

2.4 Cultural Resources

The Otay Ranch PEIR, adopted in 1993, provided a program-level analysis of the existing conditions and potential impacts related to cultural resources for the entire Otay Ranch area, including the Project site. The Otay Ranch PEIR determined that implementation of the Otay SRP would result in the disturbance of significant prehistoric and historic resources, which was determined to be a significant, unavoidable impact on cultural resources. As a result, the Otay Ranch PEIR proposed mitigation measures to reduce the identified significant impacts. However, the Otay Ranch PEIR determined that, even with implementation of the mitigation measures, the impact to cultural resources would remain significant and unavoidable.

This section provides a Project-specific analysis of the potential impacts to cultural resources from implementation of the proposed Project. The potential cultural and historic resource impacts are evaluated in “*Otay Ranch Resort Village Archaeological/Historical Study County of San Diego USGS Jamul Mountains Quadrangle Approximately 1,870 Acres*” (Archaeological/Historical Study, August 2014), prepared by Brian F. Smith and Associates and provided in this EIR as **Appendix C-4**. The potential impacts of the proposed Project related to paleontological resources are evaluated in a letter report entitled Otay Ranch Resort Village Paleontological Resource and Monitoring Assessment (Paleontological Resources Letter Report, August 2014), prepared by Brian F. Smith and Associates, provided in this EIR as **Appendix C-5**.

2.4.1 Existing Conditions

Land use patterns in historic and recent periods have centered around agricultural activities, including cattle grazing and raising of cultigens (cultivated plants that do not have a wild or uncultivated counterpart), which have greatly affected the native vegetation communities that once existed in much of this area. Cattle grazing has not occurred on the Project site since 1999, and the Project site is currently undeveloped and unoccupied.

2.4.1.1 Cultural Setting

The following cultures have been identified in the general vicinity of the Project site: (1) the possible Paleo-Indian manifestation of the San Dieguito Complex, (2) the Archaic La Jolla Complex, and (3) the Late Prehistoric Kumeyaay culture. The area in the vicinity of the Project site has been historically used for ranching and farming. A detailed discussion of the cultural history for this project is provided in the Archaeological/Historical Study (Appendix C-4).

Prehistoric Cultural Sites

The survey of the Project site and records searches of previous investigations resulted in the identification of 79 prehistoric archaeological sites, two of which also have historic components, within the Project site. **Table 2.4-1** provides a listing of these prehistoric sites and a summary of artifacts recovered. The pattern of site distribution was directly associated with the natural and geologic setting. On the high elevations and steep slopes of the Project site, prehistoric activity focused on quarry sites and areas where high-quality metavolcanic rock was exposed. The high

elevations and steep slopes had the lowest frequency of prehistoric activity, which is likely due not only to the rugged terrain, but also to the presence of high-quality metavolcanic rock at lower elevations.

The highest frequency of prehistoric sites was noted in the north-central portion of the Project site, where the steep elevations gradually gave way to gentle slopes and where drainages cut deeply into the metavolcanic rock. These areas contained sites that were focused on lithic (stone) quarry, and food collecting and processing activities. In the southern portion of the Project site, where the landforms gradually leveled to terraces and rolling hills, prehistoric site frequency lessened slightly, and the pattern of prehistoric use changed from quarry activities to food resource collecting and processing.

The pattern of prehistoric sites within the Project site is directly dictated by the existing landforms and resource potential. Thus, although major prehistoric occupation sites are recorded elsewhere along the Otay River, the sites recorded within the Project site do not appear to include any major permanent or semi-permanent village occupations. Temporary camp sites are present within the Project site; however, very little evidence of hearths or burnt bone was collected from these cultural resources that would be indicative of more permanent sites. The prehistoric resources found within the Project site are represented by a scatter of lithic production waste that includes ground stone; precision, multi-use, core, and percussion tools; two instances of pottery; and one instance of a small amount of animal bone. These sites were likely the location of small resource procurement of animal or plant resources and quarried raw lithic material in the area.

Historic Cultural Sites

The survey of the Project site and review of previous investigations within the Project area resulted in the identification of five historic resources: three are historic sites only (SDI-11,390H; SDI-11,391H; and SDI-12,354H) and two have historic/prehistoric components (SDI-11,408/H and SDI-12,362/H). **Table 2.4-1** provides a listing of the historic sites identified on the Project site.

Site SDI-11,390H consists of the remains of a late 19th century homestead and associated historic artifacts, located near the center of the Project site. The historic site has been affected by subsequent use of the area for cattle ranching, grazing, and limited subsistence agriculture. Testing of the site demonstrated limited occupation beginning in the late 1880s. The site contains two foundations associated with one dwelling, one small enclosure, one linear rock alignment, and one refuse concentration. The structure appears to represent remains of the Thompson homestead. Evidence suggests that use of the site was very brief, given the small quantity of building materials and artifacts.

Site SDI-11,391H consists of the remains of an early 20th century homesite with associated historic artifacts. The historic site has been impacted by subsequent use of the area for cattle ranching, grazing, and limited subsistence agriculture. Testing of the site and archival information demonstrated limited occupation beginning in the early 20th century. The site contains one cistern, a possible foundation, and one sparse refuse deposit, which suggest that the

historic period activity at this site was primarily centered around some type of agricultural or livestock raising venture, with associated residential occupation.

Site SDI-12,354H consists of a historic stacked rock pile and pit just upstream and on the opposite side of a small knoll from a small reservoir. The entire surface of the site was inspected for evidence of prehistoric activity. No artifacts or features, other than the rock pile and pit, were observed. Both features were most likely constructed or created through the use of machinery, such as a backhoe. The mechanically excavated features may have been associated with the construction or maintenance of the small reservoir located directly southwest of the site.

Sites SDI-12,362/H and SDI-11,408/H were identified as having isolated bottles within an area of a large prehistoric lithic scatter. Neither bottle was relocated at either site during the current resurvey of the Project. Because the isolated bottles were not relocated, the historic elements of both SDI-12,362/H and SDI-11,408/H are considered to be not significant components of these sites.

Paleontological Resources

Geologically, the Project site is underlain by two major rock types: metavolcanic rocks of the Santiago Peak Volcanics in the northern and northeastern parts of the Project site, and sedimentary rocks of the Otay Formation in the southern and southwestern parts of the Project site. Minor exposures of upper Pleistocene (more than 10,000 years old) older alluvium and colluvium are present west of Otay Lakes Road but are not mapped within the Project site; unconsolidated Holocene (less than 10,000 years old) alluvial deposits are present in the floodplain areas of the Jamul Creek drainage, also outside of the Project site.

The Lower Cretaceous (approximately 128 to 118 million years old) Santiago Peak Volcanics consist of mildly metamorphosed volcanic and volcanoclastic rocks, but are predominantly andesite and dacite in composition. The metasedimentary parts of the Santiago Peak Volcanics, which are known to contain Jurassic fossils, are not present locally. The Jurassic metasediments are regarded as a separate formation.

The Otay Formation is divided into three informal members by paleontologists at the San Diego Natural History Museum: an upper sandstone/mudstone member, a middle gritstone member, and a basal angular-clast fanglomerate member. Numerous fossil localities have been discovered at other Otay Formation sites in the upper sandstone/mudstone member and the middle gritstone member, but have yet to be recorded from the basal fanglomerate member. A designation of “high paleontological resource sensitivity” has been assigned to the upper member of the Otay Formation, and a “moderate paleontological resource sensitivity” designation has been assigned to the middle and lower members of the Otay Formation.

Based on paleontological collections and records searches conducted by the Department of Paleontology at the San Diego Natural History Museum, there is only one previously recorded fossil locality within the Project site. However, many other fossil localities are present in the Otay Formation within a 1-mile radius to the west of the Project site. These localities have yielded important and diverse assemblages of terrestrial vertebrate fossils, including lizards,

snakes, tortoise, a variety of rodent-sized animals, rabbit, dog, fox, small browsing animals called oreodonts, and rhinoceros. The Otay Formation is now considered to be the richest source of late Oligocene (28 to 30 million years old) terrestrial vertebrates in California.

2.4.2 Analysis of Project Effects and Determination as to Significance

The following significance guidelines are based on the Guidelines for Determining Significance for Cultural Resources (2007) and the Guidelines for Determining Significance for Paleontological Resources (2009). A significant cultural or paleontological resource impact would occur if the Project would do the following:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the 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.
- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological history or prehistory.
- Disturb any human remains, including those interred outside of formal cemeteries.
- Propose activities directly or indirectly damaging to a unique paleontological resource or site. A significant impact to paleontological resources may occur as a result of the Project if Project-related grading or excavation would disturb the substratum or parent material below the major soil horizons in any paleontologically sensitive area of the County, as shown on the San Diego County Paleontological Resources Potential and Sensitivity Map

The following section outlines the methodologies employed in the technical studies and the guidelines used to determine the significant Project-related impacts to cultural resources. The analysis includes results of surveys conducted within the Project site and at off-site areas proposed for road and sewer line improvements. The archaeological program to evaluate the prehistoric cultural resources on the Project site included research and testing methodology conforming to County archaeological and historic resources guidelines (County of San Diego 2007a) and to the statutory requirements of CEQA and subsequent legislation.

Data for the Project site was obtained using both archival and field research methods. Archival research consisted of records searches of archaeological files at the South Coastal Information Center at San Diego State University to identify any previously recorded archaeological sites within the Project footprint and to determine the pattern of site types and the results of previous investigations in the vicinity. The field study consisted of an archaeological reconnaissance to determine the current status of recorded archaeological sites within the Project site and to search for any resources not previously studied.

