 (TdS-12)

The isolate was first recorded by Brian Glenn during the inventory phase for this project as a U.S. General Land Office survey marker with "US GLO SURVEY 1916 1/4 S13" stamped on its brass cap. During the recent evaluation by ASM, the isolate was noted to be in the same general location and condition as previously recorded.

P-37-032652 (TdS-16)

The isolate was first recorded by Brian Glenn during the inventory phase as a single Pinto-series projectile point. The isolate was not revisited during the current ASM study, as it was not part of the approved testing plan.

P-37-032653 (TdS-17)

The isolate was first recorded by Brian Glenn of Pacific West Archaeology in 2012 as a single handstone fragment. One STP was excavated near this isolate (see map in Confidential Appendix B). No subsurface cultural material was recorded. Additionally, the previously recorded handstone fragment was collected.

4.2.4 Gen-Tie Survey Results

A total of 56 cultural resources were identified during survey of the Gen-Tie alignment. Of these, three are previously recorded sites, 31 are newly recorded sites, and 22 are newly recorded isolates (Figure 4.32). As is typical of the Eastern San Diego County mountain area, sites are generally located along or near larger seasonal drainages and/or springs, which are populated by live oak trees. Granite bedrock outcrops are abundant throughout the survey area; however, virtually all of them are highly weathered and/or exfoliated, which may have destroyed evidence of other milling elements. As mentioned above, disturbances in this area are primarily related to ranching, with numerous dirt roads, trails, and animal grazing abundant.

The cultural resources described below present previously recorded resources first, followed by newly recorded sites and newly recorded isolates. Newly recorded site and isolate numbers are non-consecutive as some of the resources were combined after initial recording.

Figure 4.32 Location map of cultural resources identified in the Tierra del Sol Gen-Tie (Confidential Appendix B)

Previously Recorded Resources

P-37-025680

This resource is the Union Pacific Railroad, built between 1907 and 1919, which runs from El Centro, California to San Diego and is also known as the San Diego and Arizona Railway. The resource was originally recorded in 2000 by JRP Consulting who researched the railroad in great detail. That study suggested that with the possible exception of the section of railroad through Carrizo Gorge, the railroad is not eligible under any criteria for inclusion in the National Register. During the current survey, a short section of railway was encountered within the southern end of the APE of the Gen-Tie. The railroad is in good condition, with both tracks and all of the railroad ties still in place.

SDI-5561

This site is a temporary camp, which was originally recorded by Fulmer in 1977. The site is located approximately 500 meters southwest of Jewell Valley Road. The site consists of an unspecified number of milling stations, with mortars, slicks, and basins, flakes, ceramics, groundstone tools, and an arrow shaft straightener. The site is situated along the north side of a large drainage, which is populated by oak trees. During the current survey, no artifacts were found in the area where the mapped site boundary intersects the APE. The sketch map in the site record indicates that a northeast-southwest trending dirt road bisects the site; however, the mapped site location from the record search results shows the site 50 meters to the west of the road. It appears that there has been a transcription error in the site mapping and that the site boundary does not actually intersect the APE of this project.

SDI-8218

This site is a lithic scatter, which was originally recorded by Flower et al. in 1980. The site was reported to consist of an indeterminate number of quartz and andesite porphyry flakes, one handstone, and one scraper plane in a 2000 square meter area. Soil at the site consists of loamy coarse sand populated by desert transition chaparral. The site record indicates that all surface material was collected at the time of recordation. During the current survey, no artifacts were identified at the site or in the surrounding area. Based on the site type, a subsurface deposit is unlikely to be present.

Newly Recorded Sites

CA-SDI-20,945 (GT-BC-1)

The site is a historic trash scatter of wood, can and glass debris covering a 47-x-23-meter area in poor condition. The site is located on the east facing 5 degree slope of a north-south trending ridge comprised of granite bedrock and degraded granite. On-site vegetation includes sagebrush, oak trees, chamise, and butterfly bush. On-site sediment consists of degraded granite and granite bedrock with a light brown sandy matrix.

The wooden debris consists of approximately 50 pieces of milled lumber ranging in varying lengths of 1-x-6-inch and 2-x-4-inch boards (possible windmill lattice), some displaying faded paint and others bare, along with one piece of plywood measuring 4 x 6 inches. Assorted crushed non-dateable cans are scattered near the base of an oak tree at the southeast end of the site. These include four 1-gallon crushed and rusted paint cans, two crushed 32-ounce. food cans, and one crushed liquid can. Additional metal items include multiple bent un-datable 8d nails within the boards. Glass artifacts consist of approximately 50 shards of non-diagnostic colorless glass, approximately 15 shards of non-diagnostic colorless window pane glass, and approximately 35 shards of non-diagnostic colorless bottle glass.

There is an associated north-south trending graded dirt road running parallel to the site's western boundary. The road is approximately 9 feet wide and continues both north and south for quite a distance and is likely associated with the site and the windmill activity. Given the type of sediment the site resides on, it is unlikely there are any subsurface cultural deposits.

CA-SDI-20,946 (GT-BC-2)

This site is a light dispersed prehistoric lithic and ceramic scatter covering a 44-x-33-meter area in fair condition. The site is located on a westerly trending gently sloping (2 degree) swale amongst a series of large granite bedrock outcrops on a series of rolling hills dotted with multiple large exposed granite outcrops. On-site vegetation includes scrub oak, ephedra, red shark, buck wheat, cholla, and non-native grasses. On-site sediment includes a loose coarse grained light brown granitic sand matrix amongst degraded granite bedrock.

Artifact assemblage includes one white quartz unidirectional exhausted core measuring 2.7-x-4.1-x-2.2-centimeters, two pieces of quartz shatter, five metavolcanic interior flakes, two metavolcanic shatter, and two brownware ceramic sherds. There are no associated cultural features. Given the type of sediment the site resides on, it is unlikely there are any subsurface cultural deposits.

CA-SDI-20,947 (GT-BC-3)

This site is a light dispersed prehistoric lithic scatter covering an 8-x-3-meter area in fair condition. The site is located under the overhang of a large granite boulder on the southern slope (7 degrees) of a north-south trending knoll surrounded by numerous granite bedrock outcrops.

On-site vegetation includes chamise, buck wheat, Live Oak, butterfly bush, chaparral yucca, and non-native grasses. On-site sediments consist of a coarse grained light brown granitic sand matrix amongst degraded granite bedrock.

Artifact assemblage includes one white quartz tested cobble and 5 pieces of quartz shatter lithic debitage. There are no associated cultural features. Given the sheet wash erosion at the site, there is a good chance these artifacts are the result of secondary deposition and do not represent the actual location of prehistoric aboriginal activities. Given the type of sediment the site resides on, if these artifacts are the result of primary deposition, it is unlikely there are any subsurface cultural deposits.

CA-SDI-20,948 (GT-BC-4)

This site is a prehistoric quartz quarry covering a 40-x-36-meter area in good condition. The site is located in a natural outcrop at the top of an eastern sloping (5 degrees) side of a north-south trending knoll amongst gentle rolling hills surrounded by multiple granite outcrops. On-site vegetation includes chaparral yucca, cholla, chamise, buck wheat, butterfly bush, and non-native grasses. On-site sediments consist of a coarse grained light brown granitic sand matrix amongst degraded granite bedrock.

Artifact assemblage includes one white quartz unidirectional core with three flake scars, measuring 6-x-4.7-x-2.5-centimeters, approximately 20 quartz tested cobbles, approximately 50 primary flakes, approximately 300 quartz shatter, and one piece of green metavolcanic shatter. This quarry appears to be a location of opportunistic collection and limited testing of natural material based upon the limited number of actual flakes. Useable material, if found during quarrying activities, appears to have been transported away from the site in a relatively unmodified state, rather than on-site weight reduction or tool/blank production. Given the type of sediment the site resides on, it is unlikely there are any substantial subsurface cultural deposits, although limited near-surface shatter and flakes may be present.

CA-SDI-20,949 (GT-BC-5)

This is a multi-component site comprised of two loci covering an 87-x-40-meter area. Locus 1 consists of discarded historic ranching equipment covering a 42-x-40-meter area. Locus 2 is a small, prehistoric temporary camp measuring 29-x11-meters. The site is located at the intersection of three dirt roads, two of, which are still in use and one, which is abandoned. A small drainage runs west to east along the northern site boundary. This site is located approximately 80 meters south of site CA-SDI-20,950; the ranching equipment at Locus 1 is likely associated with that site.

Locus 1 comprises the eastern portion of the site and consists of two wagons, at least 7 axles, two wagon tongues, and a cart/wagon bed with what appears to be a mill attached to the end. A small plywood constructed outbuilding is located to the north of the equipment, which is still in use; however, the age of the building could not be determined from an exterior visual inspection at

this time. A smaller concrete cinder block addition is also present, which could not be dated at this time. No artifacts (i.e., cans, glass) were observed at Locus 1, with the exception of one metavolcanic interior flake, which was found in the dirt road.

Wagon 1 (Figure 4.33) is partially intact, with the bed, wheels, axels and tongue all present. The bed measures 157-x-60-inches and is constructed of 2-x-6-inch wooden frame. The wheels are iron rim with iron spokes attached to wooden axles; no evidence of a rubber or other material for traction was identified. The tongue is made from iron tubing. The wagon is laden primarily with milled lumber fragments. Wagon 2 appears to have been approximately the same size as Wagon 1, however, only a portion of the bed, two axles and wheels are still intact. The wheels for Wagon 2 are wooden rim and spoke with an iron loops on the exterior.

The two wagon tongues are wood framed with a wooden axle and wooden wheels. Their axles are 78 in long; the wheels wooden spoke and rim with iron rings on the exterior surface and are 38 inches in diameter. Seven additional axles are lined up along the edge of the abandoned road adjacent to Wagon 1; all seven have the same dimensions as the axles attached to the tongues. The mill, made by John Deere, is a single metal bin attached to the end of what is presumed to be a wooded cart bed. The bed measures 84-x-42-inches and is constructed from 2-x-6-inch and 1-x-6-inch milled lumbar. The ground surface visibility is poor due to dense leaf litter from the adjacent oak trees and a variety of vegetation, including grass, sagebrush, and buckwheat. No directly dateable material was identified at Locus 1.

Locus 2 is a small temporary camp situated within an oak tree stand and comprised the western portion of the site. The camp consists of a single milling station and a light, dispersed lithic scatter. Alluvial light brown silty sand is present within and immediately around the drainage and bedrock outcrop. South of this soil the ground surface is covered with what appears to be imported three-quarter inch gravel and coarse sand. The ground surface surrounding the milling station was completely obscured by leaf litter. Additional vegetation at the site beyond the margins of the drainage includes buckwheat, sagebrush and grass.

The milling station is a large, highly weathered granite boulder with a single slick remnant. The slick, which measures 23-x-1-centimeters, is only identifiable by a couple high points due to the heavy weathering. One granitic handstone fragment and one metavolcanic interior flake were identified on the south side of the milling station. Additional possible artifacts were observed including five possible shatter (quartz, quartzite, and metavolcanic) and two possible tested cobbles fragments. Due to the fragmentary condition of these items and their presence within the imported gravel, it was not possible at this time to rule out the possibility that these items are imported and/or the result of incidental (i.e., tractor) damage.

Figure 4.33 CA-SDI-20,949, Historic wagon, facing north

CA-SDI-20,950 (GT-BC-6)

This site consists of a historic cattle corral and associated water troughs covering a 49-x-45-meter area. The site is located on the western edge of a cleared field, which abuts the western side of Jewel Valley Road. Vegetation at the site consists primarily of non-native grass and buckwheat. The ground surface is composed of light brown coarse sand derived from decomposing granite. A small drainage is located approximately 70 meters south of the site. Some of the boards and posts of the corral are starting to rot and splinter, but the site is in good condition otherwise.

The corral (Feature 1) has three pens and a chute at the south side for dehorning cattle. The corral fencing is constructed from 5 1/2-x-7 1/4-in posts and 1 1/2-x-5 1/8-in horizontal planks. The dehorning gate has a placard from the manufacturer, Thompson Equipment Co., Madera, CA, bearing a March 31, 1931, patent date. Two water troughs are present at the site. A corrugated metal trough (Feature 4), fed by a water pipe, is located at the center of the corral. Feature 2, a poured concrete trough, measuring 92-x-92-x-24-inches, is located to the west of the corral, on the opposite site of a north-south trending dirt road. Feature 3, a cinder block and

mortar storage basin, is located on the south side of the corral. It measures 92-x-69-x-48. No historic artifacts were found at the site; however, a single unifacial, weathered, slightly dished granite millingstone, measuring 26.5-x-18.5-x-9.5-centimeters, was found at the gate of the corral. It appears that it was chosen at random as a doorstop for the gate, possibly without the knowledge of the rancher as to its origins. The general absence of artifacts and the site type indicate that a subsurface deposit is unlikely at this site.

CA-SDI-20,951 (GT-BC-8)

This is a medium sized habitation site consisting of milling stations, lithic debitage, a ceramic scatter, numerous groundstone tools, and possibly midden soil covering a 96-x-72-meter area. The site is situated on a gently sloping terrace along the south side of a large west-east trending drainage. The eastern site boundary is formed by a drainage descending from the western slope of Rattlesnake Mountain, which feeds into the larger drainage. The western and southern site boundaries are delineated by the absence of cultural material. The site is characterized by the presence of numerous low-laying, highly weathered and exfoliated granite outcrops along the drainages and escarpment of the terrace. Vegetation at the site consists of chamise, Mojave yucca, chaparral yucca, red shank, cholla, and scrub oak, with Live Oak trees present in the large drainage. Vegetation in the southern half of the site burned in the 2011 wildfire, but is still quite dense in the north half of the site, which was not burned.

Ten milling stations were identified at the site with a total of 36 slicks, three mortars (two with collars), one mortar start, and one rub (e.g., a large area of numerous over-lapping slicks, which cannot be differentiated). Feature 6 contained the majority of milling elements (16 slicks, all mortars, and the rub), and likely contains additional elements as soil and vegetation cover large portions of the rock (Figure 4.34). Additional milling elements were likely also present on many of these milling stations, as well as other outcrops, but have been lost to exfoliation and weathering.

Groundstone artifacts at the site include 7 millingstones, 13 handstones, and one pestle/handstone (Figure 4.35). Most of the groundstone tools appear to be expediently used, as only one millingstone and 4 handstones show evidence of shaping and all are made from locally available granite. Flaked stone artifacts include one retouched flake, three cores, one tested cobble, and 29 debitage. The debitage assemblage is dominated by quartz (14 shatter, 7 interior, 1 secondary) with 4 secondary and 3 interior metavolcanic flakes also present. Ceramic artifacts include 86 brownware sherds (2 rims), and 12 buffware sherds (2 rims). Debitage and ceramic sherds are primarily located within the southern half of the site where ground visibility was much greater, whereas groundstone tools were predominately found within the unburned areas of the site.

Soil at the site is primarily coarse sand derived from decomposing granite. Brown silty sand is present between Features 1 and 6, which may be a weakly developed midden and may contain a subsurface deposit.

Additionally, a natural quartz outcrop is located approximately 50 meters to the south of the site, on the south slope of a small knoll. While no artifacts were observed at that location at this time, it seems likely that cobbles were opportunistically collected from this outcrop for processing at CA-SDI-20,951 or elsewhere, particularly given the quartz cobble cached at site CA-SDI-20,952 .

Figure 4.34 CA-SDI-20,951, Feature 6, facing south

Figure 4.35 CA-SDI-20,951, A17, pestle

CA-SDI-20,952 (GT-BC-9)

This site consists of a small, north facing rock shelter and associated artifact cache covering a 15-x-6-meter area. The site is situated at the base of the northwest edge of Rattlesnake Mountain overlooking a large west-east trending drainage populated by numerous oak trees. A smaller drainage, which parallels the base of the west side of the mountain, feeds the large drainage and forms the boundary between this site and CA-SDI-20,951. In addition to the oak trees, red shank, buckwheat, grass, scrub oak, and chamise.

The shelter (Figures 4.36, 4.37) is formed by a cavity beneath a single, large granite boulder. The opening measures 1.45 meters high at its highest point, 0.40 meters high at its lowest, 2.9 meters wide, and is 3.25 meters deep. Soil inside the shelter consists of dark grey silty sand and may be a weakly developed midden. The site appears relatively undisturbed other than use of the shelter by migrants and a recent fire break, which was hand cut through the vegetation at the shelter opening. A small amount of soot stains the ceiling in the back of the shelter. The floor is generally flat, with a slight incline towards the rear left (southeast) corner.

Artifacts at the site consist of a bifacial, polished, granite millingstone (A1); a unidirectional quartz core (A2); a quartz hammerstone/possible tested cobble (A3); a cached, unmodified quartz cobble, likely intended to be a future core (A4); and a quartz unifacially retouched flake (A5). All artifacts are at the entrance to the shelter except A5, which is about three meters to the north. Additional artifacts may be present in the vicinity of the shelter beneath the vegetation.

