

6.74 Site SDI-16,336 (W-4249)

6.74.1 Site Description

This site consists of a small lithic scatter located on a low southwest-facing slope immediately north of Otay Lakes Road, and immediately east of Site SDI-16,334 and a small drainage, near the southeast corner of the project. The site was originally recorded by RECON in 1989 as a historic structure. The general configuration of the resource is shown in Figure 6.74–1. Elevations at the site range from 525 to 570 feet AMSL. Native vegetation at the site consists of chamise chaparral. The setting of the site is shown in a photograph provided in Plate 6.74–1.

Site SDI-16,336 is located within the currently proposed construction zone and was therefore subjected to a testing and evaluation program by BFSa. Testing of the site consisted of the mapping and recordation of all surface artifacts and the excavation of ten shovel test pits. The field investigations were conducted on July 1, 2002.

6.74.2 Previous Investigations

The site was registered by RECON in 1989 as a historic structure (site form and Ritz *et al.* 1989). RECON recorded the site based on the appearance of a historic structure on a 1943 USGS map, but was not able to locate the structure during a survey conducted in 1989. No prehistoric artifacts were reported and no indication of a feature was identified by RECON.

6.74.3 Description of Field Investigations

Field investigations conducted by BFSa at Site SDI-16,336 were executed using the standard methodologies described in Section 5.0. Vegetation cover at the site consisted of chamise chaparral over the entire site. Lithic artifacts were recovered from the surface of the site; however, no artifacts were recovered from excavations and no subsurface deposit appears to be present. Furthermore, no historic artifacts or features were observed.

Surface Recordation

The entire surface of the site was inspected for evidence of historic and prehistoric activity, resulting in the identification of a limited number of surface artifacts, all of which were prehistoric. A total of 15 artifacts were recovered from the surface of the site from 11 different surface locations. Surface recovery is summarized in Table 6.74–1, while detailed provenience information for the surface artifacts is presented in Table 6.74–2. Lithic production waste accounts for 93.33% (N=14) of the collection, while the remaining artifact was identified as a utilized flake.

No historic structure or artifacts were observed at Site SDI-16,336, although an earthen dam was constructed directly south of the site (Figure 6.74–1). The dam appears to be of modern construction and may be related to controlling rain runoff from canyon systems upslope

of Otay Lakes Road. The 1955 USGS topographic map examined during the current investigation showed no evidence of the structure identified by RECON on a slightly earlier quad map.

The area of the site, delineated by the prehistoric artifact scatter, measures approximately 52 meters (170 feet) from southwest to northeast by 21 meters (70 feet) from northwest to southeast, and covers 773 square meters (8,315 square feet) (Figure 6.74–1).

Subsurface Excavation

The potential for subsurface archaeological deposits at Site SDI-16,336 was investigated by excavating a series of ten STPs. The placement of the STPs, shown in Figure 6.74–1, was based on the distribution of the surface artifacts. The STPs were excavated to a minimum of 30 centimeters, or until bedrock was encountered. No artifacts were recovered from the STPs excavated at Site SDI-16,336. Locational and depth information for the shovel tests is presented in Table 6.74–3.

Due to the lack of evidence for a subsurface deposit, a test unit was not excavated at Site SDI-16,336 as part of the testing program. The excavation of the STPs determined that no subsurface deposit is present at Site SDI-16,336.

6.74.4 Discussion

Site SDI-16,336 was originally recorded by RECON as a historic structure based on its appearance on a 1943 USGS map, but no structure was located during their 1989 survey or during the current investigation. The testing by BFSa demonstrated that Site SDI-16,336 consists of a sparse scatter of prehistoric lithic artifacts on the surface of the site; no subsurface cultural deposit was identified. The overall site dimensions, as identified by the surface scatter, measure 52 meters (170 feet) by 21 meters (70 feet) and cover 773 square meters (8,315 square feet). The artifacts recovered from Site SDI-16,336 consisted of 14 pieces of lithic production waste and one utilized flake (Table 6.74–1). Measurements for the single lithic tool are provided in Table 6.74–4. All artifacts collected from Site SDI-16,336 were derived from locally available fine- or medium-grained metavolcanics (Table 6.74–2). The site appears to represent a limited-use site where a limited amount of lithic tool production and/or maintenance occurred.

Since none of the artifacts recovered from the site were culturally diagnostic, no cultural affiliation could be assigned to the resource. Given the sparse nature of the surface scatter and the lack of a subsurface deposit, it is unlikely that further excavation would produce additional data that would allow such a determination. The site exhibits no ecofacts, features, or unique elements. The mapping and collection of surface artifacts and excavation of shovel test pits have exhausted the research potential of this site. According to the criteria listed in CEQA, Section 15064.5, and the guidelines set forth by the County of San Diego, the site is evaluated as having limited significance based upon the recovery of information that can contribute to the knowledge

of prehistory in the region. However, the current program has exhausted the potential of the site to yield unique data, and further study will not produce additional significant information.

6.74.5 Summary

The investigation of Site SDI-16,336 did not produce any unique scientific data regarding site function or content. The identified artifacts indicate that site activities were focused primarily on a limited amount of lithic tool production and/or maintenance. The site represents one of several limited-use lithic manufacturing or maintenance sites in the area.

Based on the information derived from the testing program, the site is characterized as possessing limited significance according to County of San Diego cultural resource guidelines. The site exhibits a sparse artifact scatter that has been collected, but did not possess any segregated special use areas, features, or unique elements. The site is one of multiple limited-use lithic production sites in the area. The level of information already obtained from this site has exhausted the research potential of the resource, and it is unlikely that any significantly different information would be gathered from further investigation. No further archaeological investigations are recommended for Site SDI-16,336.

Figure 6.74-1
Excavation Location Map — Site SDI-16,336
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View of Site SDI-16,336 looking southwest.

TABLE 6.74-1

Summary of Surface Recovery
Site SDI-16,336

Recovery Category	Quantity	Percent
Lithic Production Waste:		
Core	1	6.67
Debitage	3	20.00
Flakes	10	66.67
Precision Tools:		
Utilized Flake	1	6.67
Total	15	100.00

Rounded numbers may not add to 100%.

TABLE 6.74-2

Surface Recovery Data
Site SDI-16,336

Recovery Location	Location from Datum A Azimuth/Range	Quantity	Recovery	Material	Cat. No.
1	48°/86 Feet	1	Core	MGM	1
2	44°/67 Feet	1	Flake	FGM	2
		1	Flake	MGM	3
3	37°/93 Feet	1	Utilized Flake	FGM	4
		2	Flakes	FGM	5
4	32°/97 Feet	1	Flake	MGM	6
5	40°/104 Feet	1	Debitage	MGM	7
6	18°/148 Feet	1	Flake	MGM	8
7	30°/202 Feet	1	Debitage	FGM	9
		1	Flake	MGM	10
8	34°/203 Feet	1	Flake	MGM	11
9	32°/220 Feet	1	Flake	MGM	12
10	42°/220 Feet	1	Flake	MGM	13
11	27°/164 Feet	1	Debitage	FGM	14

TABLE 6.74-3

Shovel Test Excavation Data
Site SDI-16,336

Shovel Test	Location from Datum A Azimuth/Range	Depth	Recovery	Cat. No.
1	0°/0 Feet	0-10 cm.	No Recovery	15
		10-20 cm.	No Recovery	16
		20-30 cm.	No Recovery	17
2	15°/86 Feet	0-10 cm.	No Recovery	18
		10-20 cm.	No Recovery	19
		20-30 cm.	No Recovery	20
3	15°/154 Feet	0-10 cm.	No Recovery	21
		10-20 cm.	No Recovery	22
		20-30 cm.	No Recovery	23
4	15°/225 Feet	0-10 cm.	No Recovery	24
		10-20 cm.	No Recovery	25
		20-30 cm.	No Recovery	26
5	97°/140 Feet	0-10 cm.	No Recovery	27
		10-20 cm.	No Recovery	28
		20-30 cm.	No Recovery	29
6	180°/82 Feet	0-10 cm.	No Recovery	30
		10-20 cm.	No Recovery	31
		20-30 cm.	No Recovery	32
7	270°/50 Feet	0-10 cm.	No Recovery	33
		10-20 cm.	No Recovery	34
		20-30 cm.	No Recovery	35

Shovel Test	Location from Datum A Azimuth/Range	Depth	Recovery	Cat. No.
8	39°/105 Feet	0-10 cm.	No Recovery	36
		10-20 cm.	No Recovery	37
		20-30 cm.	No Recovery	38
9	32°/208 Feet	0-10 cm.	No Recovery	39
		10-20 cm.	No Recovery	40
		20-30 cm.	No Recovery	41
10	32°/258 Feet	0-10 cm.	No Recovery	42
		10-20 cm.	No Recovery	43
		20-30 cm.	No Recovery	44

TABLE 6.74-4

Lithic Tool Measurement Data
Site SDI-16,336

Cat. No.	Tool Description	<u>Dimensions (in centimeters)</u>			Weight (in grams)	Material
		Length	Width	Thickness		

Precision Tools:

Utilized Flakes:

4	Utilized Flake	5.3	5.0	1.0	21.0	FGM
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6.75 Site SDI-16,390

6.75.1 Site Description

This site consists of a small lithic scatter located on the lower southeast slope of a hill in the northeast corner of the property immediately north of Otay Lakes Road. The general configuration of the resource is shown in Figure 6.75–1. Elevations at the site range from 500 to 580 feet AMSL. Native vegetation was previously cleared from the site for cattle grazing and/or cultivation. The clearing and subsequent erosion has moderately impacted the site and resulted in the growth of moderately dense grasses. A dirt road extends through the center of the site from north to south. The setting of the site is shown in a photograph provided in Plate 6.75–1.

Site SDI-16,390 is located within the currently proposed construction zone and was therefore subjected to a testing and evaluation program by BFSa. Testing of the site consisted of the mapping and recordation of all surface artifacts and the excavation of seven shovel test pits. The field investigations were conducted on October 10, 2002.

6.75.2 Description of Field Investigations

Field investigations conducted by BFSa at Site SDI-16,390 were executed using the standard methodologies described in Section 5.0. Lithic artifacts and pottery sherds were recovered from the surface of the site; however, no subsurface deposits were identified.

Surface Recordation

The entire surface of the site was inspected for evidence of prehistoric activity, resulting in the identification of a limited number of surface artifacts. A total of 49 artifacts were recovered from the surface of the site from the 21 surface locations that produced artifacts (laboratory analysis revealed that several of the specimens collected from surface locations were not cultural). The recovery is summarized in Table 6.75–1, while detailed provenience information for the surface artifacts is presented in Table 6.75–2.

The surface artifact collection was dominated by lithic production waste (N=26; 53.06%) and pottery sherds (N=14; 28.57%), followed by precision (N=5; 10.20%), percussion (N=3; 6.12%) and multi-use (N=1; 2.04%) tools. Precision tools included two retouched flakes, two pieces of utilized debitage, and one utilized flake. All three percussion tools were hammerstones. The multi-use tool was a hammer/core. The pottery sherds were recovered from near the center of the site, directly east of the north-south dirt road. The area of the site, delineated by the artifact scatter, measures approximately 116 meters (380 feet) from north to south by 90 meters (295 feet) from west to east, and covers 7,724 square meters (83,110 square feet) (Figure 6.75–1).

Subsurface Excavation

The potential for subsurface archaeological deposits at Site SDI-16,390 was investigated by excavating a series of seven STPs. The placement of the STPs, shown in Figure 6.75-1, was based on the distribution of the surface artifacts. The STPs were excavated to a minimum of 30 centimeters, or until bedrock was encountered. Only one shovel test (STP 4) was positive; recovery included five pottery sherds and one flake, and was restricted to the 0 to 10 centimeter level. Provenience and depth information for the shovel tests is presented in Table 6.75-3.

Due to the paucity of recovery from the shovel tests, a test unit was not excavated at SDI-16,390 as part of the testing program. Based on the placement of the STPs, it is estimated that the subsurface deposit measures approximately 21 meters (68 feet) by 21 meters (68 feet), and covers approximately 338 square meters (3,637 square feet). The excavation of the STPs determined that no measurable subsurface deposits are present at SDI-16,390.

6.75.3 Laboratory Analysis

The laboratory analysis for Site SDI-16,390 included the standard procedures described in Section 5.0 of this report. All artifacts recovered from the field investigations conducted at the site were returned to the laboratory facility of BFA to be cataloged and analyzed. A summary of artifacts recovered from the site is presented in Table 6.75-4. The recovery from Site SDI-16,390 included 36 lithic artifacts and 19 pottery sherds.

Lithic Artifact Analysis

The lithic artifacts recovered from Site SDI-16,390 consisted of 36 artifacts, including lithic production waste, and precision, percussion, and multi-use tools. Lithic production waste accounted for 49.09% (N=27) of the assemblage, the lowest percentage for this artifact category at the Village 13 sites. The percussion tool category is represented by three hammerstones, one of which is fragmented while the other two exhibit spherical and circular use-wear patterns. The precision tool category includes two retouched flakes, two pieces of utilized debitage, and one utilized flake. The category of multi-use tools was developed in order to accurately describe those specimens that exhibited several different use-wear patterns, which prevented the classification of the artifact into one of the existing tool categories. The single multi-use tool recovered from Site SDI-16,390 was identified as a hammer/core.

Measurements for the lithic tools are presented in Table 6.75-5. Most (97.22%; N=35) of the artifacts collected from Site SDI-16,390 were derived from locally available fine- or medium-grained metavolcanic material. In addition, a single quartz flake was also recovered, another locally available, albeit less common, lithic material type (Tables 6.75-3 and 6.75-6).

Pottery Sherd Analysis

A total of 19 pottery sherds were recovered from SDI-16,390. All of the sherds were identified as Tizon Brown Ware, a common, well-documented ceramic type in San Diego County. Vessel type could not be determined from any of the sherds. Tizon Brown Ware pottery is a diagnostic marker of the Late Prehistoric Period (Christiansen 1992).

6.75.4 Discussion

The testing demonstrated that Site SDI-16,390 consists of a sparse scatter of lithic artifacts on the surface of the site with a sparse, shallow subsurface deposit. The overall site dimensions, identified by the surface scatter, measure 116 meters (380 feet) by 90 meters (295 feet), and cover 7,724 square meters (83,110 square feet). The subsurface deposit measures approximately 21 meters (68 feet) by 21 meters (68 feet), and covers approximately 338 square meters (3,637 square feet). Based on the artifacts recovered, the site appears to represent a temporary campsite where lithic tool production and/or maintenance, and plant and/or animal resource processing occurred.

Based on the recovery of Tizon Brown Ware pottery sherds, the site is assigned to the Late Prehistoric Period. Given the sparse nature of the surface scatter and the lack of a measurable subsurface deposit, it is unlikely that further excavation would produce additional data that would contribute any additional information about the prehistoric use of the site. The site exhibits no ecofacts, features, or unique elements. The mapping and collection of all surface artifacts have exhausted the research potential of this site. According to the criteria listed in CEQA, Section 15064.5, and the guidelines set forth by the County of San Diego, the site is evaluated as having limited significance based upon the recovery of information that can contribute to the knowledge of prehistory in the region. However, the current program has exhausted the potential of the site to yield unique data, and further study will not produce additional significant information.

6.75.5 Summary

The investigation of Site SDI-16,390 did not produce any unique scientific data regarding site function or content. The identified artifacts indicate that site activities were focused primarily on a limited amount of lithic tool production and possibly resource processing. The site represents one of several temporary campsites in the area.

Based on the information derived from the testing program, the site is characterized as possessing limited significance according to County of San Diego cultural resource guidelines. The site exhibits a sparse artifact scatter that has been collected, but did not possess any significant subsurface deposits, features, or unique elements. The level of information already obtained from this site has exhausted the research potential of the resource, and it is unlikely that

any significantly different information would be gathered from further investigation. No further archaeological investigations are recommended for Site SDI-16,390.

Figure 6.75-1
Excavation Location Map — Site SDI-16,390
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View of Site SDI-16,390 (foreground) looking northeast.

TABLE 6.75-1

Summary of Surface Recovery
Site SDI-16,390

Recovery Category	Quantity	Percent
Lithic Production Waste:		
Core	1	2.04
Debitage	5	10.20
Flakes	20	40.82
Percussion Tools:		
Hammerstones	3	6.12
Precision Tools:		
Retouched Flakes	2	4.08
Utilized Debitage	2	4.08
Utilized Flake	1	2.04
Multi-Use Tools:		
Hammer/Core	1	2.04
Pottery:		
Potsherds, TBW	14	28.57
Total	49	100.00

Rounded numbers may not add to 100%.

TABLE 6.75-2Surface Recovery Data
Site SDI-16,390

Recovery Location	Location from Datum A Azimuth/Range	Quantity	Recovery	Material	Cat. No.
1	264°/43 Feet	1	Utilized Debitage	FGM	1
		1	Flake	MGM	2
2	237°/47 Feet	1	Flake	MGM	3
3	202°/102 Feet	1	Hammer/Core	FGM	4
		1	Flake	MGM	5
4	193°/92 Feet	1	Core	MGM	6
5	175°/65 Feet	1	Flake	FGM	7
		2	Flakes	MGM	8
6	160°/77 Feet	2	Flakes	FGM	9
7	155°/122 Feet	1	Flake	FGM	10
8	193°/141 Feet	1	Debitage	FGM	11
		1	Flake	FGM	12
		1	Debitage	MGM	13
		1	Flake	MGM	14
9	115°/141 Feet	1	Retouched Flake	FGM	15
10	126°/84 Feet	1	Hammerstone, Spherical	FGM	16
		1	Flake	MGM	17
11	57°/119 Feet	1	Hammerstone, Circular	FGM	18
		1	Debitage	MGM	19
12	346°/86 Feet	1	Flake	MGM	20
13	16°/108 Feet	7	Potsherds	TBW	21

Recovery Location	Location from Datum A Azimuth/Range	Quantity	Recovery	Material	Cat. No.
14	13°/112 Feet	1	Potsherd	TBW	22
		1	Utilized Debitage	MGM	23
15	7°/111 Feet	6	Potsherds	TBW	24
		1	Debitage	MGM	25
		2	Flakes	MGM	26
16	294°/200 Feet	1	Retouched Flake Fragment	MGM	27
		1	Flake	MGM	28
17	298°/104 Feet		Not an Artifact		29
18	346°/59 Feet	1	Flake	MGM	30
19	335°/89 Feet	1	Flake	FGM	31
		1	Debitage	MGM	32
20	355°/225 Feet	1	Flake	FGM	33
21	338°/322 Feet		Not an Artifact		34
22	340°/335 Feet		Not an Artifact		35
23	350°/330 Feet		Not an Artifact		36
24	351°/420 Feet		Not an Artifact		37
25	356°/310 Feet		Not an Artifact		38
26	312°/185 Feet	1	Hammerstone Fragment, Undetermined	FGM	39
27	21°/250 Feet	1	Utilized Flake	FGM	40
		1	Flake	FGM	41

TABLE 6.75-3

Shovel Test Excavation Data
Site SDI-16,390

Shovel Test	Location from Datum A Azimuth/Range	Depth	Quantity	Recovery	Material	Cat. No.
1	178°/109 Feet	0-10 cm.		No Recovery		42
		10-20 cm.		No Recovery		43
		20-30 cm.		No Recovery		44
2	208°/67 Feet	0-10 cm.		No Recovery		45
		10-20 cm.		No Recovery		46
		20-30 cm.		No Recovery		47
3	129°/67 Feet	0-10 cm.		No Recovery		48
		10-20 cm.		No Recovery		49
		20-30 cm.		No Recovery		50
4	9°/109 Feet	0-10 cm.	5	Potsherds	TBW	51
			1	Flake	Quartz	52
		10-20 cm.		No Recovery		53
		20-30 cm.		No Recovery		54
5	37°/102 Feet	0-10 cm.		No Recovery		55
		10-20 cm.		No Recovery		56
		20-30 cm.		No Recovery		57
6	0°/156 Feet	0-10 cm.		No Recovery		58
		10-20 cm.		No Recovery		59
		20-30 cm.		No Recovery		60
7	331°/151 Feet	0-10 cm.		No Recovery		61
		10-20 cm.		No Recovery		62
		20-30 cm.		No Recovery		63

TABLE 6.75-4

Summary of Artifact Recovery
Site SDI-16,390

Recovery Category	Surface	Shovel Tests	Total	Percent
Lithic Production Waste:				
Core	1	-	1	1.82
Debitage	5	-	5	9.09
Flakes	20	1	21	38.18
Percussion Tools:				
Hammerstones	3	-	3	5.45
Precision Tools:				
Retouched Flakes	2	-	2	3.64
Utilized Debitage	2	-	2	3.64
Utilized Flake	1	-	1	1.82
Multi-Use Tools:				
Hammer/Core	1	-	1	1.82
Pottery:				
Potsherds, TBW	14	5	19	34.55
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Total	49	6	55	100.00
Percent	89.09	10.91	100.00	

Rounded numbers may not add to 100%.

TABLE 6.75-5

Lithic Tool Measurement Data
Site SDI-16,390

Cat. No.	Tool Description	Dimensions (in centimeters)			Weight (in grams)	Material
		Length	Width	Thickness		

Percussion Tools:

Hammerstones:

16	Hammerstone, Spherical	9.5	6.0	4.6	227.3	FGM
18	Hammerstone, Circular	10.3	5.1	3.2	150.3	FGM
39	Hammerstone Fragment, Undetermined	5.7	3.6	1.6	30.5	FGM

Precision Tools:

Retouched Flakes:

15	Retouched Flake	9.1	5.6	1.9	90.4	FGM
27	Retouched Flake Fragment	4.9	2.6	1.4	20.0	MGM

Utilized Debitage:

1	Utilized Debitage	5.9	4.3	2.7	81.5	FGM
23	Utilized Debitage	4.3	4.1	1.7	33.0	MGM

Utilized Flakes:

40	Utilized Flake	4.3	3.0	0.8	10.6	FGM
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Multi-Use Tools:

Hammer/Cores:

4	Hammer/Core	8.7	7.3	5.9	466.4	FGM
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TABLE 6.75-6

Lithic Material Distribution
Site SDI-16,390

Artifact Category	FGM	<u>Material</u> MGM	Quartz	Total	Percent
Lithic Production Waste:					
Core	-	1	-	1	2.78
Debitage	1	4	-	5	13.89
Flakes	8	12	1	21	58.33
Percussion Tools:					
Hammerstones	3	-	-	3	8.33
Precision Tools:					
Retouched Flakes	1	1	-	2	5.56
Utilized Debitage	1	1	-	2	5.56
Utilized Flake	1	-	-	1	2.78
Multi-Use Tools:					
Hammer/Core	1	-	-	1	2.78
Total	16	19	1	36	100.00
Percent	44.44	52.78	2.78	100.00	

Rounded numbers may not add to 100%.

6.76 Site SDI-16,391

6.76.1 Site Description

This site consists of a small lithic scatter located on the lower south-facing slope of a terrace immediately north of Otay Lakes Road near the southeast corner of the project. The site was identified during the testing phase of a nearby site by BFSa in September 2002. The general configuration of the resource is shown in Figure 6.76–1. Elevations at the site range from 540 to 590 feet AMSL. A dirt trail passes along the west and north sides of the site. Vegetation at the site is primarily native chamise chaparral. The area of the south portion of the site has been brushed in the past, and vegetation in this portion of the site consists of non-native plants. The setting of the site is shown in a photograph provided in Plate 6.76–1.

Site SDI-16,391 is located within the currently proposed construction zone and was therefore subjected to a testing and evaluation program by BFSa. Testing of the site consisted of the mapping and recordation of all surface artifacts and the excavation of eight shovel test pits. The field investigations were conducted on October 15, 2002.

6.76.2 Description of Field Investigations

Field investigations conducted by BFSa at Site SDI-16,391 were executed using the standard methodologies described in Section 5.0. Lithic artifacts were recovered from the surface of the site; however, no subsurface deposits were identified.

Surface Recordation

The entire surface of the site was inspected for evidence of prehistoric activity, resulting in the identification of a limited number of surface artifacts. A total of 72 artifacts were recovered from the surface of the site from the 27 surface locations that produced artifacts (laboratory analysis revealed that specimens collected from two surface locations were not cultural). The recovery is summarized in Table 6.76–1, while detailed provenience information for the surface artifacts is presented in Table 6.76–2.

The surface artifact collection was dominated by lithic production waste (N=67; 93.06%), followed by precision tools (N=3; 4.17%), and percussion tools (N=2; 2.78%). The area of the site, delineated by the artifact scatter, measures approximately 142 meters (467 feet) from southwest to northeast by 55 meters (180 feet) from northwest to southeast, and covers 5,845 square meters (62,892 square feet) (Figure 6.76–1).

Subsurface Excavation

The potential for subsurface archaeological deposits at Site SDI-16,391 was investigated by excavating a series of eight STPs. The placement of the STPs, shown in Figure 6.76–1, was based on the distribution of the surface artifacts. The STPs were excavated to a minimum of 30 centimeters, or until bedrock was encountered. No artifacts were recovered from the STPs

excavated at Site SDI-16,391. Provenience and depth information for the shovel tests is presented in Table 6.76–3.

The excavation of the STPs determined that no subsurface deposits are present at SDI-16,391. Due to the lack of evidence for a subsurface deposit, a test unit was not excavated at SDI-16,391 as part of the testing program.

6.76.3 Laboratory Analysis

The laboratory analysis for Site SDI-16,391 included the standard procedures described in Section 5.0 of this report. All artifacts recovered from the field investigations conducted at the site were returned to the laboratory facility of BFSa to be cataloged and analyzed. The recovery from Site SDI-16,391 included 72 lithic artifacts (Table 6.76–1).

Lithic Artifact Analysis

The artifacts recovered from Site SDI-16,391 included lithic production waste, three precision tools, and two percussion tools. The precision tool category included one retouched flake, one piece of retouched debitage, and one scraper. Both percussion tools were identified as hammerstones, one with single-edge use-wear and the other exhibiting a spherical use-wear pattern. Measurements for the lithic tools are presented in Table 6.76–4. All artifacts collected from Site SDI-16,391 were derived from locally available fine- or medium-grained metavolcanic material (Table 6.76–2).

6.76.4 Discussion

The testing demonstrated that Site SDI-16,391 consists of a sparse scatter of lithic artifacts on the surface of the site; no subsurface cultural deposit was identified. The overall site dimensions, identified by the surface scatter, measure 142 meters (467 feet) by 55 meters (180 feet), and covers 5,845 square meters (62,892 square feet). Based on the artifacts recovered, the site appears to represent a limited use site where activities included lithic tool production and/or maintenance, and possible plant and/or animal resource processing.

Since none of the artifacts recovered from the site were culturally diagnostic, no cultural affiliation could be assigned to the resource. Given the sparse nature of the surface scatter and the lack of a subsurface deposit, it is unlikely that further excavation would produce additional data that would allow such a determination. The site exhibits no ecofacts, features, or unique elements. The mapping and collection of all surface artifacts have exhausted the research potential of this site. According to the criteria listed in CEQA, Section 15064.5, and the guidelines set forth by the County of San Diego, the site is evaluated as having limited significance based upon the recovery of information that can contribute to the knowledge of prehistory in the region. However, the current program has exhausted the potential of the site to yield unique data, and further study will not produce additional significant information.