All of the artifacts recovered from the Project site were identified and cataloged in keeping with accepted archaeological procedures. In addition, some artifacts were washed and further analyzed for identification. After cataloging, identification and analysis, the collections were packaged and marked for permanent curation. The collections, reports, field notes and photographs will be curated at the San Diego Archaeological Center, or other federally-approved facility.

The review of previous studies, as well as analysis of site components and artifacts, revealed no indication of Native American religious, ritual, or other special activities within the Project site. No part of the Project site is located on current Native American reservation land. However, it is likely that the Project site was part of the Traditional Use Area (TUA) of one or more of the local tribes. Field testing of most of the prehistoric sites was completed in 2002, prior to the County's requirement for Native American monitors. When additional fieldwork was conducted in 2008 for sites affected by Project redesign, Native American monitors provided by Red Tail Monitoring and Research, Inc. were present. A records search of the Sacred Lands Files of the Native American Heritage Commission was requested. The records search indicated "the presence of Native American cultural resources that may be impacted" by the Project site, although the locations of those resources could not be revealed. Requests for additional information regarding known cultural resources were mailed to the list of Native American representatives supplied by the Native American Heritage Commission. On August 8, 2007, the County coordinated a field trip to this site, along with the Otay Ranch Company representatives, as a part of the SB-18 tribal consultation process. The site visit included County representatives, Otay Ranch Company representatives, the cultural resources consultant Brian F. Smith and Native American representatives from Jamul, Santa Ysabel and San Luis Rey Tribes.

For further details on the methodology for analyzing impacts to cultural resources, refer to the Archaeological/Historical Study in this EIR (**Appendix C-4**).

The following references were used to identify paleontological resources on the Project site and surrounding vicinity: (1) Geologic maps of Tan (2002, Geologic map of the Jamul Mountains 7.5-foot quadrangle, San Diego County, California, a digital database, scale 1:24,000, published by the California Geological Survey); (2) Geologic maps of Todd (2004, Preliminary geologic map of the El Cajon 30- by 60-foot quadrangle, southern California, version 1.0: USGS Open-File Report 2004-1361: 1-30, 1 map sheet (scale 1:100,000); and (3) a paleontological collections and records search conducted by the Department of Paleontology at the San Diego Natural History Museum.

2.4.2.1 Historic Resources

Guideline for the Determination of Significance

A significant cultural resources impact would occur if the Project would:

- Cause a substantial adverse change in the significance of a historical resource as defined in Section 15064.5 of the 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.

Rationale for Selection of Guideline

This guideline is from the County of San Diego Guidelines for Determining Significance for Cultural Resources (2007). Section 21083.2 of the CEQA Guidelines recommends evaluating historical resources to determine whether a proposed action would have a significant effect on unique historical resources.

Analysis

As noted above, three historic sites were identified on the Project site: SDI-11,390H; SDI-11,391H; and SDI-12,354H. No historic sites were identified in the off-site road or sewer line improvement areas.

The analysis of the cultural materials recovered from Site SDI-11,390H and related historic research revealed a historic occupation site with limited structural remains and a very minimal cultural deposit. The recovered artifacts suggest that the site was used during the late 1800s and early 1900s; however, the site lacks additional research potential. The work completed for this evaluation has exhausted the research potential of the site. Based on marginal information derived from the testing program, Site SDI-11,390H is not considered “historically significant” according to criteria listed in Section 15064.5 of the CEQA Guidelines.

The analysis of the cultural materials recovered from Site SDI-11,391H and related historic research revealed a historic occupation site with structural remains and a minimal cultural deposit. The pattern and redundancy of the recovered materials suggests a lack of additional information potential at the site. The archival information for the region south of the Project site indicates that there was settlement occurring by 1879. By 1903, a road and structure were present at the site. Based on the marginal information derived from the testing program, Site SDI-11,391H is not considered “historically significant” according to criteria listed in Section 15064.5 of the CEQA Guidelines.

The investigation of Site SDI-12,354H revealed no confirmed evidence of historic activity. No artifacts were observed, and neither the stacked rock pile nor the pit could be dated. The mechanically excavated features may have been associated with the construction or maintenance of the small reservoir located directly southwest of the site. Due to the lack of datable artifacts or elements associated with the rock pile and pit identified as SDI-12,354H, it is unlikely that additional information would result from subsequent investigations. Based on the information derived from the current investigation, the site is not considered “historically significant” according to criteria listed in Section 15064.5 of the CEQA Guidelines.

The cultural materials recovered from the three historical sites were not considered “historically significant” according to the criteria listed in Section 15064.5 of the CEQA Guidelines. In addition, none of the sites was listed on or eligible for the National Register of Historic Places, and none of the sites were listed on or eligible for the California Register of Historical Resources

or the Local Register of Historic Resources. As a result, these sites are not considered “historical resources” pursuant to Section 15064.5 of the CEQA Guidelines. Based on the above analysis, the proposed Project would not cause a substantial adverse change in the significance of a historical resource; therefore, impacts to historical resources from implementation of the proposed Project are considered *less than significant*.

2.4.2.2 Archaeological Resources

Guideline for the Determination of Significance

A significant cultural resources impact would occur if the Project would:

- Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5 of the CEQA Guidelines. This shall include the destruction or disturbance of an important archaeological site or any portion of an important archaeological history or prehistory.

Rationale for Selection of Guideline

This guideline is derived from the County of San Diego Guidelines for Determining Significance for Cultural Resources (County of San Diego 2007). Section 15064.5 of the CEQA Guidelines recommends evaluating archaeological resources to determine whether a proposed action would have a significant effect on unique archaeological resources.

Analysis

As stated above, 79 prehistoric and historic archaeological sites were identified within the Project site, including 53 sites located within the proposed grading and brushing envelope and 26 sites located outside the construction zone and within designated open space. No archaeological sites were identified in the off-site road or sewer line improvement areas. Implementation of the proposed Project would result in potential direct and indirect impacts to most of the recorded prehistoric sites within the Project footprint, as discussed below.

Direct Impacts within the Proposed Grading and Brushing Envelope

Within the limits of the Project and road/sewer improvements, 79 cultural resources were identified; however, only 69 were tested according to the criteria in section 15064.5 of the CEQA Guidelines. The 10 sites that were not tested are assumed to be significant and would be preserved in designated natural open space areas. Detailed analyses for each of the sites are provided in the Archaeological/Historical Study, found in **Appendix C-4**. As summarized in **Table 2.4-1**, based on the information derived from testing, 60 of the 69 cultural resource sites tested are not considered significant. Because these sites were not considered significant, any impacts to these sites as a result of implementation of the proposed Project would not be considered significant; therefore, mitigation would not be required.

As summarized in **Table 2.4-1**, impacts to the following nine sites within the proposed grading and brushing envelope are considered significant and are described below: SDI-11,406; SDI-11,409; SDI-12,368; SDI-12,371; SDI-16,303; SDI-16,309; SDI-16,312; SDI-16,326; and SDI-16,332.

The analysis of the cultural materials recovered from Site SDI-11,406 revealed a moderate surface scatter and a relatively dense, although localized, cultural deposit of lithic artifacts. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, with additional floral and/or faunal resource procurement and processing, as evidenced by a variety of precision tools. Based on the presence of a variety of tool types and a concentrated subsurface deposit that extends to 30 centimeters, Site SDI-11,406 exhibits significant cultural deposits and retains research potential, which would contribute to the understanding of prehistoric cultures in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-11,409 also revealed a moderate surface scatter and a cultural deposit. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, with additional floral and/or faunal resource procurement and processing, as evidenced by the presence of a variety of precision tools. Based on the presence of a variety of tool types and a subsurface deposit that extends to 40 centimeters, Site SDI-11,409 exhibits significant cultural deposits and retains research potential, which would contribute to the understanding of prehistoric cultures in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-12,368 reveal a moderately dense surface scatter and two cultural deposits, one of which is relatively deep. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, as well as subsistence resource processing, as evidenced by the presence of the variety of precision tools recovered at the site. Based on a variety of tool types recovered and the depth of the deposit, Site SDI-12,368 exhibits significant cultural deposits and retains research potential. The surface scatter has been sampled, but the recovered collection is only a portion of the complete surface scatter. Testing also indicated that at least one of the two subsurface deposits contains a dense scatter of materials to a depth greater than most of the archaeological sites located on the Project site (50 centimeters). Based on the results of the testing program, Site SDI-12,368 would contribute to the understanding of prehistoric resource procurement and economy in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-12,371 reveal a moderately dense surface scatter and a localized cultural deposit with a depth of 30 centimeters. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, as well as resource processing, as evidenced by the presence of a variety of precision tools. Based on the variety of tool types recovered and the depth of the deposit, Site SDI-12,371 exhibits significant cultural deposits and retains research potential. Testing also indicated that the subsurface deposit at Site SDI-12,371 contains a significant amount of materials and exhibits with the potential to produce an assemblage that would contribute to the