Figure 4.36 CA-SDI-20,952, Rock shelter opening, facing south

Figure 4.37 CA-SDI-20,952, Rock shelter, facing east

CA-SDI-20,953 (GT-BC-10)

This site consists of a historic refuse deposit site covering a 15-x-17-meter area. The deposit is located at the edge of a small bedrock outcrop on the north slope of a generally flat terrace. Small drainages, which form the site are actively dispersing cans and other items downslope to the north. The ground surface at the site is comprised of decomposing granite populated by chamise and red shank, which burned in the 2011 wildfire.

The deposit consists primarily of domestic refuse, including food and beverage cans and bottle glass. The site is likely the result of numerous dumping episodes over time, including into modern times, as evidenced by church key opened beer cans at the bottom of the dump and pull tab beer cans at the top. A dirt road at the south edge of the site heads west directly to an older looking house outside the current project area, which is the likely source of the items in this dump. Tin cans at the site include +/- 100 hole-in-top milk cans measuring 2 15/16-x-4 inches, +/-40 tuna cans, +/- 10 fuel cans, +/- 50 church key opened beer cans, coffee cans, 1 upright pocket tobacco tin, +/- 50 fruit/vegetable cans, oval meat tins, and +/- 10 paint cans. Glass items include Owens-Illinois colorless condiment bottles (mustard, ketchup, and salad dressing), A Hazel-Atlas condiment bottle, 1 Pond's makeup jar, +/- 10 colorless glass grape juice bottles, +/-

10 green wine bottles/fragments, a log Cabin syrup bottle, and one E&J Gallo colorless wine bottle base. The Hazel-Atlas bottle dates to 1929-1964 (Toulouse 1971). The Owens-Illinois bottles date to post-1954, based on the "I in an O" manufacturer's mark without the diamond (Toulouse 1971). Given that the refuse has been dumped off a small ledge, it seems unlikely that a pit or privy would have been dug at the site prior to dumping. Therefore, a subsurface deposit appears to be unlikely at this site.

CA-SDI-20,954 (GT-BC-11)

This site is a historic refuse dump site located within a wide drainage, below a large, prominent granite bedrock outcrop. The site covers a 28-x-23-meter area, although smaller artifacts (cans) are actively being washed downslope to the north/northwest. Sediments at the site consist of highly decomposed granite. Mojave yucca, chamise, red shank and chaparral yucca are all present at the site, but burned in the 2011 wildfire.

Historic refuse includes +/- 10 hole-in-top cans (2 15/16-x-4-inches), +/- 50 church key-opened beer cans, one colorless glass bottle base with a 1963 Owens-Illinois bottle base, 10 paint cans. The vast majority of items in the dump appear to be modern, such as pull-tab beer cans, a washing machine, unidentifiable plastic, and thin walled beer cans. Other items of indeterminate age include a 50-gallon oil drum, mattress springs, unidentifiable metal fragments, and dozens of green, brown, and colorless glass bottle/jar fragments. The hole-in-top cans provide a date range for the older items from 1919–1929 (Simonis n.d.). Pull-tab cans provide a date range of 1962–1974 for the more recent items. The site appears to be the result repeated dumping events, as opposed to a single event, which deposited modern/more recent trash, which included a collection of older, historic items in the mix. A subsurface deposit appears unlikely at this site, given the decomposing granite upon, which the site sits.

CA-SDI-20,955 (GT-BC-12)

This is a multi-component site consisting of three loci, two prehistoric and one historic,, which cover a total area of 215-x-140 meters. Locus 1 contains a sparse lithic scatter, Locus 2 is a small temporary camp, and Locus 3 is a historic ranch with multiple buildings, water storage features, rock walls, and refuse scatters. The site is located on the south slope of two large hills and is bisected by an east-west trending drainage. A small drainage populated by oak trees forms the eastern boundary of both Locus 1 and 2 and the western boundary of Locus 3. Another large drainage populated with oak trees is located about 35 meters west of Locus 2. Granite outcrops are abundant at Loci 1 and 2, all of which are highly weathered and exfoliated.

Locus 1, which measures 24-x-15-m, is situated at the north end of the site, on the eastern side of the smaller, granite outcrop covered hill. A total of 21 pieces of debitage are present at the locus, equally divided between quartz and metavolcanic materials. Shatter (n=10) and interior flakes (n=7) are most abundant, with three secondary and one primary flakes also present. Given the

minimal quantity and variety of artifacts at this site, and the abundant near surface bedrock, a subsurface deposit is unlikely at this locus. A single metavolcanic flake is also located about 30 meters east of Locus 1.

Locus 2, which measures 55-x-75 meters, is located approximately 30 meters southwest of Locus 1, on the south slope of the same hill. The locus consists of three milling stations with a total of 12 slicks and a sparse artifact scatter. Feature 1 contains eight slicks and is located at the southeast end of the locus. Feature 2 has two slicks (one of, which is likely multiple milling elements that cannot be differentiated) and comprises the southwest corner of the locus. Feature 3 contains two slicks and is located at the center of the locus. Artifacts at Locus 2 include one quartz unidirectional core, 42 pieces of metavolcanic debitage, 19 pieces of quartz debitage, two chert debitage, and four brownware ceramic sherds. Shatter and interior flakes dominate the assemblage at Locus 2, with primary and secondary flakes virtually absent. A subsurface deposit at this locus is unlikely, given the abundance of near surface bedrock at the site.

Two additional lithic artifacts are present at the site. Artifact 1 is a multidirectional green metavolcanic exhausted core fragment located between Loci 1 and 2. Artifact 2 is a unifacial quartzite millingstone located near the southwest corner of Locus 3.

Locus 3, which covers an area 140-x-167 meters, is located immediately east of Locus 1 and 2. The north half of the locus contains the main ranch house remains, multiple rock retaining walls, outbuildings, and planted trees (Figure 4.38). The remains of the ranch house (Building 1) include a 27-x-30-foot concrete pad with 3-foot-high walls. The walls are constructed primarily of chicken wire and plaster, although the eastern wall is constructed from local cobbles and mortar. Poured concrete slabs are present on the south side of the house, which appear to have been a hardscape patio. A dry-laid granite retaining wall (Wall 4) runs along the edge of the hill along the south side of the patio, with a dry-laid staircase descending from the patio in front of the door to the house.

The foundations of two outbuildings and two other structures are present north of the main house. The two foundations likely represent storage sheds/workshops or other similar buildings, as evidenced by the associated trash scatters (car parts, fuel and solvent cans), and corrugated metal, which likely formed the walls and/or roofs. The purpose/function of the other two buildings could be identified at this time. Building 2 is a 5-foot-tall and 6-foot-square structure constructed from large brick blocks and mortar. Building 3 is a chicken wire and plaster building with square, poured concrete slab foundation, which may have also served as a storage shed.

Figure 4.38 CA-SDI-20,955, Locus 3 overview, facing

To the west of the main house, multiple sections of dry-laid granite rock walls have been built to create a small terrace along the edge of the hill (Walls 2, 3, and the western end of Wall 4). Within Wall 4 is a poured concrete slab foundation (Feature 2) measuring 34 ¾-x-48 ½-inch. The slab is located immediately above (north) of a small pit, which his dug into the hill slope. The slab has the names of three people and a date (June 14, 1950) etched into it, presumably when it was poured. At least 3 other pits of indeterminate origin are present along the face of the slope. The pits may be related to collection of the rocks used to build the retaining walls or to Structure 4.

Building 4 (Figure 4.39) is a small, single roomed, concrete roofed structure, which is cut into the bedrock of the same south facing slope of the hill as the four pits. A water pipe enters through the rear of the roof, adjacent to an exhaust/outlet pipe, which protrudes from the roof. The abundance of water in the structure suggests that it sits on top of a natural spring and appears to have been used to fill water troughs, which are located to the south, adjacent to animal corrals/pens. A wooden bench is also located in the building.

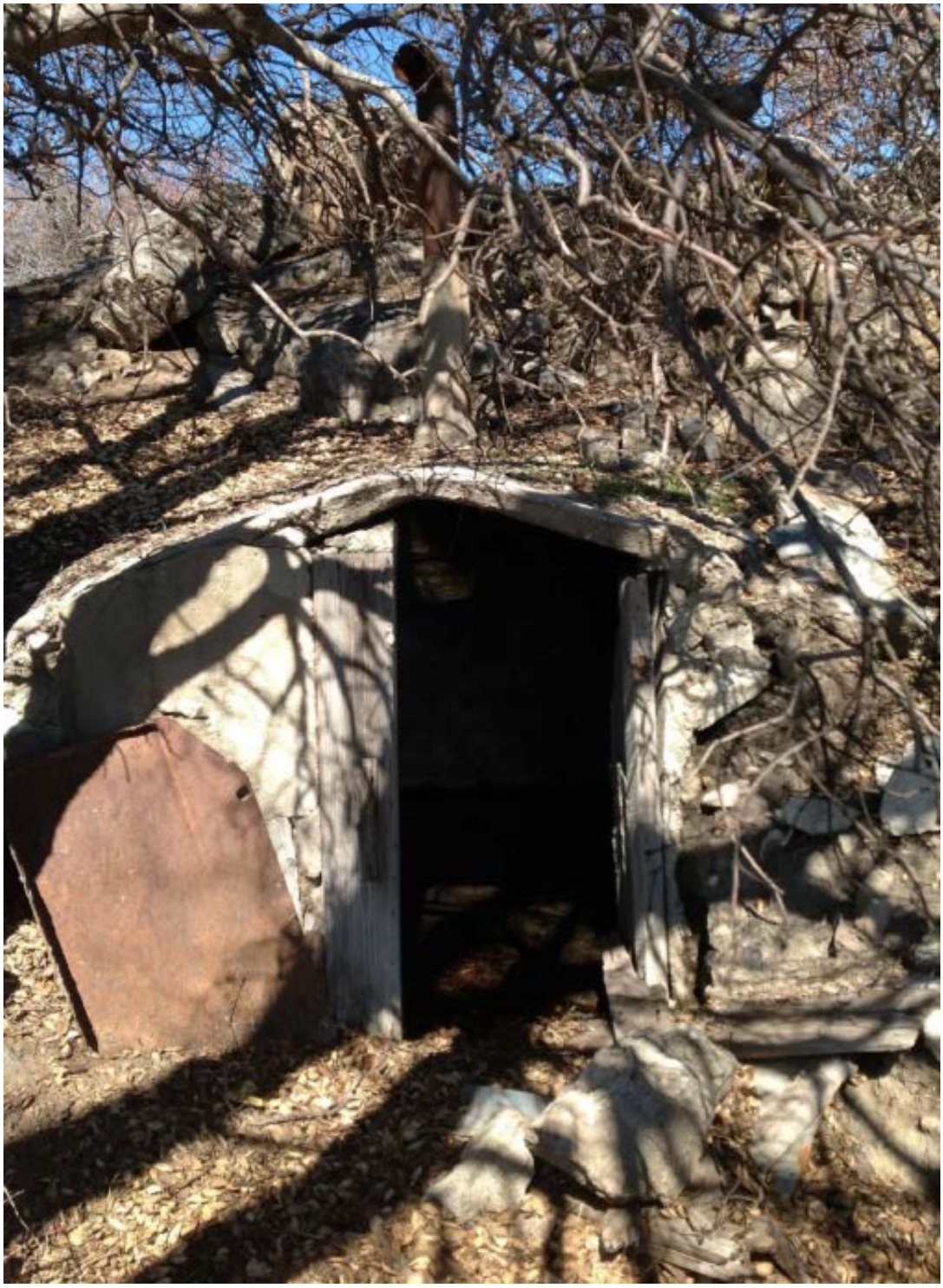

Figure 4.39 CA-SDI-20,955, Building 4, facing south

The southern half of the locus consists of animal pens/corrals, a wooden feeding trough, six concrete water troughs, the remains of another outbuilding, three additional rock walls, and a cleared grazing area. The outbuilding (Building 5) appears to be another storage building, based upon the presence of paint cans, hardware, and machinery parts. Much of the wooden remains of the structure burned in the recent fire, limiting the identification of the size and type of building. The three rock walls appear to be retaining walls, but their purpose cannot be determined at this time.

Refuse items identified at the site are predominately those associated with the remains of the structures. The majority of the refuse are marginally historic or modern items including bed and chair frames, oil drums, paint and solvent cans, electrical sockets, car parts (muffler, etc.), a water tank, aerosol cans, and tires. The historic age of the site was determined by the aforementioned date carved into Feature 2 (June 14, 1950) and the presence of a colorless glass bottle base with a 1938 Owens-Illinois maker's mark. As the refuse items are predominately located in and around structures with foundations/floors, and no privy or dump site was found, a subsurface deposit is unlikely at this locus.

CA-SDI-20,956 (GT-BC-13)

This site is a sparse lithic and ceramic scatter covering a 19-x-30-meter area in a gently sloping naturally formed swale between two small ridges. Sediments at the site are comprised of loose yellowish brown silty coarse sand and decomposing granite. Sparsely populated buckwheat is the primary vegetation at the site, with denser stands of red shack, Mojave yucca, manzanita, chamise and cacti along the margins of the site. Artifacts at the site include one multidirectional metavolcanic core, 10 brownware body sherds, one quartz shatter and one quartz interior flake. The ground surface through the site and surrounding area is subject to significant sheet washing. As such, it is possible that this site is the result of secondary deposition of artifacts and does not represent the location of prehistoric activities.

CA-SDI-20,957 (GT-BC-14)

This site consists of a single milling station situated on top of a large, moderately sloped hill, with commanding views to the southwest. The milling station is 1.9-x-4.1-meters in area and is located within a small outcrop of five highly weathered and exfoliated granite boulders. The slick remnant is only identifiable by a couple polished high spots measuring 16-x-8-centimeters. Soil at the site consists of light brown coarse sand and decomposing granite populated by red shank, Mojave yucca, and chamise, which burned in the 2011 wildfire. Given the absence of midden soil, a subsurface deposit is unlikely at this site.

CA-SDI-20,958 (GT-BC-15)

This site consists of temporary camp covering a 19-x-11-meter area. The site is situated on the east side of a small drainage amongst numerous highly weathered granite boulder outcrops. The ground surface at the site consists of decomposing granite, populated by buckwheat, Mojave yucca, scrub oak, chamise, cholla, and grass.

The milling station is a 1.6-x-5.1-x-1.3-meter granite boulder with a single, highly weathered slick, which measures 5-x-4 centimeters. Artifacts at the site include one quartz shatter, one green fine-grained metavolcanic interior flake, and one blue medium-grained metavolcanic shatter. Given the absence of midden soil and the abundance of near-surface bedrock, a subsurface deposit is unlikely at this site.

CA-SDI-20,959 (GT-BC-16)

This site is a sparse lithic scatter, which measures 31-x-21 meters. The site is located on the top of a small knoll, which gently slopes in all directions. The ground surface is composed of decomposing granite and coarse sand. Vegetation at the site includes chamise, cacti, chaparral yucca, red shank, buckwheat, and cholla. Ground surface visibility within the site boundary is good, owing to the limited vegetation; however, beyond the site boundary vegetation is denser and obscures the ground more, limiting visibility.

A total of thirteen pieces of debitage were identified at the site. The assemblage is dominated by metavolcanic interior flakes (n=8), with one metavolcanic secondary flake, one metavolcanic shatter, two quartz interior flakes, and one quartz shatter also present. Most of the flakes were identified on the west side of the site where sheet washing was observed to be heaviest. Based on the absence of midden soil, a subsurface deposit is unlikely at this site.

CA-SDI-20,960 (GT-BC-17)

This site is a sparse lithic scatter covering a 75-x-57-meter area. The site is located on the east side of a wide, gently sloping hillock with highly weathered granite outcrops located along the site margins. Light sheet washing appears to be dispersing artifacts downslope to the southeast. Vegetation is generally sparse in the center of the site, where the majority of artifacts were identified, and very dense along the site margins, severely limiting ground surface visibility. Vegetation at the site is comprised of buckwheat, chamise, grass, red shank, Mojave yucca, chaparral yucca, and scrub oak.

Artifacts at the site include one biface, one retouched flake, and 34 pieces of debitage. The lithic debitage assemblage is dominated by metavolcanic interior flakes (n=18), with lesser amounts of metavolcanic secondary flakes (n=8), metavolcanic shatter (n=2), and quartz (1 primary flake, three interior flakes, and one shatter). Many of the interior flakes are pressure flakes, indicating tool finishing and/or repair was the primary activity at the site. Artifact 1 is a coarse grained, blue-grey metavolcanic late-stage serrated biface fragment, with both the tip and base missing.

The biface measures 4.1-x-2.5-x-1.0-centimeters. Artifact 2 is a medium-grained metavolcanic unifacially retouched interior flake measuring 3.1-x-4.2-x-2.0-centimeters. Based on the absence of midden soil, a subsurface deposit is unlikely at this site.