6.76.5 Summary

The investigation of Site SDI-16,391 did not produce any unique scientific data regarding site function or content. The identified artifacts indicate that site activities were focused primarily on a limited amount of lithic tool production and possibly resource processing. The site represents one of several limited-use lithic manufacturing and temporary campsites in the area.

Based on the information derived from the testing program, the site is characterized as possessing limited significance according to County of San Diego cultural resource guidelines. The site exhibits a sparse artifact scatter that has been collected, and did not possess any segregated special use areas, features, or unique elements. The level of information already obtained from this site has exhausted the research potential of the resource, and it is unlikely that any significantly different information would be gathered from further investigation. No further archaeological investigations are recommended for Site SDI-16,391.

Figure 6.76-1
Excavation Location Map — Site SDI-16,391
(Deleted for Public Review; Bound Separately)



View of Site SDI-16,391 looking east (arrow identifies area of Datum A).

TABLE 6.76-1

Summary of Surface Recovery
Site SDI-16,391

Recovery Category	Quantity	Percent
Lithic Production Waste:		
Core	1	1.39
Debitage	7	9.72
Flakes	59	81.94
Percussion Tools:		
Hammerstones	2	2.78
Precision Tools:		
Retouched Debitage	1	1.39
Retouched Flake	1	1.39
Scraper	1	1.39
Total	72	100.00

Rounded numbers may not add to 100%.

TABLE 6.76-2Surface Recovery Data
Site SDI-16,391

Recovery Location	Location from Datum A Azimuth/Range	Quantity	Recovery	Material	Cat. No.
1	28°/71 Feet	1	Flake	FGM	25
2	61°/89 Feet	1	Debitage	FGM	26
3	111°/66 Feet	1	Flake	MGM	27
4	19°/109 Feet	1	Flake	MGM	28
5	125°/43 Feet	1	Hammerstone, Single-Edged	MGM	29
		1	Flake	MGM	30
6	160°/85 Feet	2	Flakes	FGM	31
		2	Flakes	MGM	32
7	181°/87 Feet	2	Flakes	FGM	33
		1	Core	MGM	34
		2	Flakes	MGM	35
8	192°/109 Feet	5	Flakes	FGM	36
		1	Debitage	MGM	37
		5	Flakes	MGM	38
9	200°/141 Feet	1	Flake Scraper	FGM	39
		1	Debitage	FGM	40
		4	Flakes	FGM	41
		3	Flakes	MGM	42
10	191°/134 Feet	3	Flakes	FGM	43
		5	Flakes	MGM	44
11	222°/173 Feet	1	Retouched Debitage	MGM	45
		1	Flake	MGM	46

Recovery Location	Location from Datum A Azimuth/Range	Quantity	Recovery	Material	Cat. No.
12	221°/115 Feet	1	Flake	FGM	47
13	213°/89 Feet	1	Hammerstone, Spherical	MGM	48
14	242°/132 Feet	2	Flakes	FGM	49
		1	Debitage	MGM	50
15	68°/136 Feet	1	Flake	MGM	51
16	32°/98 Feet	2	Flakes	FGM	52
		1	Flake	MGM	53
17	41°/107 Feet	1	Retouched Flake	FGM	54
		3	Flakes	FGM	55
18	38°/126 Feet	1	Flake	FGM	56
		1	Debitage	MGM	57
19	29°/236 Feet		Not an Artifact		58
20	60°/186 Feet		Not an Artifact		59
21	5°/134 Feet	2	Flakes	FGM	60
22	327°/104 Feet	1	Flake	MGM	61
		1	Debitage	MGM	62
23	315°/87 Feet	1	Flake	MGM	63
24	329°/67 Feet	1	Flake	FGM	64
25	309°/32 Feet	1	Debitage	MGM	65
26	309°/6 Feet	1	Flake	MGM	66
27	30°/157 Feet	1	Flake	FGM	67
		1	Flake	MGM	68

Recovery Location	Location from Datum A Azimuth/Range	Quantity	Recovery	Material	Cat. No.
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28	56°/134 Feet	1	Flake	FGM	69
29	62°/269 Feet	1	Flake	MGM	70

TABLE 6.76-3

Shovel Test Excavation Data
Site SDI-16,391

Shovel Test	Location from Datum A Azimuth/Range	Depth	Recovery	Cat. No.
1	0°/0 Feet	0-10 cm.	No Recovery	1
		10-20 cm.	No Recovery	2
		20-30 cm.	No Recovery	3
2	319°/74 Feet	0-10 cm.	No Recovery	4
		10-20 cm.	No Recovery	5
		20-30 cm.	No Recovery	6
3	239°/130 Feet	0-10 cm.	No Recovery	7
		10-20 cm.	No Recovery	8
		20-30 cm.	No Recovery	9
4	201°/122 Feet	0-10 cm.	No Recovery	10
		10-20 cm.	No Recovery	11
		20-30 cm.	No Recovery	12
5	175°/74 Feet	0-10 cm.	No Recovery	13
		10-20 cm.	No Recovery	14
		20-30 cm.	No Recovery	15
6	113°/60 Feet	0-10 cm.	No Recovery	16
		10-20 cm.	No Recovery	17
		20-30 cm.	No Recovery	18
7	30°/125 Feet	0-10 cm.	No Recovery	19
		10-20 cm.	No Recovery	20
		20-30 cm.	No Recovery	21

Shovel Test	Location from Datum A Azimuth/Range	Depth	Recovery	Cat. No.
8	56°/194 Feet	0-10 cm.	No Recovery	22
		10-20 cm.	No Recovery	23
		20-30 cm.	No Recovery	24

TABLE 6.76-4

Lithic Tool Measurement Data
Site SDI-16,391

Cat. No.	Tool Description	Dimensions (in centimeters)			Weight (in grams)	Material
		Length	Width	Thickness		

Percussion Tools:

Hammerstones:

29	Hammerstone, Single-Edged	11.4	9.0	6.5	748.0	MGM
48	Hammerstone, Spherical	9.1	6.4	4.8	366.6	MGM

Precision Tools:

Retouched Debitage:

45	Retouched Debitage	5.2	2.8	2.2	22.5	MGM
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Retouched Flakes:

54	Retouched Flake	4.7	2.2	0.7	12.4	FGM
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Scrapers:

39	Flake Scraper	6.4	5.0	2.5	73.6	FGM
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7.0 REPORT OF FINDINGS (HISTORIC SITES)

The primary focus of the historic site evaluation was the recordation, subsurface testing, and significance evaluation of three historic resources: one historic site (SDI-12,354/H) and the historic components of two other sites (SDI-11,390/H and SDI-11,391/H). All three of these resources were evaluated for site significance, the results of which are presented in the following site presentations. Two previously identified historic bottles were also investigated at sites SDI-11,408/H and SDI-12,362/H. The bottle at SDI-12,362/H was relocated; however, given that this artifact was the only indication of historic activity at the site, it was interpreted as a historic isolate and is discussed, along with the prehistoric component of that site, in Section 6.11. Despite repeated efforts, the bottle reported at SDI-11,408/H was never relocated.

The historic research performed for this portion of the Otay Ranch Village 13 Project included both published and original sources. The three historic sites were evaluated for significance based upon a combination of historic research and artifact analysis.

The individual site characterizations were derived from data collected during this study, as well as the incorporation of data collected by previous researchers. To put the results of site-specific research in perspective, this data was supplemented by a review of selected historic records to characterize the early settlement of Otay Mesa (see Section 3.0). The following information is presented with a view toward providing a finding of significance for each of the registered historic sites. Evaluations of the significance of each site are presented in Section 8.0.

7.1 Site SDI-11,390/H

7.1.1 Site Description

Site SDI-11,390/H is a historic homestead site with associated features and artifact deposits located near the center of the project area. The site is located on a gentle slope on the southern slope of Jamul Mountain, just east of a well-traveled dirt road within the southeast corner of the southwest quarter of Section 32. The configuration of the site is shown in Figure 7.1–1. Elevations at the site range from 600 to 800 feet AMSL. The setting of the site is shown in photographs provided in Plates 7.1–1 and 7.1–2. Site SDI-11,390/H was first recorded in 1989 by RECON, who identified the site as containing one stone foundation with associated debris. ERC Environmental revisited the site in 1991 and two additional stone foundation features were recorded.

The discussion of SDI-11,390/H will include those aspects of the site associated with Thompson's homestead, which dates to the late 1800s.

Figure 7.1-1
Excavation Location Map
Site SDI-11,390/H

(Deleted for Public Review; Bound Separately)



Plate 7.1-1: Site SDI-11,390/H overview (Features 1 and 3).



Plate 7.1-2: Site SDI-11,390/H overview (Features 2 and 4).

7.1.2 Previous Investigations

Site SDI-11,390/H was originally identified by RECON during a field reconnaissance in 1989. RECON identified one stone foundation as part of their investigation of the Otay Ranch Archaeological Survey (RECON 1989). The description on the site form characterized the site as a fieldstone foundation, which is mortared in place with poor-grade cement. They recorded it as appearing to be divided into two rooms. There were also seven piles of fieldstone associated with the foundation. Some associated historic debris was noted.

A supplemental site form was registered in 1991 by ERC Environmental (ERC 1991). The site boundaries were increased and additional features were noted. The site was recorded as a foundation that appears to be divided into two rooms, a second, very low foundation to the south, and at least eight large stacked rock piles and walls scattered over a large area. The piles of rock were identified as field or road clearance piles. Some associated historic debris was noted.

7.1.3 Description of Present Field Investigations

The BFSAs field investigations at Site SDI-11,390/H were conducted using the standard methodologies described in Section 5.0. Testing of the site by BFSAs consisted of the recordation and sample collecting of diagnostic surface artifacts, the excavation of seven shovel tests to qualitatively and quantitatively sample artifact deposits, and the mapping and recording of all historic features. The field investigations were conducted on October 10 and 11, 2002. During the current investigation, the only observed artifact deposit was tested and the stone foundations were documented.

Surface Recordation

The entire surface of the site was inspected for artifacts and features, all of which were initially provenienced from a primary datum established at the site. As additional features were identified and the site boundary increased, additional sub-datums were established. Vegetation at the site consists of sparse buckwheat and grasses. Surface visibility was excellent across the site. The primary datum was established at a high point from which all surface artifacts, features, and excavations could be mapped. Any collected artifacts on the surface of the site were mapped and collected, the locations of which are also illustrated in Figure 7.1–1.

It should be stated that, because not all artifacts were collected from the surface of the site, the surface collection was biased toward retrieving a sample of temporally or functionally diagnostic elements; these include the types of artifacts that provide temporal data for site occupation and were purposefully collected from the surface. Artifacts such as miscellaneous metal, glass, tin can fragments, and nails were not specifically collected from the surface. However, the number of bottle/jar and tableware fragments present indicates that at least a portion of the surface scatter is associated with household refuse.

The site contains four features and one small refuse concentration (Table 7.1–1). Features include three rock foundations and a linear rock alignment. One foundation (Feature 3) contains stone and cement, while the others utilize local stone with no cement. A discrete refuse concentration (Concentration 1) containing primarily household debris was also documented. The site is characterized by a very sparse scatter of historic debris associated with Feature 3.

Site disturbances include a dirt road that crosses the site and brushing of the site during the historic period. The road appears to be well established, except for some two-track delineations that are the result of a single use. There is also modern debris, including numerous ammunition cartridges, plastic beverage containers, beer bottles, and clay pigeon fragments.

TABLE 7.1–1
Feature Descriptions
Site SDI-11,390/H

Feature Number	Size	Type	Associated Structural Materials	Superstructure	Possible Function	Associated Artifact Types
1	28 feet (N/S) 18 feet (E/W)	Foundation	Concrete, mortared local rock	Concrete and mortared rock walls	Residence	None
2	36 feet (N/S) 14 feet (E/W)	Foundation	Local rock	Rock walls	Residence	None
3	20 feet (N/S) 35 feet (E/W)	Foundation	Local rock	Rock walls	Unknown	Household, miscellaneous
4	2 feet (N/S) 25 feet (E/W)	Alignment	Local rock	Rocks	Erosion guard for pipe	None

Feature Descriptions

Feature 1 is the southern elevation of a foundation representing the location of a possible residence. The foundation is characterized by partially exposed concrete and mortared rock in a rectangular form (Plate 7.1–1). Overall, Feature 1 measures approximately 28 feet from north to south by 18 feet from east to west. It is composed of local metavolcanic rock clasts, which have been coursed to a height of 14 inches and is mortared and topped with fine-grain cement. The southern elevation is the most intact and exposed of the foundation. The majority of the foundation is covered with soil concealing the eastern, western, and northern aspects of the feature.

Feature 2 is composed of a large pile of metavolcanic clasts measuring 36 feet from north to south by 14 feet from east to west (Plate 7.1–2). There is also an adjacent rectangular stone enclosure measuring four feet from north to south, by eight feet from east to west, by one foot tall. The small enclosure’s construction consists of coursed clasts with no mortar.

Feature 3 is characterized as portions of a foundation of a structure. The feature consists of a large pile of metavolcanic clasts obscuring most of a foundation composed of local clasts coursed and containing no mortar (Plate 7.1–1). The overall measurement is 20 feet from north to south by 35 feet from east to west. The wall is approximately 15 inches high. The clasts are stacked to give a flat interior wall, while the outside appears to have a more unfinished or natural appearance. There is a broad pile of metavolcanic clasts obscuring the feature and encompassing the area immediately to the north.

Feature 4 consists of a linear rock alignment oriented from east to west (Plate 7.1–2). The feature measures approximately 25 feet in length and is located on the southern slope of an east/west-trending hill. Just north of the feature are two four-foot sections of four-inch (outside diameter) iron pipe. The pipes are above ground and one has been employed as a post.

One refuse deposit was observed. This refuse deposit was immediately adjacent to Feature 3 and measures two meters in diameter. Artifacts from the Household, Agriculture, and Miscellaneous functional categories were recorded (Table 7.1–2). All diagnostic and functional attributes were noted.

TABLE 7.1–2
Refuse Concentration
Site SDI-11,390/H

Refuse Concentration Number	Size (in meters)	Household	Agricultural	Miscellaneous
1	2 x 2	X	X	X

Observed artifacts included 10 fragments of solarized amethyst glass, 15 fragments of aqua-colored glass, 20 fragments of clear-colored glass, and one body fragment of a small panel bottle. Metal artifacts included one thick, metal U-shaped brace measuring three inches tall by four inches wide; seven miscellaneous flat sheet metal fragments of various measurements, including some small straps measuring one inch wide by seven inches long; one square nail; one threaded bolt measuring three inches in length; two small metal objects with a small, two-inch diameter pipe that is connected to a flat metal base with a hole in it, which is then fastened with a U-shaped bolt tightened with two nuts.

Subsurface Excavation

The potential for subsurface cultural deposits at Site SDI-11,390/H was investigated by excavating a total of seven STPs, which were positioned based upon the location of the foundation and artifact concentrations observed in order to determine the extent of the subsurface expression of the historic site and to obtain a sample of artifact types. The locations of the STPs are shown in Figure 7.1–1. All of the shovel tests were excavated in decimeter levels to at least 30 centimeters, unless bedrock was encountered. Of the seven STPs excavated at Site SDI-

11,390/H, three were positive for cultural material. Depth of recovery in the shovel tests extended to a maximum of 20 centimeters in STP 4, which produced the most artifacts (N=13).

Twenty artifacts were collected from the STPs at Site SDI-11,390/H. The collection is dominated by household items (45.00 percent; N=9). Most of this category is composed of fragmented bottle or jar glass. Other artifacts recovered from the shovel tests included building materials (20.00 percent; N=4), agricultural (5.00 percent; N=1), and a small quantity of miscellaneous or unidentifiable items. In terms of overall recovery from all STPs, the upper 10 centimeters were the most productive depth levels. The summary of artifact recovery from the STPs is provided in Table 7.1–3, while detailed provenience information is provided in Table 7.1–4.

TABLE 7.1–3
Summary of Selective Recovery
SDI-11,390/H

Artifact Type	Surface Collection	Shovel Test 1	Shovel Test 2	Shovel Test 3	Shovel Test 4	Total	Percentage
Building Material							
Bolt	-	-	-	-	1	1	5.00
Nail Fragment	-	-	-	-	1	1	5.00
Window Fragment, Glass	-	2	-	-	-	2	10.00
Household							
Bottle/Jar Fragment, Glass	-	-	-	-	8	8	40.00
Tableware Fragment, Ceramic	-	-	-	-	1	1	5.00
Miscellaneous							
Farming Tool, Metal	1	-	-	-	-	1	5.00
Undetermined							
Iron Fragment	-	1	-	2	2	5	25.00
Steel Fragment	-	1	-	-	-	1	5.00
Total							
	1	4	-	2	13	20	100.00

**Denotes artifacts with modern dates were discarded*

TABLE 7.1-4
 Selective Recovery Data
 SDI-11,390/H

Cat. No.	Provenience	Azimuth	Range	Depth (cm)	Material	Quantity/Weight	Artifact Type	Description	Category
1	STP 1	176°	90'	0-10	Iron	1	Unidentifiable	Fragment, flat square plate with one large central hole and small holes in each corner	Undetermined
2	STP 1	176°	90'	0-10	Steel	1	Unidentifiable	Fragment, square hole through middle	Undetermined
3	STP 1	176°	90'	0-10	Glass, Light Green	2	Window	Fragments	Building Material
4	STP 3	171°	75'	10-20	Iron	2	Unidentifiable	Fragments*	Undetermined
5	STP 4	55°	23'	0-10	Iron	2	Unidentifiable	Fragments*	Undetermined
6	STP 4	55°	23'	0-10	Steel	1	Nail	Fragment, square head nail	Building Material
7	STP 4	55°	23'	0-10	Iron	1	Bolt	Round head, square shaft, flattened end	Building Material
8	STP 4	55°	23'	0-10	Glass, Aqua	2	Bottle	Fragments	Household
9	STP 4	55°	23'	0-10	Glass, Dark Green	3	Bottle	Fragments	Household
10	STP 4	55°	23'	0-10	Glass, Brown	1	Bottle	Fragment	Household
11	STP 4	55°	23'	0-10	Glass, Colorless	1	Bottle	Fragment	Household
12	STP 4	55°	23'	0-10	Glass, Solarized	1	Bottle	Fragment, c.1880-1920	Household
13	STP 4	55°	23'	10-20	Earthenware	1	Tableware	Fragment, beige-colored paste, dark brown glaze on both sides	Household
14	Surface Collection	-	-	-	Steel	1	Farming Tool	Possible drag	Miscellaneous

*Artifacts with modern dates discarded

Based upon the excavations at SDI-11,390/H, the subsurface extent of the historic component of Site SDI-11,390/H appears to be marginal. The majority of the artifacts recovered were from the zero- to 10-centimeter level, and no definitive deposits were identified.

7.1.4 Artifact Analysis

The total collection of 20 artifacts is dominated by household material, accounting for 45.00 percent (N=9) of the entire collection. Other artifact categories recovered from the site included building materials (20.00 percent; N=4), agricultural (5.00 percent; N=1), and unidentifiable material (30.00 percent; N=6). Included under the category of unidentifiable artifacts were steel and iron fragments that could not be further identified.

All artifacts from Site SDI-11,390/H that could confidently be assigned to specific dates are presented in Table 7.1–5. These datable artifacts include bottle fragments and a square nail. In order to quantify the diagnostic artifacts listed in Table 7.1–4, distinct ranges of dates were chosen based upon the known dates assigned to the diagnostic artifacts.

STP 4 yielded a solarized glass fragment and a square nail. The slightly purple tint of solarized glass was caused by the addition of manganese to clear glass in order to make it clear; unfortunately the process caused the discoloration when the object was exposed to sunlight (Jones and Sullivan 1985). Manganese was no longer added to glass after the early 1920s, indicating that a portion of the deposit at Site SDI-11,390/H may date prior to the early 1920s.

The remaining artifact from SDI-11,390/H that could be dated consisted of a square nail. The observed square nail dates from pre-1890s (IMACS 1986).

TABLE 7.1-5
 Artifact Recovery (Dates Only)
 SDI-11,390/H

Cat. No.	Provenience	Azimuth	Range	Depth (cm)	Material	Quantity/Weight	Artifact Type	Description	Category
12	STP 4	55°	23 feet	0-10	Glass, Solarized	1	Bottle	Fragment, c.1880-1920	Household
-	STP 4	55°	23 feet	0-10	Iron	1	Square nail	Square nail, pre-1890s	Building Materials

**Artifacts with modern dates discarded*

7.1.5 Results of Historic Research

The history of this site is discussed in more detail in Section 3.0. The land patent for the area of SDI-11,390/H was granted to James H. Thompson on April 10, 1894 (Certificate Number 1956) under the Homestead Act of 1862. In order to have government land confirmed under a homestead patent, requirements of the 1862 act included five years of uninterrupted residence, improvement, and cultivation of the parcel after a notice to homestead was filed at the General Land Office. The Thompson Homestead patent was issued on April 10, 1894, a date that matches the observed diagnostic artifacts. Feature 3's construction methods, as well as the refuse concentration associated with it, appear to coincide with an early occupation of the late nineteenth or early twentieth centuries. In 1933, Richard Parsons received a homestead patent for lots 1 and 2 in Section 31. This is the only other recorded homestead near the Thompson Homestead. It is not clear when Thompson sold his homestead patent. Although illegal, it is possible that, being so close to Thompson's property line, some of Thompson's land was used for livestock raising and grazing. This would match the idea that Features 1, 2, and 4 were later constructed and utilized, based upon observed construction methods. The construction of Feature 3 does not include the use of concrete as a mortar, and Feature 3 is missing a substantial portion of its southern elevation. Feature 1, located approximately 20 meters (66 feet) south, utilizes local clasts and uses cement as mortar. Neither excavation nor archival research has indicated the use and age of the linear rock feature (Feature 4) and the small enclosure against a rock pile (Feature 2).

The investigation of SDI-11,390/H identified a structure that is believed to have been contemporaneous with the original Thompson Homestead, with unmortared and uncoursed foundational remains and an associated refuse concentration. The Assessor's Building Records for the area to the south of the project site indicate that as early as 1879 there is a record of several home sites as well as a town site known as El Nido. No identification of the Thompson Homestead structure is made in the Assessor's Building Record for that parcel in 1881.

7.1.6 Discussion

Site SDI-11,390/H consists of the remains of a late nineteenth century homestead with associated historic artifacts. The historic site has been impacted by subsequent use of the area for cattle ranching, grazing, and limited subsistence agriculture up through today. The testing demonstrated that the site reflects a limited occupation beginning in the late 1880s. The site contains two foundations associated with a dwelling (Features 1 and 3), one small enclosure (Feature 2), one linear rock alignment (Feature 4), and one refuse concentration. The overall site dimensions, as identified by the surface distribution of artifacts and features, measures approximately 200 meters (650 feet) from north to south by 150 meters (490 feet) from east to west. The nineteenth century historic activity is focused in the Feature 3 area that includes the remains of an uncoursed rock foundation and the only observed refuse deposit. The entire southern portion of this foundation appears to have been removed and may have been reused to

form the later period Feature 1 structure, which utilizes concrete as a mortar. The cobbles, which envelop Feature 3, seem to be the result of some road clearing activity, as well as possible remains from that structure. Shovel tests excavated indicate the subsurface refuse deposit associated with Feature 3 extends to a maximum depth of 20 centimeters. The structure appears to represent remains of the Thompson Homestead. Evidence further suggests that use of the site was very brief, given the small quantity of building materials and artifacts.

7.1.7 Summary

The analysis of the cultural materials recovered from Site SDI-11,390/H 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 information potential. As the site did yield information that can contribute to the knowledge of the history of the region, it is evaluated as having limited significance. However, the work completed for this evaluation has exhausted the research potential of the site and further study is unlikely to produce additional significant information. Based upon information derived from the testing program, Site SDI-11,390/H is characterized as possessing limited significance according to County of San Diego historical resource guidelines. No further archaeological investigations are recommended for this resource.

7.2 Site SDI-11,391/H

7.2.1 Site Description

Site SDI-11,391/H is a historic period site with two features and a large, sparse artifact concentration. The site is located north of the prehistoric component of Site SDI-11,391A. The historic component of SDI-11,391 is situated on the northern slope of a small knob hill just west of a well-traveled dirt road within the center of the northwest corner of Section 5. The configuration of the site is shown in Figure 7.2–1. Elevations at the site range from 635 to 648 feet AMSL. The setting of the site is shown in a photograph provided in Plate 7.2–1.

7.2.2 Previous Investigations

Site SDI-11,391 was originally registered by RECON during a survey conducted in 1989 as a light prehistoric artifact scatter; RECON did not identify the historic component of the site (Ritz et al. 1989). Ogden visited the site in 1991 during a survey of the property. At that time, the historic features associated with Locus A were observed and recorded (site form and Carrico et al. 1992). Ogden described the historic component as stacked rock piles, two depressions that might represent foundations, and a historic artifact scatter at the northern end of the site. The artifact scatter observed by Ogden included historic metal and tools, 20 fragments of historic ceramic and glass, and *Chione* sp. shell fragments near the foundations (Carrico et al. 1992). The site was not subjected to a testing phase during either of the previous investigations.

Figure 7.2-1
Excavation Location Map
Site SDI-11,391/H

(Deleted for Public Review; Bound Separately)



Plate 7.2-1: Site SDI-11,391/H overview.

7.2.3 Description of Present Field Investigations

The BFSAs field investigations at Site SDI-11,391/H were conducted using the standard methodologies described in Section 5.0. Testing of the site consisted of the collecting of a sample of diagnostic surface artifacts, the excavation of seven shovel tests to qualitatively and quantitatively sample artifact deposits, and the mapping and recording of all historic features. The field investigations were conducted on October 10 and 11, 2002. During the current investigation, both of the features and the refuse deposit were documented and tested.

Surface Recordation

The entire surface of the site was inspected for artifacts and features, all of which were initially provenienced from a primary datum established at the site. Vegetation at the site consists of sparse buckwheat and grasses. Surface visibility was excellent across the site. The primary datum was established at a high point from which all surface artifacts, features, and excavations could be mapped. There were no artifacts collected from this site that were not associated with the shovel tests.

It should be stated that, because not all artifacts were collected from the surface of the site, the surface collection was biased toward retrieving a sample of temporally or functionally diagnostic elements; these are the type of artifacts that usually provide dates of occupation and

were purposefully collected from the surface. Artifacts such as miscellaneous metal, glass, tin can fragments, and nails were not specifically collected from the surface. However, the number of bottle/jar and tableware fragments present indicates that at least a portion of the trash deposit is that of household refuse.

Site SDI-11,391/H consists of two features and one widely dispersed refuse concentration (Plates 7.2–2 and 7.2–3). Features include two depressions, with cement and brick observed in one of them, as well as a widely dispersed refuse concentration containing primarily household debris (Table 7.2–1).