understanding of prehistoric resource procurement and economy in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-16,303 reveal a moderately dense surface scatter and a localized, shallow cultural deposit. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, with additional floral and/or faunal food procurement and processing, as evidenced by the presence of a variety of precision tools. Based on the variety of tool types recovered and the presence of culturally diagnostic artifacts, Site SDI-16,303 exhibits significant cultural deposits and retains research potential. Although the artifacts on the surface of the site, which represent a large percentage of the assemblage, have been collected, testing indicated that the localized subsurface deposits contain materials that would contribute to the understanding of prehistoric cultures in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-16,309 reveal a large, moderately dense surface scatter and a shallow cultural deposit. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, with additional plant and/or animal resource processing, as evidenced by the presence of a variety of precision tools. Based on the variety and quantity of tool types recovered, Site SDI-16,309 exhibits significant cultural deposits and retains research potential. Both surface sampling and subsurface excavations indicate that the site contains materials that would contribute to the understanding of prehistoric resource procurement and economy in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-16,312 reveal a dense surface scatter and a shallow, but extensive, cultural deposit. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, with additional floral and/or faunal food processing, as evidenced by the presence of a variety of precision tools. Based on the quantity of artifacts and the variety of tool types recovered, Site SDI-16,312 exhibits significant cultural deposits and retains research potential. All artifacts from the site were not collected but, rather, were sampled as part of the current investigation. The surface and subsurface contexts at Site SDI-16,312 contain materials that would contribute to the understanding of quarry and resource processing sites during the prehistoric occupation of the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-16,326 reveal a dense surface scatter and a deep cultural deposit. The recovered materials indicate that the site is a quarry and temporary camp where site activities were focused primarily on lithic procurement and manufacture, with plant and/or animal processing, as evidenced by the presence of a variety of precision tools. Based on the variety of tool types recovered, Site SDI-16,326 exhibits significant cultural deposits and retains research potential. Although all surface artifacts have been collected, the site retains a significant research potential represented by the depth (70 centimeters) of the subsurface deposit identified. The results of the investigation indicate that the subsurface deposits contain materials that would contribute to the understanding of prehistoric resource procurement and economy in the region. ***Impacts to this site would be considered significant.***

The analysis of the cultural materials recovered from Site SDI-16,332 reveals a moderately dense surface scatter and shallow cultural deposit. The recovered materials indicate that site activities were focused primarily on lithic procurement and manufacture, with additional plant and/or animal resource processing, as evidenced by the presence of animal bone and a variety of precision tools. Based on the variety of tool types recovered and the presence of animal bone, Site SDI-16,332 exhibits significant cultural deposits and retains research potential. Although most of the artifacts on the surface of the site, which represent a large percentage of the collection, have been collected, the recovery from the test unit indicates that the subsurface deposits contain materials that would contribute to the understanding of prehistoric resource procurement and economy in the region. ***Impacts to this site would be considered significant.***

Implementation of the proposed Project would result in direct impacts to the nine significant sites described above. Five of these sites are characterized by a quarry with a limited range of tools but a large representation of lithic production waste. The remaining four sites are minor prehistoric temporary camps or quarry areas, characterized by marginal deposits or features representing limited research potential. All of these sites contain subsurface deposits that represent significant research potential. Therefore, ***direct impacts to these nine sites are considered significant (Impact CR-1).***

Potential Indirect Impacts to Sites within the Designated Open Space Area

A total of 26 sites are outside of the proposed construction zone and would not be directly impacted by the development. Sixteen of these sites have been tested and determined to be of limited significance and would not be directly impacted according to the Project design. Ten of these sites represent resources that are assumed significant but were not tested because they lie outside of the development envelope and would be preserved in open space areas. A trail system is planned for the open space area that is intended to avoid the 10 significant sites. However, the 10 sites may be indirectly affected by increased visitation to open space areas due to the increased population of residents adjacent to the sites and a variety of activities in open space areas that may lead to encroachment into the archaeological sites, including maintenance procedures and unauthorized exploration of the open space. These ***indirect impacts to the 10 sites within open space areas are considered potentially significant (Impact CR-2).***

2.4.2.3 *Disturbance to Human Remains*

Guideline for the Determination of Significance

A significant impact to human remains would occur if the Project would:

- Disturb any human remains, including those interred outside of formal cemeteries.

Rationale for Selection of Guideline

This guideline is from the County of San Diego Guidelines for Determining Significance for Cultural Resources (County of San Diego 2007). This guideline is included because human remains must be treated with dignity and respect and CEQA requires consultation with the Most

Likely Descendant as identified by the Native American Heritage Commission (NAHC) for any project in which human remains have been identified.

Analysis

Sections 15064(d) and (e) of the CEQA Guidelines requires that if human remains are discovered on a project site that may be those of a Native American, no further excavation or disturbance shall occur and the County Coroner shall be notified to determine whether the remains are those of a Native American. If confirmed, the lead agency shall work with the Native American Heritage Commission to identify the person or persons most likely to be descended from the deceased Native American and the project applicant shall work with the descendent for treating or disposing of, with appropriate dignity, the human remains and any associated grave goods in accordance with the provisions of Public Resources Code Section 5097.98. No human bone material was identified during the testing program; however, the possibility exists that human remains could be buried on the Project site and be encountered during grading. Thus, implementation of the proposed Project could result in *potentially significant adverse impacts* related to disturbance of human remains (**Impact CR-3**).

2.4.2.4 Paleontological Resources

Guideline for the Determination of Significance

A significant impact to paleontological resources would occur if the Project would:

- Propose activities directly or indirectly damaging to a unique paleontological resource or site. A significant impact to paleontological resources may occur as a result of the Project if Project-related grading or excavation would disturb the substratum or parent material below the major soil horizons in any paleontologically sensitive area of the County, as shown on the San Diego County Paleontological Resources Potential and Sensitivity Map.

Rationale for Selection of Guideline

This guideline is from the County of San Diego Guidelines for Determining Significance (Paleontological Resources, 2009). It requires the evaluation of paleontological resources to determine whether a proposed action would have a significant effect on paleontological resources.

Analysis

The Project site is located within a “High” paleontological sensitive area of the County, as shown on the County Paleontological Resources Potential and Sensitivity map (County of San Diego 2009b). As described above, the upper sandstone/mudstone member of the Otay Formation is considered to have “high paleontological resource sensitivity” and the middle gritstone and lower fanglomerate members of the Otay Formation are considered to have “moderate paleontological resource sensitivity.” Both of these members occur within the Project site. In addition, as noted

above, there is one documented fossil locality within the Project site and numerous fossiliferous localities west of the Project site. Furthermore, the Otay Formation is considered the richest source of Late Oligocene terrestrial vertebrates in California. The Project proposes to excavate 16.2 million cubic yards of soil within the Otay Formation. This volume of excavation would exceed the County's threshold of 2,500 cubic yards in areas of high or moderate paleontological sensitivity and, therefore, implementation of the proposed Project could result in *potentially significant impacts* to these paleontological resources (**Impact CR-4**). According to the County Guidelines for Determining Significance for Paleontological Resources, monitoring of excavation activities during grading is required and unearthed fossil remains are to be salvaged, identified, and prepared for curation.

2.4.2.5 Resource Protection Ordinance Compliance

Section 86.605 of the County's Resource Protection Ordinance (RPO) contains a list of projects that are exempt from the RPO and includes an exemption for Otay Ranch as follows:

- (i) Any project located within the approximately 22,500 acre property known as "Otay Ranch", if determined to be consistent with a Comprehensive Resource Management and Protection Program which has been adopted by the Board of Supervisors for the "Otay Ranch."

The Otay Ranch Resort Village is included as a part of the Otay Ranch Resource Management Plan (RMP). The Otay Ranch RMP was created to provide a mechanism to manage a variety of resources within the context of a unified regional plan for Otay Ranch. The RMP includes three policies related to cultural resources. Each is identified below, and includes an analysis of how the proposed Project is consistent with the RMP requirements.

Policy 1.3B - In conjunction with the first SPA in the Proctor Valley Parcel, a complete cultural resource study to assess cultural resources on that ownership shall be required prior to the approval of any development application.

Analysis

The potential cultural and historic resource impacts are evaluated in the Archaeological/Historical Study provided in this EIR as **Appendix C-4**. The potential impacts of the proposed Project related to paleontological resources in the Paleontological Resources Letter Report provided in this EIR as **Appendix C-5**.

Policy 2.12 - Preserve significant cultural resources.

Analysis

The proposed project will accomplish the preservation of 10 significant sites, which will remain undisturbed in Open Space as part of the Otay Ranch RMP Preserve, while nine significant sites will be impacted by proposed grading. The preservation of 53 percent of the significant sites within the dedicated Preserve area will ensure that examples of these types of resources will remain as part of the archaeological resource base in the east Otay region. The nine significant

sites that will be impacted have been identified as significant due to their research potential. The data recovery mitigation program proposed as part of the development plan will receive a sufficient level of information from the group of sites in the development envelope to exhaust their research potential and contribute valuable information to the archaeological record.

The nine significant sites that will be impacted are primarily classified as lithic work stations or quarry sites that reflect the abundance of metavolcanic rock exposed at the higher elevations of Otay Ranch Village 13. This type of rock was targeted by prehistoric occupants as the preferred stone locally available for stone tool manufacture. In spite of the extensive quantity of flaked stone found on these sites that represents tool manufacture, very little evidence was found to indicate that these sites also served as habitation sites where prehistoric people lived and carried out all the tasks necessary to survive. In all likelihood, the major occupation site where Native Americans would have lived and accessed the quarries on Otay Ranch Village 13 is situated beneath the Lower Otay Reservoir, where the Otay River and Jamul Creek intersected. Therefore, while the loss of nine significant cultural resources represents a loss of 47 percent of the collection of significant sites, these sites are part of a very repetitive pattern of stone tool manufacture, which is a relatively small aspect of the material culture of these people. The loss of these sites will be adequately mitigated through the implementation of a data recovery program.

Policy 6.1 - Provide resource-related educational and interpretive programs to increase public sensitivity and awareness and appreciation of resources within the Preserve, consistent with the goal of the RMP.