P-37-033294 (GT-BC-18)

This site consists of a single rock retaining wall/dam situated within a drainage formed by the slopes of two hills. The wall is 5.5-ft tall at its highest point, 25 feet long, and varies from 1–2 feet wide. The wall varies between 9–10 courses in the center and as few as 2 courses at the ends. It is constructed of local granite rock and mortar using dressed and undressed cobbles. A single 5-inch diameter pipe extends through the face of the wall. No date could be determined for the wall, although it is presumed to originate in association with the nearby ranch site (CA-SDI-20,955) and the two other rock walls in the same drainage (P-37-033295 and P-37-033296). The wall does not appear to have been designed for water collection, but rather to control the speed of the water flow during storms. No historic artifacts were found in relation to the wall.

P-37-033295 (GT-BC-19)

This site consists of a single rock retaining wall/dam situated within a wide, shallow wash. The wall is 3 feet tall, 1.5 feet wide, and 21-ft long. It varies form 6–8 courses and is constructed from local dressed and undressed granite cobbles. The wall does not appear to have been designed for water collection, but rather to control the speed of the water flow during storms. No historic artifacts were found in relation to the wall. The wall is presumed to be associated with the nearby ranch site, CA-SDI-20,955, and the other two rock walls in the same drainage P-37-033294 and P-37-033296).

P-37-033296 (GT-BC-20)

This site consists of a single rock retaining wall/dam situated within a wide, shallow wash. The wall is 3 feet tall at the center, 1–1.5 feet wide, and 30 feet long. It varies form 6–8 courses in the center to 3 courses at the ends. It is constructed from local dressed and undressed granite cobbles. The wall does not appear to have been designed for water collection, but rather to control the speed of the water flow during storms. No historic artifacts were found in relation to the wall. The wall is presumed to be associated with the nearby ranch site, CA-SDI-20,955, and the other two rock walls in the same drainage (P-37-033294 and P-37-033295).

CA-SDI-20,961 (GT-BC-21)

This site consists of two milling stations located on a small hill covering a 49-x-10-meter area. Highly weathered and exfoliated granite outcrops are abundant on the hill and surrounding area, which may have contained additional milling stations. A small drainage with oak trees runs north-south on the east side of the site. Sediments at the site are comprised of light brown silty sand with decomposing granite. Vegetation includes red shank, chamise, scrub oak, cholla, and chaparral yucca. Feature 1 has a single highly exfoliated and weathered slick remnant measuring 30-x-17 centimeters. Feature two has two slicks, measuring 16-x-18-centimeters and 35-x-25-centimeters, respectively. No artifacts were identified at the site.

CA-SDI-20,962 (GT-BC-23)

This site is a historic ranch or home site covering a 64-x-90-meter area. The site is located on the east side of Tierra del Sol Road, approximately 50 meters north of the San Diego and Arizona Rail Road tracks. Soil at the site consists of light brown silty sand and decomposing granite. Native vegetation has been cleared from most of the site, likely to make room for a grass pasture, although buckwheat is now abundant.

Features at the site include a concrete slab foundation for a house, a concrete slab for and indeterminate outbuilding, a concrete wall/foundation for an indeterminate structure, the remains of a corral, and a dilapidated wooden structure, and a pile of milled wood. The dilapidated wooden structure (Feat. 2) appears to be a feeding trough for cattle and/or horses and is located next to the corral (Feat.1). The corral is constructed from 6-x-71/4-inch wood posts and barbed wire. The wood pile (Feat. 3) is likely the remains of another structure, possibly a windmill), but does not retain enough integrity to identify its purpose. Feature 4 is a poured concrete slab foundation, situated adjacent to the wood pile. Feature 5 is a concrete wall/foundation, which is located along a cut bank at the south end of the site. Feature 6 is a row of rock-filled cans embedded in the ground between Features 4 and 5. They run parallel to a wire mesh fence, which may have been some sort of pen. Feature 7 is the house slab (Figure 4.40). No walls or other components of the house are intact. Some modern and historic refuse is present on the slab, but there is nothing to directly date the slab. Feature 8 is a set of three steps, which lead up a short cut bank from the house into the yard.

Figure 4.40 CA-SDI-20,961, Feature 7, facing east

The vast majority of artifacts at the site are located in one large refuse deposit located at the southeast corner of the site (Concentration 1). It contains approximately 500 cans, dozens of glass bottle bases, over 100 glass fragments, and about 50 ceramic fragments of almost exclusively domestic consumption debris. Can types include hole-in-top, church-key opened beer cans, oval meat tins, cone top beer cans, fuel cans, single serve sanitary fruit/vegetable cans, tuna cans, one-half and one gallon paint cans, and multi-serve food cans. Many of the hole-in-top cans sizes do not appear to fit Simonis' (n.d) system, with the exception of about 30, which measure 2 8/16-x-2 6/16-inches (1917–1930 or 1931–1948).

All glass items are fragmentary. Bottle bases with maker's marks include: a translucent green Owen's Illinois 1933, brown, rectangular Maywood Glass base (ca.1958), a Latchford brown liquor bottle base (1925–1938 or 1957–), a Ben-Hur Coffee Hazel-Atlas colorless base (1920–1964), and a Glass Containers colorless base (1935–1940). Other glass items include multiple drinking glass fragments, three sun-colored amethyst glass fragments, and window glass fragments. Numerous porcelain vessel fragments, including plates, cups, bowls, and possibly a chamber pot, were identified. At least two of these have a F T & K maker's mark (Knowles, Taylor and Knowles, 1853–1934).

CA-SDI-20,963 (GT-BC-24)

This site is a small historic refuse dump consisting of a single dump concentration,, which measures 4-x-1-meters, and a few cans, which have been washed away from the dump site to the south. Overall the site covers a 19-x-7-meter area. This site is situated on a flat terrace, which is populated with moderately dense red shank, chamise, cholla, scrub oak and grass. Soil at the site consists of light brown silty sand and decomposing granite.

Artifacts consist almost exclusively of cans, and less than 10 glass items. Rotary opened sanitary cans (single and multi-serve are most abundant (7 each), with 5 hole-in-top cans (2 15/16 x 4 6/16), one oval meat tin, one church key opened beer can, one key-strip meat can, and two one-gallon rectangular fuel cans. The hole in top cans likely date to 1915–1930.

Glass artifacts at the site include a colorless drinking glass with an S-in-a-Star log (1916-1930), five sun-colored amethyst shards, one milk glass makeup lid fragment, a broken whisky bottle, a brown Clorox bottle base, and a J L & Co Ltd (1905–1937) green tinted bottle base. Based on the limited number of artifacts and the limited date range, this site is likely the result of a single dump event and subsurface deposit is unlikely.

CA-SDI-20,964 (GT-BC-25)

This site consists of the remains of a historic wooden bridge, which crosses a steep walled drainage. At this time, only 19 posts and beams of the bridge leg supports are still present and many have fallen into the drainage. The bridge span is no longer present; based on the distance

between the two supports, the bridge would have been about 25 feet long and 10 feet wide. The bridge would have been part of a now abandoned dirt road, which may have been an easterly extension to Moon Valley Road. Vertical posts in the supports are 10-x-11.5-inches; horizontal beams are 10 1/2 –x-10 1.4-inches. There is no evidence or material, which can date the bridge at this time. The only artifact at the site is a single metavolcanic interior flake, which was found in the road, approximately 3 meters west of the bridge remains.

CA-SDI-20,965 (GT-BC-26)

This is a temporary camp located on the west side of a small, north-south trending drainage. The site consists of a single milling station and a light lithic and ceramic scatter covering a 31-x-15-meter area on the south east side of gently sloping hillock. Highly weathered and exfoliating granite bedrock is abundant on the hillock, which is populated by cholla, red shank, chamise, chaparral yucca, and Mojave yucca. Soil at the site consists of light brown silty sand and decomposing granite.

The milling station is situated on the eastern margin of the site, along the edge of the drainage. Two moderately weathered slicks are located at the north edge of the bedrock. Artifacts at the site include one obsidian Cottonwood projectile point fragment, one quartz shatter, one porphyritic metavolcanic flake, and 13 brownware sherds (one rim). All artifacts are located slightly up slope to the west of the milling station, except the projectile point and rim sherd, which are one the milling station. The Cottonwood point is missing the tip and part of the base; it measures 2.0-x-1.2-x-0.3-centimeters (Figure 4.41). Based on the limited number of artifacts, and abundance of near-surface bedrock, a subsurface deposit is unlikely at this site.

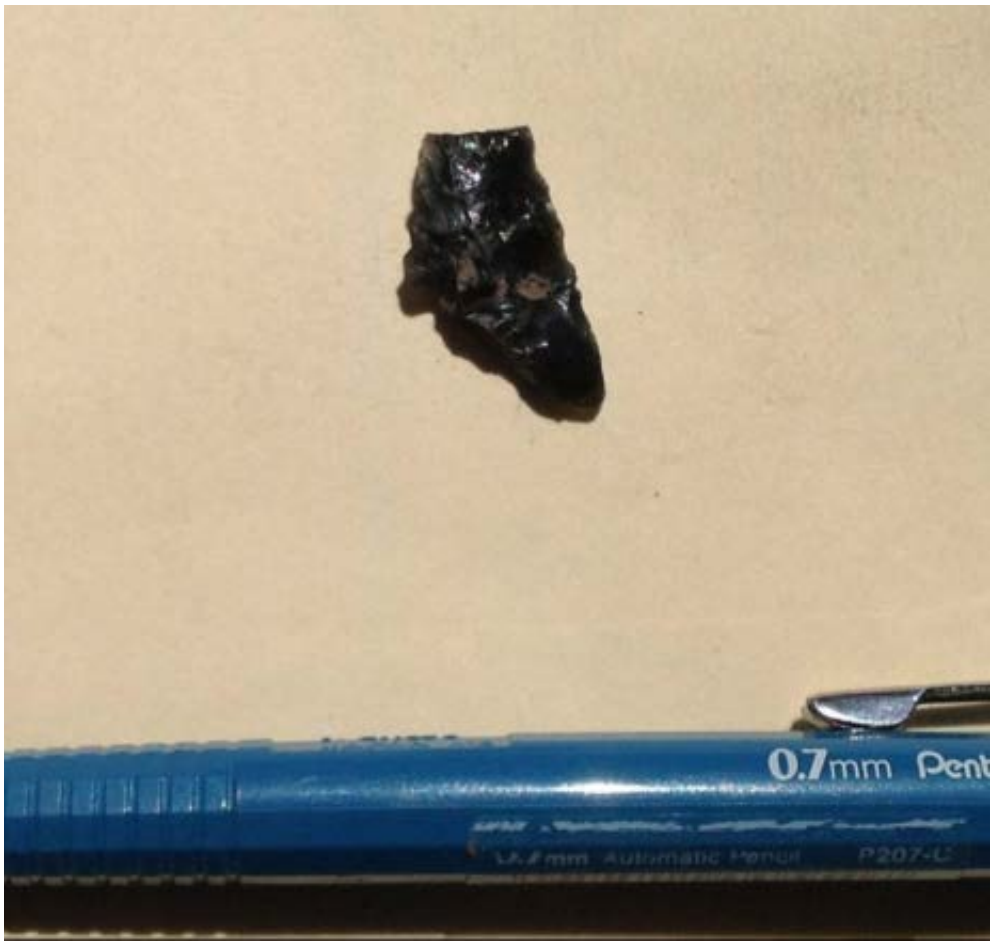

Figure 4.41 CA-SDI-20,965, Cottonwood obsidian projectile point

CA-SDI-20,966 (GT-BC-27)

This site consists of a historic period refuse deposit covering a 20-x-12-meter area. The site is located on the top of the western slope of a small ridgeline. Soil at the sites consists of loose, light brown silty sand and decomposing granite populated by red shank, chamise, and cholla. Disturbances to the site are limited to erosion of artifacts downslope.

The deposit consists almost exclusively of cans, with only a few glass and ceramic fragments also present. Approximately 50 kerosene/fuel cans and lids dominate the assemblage, with 10 hole-in-cap, four hole-in-top, five knife-cut sanitary fruit/vegetable cans, one rectangular fuel can, and one oval meat tin also present. Glass items include 2 sun-colored amethyst shards and unidentifiable glass bottle and jar fragments. One unidentifiable stoneware ceramic jar base is also present. The hole-in-top cans measure 2 15/16-x-4 6/16-inches,,which would date them to 1915–1930 (Simonis n.d.). Based on the landform and location of the site, a subsurface deposit is unlikely.

CA-SDI-20,967 (GT-BC-28)

This site consists of a single milling station with one slick remnant on a 19.6-x-2.5-x-0.8-meter highly weathered and exfoliated granite bedrock outcrop. The site is situated on the south slope of a gently sloping hill where numerous other bedrock outcrops are present. Vegetation at the site is very dense, and consists primarily of chamise, buckwheat, and chaparral yucca. Soil at the site consists of light brown silty sand and decomposing granite. Numerous other bedrock outcrops are present in the surrounding area, all of, which are highly weathered and exfoliated. The slick remnant measures 17-x-9 centimeters and is identifiable by only three polished high spots. Based on the absence of artifacts and soil type, a subsurface deposit is unlikely at this site.

CA-SDI-20,968 (GT-BC-29)

This site consists of a single milling station with one slick on a 3.6-x-1.9-x-0.5-meter granite bedrock outcrop. The site is situated on the east slope of a gently sloping hill, approximately 60 meters east of a north-south trending drainage. Soil at the site is comprised of light brown silty sand and decomposing granite. Vegetation, which burned in the 2011 wildfire, consists of red shank, chaparral yucca, and chamise. The slick measures 24-x-29 centimeters and is moderately weathered. Based on the absence of artifacts and soil type, a subsurface deposit is unlikely at this site.

CA-SDI-20,969 (GT-BC-30)

This site is a moderately dense ceramic scatter distributed between two small concentrations, covering a 20-x-15-meter area. The site is located on a generally flat terrace in an area with limited bedrock outcrops. Soil at the site is comprised of loose light brown silty sand and decomposing granite. Vegetation includes red shank, chamise, and Mojave yucca, which burned in the 2011 wildfire.

Concentration 1 comprises the eastern half of the site. It contains 80–90 brownware sherds in a 13-x-15-meter area. Concentration 2, which comprises the western portion of the site, contains 50–60 brownware sherds in a 4-x-12-meter area. No rim sherds or decorations were identified at this time. Any evidence of burning on the sherds, which may have been present cannot be distinguished from the soot and burning from the recent wildfire. Given the loose soil at the site, additional sherds are likely in the near-surface overburden, but a substantial subsurface deposit is unlikely.

CA-SDI-20,970 (GT-BC-31)

This site is a sparse ceramic scatter of 16 brownware sherds covering 8-x-4-meter area. The site is located near the intersection of two dirt roads on a flat terrace between two small ridges. Soil at the site consists of loose silty sand and decomposing granite, which is sparsely populated by cholla, red shank, and chamise, which burned in the 2011 wildfire. Based on the limited quantity of artifacts, this site appears to be a pot drop and is unlikely to contain a subsurface deposit.

CA-SDI-20,971 (GT-BC-32)

This site consists of a single milling station with one slick on a granite bedrock outcrop measuring 2.5-x-9.3-x-1.0-meters. The site is located on the west slope of a small ridge,, which is covered with extensive, highly weathered and exfoliated granite outcrops. Soil at the site is comprised of loose light brown silty sand and decomposing granite. Vegetation consists primarily of red shank and chamise, which burned in the 2011 wildfire. The slick remnant consists of only three polished high spots measuring 9.0-x-0.5-centimeters and is located at the south end of the boulder. Based on the absence of artifacts and soil type, a subsurface deposit is unlikely at this site.

CA-SDI-20,972 (GT-BC-33)

This site consists of a sparse lithic and ceramic scatter covering a 20-x-3-meter area. The site is situated on a gentle southeast trending slope on the west side of a small wash. Soil at the site is comprised of loose light brown silty sand and decomposing granite. Vegetation consists of chamise, buckwheat, scrub oak and sugar bush. Artifacts include three brownware sherds, one metavolcanic secondary flake and two metavolcanic shatter. Based on the minimal quantity of artifacts and lack of midden soil at the site, a subsurface deposit is unlikely.

Newly Recorded Isolates

- P-37-033309 (GT-BC-ISO-1) is a single quartz tested cobble, which measures 6.2-x-5.2-x-4.6-centimeters.
- P-37-033310 (GT-BC--ISO-2) is a quartz core, which measures 8.5-x-5.0-x-6 centimeters.
- P-37-033311 (GT-BC-ISO-3) is a bifacial quartzite handstone fragment, which measures 10.4-x-4.6-x-4.2 centimeters. Both facets are lightly ground.
- P-37-033312 (GT-BC-ISO-4) consists of a quartz tested cobble and a single brownware body sherd. The tested cobble measures 8.3-x-8.3-x-6.0 centimeters.
- P-37-033313 (GT-BC-ISO-5) is a 1922 USGLO survey marker. It is a metal stake within a pile of 8 granite rocks.
- P-37-033314 (GT-BC-ISO-6) is a single quartz shatter.
- P-37-033315 (GT-BC-ISO-7) is a single quartz interior flake situated at the edge of a small drainage.
- P-37-033316 (GT-BC-ISO-8) is a single metavolcanic interior flake.
- P-37-033317 (GT-BC-ISO-9) is a single brownware body sherd.
- P-37-033318 (GT-BC-ISO-10) is a 1916 USGLO section marker with a reference to a ¼ section of Section 12.