Site disturbances include an adjacent dirt road. This road appears to be well established, except for some two-track delineations that appear to be the result of a single use. Both features appear to have had earth removed from them and piled up in berms around the edges of both features. There is also modern debris, including numerous ammunition cartridges, a modern chrome wheel trim ring, plastic beverage containers, and beer bottles.



Plate 7.2–2: Site SDI-11,391/H overview (Feature 1).



Plate 7.2-3: Site SDI-11,391/H overview (Feature 2).

Table 7.2-1
Feature Descriptions
Site SDI-11,391/H

Feature Number	Size	Type	Associated Structural Materials	Superstructure	Possible Function	Associated Artifact Types
1	26 feet (N/S) 23 feet (E/W)	Depression	Concrete, mortared brick	Earthen berm	Cistern	Household, miscellaneous
2	13 feet (N/S) 28 feet (E/W)	Depression	Cement	Earthen berm	Dwelling	Household, miscellaneous

Feature Descriptions

Feature 1 is the remains of a possible cistern (Plate 7.2-2). It is a large, five-foot deep circular depression with remnants of a brick and cement rim at the base of the depression. The inside of this cement and brick rim is lined with a thin layer of concrete or plaster. Overall, Feature 1 measures approximately 26 feet from north to south by 23 feet from east to west. The brick and cement rim that is exposed appears to be partially displaced. The rim does not fully extend around the base of the depression.

Feature 2 is the remains of a possible foundation (Plate 7.2–3). It is rectangular in shape, and located adjacent to Feature 1. It measures 13 feet from north to south by 28 feet from east to west. It has earthen berms around its perimeter, which appear to have cement reinforcement around the base covered with plaster on the inside of the feature. This small wall/foundation extends approximately 12 inches high.

Refuse Concentration

One refuse deposit was observed. This refuse concentration is widely dispersed to the north of Features 1 and 2 on a slope. The concentration measures approximately 100 feet from north to south by 165 feet from east to west. Artifacts from the Household, Agriculture, and Miscellaneous functional categories were recorded (Table 7.2–2). All diagnostic and functional attributes were noted.

Table 7.2–2
Refuse Concentration
Site SDI-11,391H

Refuse Concentration Number	Size (in meters)	Household	Agricultural	Miscellaneous
1	30 x 50	X	X	X

Observed artifacts included 10 fragments of solarized purple glass, 25 fragments of aqua-colored glass, and 17 fragments of clear glass. Metal artifacts included one stove top plate/lid fragment measuring seven inches wide by eight inches tall; eight miscellaneous flat crimped sheet metal fragments with various measurements, including some small straps measuring one inch wide by 12 to 24 inches long; one square nail measuring three inches long; and one metal stove pot/saucepan measuring six inches deep by seven inches in diameter, with a riveted handle measuring nine inches long by 1.5 inches wide. Ceramic fragments include one white-glazed earthenware fragment, 25 brown-glazed earthenware fragments, eight black-glazed earthenware fragments, and 35 white fine-grain ceramic plate and saucer fragments.

Subsurface Excavation

The potential for subsurface cultural deposits at Site SDI-11,391/H was investigated by excavating a total of seven STPs, which were positioned based upon the location of the depressions and the artifact concentration observed in order to determine the extent of the subsurface expression of the historic site. The locations of the STPs are shown in Figure 7.2–1. All of the shovel tests were excavated in decimeter levels to at least 30 centimeters, unless bedrock was encountered. Of the seven STPs excavated at Site SDI-11,391/H, four were

positive for cultural material. Depth of recovery in the shovel tests extended to a maximum of 10 centimeters in STP 1, 5, 6, and 7. STP 5 produced the most artifacts (N=18).

Forty-five artifacts were collected from the STPs at Site SDI-11,391/H. The collection is dominated by household items (66.67 percent; N=30). Most of this category is composed of equal amounts bottle/jar fragments (ceramic and glass) and tableware fragments (ceramic). Other artifacts recovered from the shovel tests included building materials (28.89 percent; N=13), miscellaneous (2.22 percent; N=1), and unidentifiable items (2.22 percent; N=1). The summary of artifact recovery from the STPs is provided in Table 7.2–3, while detailed provenience information is provided in Table 7.2–4.

Based upon the subsurface excavations at SDI-11,391/H, the subsurface extent of the historic component of Site SDI-11,391/H appears to be minimal. The only artifacts recovered were from the zero- to 10-centimeter level.

TABLE 7.2–3
Summary of Shovel Test Recovery
SDI-11,391/H

Artifact Type	Shovel Test							Total	Percentage
	1	2	3	4	5	6	7		
Building Material									
Window Fragment, Glass	-	-	-	-	13	-	-	13	28.89
Ecofact (grams)									
<i>Tivela stultorum</i>	-	-	-	-	-	121.6	-	121.6	-
Household									
Bottle/Jar Fragment, Glass	2	-	-	-	3	5	-	10	22.22
Bottle/Jar Fragment, Ceramic	-	-	-	-	-	-	8	8	17.78
Tableware Fragment, Ceramic	-	-	-	-	2	9	1	12	26.67
Miscellaneous									
Spring, Metal	1	-	-	-	-	-	-	1	2.22
Undetermined									
Brass Fragment	-	-	-	-	-	1	-	1	2.22
Total**	3	-	-	-	18	15	9	45	100.00*

*Rounded totals may not equal 100.00 percent

**Totals do not include grams

TABLE 7.2-4
Artifact Catalog
SDI-11,391/H

7.0-19

Cat. No.	Provenience	Datum	Azimuth	Range	Depth (cm)	Material	Quantity/Weight	Artifact Type	Description	Category
1	STP 1	A	190°	25'	0-10	Steel	1	Spring	Fragment, coiled spring	Miscellaneous
2	STP 1	A	190°	25'	0-10	Glass, Colorless	2	Bottle	Fragment	Household
3	STP 5	A	158°	42' 6"	0-10	Glass, Aqua	1	Bottle	Fragment, round base, bead finish, two-part mold, 3 ¼" tall	Household
4	STP 5	A	158°	42' 6"	0-10	Glass, Colorless	2	Bottle	Fragments	Household
5	STP 5	A	158°	42' 6"	0-10	Glass, Colorless	13	Window	Fragments	Building Material
6	STP 5	A	158°	42' 6"	0-10	Whiteware	2	Tableware	Fragments	Household
7	STP 6	A	73°	25.5"	0-10	Glass, Aqua	1	Bottle	Fragment	Household
8	STP 6	A	73°	25.5"	0-10	Glass, Solarized	4	Bottle	Fragments, c. 1880-1920	Household
9	STP 6	A	73°	25.5"	0-10	Whiteware	4	Tableware	Fragments	Household
10	STP 6	A	73°	25.5"	0-10	Whiteware	1	Tableware	Fragment, light brown floral pattern on one side	Household
11	STP 6	A	73°	25.5"	0-10	Whiteware	1	Tableware	Fragment, portion of black mark	Household
12	STP 6	A	73°	25.5"	0-10	Whiteware	1	Tableware	Fragment, black floral design on one side, portion of black stag on the other	Household
13	STP 6	A	73°	25.5"	0-10	Whiteware	1	Tableware	Fragment, black geometric pattern	Household
14	STP 6	A	73°	25.5"	0-10	Whiteware	1	Tableware	Fragment, black leaves and berry design	Household
15	STP 6	A	73°	25.5"	0-10	Brass	1	Unidentifiable	Fragment, circular design with tabs folded over the edges	Undetermined

TABLE 7.2-4
Artifact Catalog
SDI-11,391/H

Cat. No.	Provenience	Datum	Azimuth	Range	Depth (cm)	Material	Quantity/Weight	Artifact Type	Description	Category
16	STP 6	A	73°	25.5"	0-10	Shell	121.5 grams	<i>Tivela Stultorum</i>	Fragment	Ecofact
17	STP 7	A	359°	52'	0-10	Glass, Solarized	1	Tableware	Fragment, c. 1880-1920	Household
18	STP 7	A	359°	52'	0-10	Stoneware	8	Crock	Fragments, clear glaze on outside, black glaze on inside	Household

7.2.4 *Artifact Analysis*

The total collection of 45 artifacts is dominated by household material, accounting for 66.67 percent (N=30) of the entire collection. Other artifact categories recovered from the site included building materials (28.89 percent; N=13), miscellaneous (2.22 percent; N=1), and unidentifiable material (30.00 percent; N=6). Included under the category of unidentifiable artifacts was one brass fragment that could not be further identified.

All artifacts from Site SDI-11,391/H that could confidently be assigned to specific dates are presented in Table 7.2–5. These datable artifacts include one whole household-type solarized bottle and one solarized glass tableware fragment. In order to quantify the diagnostic artifacts listed in Table 7.4–5, distinct ranges of dates were chosen based upon the known dates assigned to the diagnostic artifacts.

The solarized glass fragment and whole bottle were recovered from STPs 6 and 7. The slightly purple tint of solarized glass was caused by the addition of manganese to clear glass in order to make it clear; unfortunately the process caused the discoloration when the object was exposed to sunlight (Jones and Sullivan 1985). Manganese was no longer added to glass after the early 1920s, indicating that a portion of the deposit at Site SDI-11,391/H may date prior to the early 1920s.

7.2.5 *Results of Historic Research*

The history of this site's area is discussed in more detail in Section 3.0. There were no recorded homesteads found within the area containing the site. It is possible that this site was part of a home site that was not officially patented or for which records no longer exist. It is possible that a landowner occupied and annexed the site for agricultural or livestock use, which presently continues throughout the area.

The investigation of SDI-11,391/H identifies a historic period home site with structures that are most likely related to farming or agricultural ventures. The Assessor's Building Records for the northwest corner of Section 5 indicates that there was no recorded settlement in 1879. Several home sites, as well as a town site known as El Nido, are indicated to the south of SDI-11,391/H. The 1903 7.5-minute USGS quadrangle map indicates a dirt road leading to the site location and a possible structure present. There is also an unknown complex identified on a 1929 aerial survey map in the location of SDI-11,391/H. It is possible that the structures noted on the 1903 quadrangle map and the 1929 aerial survey are in fact the observed dwelling (Feature 2) and associated features.

TABLE 7.2-5
Artifact Recovery (Dates Only)
SDI-11,390/H

Cat. No.	Provenience	Datum	Azimuth	Range	Depth (cm)	Material	Quantity/Weight	Artifact Type	Description	Category
8	STP 6	A	73°	25.5'	0-10	Glass, Solarized	4	Bottle	Fragments, c. 1880-1920	Household
17	STP 7	A	359°	52'	0-10	Glass, Solarized	1	Tableware	Fragment, c. 1880-1920	Household

**Artifacts with modern dates discarded*

7.2.6 Discussion

Site SDI-11,391/H consists of the remains of an early twentieth century home site with associated historic artifacts. The historic site has been impacted by subsequent use of the area for cattle ranching, grazing, and limited subsistence agriculture up through the present day. The testing and archival information demonstrated that the site reflects a limited occupation beginning in the early twentieth century. The site contains one cistern and a possible foundation (Features 1 and 2), and one sparse refuse deposit. The overall site dimensions, as identified by the surface distribution of artifacts and features, measures approximately 60 meters from north to south and 80 meters from east to west. The historic period activity at this site appears to be primarily centered on some type of agricultural or livestock raising venture, with associated residence/occupation. The fact that there is a notable amount of household debris, as well as a cistern near a possible foundation, allows for this conclusion. Shovel tests excavated indicate the subsurface deposits in this area extend to a maximum depth of 10 centimeters.

7.2.7 Summary

The analysis of the cultural materials recovered from Site SDI-11,391/H and related historic research revealed a historic occupation site with structural remains and a very minimal cultural deposit extending to a maximum depth of 10 centimeters. The pattern and redundancy of the recovered materials may suggest the lack of additional information potential at the site. The presence of archival information for the region south of the project area indicates that there was settlement occurring by 1879, and there was a road and structure present at the site's location by 1903. The research potential of this site may include the interpretation of historic farming and ranching life in the region. As the site did yield information that can contribute to the knowledge of the history of the region, it is evaluated as having limited significance. However, the fieldwork completed for this evaluation has exhausted the potential of the site, and further excavations are unlikely to produce additional significant information. Based upon the information derived from the testing program, Site SDI-11,391/H is characterized as possessing limited significance according to County of San Diego historical resource guidelines. No further archaeological investigations are recommended for this resource.

7.3 Site SDI-12,354/H

7.3.1 Site Description

Site SDI-12,354/H was first recorded by Ogden in 1991 as a historic stacked rock pile and pit just upstream and on the opposite side of a small knoll from a small reservoir. The configuration of the resource is shown in Figure 7.3–1. Elevations at the site range from 550 to 575 feet AMSL. The native vegetation of chamise chaparral is sparse in the area of the site, most of which was probably removed during the construction of the nearby reservoir or dirt road.

Figure 7.3-1
Excavation Location Map
Site SDI-12,354/H

(Deleted for Public Review; Bound Separately)

Site SDI-12,354/H is located within the currently proposed construction zone and was therefore subjected to an evaluation program by BFSa. Investigation of the site consisted of the thorough inspection of the surface of the site for artifacts or historic features. The field investigations were conducted on October 10, 2002.

7.3.2 Previous Investigations

Ogden states that the site measured approximately 15 meters from north to south and 20 meters west to east (Carrico et al. 1992). It was suggested by Ogden that the stacked rock pile and pit may have been associated with historic activity at SDI-11,391A, or with a structure that was identified on the 1943 USGS 15' *Jamul* Quadrangle map, although this structure was not identified in the field by either Ogden or during the current investigation (Carrico et al. 1992). No artifacts were identified by Ogden and the archival research conducted for the 1991 investigation of the property resulted in no information regarding the ownership, construction, or activities at the site (Carrico et al. 1992). The site was not subjected to a testing phase during the Ogden investigation.

7.3.3 Description of Field Investigations

The entire surface of the site was inspected for evidence of prehistoric or historic 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. This site is located approximately 700 feet northwest of the historic component of SDI-11,391A, and may have been associated with that site. However, there is no evidence that the existing features are even historic in nature. The features are located approximately 200 feet northeast of the small reservoir and directly adjacent to a southwest- to northeast-trending dirt road through the drainage. The 1903 7.5-minute USGS quadrangle map, which shows a road leading from the existing Otay Lakes Road to the historic component of Site SDI-11,391A, shows no reservoir or road in the area mapped as SDI-12,354/H. The 1955 15-minute USGS quadrangle does show the small reservoir with a nearby dirt road extending to the northeast, but no structure or feature is noted on the map. The features identified as SDI-12,354/H may have been associated with the construction of the reservoir, which appears to have occurred between 1903 and 1955, or with the subsequent maintenance of the reservoir or dirt road.

7.3.4 Summary

The investigation of Site SDI-12,354/H revealed no confirmed evidence of historic activity. No artifacts were observed and neither of the noted features, the stacked rock pile or 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.

As the site did yield information that could be found to contribute to the knowledge of the history of the region, it is evaluated as having limited significance. However, the work

completed for this evaluation has exhausted the research potential of the site and further study is unlikely to produce additional significant information. Based upon the information derived from the current investigation, the site is characterized as possessing limited significance according to County of San Diego historical resource guidelines. Due to the lack of datable artifacts or elements associated with the rock pile and pit identified as SDI-12,354/H, it is unlikely that additional information would result from subsequent investigations. No further archaeological investigations are recommended for Site SDI-12,354/H.

8.0 SITE SIGNIFICANCE SUMMARY AND IMPACT ANALYSIS

The Otay Ranch Village 13 Project cultural resources study was conducted to provide an inventory of archaeological sites within the project, to assess resources for significance, and to evaluate potential impacts represented by the planned development. As has been noted previously, the work conducted by BFSA at the Otay Ranch Village 13 Project is the third cultural resources study for the property (previous studies done by RECON and Ogden). The culmination of the three studies has been the recordation of 79 cultural resources. All of the sites have been registered at the SCIC. The goal of the BFSA archaeological study for the Otay Ranch Village 13 Project is to determine the potential impacts to cultural resources associated with the grading for the development. Currently, the project encompasses approximately 1,869 acres; however, development will not take place in the northern portion of the project and only approximately 653 acres will be included in the development envelope. The results of the testing program for the project are presented in Table 8.0-1.

Within the project, 69 of the 79 recorded sites have been tested and evaluated in accordance with the guidelines of the County of San Diego and in compliance with CEQA. For this review, Section 15064.5 of CEQA and the County of San Diego's RPO criteria were utilized as the foundation for resource evaluations. Since none of the recorded archaeological sites have been previously listed on the CRHR or the National Register of Historic Places (NRHP), legislation dealing with these registers will not be incorporated into this review, as CEQA takes precedence because the study is part of an Environmental Impact Report. However, any resources that are considered important based upon CEQA criteria (listed below) are also considered to be potentially eligible for listing on the CRHR and the NRHP. The significance criteria used to evaluate the Otay Ranch Village 13 sites is listed in Section 8.1. Some sites that are located outside of the development envelope were not tested, but were recorded and mapped, and these sites will be assumed to be important under CEQA for purposes of the impact analysis. This applies specifically to those sites located some distance from any proposed development.

Sixty-nine archaeological sites were tested and evaluated based on CEQA and County of San Diego RPO criteria. The results of the evaluations are provided in the individual site reports and summarized in Table 8.0-1. Nine of the sites that were tested are recommended as significant based on CEQA criteria. For the most part, the sites that have been determined to be important were evaluated based on their potential to provide information that would be applicable to numerous regionally important research topics. None of these sites are recommended as important based on the County's RPO criteria due to the fact that most of these sites represent shorter-term utilization or limited-use sites. The remaining 60 sites that were tested are recommended as representing limited significance.

TABLE 8.0-1
Summary of Investigations at the Otay Ranch Village 13 Sites

Site Designation	Report Section	Tested	Site Type	Significant	Potential Direct 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, possibly 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, possibly R	LS/NRP	Yes	-	6,949	-	-	13
SDI-11,391A	6.4	Yes	LLP, possibly R	LS/NRP	Yes (partial)	-	138,218	2,254	10	1,431
SDI-11,391B	6.5	Yes	LLP, possibly 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, possibly R	LS/NRP	No	-	1,705	-	-	16
SDI-11,405	6.8	Yes	LLP, possibly 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, possibly 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, possibly R	LS/NRP	Yes	-	5,907	210	10	49
SDI-12,338	6.15	Yes	LLP	LS/NRP	Yes	-	764	-	-	3
SDI-12,339A	6.16	Yes	LLP, possibly R	LS/NRP	No	-	7,710	-	-	26
SDI-12,339B	6.17	Yes	LLP, possibly R	LS/NRP	No	-	7,821	-	-	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, possibly 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, possibly R	LS/NRP	Yes	-	879	-	-	13
SDI-12,355	6.23	Yes	LLP, possibly R	LS/NRP	Yes (partial)	-	4,174	125	10	45
SDI-12,356	6.24	Yes	LLP, possibly R	LS/NRP	Yes	-	138	-	-	6
SDI-12,357	6.25	Yes	LLP, possibly R	LS/NRP	Yes	-	986	-	-	10
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	-	-	18
SDI-12,362/H	6.30	Yes	LLP	LS/NRP	Yes	-	25,110	-	-	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	-	-	6
SDI-12,365	6.33	Yes	LLP, possibly R	LS/NRP	Yes	-	1,084	-	-	4

TABLE 8.0-1
Summary of Investigations at the Otay Ranch Village 13 Sites

Site Designation	Report Section	Tested	Site Type	Significant	Potential Direct Impacts	Cultures Represented	Surface Area (m ²)	Subsurface Area (m ²)	Max. Subsurface Depth (cm)	Total Artifacts Collected
SDI-12,366	6.34	Yes	LLP, possibly R	LS/NRP	No	-	302	166	10	13
SDI-12,367	6.35	Yes	LLP, possibly 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	-	-	21
SDI-12,370	6.38	Yes	LLP	LS/NRP	Yes	-	2,635	-	-	8
SDI-12,371	6.39	Yes	Q, TC	Yes	Yes	-	4,253	781	30	413 (S)
SDI-12,372	6.40	Yes	LLP, possibly R	LS/NRP	Yes	-	802	179	10	15
SDI-16,303	6.41	Yes	Q, TC	Yes	Yes	Archaic	13,606	67	20	644
SDI-16,304	6.42	Yes	LLP, possibly R	LS/NRP	Yes (partial)	Archaic	5,600	34	10	50
SDI-16,305	6.43	Yes	LLP, possibly R	LS/NRP	Yes	-	13,495	105	10	40
SDI-16,306	6.44	Yes	LLP, possibly R	LS/NRP	Yes	-	1,031	-	-	11
SDI-16,307	6.45	Yes	LLP, possibly R	LS/NRP	Yes (partial)	-	4,800	61	30	113
SDI-16,308*	6.46	No	N/A	Yes	No	N/A	4,800	N/A	N/A	N/A
SDI-16,309	6.47	Yes	Q, TC	Yes	Yes	-	43,380	5,496	30	4,146 (S)
SDI-16,310	6.48	Yes	LLP	LS/NRP	Yes	-	1,252	-	-	11
SDI-16,311	6.49	Yes	LLP	LS/NRP	Yes	-	812	70	20	28
SDI-16,312	6.50	Yes	Q, TC	Yes	Yes (partial)	-	11,212	4,967	20	619 (S)
SDI-16,313	6.51	Yes	LLP	LS/NRP	No	-	1,183	235	10	40
SDI-16,314*	6.52	No	N/A	Yes	No	N/A	665	N/A	N/A	N/A
SDI-16,315*	6.53	No	N/A	Yes	No	N/A	8,744	N/A	N/A	N/A
SDI-16,316	6.54	Yes	LLP, possibly R	LS/NRP	No	-	15,498	2,971	20	263 (S)
SDI-16,317*	6.55	No	N/A	Yes	No	N/A	5,358	N/A	N/A	N/A
SDI-16,318*	6.56	No	N/A	Yes	No	N/A	1,450	N/A	N/A	N/A
SDI-16,319	6.57	Yes	LLP	LS/NRP	No	Late Prehistoric	3,469	-	-	26
SDI-16,320*	6.58	No	N/A	Yes	No	N/A	68	N/A	N/A	N/A
SDI-16,321*	6.59	No	N/A	Yes	No	N/A	14,230	N/A	N/A	N/A
SDI-16,322*	6.60	No	N/A	Yes	No	N/A	8,875	N/A	N/A	N/A
SDI-16,323	6.61	Yes	LLP	LS/NRP	No	-	2,439	-	-	17
SDI-16,324*	6.62	No	N/A	Yes	No	N/A	2,939	N/A	N/A	N/A
SDI-16,325*	6.63	No	N/A	Yes	No	N/A	2,473	N/A	N/A	N/A
SDI-16,326	6.64	Yes	Q, TC	Yes	Yes (partial)	-	99,706	2,515	70	852
SDI-16,327	6.65	Yes	LLP, possibly R	LS/NRP	No	-	819	-	-	13
SDI-16,328	6.66	Yes	LLP, R	LS/NRP	No	-	191	53	20	13

TABLE 8.0-1
Summary of Investigations at the Otay Ranch Village 13 Sites

Site Designation	Report Section	Tested	Site Type	Significant	Potential Direct Impacts	Cultures Represented	Surface Area (m ²)	Subsurface Area (m ²)	Max. Subsurface Depth (cm)	Total Artifacts Collected
SDI-16,329	6.67	Yes	LLP, possibly R	LS/NRP	Yes (partial)	-	365	25	10	60
SDI-16,330	6.68	Yes	LLP, possibly R	LS/NRP	Yes	-	278	78	20	130
SDI-16,331	6.69	Yes	LLP	LS/NRP	Yes	-	3,049	-	-	30
SDI-16,332	6.70	Yes	Q, TC	Yes	Yes (partial)	-	14,943	1,731	20	398 (S)
SDI-16,333	6.71	Yes	LLP, possibly R	LS/NRP	Yes	-	7,260	104	20	49
SDI-16,334	6.72	Yes	LLP	LS/NRP	Yes	-	3,381	-	-	22
SDI-16,335	6.73	Yes	LLP, possibly R	LS/NRP	No	-	2,988	-	-	47
SDI-16,336	6.74	Yes	LLP	LS/NRP	Yes	-	773	-	-	15
SDI-16,390	6.75	Yes	TC	LS/NRP	Yes (partial)	Late Prehistoric	7,724	338	10	55
SDI-16,391	6.76	Yes	LLP, possibly R	LS/NRP	Yes	-	5,845	-	-	72
SDI-11,390/H	7.1	Yes	Homestead	LS/NRP	No	Historic	9,305	133	20	20 (S)
SDI-11,391/H	7.2	Yes	Homestead	LS/NRP	No	Historic	3,117	489	10	45 (S)
SDI-12,354/H	7.3	Yes	Historic	LS/NRP	No	-	-	-	-	-

Key:

- LLP – Limited-Use Lithic Production
- Q – Quarry
- LS/NRP – Limited Significance/No Research Potential
- 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 were thus not tested as part of the current investigation:

- Site Type
- Subsurface Area
- Total Artifacts
- Cultures Represented
- Maximum Subsurface Depth

Surface area is estimated for the sites that were not tested.

The basis for the evaluation of such a large number of sites as having only limited significance is that these sites are characterized as superficial surface scatters or limited-use quarry sites that lack subsurface deposits or further research potential. It appears that the prehistoric utilization of this general area, including that of Otay Ranch Village 13, is a response to the environmental setting represented by a somewhat sparse and rocky landscape, with steep slopes near the hills and marginal opportunities for focused occupation. Ten sites were not tested due to their location outside of the development zone; these sites are assumed to be significant under CEQA because they have not been evaluated. The significance evaluations and impact status of the cultural resources are depicted on Figure 8.0-1.

Based upon the information provided in the technical report, the following significance determinations were made for the sites within the project:

TABLE 8.0-2

Site Significance Determinations for Sites Within the Otay Ranch Village 13 Project

Number of Sites	Significance
Tested (69)	
9	Significant (CEQA only)
0	Significant (RPO only)
60	Limited Significance (No Further Research Potential)
Untested (10)	
10	Assumed CEQA-Significant (Outside Construction Zone)

The evaluations of site significance were based upon criteria utilized by the County of San Diego and provided in CEQA. The current testing program included test excavations, or detailed recordation, of 69 archaeological sites that were conducted to a standard level of analysis in accordance with County of San Diego guidelines.

Figure 8.0-1
Impact Analysis Map for Cultural Resources
(Deleted for Public Review; Bound Separately)

The testing program did not produce the types of artifacts or ecofacts that were appropriate for specialized analysis. No sites produced material suitable for radiocarbon dating or obsidian hydration. The entire collection of prehistoric sites produced no shell and only 0.4 gram of bone, which is striking in comparison to many sites located to the west of Otay Ranch Village 13, where major occupations included noteworthy collections of shell and bone. Provisions for site dating will be included in the mitigation program, although the sources of dating will be tenuous. The majority of prehistoric sites within the project are tentatively assigned to the late prehistoric Kumeyaay cultural horizon, while only two sites appear to be older Archaic sites predating the Kumeyaay occupation of the area. Three historic sites are also included in this group of sites on the subject property.