Analysis

Standards for Policy 6.1 require that the Preserve Owner/Manager (POM) direct the construction of an interpretive center. For cultural resources within portions of the Project site dedicated to the Otay Ranch Preserve and administered by the POM, the RMP states that archaeological site preservation is the preferred mitigation measure for subsequent POM activities. Upon dedication of open space to the Preserve, it is the POM's responsibility to comply with this Policy.

2.4.3 Cumulative Impact Analysis

Cumulative impacts to cultural resources refer to the aggregate effect of land development or use associated with changes to the landscape since the historic settlement of the area began in the 1800s. Changes in land use over the past 150 years in the southwestern area of San Diego County have been driven by water and desirable land forms. Agriculture was focused first on the coastal plain and river valleys, and then gradually into the coastal mesas and foothills. In the area of Otay Ranch Village 13, the agri-business that flourished at Otay Ranch in the twentieth century greatly affected cultural resources through cultivation and grazing. Archaeological sites most affected by agricultural use are smaller, superficial sites that could be easily dispersed or plowed under by seasonal planting and harvesting.

Pressures from residential and commercial development followed the growth of the area, which generated the need for development primarily after 1960. With the sale of Otay Ranch from

United Enterprises, Inc. to the Baldwin Brothers, a large development company, in the early 1980s, the potential for substantial land use change was established. Development of Otay Ranch, Salt Creek Ranch, Eastlake, and Rancho San Miguel have changed hundreds of acres of farm and grazing land to housing tracts and commercial property. The cumulative impacts to cultural resources generated by this development are measurable because most development-related impacts have been evaluated as part of the CEQA review process. The assessment of cumulative impacts associated with the development of Otay Ranch Village 13 incorporated data from an area of three to four miles surrounding the project. Within that study area, 266 prehistoric sites have been recorded. These sites range from major habitation sites to sparse shell and artifact scatters. Research has concluded that 18 major development projects have contributed to the effect of residential, commercial, and infrastructure encroachment into the study area.

The cumulative impact analysis provided information that only 10.53 percent of cultural sites within the three-mile study radius around Otay Ranch Village 13 have been destroyed completely by development. The proposed development of Otay Ranch Village 13 will contribute to the cumulative impacts to cultural resources because cultural resources are characterized as non-renewable resources. Although cumulative impacts are unavoidable, these impacts can be mitigated through the implementation of a data recovery program.

2.4.3.1 Cumulative Prehistoric and Historic Cultural Impacts

The archival and field research conducted for preparation of the Cultural Resources Technical Report resulted in the identification of 79 cultural resource sites within the boundaries of the proposed Project, of which 53 sites would be directly impacted by the Project. In addition to the Project specific impacts, the effect of cumulative impacts to cultural resources in the area must also be assessed. The potential cumulative effect of proposed land development projects is the loss of cultural resources, which would collectively contribute to the loss of San Diego prehistory. However, Project-specific mitigation can be implemented to reduce the effect of development by ensuring the scientific recovery, study, and curation of important cultural resources.

Mitigation is recommended for nine of the directly impacted significant cultural resource sites. The Otay Ranch PEIR determined that implementation of the Otay SRP would result in a significant, unavoidable impact on cultural resources. Based on the cumulative Project-level and program-level potential for cultural resource impacts, the ***Project's contribution to cumulative impacts would be significant (Impact CR-5)***. Implementation of Project-level mitigation measures M-CR-1, M-CR-2 and M-CR-3 would reduce the Project's contribution to cumulative impacts.

The Management Plan for Otay Mesa Prehistoric Resources (Gallegos et al. 1998) was used as a guide for defining site types, the cultural resource study area, and for site comparisons to be employed for the cumulative impact analysis for the Project site. In addition, information obtained through the records obtained from the SCIC was also used for the cumulative impact assessment. The current status of archaeological sites outside of the Project boundaries was not

verified through visual inspection. Assumptions of site status were based on aerial maps showing developed lands and site record information.

A total of 365 prehistoric archaeological sites had been recorded in the Management Plan for Otay Mesa Prehistoric Resources as of 1998 (Gallegos et al. 1998). Habitation sites and temporary camps are interspersed throughout the study area and tend to be located near water sources and at the head of drainages. Metavolcanic quarries are located in the Jamul and San Ysidro Mountains, near outcrops of Santiago Peak Volcanic materials. A total of 17 projects have been identified within a one-mile radius of the proposed Project. A list of the projects in the vicinity of the proposed Project has been placed in **Table 2.4-2**. Most of these projects have centered on residential development; although other projects have included a transmission line, a commercial quarry, public service infrastructure that involve sewer and water lines, cell towers, and planning studies. Collectively, these projects reflect the eastward expansion of planned residential communities and the concomitant need for infrastructure improvements. In addition to modern development, much of the area has been previously disturbed by agriculture activities, including plowing, disking, and grazing.

There have been 44 prehistoric archaeological sites recorded within a one-mile radius of the Project site. Surface lithic scatters, temporary camps/artifact scatters, and habitations are the types of sites identified within or near the Project site. In addition, 79 prehistoric archaeological sites are located within the Resort Village property. Nine of these sites were tested and evaluated as significant and another 10 sites were assumed to be significant since they were not tested but instead are proposed to be placed into open-space easements. The sites within the Resort Village and those identified by Gallegos et al. (1998) represent habitation locales and temporary camps that are positioned on the uppermost drainage of the Otay River and close to the southwestern flank of the Jamul Mountains. Of the 14 habitation sites on Otay Mesa identified in Gallegos et al. (1998: vii, 73), only five (SDI-222, SDI-4281, SDI-8654, SDI-11,424, and SDI-10,198) are undeveloped and available for long-term preservation, as the remaining sites have been destroyed or their status is unknown. Plowing, erosion, roads, historic disturbances, and modern trash have impacted the habitation and temporary camp sites within the current Project area and those in a one-mile vicinity. Clearly, these previous impacts and the foreseeable direct impacts of the Resort Village Project will result in a cumulative impact to prehistoric resources given the continued loss of habitation sites and temporary camps in the Otay Mesa region. However, mitigation can be implemented to reduce the effect of the proposed development by ensuring the scientific recovery and study of the habitation sites (SDI-12,368 and SDI-16,326) and temporary camps (SDI-11,406, SDI-11,409, SDI-12,371, SDI-16,307, SDI-16,309, and SDI-16,332) to be directly impacted by the proposed Project. This will ensure that important information about prehistory is not lost.

The other 60 sites identified within the Resort Village Project can be characterized as “non-sites” and are not significant. Forty-eight of these “non-sites” are sparse lithic scatters and will be directly impacted by the proposed development, although 12 sparse lithic scatters will not be impacted. These marginal, non-significant sites are defined as “non-sites” (after Gallegos et al. 1998) since they lack a substantial subsurface deposit and surface artifact density ratios are less than three artifacts present in a 100 square meter area. On this basis, cumulative impacts to this

site type are not considered significant given that this site type lacks research potential or Native American concerns.

2.4.3.2 *Cumulative Paleontological Resources Impacts*

As described above, the upper sandstone/mudstone member of the Otay Formation is considered to have “high paleontological resource sensitivity” and the middle gritstone and lower fanglomerate members of the Otay Formation are considered to have “moderate paleontological resource sensitivity.” There is one documented fossil locality within the Project site and numerous fossiliferous localities west of the Project site. Development of other projects in the vicinity of the proposed Project could also result in adverse impacts to paleontological resources. Therefore, the *Project’s contribution to cumulative impacts to paleontological resources would be significant (Impact CR-6)*.

2.4.4 **Significance of Impacts Prior to Mitigation**

The following significant impacts were identified in the analysis of the Project’s effect on cultural resources:

<u>Impact Number</u>	<u>Description of Project’s Effect</u>	<u>Significance of Impact</u>
CR-1	Potential impacts to archaeological resources (nine prehistoric sites) within the proposed grading and brushing envelope	Potentially significant direct impact
CR-2	Potential indirect impacts to archaeological resources (10 prehistoric sites) within the designated open space area, including potential impacts associated with the future use of the Preserve for public hiking and riding trails	Potentially significant indirect impact
CR-3	Potential impacts to buried human remains	Potentially significant direct impact
CR-4	Potential impacts to paleontological resources within the upper sandstone/mudstone, middle gritstone, and lower fanglomerate members of the Otay Formation	Potentially significant direct impact
CR-5	Contribution to cumulative archaeological resources (prehistoric sites) impacts within the Project vicinity	Potentially significant cumulative impact
CR-6	Contribution to cumulative paleontological resources impacts within the Project vicinity	Potentially significant cumulative impact

2.4.5 Mitigation

The following mitigation measures are recommended to reduce the proposed Project's potentially significant direct, indirect and cumulative impacts on cultural and paleontological resources to a less-than-significant level.

2.4.5.1 Prehistoric Resources

Direct Impacts

M-CR-1 Prior to the issuance of grading permits, the Project applicant shall implement or cause the implementation of a data recovery program, as described below, for the following nine sites located within the proposed grading and brushing envelope:

SDI-11,406	SDI-11,409	SDI-12,368	SDI-12,371
SDI-16,303	SDI-16,309	SDI-16,312	SDI-16,326
SDI-16,332			

Data Recovery Program

The data recovery program is contingent upon extracting a sample that will exhaust the data potential of each site. The County has not adopted a policy that identifies the specific level of excavation required to achieve mitigation of impacts by data recovery. In most cases, the level of sampling is dictated by the information potential of the site. Data recovery is commonly discussed in terms of sampling percentages, referring to the percent of the area of the significant subsurface deposit to be excavated. The general approach for achieving the mitigation of impacts through data recovery would begin with an indexing of the site. The site index shall include a sufficient sample of the subsurface deposit, ranging from 2.5 to 4.0 percent of each deposit, to effectively stratify the deposits into areas of differing artifact content, densities, and activity areas. The small percentage value proposed for site indexing is reflective of the basic characterization of each of the significant sites as quarry locations with minimal evidence of occupation activities. The indexing process shall use a static grid to cover each site, with a sample unit placed in each grid cell. Using a grid will produce a very structured, nonrandom, and uniform index of the content of each cultural deposit. Within the portion(s) of each site that retains the greatest research potential, an additional 2 percent of that area shall be excavated. For most sites in the data recovery program, the area excavated shall be between 2.5 and 3 percent of the significant subsurface deposit (area of greater research potential). This volume of recovery would be sufficient to successfully pursue the research objectives of the research design and to provide other researchers with a large information resource. At the sites considered to retain the greatest research potential, a third level of stratified sampling may be implemented to focus block excavations on areas that demonstrate intense artifact recovery, features, or multi-cultural depositional patterns.