- P-37-033319 (GT-BC-ISO-11) is a quartz tested cobble and a brownware body sherd.
- P-37-033320 (GT-BC-ISO-12) is a 1916 USGLO survey marker for Section 12.
- P-37-033321 (GT-BC-ISO-14) consists of one fine-grained metavolcanic interior flake and one porphyritic metavolcanic shatter.
- P-37-033322 (GT-BC-ISO-16) is a single green metavolcanic interior flake.
- P-37-033323 (GT-BC-ISO-17) is a green metavolcanic interior flake fragment.
- P-37-033324 (GT-BC-ISO-18) consists of a multi-directional metavolcanic core and a quartz unidirectional core.
- P-37-033325 (GT-BC-ISO-20) is a single fine-grained metavolcanic secondary flake.
- P-37-033326 (GT-BC-ISO-21) is a single brownware ceramic sherd.
- P-37-033327 (GT-BC-ISO-22) consists of one quartz interior flake, one metavolcanic interior flake, and one metavolcanic shatter.
- P-37-033328 (GT-BC-ISO-23) is a single metavolcanic shatter.
- P-37-033329 (GT-BC-ISO-24) is a single metavolcanic shatter.
- P-37-033330 (GT-BC-ISO-25) consists of four brownware ceramic sherds.

4.2.5 Gen-Tie Site Evaluation Results

This section presents the results of cultural resource evaluations completed for the five cultural resources within the Tierra del Sol Gen-Tie area, which will be impacted by project construction. Sketch maps for each site showing the placement of STPs, SSUs, CSCs, and location of artifacts, are referenced as figures in this section, but all maps have been placed in Confidential Appendix B.

CA-SDI-20,945 (GT-BC-1)

The site was initially recorded by during the pedestrian survey for the current project. The site was recorded as a wood pile, thought to be the remains of a windmill, and a sparse historic can scatter. For the current evaluation, the site was found to be in the same condition as previously recorded. The site is situated on a gentle, east facing slope along the edge of an abandoned dirt road. Ground surface visibility is good (50–75%) in most of the site and poor (<25%) at the south end of the site adjacent to and underneath an oak tree. Vegetation at the site is primarily sagebrush and non-native grass, with oak trees and chaparral along the margins of the site.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with an intensive pedestrian survey of the site, conducted in 2-meter intervals. A total of seven cans, 45 glass fragments, and the wood pile were relocated on the surface (see Figure 4.42; Confidential Appendix B). All of the cans were located at the

south end of the site in an approximately 3-x-3-meter area, underneath the oak tree. Can types include: three 1-gallon paint cans, one 3 15/16 x 5 8/16 inch cylindrical motor oil can, two 4 x 5 7/16 fruit/vegetable sanitary cans, and one 3 15/16 x 5 8/16 inch sanitary fruit/vegetable can. All of the glass items are small, non-diagnostic colorless window glass fragments, located along the east edge of the dirt road.

The wood pile was examined in detail in the field, with detailed measurements taken on each piece of lumber in order to determine if the dilapidated structure was actually a windmill. All of the lumber and lumber fragments were found to have split and cracked, limiting the accuracy of the milled dimensions. Slats of various lengths, measuring 1-x-3 inches are most abundant (n=30). These could have been used for cross bracing or siding for the structure. Two sets of slats and boards were found nailed together, each measuring 8-x-2 .75 feet, which appear to be platform/decking panels. Four posts, measuring 3-x-7 inches, were likely used as legs for the structure. Seven boards measuring 2-x-6 inches and five boards measuring 2-x-8 inches of varying lengths are also present, which appear to have been components of platform panels. Four pieces of plywood were also recorded, which were also likely components of platform panels. Numerous 8d wire nails (galvanized and non-galvanized) were also observed; the non-galvanized nails showed little rust, indicating they have not been exposed to the elements for long.

Within the wood pile, one small motor and several metal pulleys were observed. The pulleys were attached to some of the posts, so appear to be related to the structural remains. The motor, which may have been used to operate a pump, was only minimally rusted, suggesting it may not be related to the structural remains, or was a more recent addition/replacement.

No artifacts were collected from this site, as it was determined that their research value was exhausted through field recordation and because of the fragmentary and non-diagnostic nature of the artifacts.

Figure 4.42 Sketch map of CA-SDI-(GT-BC-1) (Confidential Appendix B)

Excavation Results

Two STPs and one SSU were excavated at the site; the STPs were excavated to a depth of 40 centimeters and the SSU was excavated to a depth of 10 centimeters. One STP and the SSU were excavated within the can scatter, and one STP was excavated within the wood pile. No subsurface artifacts were recovered. Excavated soils identified loose, grey-brown silty sand with subangular pebbles to a depth of 40 centimeters.

Historic Research

Historic research to examine the original of the structural remains included reviewing historic maps and historic aerial photographs of the project area. Historic maps and aerial photographs available from www.historicaerials.com do not indicate the presence of any structure at this location or in the immediate area. The dirt road at the site, which was presumably used to access, and likely build, the structure does not appear on any maps and cannot be seen on aerial photographs. A November 7, 1957, aerial (Figure 4.43, Confidential Appendix B; Figure 4.44) available from earthexplorer.usgs.gov of the area does not show any of the dirt roads in the vicinity of the site, suggesting even the larger access roads (e.g., McCain Lane and Fisher Rd) into this location had not been cut by that time and therefore the small dirt access road, which provides direct access to the site location and is a spur of those two roads, would not yet have been created. Therefore, the site likely dates to sometime after November 1957. Given that there is no evidence of the site or nearby dirt access roads on the 1957 aerial, the site very well could be too recent to even qualify as historic.

Figure 4.43 1957 USGS Aerial photo (zoomed in and cropped) with CA-SDI-20,945 site boundary (Confidential Appendix B)

Figure 4.44 1957 USGS Aerial photo (source for Figure 4.43)

Discussion and Site Summary

This site contains a pile of milled lumber and a sparse scatter of marginally historic cans and glass fragments. The paucity of load-bearing boards and posts suggests that the wood pile is not the remains of a windmill but rather a simple platform or decking of indeterminate

origin/function. It is also possible that the wood pile may only contain a portion of the windmill ruins, where larger boards and or posts may have been removed from the site, or the lumber was discarded at this location and the original structure may have been located elsewhere. Regardless, the structure cannot be conclusively identified and retains no integrity, as it is no longer intact. No diagnostic artifacts were identified at the site. Neither historic maps nor aerials provide evidence of a structure at this location. Evaluation fieldwork analyzed all cultural material identified at that time at the site and testing demonstrated that no significant subsurface cultural deposits are present at the site. Given the absence of an intact structure, diagnostic artifacts, historic mapping or imagery of the former structure, and no subsurface deposit, the information potential of the site has been exhausted. Thus, the site is recommended as not eligible for listing in the CRHR or Local Register because it contributes little to a local or regional understanding of historic occupation and retains no integrity. While the site is not significant under CEQA or the County RPO, it is considered important under County guidelines; but impacts to the importance of the site can be reduced to less than significant through the recording and evaluation efforts described herein, as well as through monitoring of project-related ground disturbance.

CA-SDI-20,946 (GT-BC-2)

The site was initially recorded during the pedestrian survey for the current project. The site was recorded as a light scatter of quartz and metavolcanic debitage and two ceramic sherds. For the current evaluation, the site was observed to be in a similar condition as previously recorded; however, the metavolcanic debitage, the core, and one ceramic sherd were not relocated, and additional quartz debitage was identified. The site expanded slightly to the south to incorporate additional debitage, and was defined during evaluation as a sparse prehistoric scatter of lithic debitage with one ceramic sherd spread thinly over a 52-x-38-meter area. The site is situated on a westerly trending gently sloping swale amongst a series of large granite bedrock outcrops on a series of rolling hills dotted with multiple large exposed granite outcrops. Ground surface visibility is excellent (>75%) at the site, as vegetation is very sparse.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with an intensive pedestrian survey of the site, conducted in 2-meter intervals. A total of 19 artifacts were initially identified on the surface; however, all but seven were determined as non-cultural in the lab and deaccessioned (see Figure 4.45; Confidential Appendix B; and Figure 4.46). These seven artifacts include six pieces of quartz debitage and one brownware ceramic body sherd. All artifacts were collected individually as piece plots.

Figure 4.45 Sketch map of CA-SDI-20,946 (GT-BC-2) (Confidential Appendix B)

Figure 4.46 Overview photograph of CA-SDI-20,946 (GT-BC-2), facing east

Debitage was consistent with expedient flake tool production of low quality material. One cortical flake, one secondary flake, and four shatter comprise the entire lithic assemblage. Tool maintenance would have produced smaller, more refined debitage, such as biface thinning flakes or pressure flakes (see Hale 2009). The brownware body sherd did not have any decoration or characteristics, which could identify vessel type or use.

Excavation Results

A total of six STPs and one SSU were placed within the recorded boundary for the site. STP placement was somewhat subjective, but keeping to a 10–15-meter distance and placed in areas to provide sample testing coverage since no areas in particular had surface indications of buried deposits. No STPs yielded subsurface cultural material and no midden soils were identified. All STPs were excavated until encountering bedrock or until a depth of 40 centimeters. Excavated sediments revealed a 12–40-cm-thick layer of grey-brown silty sand with high pebble content, above very compact light brownish-yellow decomposing granite bedrock. The SSU was subjectively placed near the ceramic sherd in order to examine the possibility that additional sherds could be present beneath leaf litter and the loose sediments on the ground surface. No artifacts were recovered from the SSU.

Discussion and Site Summary

CA-SDI-20,946 (GT-BC-2) is a sparse lithic retooling station comprised of a handful of debitage and a brownware ceramic sherd, all of, which were confined to the surface. This limited assemblage reflects a short-term stopover for tool production, possibly for exploitation of immediately available resources (i.e., small animals or the like). The brownware was identified at the edge of a generally flat granite outcrop, suggesting the possibility it could have held seeds or other vegetal matter for grinding on the outcrop; however, no evidence of grinding was observed on the heavily exfoliated and weathered rock. Evaluation fieldwork recovered all cultural material identified at that time from the site and testing demonstrated that no significant subsurface cultural deposits are present at the site. Although seven metavolcanic debitage and the single quartz core observed during the survey were not relocated during testing, their collection would not fundamentally alter the character of the site. The lack of substantial subsurface cultural deposits and datable material makes it difficult to place this site in time or in association with other sites in the region. Thus, the site is recommended as not eligible for listing in the CRHR or the Local Register, not eligible for protection under RPO guidelines, and not significant under CEQA. The site is considered important under County Guidelines; however, impacts to the site can be reduced to less than significant through recordation and evaluation efforts described herein, as well as curation of artifacts and monitoring of project-related ground disturbing activities.

CA-SDI-20,947 (GT-BC-3)

The site was initially recorded by Dudek during the pedestrian survey for the current project. The site was recorded as a light scatter of quartz debitage. For the current evaluation, Dudek observed the site to be in the same general condition as previously recorded; however, only a portion of the debitage was relocated and collected. The site is situated on the south facing slope of a small hill, adjacent to a large granite boulder. Ground surface visibility is good (50–75%) within the site boundary, as vegetation is very sparse; however, dense vegetation obscures the ground surface in the surrounding area. A thin veneer of very loose sand covers the ground surface adjacent to the boulder, which may obscure additional artifacts.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with an intensive pedestrian survey of the site and surrounding area, conducted in 2-meter intervals. A single quartz shatter was identified on the surface, beneath an overhang of the large boulder, and was collected (see Figure 4.46; Confidential Appendix B). Debitage was consistent with opportunistic toolstone procurement and testing. After a detailed inspection, the tested cobble identified during the survey was reclassified as shatter. The remaining shatter were either not relocated or determined non-cultural in the field.

Figure 4.47 Sketch map of CA_SDI-20,947 (GT-BC-3) (Confidential Appendix B)

Excavation Results

A total of two STPs and one SSU were placed within and around the recorded boundary for the site. STPs were subjectively placed in areas, which appeared may have sediment accumulation over the abundant decomposing granite and may therefore have buried deposits. Neither of the STPs yielded subsurface cultural material and no midden soils were identified. Both STPs were excavated to a depth of 40 centimeters where bedrock was encountered. Excavated sediments revealed a 35–40-centimeter-thick layer of grey-brown silty sand with a high percentage of small, angular pebbles, above very compact light brownish-yellow decomposing granite bedrock. The SSU was subjectively placed in the center of the site where most of the artifacts identified during the survey were identified to explore the possibility that artifacts originally observed during the survey were obscured by the loose sand on the ground surface. No artifacts were recovered it the SSU.

Discussion and Site Summary

CA-SDI-20,947 (GT-BC-3) is a sparse toolstone procurement and testing station comprised of one quartz debitage, all of, which were confined to the surface. This limited assemblage reflects an opportunistic collection and testing of a single cobble, as natural quartz cobbles are abundant in the surrounding area and the granite boulder would have provided a shady respite from the sun and wind. Evaluation fieldwork recovered all cultural material identified at that time from the site and testing demonstrated that no significant subsurface cultural deposits are present at the site. The pieces of shatter, which were not relocated at this time were likely either obscured by loose sandy sediments and/or leaf litter, or were re-classified as non-cultural during the evaluation fieldwork. In any case, the presence of a handful of additional debitage would not fundamentally alter the character of the site. The lack of substantial subsurface cultural deposits and datable material makes it difficult to place this site in time or in association with other sites in the region. Thus, the site is recommended as not eligible for listing in the CRHR or the Local Register, not eligible for protection under RPO guidelines, and not significant under CEQA. The site is considered important under County Guidelines; however, impacts to the site can be reduced to less than significant through recordation and evaluation efforts described herein, as well as curation of artifacts and monitoring of project-related ground disturbing activities.

CA-SDI-20,948 (GT-BC-4)

This site was originally recorded by Dudek for the pedestrian survey of the Gen-Tie as a quartz quarry located within a natural quartz outcrop. For the current evaluation, Dudek observed the site to be in the same general condition as previously recorded; however, further scrutiny in both the field and the laboratory of the lithic material determined that the artifactual constituents were not as extensive as originally recorded. Many of the originally identified quartz shatter and tested cobbles were determined at this time to be the result of natural fractures. The site was delineated during the evaluation to consist of a small, lightly used collection quarry, where natural cobbles were minimally tested. The site was found to cover the same 40-x-36-meter area as originally reported, with the densest concentration in the northwest quarter of the site.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with an intensive pedestrian survey of the site and immediately surrounding area, conducted in 2-meter intervals. A total of 45 artifacts were identified on the surface. A sample of the surface artifacts was collected in four CSCs; one artifact was collected as a piece-plot to supplement the CSCs (see Table 4.13; Figure 4.48; Confidential Appendix B). CSC 1 was 15-x-15-meters, divided into nine 5-x-5-meter sub-units and was subjectively placed in the densest concentration of artifacts (Figure 4.49. A total of 17 artifacts were collected from CSC 1, indicating maximum density of 1.9 artifacts per square meter (Table 4.13). CSC 2 (5-x-10-meters) and CSCs 3 and 4 (5-x-5-meters) were subjectively placed in the next densest location of artifacts (Table 4.13). In total, 31 artifacts were collected from the surface including 24 quartz debitage, six quartz tested cobbles, and one quartz utilized flake tool. This sample represents approximately 68.9% of all surface material observed during testing. Debitage was consistent with limited quarrying activity of mostly poor quality material, where useful cobbles, if found, were likely transported to another location for further reduction and tool production.

Table 4.13 Inventory of Surface Artifacts Collected from CA-SDI-20,948 (GT-BC-4)

		Artifact Class					
		Debitage					
	Cell	Primary	Interior	Shatter	Tested Cobble	Utilized Flake	Total
Piece Plot		1	-	-	-		1
CSC 1	A	-	1	3	3		7
	B	-	-	4	1		5
	C	-	-	-	-		
	D	-	-	-	-		
	E	-	1	3	-		4
	F	-	-	-	-		
	G	-	-	-	-		
	H	-	-	-	-		
	I	-	-	-	-		
CSC 2	A	1	-	3	-		4
	B	-	1	-	-		1
CSC 3	A	-	2	1	1	1	5
CSC 4	A	-	-	3	1		4
Grand Total		**2**	**5**	**17**	**6**	**1**	**31**

Figure 4.48 Sketch map of CA-SDI-20,948 (GT-BC-4) (Confidential Appendix B)

Figure 4.49 Overview of CSC 1 at CA-SDI-20,948 (GT-BC-4)

Excavation Results

Six STPs were excavated at the site at subjectively chosen locations of the densest artifact clusters, while maintaining approximately 15 meter spacing between units. None of the six STPs produced cultural material. Excavated sediments revealed 15–25-centimeters thick deposit of grey-brown silty sand with an abundance of small, angular pebbles and numerous quartz cobbles, overlaying decomposing granite. All STPs were terminated at decomposing granite.