8.1 Evaluation Procedures

The cultural resources tested within the project were evaluated according to the criteria presented in Section 15064.5 of CEQA, as amended, and County of San Diego guidelines (RPO). Following the testing program, the subsurface deposits of sites evaluated as significant were consistently cited as having the potential to produce additional information that would be applicable to regionally important research topics. None of the prehistoric sites that were tested contained the wide spectrum of feature types, ceremonial areas, cultural deposits, or elements of material culture that would represent a focused occupation by sizeable populations for many centuries. The series of sites at the Otay Ranch Village 13 Project are primarily quarry sites and temporary camps associated with resource exploitation. The 10 sites that were not tested due to their being located in open space areas are assumed to be significant under CEQA, and although the possibility does exist that these sites are significant under the County's RPO criteria, until the sites are archaeologically tested, this determination cannot be made.

Resource importance is assigned to districts, sites, buildings, structures, and objects that possess exceptional value or quality illustrating or interpreting the heritage of San Diego County in history, architecture, archaeology, engineering, and culture. A number of criteria are used in demonstrating resource importance. Specifically, criteria outlined in CEQA, the County's RPO, and the San Diego County Local Register provide the guidance for making such a determination. The following sections detail the criteria that a resource must meet in order to be determined important.

8.1.1 California Environmental Quality Act (CEQA)

According to CEQA (§15064.5a), the term "historical resource" includes the following:

- 1) A resource listed in, or determined to be eligible by the State Historical Resources Commission, for listing in the CRHR (Pub. Res. Code §5024.1, Title 14 CCR. Section 4850 et seq.).

- 2) A resource included in a local register of historical resources, as defined in Section 5020.1(k) of the Public Resources Code or identified as significant in an historical resource survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, shall be presumed to be historically or culturally significant. Public agencies must treat any such resource as significant unless the preponderance of evidence demonstrates that it is not historically or culturally significant.
- 3) Any object, building, structure, site, area, place, record, or manuscript which a lead agency determines to be historically significant or significant in the architectural, engineering, scientific, economic, agricultural, educational, social, political, military, or cultural annals of California may be considered to be an historical resource, provided the lead agency's determination is supported by substantial evidence in light of the whole record. Generally, a resource shall be considered by the lead agency to be "historically significant" if the resource meets the criteria for listing on the CRHR (Pub. Res. Code §5024.1, Title 14, Section 4852) including the following:
 - a) Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
 - b) Is associated with the lives of persons important in our past;
 - c) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or
 - d) Has yielded, or may be likely to yield, information important in prehistory or history.
- 4) The fact that a resource is not listed in, or determined eligible for listing in the CRHR, not included in a local register of historical resources (pursuant to Section 5020.1(k) of the Public Resources Code), or identified in an historical resources survey (meeting the criteria in Section 5024.1(g) of the Public Resources Code) does not preclude a lead agency from determining that the resource may be an historical resource as defined in Public Resources Code Section 5020.1(j) or 5024.1.

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

- 1) Substantial adverse change in the significance of an historical resource means physical demolition, destruction, relocation, or alteration of the resource or its immediate surroundings such that the significance of an historical resource would be materially impaired.
- 2) The significance of an historical resource is materially impaired when a project:
 - a) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its inclusion in, or eligibility for, inclusion in the CRHR; or
 - b) Demolishes or materially alters in an adverse manner those physical characteristics that account for its inclusion in a local register of historical resources pursuant to Section 5020.1(k) of the Public Resources Code or its identification in an historical resources survey meeting the requirements of Section 5024.1(g) of the Public Resources Code, unless the public agency reviewing the effects of the project establishes by a preponderance of evidence that the resource is not historically or culturally significant; or,
 - c) Demolishes or materially alters in an adverse manner those physical characteristics of an historical resource that convey its historical significance and that justify its eligibility for inclusion in the CRHR as determined by a lead agency for purposes of CEQA.

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

1. When a project will impact an archaeological site, a lead agency shall first determine whether the site is an historical resource, as defined in subsection (a).
2. If a lead agency determines that the archaeological site is an historical resource, it shall refer to the provisions of Section 21084.1 of the Public Resources Code, Section 15126.4 of the Guidelines, and the limits contained in Section 21083.2 of the Public Resources Code do not apply.
3. If an archaeological site does not meet the criteria defined in subsection (a), but does meet the definition of a unique archaeological resource in Section 21803.2 of the Public Resources Code, the site shall be treated in accordance with the provisions of Section 21083.2. The time and cost limitations described in Public Resources Code Section 21083.2 (c-f) do not apply to surveys and site evaluation activities intended to determine whether the project location contains unique archaeological resources.

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

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

- (d) When an initial study identifies the existence of, or the probable likelihood of, Native American human remains within the project, a lead agency shall work with the appropriate Native Americans as identified by the NAHC as provided in Public Resources Code §5097.98. The applicant may develop an agreement for treating or disposing of, with appropriate dignity, the human remains and any items associated with Native American burials with the appropriate Native Americans as identified by NAHC. Action implementing such an agreement is exempt from:
 - 1) The general prohibition on disinterring, disturbing, or removing human remains from any location other than a dedicated cemetery (Health and Safety Code Section 7050.5)
 - 2) The requirement of CEQA and the Coastal Act.

8.1.2 San Diego County Local Register of Historical Resources (Local Register)

The County requires that resource importance be assessed not only at the state level, as required by CEQA, but at the local level as well. If a resource meets any one of the following criteria as outlined in the Local Register, it will be considered an important resource:

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

8.1.3 San Diego County Resource Protection Ordinance (RPO)

The County of San Diego's RPO protects significant cultural resources. The RPO defines "Significant Prehistoric or Historic Sites" as follows:

Location of past intense human occupation where buried cultural deposits can provide information regarding important scientific research questions about prehistoric or historic activities that have scientific, religious, or other ethnic value of local, regional, state, or federal importance. Such locations shall include, but not be limited to:

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

The RPO does not allow non-exempt activities or uses damaging to significant prehistoric or historic lands on properties under county jurisdiction. The only exempt activity is scientific investigation authorized by the County. All discretionary projects are required to be in conformance with applicable county standards related to cultural resources, including the noted RPO criteria on prehistoric and historic sites. Non-compliance would result in a project that is inconsistent with county standards.

8.2 Discussion of Significance

8.2.1 Discussion of Individual Site Significance

The testing program conducted at the Otay Ranch Village 13 Project produced the information necessary to evaluate the resources according to the criteria presented in Section 8.1. The site evaluations are provided in the individual site reports included in Section 6.0. For all of the sites that have been evaluated as significant, the basis for the finding was the potential of the site to provide information that would contribute to local and regional research issues related to the prehistoric occupation of the project sites (CEQA, Section 15064.5, Criterion D). None of the sites that were tested were found to qualify as important under any other criteria of CEQA, as regionally important, or as eligible for listing on the CRHR or the NRHP.

The sites were also reviewed in accordance with the County of San Diego RPO. While nine of the tested sites are recommended as significant based on CEQA guidelines, none of these sites contain the range of artifacts or information potential that would elevate them to the status of RPO significance. None of the tested sites are considered to represent a location of long-term occupation, and no sites contained any evidence or artifacts of religious or ceremonial nature.

The cultural resources within the Otay Ranch Village 13 Project were evaluated on the basis of data gathered during the current investigation. Of the 69 sites tested and evaluated, nine are recommended as significant based on CEQA guidelines, and the remaining 60 were evaluated as having only limited significance, but lacking any further research potential. The 10 sites located outside the construction zone were not subjected to testing procedures; these sites will be placed in open space and will not be directly impacted by the proposed development. Because these sites have not been evaluated, they are assumed to be significant under CEQA. The 79 resources are listed by significance category in Table 8.2–1.

TABLE 8.2–1

Significance Recommendations for Sites Found Within the Otay Ranch Village 13 Project

Significance Evaluation	Sites	
Significant (CEQA and RPO)	None	
Significant (CEQA only)	SDI-11,406	SDI-16,303
	SDI-11,409	SDI-16,309
	SDI-12,368	SDI-16,312
	SDI-12,371	SDI-16,326
	SDI-16,332	
Limited Significance (No Further Research Potential)	SDI-I-222	SDI-12,362/H
	SDI-11,388	SDI-12,363
	SDI-11,389	SDI-12,364
	SDI-11,390/H	SDI-12,365
	SDI-11,391A	SDI-12,366

Significance Evaluation	Sites	
	SDI-11,391B	SDI-12,367
	SDI-11,391C	SDI-12,369
	SDI-11,391/H	SDI-12,370
	SDI-11,404	SDI-12,372
	SDI-11,405	SDI-16,304
	SDI-11,407	SDI-16,305
	SDI-11,408	SDI-16,306
	SDI-11,414	SDI-16,307
	SDI-12,336	SDI-16,310
	SDI-12,338	SDI-16,311
	SDI-12,339A	SDI-16,313
	SDI-12,339B	SDI-16,316
	SDI-12,340	SDI-16,319
	SDI-12,341	SDI-16,323
	SDI-12,342	SDI-16,327
	SDI-12,343	SDI-16,328
	SDI-12,353	SDI-16,329
	SDI-12,354/H	SDI-16,330
	SDI-12,355	SDI-16,331
	SDI-12,356	SDI-16,333
	SDI-12,357	SDI-16,334
	SDI-12,358	SDI-16,335
	SDI-12,359	SDI-16,336
	SDI-12,360	SDI-16,390
	SDI-12,361	SDI-16,391
Assumed CEQA Significant (Outside Construction Zone; Not Tested)	SDI-16,308	SDI-16,320
	SDI-16,314	SDI-16,321
	SDI-16,315	SDI-16,322
	SDI-16,317	SDI-16,324
	SDI-16,318	SDI-16,325

8.2.2 Discussion of Collective Site Significance

Site significance has been discussed throughout this report on the basis of individual site evaluations using CEQA and County of San Diego significance criteria. Although CEQA does not require consideration of site importance based on the association of multiple site districts, the discussion of obvious inter-site relationships of prehistoric sites in the Otay Ranch Village 13 Project merits discussion. In small measure, the absence of radiocarbon dates or obsidian hydration data limits the confirmation of site linkage chronologically. Chronological studies are

recommended for future work at this project to assist in the analysis of the temporal spectrum of prehistoric occupation sites within the project.

Utilizing data from the testing program, some conclusions may be drawn from a multiple site analysis. Geographically, several of the prehistoric sites within the project area are associated with contiguous landforms that are characterized by metavolcanic exposures and elevations that form many opportunities for quarries and food collecting. The consistency of the land-use pattern at the sites is noteworthy. The natural abundance of lithic resources coupled with the geographical assimilation of rolling hills, steep canyons, water, and food sources found on this southwestern extension of the Jamul Mountains provides sufficient cause that cultural activity was evident over a wide area, both within and adjacent to the project.

Judging from site characteristics including quarries, artifact density and quantity, and subsurface deposits, the matrix of a prehistoric resource exploitation pattern can be recognized. Although the sites within the project are not isolated, and are in fact connected geographically, temporally, and culturally to related sites within a short distance of the project, together, these sites form a recognizable collection of processing sites that are associated with major Kumeyaay and Archaic La Jolla Complex encampments in Otay Valley and Salt Creek.

In a hierarchical analysis of sites, the weight of importance is directly based on the range of human activities represented by or inferred from the material culture left behind in the archaeological record. Using Binford's model (Binford 1980), it is expected that the sites with the highest number of activities represent the permanent or semi-permanent settlements where all members of a group participated in cultural activities. Conversely, special-use sites, such as a quarry or hunting blind, are used by only a limited selection of the group's population for activities that require a minimal tool kit and have a brief duration of use. The use of a hierarchical approach to site typology for the Otay Ranch Village 13 sites is difficult because so many of the sites display a lack of variety of artifact types and features. Realistically, quarrying activities represent the dominant site use throughout the 79 sites recorded on the project. No village complexes or locations of long-term encampments are present on the project. In all likelihood, a major camp was probably situated at or near the confluence of the Otay River and Proctor Valley drainage, an area now submerged beneath the waters of the Lower Otay Reservoir. Perhaps the closest major village sites would be SDI-12,809 (McGowen Site) in Otay Valley or SDI-4530 overlooking the Sweetwater River. As a whole, the sites within the Otay Ranch Village 13 Project exhibit almost no evidence of milling or cooking, which suggests that even as camps, the sites were temporary and not used as occupation locations.

8.3 Assessment of Effects

In order to assess the effects of the proposed Otay Ranch Village 13 Project on cultural resources, a set of assumptions was used for the impact analysis:

- The area of potential development will include all areas that lie within the grading and brushing envelope.
- In areas where development is indicated on the grading plan, impacts to cultural resources are assumed to be direct, particularly those resulting from grading. All direct impacts will result in the disturbance or removal of the resources.
- Cultural resources that are located outside of the grading envelope will be preserved; however, indirect impacts may be a concern for those sites that lie near the developed areas or along graded roads that pass along the major elevations on the north side of the property.

The proposed project will impact 53 of the 79 recorded cultural resources within Otay Ranch Village 13. For the collection of sites that will be impacted, nine have been determined to be significant and 44 are identified as having limited significance. The loss of 44 limited significance sites may appear to be an issue; however, the majority of these sites are recorded as very sparse, low density lithic scatters lacking any substantial subsurface component. These may represent a food resource collecting process where occasional lithic tool maintenance was necessary, resulting in sites that lack a central core area or any semblance of an organized work station. The projection of impacts to cultural resources within Otay Ranch Village 13 is provided in the following sections. The distinction between significant and limited significance sites is noted for purposes of addressing mitigation measures. See Figure 8.0–1 for site locations, impact areas, and mitigation status.

1. Sites directly impacted by the proposed development of Otay Ranch Village 13:

- (A) Nine regionally or locally important sites, recommended as significant based on CEQA criteria and County of San Diego cultural resources guidelines, will be directly impacted by the proposed development of the Otay Ranch Village 13 Project. Five of these sites are characterized as lithic quarries 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. Direct impacts to these sites would be significant. Potential impacts to these sites are considered significant.

TABLE 8.3-1
Significant Sites Directly Impacted by the Otay Ranch Village 13 Project

Directly Impacted Significant Sites		
SDI-11,406	SDI-12,371	SDI-16,312*
SDI-11,409	SDI-16,303	SDI-16,326*
SDI-12,368*	SDI-16,309	SDI-16,332*

**These sites are situated partially in the development area and partially within preserve areas*

- (B) Within the limits of grading and brushing for the proposed project, 44 sites will be impacted that have been tested and characterized as limited significance resources. Impacts to these sites will not be significant, as these resources have been completely surface-collected, and the sites have no further research potential.

TABLE 8.3-2
Limited Significance Sites Directly Impacted by the Otay Ranch Village 13 Project

Directly Impacted Limited Significance Sites		
SDI-I-222	SDI-12,355*	SDI-16,304*
SDI-11,389	SDI-12,356	SDI-16,305
SDI-11,391A*	SDI-12,357	SDI-16,306
SDI-11,391B	SDI-12,358	SDI-16,307*
SDI-11,391C	SDI-12,359	SDI-16,310
SDI-11,405	SDI-12,360	SDI-16,311
SDI-11,407	SDI-12,361	SDI-16,329*
SDI-11,408	SDI-12,362/H	SDI-16,330
SDI-12,336	SDI-12,363	SDI-16,331
SDI-12,338	SDI-12,364	SDI-16,333
SDI-12,340	SDI-12,365	SDI-16,334
SDI-12,341*	SDI-12,367*	SDI-16,336
SDI-12,342*	SDI-12,369	SDI-16,390*
SDI-12,353	SDI-12,370	SDI-16,391
SDI-12,343*	SDI-12,372	

**These sites are situated partially in the development area and partially within preserve areas*

2. Sites not impacted by the proposed development of Otay Ranch Village 13:

- (A) Ten sites represent those that were not tested because they lie outside of the development envelope and will be placed in open space areas. These 10 sites will not be directly or indirectly impacted by the project due to their location within the open space areas that will be maintained by the County of San Diego as part of the open space preserve. A trail system is planned for the open space area; however, all trails will avoid any of those 10 significant sites.

TABLE 8.3-3

Assumed CEQA-Significant Sites That Will Not Be Impacted by the Otay Ranch Village 13 Project

Non-Impacted Assumed CEQA-Significant Sites		
SDI-16,308	SDI-16,317	SDI-16,321
SDI-16,314	SDI-16,318	SDI-16,322
SDI-16,315	SDI-16,320	SDI-16,324
SDI-16,325		

- (B) The following group of 16 sites have been tested and determined to be of limited significance, but will not be impacted according to the project design. These sites have no further research potential or sensitive features.

TABLE 8.3-4

Limited Significance Sites That Will Not Be Impacted by the Otay Ranch Village 13 Project

Non-Impacted Limited Significance Sites		
SDI-11,388	SDI-12,339A	SDI-16,316
SDI-11,390/H	SDI-12,339B	SDI-16,319
SDI-11,391/H	SDI-12,366	SDI-16,323
SDI-11,404	SDI-12,354/H	SDI-16,327
SDI-11,414	SDI-16,313	SDI-16,328
SDI-16,335		

Summary of Impact Significance

The area within the limits of grading and brushing at the Otay Ranch Village 13 Project will directly impact 53 archaeological sites, either completely or partially. Nine of these sites were evaluated as significant based on CEQA/County of San Diego guidelines; impacts to these nine sites are considered significant. Impacts to the remaining 44 sites will not be significant, as these sites have no further research potential. A total of 26 sites are outside of the proposed construction zone and will not be directly impacted by the development. Furthermore, for those resources located outside of the development envelope, whether evaluated as significant or not, no indirect impacts are likely, as these will all be protected in open space. Impacts and significance recommendations are summarized in Table 8.3–5.

TABLE 8.3–5
Summary of Impacts and Significance Recommendations

Directly Impacted	
Number of Significant (CEQA) Sites Directly Impacted	9 (4 of which are only partially impacted)
Number of Limited-Significance Sites Directly Impacted	44 (10 of which are only partially impacted)
Total Number of Sites Directly Impacted	53 (14 of which are only partially impacted)
No Impacts	
Assumed CEQA-Significant Sites Not Impacted	10
Limited Significance Sites Not Impacted	16
Total Number of Sites Not Impacted	26
Total	79

Off-Site Impacts

Projected off-site improvements, including the widening of Otay Lakes Road and the use of the Spring Valley Sewer Alternative, have been assessed. Based upon surveys of these areas, no sites will be impacted by off-site improvements. Therefore, no off-site impacts will be addressed as part of this review.

8.4 Cumulative Impacts

A cumulative impact, in terms of cultural resources, refers to the mounting aggregate effect upon cultural resources due to modern or recent historic land use, such as residential

development, agriculture, and natural processes, such as erosion, that result from acts of man. The key to assessing cumulative impacts to archaeological sites is the recognition that these resources are not renewable nor can they be replaced. The importance and significance of cultural resources comes from their association with our heritage, as well as the research value and the information that they contain. Hence, the issue that must be explored in a cumulative impact analysis is the aggregate loss of information as well as the loss of recognized cultural landmarks and vestiges of our community's cultural history. The CEQA definition of a cumulative impact from the Office of Planning and Research, Section 15355 is:

Cumulative impacts refer to two or more individual effects, which when analyzed together, are considerable or which compound or increase other environmental impacts. Furthermore:

- (a) The individual effect may be changes resulting from a single project or a number of separate projects.
- (b) The cumulative impact from several projects is the change in the environment, which results from the incremental impacts of the project when added to other closely related past, present, and reasonably foreseeable probable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time.

A cumulative impact analysis from the perspective of the County of San Diego considers the development of the proposed project in conjunction with other modern development or land uses, such as farming, in the vicinity, as well as the effects of natural events on cultural resources. The potential cumulative effect of modern land use 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.

The following subsection discusses the cumulative impacts for the prehistoric cultural resources located within the Otay Ranch Village 13 Project. The Management Plan for Otay Mesa Prehistoric Resources (Gallegos et al. 1998) was used as a guide for making site comparisons and defining site types and resource study areas. In addition, updated information (2013) obtained through the records information found at the SCIC was also used for the cumulative impact assessment. The current status of archaeological sites outside of the project boundaries was verified through visual inspection of the most up-to-date aerial imagery available (2012) and available remote sensing data. Assumptions of site status were based on aerial maps showing developed lands and site record information.

8.4.1 Resource Study Area

The Otay Ranch Village 13 Project is located between the Otay Mesa to the south and the Sweetwater Valley to the north in San Diego County. More specifically, it is located along one of the primary upper drainages of the Otay River at the southwestern edge of the Jamul Mountains, between Salt Creek and the Jamul Valley. Otay Mesa comprises approximately 10,000 acres and is bordered by the Pacific Ocean on the west, Otay River on the north, the Tijuana River on the south, and the San Ysidro Mountains on the east. In prehistoric times, the vegetation of Otay Mesa consisted of coastal sage scrub, chaparral, grasslands, and mima mounds with associated vernal pools (Gallegos et al. 1998:19). The Otay Mesa is unique in that it contains hundreds of archaeological sites, some of which date to the early and middle Holocene and the beginning of San Diego prehistory (Gallegos et al. 1998; Kyle et al. 1990 and 1998). The area between the Sweetwater Valley and Otay Mesa, or the northern drainages that feed the Otay River, can be similarly described. The Rolling Hills Ranch sites, a little over a mile west of the current project area and near Salt Creek, were also the focus of prehistoric occupations, as habitation sites and temporary camps have been radiocarbon dated to the early and middle Holocene, beginning approximately 9,500 to 9,000 years BP [before present] (Smith et al. 2004). Likewise, temporary camps and habitation sites investigated at Rancho San Miguel, south of Mother Miguel Mountain, have documented occupation since approximately 8,217 to 7,952 years BP (Smith et al. 2006).

A total of 365 prehistoric archaeological sites had been recorded in the Otay Mesa Management Area as of 1998 (Gallegos et al.). Many of the archaeological sites (N=225; 61.64 percent) on the Otay Mesa, and in the northern drainages feeding the Otay River (between the mesa and the Sweetwater Valley), are sparse lithic scatters. These lithic scatters are known collectively as the “Otay Smear,” which is characterized as an extensive, yet scant, surface lithic scatter primarily consisting of cores and debitage, and occasionally a few tools (Gallegos et al. 1998). The natural abundance of cobble materials associated with the Lindavista and Otay formations, that are well suited for making stone tools, accounts for the extensive nature of this lithic scatter. 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. Major habitation sites contain knives, atlatl dart points, milling and cobble tools, cores, drills, hammerstones, scrapers, beads, pendants, bone, and shell, and have ranged in age between 9,500 years and 300 years BP (Gallegos et al. 1998; Smith et al. 2004, 2006). Metavolcanic quarries are located in the Jamul and San Ysidro mountains near outcrops of Santiago Peak Volcanic materials. The quantity and variety of sites in the Otay Mesa region attests to the availability of tool stone materials, plant and animal resources, and water that provided sustenance to prehistoric populations.

Radiocarbon information is available for only 22 of the 365 sites recorded in the Otay Mesa Management Area, and less than one percent of these resources have been preserved in open space (Gallegos et al. 1998). Only five habitation sites (SDI-I-222, SDI-4281, SDI-8654, SDI-11,424, and SDI-10,198) and two quarry sites (SDI-10,666 and SDI-10,667) are in open

space easements or are undeveloped and available for long-term preservation since they are located on state or county land (Gallegos et al. 1998). The preserved sites, however, do not represent the temporal range and diversity of prehistoric cultural resources. Consequently, it is recommended that a minimum of 10 percent of all sites within river valleys, canyons, and in the Santiago Peak Volcanic formation be identified for preservation (Gallegos et al. 1998). Many of the other sites have been destroyed by development (*e.g.*, roads, residences, or industrial), or their current status is unknown. Nearly all have been impacted by agriculture activities, including plowing, disking, and grazing.

8.4.2 Cumulative Projects

A total of 18 projects have been identified within a three-mile radius of the proposed Otay Ranch Village 13 Project (Table 8.4–1). Most of these projects have centered on residential development, although other projects have included a transmission line, a commercial quarry, public service infrastructure that involved sewer and water lines, cell towers, the Olympic Training Facility, and planning studies. Collectively, these projects reflect the eastward expansion of planned residential communities and the concomitant need for improved and additional infrastructure. In addition to modern development, much of the area has been previously disturbed by agriculture activities, including plowing, disking, and grazing. Over eight linear miles and 33,088.9 acres in the Otay Ranch Village 13 project area, roughly the area around the Upper and Lower Otay reservoirs, have been subjected to cultural resource investigations in the past 28 years. Nearly all of the land within a three-mile radius of the current project has been surveyed for cultural resources, and several archaeological sites located within this survey area have been identified, tested, and evaluated for significance. A portion of one prehistoric temporary camp, SDI-7976, located in a one-mile radius of the project area, has been subjected to data recovery (Buisse and Smith 2003).

Additionally, there have been other residential development projects a little farther than one mile west of the current project area that have produced archaeological investigations. In particular, the Rolling Hills Ranch Project, located near the upper portion of the Salt Creek drainage, resulted in the recordation and testing of 31 sites; 11 of these sites were mitigated through data recovery and several were preserved in open space (Gallegos et al. 1989; Smith et al. 2004). Other residential development projects, including Rancho San Miguel (Smith et al. 2006) and Sweetwater River (Byrd and Serr 1993), have also resulted in the identification, evaluation, excavation, study, and preservation of archaeological sites.