The excavation of the subsurface deposits shall be accomplished with standard 1-meter-square test units excavated by hand in 10-centimeter levels. All units shall be screened, mapped, measured, and photographed through standard stratigraphic control measures. A more detailed description of the field methods to be used is provided in Section 10.5 of the Archaeological/Historical Study provided in this EIR, **Appendix C-4**.

For the phases of work at each site, the first phase shall be the site indexing and the second phase shall be the focused investigation. A third phase, if warranted, would be extremely focused on high-potential elements of any significant site. Each phase has specific goals: the site index is a nonrandom representative sample of the entire site, while the second and third phases are focused, biased, and intuitive studies of the area within the deposit that has the greatest potential.

The grid for each site shall be determined by the number of sample units needed to accomplish the sample level of 2.5 percent. For most sites, the grid shall be set at 15-meter or 25-meter intervals. To calculate the grid size, the number of test units that represent the Phase 1 sample was divided into the calculated area of the deposit. The resulting quotient represents the area within each grid cell, and the square root of this value provides the dimension of the grid cell. For example, assuming a site contained 2,000 square meters of a cultural deposit, a 2.5 percent sample would be 50 square meters. The grid size would be determined by dividing the deposit size (2,000 square meters) by the number of units (50), which equals 40 square meters. The square root of 40 square meters is 6.3 meters; thus, the intersection of each grid line is spaced at 6.3 meters. Within each 6.3-meter by 6.3-meter grid cell, one test unit would be excavated to complete the site index.

For consistency, all of the sites shall be treated similarly, with an index phase followed by a focused, intuitive phase in the area of greatest importance. The phases of the sampling procedure to be used at the sites included in the data recovery program are as follows.

Data Recovery Program Phase 1

The first phase of excavation at any particular site shall typically involve a 2.5 percent sample used to index the site content and document intra-site variation. Test units shall be uniformly distributed within each site using a grid system. For most sites, the presence of multiple rock outcroppings would constitute voids in the sample grid. These areas would be deleted from the calculations of site deposits when the data recovery programs are initiated; however, the areas represented by the outcrops cannot be calculated at this time.

Data Recovery Program Phase 2

The second phase of excavation shall consist of a 2 to 4 percent sample of each site area identified as representing the greatest research potential. The stratification of the site following the Phase 1 work would typically identify an area of approximately 10 percent of the sample area identified as retaining additional research potential. For this sampling phase, the test units must not be

randomly placed but shall be intuitively located at the discretion of the archaeologist.

Data Recovery Program Phase 3

The last phase of excavation shall be conducted at any sites that are found to contain particularly important deposits worthy of extended excavation. The sample size of any such area is dependent on the nature of the deposit and research potential.

The procedures noted above shall be applied to each of the sites listed below in addition to any site-specific mitigation measures. The actual number of square meters to be excavated in any particular site would depend on the site size, importance, and research potential. The projected size of the sample for each of the sites listed below is a minimum of 2.5 percent, but the actual size of the sample needed to satisfy the data needs of the research objectives will ultimately be determined by the assessment of the recovery from the sample. The possibility exists that previously unidentified subsurface deposits would be identified during data recovery, increasing the research potential of a significant site. In this case, the sample size of the Phase 1 or Phase 2 excavation may be readjusted. If the recovery from any site is evaluated as redundant even before the minimum Phase 1 sample level of 2.5 percent is achieved, the consulting archaeologist shall request a variance from the County of San Diego to reduce the sample size to reflect the redundancy of the sample. This request would need to be supported by data and analysis from the excavations in progress at the site(s) in question. At each site, a backhoe may be employed following the completed sampling program to search for any anomalies within the site. Trenches would be used to expose portions of the sites; however, the number of trenches used in this type of investigation would be discussed and approved by the County before initiation.

Backhoe Trenching

All sites that are subject to data recovery and test unit excavations shall be subject to backhoe trenching following the test unit excavations to search for any unusual features or anomalies that would need to be examined further. The number and locations of the trenches to be excavated at each site shall be determined by the archaeologist on the basis of the size of the site and the recovery from the test units. If the trenches reveal the presence of deposits or features within a site that were not previously detected, then additional test units shall be excavated to expose the features and permit further investigation and recordation. For those four significant sites (SDI-12,368; SDI-16,312; SDI-16,326; and 16,332) that lie partially within the development envelope and partially within the Preserve (open space), the data recovery mitigation program would include portions of these sites within the development envelope as well as an area 10-feet-wide extending into the open space portion of the site. This extension of the data recovery program into the open space portions of the sites is intended to provide mitigation for indirect impacts in the buffer area of the open space that directly affects the development envelope.

Data Recovery Procedures

For all sites that are subject to data recovery, the program to carry out the necessary data recovery procedures, including the applicable field methodologies, laboratory analyses, and special studies for these sites, shall be provided as described below.

The data recovery program must be consistent with the policies and guidelines of the County and with the California Office of Historic Preservation (OHP) publication, Guidelines for Archaeological Research Design Preservation Planning Bulletin No.5 (1991).

Field Methods

The data recovery program shall focus on the excavation of test units measuring 1-meter-square to a minimum depth of 30 centimeters or until bedrock is encountered. If cultural materials are present beyond this depth, the excavation shall continue until one sterile level is exposed. The units shall be excavated in controlled, 10-centimeter levels. All removed soils shall be sifted through 1/8-inch mesh hardware cloth. All artifacts recovered during the screening process shall be properly labeled with provenience information in the field and subsequently subjected to standard laboratory procedures of washing (if appropriate) and cataloging. The excavation of the units shall be documented with field notes, illustrations, and photographs.

At the conclusion of the test unit excavations, backhoe trenches may be excavated to investigate the site(s) further and search for any unusual features or artifact concentrations. When a backhoe is used, the methodology to be followed is outlined below:

- All trenches must be excavated under the supervision of the Project archaeologist.
- All trenches must be mapped, measured, photographed, and sketched.
- Periodic screening of the excavated material from the trenches shall be conducted.
- Provenience data for all screened soil shall be recorded.

Based on data from the backhoe trenches, the data recovery program could be expanded to focus on features or unique deposits that differ from the materials already studied.

Any features discovered during the archaeological excavations shall be exposed through careful hand excavation. Additional test units may be needed to fully expose the features, which shall then be recorded by sketching and photography. Any datable materials found in association with discovered features shall be collected for radiocarbon dating. If obvious datable samples cannot be found at the sites in the data recovery program, then several bulk soil samples may be collected and processed in an attempt to date the deposits.

At each site, column samples shall be taken to permit microanalysis of midden contents. The columns shall measure 10 centimeters square and shall conform to the walls of selected completed test units to the bottom of the deposit. All of the soil from the column shall be collected and not screened in the field. The samples shall be returned to the laboratory for analysis. In addition, during hand excavation, special attention shall be given to the identification of lithic tools found in situ and their potential for residue analysis. When possible, such tools shall be bagged separately, thereby excluding them from the wet-screening process. A sample of the surrounding soil shall be collected to serve as a control sample, should the artifact be chosen for pollen, phytolith, or blood residue analyses.

Throughout the field operations, standard archaeological procedures shall be implemented. All test units and features shall be mapped using the established datums.

Laboratory Analysis

All of the materials recovered from the field excavations shall be subjected to standard laboratory analysis. Artifacts may be washed, if necessary, to permit proper identification. The artifacts shall be sorted and cataloged, including counts, materials, condition, weight, provenience, and unique artifact identification numbers.

The lithic artifacts recovered from the Project site shall be subjected to analysis, which shall include recordation of critical measurements and weight, and inspection for evidence of use/wear, retouch, patination, or stains. The recovered flakes (or a representative sample) shall be subject to an analysis of attributes such as size, condition, type, termination, and material. The attribute analysis shall include the flake collections recovered during the testing program.

Nonlithic materials, such as ecofacts (shell and bone), shall be subject to specialized analyses. The shell shall be cataloged by species and weight of recovery per level. The bone material shall be weighed and subsequently submitted for specialized faunal analysis. The laboratory analysis of the column samples may include flotation procedures to remove seeds and other microfaunal remains from the soil, followed by the screening of the remainder through a 1/16-inch mesh sieve, if the potential for nonlithic materials is noted in the deposit.

Other specialized studies that shall be conducted if the appropriate materials are encountered during the data recovery program include marine shell species identification, faunal analysis, otolith analysis (for seasonality), oxygen isotopic analysis (also for seasonality), radiocarbon dating, obsidian sourcing and hydration, and blood residue and phytolith studies. These specialized studies are briefly described below.

Shell Analysis

Analysis of any shell recovery would include the speciation of all shell fragments collected. The shell shall be recorded by weight and shall include a count of hinges to determine the minimum number of individuals represented by the recovery.