Discussion and Site Summary

CA-SDI-20,948 (GT-BC-4) is a small, limited use quarry/lithic procurement area. All cultural materials were recovered from the ground surface. The abundance of shatter, limited quantity of identifiable flakes, and the absence of bifaces or other formed tools indicates that this site represents a location of raw material collection, rather than processing. Naturally outcropping quartz cobbles were minimally tested on site and, if determined of sufficient quality, transported to another location for further processing and tool production. The absence of hammerstones, which are usually abundant at lithic quarries and tool processing locations, also indicates that the

majority of processing of higher quality cobbles occurred elsewhere. Quartz fractures naturally in the same manner it fractures when knapped; this similarity likely explains the difference between the quantity of tested cobbles and debitage identified during the survey and during the evaluation: what appeared to be intentional knapping fractures during the survey were determined, upon more extensive analysis, to be natural.

Evaluation fieldwork recovered approximately 68.9% of the cultural material identified at the site and testing demonstrated that no significant subsurface cultural deposits are present at the site. The lack of substantial subsurface cultural deposits and datable material makes it difficult to place this site in time or in association with other sites in the region. Thus, the site is recommended as not eligible for listing in the CRHR or the Local Register, not eligible for protection under RPO guidelines, and not significant under CEQA. The site is considered important under County Guidelines; however, impacts to the site can be reduced to less than significant through recordation and evaluation efforts described herein, as well as curation of artifacts and monitoring of project-related ground disturbing activities.

CA-SDI-20,972 (GT-BC-33)

The site was initially recorded by Dudek during the pedestrian survey for the current project. The site was recorded as a light scatter of quartz and metavolcanic debitage and ceramic sherds. For the current evaluation, Dudek observed the site to be in the same condition as previously recorded; all artifacts identified during the survey were relocated. The site was defined during evaluation as a sparse prehistoric scatter of lithic debitage and ceramics spread thinly over a 20-x-3-meter area. The site is situated on a gentle southeast trending slope on the west side of a small wash. Ground surface visibility is good (50–75%) at the site, as vegetation is generally sparse. Vegetation consists primarily of buckwheat, with scrub oak present around the margin of the site.

Site Structure, Artifact Recovery, and Assemblage Composition

Evaluation fieldwork began with an intensive pedestrian survey of the site and immediately surrounding area, conducted in 2-meter intervals. A total of six artifacts were identified on the surface (see Table 4.14; Figure 4.50; Confidential Appendix B), including three pieces of metavolcanic debitage and three brownware ceramic body sherd. All artifacts were collected individually as piece plots.

Figure 4.50 Sketch map of CA-SDI-20,972 (GT-BC-33) (Confidential Appendix B)

Debitage was consistent with expedient flake tool production. Two secondary flakes and one interior flake were recovered. Tool maintenance would have produced smaller, more refined debitage, such as biface thinning flakes or pressure flakes (see Hale 2009). The brownware body sherds did not have any decoration or characteristics, which could identify vessel type or use.

Excavation Results

A total of two STPs and one SSU were placed within the recorded boundary for the site. STP placement was subjective, with one placed at each end of the site to provide sample testing coverage since no areas in particular had surface indications of buried deposits (Figure 4.51). Neither of the STPs yielded subsurface cultural material or midden soil. A small sample of charcoal pieces was collected from STP 2, but there is no indication that it is associated with a feature or fire-affected rock, and is therefore likely natural. Each STP was excavated until a depth of 40 centimeters. Excavated sediments revealed a single layer of grey-brown silty sand with high pebble content. The SSU was subjectively placed over the location of two of the ceramic sherds in order to test the possibility that additional sherds were present beneath leaf litter and the loose sediments on the ground surface. Nine brownware ceramics were recovered in the SSU; two were rim sherds and seven were body sherds, however, due to their fragmentary nature, they lack characteristics, which could identify vessel form or function.

Figure 4.51 Overview photo of CA-SDI-20,972 (GT-BC-33), facing west

Table 4.14 Inventory of all Artifact Collected from CA-SDI-20,972 (GT-BC-33)

Provenience		Artifact Class					
		Debitage		Ceramic			
Unit No.	Level	Secondary	Shatter	Rim Sherd	Body Sherd	Charcoal	Total
Surface Collection		2	1	-	3	-	6
SSU 1	0-10	-	-	2	7	-	9
STP 2	0-20	-	-	-	-	-	0
	20-40	-	-	-	-	1	1
Grand Total		**2**	**1**	**2**	**10**	**1**	**16**

Note: STP 1 was negative

Discussion and Site Summary

CA_SDI-20,972 (GT-BC-33) is a sparse lithic retooling station comprised of a few pieces of debitage, and a pot drop. All recovered artifacts were recovered at or near the ground surface. This limited assemblage reflects a short-term stopover for tool production, possibly for exploitation of immediately available resources. The brownware sherds recovered from such a small location near the surface indicates is it likely the result of a pot drop. Evaluation fieldwork recovered all cultural material identified at the site and testing demonstrated that no significant subsurface cultural deposits are present at the site. The lack of substantial subsurface cultural deposits and datable material of cultural origin makes it difficult to place this site in time or in association with other sites in the region. Thus, the site is recommended as not eligible for listing in the CRHR or the Local Register, not eligible for protection under RPO guidelines, and not significant under CEQA. The site is considered important under County Guidelines; however, impacts to the site can be reduced to less than significant through recordation and evaluation efforts described herein, as well as curation of artifacts and monitoring of project-related ground disturbing activities.

5.0 INTERPRETATION OF RESOURCE IMPORTANCE AND IMPACT IDENTIFICATION

This section presents the interpretation of the evaluated resources for the Tierra del Sol LLC Project, provides eligibility recommendations, and discusses the impacts to these resources. This section also summarizes the results of the pedestrian survey and evaluations for the Tierra del Sol Gen-Tie. It presents interpretations, provides eligibility recommendations for the five evaluated sites, and discusses the impacts to and treatment of all of resources identified for the Gen-Tie. According to County guidelines, the 29 sites that were not evaluated are considered significant under CEQA and the County RPO; the sites have been avoided by project design and will not be impacted.

5.1 Tierra del Sol LLC Project

5.1.1 Resource Importance and Management Concerns

The current cultural resource evaluation focused on 13 archaeological sites and five isolates within the Tierra del Sol project area. The primary goals of this study were to identify cultural resources that have the potential to be adversely affected by implementation of the proposed project, and to provide an evaluation of the resources to identify their potential eligibility to the CRHR, the Local Register, and the County RPO.

San Diego County is the lead review agency for the Tierra del Sol LLC project; therefore the sites have been evaluated for eligibility to the CRHR under CEQA Guidelines, as well as being evaluated for importance under the County Guidelines. While sites may be recommended as eligible or not eligible for listing on the CRHR based on Criterion 4, data potential, and criteria 1–3 for some historical archaeological sites with structures, under the County Guidelines, all sites are considered "important." Although all sites are considered important under the County Guidelines, the "importance" of sites recommended as not eligible for listing on the CRHR can be exhausted through recordation, testing, curation of artifacts and grading monitoring.

The surface survey and testing program was conducted to satisfy the requirements of CEQA. Important in such an endeavor is the development of an understanding of each identified resource in such a way that its historical significance can be assessed. CEQA mandates the consideration of the historical significance of a resource in an effort to gauge whether it has the potential to be listed on the CRHR. Criteria 1–4 of CEQA are a set of standards for determining the eligibility of a resource to be considered a historical resource eligible for listing on the CRHR. (These criteria were discussed in Chapters 1 and 2.)

The following eligibility recommendations were based primarily on Criterion 4 of CEQA for archaeological values, since the data generated during the evaluation program can be used to judge whether a particular cultural resource has yielded or may be likely to yield information important in prehistory or history. Data potential is represented by general archaeological characteristics—i.e., assemblage integrity, size, diversity, defined chronology, and the potential

for buried deposits. No information has been generated through Native American consultation that could tie the aboriginal archaeological sites to particular place names or identify them as sacred sites. For historical archaeological sites with structural remains, archival research was conducted to assess site significance under CEQA Criteria 1–3 as well to determine whether any of these sites may have been associated with persons or events significant during the historic era.

Based on these factors, of the nine evaluated historical archaeological sites and four evaluated prehistoric archaeological sites, all are recommended as not significant and not eligible for listing in the CRHR or local register under CEQA and County guidelines (Tables 5.1 and 5.2). Additionally, none of these sites have elements that would be considered significant and eligible for protection under County RPO. However, 11 of the 13 evaluated cultural resource sites are considered "important" under County guidelines. The exceptions are CA-SDI-6999 and CA_SDI-20,653; as no cultural materials were identified at these locations during the evaluation, they are not considered archaeological sites and are therefore not considered important under County guidelines.

Five isolates were also identified within the project area. However, cultural resource isolates are not considered eligible for listing on the CRHR or the Local Register, are not considered important under County Guidelines and are not significant under County RPO.

5.1.1.1 Integrity of Tested Sites

Integrity is an important factor in the evaluation of historical resources. Integrity fundamentally affects associations that are critical for understanding behavioral relationships in site formation and design for prehistoric and historical archaeological sites. Of the current set of 13 evaluated cultural resource sites, most archaeological deposits had at least fair integrity, based on horizontal spatial distributions. Some sites, such as refuse deposits at CA-SDI-20,657 and CA-SDI-20,558, had poor integrity, had surficial archaeological deposits that were compromised by excessive erosion, livestock traffic, and/or extensive vegetation clearance and grading. These factors were easily overcome by the lack of overlapping dump episodes, making the assumption of association of dispersed artifacts less tenuous. Most other refuse deposits, however, had relatively discrete (albeit sparse) dump areas with less post-depositional dispersal of artifacts. Prehistoric lithic deposits fared better. Pieces of debitage were distributed over relatively small areas, considering the length of time they have been exposed to historic uses of the land (at least a hundred years or more). The fact that a boundary could be drawn around prehistoric artifact scatters is usually enough to safely assume that all identified artifacts in that area are related to the same or similar kinds of occupation, relative to assemblage composition. Bedrock milling features, however, suffered from exposure and erosion. One possible milling feature identified at CA-SDI-20,653 during the survey could not be relocated because the area containing the possible mortar was inspected during the evaluation phase and determined to not have evidence of human modification. Another bedrock milling feature at CA-SDI-20,652 was extremely weathered, although traces of use and the overall shape of the mortar was enough to determine it had been used for processing.

Table 5.1 Attributes of Evaluated Prehistoric Sites for the Tierra del Sol Project

Site CA-SDI	Site Type	Diagnostic Artifacts	Time Range	Features	Tools	Physical Integrity	Significant Buried Deposits	Significance/ Eligibility	Impact	Mitigation Measures	Significance After Mitigation
6999	Ceramic Scatter	+ (1)	Prehistoric	-	-	Poor (not found)	-	County: Not Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	None; Resource not relocated	None	No Impact
20,650	Lithic Scatter	-	Prehistoric	-	+ (1)	Fair	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Artifact Collection, Curation, Monitoring	Less Than Significant
20652	Bedrock Milling	-	Prehistoric	+	+ (1)	Poor	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Artifact Collection, Curation, Monitoring	Less Than Significant
20653	Lithic Scatter	-	Prehistoric	-	-	Fair	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	None; Resource not relocated	None	No Impact

Table 5.2 Attributes of Evaluated Historic Sites for the Tierra del Sol Project

Site CA-SDI	Site Type	Diagnostic Artifacts	Time Range	Discrete Dump Points	Modern Dumping	Physical Integrity	Significant Buried Deposits	Structures/ Structural Remains	Significance Eligibility	Impact	Mitigation Measures	Significance After Mitigation
7000	Homestead, Residential Site, HPRD	+	1930-1960s	+	+	Poor	-	+	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20651	HPRD	+	Post 1950	+	+	Fair	-	-	County: Important; CEQA: Not Significant, Not	Significant	Evaluation, Research, , Monitoring	Less Than Significant

Table 5.2 Attributes of Evaluated Historic Sites for the Tierra del Sol Project

Site CA-SDI	Site Type	Diagnostic Artifacts	Time Range	Discrete Dump Points	Modern Dumping	Physical Integrity	Significant Buried Deposits	Structures/ Structural Remains	Significance Eligibility	Impact	Mitigation Measures	Significance After Mitigation
									Eligible; RPO: Not Significant			
20654	HPRD	+	Post 1950	-	-	Fair	-	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20655	Residential Site, HPRD	+	1935-Post 1950	+	-	Poor-Fair	-	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20656	HPRD, Reservoir	+	Post 1950	-	-	Poor	-	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20657	HPRD, Agricultural	+	1930-1940	-	-	Poor	-	+	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20658	HPRD	+	Post 1960	+	-	Fair	-	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20659	HPRD	-	Unk.	+	-	Fair	-	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant
20660	HPRD	+	Post-1950	+	-	Fair	-	-	County: Important; CEQA: Not Significant, Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Collection, Curation, Monitoring	Less Than Significant

Integrity of built environment resources is easier to ascertain since structures are either present in good condition, disrepair/neglect, or absent altogether. All built environment resources recorded at evaluated sites are either partly or completely destroyed, leaving remnants consisting of bare structures (such as those at CA-SDI-7000), or fragmented remains of foundations with scattered building debris. At CA-SDI-20,657, the presence of mature trees and rock and mortar foundation retaining walls suggest a homesite was once present but no evidence of a structure was identified, other than the retaining walls. The variability in integrity of the built environment complicates a full understanding of the historical occupants of the project area, and reduces the contribution of these sites to historical research themes.

5.1.1.2 Chronology, Settlement, and Site Function

Prehistoric Cultural Resources

Available chronological information varied within and between historic and prehistoric archaeological sites. Prehistoric sites produced no time-sensitive artifacts. The vast majority of prehistoric cultural material recovered during this evaluation consists of flaked stone chipping debris; tools were rare. A single quartz biface was recovered from CA-SDI-650, but it is a crude, unfinished implement with no traces of use. None of the groundstone items are time-sensitive. One isolated Pinto-series projectile point was recorded during the survey phase for this project by Brian Glenn. Pinto-series points tend to date from 8,500–4,500 years before present (B.P.) in the southern Great Basin; but such points are poorly dated, if at all in San Diego County (see Hale 2009). At best, the Pinto-series point represents aboriginal occupation prior to the adoption of the bow and arrow sometime after A.D. 500.

Assemblage composition at prehistoric sites is limited in diversity and scale. Minimal artifact counts make any interpretation tenuous, even when cast in a regional light. A handful of debitage, two pieces of groundstone, one bedrock milling feature, one biface, and one projectile point comprise the entire prehistoric assemblage from all project sites. To be certain, these artifacts are common throughout California, and especially in the McCain Valley and surrounding regions. In McCain Valley, Hale and Quach (2011) documented more than 200 prehistoric archaeological sites that contained nearly a hundred rock shelters and thousands of pieces of debitage and aboriginal ceramics, and dense midden. Bedrock milling features there are ubiquitous, holding the full range of milling surfaces (i.e., slicks, basins, cupules, mortars, and collared slicks). Projectile points are also common, being dominated by post-A.D. 500 arrow tips but earlier dart forms are also represented (including Pinto-series projectile points). In that light, the current set of evaluated prehistoric sites produced an insignificant amount of cultural material; especially considering the lack of chronological control and buried cultural deposits. There are small, low density and low diversity sites in McCain Valley, and many are similar to those evaluated for this project; a small amount of flaked stone chipping debris with the occasional tool and piece of pottery. Such small sites, including those evaluated for this project,

represent short-term stopovers by one or a few people for the purposes of replenishing tools or the situational exploitation of a local resource (i.e., rabbit, lizard, stand of grass seeds, etc.). Such behaviors are interesting, and fit within a regional pattern of low-intensity seasonal occupation documented throughout San Diego County (see Hale 2010; Hale and Comeau 2010; Hale and Quach 2011). The fact that these small sites were identified indicates that some spatial integrity remains, given the proximity of artifacts to one another. However, the commonality of these small, limited diversity assemblages precludes their consideration as contributing elements to a larger prehistoric landscape.