TABLE 8.4-1

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 (APC 1980); Archaeological Mitigation for Site SDI-7976 for III Woods Project (Buysse and Smith 2003); Otay Ranch Survey and Cultural Resource Evaluation (Carrico et al. 1993); Otay Ranch EIR (Ogden 1992); Survey and Cultural Resource Evaluation for Off-Site Salt Creek Parcels (Pigniolo 1991); Otay Survey (May 1991); Eastlake III Testing (Gallegos et al. 1989); Janal/Fention Ranch Testing (Cooley 1989); Cultural Resource Evaluation at Otay Ranch Village 3 and a Village Portion of 4, Village 8 East, and Village 10 (Smith and Stropes 2013)	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, 28, 29, 30, 32, and 33	Approx. 25,066.9 acres
Energy	Southwest Powerlink Cultural Resource Management Plan (Tonsend 1984)	1	Linear (Sections 28, 29, and 30)	3 miles
Industrial	Daley Rock Quarry Survey (Hector 1988); Daley Rock Quarry EIR (McIntyre 1992); Daley Rock Quarry Testing (Smith and Pierson 1996)	3	Sections 4 and 34 (east of project area)	20 acres
Planning	Sweetwater Community Plan Update (Co. SD 1988); Otay Lakes Fencing Biological and Cultural Resources Constraint Study (Tamara 2000)	2	Multiple (southwest of project area); Multiple (south of project area)	8,000 acres; 3 miles
Public Infrastructure	Honey Springs Off-Site Water Line (Chace 1983); Otay Water Treatment Plan Upgrade Survey (Kyle 2000); Cultural Resource Assessment, AT&T Wireless Service Facility (Duke 2002)	3	Otay Lakes Road; Unsectioned (around reservoirs); west of Lower Otay Reservoir	2 acres; 2 miles

8.4.3 Archaeological Sites in the Immediate Project Area

There have been 266 prehistoric archaeological sites and 72 historic archaeological sites recorded within a three-mile radius of the Otay Ranch Village 13 Project (Figure 8.4–1, Table 8.4–2, and Table 8.4–3). For prehistoric sites, surface lithic scatters, temporary camps/artifact scatters, quarries, bedrock milling, and habitation sites are the primary types of sites identified in, or near, the project area. The sparse, surface scatters can be characterized as part of the “Otay Smear,” and are generally located atop the mesa. The other sites (quarries, temporary camps/artifact scatters, and habitation locales) are located along the canyon and drainages that feed into the Otay or Tijuana rivers. For historic sites, historic structures, homesteads, and rock features (walls, alignments, and cairns) are the most common sites types within a three-mile radius of the project APE. One key factor that must be considered as part of this cumulative impact study is that no records exist that provide an inventory of archaeological sites that were destroyed by the Otay flood of 1916, or those sites covered by the Upper and Lower Otay reservoirs after 1920. One can only speculate that several archaeological resources would have been located along the floodplain of the Otay River where it intersects the drainage from the Proctor Valley. This modern/historic development is certainly a contributing factor to any discussion of cumulative impacts to this area; however, there is no data available from which to assess the actual effect upon cultural resources represented by the reservoir.

Figure 8.4-1
Cumulative Study Sites by Type
(Deleted for Public Review; Bound Separately)

TABLE 8.4-2
Summary of Prehistoric Sites Within Three Miles of the Otay Ranch Village 13 Project

Site Type	Disturbances	Total	Significance	Status
Habitation	Plowing and Erosion	3	2 Significant 1 Not Evaluated	1 Intact 1 Destroyed 1 Mitigated/Destroyed
Temporary Camp/Artifact Scatter	Roads, Plowing, Erosion, Modern Trash, and Historic Disturbance	55 (17/38)	8 Significant 23 Not Significant 23 Not Evaluated 1 Unknown	40 Intact 14 Destroyed 1 Likely Destroyed
Quarry	Roads, Plowing, Erosion, Modern Trash, and Historic Disturbance	24	8 Significant 4 Not Significant 12 Not Evaluated	23 Intact 1 Destroyed
Bedrock Milling	Roads, Plowing, Erosion, Modern Trash, and Historic Disturbance	15	15 Not Evaluated	14 Intact 1 Unknown
Non-Site (Lithic Scatters/Isolates)	Roads, Plowing, Erosion, Modern Trash, Reservoir Construction, Fence Construction, and Grazing	169 (133/36)	87 Not Significant 82 Not Evaluated	154 Intact 10 Destroyed 1 Likely Destroyed 4 Unknown

Sparse, Surface Lithic Scatters (“Non-Sites”) and Isolates

Most prehistoric sites (N=133; 50.00 percent) in a three-mile radius consist of sparse lithic scatters that are mostly represented by lithic production waste and few, if any, tools. Gallegos et al. (1998) refers to these sparse lithic scatters as “non-sites,” since the surface artifact density ratio (number of artifacts divided by site size) is less than 0.03 and they lack a subsurface deposit. Surface lithic scatters, or “non-sites,” are generally found along the drainages of the lower slopes of the Jamul and San Ysidro mountains, which contain outcrops of Santiago Peak Volcanics, the metavolcanic material used for tools by prehistoric groups. These sparse lithic scatters represent small, task-specific locations that are part of a regional pattern of resource acquisition associated with habitation sites elsewhere.

Sparse, surface lithic scatters, or “non-sites,” are the most common type of cultural resource identified on the mesa and in the immediate project vicinity. Sparse, surface lithic

scatters represent prehistoric actions of knappers testing cobbles to determine the suitability of the interior lithic material, and possibly the production and use of a tool on the spot for a one-time event. The research potential of these “non-sites” is virtually non-existent because the site boundaries are often difficult to define, they cannot be compared with other sites or loci since they cannot be dated, and they cannot be said to represent a statistical sample of either lithic production waste or tools (Gallegos et al. 1998:51). Furthermore, archaeological tests of sparse lithic scatters have demonstrated that these site types lack research potential and Native American concerns and, hence, are not eligible for inclusion in the CRHR or NRHP. Cumulative disturbances to these sparse lithic scatters, or “non-sites,” include plowing, roads, erosion, reservoir construction, fence construction, and grazing (Table 8.4–2). Several “non-sites” have been destroyed as the result of development projects conducted within a three-mile radius of the proposed project. The current review of the status of these sites indicates that 125 are likely intact, six have been destroyed, one has likely been destroyed, and one is unknown.

In addition to lithic scatters, a total of 36 (13.53 percent) isolate sites have also been identified within the study area. An isolate is the occurrence of one or two artifacts and, by State of California definition, does not constitute a site. As a result, isolates are not considered significant cultural resources. It should be noted that in the past, some isolates have been given State of California site numbers. A review of the current status of isolates within the study area indicates that 29 may be intact, four are destroyed, and three are unknown.

Temporary Camps/Artifact Scatters

The second most common site type, temporary camps/artifact scatters, is defined as having three artifacts every 100 square meters, some bone and shell, and the lack of a significant subsurface deposit (Gallegos et al. 1998). Seventy-one (31 temporary camps and 40 artifact scatters) have been recorded in the Otay Mesa Management Plan Area (Gallegos et al. 1998). However, none of the temporary camps/artifact scatters identified in the Otay Mesa Management Plan Area are within a one-mile radius of the proposed project. The closest significant temporary camp included in the Otay Mesa Management Plan (SDI-8654, Locus C) is over three miles south of the current project boundaries. This locus was tested and found to contain some shell, six core/cobble tools, two flake tools, four cores, and 68 pieces of debitage (Gallegos et al. 1998:41); it remains partially intact.

For the current study area, there have been several temporary camps/artifact scatters (N=17/38) identified within a three-mile radius of the Otay Ranch Village 13 project area. In the situations where the temporary camps/artifact scatters have been formally tested and evaluated, these sites have almost always been recommended as significant. Many of the temporary camps/artifact scatters are located along the secondary, intermittent streams that feed into a major drainage of the Otay River. Temporary camps/artifact scatters in the vicinity of the project have suffered similar modern and historic disturbances as those of the sparse lithic scatter, although modern trash dumping has also affected this site type (Table 8.4–2). The status of most

temporary camps/artifact scatters in the project area, or in the vicinity of the project area, indicates that most of these site types are presently intact, although modern disturbances have likely had a deleterious effect on the subsurface integrity of site deposits. There are 17 temporary camps and 38 artifact scatters within a three-mile radius of the proposed project area that are intact (Table 8.4–2). A review of these sites when taken in total (N=55; 20.68 percent) indicates that 40 of the sites are intact, 14 have been destroyed, and one has likely been destroyed.

Quarries

The next most common site type within a three-mile radius of the project APE, are quarries (N=24). Quarries include any location where the principle activity consisted of the procuring and/or extraction of rock for manufacture into lithic tools, or the reduction of that raw material into readily transportable forms. Quarry sites may be extensive and involve actual mining of lithic material, or they may include areas where nodules from outcrops were tested for suitability (Wilke and Schroth 1989). In general, quarry sites do not contain artifacts associated with habitation activities such as pottery, bedrock milling tools/features, or faunal remains, although a limited number of processing artifacts may be present to support general subsistence behaviors. For the current study area, many of the site record forms reviewed for quarry sites indicate that the majority of these sites represent opportunistic extraction locales where geologic materials are readily exposed along canyons, hilltops, and in nodule form in surrounding drainages. Of the 24 quarries (9.02 percent) identified within the study area, 23 are intact and one has likely been destroyed.

Bedrock Milling

For the current study, a total of 15 bedrock milling sites were identified within a three-mile radius of the project APE. In general, bedrock milling sites are non-movable features located on large boulders or bedrock outcrops that contain one or more milling features, such as mortars, basin metates, or milling slicks. Although a bedrock milling site may be considered a specific task site, a surface and/or subsurface deposit of artifacts may be present. If a complex archaeological assemblage is identified as being associated with a bedrock milling feature, then the site must be reconsidered as representing a habitation site. A review of the site forms associated with the bedrock milling sites within the study area indicates that the majority of the bedrock milling sites recorded for the area are faint slicks that may or may not actually represent active bedrock milling use. The identification of many of these features appears to be spurious at best. Of the 15 bedrock milling sites (5.64 percent) identified within the study area, 14 are intact and the status of one site is unknown.

Habitation

The habitation site is the least common site type on the Otay Mesa and in the immediate project vicinity. However, the habitation site is the most important as it typically contains information that can be used to address a range of research issues, including chronology, subsistence, settlement, trade, and technology. Habitation sites are the location where people conducted subsistence, utilitarian, and ceremonial activities for an extended period. Consequently, the cultural material from this type of site is varied and abundant, typically containing multiple tool types and lithic materials, rare materials and artifacts, animal bone, and marine shell. Three habitation sites (1.13 percent) (Table 8.4–2) have been found in a three-mile radius of the proposed project. A review of these sites indicates that one has been mitigated/destroyed, one is intact, and one has likely been destroyed.

Historic Sites

A review of the 72 historic sites within the study area identified 22 historic structures, 20 historic homesteads, 15 historic rock features, seven historic artifact scatters, six historic foundations, one historic refuse deposit, and one historic isolate (Table 8.4–3). The majority of these sites relate directly to the historic settlement, farming, and abandonment of the region driven by water availability cycles and national economic cycles between 1870 and 1940. Areas adjacent to the project were settled during the Spanish (1769 to 1821) or Mexican (1821 to 1846) periods, but the Otay region remained relatively undeveloped until the granting of the Rancho Otay and Rancho Jamul. During the Spanish period, Otay Mesa was placed under the jurisdiction of the Mission San Diego de Alcalá. Ranchos in the vicinity of the study area included El Rancho del Rey and El Rancho de la Nación (site of National City and Chula Vista). While ranchos were located within close proximity to the APE, the development of Rancho Otay and Rancho Jamul were important to the growth of agriculture in the area. Rancho Jamul supported cattle and horses beginning in 1831, when Don Pío Pico received the land grant, and crops such as Sudan grass, alfalfa, barley, oranges, and lemons throughout the following one hundred thirty-seven years (Moyer 1969). Rancho Otay also raised cattle off and on as ownership changed hands over time, boasting around 500 cattle on 20,000 acres when Rancho Otay became Otay Ranch (Moyer 1969).

With the passage of the Homestead Act in 1862, American settlers could establish freehold titles to 160 acres of undeveloped land. As a result, thousands seeking a new life and free land moved west and established homesteads and farms. The first settlers arrived in the region in 1870 and began working wheat, barley, corn, tomatoes, and beans throughout Otay, sustained by water pumped from nearby streams and the Otay River. Residents of the area were also dependent on the storage of precipitation and wells for their water supply. The historic occupation of Otay has therefore been driven by agriculture and the availability of water between 1870 and the 1940s. Between 1900 and 1920, a drought brought a decline in the number of residents living in Otay compounded by a nationwide agricultural depression. The Great

Depression of the 1930s continued to cause economic hardship and many of the rural farm communities in San Diego County, including Otay, disappeared or were greatly reduced. The historic availability of water in and around the project APE must be considered when taking into account the historic site types within the study area.

A review of the current status of the 72 historic sites within the study area indicates that 51 are likely intact, 16 have been destroyed, and five have been likely destroyed. The majority of the destroyed sites include five artifact scatters and five historic homesteads. Given the low number of historic sites within the project APE (N=4), and that only one of these sites (SDI-12,362/H, an isolate historic bottle) will be impacted by the current project, cumulative impacts for historic sites are considered not significant. As a result, the project will not result in any cumulative impact to the historic narrative of the Otay region.

TABLE 8.4-3

Summary of Historic Sites Within Three Miles of the Otay Ranch Village 13 Project

Site Type	Disturbances	Total	Significance	Status
Historic Homestead	Erosion	20	2 Significant 5 Not Significant 12 Not Evaluated 1 Unknown	15 Intact 5 Destroyed
Historic Structure	Erosion	22	1 Not Significant 21 Not Evaluated	15 Intact 3 Destroyed 4 Likely Destroyed
Rock Feature	Roads, Plowing, Erosion, and Modern Trash	15	1 Not Significant 14 Not evaluated	15 Intact
Artifact Scatter	Roads, Plowing, Erosion, and Modern Trash	7	3 Not Significant 4 Not Evaluated	1 Intact 5 Destroyed 1 Likely Destroyed
Historic Foundation	Roads, Plowing, Erosion, and Modern Trash	6	6 Not Evaluated	4 Intact 2 Destroyed
Refuse Deposit	N/A	1	1 Not Significant	1 Destroyed
Isolate	N/A	1	1 Not Significant	1 Intact

8.4.4 Otay Ranch Village 13 Sites

Seventy-six prehistoric archaeological sites are located within the Otay Ranch Village 13 Project. 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 placed into open-space easements. The significant sites (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) to be directly impacted are defined as habitation and temporary camps/artifact scatters. The assumed-significant sites that will possibly be indirectly impacted are located on the northern edges of the Otay Ranch Village 13 development; thus, indirect impacts can be mitigated through the use of temporary fencing and monitoring. The significant sites to be directly impacted by the Otay Ranch Village 13 Project are located along the lower slopes of the Jamul Mountains and are closest to the Otay River.

These sites are in addition to the 14 habitation sites identified by Gallegos et al. (1998) on the Otay Mesa, which represent habitation locales and temporary camps that are positioned on the uppermost drainage of the Otay River, closest 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 campsites within the current project area and those in a three-mile vicinity (Table 8.4–2). Given the continued loss of habitation sites and temporary camps in the Otay Mesa region, these previous impacts and the foreseeable direct impacts of the Otay Ranch Village 13 Project will result in a cumulative impact to prehistoric resources. However, mitigation can be implemented to reduce the effect of the proposed development by ensuring the scientific recovery and study of the significant sites to be directly impacted by the proposed project. This will ensure that important information about prehistory is not lost. Therefore, since the actions of the proposed project can be mitigated through data recovery, curation, and reporting, the Otay Ranch Village 13 Project will not have a significant cumulative impact to cultural resources.

Fifty-one of the prehistoric sites identified within the Otay Ranch Village 13 Project can be characterized as “non-sites,” and are not significant. Nearly all of these sparse lithic scatters (N=40), or “non-sites,” will be directly impacted by the proposed development, although 11 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. Nonetheless, cumulative impacts to this site type are not considered significant given that this site type lacks research potential or Native American concerns.

8.4.5 Summary

In summation, the current status of most (N=260; 97.74 percent) of the 266 prehistoric sites in a three-mile radius of the proposed project area is relatively certain based on aerial photography and remote sensing as of 2012. Despite the conditions observed in the aerial

imagery, it is likely that all of these sites have been impacted to a varying degree by roads, agriculture, and erosion. Twenty-eight sites, including one habitation locale, 15 artifact scatters/temporary camps, 11 surficial artifact scatters, isolates, or “non-sites,” and one quarry have been destroyed or have likely been destroyed in a three-mile radius of the project area. Two hundred and thirty-two sites, including one habitation locale, 40 temporary camps/artifact scatters, 23 quarries, 14 bedrock milling sites, and 154 surficial artifact scatters, isolates, or “non-sites,” remain intact in a three-mile radius of the proposed project.

Based on the study area, it is clear that only a limited number of sites have been destroyed within a three-mile radius of the APE (10.53 percent). Despite this, given the loss of prehistoric resources, especially habitation sites and temporary camps, in the generally vicinity and on the Otay Mesa from past projects, in combination with the previous impacts of roads, plowing, and erosion, the proposed Otay Ranch Village 13 development is considered to have a cumulative impact on prehistoric cultural resources since it represents the continued destruction of nonrenewable cultural resources. The development of the proposed Otay Ranch Village 13 Project will impact nine significant cultural resources, representing a cumulative impact to prehistoric cultural resources that significantly contribute to the diversity and temporal range of prehistoric sites in the Otay Mesa region. Furthermore, these sites are positioned in the upper drainages of the Otay River and, as such, are ideally suited for answering important questions regarding subsistence and settlement, chronology, technology, and trade.

Mitigation can be implemented to reduce the cumulative impact of the proposed development by ensuring the scientific recovery, study, documentation, and curation of these significant sites to be impacted. Important information about prehistory will not be lost through well planned and executed mitigation that documents and gathers all data from these irreplaceable and nonrenewable resources. Consequently, since the actions of the proposed development can be mitigated through data recovery, curation, and reporting, the cumulative impact of the proposed project will be reduced to a level below significant.

9.0 GENERAL MITIGATION MEASURES

The proposed development of Otay Ranch Village 13 will impact cultural resources. As noted in the impact analysis section, it is assumed that the sites within the limits of grading and brushing will be subjected to impacts as a result of project approval. For the purpose of determining appropriate impact mitigation measures, the impacts to cultural resources will be considered on a project-wide basis. The phasing of the project by tentative maps does not affect the net result of the eventual direct and indirect impacts to the cultural resources. Where significant archaeological sites will be impacted, measures will be required to mitigate the potential impacts to a level below significant. In general, the mitigation of impacts to important archaeological sites may be achieved through avoidance (preservation) or data recovery. Because cultural resources are finite, avoidance and preservation are preferred mitigation measures. Avoidance would require that cultural resources be set aside and preserved in open space easements. The sizes of the easements would be based upon the boundaries of the sites or the areas of significance, as defined by the testing program.

Where development will impact significant sites and avoidance is not feasible, mitigation of potential impacts may be achieved through data recovery. With few exceptions, the significance of the important sites was rooted in the information potential represented by the subsurface deposits of cultural materials. Therefore, the research potential of the sites may be realized through the accumulation of data through excavations and the analysis of artifacts and provenience information.

The necessary treatment of cultural resources within Otay Ranch Village 13 is discussed in general terms below and in greater detail provided in Section 10.0, which lists the mitigation measures for all of the significant cultural resources. The project development design is shown in Figures 2.0–3 and 2.0–4 and the locations of all significant cultural resources within the project have been plotted in Figure 8.0–1. Figure 9.0–1 is a map that graphically displays the proposed cultural resources mitigation.

Figure 9.0-1
Cultural Resources Mitigation Map
(Deleted for Public Review; Bound Separately)

9.1 Recommendations

In accordance with Section 15064.5 of CEQA and the guidelines of the County of San Diego, the sites evaluated as important, and which will be adversely impacted, will require mitigation measures in the form of avoidance (preservation) and/or data recovery programs to reduce the significance of the impacts. Preservation is the preferred method to reduce adverse impacts to significant resources. In order to reduce impacts to a level below significant, those areas of the project that represent direct impacts could be redesigned to avoid the significant sites; data recovery programs will be necessary at those sites which are important and will be impacted, but cannot be preserved. Where preservation is not feasible and data recovery is selected, the data recovery programs must include adequate subsurface samples of the significant deposits to meet the requirements for data recovery. The general mitigation proposal is provided in Section 9.2, while specific project mitigation procedures are provided in Section 9.3, and site-specific mitigation measures are provided in Section 10.0.

9.2 Proposed Mitigation Measures

Proposed mitigation measures for the Otay Ranch Village 13 Project include preservation and data recovery. Impact mitigation guidelines are summarized below:

- (1) All sites, regardless of significance status, that are located outside of the development area will be placed in protective open space. The sites may be included in general project-wide open space preserves, in which case, site-specific easements would not be necessary. For most of the sites that will be preserved within the development envelope, easements will be dedicated for individual sites, unless incorporated within large biological or open space areas. The open space designation must include language that will prohibit 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 may be necessary to ensure that the sites are not impacted by maintenance or landscaping. During grading or brushing, temporary fences may be required by the monitoring archaeologist to provide a physical barrier between the grading machinery and adjacent significant cultural resources that are designated for preservation or eventual data recovery. If a trail system is created to access the open space areas, all trail construction plans should be reviewed by the consulting archaeologist and the County of San Diego to determine if trail construction or use would affect any cultural resources. Measures to protect resources may be needed to avoid impacts.
- (2) In some cases, the mitigation of adverse impacts may be achieved through the implementation of a data recovery plan. Sites for which this type of mitigation program would be appropriate are those deemed to be significant for their research

potential. All of the sites that have been identified as significant and were not able to be preserved can be included in the data recovery program. For those four significant sites (SDI-12,368, SDI-16,312, SDI-16,326, and SDI-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 a 10-foot-wide area 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. The data recovery program is provided in Section 10.0.

- (3) Because of the large number of cultural resources within the project and the fact that past uses or dense ground cover may have masked additional sites, all brushing and grading within the Otay Ranch Village 13 Project area shall be monitored. The monitoring of the brushing and grading shall be conducted 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 will be temporarily halted or redirected to another area while the nature of the discovery is evaluated. Any resources that may be encountered will require testing to determine their significance. If the testing demonstrates that a resource is significant, then a data recovery program will be necessary.
- (4) The mitigation of impacts, whether preservation through open space or data recovery, for the cultural resources within Otay Ranch Village 13 will likely be accomplished in phases. Each of the resources within the project is listed in Table 8.0–1, and for each site, data is provided to denote significance and impacts. The timing for mitigation of individual sites has not yet been determined, but the sequence of data recovery is not relevant to the overall mitigation plan.

9.3 Project-Specific Mitigation Measures

The general categories of measures to mitigate potential impacts to cultural resources within the Otay Ranch Village 13 Project are provided below:

- (A) **Mitigation of Direct Impacts to Sites Recommended as Significant Based Upon CEQA Guidelines:** Within the project, nine sites have been tested and recommended as significance based upon guidelines set forth in CEQA. All nine of

these sites are located within the proposed construction zone. The mitigation measures recommended for the nine significant sites are discussed in Section 10.0.

TABLE 9.3-1
Recommended Mitigation for Significant Sites Directly Impacted by the
Otay Ranch Village 13 Project

Site	Recommended Mitigation
SDI-11,406	Data Recovery
SDI-11,409	Data Recovery
SDI-12,368*	Data Recovery
SDI-12,371	Data Recovery
SDI-16,303	Data Recovery
SDI-16,309	Data Recovery
SDI-16,312*	Data Recovery
SDI-16,326*	Data Recovery
SDI-16,332*	Data Recovery

**Only those portions of these sites that fall within the development envelope, plus a buffer area within the open space beginning at the edge of the development envelope and extending 10 feet into the open space preserve, will be included in the data recovery program. Portions of these sites that will not be disturbed shall be preserved in open space, including the buffer areas that were sampled as part of the data recovery program to provide mitigation for potential indirect impacts.*

- (B) Mitigation of Direct Impacts to Non-Significant Sites:** The following sites have been tested and evaluated by both CEQA and County of San Diego RPO criteria. All of these sites were evaluated as retaining limited significance; however, following testing procedures, these sites are no longer likely to have research potential. No mitigation measures are recommended for these sites.

TABLE 9.3-2
Recommended Mitigation for Non-Significant Sites Directly Impacted by the
Otay Ranch Village 13 Project

Site		Recommended Mitigation
SDI-I-222	SDI-11,389	None
SDI-11,391A	SDI-11,391B	
SDI-11,391C	SDI-11,405	
SDI-11,407	SDI-11,408	
SDI-12,336	SDI-12,338	
SDI-12,340	SDI-12,341	
SDI-12,342	SDI-12,343	
SDI-12,353	SDI-12,355	
SDI-12,356	SDI-12,357	
SDI-12,358	SDI-12,359	
SDI-12,360	SDI-12,361	
SDI-12,362/H	SDI-12,363	
SDI-12,364	SDI-12,365	
SDI-12,367	SDI-12,369	
SDI-12,370	SDI-12,372	
SDI-16,304	SDI-16,305	
SDI-16,306	SDI-16,307	
SDI-16,310	SDI-16,311	
SDI-16,329	SDI-16,330	
SDI-16,331	SDI-16,333	
SDI-16,334	SDI-16,336	
SDI-16,390	SDI-16,391	

(C) **Measures Needed for Assumed CEQA-Significant Sites That Will Not Be Impacted:** Mitigation measures will not be required at the 10 sites that are located outside of the area of development that will not be affected by direct or indirect impacts. These sites will be placed in open space easements to protect the cultural resources from any future impacts. The open space preserve will be managed by County of San Diego Parks and Recreation. A system of trails is planned for the open space preserve. The construction of trails will be monitored by an archaeologist to ensure that these 10 sites will be avoided and not directly or indirectly affected by trail construction.

TABLE 9.3-3
Recommended Mitigation for Assumed CEQA-Significant Sites That Will Not Be Impacted
by the Otay Ranch Village 13 Project

Site	Recommended Mitigation
SDI-16,308	Open Space Easement
SDI-16,314	Indirect Mitigation Required*
SDI-16,315	Indirect Mitigation Required*
SDI-16,317	Indirect Mitigation Required*
SDI-16,318	Open Space Easement
SDI-16,320	Open Space Easement
SDI-16,321	Open Space Easement
SDI-16,322	Open Space Easement
SDI-16,324	Open Space Easement
SDI-16,325	Open Space Easement

**Temporary fencing will be required during grading for these sites due to their close proximity to development*

9.4 Mitigation Summary

Otay Ranch Village 13 contains 79 recorded cultural resources. Of this total, 53 (nine significant and 44 limited significance) sites will be directly impacted and 26 (10 assumed CEQA-significant and 16 limited significance) sites will not be directly impacted. The applicable significance criteria, site attributes, and proposed mitigation measures are listed for all significant sites in Table 10.0-1. The following list of mitigation recommendations includes all of the sites that were identified as significant.

- (1) The following 10 assumed CEQA-significant sites will not be directly impacted. These sites will be placed in permanent open space easements for preservation and to avoid future indirect impacts.

SDI-16,308	SDI-16,320
SDI-16,314	SDI-16,321
SDI-16,315	SDI-16,322
SDI-16,317	SDI-16,324
SDI-16,318	SDI-16,325

- (2) Ten prehistoric sites have been determined to be important and will require preservation to avoid potential impacts. The open space is planned as part of the general open space preserve, or as open space easements in the northern, central, and eastern areas of the project. The configuration of all open space areas have

been illustrated in Figure 9.0–1. As noted previously, two methods of preservation will be part of the mitigation plan. The area of the “Preserve” (as noted in Figure 9.0–1) is actually part of the Otay Ranch Preserve. The Otay Ranch Preserve is present in various areas throughout the 23,000+-acre original footprint of Otay Ranch, and 1,089 acres of Otay Ranch Village 13 will be added to this “Preserve.” These lands have been, or will be, offered to the POM, which is a joint management arrangement between the City of Chula Vista and the County of San Diego. The “Preserve” is designated as permanent open space that contains trails for public access. Open Space Easements (OSEs) are preserved land, but are not part of the “Preserve.” OSEs may include slopes that have been graded and landscaped or areas of native vegetation with cultural resources that will not be disturbed. The OSEs will be owned and maintained by the Homeowner’s Association (HOA). The following sites will be preserved within the Otay Ranch “Preserve.” Note: The sites starred (*) are significant sites, not tested; the other sites have been tested and determined to fall in the “limited significance” category.