Faunal Analysis

Any bone material recovered during the data recovery program shall be analyzed by a faunal expert to identify species, types, age, and evidence of burning or butchering. The prehistoric bone recovery shall provide information concerning diet, activity areas within the sites, the habitats exploited, and methods of processing.

Radiocarbon Dating

This dating technique shall be attempted whenever possible. The investigations conducted thus far have not recovered any dateable material, although bulk soil dating was not attempted to determine if the deposits contained sufficient carbon for dating. The radiocarbon dating would be useful in conjunction with the stratigraphic recovery of cultural materials to establish the chronology of the sites. Therefore, the collection of samples for dating should be based on the presence of diagnostic artifacts, features, or geological strata delineations. In conjunction with the research topics, any possible opportunities to delineate parts of sites into Late Prehistoric and Archaic periods shall be advanced through the use of dating methods.

Blood Residue Studies

Organic residue on lithic artifacts may be useful in the determination of the species of animals represented by the residue. However, the use of blood residue studies is necessarily dependent upon the identification of such residues on artifacts. The detection of blood residue shall be made prior to any washing of artifacts so that the residue samples will not be lost.

Isotopic Profiles

The analysis of Oxygen-18 isotopic profiles from shells may be used to determine the season during which the shells were collected. This process measures the ratio of isotopes of oxygen, which is determined by water temperature. A minimum of five shells shall be used in this analysis, particularly if no other means of determining seasonality can be used. Use of this type of analysis is not likely due to the paucity of shell at the site.

Obsidian Hydration and Sourcing

Any recovered obsidian artifacts shall be submitted to a specialist to determine the source of the lithic material. The obsidian shall also be analyzed to produce hydration readings, which may then be used to provide relative dates for the use of the artifacts.

Monitoring

All brushing and grading activities within the Project site shall be monitored on a full-time basis by one or more archaeologists, as dictated by the size of the grading operation. All utility excavations, road grading, or brush removal must be coordinated with the archaeological monitor. Any known resources that are graded must be intensively monitored during grading to ensure that any important features, isolates, or deposits are either recorded and collected, or excavated. Should any resources be encountered during the monitoring of the brushing and grading that were not previously recorded, the action shall be temporarily halted or redirected to another area while the nature of the discovery is evaluated. Any resources that may be encountered shall require testing to determine their significance. If the testing demonstrates that a resource is significant, then a data recovery program shall be implemented consistent with these mitigation measures.

Cultural Material Curation

Cultural materials recovered from the Project site shall be permanently curated at a facility that meets federal standards per 36 Code of Federal Regulations (CFR) Part 79, and therefore would be professionally curated and made available to other archaeologists/researchers for further study. No other collections from previous studies could be located at the time of this study. Should any additional collections be discovered from previous studies, these will be curated with the collections generated from the site evaluations.

Site-Specific Data Recovery Programs

As part of the data recovery program and other actions described above under mitigation measure M-CR-1, the Project applicant shall also cause a Data Recovery program to be implemented for each of the nine CEQA significant prehistoric sites that would be impacted by implementation of the proposed Project as described below.

- M-CR-1a** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-11,406, which shall focus on a uniform indexing of the subsurface deposit. This first level of index sampling shall consist of a 2.5 percent sample of the 858-square-meter deposit. This represents a sample of 21 square meters for the Phase 1 index. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 858 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.
- M-CR-1b** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-11,409, which shall focus on a uniform indexing of the subsurface deposit. This first level of index sampling shall consist of a 2.5 percent sample of the 10,637-square-meter subsurface deposit. This represents a sample of 266 square meters for the Phase 1 index. The

proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 5 percent of the 10,637 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.

- M-CR-1c** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-12,368, which shall focus on a uniform indexing of the focused subsurface deposit. This first level of index sampling shall consist of a 2.5 percent sample of the 1,735-square-meter deposit. This represents a sample of 43 square meters for the Phase 1 index. The County of San Diego has also required that a 10-foot-wide buffer within the open space portion of SDI-12,368 be subjected to data recovery. This will add five test units to the sample. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 1,735 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.
- M-CR-1d** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-12,371, which shall focus on a uniform indexing of the subsurface deposit. This first level of index sampling shall consist of a 2.5 percent sample of the 781-square-meter deposit. This represents a sample of 20 square meters for the Phase 1 index. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 781 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.
- M-CR-1e** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-16,303, which shall focus on a uniform indexing of the subsurface deposit. This first level of index sampling shall consist of a 2.5 percent sample of the 67-square-meter deposit. This represents a sample of 2 square meters for the Phase 1 index. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 67 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.
- M-CR-1f** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-16,309, which shall focus on a uniform indexing of the subsurface deposit. This first level of index sampling shall consist of a 2.5 percent sample of the 5,496-square-meter deposit. This represents a sample of 137 square meters for the Phase 1 index. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 5,496 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.

- M-CR-1g** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-16,312, which shall focus on a uniform indexing of the subsurface deposit. Approximately 24 percent of this site will be impacted, including 1,618 square meters of the 4,967-square-meter deposit identified. This first level of index sampling shall consist of a 2.5 percent sample of the 1,618-square-meter deposit. This represents a sample of 41 square meters for the Phase 1 index. The County of San Diego has also required that a 10-foot-wide buffer within the open space portion of SDI-16,312 be subjected to data recovery. This will add eight test units to the sample. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 1,618 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations, but it is estimated to be a sample of three additional test units.
- M-CR-1h** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-16,326, which shall focus on a uniform indexing of the subsurface deposit. The site contains three separate deposits, of which only the western deposit will be impacted. The western subsurface component encompasses an area of 860 square meters. This first level of index sampling shall consist of a 2.5 percent sample of the 860-square-meter deposit. This represents a sample of 22 square meters for the Phase 1 index. The County of San Diego has also required that a 10-foot-wide buffer strip within the open space portion of SDI-16,326 be subjected to data recovery. This will add eight test units to the sample. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 860 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.
- M-CR-1i** Prior to the issuance of a grading permit, the Project applicant shall cause a Data Recovery program to be implemented for Site SDI-16,332, which shall focus on a uniform indexing of the subsurface deposit. The total area of the subsurface deposits is approximately 1,731 square meters. The development will impact approximately one-third of SDI-16,332, including 924 square meters of the significant subsurface deposits. This first level of index sampling shall consist of a 2.5 percent sample of the 924-square-meter deposit. This represents a sample of 23 square meters for the Phase 1 index. The County of San Diego has also required that a 10-foot-wide buffer strip within the open space portion of SDI-16,332 be subjected to data recovery. This will add seven test units to the sample. The proposed Phase 2 excavations are projected based on an area of increased research potential estimated to be approximately 10 percent of the 924 square meters; the exact number of Phase 2 excavations shall depend on the results of the Phase 1 excavations.
- M-CR-1j** All cultural materials recovered from the Project, either during the mitigation program or during the past archaeological testing programs, shall be professionally prepared for permanent curation at a local facility meeting the

criteria for such curation centers as listed in 36CFR79. The cost to curate collections shall be the responsibility of the applicant. Copies of field notes, reports, maps and catalog data shall be included with the curated collection.

Indirect Impacts

M-CR-2a All sites, regardless of significance status, that are located outside of the development area shall be placed in open space easements. The sites may be included in general Project-wide open space preserves, in which case, site-specific easements would not be necessary. For sites that would be preserved within the development envelope, easements shall be dedicated for individual sites unless incorporated within larger biological or other open space designation. The open space designation shall include language that prohibits any type of surface modification to the sites or intrusions into the site by grading, trenching, or other development-related improvements. For any sites located within open space, a park area, or the Preserve, specific requirements for individual sites are necessary to ensure that the sites are not impacted by maintenance or landscaping. Open space areas shall be transferred to the County Department of Parks and Recreation (County Parks) and maintained as part of the Preserve. County Parks shall assume responsibility for the protection of the sites in the open space areas as part of the management of the Preserve. Aside from temporary fencing during grading and construction to ensure preservation during this period, no individual site preservation measures are deemed necessary during development activities. Subsequently, the long-term protection of the sites will be achieved through management of the Preserve by County Parks. During grading or brushing, the monitoring archaeologist shall determine the need for temporary fences and direct their installation to provide a physical barrier between the grading machinery and adjacent significant cultural resources that are designated for preservation or eventual data recovery. Once the open space areas are transferred to the Preserve, it will become the responsibility of the Preserve owner/manager to maintain the easements for the archaeological sites.

M-CR-2b Prior to any improvements to existing trails or development of new trails, improvement plans shall be reviewed by the Project archaeologist under the direction of the County to determine the potential for impacts to cultural resources, and the need for additional field research, testing, mitigation for potential impacts during construction and use, and monitoring of construction. The requirements of mitigation measure M-CR-1 for data recovery and analysis, including Native American monitoring, shall be applied during all subsequent surveys if new cultural resources are identified.

2.4.5.2 Human Remains

M-CR-3 In the event that human burials are encountered, standard procedures for such discoveries shall be implemented, including notification of the County Coroner's Office, the County, the Native American Heritage Commission, and local Native

American representatives. Fieldwork shall cease in the area of any such discovery. The Native American representative and the County shall be consulted to determine a preferred course of action, and the burial shall be treated according to the requirements of Public Resources Code §5097.98.