Historic Cultural Resources

For historic sites, chronological information was more abundant, in the form of artifact maker's marks for refuse deposits, and resulting from intensive archival research for the project area. Maker's marks indicate that most historic refuse deposits were generated after 1950 (n=6), while three others date as early as 1930; one refuse deposit produced no chronological information (see Table 5.2). The dearth of evidence for earlier refuse disposal that could be associated with the James Ennes Brown homestead (CA-SDI-7000) is interesting, considering that the homesite was occupied from the early 1930s through the 1960s. It is likely that various clean-up efforts from one or several of the homesite occupants cleared earlier rubbish away from the homesite if it was originally deposited there. Such a practice is common when land patent claims or homesteads change hands (see Giambastiani et al. 2008). Of the three refuse deposits that were generated as early as the 1930s, materials at those sites may actually be related to occupation of the Brown homestead. Unfortunately, artifact assemblages are undifferentiated and lack diversity; they are characterized by general household consumables and reflect no unique consumption. Food and beverage cans and bottles, canning jars, coffee cans, and fuel cans are the norm at nearly all refuse deposits.

The problem of low artifact diversity in consumables complicates and understanding of the subsistence behavior of historic occupants. Aside from the basic necessities indicated in refuse deposits, such as canned milk, canned fruits and vegetables, coffee, and liquor, little else can be said about subsistence from refuse deposits. Accumulations of burned bone common to homestead refuse deposits were not found (see Giambastiani et al. 2008). Nor were any assemblages different enough to inform on variation in food consumption over time. The only other indicators of subsistence come from features at some evaluated historic sites and archival research. At CA-SDI-20,655, survey and evaluation identified the remains of an orchard (tree species unknown), and various other features, such as cisterns and linear foundations that may be the remains of chicken coops, suggest support of livestock that could have been used as food. Indeed, archival research found that the Brown family homestead attempted to cultivate at least 15 acres (crop unknown), raise chickens and rabbits, and eventually turned to cattle grazing. These records indicate that household consumption, at least for the Brown family homestead, was partly based on a subsistence economy (i.e., raising their own food). It is unlikely, however,

that they subsisted entirely on home-raised foods given that land patent and homestead documentation indicate that James Ennes Brown had a hard time keeping crops under cultivation due to the availability of water. It is more likely that the family supplemented their income and personal subsistence through home-raised foods.

Overall, the lack of information provided by archaeological evaluation, and the limited information gleaned from archival research makes it difficult to place evaluated historic sites in a regional synthesis, particularly considering any kind of historical landscape. A thematic study of historic ranching activities was prepared for the Campo-Jacumba region and eastern San Diego County as a whole by Wade et al. (2008). They documented a boom in ranching, beginning in earnest during the early 1900s with the McCain family, and eventually drawing in several other homesteaders that saw cattle ranching as a viable economy. By the 1930s, when the Brown family homesteaded in the current project area, ranching was largely controlled by a small number of large ranching operations, such as the McCain family in McCain Valley (see Wade et al. 2008). It is not surprising then, that the Brown family homestead is not known in the region as significant contributor to agricultural or ranching enterprises. Rather, the Browns are like many other families that flocked to the region with the promise of making a living off the land (see Wade et al. 2008). This assertion is confirmed by the relatively short duration of the Browns occupation of their homestead, from about 1930–1946, while the McCain family ranching operation persisted into modern times.

Exploring the issue of historical landscape themes further, there are no built environment aspects of evaluated historical project sites that tie into the broader community. One reason for this is that the project area is located on the international border and as such, transportation routes only provided access to the property, rather than the property being situated along major thoroughfares. There would have been little reason for non-residents to travel to the area unless to do business with residents. Thus, none of the roads in and out of the project area are major economic routes, making it difficult to tie the Brown homestead into the regional historical landscape in terms of economic significance.

5.1.1.3 Native American Heritage Values of Tested Sites

No information has been obtained through Native American consultation or communication with the Native American monitor during fieldwork that any of the evaluated sites are culturally significant. No Traditional Cultural Properties are known to exist within the project area that currently serve religious or other community practices. During the current archaeological evaluation, no artifacts or remains were identified or recovered that could be reasonably associated with such practices. All prehistoric archaeological material consisted of common flaked stone and groundstone items, and those in very limited quantities.

5.1.1.4 Resource Importance and Evaluation of Tested Sites

San Diego County is the lead review agency for the Tierra del Sol, LLC project, therefore the sites have been evaluated for eligibility to the CRHR under CEQA Guidelines as well as evaluated for importance under the County Guidelines. All sites are recommended as not eligible for listing on the CRHR based on Criteria 4, data potential, while historical residential sites were also evaluated under Criteria 1–3 and recommended as not eligible. However, under the County guidelines all sites are considered "important." Although all sites are considered important under the County Guidelines the "importance" of sites recommended as not eligible for listing on the CRHR will be considered mitigated through testing, artifact and documentation curation, and archaeological monitoring of initial ground disturbance for the entire project area.

Evaluation of CA-SDI-6999

CA-SDI-6999 is a low-density prehistoric ceramic scatter. This site was not found during the inventory phase or the evaluation phase for this project. Evaluation efforts included the excavation of STPs in the recorded area of the site but no cultural material or deposits were identified. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. As the site was not relocated, it is not considered important under County guidelines. Further archaeological work at the site is not likely to produce substantially different or unique results that would change these conclusions.

Evaluation of CA-SDI-7000 with Sarah Stringer-Bowsher and Sinead Ni Ghabhláin

CA-SDI-7000 is the remains of the James Ennes Brown homestead. The original occupants resided at the property from approximately 1930 until 1946, when it was first sold to W.G. Gillen who resided on the property for six years. In 1952, the property was sold to Margaret Marpine, who resided there until 1963 when James Brown (relation to James Ennes Brown unknown) acquired the property. James Ennes Brown, the original homesteader, reportedly constructed a two-bedroom adobe house, along with chicken coops and rabbit hutches, a well, and other agricultural improvements. Only the well remains from the original homestead. The two structures currently on the property are not made from adobe and could not be identified as having been built by James Ennes Brown. However, archival sources indicate these structures do appear to have been constructed between 1930 and 1940, which would mean that James Ennes Brown, the occupant at that time, constructed the buildings. Regardless, the structures are in poor physical condition. The homestead complex was likely used for agricultural purposes up until its vacancy; however, thorough archival research could not indicate a specific type of agricultural endeavor, if there was any, after the Browns homesteaded the property in 1936. The site was likely used as a homestead site for the owners who resided there. Although associated with the

historic contexts of farming and agriculture in the community of Tierra del Sol and the larger area of Campo Country, themes that made a significant contribution to the history of the backcountry of San Diego County, these two homestead buildings at the Tierra del Sol Homestead are not an important illustration of those historic contexts, nor do they possess enough of the physical features necessary to convey that aspect of local agricultural history. As such, they are recommended as not significant and not eligible for listing in the CRHR or local register Criteria 3 or 4 in CEQA; unique architectural styles or data potential of the structures. Moreover, none of the residents of the homestead were historically significant individuals in the local area or broader region, and agricultural activities associate with the site did not make a significant local or regional contribution. Rather, archival records show that water was too limited to cultivate any more than 15 acres and support James Ennes Brown's residence, and his ranching operation was small-scale. Subsequent occupants also practiced either low-level sustenance-related agricultural activities, or were employed in other ways. Luz Brown, who owned the well-known "Candy Cottage" in the town of Boulevard did as much, but she only became owner of the candy store in 1960, 17 years after she left the current homesite. For these reasons, the homestead is recommended as not eligible for listing in the CRHR or local register under Criteria 1 or 2.

Archaeological evaluation of the site failed to document significant or substantial cultural deposits. Extensive surface mapping, artifact collection, and shovel testing revealed only a meager historical archaeological assemblage confined to the surface. No privies were found, and no large concentrations of historic refuse were identified. Assuming that the historic occupants of the homestead dumped refuse somewhat nearby, as was the common practice, it is likely that subsequent occupants cleaned up refuse from previous occupations, erasing part of the archaeological record that could have informed on the daily economic activities of the earlier occupants. Artifacts that were recovered did document a wide age range of manufacture, from the 1930s to the 1960s and some of that likely relates to the James Ennes Brown family. But these artifacts are general consumables (i.e., food and beverage containers). No children's toys, feminine products, or other fine-ware was recovered that could provide additional insight. For these reasons, the archaeological deposits at CA-SDI-7000 are recommended as not significant and not eligible for listing in the CRHR or local register under Criterion D, data potential. The site is not considered significant under County RPO. However, under County guidelines, CA-SDI-7000 is considered an important resource but coupled with the current evaluation and archival research, curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Considering that historical occupants from the late 1920s-on had access to vehicles, and that the automobile enabled people to transport refuse far away from their place of residence, it is possible that some of the other historic refuse deposits in the project area may relate to the historical occupation of CA-SDI-7000. However, all of the other refuse deposits evaluated for

the current project are low density scatters of basic consumables that, on average, indicate a post-1950s date of disposal, even if some artifacts must have been consumed earlier. Thus, if these deposits did derive from CA-SDI-7000 and were dumped as part of a clean-up operation, it does not align with the fact that the refuse deposits are scattered over the entire project area. It would make more sense for one common location to be used as a dumping ground for a single residence to avoid spoiling larger areas with accumulating refuse. This is particularly true for agricultural and ranching activities. Regardless of these possibilities, none of the other deposits are considered historically significant under CEQA and aside from reflecting general disposal of refuse during historical times when community rubbish management was unavailable, these deposits do not contribute to a larger historical landscape associated with CA-SDI-7000 that could be considered as a significant historical landscape or district.

Evaluation of CA-SDI-20,650

CA-SDI-20,650 is a low-density prehistoric lithic scatter. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,650 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,651

CA-SDI-20,651 is a historic refuse deposit with a sparse artifact assemblage that was deposited after 1950, based on available chronological indicators. The assemblage consists of artifacts with varying ages of manufacture that were dumped at this location in a single event. Thus, artifacts that may reflect consumption at a pre-1950s date have been mixed and redeposited with those consumed after 1950, based on the latest early manufacture date available. The relatively limited spaced within, which the assemblage was recorded indicates that the dump retains at least fair integrity. All artifacts reflect basic domestic household consumption with no unique artifacts and no potential to improve upon the understanding of historical themes in the local and broader region. Additionally, STP excavations failed to document significant or substantial cultural deposits. For these reasons, this site is not considered historically significant, it is not eligible for listing in the CRHR or local register, and it possesses no attributes that would make it significant under the County RPO. Under the County's guidelines for determining significance, the site is

considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,652

CA-SDI-20,652 is a low-density prehistoric lithic scatter with one bedrock milling feature. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,652 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,653

CA-SDI-20,653 is a low-density prehistoric lithic scatter. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,653 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,654

CA-SDI-20,654 is a small historic refuse deposit representing a single dump episode, consisting of milk cans, canning-jar fragments, and a few oil cans. Available chronological information on cans indicates that their manufacture date was after 1950, fitting with a manufacture age range of 1932–1964 for the canning jars. There was no evidence of overlapping dumps; all material,

regardless of age, was deposited at the same time in this location sometime after 1950. STP excavation failed to document buried cultural deposits. Historic refuse at this site is consistent with general historical dumping behavior for the greater region, whether associated with an established residence, ranching or other purposes. No additional information can be gleaned from the site because of the assemblage's limited diversity. For these reasons, this site is not considered historically significant, it is not eligible for listing in the CRHR or local register, and it possesses no attributes that would make it significant under the County RPO. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,655

CA-SDI-20,655 is a multi-locus historical archaeological site consisting of small amounts of historic refuse, a cistern, remnants of an orchard, concrete foundations, and rock retaining walls that may be the remains of a residential building. Based on USGS maps and the available artifact maker's marks, occupation of this site dates to the late 1940s to late 1950s. Features at this site are generic and provide little information on the kinds of things constructed at the site, other than a well/cistern, and generic concrete slabs and retaining walls. The retaining walls and established trees at Locus A, to the south suggest that a residential building once existed on site, along with some outbuildings associated with broken concrete slabs, but no other direct evidence, such as building materials, was identified during evaluation fieldwork. Archival research also failed to document historical occupation. Historical refuse and building debris may have been cleaned up during recent times, either associated with border-related work or general homesite cleanup during the 1960s and later, but such speculation could not be confirmed. The small, limited artifact assemblage, coupled with generic features and a lack of archival information on historical occupation, indicates that this site is not historically significant and does not meet the criteria for listing in the CRHR or local register; nor is it significant under County RPO guidelines. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,656

CA-SDI-20,656 consists of a diffuse scatter of historic refuse in disturbed deposits surrounding a shallow retention pond created by the construction of an earthen berm. Can and bottle dates indicate place the deposition of this material sometime after 1950—the earliest manufacture date for the cans, since the spatial concentration of refuse indicates a single dump episode. No direct association between the historic refuse and the earthen berm and reservoir could be established, though the spatial association indicates as much. The close proximity of CA-SDI-20,655 to the

south is curious but no association between CA-SDI-20,656 and CA-SDI-20,655 to the south could be determined through fieldwork or archival research. Evaluation of this site revealed a scant artifact assemblage and generic features, testifying to the site's limited ability to contribute to broader historical themes. Even if this site were part of a larger homesite complex, there are no elements at CA-SDI-20,656 that could be considered contributing elements. For these reasons, the site is not considered to be a significant resource and does not meet the criteria for listing in the CRHR or local registers. This site is not considered significant under RPO. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,657

CA-SDI-20,657 consists of a sparse historic refuse scatter and agricultural features that has been essentially destroyed by more recent earth moving and vegetation clearing. A water tank and water pipes, and fragments of linear concrete foundations (possibly for a chicken coop) were identified in the midst of a large cleared area. Most artifacts are located within the earthen berms created by grading, and consist of can and bottle fragments, segments of chicken wire, various metal objects, and a single glass bottle with a manufacture date of 1930–1940. One prehistoric retouched flake was also found. Intensive surface inspection and shovel testing did not identify significant or substantial cultural deposits. Grading of the area may have occurred during construction of the SDG&E Southwest Powerlink transmission line. The function of this site is probably related to ranching, but no specific function could be determined. No other information on historical occupation of the site can be generated from the archaeological record or available historical documentation (i.e., the site does not appear on historical maps or land patent files). As such, the site is not considered historically significant under CEQA or RPO, and does not meet the criteria for listing in the CRHR or local register. This site is not considered significant under RPO. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,658

CA-SDI-20,658 is a historic refuse deposit resulting from a single dump episode. Chronological indicators place this dump episode after 1960—the latest manufacture date on an Owens-Illinois glass container. All artifacts are representative of general domestic functions, including food and beverage containers, personal hygiene, and automotive products. The main concentration retains somewhat intact, although artifacts have been dispersed through post depositional processes downslope to the southeast. STP excavation failed to identify buried cultural deposits and the field inventory, along with collection of a sample of diagnostic materials, demonstrates that the site's contribution to regional patterns of historical occupation is minimal, especially given the

late date of this dump event. For these reasons, the site is not considered a significant historical resource under CEQA and it does not meet the criteria for listing in the CRHR or local register; neither is it RPO-significant. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,659

CA-SDI-20,569 is a sparse historic refuse deposit consisting of artifacts that lacked discernible elements that could be used to date the assemblage. The deposit is comprised mostly of automobile parts and fragments thereof, along with some other metal objects (i.e., chicken wire and sheet metal), this site represents a single dump episode of domestically consumed industrial objects. STP excavations failed to identify buried cultural deposits. Chronological information is crucial for interpreting historical dump events, and, coupled with low artifact frequencies, greatly reduces the site's ability to inform on historical themes. As such, this site is not considered historically significant and does not met the criteria for listing in the CRHR or local register because it contributes little to a local or regional understanding of historic occupation. This site is not considered significant under RPO. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

Evaluation of CA-SDI-20,660

CA-SDI-20,660 is a relatively discrete historic refuse deposit consisting of a variety of domestic consumables, but dominated by metal cans and bottle fragments. Bottle and can manufacture dates place deposition of the refuse sometime in the early 1950s or later as a single event. There was no evidence of overlapping dump episodes and the concentration of debris in a limited area suggests that the dispersion of artifacts occurred through post-depositional processes. Overall, this refuse dump had little information to offer regarding historic consumption or occupation; all artifacts are relatively common and the low frequency and diversity of items in this deposit produced little interpretive value. Excavation of STPs did not identify substantial or significant buried cultural deposits. As such, CA-SDI-20,660 is not considered historically significant under CEQA and does not meet the criteria for listing in the CRHR or local register. It is not significant under County RPO guidelines. Under the County's guidelines for determining significance, the site is considered important. Significant impacts to the site are considered mitigated through the current evaluation effort, curation of artifacts and documentation, and archaeological monitoring of initial ground disturbance during construction for the entire project area to control for unanticipated discoveries.