SDI-11,388	SDI-16,317*
SDI-11,390H	SDI-16,318*
SDI-11,414	SDI-16,319
SDI-12,339A	SDI-16,320*
SDI-12,339B	SDI-16,321*
SDI-12,366	SDI-16,322*
SDI-16,308*	SDI-16,323
SDI-16,313	SDI-16,324*
SDI-16,314*	SDI-16,325*
SDI-16,315*	SDI-16,327
SDI-16,316	SDI-16,328

The sites to be preserved within OSEs are listed below:

SDI-11,404	SDI-12,354H
SDI-11,391H	SDI-16,335

- (3) The following nine CEQA-significant sites are located either wholly or partially within the limits of grading and brushing and will require mitigation measures. The specific measures are described for each site in Section 10.2. In addition to the text

descriptions of the proposed mitigation requirements, the data recovery mitigation program for these nine significant sites is also summarized in Table 10.0–1.

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

- (4) All of the sites that will be subjected to data recovery and test unit excavations will also be subjected to backhoe trenching following the test unit excavations to search for any unusual features or anomalies that would need to be further examined. The number and locations of the trenches to be excavated at each site will be determined 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 will 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 SDI-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 a 10-foot-wide area 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.
- (5) For all of the sites that will be subjected to data recovery, the laboratory analyses and special studies for this site will be provided in the methodology discussion.
- (6) Native American representatives will be contacted to participate in the mitigation program.
- (7) Cultural materials recovered from the project shall be placed in permanent storage at the SDAC or another San Diego facility that meets federal standards per 36 CFR Part 79, and therefore would be professionally curated and made available to other archaeologists/researchers for further study.

10.0 DETAILED MITIGATION PLAN AND DATA RECOVERY PROGRAM FOR OTAY RANCH VILLAGE 13

The proposed development of Otay Ranch Village 13 will directly impact all or part of nine archaeological sites (Table 10.0–1) evaluated as significant cultural resources. In order to comply with CEQA regulations and the County of San Diego Guidelines for Determining Significance (2007) for the treatment of potentially impacted cultural resources, the following mitigation plan was developed. The first preference is always for the protection and preservation of significant sites. The goal of this plan is the preservation of valuable, nonrenewable cultural resources wherever possible and the successful mitigation of direct impacts where preservation is not feasible through data recovery and scientific investigation.

The archaeological study for Otay Ranch Village 13 includes information regarding the 79 sites identified within the project. The testing of these sites provided information demonstrating that the property was occupied first by the Milling Stone Horizon (Archaic Period), and again during the Late Prehistoric Period by the Kumeyaay Indians. The artifact collection from the cultural resource sites within the project comprises a limited representation of prehistoric use, and probably reflects the focus of most activity upon the exploitation of lithic metavolcanic resources, which are common in the project area.

A total of 79 archaeological resources were identified within the Otay Ranch Village 13 Project area. Of these, 69 sites were tested and evaluated for significance based upon CEQA guidelines and County of San Diego RPO criteria. The remaining 10 sites were located outside of the proposed construction zone, but within the project area; these sites were not tested due to their location outside the construction zone. Nine (all prehistoric) of the 69 sites that were evaluated were recommended as significant based upon CEQA guidelines. The remaining 60 evaluated sites have been determined to be of limited significance and do not retain any further research potential. None of the 69 tested sites were found to be significant based upon the County of San Diego's RPO criteria. The sites identified as significant prehistoric resources based upon CEQA guidelines represent a substantial prehistoric presence in the project area. The responsibility for the proper treatment of these cultural resources is an important element of the environmental planning for the project.

The mitigation program for the Otay Ranch Village 13 Project will include the preservation of 10 sites assumed to be significant and located outside the development zone, and the implementation of a data recovery program at nine significant sites located in the development area (Figure 9.0–1). In addition to the 10 significant sites to be preserved, 16 sites evaluated as having "limited significance" will also be preserved. Of the nine significant sites that will be included in the data recovery program to mitigate direct impacts, four of those sites (SDI-12,368, SDI-16,312, SDI-16,326, and SDI-16,332) have portions that also fall outside of the development zone and those areas will be preserved in open space. For those four significant sites 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 a 10-foot-wide area 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.

TABLE 10.0–1
Summary of Data Recovery Impact Mitigation Measures for Significant Sites

Site Designation	Applicable Significance Criteria	Size of Significant Subsurface Deposit (m ²) Impacted	Proposed Test Units per Phase (m ²)			Total Square Meters (m ²) Sampled	Proposed % of Significant Subsurface to be Excavated
			Phase 1	Phase 2	Phase 3		
SDI-11,406	CEQA	858	21	4	Likely	25	3.0
SDI-11,409	CEQA	10,637	266	53	Unlikely	319	3.0
SDI-12,368*	CEQA	1,735	48	4	Unlikely	47	2.7
SDI-12,371	CEQA	781	20	4	Unlikely	24	3.1
SDI-16,303	CEQA	67	2	2	Unlikely	4	6.0
SDI-16,309	CEQA	5,996	137	16	Unlikely	153	2.8
SDI-16,312*	CEQA	1,618	41	3	Unlikely	44	2.7
SDI-16,326*	CEQA	860	30	4	Likely	26	3.0
SDI-16,332*	CEQA	924	30	2	Unlikely	25	2.7

*Sample size includes areas within the 10-foot-wide buffer strip inside the open space easement that will be included in the data recovery program to mitigate potential indirect impacts

10.1 Data Recovery Program

The data recovery program proposed for the significant sites located in the development zone will reduce the impacts to these resources to a level less than significant. The sites to be included in the data recovery program are listed in Table 10.0–1. For each of the nine CEQA-significant sites that will be directly impacted, mitigation can be achieved through data recovery because the principal aspect of the significance of each of these specific sites is directly related to the research potential and information value represented in the cultural deposits. Successful mitigation of impacts is contingent upon the development and execution of a comprehensive data recovery program. This program will be based upon the following premise:

The significant sites that will be impacted have been identified as significant according to CEQA, which stipulates that their importance lies in the information potential represented in the individual cultural deposits.

If the importance of a site is directly associated with the information potential it retains, then identifying the range and types of data available at the site and the regional archaeological objectives that can be furthered with the addition of data from the site will provide the foundation for achieving mitigation through data recovery. As will be demonstrated in subsequent sections, data recovery will suffice to mitigate direct impacts to the specific cultural resources identified as CEQA-significant, but that were not able to be preserved, assuming that the calculated sample sizes can be supported by the applicant. The applicant has determined that the data recovery program will be funded to the level necessary to mitigate impacts. Should this commitment change, the use of preservation will be necessary to mitigate impacts.

In the following sections, specific mitigation measures will be discussed on an individual basis for all sites tested and identified as significant. Actual research issues and data requirements are also discussed in Section 10.4: Research Design.

10.2 General Mitigation Procedures for Data Recovery

As noted previously, for those significant sites that cannot be feasibly preserved, and for which the applicant has committed to the funding and support of a data recovery program to mitigate impacts, the success of the program is contingent upon extracting a sample that will exhaust the data potential of the sites. The County of San Diego has not adopted a policy that identifies exactly 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. The County will typically anticipate that the first phase of a data recovery program will include a sample of 2.5 percent of the subsurface deposit. Data recovery is commonly discussed in terms of sampling percentages, referring to the percent of the area of the significant subsurface deposit that will be excavated. The general approach for achieving the mitigation of impacts through data recovery will begin with an indexing of the site. The site index will 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 will utilize a static grid to cover each site, with a sample unit placed in each grid cell. Utilizing a grid will produce a very structured, non-random, 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 2.0 percent of that area will be excavated. For most sites in the data recovery program for this project, the area excavated will be between 2.5 and 3.0 percent of the significant subsurface deposit (area of greater research potential). This volume of recovery will be sufficient to successfully pursue the research objectives of the research design, as well as 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 will be accomplished with standard one-square-meter test units excavated by hand in 10-centimeter levels. A more detailed description of the field methods to be used is provided in Section 10.5. All units will be screened, mapped, measured, and photographed through standard stratigraphic control measures.

For the phases of work at each site, the first phase will be the site indexing and the second phase will 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 non-random representative sample of the entire site, while the second and third phases will be a focused, biased, and intuitive study of the area within the deposit that demonstrates the greatest potential through the site index (Phase I) recovery pattern. The use of this type of data recovery has been successfully completed for the many projects in southern California, notably in San Diego County at the Rancho San Diego development (Byrd and Serr 1993) and at the 4S Ranch Project, where 26 regionally important sites were subjected to data recovery as mitigation for development-related impacts (Raven-Jennings et al. 1996).

The grid for each site will be determined by the number of sample units needed to accomplish the sample level of 2.5 percent or higher. For most sites, the grid will be set at 15-meter or 25-meter intervals. To calculate the grid size, the number of test units that represent the Phase I 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 test units (50), which equals 40 square meters per grid square. The square root of 40 square meters is 6.3 meters, and thus, the intersection of each grid line is spaced at 6.3 meters. Within each 6.3 by 6.3-meter grid cell, one test unit would be excavated to complete the site index.

For consistency, all of the sites will be treated similarly, with an index phase followed by a focused, intuitive phase in the area of greatest importance. For the nine significant sites that will be impacted, and will therefore undergo data recovery mitigation, four of these sites (SDI-12,368, SDI-16,312, SDI-16,332, and SDI-16,332) will straddle the development/preservation boundaries. For these four significant sites 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 a 10-foot-wide area 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. The phases of the sampling procedure to be used at the sites included in the data recovery program are:

Phase I: The first phase of excavation at any particular site will typically involve a 2.5 percent sample used to index the site content and document intra-site variation. Test units will be uniformly distributed within each site using a grid system. For most sites, the presence of multiple rock outcroppings will constitute voids in the sample grid. These areas will 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.

Phase II: The second phase of excavation will consist of a 2.0 to 4.0 percent sample of each site area identified as representing the greatest research potential, if any areas of substantially higher research potential are identified by the Phase I sample. The stratification of the site following the Phase I work will typically identify an area of approximately 10.0 percent of the sample area distinguished as retaining additional research potential. For this sampling phase, the test units would not be randomly placed, but would be intuitively located at the discretion of the archaeologist.

Phase III: The last phase of excavation will 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 will be applied to each of the sites listed below. The actual number of square meters to be excavated in any particular site will depend upon 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 will be identified during data recovery, increasing the research potential of a significant site. In this case, the sample size of the Phase I or Phase II excavations may be readjusted. If the recovery from any site is evaluated as redundant, even before the minimum Phase I 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. The field procedures are described in Section 10.5, including standard unit sizes and standard sifting screen size (one-eight-inch mesh). 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.

Significance After Mitigation

The successful implementation of a mitigation plan that incorporates preservation or data recovery to reduce the significance of direct and indirect impacts to cultural resources will achieve the essence of the mitigation program as stipulated by CEQA and County of San Diego guidelines, and impacts to cultural resources will be reduced to a level below significance.

10.3 Site-Specific Mitigation Measures

SDI-11,406

This site is a focused prehistoric quarry and temporary camp that covers an area of approximately 4,140 square meters. The site contains a concentrated, shallow subsurface deposit of 858 square meters. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts. The sample area of the site that essentially retains research potential is limited to the subsurface deposit. The sampling program for the site will focus on a uniform indexing of the significant areas of the site. This first level of index sampling will consist of a 2.5 percent sample of the 858-square-meter deposit. This represents a sample of 21 square meters for the Phase I index. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 858 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 858 square meters.
- Phase I — 2.5 percent sample of 21 test units.
- Phase II — 0.5 percent sample of any areas determined to have additional significant research potential. This sample is estimated to be no greater than 10.0 percent of the total subsurface deposit area, which would constitute a sample area of 86 square meters and a sample size of four test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 25 square meters, representing approximately 3.0 percent of the total deposit.
- A third phase of mitigation sampling is likely at SDI-11,406, as this site is considered a candidate for intense artifact deposits associated with the quarry activity.

SDI-11,409

This site is a large prehistoric quarry and temporary camp situated on a ridge overlooking drainages in the central portion of the project. The testing program delineated a widespread surface scatter over an area of 40,687 square meters and a centralized subsurface deposit. The deposit encompasses an area of approximately 10,637 square meters. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts. The sampling program for the site will focus on a uniform indexing of the significant areas of the

site. This first level of index sampling will consist of a 2.5 percent sample of the 10,637-square-meter deposit. This represents a sample of 266 square meters for the Phase I index. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 5.0 percent of the 10,637 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 10,637 square meters.
- Phase I — 2.5 percent sample of 266 test units.
- Phase II — 0.5 percent sample of the overall 10,637 square meters (or 5.0 percent sample of a 10.0 percent area of increased research potential [1,063.7 square meters]), resulting in the excavation of 53 test units. The total number of units excavated during Phase II will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 319 square meters, representing approximately 3.0 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is not likely at SDI-11,409, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features.

SDI-12,368

This site is a large prehistoric quarry and temporary camp characterized by a surface scatter of artifacts over an area of approximately 23,792 square meters. Approximately 70.0 percent of the site will be impacted by development, while 30.0 percent will fall within the open space preserve. The site contains a focused subsurface deposit of approximately 1,735 square meters, all of which falls within the development zone. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts. The sampling program for the site will focus on a uniform indexing of the significant areas of the site. This first level of index sampling will 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 I index. The County of San Diego has also required that a 10-foot-wide buffer strip within the open space portion of SDI-12,368 also be subjected to data recovery. This will add five test units to the sample. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 1,735 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 1,735 square meters.
- Phase I — 2.5 percent sample of 48 test units.

- Phase II — 0.2 percent sample of the overall 1,735 square meters (or approximately 2.0 percent sample of a 10.0 percent area of increased research potential [173.5 square meters]), resulting in the excavation of four test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 47 square meters, representing approximately 2.7 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is not likely at SDI-12,368, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features.
- Areas of the site that fall outside of the development zone will be preserved in open space; however, test units will be excavated within a 10-foot buffer strip inside the open space easement to mitigate potential indirect impacts.

SDI-12,371

This site is a small prehistoric quarry and temporary camp situated on a ridge in the north-central portion of the project. The testing program delineated a dispersed surface scatter over an area of 4,253 square meters and a centralized subsurface deposit. The deposit encompasses an area of approximately 781 square meters. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts to the small subsurface deposit. The sampling program for the site will focus on a uniform indexing of the significant areas of the site. This first level of index sampling will consist of a 2.5 percent sample of the 781-square-meter deposit. This represents a sample of 20 square meters for the Phase I index. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 781 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 781 square meters.
- Phase I — 2.5 percent sample of 20 test units.
- Phase II — 0.5 percent sample of the overall 781 square meters (or 5.0 percent sample of a 10.0 percent area of increased research potential [78.1 square meters]), resulting in the excavation of four test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 24 square meters, representing approximately 3.1 percent of the entire deposit.
- A third phase of mitigation sampling is not likely at SDI-12,371, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features.

SDI-16,303

This site is a prehistoric quarry and temporary camp on a narrow ridge covering an area of approximately 13,606 square meters. The site contains a shallow subsurface deposit with a central midden deposit. This site contained an archaic point, which is one of the few time markers encountered on the project. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts. The sampling program for the site will focus on a uniform indexing of the significant areas of the site. This first level of index sampling will consist of a 2.5 percent sample of the 67-square-meter deposit. This represents a sample of two square meters for the Phase I index. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 67 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 67 square meters.
- Phase I — 2.5 percent sample of two test units.
- Phase II — 0.3 percent sample of the overall 67 square meters (or 3.0 percent sample of a 10.0 percent area of increased research potential [6.7 square meters]), resulting in the excavation of two test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is four square meters, representing approximately 6.0 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is not likely at SDI-16,303, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features.

SDI-16,309

This site is a prehistoric quarry and temporary camp on a narrow ridge overlooking several drainages in the central portion of the project, covering an area of approximately 43,380 square meters. The site contains a shallow subsurface deposit with a central midden deposit encompassing an area of 5,496 square meters. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts. The sampling program for the site will focus on a uniform indexing of the significant areas of the site. This first level of index sampling will 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 I index. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 5,496 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 5,496 square meters.
- Phase I — 2.5 percent sample of 137 test units.
- Phase II — 0.3 percent sample of the overall 5,496 square meters (or 3.0 percent sample of a 10.0 percent area of increased research potential [549.6 square meters]), resulting in the excavation of 16 test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 153 square meters, representing approximately 2.8 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is not likely at SDI-16,309, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features.

SDI-16,312

This site is a large prehistoric quarry and temporary camp. The dispersed surface scatter at the site covers an area of approximately 11,212 square meters. The site contains a central, shallow subsurface deposit of 4,967 square meters. Approximately 75.0 percent of this site will be impacted, including 4,312 square meters of the 4,967-square-meter deposit identified at SDI-16,312. For the mitigation program, a portion of the site will be directly impacted. A data recovery program will be utilized to mitigate impacts from the proposed grading of the site. The sampling program for the site will focus on a uniform indexing of the subsurface deposit at the site. This first level of index sampling will consist of a 2.5 percent sample of the 4,312-square-meter deposit, which will be impacted. This represents a sample of 107 square meters for the Phase I index. The County of San Diego has also required that a 10-foot-wide buffer strip within the open space portion of SDI-16,312 also be subjected to data recovery. This will add eight test units to the sample. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 4,312 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations, but is estimated to be a sample of nine additional test units. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 4,312 square meters.
- Phase I — 2.5 percent sample of 115 test units.
- Phase II — 0.2 percent sample of the overall 4,312 square meters (or 2.0 percent sample of a 10.0 percent area of increased research potential [431.2 square meters]), resulting in the excavation of nine test units, although this total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 116 square meters, representing approximately 2.7 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is not likely at SDI-16,312, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features.

- The portion of the subsurface deposit situated outside of the development limits will be preserved in open space; however, test units will be excavated within a 10-foot buffer strip inside the open space easement to mitigate potential indirect impacts.

SDI-16,326

This site is a large prehistoric quarry and temporary camp with various focused quarry locations scattered over an area of approximately 99,706 square meters. 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 with a maximum depth of 70 centimeters. For the mitigation program, a portion of the site will be directly impacted and data recovery will be utilized to mitigate impacts for that area. The sampling program for the site will focus on a uniform indexing of the significant area of the site affected by the development. This first level of index sampling will consist of a 2.5 percent sample of the 860-square-meter deposit. This represents a sample of 22 square meters for the Phase I 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 also be subjected to data recovery. This will add eight test units to the sample. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 860 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations, but the Phase II sample is projected to be four additional test units. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit — 860 square meters.
- Phase I — 2.5 percent sample of 30 test units.
- Phase II — 0.4 percent sample of the overall 860 square meters (or 4.0 percent sample of a 10.0 percent area of increased research potential [86 square meters]), resulting in the excavation of four test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 26 square meters, representing approximately 3.0 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is likely at SDI-16,326, as this site is considered a candidate for intense artifact deposits.
- These portions of SDI-16,306 that are situated outside of the development zone will be preserved in open space; however, test units will be excavated within a 10-foot buffer strip inside the open space easement to mitigate potential indirect impacts.

SDI-16,332

This site is a prehistoric quarry location on a ridge in the north-central project area. The site consists of a dispersed quarry over a wide area represented by numerous metavolcanic outcrops. The site includes scattered surface artifacts that encompass an area of approximately

14,943 square meters. The site contains areas of primarily shallow subsurface deposits. The total area of the subsurface deposits is approximately 1,731 square meters with a maximum depth of 20 centimeters. The development of Otay Ranch Village 13 will impact approximately one-third of SDI-16,332, including 924 square meters of the significant subsurface deposits. The balance of the deposit will be preserved in open space. For the mitigation program, the site will be directly impacted and data recovery will be utilized to mitigate impacts. The sampling program for the site will focus on a uniform indexing of the significant areas of the site. This first level of index sampling will consist of a 2.5 percent sample of the 924-square-meter deposit. This represents a sample of 23 square meters for the Phase I 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 also be subjected to data recovery. This will add seven test units to the sample. The proposed Phase II excavations are projected based upon an area of increased research potential estimated to be approximately 10.0 percent of the 924 square meters; the exact number of Phase II excavations will depend on the results of the Phase I excavations, but are projected to consist of two additional test units. The proposed data recovery excavations are summarized as follows:

- Size of Significant Subsurface Deposit— 924 square meters.
- Phase I — 2.5 percent sample of 30 test units.
- Phase II — 0.2 percent sample of the overall 924 square meters (or 2.0 percent sample of a 10.0 percent area of increased research potential [173.1 square meters]), resulting in the excavation of two test units. This total will vary depending on the stratification of the subsurface deposit into areas of greater research potential.
- Total proposed sample size for data recovery is 25 square meters, representing approximately 2.7 percent of the areas of greatest research potential.
- A third phase of mitigation sampling is not likely at SDI-16,332, as this site is not considered a candidate for intense artifact deposits or substantial subsurface features; however, test units will be excavated within a 10-foot buffer strip inside the open space easement to mitigate potential indirect impacts.

10.4 Data Recovery Program

In accordance with CEQA (Section 15064.5) and the guidelines of the County of San Diego, the sites that have been evaluated as important, and which will be adversely impacted by the proposed project, will require mitigation measures in the form of avoidance and/or data recovery programs to reduce the significance of potential impacts. In order to reduce impacts to a level below significant, data recovery programs will be necessary at those sites that are important and will be impacted, but cannot be preserved. All sites that will be included in data recovery programs are listed in Table 10.0–1. The data recovery programs must include adequate subsurface samples of the significant deposits. Special studies, including radiocarbon dating, faunal analysis, obsidian hydration and sourcing, and flake attribute analysis, shall be

conducted to exhaust the research potential of the site areas to be impacted (see Section 10.6.2). The recovered materials should be treated according to standard archaeological procedures. Each specimen should be washed (only if necessary for identification), cataloged, and analyzed, and a technical report of findings should be prepared in accordance with professional archaeological standards and guideline requirements.

10.5 Research Design

The data recovery program must comply with the regulations of the County of San Diego, and the results of this program should successfully exhaust the research potential of the site in order to reduce the impacts to a level below significant. The data recovery program will also follow the California OHP publication *Guidelines for Archaeological Research Design, Preservation Planning Bulletin No. 5* (1991).

The design for the data recovery program for the Otay Ranch Village 13 Project includes a consideration of the types of data that are potentially available, and applies this information to the current regional research questions pertaining to the cultures represented at the sites. The research questions posed, therefore, include those that can be more appropriately addressed during data recovery of significant sites to further these research issues.

This research design incorporates research questions based upon the current state of knowledge in anthropological theory and area-specific research concerns. For the purposes of this research design, the study area includes the western San Diego County region. As a prelude to archaeological data recovery, theoretical research hypotheses must be applied to the proposed data recovery program to ensure that the information recovered will address these important research concerns. The hypotheses contained herein are designed so that they may be tested against the archaeological data recovered from the sites.

The Otay Ranch Village 13 Project is located within the Otay River watershed, near the head of the Otay River Valley. The numerous quarry sites located within the project area were most easily accessed by the prehistoric inhabitants of the Otay River watershed, including Otay Mesa, and, to a lesser extent, by populations inhabiting the Sweetwater River watershed. Comparatively little is known about the prehistory of the Otay region of San Diego County and the development of the National City and Chula Vista areas prior to the establishment of CEQA laws resulted in the loss of a considerable amount of archaeological sites. By way of contrast, recent and rapid development of the area east of Chula Vista has resulted in the discovery of and recovery from numerous archaeological sites in that area. Recent work by Kyle et al. (1990), Pignuolo et al. (1990), McDonald et al. (1993), and Smith (2004) has identified several prehistoric habitation sites within the eastern Otay River watershed; occupants of these sites and others may have accessed the numerous quarry sites located within the Otay Ranch Village 13 Project area.

The proposed research questions primarily consider topics regarding lithic resource procurement patterns and placement of these sites within the overall subsistence and settlement

system of prehistoric populations inhabiting the Otay River watershed. Other site types represented at Otay Ranch Village 13 include temporary camps that were likely inhabited during hunting and quarrying forays in the area. Questions were developed for this research design to examine these site types as well. By designing fieldwork to address these subjects of inquiry, the results of the archaeological program will be made more meaningful to both theoretical and substantive research concerns.

10.5.1 Research Topics

The Role of Quarry Sites Within the Project Area

As stated above, the majority of prehistoric sites within the Otay Ranch Village 13 Project area were quarry sites. As such, the most important questions posed in this research design are those regarding this site type. The quarries within the Otay Ranch Village 13 Project area are located at exposures of Cretaceous-aged Santiago Peak Volcanics situated along the southwestern extent of the Jamul Mountains. Procurement of metavolcanic material from these exposures likely occurred during seasonal occupancy of the area by prehistoric hunter-gatherers. Procurement of this type is termed ‘embedded,’ whereby lithic materials were procured within the context of a seasonal subsistence round practiced by hunter-gatherers (Binford 1979). Numerous studies of western San Diego County sites have suggested that inland sites were the loci of primarily winter encampments for both Archaic and Late Prehistoric Period cultures, whereas summer encampments were located primarily along the coast, particularly for Archaic Period populations (True and Waugh 1982; Smith 1986; Norwood 1980; Tuma 2002). The quarry sites at Otay Ranch Village 13, were therefore, most likely accessed during procurement of inland subsistence resources during winter months. However, several sites within the area exhibit evidence of exploitation of coastal resources (marine mollusks), suggesting that the area may have been occupied, and local quarries exploited, during warmer months as well (Smith 2004).

Quarry sites located at the northwestern extent of the San Ysidro Mountains across Jamul Valley from the Otay Ranch Village 13 Project area showed evidence of late stage manufacture, based upon the occurrence of a high proportion of small flakes and hammerstones indicative of tool finishing rather than material reduction, while others showed evidence of early stage manufacture based upon the occurrence of large flakes (Kyle et al. 1988). Additionally, these locations may represent quarrying by Archaic and Late Prehistoric populations, as differences between patination of the artifacts were observed. Furthermore, because of the general trend toward the use of smaller stone technologies over time, smaller flake sizes at one locus may represent Late Prehistoric quarrying, whereas larger flakes recovered from another locus may represent Archaic Period quarrying. Site SDI-10,027, a quarry site located at the northwestern extent of the San Ysidro Mountains, was determined to be used continuously throughout the prehistory of the area, but was thought to be more heavily utilized during the Archaic Period because of patination signatures (McDonald et al. 1996).