2.4.5.3 Paleontological Resources

M-CR-4 Paleontological monitoring shall be conducted during all mass grading and excavation activities in surface exposures of the Otay Formation to mitigate any adverse impacts (i.e., loss or destruction) to potential nonrenewable paleontological resources. A mitigation monitoring and reporting program consistent with County and CEQA guidelines and requirements shall be developed and implemented prior to any mass grading and/or excavation-related activities, including utility trenching, within the Otay Formation. The mitigation monitoring and reporting program shall be conducted in accordance with the following procedures:

- A. A Qualified Paleontologist or Paleontological Resources Monitor (under the supervision of the Qualified Paleontologist) shall be on-site during all excavation operations within geologic formations that may contain paleontological resources (i.e., the Otay Formation). The Qualified Project Paleontologist is a person with a Ph.D. or master's degree in paleontology or related field, and who has knowledge of San Diego County paleontology, and documented experience in professional paleontological procedures and techniques. A Paleontological Monitor is defined as an individual with at least 1 year of experience in field identification and collection of fossil materials. The Paleontological Monitor shall work under the direct supervision of the Qualified Paleontologist. The applicant shall authorize the Qualified Paleontologist and/or Paleontological Monitor to direct, divert, or halt any grading activity, and to perform all other acts required by the provisions listed below.
- B. The Qualified Paleontologist and/or Paleontological Monitor shall monitor all grading and excavation activities of undisturbed formations of sedimentary rock;
- C. If paleontological resources are unearthed, the Qualified Paleontologist or Paleontological Monitor shall do the following:
 1. Direct, divert, or halt any grading or excavation activity until such time that the sensitivity of the resource can be determined and the appropriate recovery implemented.
 2. Salvage unearthed fossil remains, including simple excavation of exposed specimens or, if necessary, plaster-jacketing of large and/or fragile specimens or more elaborate quarry excavations of richly fossiliferous deposits.

3. Record stratigraphic and geologic data to provide a context for the recovered fossil remains, typically including a detailed description of all paleontological localities within the Project site, as well as the lithology of fossil-bearing strata within the measured stratigraphic section, if feasible, and photographic documentation of the geologic setting.
 4. Prepare collected fossil remains for curation to include cleaning the fossils by removing the enclosing rock material; stabilizing fragile specimens using glues and other hardeners, if necessary; and repairing broken specimens.
 5. Curate, catalog, and identify all fossil remains to the lowest taxon possible; inventory specimens; assign catalog numbers; and enter the appropriate specimen and locality data into a collection database.
 6. Transfer the cataloged fossil remains to an accredited institution (museum or university) in California that maintains paleontological collections for archival storage and/or display. The transfer shall include copies of relevant field notes, maps, stratigraphic sections, and photographs.
- D. The Qualified Paleontologist shall prepare a final Paleontological Resources Mitigation Report summarizing the field and laboratory methods used, the stratigraphic units inspected, the types of fossils recovered, and the significance of the curated collection.
- E. Submit two hard copies of the final Paleontological Resources Mitigation Report to the Director of PDS for final approval of the mitigation, and submit an electronic copy of the report according to the County PDS Electronic Submittal Format Guidelines.

2.4.6 Conclusion

2.4.6.1 *Historic Resources*

Three historic sites were identified on the Project site. However, these sites are not considered historically significant. Therefore, implementation of the proposed Project ***would not result in significant impacts to historic resources***, and no mitigation is required.

2.4.6.2 *Prehistoric Resources*

A total of 79 prehistoric archaeological sites were identified within the Project site, including 53 sites located within the proposed grading and brushing envelope and 26 prehistoric sites located outside of the construction zone and within designated open space. Of the 53 sites located within the development area of the Project site, nine sites are considered significant and implementation of the proposed Project would result in significant direct impacts to those nine sites (**CR-1**). To address the direct impacts, this EIR has recommended adoption of mitigation measure **M-CR-1**, which would include a data recovery program. The data recovery program would exhaust the

research potential of the directly impacted prehistoric sites within the Project site and would reduce the potential impacts to these sites to a *less than significant level*.

Of the 26 prehistoric sites located within designated open space areas, implementation of the proposed Project would potentially result in significant indirect impacts to 10 of the 26 sites (**CR-2**). These potential indirect impacts would be mitigated to a less-than-significant level through implementation of the EIR's recommended mitigation measure **M-CR-2** requiring avoidance. Therefore, the potential indirect impacts to prehistoric cultural resources located in open space areas would be reduced to a *less than significant level*.

Although the Project-specific significant impacts to cultural resources would be mitigated to a less-than-significant level, the Project would still contribute to significant impacts identified in the Otay Ranch PEIR. However, the Project's cumulative impact to prehistoric resources would be *less than significant* based on the application of a data recovery program designed to exhaust any further research potential.

2.4.6.3 Human Remains

The proposed Project could result in potentially significant impacts to human remains (**CR-3**). County grading monitoring conditions require procedures to be followed, should human burials be encountered. Local Native American representatives are to be consulted for a recommendations as to their preferred course of action and the burial site, and remains would be treated according to Public Resources Code §5097.98. Compliance with these established County procedures (**M-CR-3**) would reduce the potentially significant impacts to human remains to a *less than significant level*.

2.4.6.4 Paleontological Resources

The proposed Project would result in potentially significant impacts to paleontological resources (**CR-4**). Mitigation measure **M-CR-4** for paleontological monitoring and salvage of fossils during all mass grading and excavation activities requires mitigation of any adverse impacts from loss or destruction of paleontological resources. Implementation of the EIR's recommended mitigation measure would reduce the potentially significant impact to paleontological resources to a *less than significant level*.

2.4.6.5 Cumulative Effects to Prehistoric and Historic Resources

The Project's cumulative impacts to cultural resources (**CR-5**) would be reduced to below a level of significance through mitigation measures M-CR-1 and M-CR-2 that include data recovery, the placement of significant sites within an open space easement, the curation of all artifacts obtained during the testing and data recovery programs, and recordation of all sites within the Project footprint. The proposed Project and those projects identified within the cumulative impact study area are mitigated through the placement of cultural resources within open space easements or by data recovery, curation, and/or reporting. Application of these mitigation measures would reduce the cumulative effect of the Project upon prehistoric and historic resources to a level of *less than significant*.

2.4.6.6 Cumulative Effects to Paleontological Resources

The general region surrounding the Project is considered to have moderate to high sensitivity for paleontological resources. The proposed Project will contribute to cumulative impacts to significant paleontological resources (**CR-6**). Application of mitigation measure **M-CR-4**, which requires monitoring and salvage of fossils, would reduce the cumulative effect of the Project upon paleontological resources to a level of *less than significant*.

**Table 2.4-1
Summary of Investigations at the Otay Ranch Village 13 Sites**

Site Designation	Report Section	Tested	Site Type	Significant	Potential Impacts	Cultures Represented	Surface Area (m ²)	Subsurface Area (m ²)	Max. Subsurface Depth (cm)	Total Artifacts Collected
SDI-I-222	6.1	Yes	LLP, poss R	LS/NRP	Yes	—	7,370	380	10	23
SDI-11,388	6.2	Yes	Q, TC	LS/NRP	No	—	62,281	2,898	20	838 (S)
SDI-11,389	6.3	Yes	LLP, poss R	LS/NRP	Yes	—	6,949	None	—	13
SDI-11,391A	6.4	Yes	LLP, poss R	LS/NRP	Yes (Partial)	—	138,218	2,254	10	In progress
SDI-11,391B	6.5	Yes	LLP, poss R	LS/NRP	Yes	—	39,849	5,603	20	184
SDI-11,391C	6.6	Yes	TC	LS/NRP	Yes	Late Prehistoric	200,262	1,894	20	629
SDI-11,404	6.7	Yes	LLP, poss R	LS/NRP	No	—	1,705	None	—	16
SDI-11,405	6.8	Yes	LLP, poss R	LS/NRP	Yes	—	2,537	336	10	90
SDI-11,406	6.9	Yes	Q, TC	Yes	Yes	Potentially Archaic	4,140	858	30	2,732
SDI-11,407	6.10	Yes	LLP, poss R	LS/NRP	Yes	—	44,535	387	40	148
SDI-11,408	6.11	Yes	Q, TC	LS/NRP	Yes	—	35,697	5,427	20	805
SDI-11,409	6.12	Yes	Q, TC	Yes	Yes	—	40,687	10,637	40	1,154 (S)
SDI-11,414	6.13	Yes	Q, TC	LS/NRP	No	—	55,219	19,760	20	1,507
SDI-12,336	6.14	Yes	LLP, poss R	LS/NRP	Yes	—	5,907	210	10	49
SDI-12,338	6.15	Yes	LLP	LS/NRP	Yes	—	764	None	—	3
SDI-12,339A	6.16	Yes	LLP, poss R	LS/NRP	No	—	7,710	None	—	26
SDI-12,339B	6.17	Yes	LLP, poss R	LS/NRP	No	—	7,821	None	—	115
SDI-12,340	6.18	Yes	LLP	LS/NRP	Yes	—	21,434	427	10	67
SDI-12,341	6.19	Yes	TC	LS/NRP	Yes (Partial)	—	227,493	1,179	10	690
SDI-12,342	6.20	Yes	LLP, poss R	LS/NRP	Yes (Partial)	—	1,408	140	10	37
SDI-12,343	6.21	Yes	LLP, TC	LS/NRP	Yes (Partial)	—	1,596	47	10	168 (S)
SDI-12,353	6.22	Yes	LLP, poss R	LS/NRP	Yes	—	879	None	—	13
SDI-12,355	6.23	Yes	LLP, poss R	LS/NRP	Yes (Partial)	—	4,174	125	10	45
SDI-12,356	6.24	Yes	LLP, poss R	LS/NRP	Yes	—	138	None	—	6
SDI-12,357	6.25	Yes	LLP, poss R	LS/NRP	Yes	—	986	None	—	10