5.1.2 Impacts Identification

Under the current project design, 11 of the 13 evaluated cultural resource sites (CA-SDI-7000, CA-SDI-20,650, CA-SDI-20,651, CA-SDI-20,652, CA-SDI-20,654, CA-SDI-20,655, CA-SDI-20,656, CA-SDI-20,657, CA-SDI-20,658, CA-SDI-20,659, CA-SDI-20,660) and five isolated finds (P-37-032649, P-37-032650, P-37-032651, P-37-032652, P-37-032653) will be impacted should development proceed (see Figure 4.1; Tables 5.1 and 5.2). These impacts are considered significant under CEQA because the sites will be physically altered. However, none of the standing structures at CA-SDI-7000 will be physically altered by implementation of the current project design (see Figure 4.1; Confidential Appendix B). Nearly the entire perimeter of CA-SDI-7000 is contained in a part of the project area that will be subject to hand-clearing of vegetation only; thus, no further recommendation for management of the two structures at CA-SDI-7000 is warranted. At two sites (CA-SDI-6999 and CA-SDI-20,653) no artifacts or features were identified during the current evaluation. As these sites no longer exist, they will not be impacted should development proceed.

None of the evaluated sites or isolates is considered eligible for listing in the CRHR or local register, nor are they considered significant resources under County RPO. All cultural resources sites, however, are considered important under County of San Diego Guidelines for Determining Significance (County of San Diego 2007a). However, evaluation of each resource, in conjunction with curation of collected artifacts and archival documentation, and monitoring of initial ground disturbance within the entire project area will reduce the impacts to these resources to less than significant (see Tables 5.1 and 5.2). Sites CA-SDI-6999 and CA-SDI-20,653 are not considered important under County guidelines as no cultural material was identified during the evaluation at those locations. Although no mitigation measures are necessary for these sites, grading monitoring is recommended at these locations under the project-wide monitoring recommendation. No mitigation measures are proposed for the isolated finds since these resources are not considered significant under CEQA and are not considered important under County guidelines.

5.2 Tierra del Sol Gen-Tie

5.2.1 Summary and CRHR Eligibility Assessments

A total of 56 resources, including 34 sites and 22 isolates were identified during the Phase I survey of the Tierra del Sol Gen-Tie. Of the 34 sites, 20 are prehistoric, 12 are historic, and two contain both historic and prehistoric components. Three of the sites were previously recorded; all other resources were newly identified during the survey. The most common prehistoric site type are milling stations, which lack any artifactual constituents (n=5) and artifact scatters with only lithic and ceramic artifacts (n=5). Other prehistoric site types identified include habitation sites (n=2), temporary camps (n=2), ceramic scatters (n=2), lithic scatters (n=2), a rock shelter, and a quarry. Refuse deposits are the most common historic site type (n=4). Other historic sites include three rock walls, the dilapidated of a wooden structure, a cattle corral, a bridge, a railroad, and a ranch/homesite. The two multi-component sites include a prehistoric temporary camp/historic ranching equipment and a prehistoric temporary camp/historic ranch.

The pedestrian survey of the Gen-Tie was performed to identify any cultural resources, which could potentially be adversely affected by the proposed action to satisfy the requirements of CEQA. Under the County Guidelines, all sites are considered "important." All sites are treated as significant until they have been determined them otherwise; avoidance of impacts to sites through project design is the preferred method for the treatment of sites. Pedestrian surveys are not designed to collect the information necessary to provide formal evaluations of significance for inclusion on the CRHR, the Local Register, or the County RPO. The 29 sites identified during the pedestrian survey, which have been avoided by project design have been tentatively assessed for their potential eligibility to help provide guidance in the planning process that will help eliminate or reduce impacts to sites. Five of the sites (CA-SDI-20,945, CA-SDI-20,946, CA-SDI-20,947, CA-SDI-20,948, CA-SDI-20,972) were formally evaluated as they will be, or potentially will be, impacted by project construction; recommendations and impact assessments are for these sites are provided below. CA-SDI-20,948, will only be impacted if the underground option is selected for that portion of the alignment. If the overhead alignment is selected, then the site will be avoided.

The County of San Diego is the lead agency for the Tierra del Sol Gen-Tie. As such, formal evaluations of the five sites were based on the same criteria and guidelines as discussed in Section 5.1.1 for the Tierra del Sol LLC Project. All five of the sites are recommended as not eligible for inclusion in the CRHR and Local Register, and are recommended as not significant under the County RPO and CEQA (Tables 5.3 and 5.4). However, all of the sites are considered important under County guidelines.

The preliminary assessments of potential eligibility are based primarily upon Criterion 4 of the CRHR, the potential to provide information significant to history or prehistory, using the data generated from the survey. The potential of a site to provide such information was based on the same aspects used to formally evaluate a site, e.g., assemblage integrity, size, diversity, defined chronology, and the potential for buried deposits. Pedestrian surveys do not entail historic archival research and therefore do not produce sufficient information to make assessments under Criteria 1–3.

Table 5.3 Attributes of Evaluated Prehistoric Sites for the Tierra del Sol Gen-Tie

Site CA-SDI	Site Type	Diagnostic Artifacts	Time Range	Features	Tools	Physical Integrity	Significant Buried Deposits	Significance/ Eligibility	Impact	Mitigation Measures	Significance After Mitigation
20,946	Artifact Scatter	-	Prehistoric	-	-	Fair	-	County: Important; CEQA: Not Significant; CRHR: Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Artifact Collection, Curation, Monitoring	Less Than Significant
20,947	Lithic Scatter	-	Prehistoric	-	-	Fair	-	County: Important; CEQA: Not Significant; CRHR Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Artifact Collection, Curation, Monitoring	Less Than Significant
20,948	Quarry	-	Prehistoric	-	+ (1)	Good	-	County: Important; CEQA: Not Significant; CRHR Not Eligible; RPO: Not Significant	Potentially Significant	Evaluation, Research, Artifact Collection, Curation, Monitoring	Less Than Significant
20,972	Artifact Scatter	-	Prehistoric	-	-	Fair	-	County: Important; CEQA: Not Significant; CRHR: Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Artifact Collection, Curation, Monitoring	Less Than Significant

Table 5.4 Attributes of the Evaluated Historic Site for the Tierra del Sol Gen-Tie

Site CA-SDI	Site Type	Diagnostic Artifacts	Time Range	Discrete Dump Points	Modern Dumping	Physical Integrity	Significant Buried Deposits	Structures/ Structural Remains	Significance Eligibility	Impact	Mitigation Measures	Significance After Mitigation
20,945	Structural Ruins, HPRD	-	Indeter-minate (post-1957)	+	-	Poor	-	+	County: Important; CEQA: Not Significant: CRHR: Not Eligible; RPO: Not Significant	Significant	Evaluation, Research, Monitoring	Less Than Significant

Of the 29 resources tentatively assessed, three were assessed to be potentially eligible for inclusion in the CRHR (Table 5.5). These three resources include the two habitation sites (CA-SDI-20,951 and SDI-5561) and the rock shelter (CA-SDI-20,9452). CA-SDI-20,951 and CA-SDI-20,952 are assessed as potentially eligible primarily because both sites have a moderate potential for subsurface deposits due the possibility of midden soil being present at each site. CA-SDI-20,9451 also has a diversity of artifact types and materials (flaked stone tools, a variety of groundstone tools, multiple ceramic wares) suggestive of longer term or repeated occupation of the site, which improves the likelihood of subsurface deposits.

SDI-5561 is also reported to contain midden soil and is therefore assessed as potentially eligible; however, the mapped location of the site does not appear to be accurate. The pedestrian survey through the mapped site location (as delineated in the record search shapefile), where it intersects the Gen-Tie APE, did not identify any cultural constituents. The mapped location given in the site sketch map in the site record shows the site to be approximately 100 meters further east than the location given in the record search. This places the site outside the APE of the Gen-Tie. Therefore, the site will be avoided. The site boundary was redrawn to more accurately reflect its actual location; an updated site form with location map and a shapefile with the correct location were submitted to the SCIC.

P-37-025680, the historic railroad, has already been determined not eligible for the NRHP under Criteria A–D. The absence of associated deposits or features with the railroad, at least in the APE, means that it is likely not eligible under Criterion 4 as it possesses no further data potential. However, it may be eligible under Criteria 1–3, as the site record indicates that it is at least minimally associated with individuals important to San Diego history.

The remaining 29 sites appear unlikely to be eligible for inclusion in the CRHR under Criterion 4 as all have a low potential for buried deposits, display limited quantities and varieties of artifacts, and/or display moderate or poor physical integrity.

Of the prehistoric sites, all five of the milling station sites are situated in areas of extensive near-surface bedrock outcrops where sediment accumulation would be inhibited, thereby limiting subsurface deposits. The absence of artifacts and the minimal number of milling slicks at each site indicate a very short term, limited occupation of each site for expedient food production. All four temporary camps (including the prehistoric components of the two multi-component sites) are also situated in areas of abundant near-surface bedrock, which inhibit sediment deposition and are unlikely to contain subsurface deposits. These sites contain limited quantities and varieties of artifacts, which also indicate limited use or occupation of these sites.

The two ceramic scatters are comprised of only a single ceramic fabric type, indicating the possibility that they are the result of inadvertent pot drops. The remaining artifact scatter consists of a very limited quantity and diversity of artifacts and lacks diagnostic items, which could place the site in time or in association with other sites in the region.

Table 5.5 Tierra del Sol Gen-Tie Site Summary and Preliminary Eligibility Assessments for Non-Evaluated Sites

Resource Number	Period	Site Type	Artifacts	Features	Dateable Material	Physical Integrity	Potential for Buried Deposits	Comments	Assessment
P-37-025680	Historic	Railroad	None	Railroad tracks	No	Good	Low	Previously recommended as not eligible for NRHP	Likely not eligible
CA-SDI-5561	Prehistoric	Habitation	Lithics, groundstone, arrow shaft straightener	Milling stations	Unknown	Unknown	Moderate; possible midden soil was reported	No cultural constituents found in APE; site mapped incorrectly	Potentially eligible
CA-SDI-8218	Prehistoric	Lithic Scatter	Unspecified quantity of flakes, one handstone, one scraper plane	None	None	Poor; site previously surface collected	Low	No artifacts identified at site location due to previous collection	Likely not eligible
CA-SDI-20,949	Multi-Component	Temporary Camp / Ranch Equipment	wagons, and wagon parts; 1 handstone, 1 flake	1 Milling Station	No	Fair	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,950	Historic	Cattle Corral	1 millingstone	2 water troughs, 1 corral, 1 concrete tank	Yes (post-1932)	Good	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,951	Prehistoric	Habitation	21 groundstone tools, 3 cores, 1 tested cobble, 1 retouched flake, 29 debitage; 86 ceramics	10 milling stations	Yes, ceramics	Good	Moderate; possible midden soil observed	May provide information relating to settlement and subsistence practices	Potentially eligible
CA-SDI-20,952	Prehistoric	Rock Shelter	1 millingstone, 1 core, 1 hammerstone, 1 manuport, 1 flaked stone tool	1 Rock Shelter	No	Good	Moderate; possible midden soil was observed	May provide information relating to settlement practices; may be of spiritual importance	Potentially eligible
CA-SDI-20,953	Historic	Refuse Deposit	300+ cans; glass bottles; modern trash	None	Yes (1950s–modern)	Good	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,954	Historic	Refuse Deposit	100+ cans, modern trash	None	Yes (1950s–modern)	Fair	Low	Majority of items appear modern	Likely not eligible
CA-SDI-20,955	Multi-Component	Temporary Camp and Historic Ranch	1 millingstone, 2 cores, 86 debitage, 4 ceramics; cans, glass, machine/car	3 milling stations; house pad, corral, rock walls,	Prehistoric: Yes, ceramics; Historic: yes, post 1950,	Prehistoric Loci - Fair; Historic Locus - Poor	Low	Structures are in ruins, refuse all appears modern	Likely not eligible

Table 5.5 Tierra del Sol Gen-Tie Site Summary and Preliminary Eligibility Assessments for Non-Evaluated Sites

Resource Number	Period	Site Type	Artifacts	Features	Dateable Material	Physical Integrity	Potential for Buried Deposits	Comments	Assessment
			parts	troughs, outbuildings	possibly earlier				
CA-SDI-20,956	Prehistoric	Artifact Scatter	10 ceramic, 1 core, 2 debitage	None	Yes, ceramics	Fair	Low	Site may be secondary deposition	Likely not eligible
CA-SDI-20,957	Prehistoric	Bedrock Milling	None	1 Milling Station	No	Poor	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,958	Prehistoric	Temporary Camp	3 debitage	1 Milling Station	No	Poor	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,959	Prehistoric	Lithic Scatter	13 debitage	None	No	Fair	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,960	Prehistoric	Lithic Scatter	1 biface, 1 retouched flake, 34 debitage	None	No	Fair	Low	Unlikely to provide additional information	Likely not eligible
P-37-033294	Historic	Rock Wall	None	Rock Wall	No	Good	Low	Unlikely to provide additional information	Likely not eligible
P—37-033295	Historic	Rock Wall	None	Rock Wall	No	Good	Low	Unlikely to provide additional information	Likely not eligible
P-37-033296	Historic	Rock Wall	None	Rock Wall	No	Good	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,961	Prehistoric	Bedrock Milling	None	2 Milling Stations	No	Poor	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,962	Historic	Ranch	1 refuse deposit of 500+ cans, glass fragments, ceramics,	3 structure pads/foundations, corral,	Yes (likely 1930s–1940s)	Poor	Low	Archival research may provide additional information	Likely not eligible
CA-SDI-20,963	Historic	Refuse Deposit	<25 cans, <10 glass fragments	None	Yes (1915–1930)	Fair	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,964	Historic	Transportation	None	Bridge support timbers	No	Poor	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,965	Prehistoric	Temporary Camp	1 cottonwood point, 2 debitage, 13 ceramics	1 milling station	Yes (obsidian Cottonwood Point)	Fair	Low	Additional information possible through XRF and obsidian hydration studies	Likely not eligible
CA-SDI-20,966	Historic	Refuse Deposit	50 fuel cans, hole-in-cap, hole-in-top and sanitary cans, SCA glass, stoneware	None	Yes (1915–1930)	Fair	Low	Unlikely to provide additional information	Likely not eligible

Table 5.5 Tierra del Sol Gen-Tie Site Summary and Preliminary Eligibility Assessments for Non-Evaluated Sites

Resource Number	Period	Site Type	Artifacts	Features	Dateable Material	Physical Integrity	Potential for Buried Deposits	Comments	Assessment
CA-SDI-20,967	Prehistoric	Bedrock Milling	None	1 Milling Station	No	Poor	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,968	Prehistoric	Bedrock Milling	None	1 Milling Station	No	Poor	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,969	Prehistoric	Ceramic Scatter	150+ ceramics	None	Yes, ceramics	Good	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,970	Prehistoric	Ceramic Scatter	16 ceramics	None	Yes, ceramics	Fair	Low	Unlikely to provide additional information	Likely not eligible
CA-SDI-20,971	Prehistoric	Bedrock Milling	None	1 Milling Station	No	Poor	Low	Unlikely to provide additional information	Likely not eligible

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The four historic refuse deposits all appear to be surface deposits of generally limited variation, both within each deposit and between deposits. Whilst dateable materials, such as condensed milk cans and bottles with maker's marks, are present at each site, the time frames for each deposit are also limited to the 1930s and 1950s, which coincides with the majority of refuse deposits identified in the Boulevard and McCain Valley area (Hale and Comeau 2010). Therefore, these sites are unlikely to provide any new information relating to historic period occupation and consumption patterns.

The historic ranch component of CA-SDI-20,955does not contain any refuse deposits or components, which are likely to contain buried deposits or produce additional information. Only one of the buildings/structures retains any integrity; the remainder are generally just foundation pads, so additional fieldwork is unlikely to produce any further information about the site. CA-SDI-20,962, the other historic ranch site, also retains little to no integrity as relates to the structures and features, which constitute the site. The one refuse dump at that site is a surface scatter, which consists almost exclusively of domestic consumable debris of food and beverage containers, which roughly dates to the same period as the other refuse deposits identified during this project.

The remaining five historic sites consist of individual features (wooden bridge support beams, 3 rock walls, a corral, and windmill remains). The rock walls remain in good condition, but are not directly associated with any materials, which can be dated or would otherwise provide any further information as the time period in, which they were constructed or who they were constructed by. It is safe to assume that they are related to the nearby ranch site (CA-SDI-20,962); as that site is likely to be not eligible, these three sites are also not likely eligible. The bridge supports are completely dilapidated and retain no integrity. The site does not offer the possibility of producing further information from fieldwork given its condition and lack of associated deposits. The corral is in good condition and retains its integrity; however, there are no associated refuse deposits or other features, which could either provide more information about the site. On its own, the corral contributes little information about the history of the area or ranching in general.

Twenty-two isolates were also identified within the project area. However, cultural resource isolates are not considered eligible for listing on the CRHR or the Local Register, are not considered important under County Guidelines and are not significant under County RPO.