The Santiago Peaks Volcanics accessed at quarry sites in the San Diego County region are highly variable in terms of color, mineral composition, and degree of porphyritic. The exposures east of the Otay Mesa area are known to be of particularly good quality, due to a high occurrence of non-porphyrific material, but variations in the quality of the material can be observed, even within the same outcropping. Because prehistoric flintknappers preferred material that was easy to work with (in terms of flakeability), outcrops containing fine-grained, non-porphyrific metavolcanic material were likely more heavily exploited. The selection of quality of raw materials may have also been a function of the intended tool types manufactured from the quarried materials. It should be possible to observe material preferences at quarry sites. High-quality outcrops should show evidence of more intensive exploitation, whereas lower-quality outcrops should exhibit less intensive use. The only artifacts that should be present at low-quality outcrops are tested cobbles, whereas a greater range of artifacts should be observed at high-quality outcroppings, including cortical and non-cortical flakes associated with core preparation and reduction, a variety of core types, and early stage bifaces.

Research Questions for Testing and Evaluation of Sites:

- What is the distribution of quarry sites on the property and how does that relate to the distribution of temporary camps? Do quarry sites found closer to temporary campsites show evidence of later stages of manufacture, such as the presence of smaller flakes, preforms, and finished tools? Do temporary campsites located closer to quarry sites show evidence of earlier stages of manufacture?
- Is there evidence of differences in the quality of materials procured at different quarry sites? If so, is there evidence of a more intensive use of higher-quality metavolcanic material? Do quarries located at exposures of the highest quality material exhibit greater artifact density and diversity? How does the quality of the material being procured relate to the purpose of the tool being created?
- During which periods were the quarry sites utilized? Do the deposits suggest repeated use of quarry sites over time?

Research Questions for Potential Data Recovery:

- Can the quarry sites at Otay Ranch Village 13 be associated with habitation sites occupied by peoples who exploited the lithic resources? Do quarry sites found closer to habitation sites show evidence of later stages of manufacture, such as the presence of smaller flakes and debitage, flakes without cortex, preforms, and finished tools? How is material from the Otay Ranch Village 13 quarries distributed at local sites throughout the Otay Mesa Area?
- Do habitation or temporary campsites located near quarries exhibit evidence of seasonal occupation? If so, does this data indicate that lithic procurement at quarries

- at Otay Ranch Village 13 occurred within the context of seasonal subsistence resource exploitation?
- What are the methods for reduction of raw lithic materials at quarry sites? What are the intended end products of the reduction process?
 - Do flake sizes give clues regarding the stage of manufacture at quarry sites? Is flake size at quarry sites a function of stage of manufacture, or of period of exploitation? Are hammerstone types indicative of initial reduction or of tool finishing?
 - Does the degree of patination on lithic materials at different quarry sites within the project area demonstrate exploitation of the quarries across large spans of time, or at similar time periods? Do the quarrying and manufacturing techniques appear to have changed through prehistory?

The Role of Temporary Camps Within the Project Area

Several sites in the Otay Ranch Village 13 Project area can be characterized as temporary camps. These sites are represented by a light scatter of lithic production waste, a higher proportion of ground stone or precision tools, and in one instance, a small amount of vertebrate bone. These camps were probably the location of small resource procurement groups who exploited animal or plant resources and quarried raw lithic material in the area. Due to the ephemeral nature of these sites, midden accumulation is minimal, and very little information can be gleaned from these sites, which are essentially surface scatters. However, a number of questions can be posed, including site type and the determination of the range of activities represented at the sites. This information may serve in placing the sites within the context of the settlement system of prehistoric groups in the area.

The range of tools at a particular site provides valuable clues regarding the activities represented there. For example, ground stone tools are generally associated with processing of animal and vegetal food resources, whereas projectile points are associated with hunting. Other tool types are less obvious as to their function, and the activities associated with their presence at sites are more problematic. Unifacial tools and utilized lithic production waste fall into this category of ambiguous use; in reality, these tools were probably used for a variety of purposes and, therefore, may indicate the processing of animal or plant resources. Specialized analyses may be performed on artifacts in order to relate their true function. Microscopic analyses of use-wear on tools can provide a basis for the identification of the range of activities undertaken at a given site (*c.f.* Keeley 1980). Trace analysis of microscopic plant and animal residue on stone tools (*c.f.* Yohe et al. 1991) may augment microwear analysis, provided the tools are recovered from undisturbed subsurface contexts with an associated soil sample. Finally, determination of reduction stages represented at the site, as exhibited in flaked tools and lithic debitage, can provide valuable clues regarding the range of lithic production activities and tool use (*c.f.* Magne 1985). The data regarding the range of site activities gleaned from the artifact assemblages recovered from the temporary campsites at Otay Ranch Village 13 may provide valuable

information regarding the use of these sites within the settlement systems practiced by prehistoric populations in the area.

Research Questions for Testing and Evaluation of Sites:

- What activities are exhibited at temporary camps? What does the range of activities represented say about the use and purpose of these sites? Do diagnostic artifacts or assemblage profiles indicate the time period of occupation? Do the deposits at temporary camps reflect depth and integrity so as to provide dependable radiocarbon dating samples?
- At those sites where faunal remains were recovered, does this material suggest a seasonal use of the temporary camp? Do the faunal remains reflect a narrow or broad range of animals taken? Is the paucity of faunal remains noted at the Otay Ranch Village 13 sites a result of poor preservation, processing of animal products at habitation sites rather than temporary camps, destructive processes such as grinding bone into meal, or are mammals less important at more ephemeral, lithic-oriented sites?
- Are non-local lithic materials present at Otay Ranch Village 13 sites and, if so, are they more common at sites identified as temporary camps? What procurement range is indicated by the source of the non-local items? What kinds of tools are made from non-local materials?

Research Questions for Potential Data Recovery:

- Can specialized studies, including use-wear studies, residue analysis, and reduction stage classification, provide additional clues regarding the range of activities conducted at the site?
- How do these sites fit into the overall settlement and subsistence systems of prehistoric populations in the area? How does the utilization of the Otay Ranch Village 13 sites compare to other sites in the region both spatially and temporally?

10.6 Methodology

A plan for a program to carry out the necessary data recovery procedures is presented below. The program is consistent with the policies and guidelines of the County of San Diego and with the California OHP publication *Guidelines for Archaeological Research Design, Preservation Planning Bulletin No. 5* (1991). In order to mitigate potential impacts to the sites in accordance with CEQA, and also to retrieve the data needed to comply with County of San Diego guidelines, a sample of the site areas to be impacted (*i.e.*, the limits of impacts) will be required. The governing parameters to be used to determine the level of the sampling will be the redundancy of the recovered artifacts and the research potential of the site.

10.6.1 Field Methods

The data recovery program will focus upon the excavation of test units measuring one-square meter 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 will be excavated in controlled, 10-centimeter levels. All removed soils will be sifted through one-eight-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 will 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 shall include:

- 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 will be conducted.
- Provenience data for all screened soil shall be recorded.

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

Any features that are discovered during the archaeological excavations shall be exposed through careful hand excavation. Additional test units may be needed to fully expose the features, which will 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 will be taken to permit microanalysis of midden contents. The columns will measure 10 square centimeters, and will conform to the walls of selected completed test units to the bottom of the deposit. All of the soil from the column will be collected, and not screened in the field. The samples will be returned to the laboratory for analysis. In addition, during hand excavation, special attention will be given to the identification of lithic tools found in situ and their potential for residue analysis. When possible, such tools will be bagged separately, thereby excluding them from the wet-screening process. A sample of the surrounding soil will be collected to serve as a control sample, should the artifact be chosen for pollen, phytolith, and blood residue analyses.

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

10.6.2 Laboratory Analysis

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

The lithic artifacts recovered from the project will be subjected to analysis, which will 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) will be subjected to an analysis of attributes such as size, condition, type, termination, and material. The attribute analysis will include the flake collections recovered during the testing program.

Non-lithic materials, such as ecofacts (shell and bone), shall be subjected to specialized analyses. The shell will be cataloged by species and weight of recovery per level. The bone material will 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 one-sixteenth-inch mesh sieve, if the potential for non-lithic materials is noted in the deposit.

Other specialized studies, which will be conducted if the appropriate materials are encountered during the data recovery program, will 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
 - The recovery of shell is possible at sites within the project, although no shell was observed during the testing program. Analysis of the shell recovery would include the speciation of all shell fragments collected. The shell will be recorded by weight, and will include a count of hinges to determine the minimum number of individuals represented by the recovery.
- Faunal Analysis
 - Prehistoric food bone was not documented at the sites within Otay Ranch Village 13; however, further excavations may uncover bone material within temporary camps. Any bone material recovered during the data recovery program should be analyzed by a faunal expert to identify species, types, age, and evidence of burning or butchering. The prehistoric bone recovery will provide information concerning diet, activity areas within the sites, the habitats exploited, and methods of processing.
- Radiocarbon Dating
 - This dating technique will be attempted whenever possible. The investigations conducted thus far did not recover any dateable material,

although bulk soil dating was not attempted to see if the deposits contained sufficient carbon for dating. The radiocarbon dating will 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 upon 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 will 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 must be made prior to any washing of artifacts, or the residue samples will 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 utilized. Use of this type of analysis is not likely due to the paucity of shell.
- Obsidian Hydration and Sourcing
 - Any recovered obsidian artifacts will 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.

10.7 Curation

The prehistoric cultural materials recovered from Otay Ranch Village 13 shall be permanently curated at a facility that meets federal standards per 36 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.

10.8 Native American Consultation

Local Native American representatives shall be contracted and included as part of the mitigation program. Native American monitoring will be required during the archaeological excavations for data recovery. As part of the mitigation program, a pre-excavation agreement

between the developer and local Native American representatives will be prepared. This agreement will describe the procedures to be invoked in the event that any human remains are encountered, or if items of sacred or religious significance are discovered.

10.8.1 Provisions for the Discovery of Human Remains

The possibility exists that human remains may be discovered during the data recovery programs, although no human bone material was identified during the testing program. In the event that human burials are encountered, standard procedures for such discoveries will be implemented, including notification of the San Diego County Coroner’s Office, the County of San Diego, the NAHC in Sacramento, and local Native American representatives. Fieldwork will be discontinued in the area of any such discovery. The Native American representative and the County of San Diego will be consulted to determine a preferred course of action, and the burial will be treated accordingly.

10.9 Mitigation Requirements Per Project Development Phase

Development of the Otay Ranch Village 13 Project (Otay Ranch Resort Village) will be conducted in 10 phases: Orange, Copper, Gold, Green, Purple, Blue, Red, Silver, Yellow, and Tan. The specific timing or sequencing of the phased development has not been determined. The mitigation of impacts to significant sites can be completed according to the particular phase of development to be initiated. Nine significant cultural resource sites (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) are located either wholly or partially within the limits of grading and brushing and cannot be feasibly preserved. Prior to grading improvements, data recovery will be required in order to mitigate impacts to these nine sites; however, this process can be tied to the phasing of the project and can be accomplished as the various phases are begun. General mitigation measures are discussed below, and detailed site-specific measures are discussed in Section 10.3. Table 10.9–1 lists each project phase, the affected sites, and mitigation required.

TABLE 10.0–2
Mitigation of Significant Sites by Project Phase

Phase	Site	Mitigation Required
Orange	SDI-16,303	Data Recovery
Copper	SDI-11,409 (partial), 12,368, and SDI-16,303	Data Recovery
Gold	SDI-11,406, SDI-11,409 (partial), SDI-16,309, SDI-16,312, and SDI-16,332	Data Recovery
Green	SDI-12,371	Data Recovery
Purple	No affected sites	None

Phase	Site	Mitigation Required
Blue	No affected sites	None
Red	No affected sites	None
Silver	No affected sites	None
Yellow	SDI-16,326	Data Recovery
Tan	No affected sites	None

Orange Phase: One significant site, SDI-16,303, must be subjected to data recovery prior to grading improvements.

Copper Phase: Three significant sites, SDI-11,409 (partial), 12,368, and SDI-16,303, must be subjected to data recovery prior to grading improvements.

Gold Phase: Four significant sites, SDI-11,406, SDI-11,409 (partial), SDI-16,309, SDI-16,312, and SDI-16,332 must be subjected to data recovery prior to grading improvements.

Green Phase: One significant site, SDI-12,371, must be subjected to data recovery prior to grading improvements.

Purple Phase: No significant sites are affected by the Purple Phase.

Blue Phase: No significant sites are affected by the Blue Phase.

Red Phase: No significant sites are affected by the Red Phase.

Silver Phase: No significant sites are affected by the Silver Phase.

Yellow Phase: One significant site, SDI-16,326, must be subjected to data recovery prior to grading improvements.

Tan Phase: No significant sites are affected by the Tan Phase.

11.0 PERSONNEL

The archaeological survey and evaluation program was directed by Principal Investigator Brian F. Smith. The survey was conducted by Brian F. Smith with assistance from project archaeologists Charles Callahan and Michael Tuma and field technicians Clint Callahan, Clarence Hoff, Vanessa Matel, Jeff Szymanski, John Taylor, and Nathaniel Yerka. The historical investigation of the Otay Ranch Village 13 Project was conducted by Brian F. Smith and Senior Archaeologist Larry J. Pierson. The testing program was conducted, under the direction of Brian F. Smith, by field supervisors Charles Callahan, Kevin Hunt, and Clarence Hoff, with field technicians Marya Brookshire, Jennifer Bukey, Clint Callahan, Brad Comeau, Colleen DeCook, Adriane Dorrlor, Mark Garrett, Jeff Henry, Andrew Hoge, Richele Lake, Scott Mattingly, Harry Moore, Richard Savitch, Matthew Smith, Jeff Szymanski, Michael Tuma, Helen Wilson, and Nathaniel Yerka. Lithic analysis was conducted by Kent Smolik. Johnna L. Buysse and Brian F. Smith prepared this report, with contributions from Larry Pierson, James Clifford, Michael Tuma, and Kyle Guerrero. Tables were produced by Alyson Berkowitz and Kimberly Wade. Robert Hernandez, Clint Callahan, Adrián Moreno, and Nicole Benjamin-Ma produced the report graphics. The report was edited and produced by Dylan Amerine and Roberta Klimas with assistance from Nicole Benjamin-Ma, Alyson Berkowitz, Jenni Kraft, Nora Thornbury, and Kimberly Wade.

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APPENDIX I

Records Search Results
(Deleted for Public Review; Bound Separately)

APPENDIX II

Site Forms; Site Update Forms (2008)
(Deleted for Public Review; Bound Separately)

APPENDIX III

Long Tables

TABLE 6.4-3Surface Recovery Data
Site SDI-11,391A

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
1	A	164°/633 Feet	2	Flakes	MGM	1
2	A	163°/428 Feet	1	Hammer/Core	MGM	2
3	A	189°/799 Feet	1	Flake	FGM	3
4	A	194°/929 Feet	2	Flakes	FGM	4
5	A	161°/430 Feet		Not an Artifact		5
6	A	164°/431 Feet		Not an Artifact		6
7	A	168°/457 Feet		Not an Artifact		7
8	A	168°/436 Feet	2	Flakes	MGM	8
9	A	170°/454 Feet		Not an Artifact		9
10	A	171°/454 Feet	1	Hammer/Core	FGM	10
			1	Hammerstone Fragment, Undetermined, Burned	MGM	11
11	A	174°/533 Feet	1	Flake	FGM	12
			1	Flake	MGM	13
12	A	160°/576 Feet	1	Flake	FGM	14
			2	Flakes	MGM	15
13	A	162°/613 Feet	1	Flake	FGM	16
			1	Debitage	MGM	17
14	A	159°/605 Feet	2	Flakes	FGM	18

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
15	A	180°/672 Feet	2	Flakes	FGM	19
16	A	206°/276 Feet	1	Flake	FGM	20
			1	Debitage	MGM	21
17	A	156°/322 Feet	1	Flake	FGM	22
18	A	164°/210 Feet	1	Flake	MGM	23
19	A	124°/94 Feet		Not an Artifact		24
20	A	80°/227 Feet	1	Flake	FGM	25
21	A	44°/254 Feet	40.7 g.	FAR	FGM	26
22	A	49°/230 Feet	81.1 g.	FAR	FGM	27
23	A	276°/87 Feet	1	Utilized Flake	FGM	28
24	A	178°/255 Feet	1	Utilized Flake Fragment	FGM	153
			1	Flake	FGM	154
25	A	182°/310 Feet	3	Flakes	FGM	155
26	A	178°/361 Feet	2	Flakes	MGM	156
27	A	183°/458 Feet	1	Utilized Flake Fragment	FGM	157
28	A	174°/382 Feet	1	Hammerstone Fragment, Undetermined	FGM	158
			1	Utilized Debitage Fragment	FGM	159
			1	Utilized Debitage Fragment	FGM	160
			1	Core	FGM	161
			1	Core Tool Fragment	MGM	162
			1	Utilized Flake	MGM	163
29	A	170°/303 Feet	1	Core Tool	MGM	164

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
30	A	156°/213 Feet	1	Core	FGM	165
31	A	160°/300 Feet	1	Utilized Debitage Fragment	MGM	166
			1	Flake	MGM	167
32	A	165°/427 Feet	1	Utilized Flake	FGM	168
33	A	164°/465 Feet	1	Flake	FGM	169
34	A	179°/484 Feet	2	Flakes	FGM	170
35	A	187°/502 Feet	1	Hammerstone Fragment, Undetermined	FGM	171
			2	Flakes	FGM	172
			3	Flakes	MGM	173
			1	Core	Quartzite	174
36	A	202°/380 Feet	1	Flake	MGM	175
37	A	213°/394 Feet	1	Debitage	FGM	176
			1	Flake	MGM	177
38	A	204°/483 Feet	2	Flakes	FGM	178
39	A	194°/533 Feet	1	Flake	FGM	179
			1	Flake	MGM	180
40	A	191°/575 Feet	3	Flakes	FGM	181
			5	Flakes	MGM	182
41	A	191°/588 Feet	1	Hammerstone Fragment, Undetermined	FGM	183
			1	Core Tool	MGM	184
			1	Flake	MGM	185
42	A	189°/615 Feet	1	Debitage	MGM	186

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
43	A	187°/589 Feet	2	Flakes	FGM	187
44	A	188°/573 Feet	1	Utilized Flake	FGM	188
			2	Flakes	FGM	189
			1	Flake	MGM	190
45	A	189°/546 Feet	1	Debitage	FGM	191
			2	Flakes	FGM	192
46	A	182°/530 Feet	2	Flakes	FGM	193
47	A	237°/137 Feet	1	Utilized Debitage	FGM	194
48	A	236°/147 Feet	1	Hammerstone, Circular	FGM	195
49	A	245°/217 Feet	1	Debitage	MGM	196
50	A	229°/210 Feet	1	Retouched Debitage	FGM	197
			3	Flakes	FGM	198
			4	Flakes	MGM	199
51	A	240°/210 Feet	5	Flakes	FGM	200
			1	Debitage	MGM	201
			3	Flakes	MGM	202
52	A	237°/250 Feet	1	Flake	FGM	203
			1	Core Tool	MGM	204
			3	Flakes	MGM	205
53	A	234°/270 Feet	1	Utilized Flake	FGM	206
			1	Utilized Flake Fragment	FGM	207
			1	Flake	FGM	208
			3	Flakes	MGM	209
54	A	237°/234 Feet	1	Flake	FGM	210
			2	Flakes	MGM	211

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
55	A	248°/263 Feet	2	Flakes	FGM	212
56	A	255°/269 Feet	2	Debitage	FGM	213
			1	Flake	FGM	214
			1	Debitage	MGM	215
57	A	258°/280 Feet	2	Flakes	FGM	216
58	A	226°/250 Feet	1	Utilized Flake	FGM	217
			1	Flake	MGM	218
59	A	230°/282 Feet	3	Flakes	FGM	219
			1	Flake	MGM	220
60	A	233°/298 Feet	2	Flakes	FGM	221
61	A	237°/306 Feet	1	Flake	MGM	222
62	A	236°/328 Feet	2	Debitage	FGM	223
			2	Flakes	MGM	224
63	A	230°/321 Feet	4	Flakes	FGM	225
			1	Debitage	MGM	226
			3	Flakes	MGM	227
64	A	221°/295 Feet	3	Debitage	MGM	228
			5	Flakes	MGM	229
65	A	214°/310 Feet	1	Flake	FGM	230
			1	Flake	MGM	231
66	A	220°/339 Feet	1	Flake	FGM	232
			2	Flakes	MGM	233
67	A	221°/390 Feet	3	Flakes	FGM	234
			6	Flakes	MGM	235

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
68	A	220°/416 Feet	5	Flakes	FGM	236
			2	Flakes	MGM	237
69	A	211°/395 Feet	1	Debitage	FGM	238
			3	Flakes	FGM	239
70	A	215°/240 Feet	3	Debitage	FGM	240
			2	Flakes	FGM	241
71	A	217°/444 Feet	1	Flake	FGM	242
			1	Retouched Debitage Fragment	MGM	243
			1	Utilized Debitage	MGM	244
			2	Flakes	MGM	245
72	A	212°/458 Feet	1	Debitage	FGM	246
			7	Flakes	FGM	247
			1	Debitage	MGM	248
			2	Flakes	MGM	249
73	A	210°/531 Feet	3	Flakes	FGM	250
			3	Debitage	MGM	251
			1	Flake	MGM	252
74	A	208°/553 Feet	4	Flakes	FGM	253
			1	Debitage	MGM	254
			3	Flakes	MGM	255
75	A	209°/670 Feet	1	Utilized Flake	FGM	256
			1	Core	MGM	257
76	A	208°/689 Feet	1	Flake	MGM	258
77	A	209°/727 Feet	2	Debitage	FGM	259
			1	Flake	FGM	260
			4	Debitage	MGM	261
			3	Flakes	MGM	262

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
78	A	206°/793 Feet		Not an Artifact		263
79	A	209°/781 Feet	1	Core Tool	FGM	264
			2	Debitage	FGM	265
			1	Flake	FGM	266
			1	Hammerstone Fragment, Undetermined	MGM	267
			1	Flake	MGM	268
80	A	205°/832 Feet	1	Utilized Debitage	FGM	269
			1	Flake	FGM	270
			2	Flakes	MGM	271
81	A	205°/854 Feet	1	Utilized Flake	FGM	272
			1	Flake	FGM	273
82	A	203°/859 Feet	1	Flake	MGM	274
83	A	202°/882 Feet	1	Utilized Debitage	FGM	275
			1	Debitage	FGM	276
			4	Flakes	FGM	277
84	A	203°/899 Feet	1	Utilized Flake	FGM	278
			1	Utilized Debitage	FGM	279
			5	Debitage	FGM	280
			26	Flakes	FGM	281
			1	Retouched Flake	MGM	282
85	A	203°/913 Feet	1	Debitage	FGM	283
			3	Flakes	FGM	284
			1	Utilized Debitage	MGM	285
			2	Flakes	MGM	286
86	A	202°/936 Feet	1	Utilized Flake Fragment	MGM	287
			1	Flake	MGM	288
87	A	201°/954 Feet	1	Flake	FGM	289

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
88	A	200°/949 Feet	2	Flakes	FGM	290
89	A	124°/98 Feet		Not an Artifact		291
90	A	136°/231 Feet	1	Chopper/Hammerstone	FGM	292
91	A	125°/251 Feet	2	Flakes	FGM	293
92	A	121°/312 Feet	1	Hammerstone Fragment, Undetermined	FGM	294
			1	Flake	FGM	295
93	A	105°/304 Feet	1	Flake	MGM	296
94	A	104°/358 Feet	1	Flake	MGM	297
95	A	97°/385 Feet	2	Flakes	FGM	298
96	A	94°/365 Feet	1	Flake	FGM	299
97	A	84°/389 Feet	1	Flake	MGM	300
98	A	76°/379 Feet	1	Flake	FGM	301
99	A	102°/390 Feet		Not an Artifact		302
100	A	109°/377 Feet	2	Debitage	FGM	303
			1	Flake	FGM	304
101	A	109°/410 Feet	1	Utilized Flake	MGM	305
			1	Flake	MGM	306
102	A	114°/392 Feet	1	Flake	FGM	307
103	A	123°/462 Feet	1	Flake Scraper	FGM	308
			1	Flake	MGM	309

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
104	A	124°/425 Feet	2	Flakes	FGM	310
105	A	127°/412 Feet	1	Utilized Debitage	FGM	311
			1	Flake	FGM	312
106	A	129°/441 Feet	1	Core Tool	FGM	313
			1	Flake	FGM	314
107	A	132°/420 Feet	1	Flake	MGM	315
108	A	136°/392 Feet	2	Debitage	FGM	316
			1	Flake	MGM	317
109	A	192°/399 Feet	1	Hammerstone Fragment, Undetermined	FGM	318
110	A	145°/415 Feet	1	Flake	FGM	319
			1	Flake	MGM	320
111	A	130°/453 Feet	1	Flake	FGM	321
112	A	134°/520 Feet	2	Flakes	FGM	322
113	A	138°/526 Feet	1	Core	MGM	323
114	A	138°/540 Feet	2	Flakes	FGM	324
			3	Flakes	MGM	325
115	A	142°/516 Feet	1	Hammerstone Fragment, Undetermined	FGM	326
			2	Flakes	FGM	327
116	A	147°/569 Feet	1	Retouched Debitage	FGM	328
			1	Utilized Flake	FGM	329
			2	Flakes	FGM	330
			1	Flake	MGM	331
117	B	68°/92 Feet	1	Utilized Flake	FGM	332

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
			1	Flake	FGM	333
118	B	78°/115 Feet	1	Retouched Debitage	FGM	334
			4	Debitage	FGM	335
119	B	35°/176 Feet	1	Utilized Flake Fragment	FGM	336
			1	Core	MGM	337
			1	Flake	MGM	338
120	B	12°/224 Feet	1	Utilized Flake	FGM	339
			1	Flake	MGM	340
			1	Flake	Quartz	341
121	B	11°/254 Feet	1	Flake	FGM	342
			1	Flake	MGM	343
122	B	12°/268 Feet	1	Hammerstone, Circular	FGM	344
			1	Flake	MGM	345
123	B	19°/243 Feet	1	Flake	FGM	346
			1	Flake	MGM	347
124	B	22°/267 Feet	1	Flake Scraper	FGM	348
			1	Flake	FGM	349
			1	Debitage	MGM	350
			1	Flake	MGM	351
125	B	28°/263 Feet	1	Flake	FGM	352
			2	Flakes	MGM	353
126	B	25°/289 Feet	1	Utilized Flake	FGM	354
			1	Flake	MGM	355
127	B	21°/328 Feet	1	Utilized Flake	MGM	356
			1	Flake	MGM	357
128	B	14°/341 Feet	1	Debitage	MGM	358

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
			4	Flakes	MGM	359
129	B	14°/373 Feet	1	Hammerstone, Circular	FGM	360
			1	Flake	FGM	361
			1	Flake	MGM	362
130	B	18°/392 Feet		Not an Artifact		363
131	B	16°/420 Feet	1	Utilized Flake	FGM	364
			1	Debitage	FGM	365
			2	Flakes	FGM	366
			1	Flake	MGM	367
132	B	21°/412 Feet	2	Flakes	FGM	368
133	B	23°/433 Feet	1	Flake	FGM	369
			1	Flake	MGM	370
134	B	20°/493 Feet	2	Flakes	FGM	371
135	B	16°/468 Feet	2	Debitage	FGM	372
			5	Flakes	FGM	373
			2	Flakes	MGM	374
136	B	14°/531 Feet	1	Flake	MGM	375
137	B	7°/675 Feet	1	Flake	FGM	376
138	B	357°/608 Feet	1	Flake	MGM	377
139	B	14°/628 Feet	1	Debitage	FGM	378
			1	Flake	FGM	379
140	B	20°/564 Feet	1	Flake	FGM	380
141	B	12°/467 Feet	2	Flakes	FGM	381