Site Designation	Report Section	Tested	Site Type	Significant	Potential Impacts	Cultures Represented	Surface Area (m ²)	Subsurface Area (m ²)	Max. Subsurface Depth (cm)	Total Artifacts Collected
SDI-12,358	6.26	Yes	LLP, TC	LS/NRP	Yes	—	5,023	180	20	95
SDI-12,359	6.27	Yes	LLP, TC	LS/NRP	Yes	—	7,370	380	20	189
SDI-12,360	6.28	Yes	LLP, TC	LS/NRP	Yes	—	16,704	270	10	127
SDI-12,361	6.29	Yes	LLP, TC	LS/NRP	Yes	—	3,648	None	—	18
SDI-12,362	6.30	Yes	LLP	LS/NRP	Yes	—	25,110	None	—	11
SDI-12,363	6.31	Yes	LLP, TC	LS/NRP	Yes	—	5,477	350	30	228
SDI-12,364	6.32	Yes	LLP	LS/NRP	Yes	—	685	None	—	6
SDI-12,365	6.33	Yes	LLP, poss R	LS/NRP	Yes	—	1,084	None	—	4
SDI-12,366	6.34	Yes	LLP, poss R	LS/NRP	No	—	302	166	10	13
SDI-12,367	6.35	Yes	LLP, poss R	LS/NRP	Yes (Partial)	—	15,424	1,799	20	163 (S)
SDI-12,368	6.36	Yes	Q, TC	Yes	Yes (Partial)	—	23,792	1,735	50	1,034 (S)
SDI-12,369	6.37	Yes	LLP	LS/NRP	Yes	—	1,542	None	—	21
SDI-12,370	6.38	Yes	LLP	LS/NRP	Yes	—	2,635	None	—	8
SDI-12,371	6.39	Yes	Q, TC	Yes	Yes	—	4,253	781	30	413 (S)
SDI-12,372	6.40	Yes	LLP, poss R	LS/NRP	Yes	—	802	179	10	15
SDI-16,303 (T1)	6.41	Yes	Q, TC	Yes	Yes	Archaic	13,606	67	20	644
SDI-16,304 (T2)*	6.42	Yes	N/A	LS/NRP	Yes (Partial)	Archaic	5,600	34	10	50
SDI-16,305 (T3)	6.43	Yes	LLP, poss R	LS/NRP	Yes	—	13,495	105	10	40
SDI-16,306 (T4)	6.44	Yes	LLP, poss R	LS/NRP	Yes	—	1,031	None	—	11
SDI-16,307 (T5)*	6.45	Yes	LLP, poss R	LS/NRP	Yes (Partial)	N/A	4,800	61	30	113
SDI-16,308 (T6)*	6.46	No	N/A	Yes	No	—	4,800	N/A	N/A	N/A
SDI-16,309 (T7)	6.47	Yes	Q, TC	Yes	Yes	—	43,380	5,496	30 cm	4,146 (S)
SDI-16,310 (T8)	6.48	Yes	LLP	LS/NRP	Yes	—	1,252	None	—	11
SDI-16,311 (T9)*	6.49	Yes	N/A	LS/NRP	Yes	N/A	812	70	20	28
SDI-16,312 (T10)	6.50	Yes	Q, TC	Yes	Yes (Partial)	—	11,212	4,967	20	619 (S)
SDI-16,313 (T11)	6.51	Yes	LLP	LS/NRP	No	—	1,183	235	10 cm	40
SDI-16,314 (T12)*	6.52	No	N/A	Yes	No	N/A	665	N/A	N/A	N/A
SDI-16,315 (T13)*	6.53	No	N/A	Yes	No	N/A	8,744	N/A	N/A	N/A

Site Designation	Report Section	Tested	Site Type	Significant	Potential Impacts	Cultures Represented	Surface Area (m ²)	Subsurface Area (m ²)	Max. Subsurface Depth (cm)	Total Artifacts Collected
SDI-16,316 (T14)	6.54	Yes	LLP, poss R	LS/NRP	No	—	15,498	2,971	20 cm	263 (S)
SDI-16,317 (T15)*	6.55	No	N/A	Yes	No	N/A	5,358	N/A	N/A	N/A
SDI-16,318 (T16)*	6.56	No	N/A	Yes	No	N/A	1,450	N/A	N/A	N/A
SDI-16,319 (T17)	6.57	Yes	LLP	LS/NRP	No	Late Prehistoric	3,469	None	—	26
SDI-16,320 (T18)*	6.58	No	N/A	Yes	No	N/A	68	N/A	N/A	N/A
SDI-16,321 (T19)*	6.59	No	N/A	Yes	No	N/A	14,230	N/A	N/A	N/A
SDI-16,322 (T20)*	6.60	No	N/A	Yes	No	N/A	8,875	N/A	N/A	N/A
SDI-16,323 (T21)	6.61	Yes	LLP	LS/NRP	No	—	2,439	None	—	17
SDI-16,324 (T22)*	6.62	No	N/A	Yes	No	N/A	2,939	N/A	N/A	N/A
SDI-16,325 (T23)*	6.63	No	N/A	Yes	No	N/A	2,473	N/A	N/A	N/A
SDI-16,326 (T24)	6.64	Yes	Q, TC	Yes	Yes (Partial)	—	99,706	2,515	70	852
SDI-16,327 (T25)	6.65	Yes	LLP, poss R	LS/NRP	No	—	819	None	—	13
SDI-16,328 (T26)	6.66	Yes	LLP, R	LS/NRP	No	—	191	53	20	13
SDI-16,329 (T27)	6.67	Yes	LLP, poss R	LS/NRP	Yes (Partial)	—	365	25	10	60
SDI-16,330 (T28)	6.68	Yes	LLP, poss R	LS/NRP	Yes	—	278	78	20	130
SDI-16,331 (T29)	6.69	Yes	LLP	LS/NRP	Yes	—	3,049	None	—	30
SDI-16,332 (T30)	6.70	Yes	Q, TC	Yes	Yes (Partial)	—	14,943	1,731	20	398 (S)
SDI-16,333 (T31)	6.71	Yes	LLP, poss R	LS/NRP	Yes	—	7,260	104	20 cm	49
SDI-16,334 (T33)	6.72	Yes	LLP	LS/NRP	Yes	—	3,381	None	—	22
SDI-16,335 (T34)	6.73	Yes	LLP, poss R	LS/NRP	No	—	2,988	None	—	47
SDI-16,336 (W)	6.74	Yes	LLP	LS/NRP	Yes (Partial)	—	773	None	—	15
SDI-16,390 (T35)	6.75	Yes	TC	LS/NRP	Yes (Partial)	Late Prehistoric	7,724	338	10	55
SDI-16,391 (T36)	6.76	Yes	LLP, poss R	LS/NRP	Yes	—	5,845	None	—	72
SDI-11,390H	7.1	Yes	Homestead	LS/NRP	No	Historic	9,305	133	20	20 (S)
SDI-11,391H	7.2	Yes	Homestead	LS/NRP	No	Historic	3,117	489	10	45 (S)
SDI-12,354H	7.3	Yes	(Not relocated)	LS/NRP	No	—	—	—	—	—

Source: Cultural Resources Technical Report, Brian F. Smith and Associates, 2005

Key: LLP = Limited-use lithic production

Q = Quarry

R = Plant and/or animal resource processing
TC = Temporary campsite
(S) = Surface artifact scatter was sampled

* The following fields are not applicable (N/A) for those sites that will not be impacted and thus were not tested as part of the current investigation:

Site Type Cultures Represented
Subsurface Area Maximum Subsurface Depth
Total Artifacts

Note: Surface Area is estimated for the sites that were not tested.

**Table 2.4-2
Summary of Cumulative Projects for the Otay Ranch Village 13 Project**

General Project Type	Description	Number of Projects	General Project Location	Estimated Acreage and/or Miles
Residential Development	Janal Ranch Survey; Archaeological Mitigation for Site SDI-7976 for III Woods Project; Otay Ranch Survey and Cultural Resource Evaluation; Otay Ranch EIR; Survey and Cultural Resource Evaluation for Off-Site Salt Creek Parcels; Otay Survey (May 1991); Eastlake III Testing; Janal/Fention Ranch Testing; Cultural Resources Evaluation at Otay Ranch Villages 3 and Portion of Village 4, Village 8 East, and Village 10	9	Section 25 (NW of project area); Unsectioned (west of Upper Otay Reservoir); Multiple (north, south, west, and east of project area); Unsectioned (Salt Creek); Section 30 (north of project area); Unsectioned (Upper Otay Reservoir); Sections 31 and 32; Sections 13, 17, 18, 19, 20, 22, 23, 24, 26, 27, 29, 30, 32, and 33	Approximately 25,066.9 acres
Energy	Southwest Powerlink Cultural Resource Management Plan	1	Linear (Sections 28,29, & 30)	3 miles
Industrial	Daley Rock Quarry Survey; Daley Rock Quarry EIR; Daley Rock Quarry Testing	3	Section 4, 34 (east of project area)	20 acres
Planning	Sweetwater Community Plan Update; Otay Lakes Fencing Biological and Cultural Resources Constraint Study	2	Multiple (northwest of project area); Multiple (south of project area)	8,000 acres; 3 miles
Public Infrastructure	Honey Springs Off-Site Water Line; Otay Water Treatment Plant Upgrade Survey; Cultural Resource Assessment AT & T Wireless	3	Otay Lakes Road; Unsectioned (around reservoirs); west of Lower Otay Reservoir	2 acres; 2 miles

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