5.2.1.1 Integrity of Tested Sites

As stated in section 5.1.1.1, integrity is an important factor in the evaluation of historical resources. Integrity fundamentally affects associations that are critical for understanding behavioral relationships in site formation and design for prehistoric and historical archaeological sites. Of the current set of five evaluated cultural resource sites, all four prehistoric sites had fair or good integrity, based on horizontal spatial distributions. Disturbances to these sites almost

exclusively result from surface erosion owing to aeolian and alluvial processes. Pieces of debitage have been dispersed, albeit in small areas, and are continually being exposed and covered by loose, small grained sediments at least two sites (CA-SDI-20,946, CA-SDI-20,947). The fact that a boundary could be drawn around prehistoric artifact scatters is usually enough to safely assume that all identified artifacts in that area are related to the same or similar kinds of occupation, relative to assemblage composition.

Integrity of built environment resources is easier to ascertain since structures are either present in good condition, disrepair/neglect, or absent altogether. The only built environment resource recorded at the evaluated sites (CA-SDI-20,945) is completely destroyed, leaving only remnants of a former wooden structure. The lack of integrity prevents a clear identification of the former structure, and therefore limits our understanding of the historical use of the site and limits the contribution of this site to historical research themes.

5.2.1.2 Chronology, Settlement and Site Function

Prehistoric Cultural Resources

Prehistoric sites produced no dateable material from cultural contexts. Aboriginal ceramics were recovered from two sites, which provide a date of post-500 A.D. The vast majority of prehistoric cultural material recovered during this evaluation consists of flaked stone chipping debris; tools were rare. A single quartz utilized flake was recovered from CA-SDI-20,948. No groundstone items were recovered.

Assemblage composition at prehistoric sites is limited in diversity and scale. Minimal artifact counts make any interpretation tenuous, even when cast in a regional light. Thirty-three debitage, six tested cobbles, one utilized flake, and 13 ceramic sherds comprise the entire prehistoric assemblage collected from the evaluated sites. To be certain, these artifacts are common throughout California, and especially in the McCain Valley and surrounding regions. In McCain Valley, Hale and Quach (2011) documented more than 200 prehistoric archaeological sites that contained nearly a hundred rock shelters and thousands of pieces of debitage and aboriginal ceramics, and dense midden. Bedrock milling features there are ubiquitous, holding the full range of milling surfaces (i.e., slicks, basins, cupules, mortars, and collared slicks). Projectile points are also common, being dominated by post-A.D. 500 arrow tips but earlier dart forms are also represented (including Pinto-series projectile points). In that light, the current set of evaluated prehistoric sites produced an insignificant amount of cultural material; especially considering the lack of chronological control and buried cultural deposits. There are small, low density and low diversity sites in McCain Valley, and many are similar to those evaluated for the Gen-Tie; a small amount of flaked stone chipping debris with the occasional tool and piece of pottery. Such small sites, including those evaluated for the Gen-Tie, represent short-term stopovers by one or a few people for the purposes of replenishing tools or the situational exploitation of a local resource (i.e., rabbit, lizard, stand of grass seeds, etc.). Such behaviors are

interesting, and fit within a regional pattern of low-intensity seasonal occupation documented throughout San Diego County (see Hale 2010; Hale and Comeau 2010; Hale and Quach 2011). The fact that these small sites were identified indicates that some spatial integrity remains, given the proximity of artifacts to one another. However, the commonality of these small, limited diversity assemblages precludes their consideration as contributing elements to a larger prehistoric landscape.

Historic Cultural Resources

The only historic site evaluated at this time did not produce any dateable material or any artifacts that could provide a meaningful date range for the site. Modern style sanitary cans and paint cans were both introduced at the beginning of the 20th Century and remain in use today. The window glass fragments and nails are equally vague and cannot narrow the potential date range of the site. The generic nature of the wood pile and the complete lack of physical integrity make it impossible to identify the function of the former structure beyond the fact that it involved a platform of some kind. Without identifying the origin of the structure, it cannot be placed into meaningful regional historical themes. Given that there is no evidence of the site or nearby dirt access roads on the 1957 aerial, the site very well could be too recent to even qualify as historic.

5.2.1.3 Native American Heritage Values of Tested Sites

No information has been obtained through Native American consultation or communication with the Native American monitor during fieldwork that any of the evaluated sites are culturally significant. No Traditional Cultural Properties are known to exist within the project area that currently serve religious or other community practices. During the current archaeological evaluation, no artifacts or remains were identified or recovered that could be reasonably associated with such practices. All prehistoric archaeological material consisted of common flaked stone and groundstone items, and those in very limited quantities.

5.2.1.4 Resource Importance and Evaluation of Tested Sites

Evaluation of CA-SDI-20,945 (GT-BC-1)

CA-SDI-20,945 contains the dilapidated ruins of a wooden structure (presumably a windmill) and a low-density historic refuse scatter. The site retains no integrity as the structure is entirely in ruins. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 1–4, as it is not 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; it is not associated with the lives of persons important to local, California, or national history; it does not embody the distinctive characteristics of a type, period, region, or method of construction, or represents the work of a

master, or possesses high artistic values; and it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,945 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,946 (GT-BC-2)

CA-SDI-20,946 is a low-density prehistoric artifact scatter. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,946 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,947 (GT-BC-3)

CA-SDI-20,947 is a low-density prehistoric lithic scatter. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,947 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,948 (GT-BC-4)

CA-SDI-20,948 is a low-density, limited use prehistoric quarry. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,948 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

Evaluation of CA-SDI-20,972 (GT-BC-33)

CA-SDI-20,972 is a low-density prehistoric artifact scatter. Based on the results from the evaluation program, it is recommended that the site is not a significant resource pursuant to the guidelines of the Local Register, the CRHR, and CEQA, nor is the site significant under County RPO. The site is not considered eligible for listing in the CRHR under Criterion 4, as it does not have any substantial research potential. The current archaeological investigations have largely exhausted the site's data potential through intensive recordation, artifact collection, and documentation. Excavations indicate that no significant subsurface cultural deposits are present. Further archaeological work at the site is not likely to produce substantially different or unique data that would change these conclusions. However, under the County of San Diego's Guidelines for Determining Significance (2007a), CA-SDI-20,972 is considered an important resource. Coupled with the current evaluation and documentation efforts curation of artifacts and documentation, and construction monitoring during initial ground disturbance for the entire project area will mitigate this resource's importance under County guidelines.

5.2.2 Impact Identification

Under the current Gen-Tie design, four sites (CA-SDI-20,945, CA-SDI-20,946, CA-SDI-20,947, and CA-SDI-20,972) and four isolates (P-37-033309, P-37-033310, P-37-033327, and P-37-033328) will be impacted by project construction (see Figure 4.32; Tables 5.3 and 5.4). All of these resources are located along the underground portion of the alignment at the north end of the Gen-Tie. Micro-siting of poles for the overhead portion of the alignment has avoided all archaeological sites in that portion of the project. However, if the underground alternative to the overhead section of the Gen-Tie is constructed, three additional resources (one site (CA-SDI-20,948) and two isolates (P-37-033321 and P-37-033330) will also be impacted by the project (see Figure 4.32; Tables 5.3 and 5.4). The impacts to the five sites are considered significant under CEQA because the sites will be physically altered.

None of the evaluated sites or isolates is considered eligible for listing in the CRHR or local register, nor are they considered significant resources under County RPO or CEQA. All cultural resources sites, however, are considered important under County of San Diego Guidelines for Determining Significance (County of San Diego 2007a). However, evaluation of each resource, in conjunction with curation of collected artifacts and archival documentation, and monitoring of initial ground disturbance within the entire project area will reduce the impacts to these resources to less than significant (see Tables 5.1 and 5.2). No mitigation measures are proposed for the isolated finds since these resources are not considered significant under CEQA and are not considered important under County guidelines.

The remaining 29 sites and 16 isolates have been avoided by project design and will not be impacted. In lieu of formal evaluation, these sites are treated as significant under CEQA and the County RPO under County guidelines. No mitigation measures are required for these resources; however, if project construction activities encroach within 100 feet of any of these sites, temporary fencing is recommended in order to prevent inadvertent impacts to the sites.

6.0 MANAGEMENT CONSIDERATION – MITIGATION MEASURES AND DESIGN CONSIDERATIONS

6.1 Unavoidable, Unmitigable Impacts

There are no unavoidable, unmitigatable impacts associated with the current project design for either the Tierra del Sol LLC Project or the Tierra del Sol Gen-Tie.

6.2 Mitigable Impacts

6.2.1 Tierra del Sol LLC Mitigation Measures and Design Considerations

Eleven of the 13 sites evaluated during the current investigation will be impacted by implementation of the current project design. The two other evaluated sites (CA-SDI-6999 and CA-SDI-20,653) are no longer considered sites as no cultural materials were identified at the sites during the evaluations. Project construction will include widespread grading and removal of vegetation. These activities will impact the archaeological components of each of the archaeological sites. However, none of the standing structures or features at CA-SDI-7000 will be impacted since activities within the site boundary are limited to hand clearing of vegetation. None of the 13 evaluated cultural resources or the five isolated finds is considered historically significant and none are recommended as eligible for listing in the CRHR or local register; none are considered significant under County RPO or CEQA. However, all 11 extant cultural resource sites are considered important under County guidelines. Coupled with the current evaluation efforts, that included intensive field recordation, artifact collection, curation of artifacts and archival documentation, and reporting, archaeological monitoring during initial ground disturbing for the entire project area will be sufficient to reduce the impacts to the evaluated cultural resources to less than significant. These methods will also be sufficient to mitigate the impacts to the importance of the resources under County guidelines. No mitigation measures are necessary at CA-SDI-6999 or CA-SDI-20,653 as they are not considered important under County guidelines, although ground disturbance will be monitored at these locations during the project-wide monitoring.

6.2.2 Tierra del Sol Gen-Tie Mitigation Measures and Design Considerations

Four isolates and four of the five sites evaluated during the current investigation will be impacted by implementation of the project design. One additional site (CA-SDI-20,948) and two isolates will be impacted if the underground alternative to the overhead pole alignment portion of the Gen-Tie is constructed; if the overhead pole alignment is constructed, those three resources will not be impacted. None of the five evaluated cultural resources or the six isolated finds is considered historically significant and none are recommended as eligible for listing in the CRHR or local register; none are considered significant under County RPO or CEQA. However, all five cultural resource sites are considered important under County guidelines. Coupled with the

current evaluation efforts, that included intensive field recordation, artifact collection, curation of artifacts and archival documentation, and reporting, archaeological monitoring during initial ground disturbing for the entire Gen-Tie area will be sufficient to reduce the impacts to the evaluated cultural resources to less than significant. These methods will also be sufficient to mitigate the impacts to the importance of the resources under County guidelines.

The 29 sites that were not evaluated have been avoided by project design and will not be impacted. In lieu of formal evaluation, these sites are treated as significant under CEQA and the County RPO under County guidelines. No mitigation measures are required for these resources; however, if project construction activities encroach within 100 feet of any of these sites, temporary fencing is recommended in order to prevent inadvertent impacts to the sites.

6.3 Effects Found not to be Significant

6.3.1 Tierra del Sol LLC

The five isolates previously identified within the current study area are not important resources under the County of San Diego guidelines for determining significance (County of San Diego 2007a), nor are they eligible to the CRHR or the local Register, or significant under County RPO. The proposed project design will not result in significant impacts these cultural resources.

6.3.2 Tierra del Sol Gen-Tie

The six isolates identified that will be, or may be, impacted by construction of the Gen-Tie are not important resources under the County of San Diego guidelines for determining significance (County of San Diego 2007a), nor are they eligible to the CRHR or the local Register, or significant under County RPO. The proposed project design will not result in significant impacts these cultural resources. The other 16 isolates identified during the current investigation are also not important, significant, or eligible resources; however, these isolates will not be impacted.

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8.0 LIST OF PREPARERS AND PERSONS AND ORGANIZATIONS CONTACTED

Mark Becker (ASM Affiliates): Acted as ASM Project Manager

James T. Daniels, Jr. (ASM Affiliates): Acted as Principal Investigator, and Primary co-author of the technical report.

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Nick Doose (SCIC and PanGIS): Conducted the CHRIS records search and generated maps for the report.

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9.0 LIST OF MITIGATION MEASURES AND DESIGN CONSIDERATIONS

A grading monitoring plan for both the Tierra del Sol LLC project and the Gen-Tie including a Native American and an archaeological monitor should be established prior to project approval to deal with the event of unanticipated discoveries (Table 9.1).

Table 9.1 Recommended Mitigation Measures

Site Designation	Site Attributes	Mitigation Measure
Tierra del Sol LLC Project		
CA-SDI-6999	AP3. Ceramic scatter	Not Relocated; mitigation not required.
CA-SDI-7000	AP2. Lithic scatter; AH4. Trash scatter; AH15. Standing structures	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,650	AP2. Lithic scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,651	AH4. Trash scatter	Evaluation, Research, and Grading Monitoring
CA-SDI-20,652	AP4. Bedrock milling	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,653	AP2. Lithic scatter; AP4. Bedrock milling	Not Relocated; mitigation not required
CA-SDI-20,654	AH4. Trash scatter	Evaluation, Research, and Grading Monitoring
CA-SDI-20,655	AH4. Trash scatter; AH6. Water conveyance system; AH15. Standing structures	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,656	AH4. Trash scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,657	AP2. Lithic scatter; AH4. Trash scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,658	AH4. Trash scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,659	AH4. Trash scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,660	AH4. Trash scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
Tierra del Sol Gen-Tie		
P-37-025680	AH7. Road/trail/railroad bed	Avoidance
SDI-5561	AP2. Lithic scatter; AP3. Ceramic scatter; AP15. Habitation debris	Avoidance
SDI-8218	AP2. Lithic scatter	Avoidance
CA-SDI-20,945	AH4. Trash scatter; AH10. Machinery	Evaluation, Research, and Grading Monitoring
CA-SDI-20,946	AP2. Lithic scatter; AP3. Ceramic scatter;	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,947	AP2. Lithic scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,948	AP12. Quarry	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
CA-SDI-20,949	AP2. Lithic scatter; AP4. Bedrock milling; AH10. Machinery; AH15. Standing structure;	Avoidance
CA-SDI-20,950	AP2. Lithic scatter; AH16. Other (corral)	Avoidance
CA-SDI-20,951	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling; AP15. Habitation debris	Avoidance
CA-SDI-20,952	AP2. Lithic scatter; AP14. Rock shelter	Avoidance
CA-SDI-20,953	AH4. Trash scatter/dump	Avoidance
CA-SDI-20,954	AH4. Trash scatter/dump	Avoidance

Table 9.1 Recommended Mitigation Measures

Site Designation	Site Attributes	Mitigation Measure
CA-SDI-20,955	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling; AH2. Foundations; AH3. Landscaping AH4. Trash scatter/dump; AH5. Well/cistern; AH6. Water conveyance system; AH11. Walls/fences; AH15. Standing structure; AH16. Other (corral)	Avoidance
CA-SDI-20,956	AP2. Lithic scatter; AP3. Ceramic scatter	Avoidance
CA-SDI-20,957	AP4. Bedrock milling	Avoidance
CA-SDI-20,958	AP2. Lithic scatter; AP4. Bedrock milling	Avoidance
CA-SDI-20,959	AP2. Lithic scatter	Avoidance
CA-SDI-20,960	AP2. Lithic scatter	Avoidance
	AH11. Wall/fence	Avoidance
19	AH11. Wall/fence	Avoidance
20	AH11. Wall/fence	Avoidance
CA-SDI-20,961	AP4. Bedrock milling	Avoidance
CA-SDI-20,962	AH2. Foundations; AH3. Landscaping AH4. Trash scatter/dump; AH11. Walls/fences; AH15. Standing structure	Avoidance
CA-SDI-20,963	AH4. Trash scatter/dump	Avoidance
CA-SDI-20,964	AH7. Road/trail/railroad bed	Avoidance
CA-SDI-20,965	AP2. Lithic scatter; AP3. Ceramic scatter; AP4. Bedrock milling	Avoidance
CA-SDI-20,966	AH4. Trash scatter/dump	Avoidance
CA-SDI-20,967	AP4. Bedrock milling	Avoidance
CA-SDI-20,968	AP4. Bedrock milling	Avoidance
CA-SDI-20,969	AP3. Ceramic scatter	Avoidance
CA-SDI-20,970	AP3. Ceramic scatter	Avoidance
CA-SDI-20,971	AP4. Bedrock milling	Avoidance
CA-SDI-20,972	AP2. Lithic scatter; AP3. Ceramic scatter	Evaluation, Research, Artifact Collection, Curation, and Grading Monitoring
P-37-033294	AH8. Dams; AH11. Walls/fences	Avoidance
P-37-033295	AH8. Dams; AH11. Walls/fences	Avoidance
P-37-033296	AH8. Dams; AH11. Walls/fences	Avoidance

APPENDICES

APPENDIX A

Confidential Records Search Maps and Site Forms

APPENDIX B

Confidential Site Location Maps