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
142	B	4°/395 Feet	1	Debitage	MGM	382
143	B	342°/476 Feet	1	Flake	MGM	383
144	B	126°/31 Feet	1	Flake	FGM	384
			2	Flakes	MGM	385
145	B	122°/73 Feet	1	Flake	MGM	386
146	B	90°/97 Feet	5	Flakes	FGM	387
147	B	130°/89 Feet	2	Flakes	FGM	388
148	B	132°/122 Feet	1	Hammerstone Fragment, Undetermined	FGM	389
			1	Flake	MGM	390
149	B	143°/120 Feet	1	Flake	FGM	391
150	B	137°/167 Feet	1	Debitage	FGM	392
			1	Flake	MGM	393
151	B	143°/203 Feet		Not an Artifact		394
152	B	138°/241 Feet	1	Flake	MGM	395
153	B	142°/270 Feet	1	Flake	MGM	396
154	B	133°/323 Feet	1	Debitage	MGM	397
155	B	136°/348 Feet		Not an Artifact		398
156	B	141°/395 Feet	2	Debitage	FGM	399
157	B	135°/504 Feet	1	Flake	MGM	400
158	B	116°/429 Feet	1	Flake Scraper	FGM	401

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
159	B	85°/320 Feet	1	Flake	FGM	402
160	B	85°/342 Feet	1	Flake	FGM	403
161	B	179°/100 Feet	1	Flake	FGM	404
			1	Flake	MGM	405
162	B	165°/88 Feet	1	Flake	FGM	406
			1	Flake	MGM	407
163	B	171°/123 Feet	1	Debitage	FGM	408
164	B	153°/189 Feet	1	Utilized Debitage	FGM	409
165	B	151°/244 Feet		Not an Artifact		410
166	B	166°/234 Feet	3	Flakes	FGM	411
			3	Flakes	MGM	412
167	B	171°/225 Feet	1	Flake	MGM	413
168	B	171°/256 Feet	1	Debitage	FGM	414
169	B	173°/291 Feet	1	Debitage	MGM	415
170	B	174°/318 Feet	1	Flake	FGM	416
			1	Flake	MGM	417
171	B	171°/298 Feet	1	Flake	MGM	418
172	B	166°/294 Feet	1	Flake	MGM	419
			2	Flakes	FGM	420
173	B	164°/315 Feet	1	Debitage	FGM	421
			1	Core Tool	MGM	422
			1	Flake	MGM	423

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
174	B	167°/325 Feet		Not an Artifact		424
175	B	165°/369 Feet	1	Flake	MGM	425
176	B	169°/354 Feet	1	Flake	MGM	426
177	B	170°/336 Feet	1	Flake	FGM	427
			1	Core Tool	MGM	428
178	B	171°/321 Feet	1	Utilized Debitage	MGM	429
			1	Utilized Flake	MGM	430
			1	Flake	MGM	431
179	B	173°/340 Feet	1	Flake	FGM	432
180	B	181°/370 Feet	1	Debitage	FGM	433
			1	Flake	MGM	434
181	B	184°/305 Feet	1	Core Tool	FGM	435
			4	Flakes	FGM	436
182	B	184°/319 Feet	1	Flake	MGM	437
183	B	188°/309 Feet	3	Flakes	MGM	438
184	B	186°/285 Feet	2	Flakes	FGM	439
185	B	187°/268 Feet	1	Hammer/Core	MGM	440
			1	Debitage	MGM	441
186	B	185°/247 Feet	1	Utilized Flake	FGM	442
			1	Flake	FGM	443
			3	Flakes	MGM	444
187	B	182°/251 Feet	1	Utilized Debitage	FGM	445
			1	Debitage	FGM	446
			3	Flakes	FGM	447

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
			1	Debitage	MGM	448
			1	Flake	MGM	449
188	B	174°/264 Feet	2	Flakes	FGM	450
			1	Core Tool	MGM	451
			1	Flake	MGM	452
189	B	180°/260 Feet	1	Flake	FGM	453
			4	Flakes	MGM	454
190	B	181°/213 Feet	1	Debitage	FGM	455
191	B	189°/248 Feet	1	Flake	FGM	456
			1	Flake	MGM	457
192	B	195°/261 Feet	2	Flakes	FGM	458
			1	Flake	Quartz	459
193	B	191°/260 Feet		Not an Artifact		460
194	B	190°/293 Feet	1	Debitage	MGM	461
195	B	190°/307 Feet	1	Utilized Flake	FGM	462
			1	Flake	MGM	463
196	B	194°/298 Feet	1	Core Tool	MGM	464
197	B	197°/314 Feet	1	Flake	MGM	465
198	B	197°/289 Feet	1	Utilized Flake	MGM	466
199	B	205°/289 Feet	1	Hammerstone Fragment, Undetermined	FGM	467
			2	Flakes	FGM	468
			2	Flakes	MGM	469
200	C	0°/200 Feet	1	Flake	FGM	470

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
201	C	52°/34 Feet	1	Utilized Flake	FGM	471
			1	Flake	FGM	472
202	C	95°/47 Feet	1	Hammer/Core	FGM	473
			3	Flakes	FGM	474
203	C	119°/46 Feet	1	Flake	FGM	475
			2	Flakes	MGM	476
204	C	69°/66 Feet	1	Utilized Flake	FGM	477
			2	Flakes	FGM	478
205	C	46°/56 Feet	1	Utilized Debitage	FGM	479
206	C	29°/79 Feet	1	Debitage	FGM	480
			1	Flake	MGM	481
207	C	4°/108 Feet	1	Flake	FGM	482
208	C	21°/121 Feet	2	Flakes	FGM	483
209	C	27°/152 Feet	1	Retouched Flake	FGM	484
			2	Flakes	FGM	485
210	C	19°/163 Feet	1	Flake	FGM	486
211	C	11°/183 Feet	2	Flakes	FGM	487
212	C	13°/233 Feet	1	Flake	FGM	488
			1	Debitage	MGM	489
			1	Flake	MGM	490
213	C	7°/254 Feet	1	Core Tool	FGM	491
214	C	17°/259 Feet	1	Debitage	FGM	492
215	C	21°/275 Feet	2	Flakes	FGM	493

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
			1	Flake	MGM	494
216	C	29°/245 Feet	2	Flakes	FGM	495
217	C	23°/328 Feet		Not an Artifact		496
218	C	26°/379 Feet	1	Debitage	FGM	497
219	C	35°/338 Feet	1	Flake	MGM	498
220	C	35°/326 Feet	4	Flakes	FGM	499
221	C	34°/314 Feet	3	Flakes	FGM	500
222	C	28°/308 Feet	2	Flakes	FGM	501
223	C	28°/276 Feet	1	Utilized Flake Fragment	FGM	502
			1	Debitage	FGM	503
			4	Flakes	FGM	504
			1	Debitage	MGM	505
224	C	32°/252 Feet	1	Utilized Debitage	FGM	506
			1	Flake	FGM	507
			1	Flake	MGM	508
225	C	34°/248 Feet	2	Flakes	FGM	509
226	C	29°/245 Feet	1	Debitage	FGM	510
			1	Flake	FGM	511
			1	Utilized Flake	MGM	512
			1	Debitage	Quartz	513
227	C	20°/228 Feet	1	Debitage	FGM	514
			2	Flakes	FGM	515
			1	Utilized Flake Fragment	MGM	516
			3	Flakes	MGM	517

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
228	C	27°/215 Feet	2	Flakes	FGM	518
			1	Core Tool	MGM	519
			1	Utilized Flake	MGM	520
			1	Flake	MGM	521
229	C	28°/215 Feet	1	Debitage	FGM	522
			1	Core Fragment	MGM	523
			4	Flakes	MGM	524
230	C	27°/225 Feet		Not an Artifact		525
231	C	24°/204 Feet	1	Flake	FGM	526
232	C	20°/192 Feet	1	Utilized Debitage	FGM	527
			1	Flake	FGM	528
			1	Debitage	MGM	529
233	C	37°/184 Feet	1	Utilized Flake	FGM	530
			2	Debitage	MGM	531
234	C	30°/203 Feet	1	Utilized Flake	FGM	532
			2	Debitage	FGM	533
			1	Flake	FGM	534
			9	Flakes	MGM	535
235	C	32°/217 Feet	1	Utilized Debitage	FGM	536
			1	Flake	FGM	537
			1	Utilized Flake	MGM	538
			1	Debitage	MGM	539
			3	Flakes	MGM	540
236	C	36°/209 Feet	1	Utilized Flake	MGM	541
			1	Utilized Flake	MGM	542
237	C	35°/223 Feet	2	Flakes	FGM	543
			1	Retouched Debitage Fragment	MGM	544
			1	Utilized Flake	MGM	545

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
			1	Flake	MGM	546
			1	Debitage	Quartz	547
238	C	40°/263 Feet	1	Hammer/Core	FGM	548
			1	Utilized Debitage	FGM	549
			1	Utilized Flake	FGM	550
			2	Flakes	FGM	551
239	C	41°/279 Feet	1	Utilized Flake	FGM	552
			1	Flake	FGM	553
			3	Flakes	MGM	554
240	C	35°/294 Feet	2	Flakes	FGM	555
			2	Flakes	MGM	556
241	C	37°/316 Feet	1	Utilized Debitage Fragment	FGM	557
			1	Debitage	FGM	558
			2	Flakes	FGM	559
242	C	44°/288 Feet	2	Debitage	MGM	560
243	C	49°/242 Feet	1	Flake	FGM	561
			1	Debitage	MGM	562
			3	Flakes	MGM	563
244	C	55°/278 Feet		Not an Artifact		564
245	C	61°/340 Feet	1	Utilized Debitage Fragment	FGM	565
			2	Flakes	MGM	566
246	C	63°/296 Feet	1	Debitage	FGM	567
			1	Flake	MGM	568
247	C	68°/274 Feet	2	Debitage	FGM	569
			1	Flake	FGM	570

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
248	C	77°/237 Feet	1	Debitage	FGM	571
249	C	84°/356 Feet	1	Debitage	FGM	572
250	C	99°/630 Feet	1	Debitage	Chalcedony	573
251	C	102°/629 Feet	1	Flake	MGM	574
252	C	110°/584 Feet	1	Utilized Flake	MGM	575
253	C	120°/551 Feet	1	Debitage	Quartz	576
254	C	104°/499 Feet	1	Utilized Debitage	MGM	577
255	C	94°/427 Feet	1	Utilized Flake	MGM	578
256	C	89°/363 Feet	1	Debitage	FGM	579
			1	Flake	FGM	580
257	C	68°/195 Feet	1	Utilized Debitage	FGM	581
			1	Flake	FGM	582
			1	Flake	MGM	583
258	C	51°/202 Feet	2	Flakes	FGM	584
			1	Retouched Flake	MGM	585
			1	Debitage	MGM	586
			2	Flakes	MGM	587
			1	Debitage	Quartz	588
259	C	42°/223 Feet	1	Flake	MGM	589
260	C	39°/153 Feet	2	Flakes	FGM	590
261	C	53°/171 Feet	2	Flakes	FGM	591
			1	Flake	MGM	592
262	C	51°/154 Feet	2	Debitage	FGM	593

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
			5	Flakes	FGM	594
			1	Utilized Debitage	MGM	595
			1	Debitage	MGM	596
263	C	57°/135 Feet	4	Flakes	FGM	597
264	C	74°/134 Feet	1	Flake	MGM	598
265	C	93°/130 Feet	1	Flake	FGM	599
			1	Flake	MGM	600
266	C	330°/41 Feet	1	Retouched Flake	FGM	601
			1	Core Tool	MGM	602
			2	Flakes	MGM	603
267	C	102°/90 Feet	1	Debitage	FGM	604
			2	Flakes	FGM	605
			3	Flakes	MGM	606
268	C	122°/75 Feet	1	Utilized Flake	FGM	607
			1	Flake	MGM	608
269	C	135°/90 Feet	1	Flake	FGM	609
			4	Flakes	MGM	610
270	C	129°/116 Feet	1	Debitage	FGM	611
271	C	114°/156 Feet	4	Flakes	FGM	612
			1	Debitage	MGM	613
			1	Flake	MGM	614
272	C	113°/207 Feet		Not an Artifact		615
273	C	98°/235 Feet	1	Flake	FGM	616
			2	Debitage	MGM	617
274	C	96°/317 Feet	1	Utilized Debitage	FGM	618

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
275	C	99°/366 Feet	1	Debitage	FGM	619
			2	Flakes	FGM	620
276	C	122°/362 Feet	1	Debitage	MGM	621
			1	Flake	MGM	622
277	C	126°/347 Feet	1	Retouched Flake	FGM	623
			3	Flakes	FGM	624
278	C	128°/474 Feet	1	Debitage	FGM	625
279	C	129°/534 Feet	1	Utilized Debitage	FGM	626
280	C	145°/358 Feet		Not an Artifact		627
281	C	143°/281 Feet	1	Debitage	FGM	628
			3	Flakes	FGM	629
			1	Debitage	MGM	630
282	C	155°/236 Feet	1	Utilized Debitage	FGM	631
			1	Utilized Flake	FGM	632
			1	Flake	FGM	633
			1	Flake	MGM	634
283	C	146°/155 Feet	1	Utilized Debitage	FGM	635
			1	Utilized Flake	FGM	636
			5	Flakes	MGM	637
284	C	154°/118 Feet	1	Utilized Flake Fragment	FGM	638
			1	Debitage	FGM	639
			1	Flake	FGM	640
			2	Flakes	MGM	641
285	C	166°/58 Feet	1	Retouched Flake	FGM	642
			2	Flakes	FGM	643

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
286	C	146°/35 Feet	2	Flakes	FGM	644
			2	Flakes	MGM	645
287	C	197°/35 Feet	2	Flakes	MGM	646
288	C	180°/72 Feet	1	Utilized Flake	MGM	647
			1	Flake	MGM	648
289	C	215°/74 Feet	1	Debitage	FGM	649
			1	Debitage	MGM	650
290	C	224°/90 Feet	1	Utilized Flake Fragment	FGM	651
			1	Utilized Flake	FGM	652
			1	Flake	FGM	653
			1	Debitage	MGM	654
291	C	240°/78 Feet	1	Utilized Debitage	FGM	655
			1	Debitage	FGM	656
			1	Utilized Debitage	MGM	657
292	C	237°/128 Feet	1	Core	FGM	658
			3	Flakes	FGM	659
			1	Flake	MGM	660
293	C	209°/118 Feet	1	Debitage	FGM	661
			2	Flakes	FGM	662
294	C	193°/116 Feet	1	Core Tool Fragment	FGM	663
			1	Flake	MGM	664
295	C	169°/170 Feet	1	Debitage	FGM	665
			5	Flakes	FGM	666
296	C	158°/152 Feet	1	Flake	FGM	667
297	C	161°/191 Feet	1	Flake	FGM	668
			1	Utilized Flake	MGM	669

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
298	C	160°/273 Feet	1	Utilized Debitage	FGM	670
			1	Flake	FGM	671
299	C	163°/378 Feet	1	Flake	FGM	672
300	C	168°/361 Feet	1	Flake	FGM	673
301	C	167°/437 Feet	1	Debitage	FGM	674
			1	Flake	FGM	675
302	C	173°/570 Feet		Not an Artifact		676
303	C	182°/563 Feet	1	Utilized Debitage	FGM	677
304	C	193°/610 Feet	1	Utilized Flake	FGM	678
305	C	193°/451 Feet		Not an Artifact		679
306	C	181°/459 Feet	1	Utilized Debitage	MGM	680
307	C	181°/364 Feet	1	Utilized Flake	FGM	681
			2	Flakes	FGM	682
308	C	188°/361 Feet	2	Debitage	FGM	683
			1	Flake	FGM	684
309	C	171°/261 Feet	1	Utilized Debitage	FGM	685
			1	Debitage	FGM	686
310	C	170°/237 Feet	1	Flake	MGM	687
311	C	180°/219 Feet	1	Utilized Debitage	FGM	688
			1	Flake	FGM	689
			2	Flakes	MGM	690
312	C	191°/227 Feet	1	Debitage	FGM	691

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
			1	Flake	FGM	692
			1	Utilized Debitage	MGM	693
			9	Flakes	MGM	694
313	C	197°/214 Feet	1	Debitage	FGM	695
			1	Debitage	MGM	696
			1	Flake	MGM	697
314	C	201°/207 Feet	1	Utilized Debitage	FGM	698
			2	Flakes	FGM	699
			1	Retouched Debitage	MGM	700
			1	Debitage	MGM	701
			3	Flakes	MGM	702
315	C	198°/189 Feet	1	Flake	FGM	703
			5	Debitage	MGM	704
			7	Flakes	MGM	705
316	C	187°/207 Feet	1	Utilized Debitage	MGM	706
			2	Debitage	MGM	707
			4	Flakes	MGM	708
317	C	180°/251 Feet	1	Flake	MGM	709
318	C	203°/172 Feet	1	Flake	FGM	710
			1	Debitage	MGM	711
			4	Flakes	MGM	712
319	C	213°/163 Feet	1	Flake	FGM	713
320	C	223°/181 Feet	1	Utilized Debitage	FGM	714
			1	Debitage	FGM	715
			2	Flakes	FGM	716
			2	Debitage	MGM	717
			1	Core	MGM	718
321	C	252°/152 Feet	1	Debitage	FGM	719

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
322	C	224°/197 Feet	1	Flake	FGM	720
323	C	231°/236 Feet	1	Flake	FGM	721
			1	Debitage	MGM	722
324	C	226°/242 Feet	1	Utilized Flake	MGM	723
			1	Flake	MGM	724
325	C	231°/299 Feet	1	Retouched Flake Fragment	MGM	725
			1	Flake	MGM	726
326	C	226°/284 Feet	1	Flake	FGM	727
			1	Utilized Debitage	MGM	728
327	C	224°/283 Feet	1	Utilized Debitage	FGM	729
			1	Core	FGM	730
			5	Debitage	FGM	731
			1	Flake	FGM	732
			1	Utilized Debitage	MGM	733
			4	Flakes	MGM	734
328	C	224°/305 Feet	1	Utilized Flake	FGM	735
			1	Debitage	MGM	736
			2	Flakes	MGM	737
329	C	228°/320 Feet	1	Flake	FGM	738
			1	Utilized Debitage	MGM	739
			2	Debitage	MGM	740
			2	Flakes	MGM	741
330	C	222°/366 Feet	1	Debitage	FGM	742
331	C	218°/354 Feet	1	Utilized Debitage	FGM	743
			1	Utilized Debitage Fragment	FGM	744
			2	Flakes	FGM	745

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
			2	Debitage	MGM	746
			1	Flake	MGM	747
332	C	214°/342 Feet	1	Flake	FGM	748
			1	Flake	MGM	749
333	C	204°/278 Feet	1	Debitage	FGM	750
			2	Flakes	FGM	751
			1	Flake	MGM	752
			1	Flake	CGM	753
334	C	216°/381 Feet	1	Flake	FGM	754
			1	Utilized Debitage	MGM	755
335	C	214°/404 Feet	1	Debitage	FGM	756
			1	Flake	MGM	757
336	C	211°/424 Feet	1	Debitage	FGM	758
			2	Flakes	FGM	759
			1	Flake	MGM	760
337	C	201°/438 Feet	3	Flakes	FGM	761
338	C	201°/544 Feet	1	Debitage	FGM	762
339	C	207°/542 Feet	1	Retouched Flake	FGM	763
			1	Utilized Debitage	FGM	764
			1	Debitage	FGM	765
340	C	245°/318 Feet	2	Flakes	FGM	766
341	C	242°/276 Feet	1	Flake Scraper	FGM	767
			1	Utilized Debitage	MGM	768
			1	Debitage	MGM	769
			3	Flakes	MGM	770
342	C	254°/291 Feet	2	Flakes	MGM	771

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
343	C	256°/320 Feet	3	Flakes	FGM	772
			1	Core	MGM	773
			2	Flakes	MGM	774
344	C	269°/263 Feet	1	Utilized Debitage Fragment	FGM	775
			1	Hammerstone, Spherical	MGM	776
			1	Flake	MGM	777
345	C	272°/258 Feet	1	Hammerstone Fragment, Undetermined	FGM	778
			1	Utilized Debitage Fragment	FGM	779
			1	Flake	FGM	780
			1	Core	MGM	781
			1	Flake	MGM	782
346	C	265°/242 Feet	1	Utilized Debitage	FGM	783
			1	Utilized Flake	MGM	784
347	C	285°/262 Feet	2	Flakes	MGM	785
348	C	275°/266 Feet	1	Hammerstone, Spherical	FGM	786
			2	Flakes	MGM	787
349	C	273°/289 Feet	6	Flakes	FGM	788
350	C	302°/251 Feet	1	Utilized Debitage	FGM	789
351	D	38°/40 Feet	1	Debitage	MGM	790
			1	Flake	MGM	791
352	D	93°/60 Feet		Not an Artifact		792
353	D	125°/85 Feet	1	Debitage	FGM	793
			2	Flakes	FGM	794
			2	Flakes	MGM	795

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
354	D	138°/113 Feet	1	Flake	MGM	796
			1	Chopper/Hammerstone	Quartz	797
355	D	169°/118 Feet		Not an Artifact		798
356	D	160°/148 Feet	1	Debitage	FGM	799
			1	Flake	FGM	800
			1	Utilized Flake	MGM	801
357	D	159°/168 Feet	2	Flakes	MGM	802
358	D	145°/167 Feet	1	Flake	MGM	803
359	D	169°/201 Feet	1	Debitage	FGM	804
			1	Flake	FGM	805
360	D	156°/227 Feet	1	Flake	FGM	806
361	D	162°/262 Feet		Not an Artifact		807
362	D	168°/275 Feet	1	Debitage	FGM	808
			1	Flake	FGM	809
			1	Debitage	MGM	810
363	D	172°/249 Feet	1	Hammerstone Fragment, Undetermined	FGM	811
			2	Flakes	FGM	812
			2	Flakes	MGM	813
364	D	173°/320 Feet	1	Flake	FGM	814
			1	Flake	MGM	815
365	D	199°/305 Feet	1	Flake	MGM	816
			1	Flake	Quartz	817
366	D	201°/273 Feet		Not an Artifact		818
367	D	198°/226 Feet	2	Debitage	FGM	819

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
			1	Flake	FGM	820
368	D	183°/174 Feet	1	Debitage	FGM	821
			2	Flakes	FGM	822
			2	Flakes	MGM	823
369	D	196°/111 Feet	1	Debitage	FGM	824
			5	Flakes	FGM	825
			1	Debitage	MGM	826
			2	Flakes	MGM	827
370	D	196°/65 Feet	1	Core Tool	FGM	828
			1	Utilized Flake	FGM	829
			4	Flakes	FGM	830
			1	Debitage	MGM	831
			2	Flakes	MGM	832
371	D	194°/51 Feet	1	Utilized Flake	FGM	833
			5	Flakes	FGM	834
			3	Flakes	MGM	835
372	D	188°/35 Feet	1	Debitage	FGM	836
			1	Flake	FGM	837
			2	Debitage	MGM	838
			4	Flakes	MGM	839
373	D	138°/80 Feet	2	Flakes	FGM	840
			1	Flake	MGM	841
374	D	148°/41 Feet	1	Utilized Flake Fragment	FGM	842
			2	Flakes	FGM	843
			3	Flakes	MGM	844
375	D	190°/24 Feet	1	Utilized Flake	FGM	845
			6	Flakes	FGM	846
			1	Hammer/Core	MGM	847
			4	Flakes	MGM	848

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
376	D	315°/63 Feet	1	Utilized Flake	FGM	849
			1	Debitage	FGM	850
			1	Flake	FGM	851
			2	Flakes	MGM	852
377	D	287°/40 Feet	1	Debitage	MGM	853
			3	Flakes	MGM	854
378	D	262°/22 Feet	1	Hammerstone Fragment, Undetermined	FGM	855
			3	Flakes	FGM	856
			1	Flake	MGM	857
379	D	268°/52 Feet	1	Core Tool	FGM	858
			2	Flakes	FGM	859
			1	Flake	MGM	860
380	D	264°/87 Feet	1	Debitage	FGM	861
			2	Flakes	FGM	862
381	D	238°/74 Feet	1	Flake	FGM	863
			2	Flakes	MGM	864
382	D	232°/99 Feet	1	Core Tool	FGM	865
			1	Utilized Debitage Fragment	FGM	866
			3	Flakes	FGM	867
			4	Flakes	MGM	868
383	D	206°/84 Feet	3	Flakes	FGM	869
			7	Flakes	MGM	870
384	D	223°/105 Feet	1	Utilized Debitage Fragment	FGM	871
			1	Flake	FGM	872
			7	Flakes	MGM	873
385	D	247°/109 Feet	1	Debitage	FGM	874

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
			3	Flakes	FGM	875
386	D	262°/127 Feet	1	Hammerstone, Single-Edged	FGM	876
			1	Utilized Flake	FGM	877
			2	Flakes	MGM	878
387	D	243°/127 Feet	4	Flakes	FGM	879
			3	Flakes	MGM	880
388	D	233°/143 Feet	1	Utilized Flake	FGM	881
			4	Flakes	FGM	882
			4	Flakes	MGM	883
389	D	238°/167 Feet	1	Flake	FGM	884
			1	Utilized Debitage	MGM	885
			4	Flakes	MGM	886
390	D	213°/143 Feet	1	Retouched Flake	FGM	887
391	D	231°/194 Feet	1	Flake	FGM	888
			1	Hammerstone, Single-Edged	MGM	889
392	D	232°/211 Feet	1	Flake	MGM	890
393	D	214°/216 Feet	2	Flakes	FGM	891
			1	Debitage	MGM	892
394	D	210°/249 Feet	1	Utilized Flake	MGM	893
395	D	215°/267 Feet	2	Debitage	FGM	894
396	D	223°/325 Feet	1	Flake	FGM	895
			1	Utilized Debitage	MGM	896
397	D	300°/198 Feet	2	Flakes	FGM	897

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
398	D	314°/194 Feet	1	Debitage	MGM	898
			1	Flake	MGM	899
399	D	322°/214 Feet	1	Core Tool	FGM	900
400	D	320°/277 Feet	1	Utilized Flake	FGM	901
			2	Flakes	FGM	902
401	D	325°/337 Feet	3	Flakes	MGM	903
402	D	329°/335 Feet	1	Flake	FGM	904
			4	Flakes	MGM	905
403	E	184°/188 Feet	1	Core Tool Fragment	FGM	906
			1	Utilized Flake	FGM	907
			1	Utilized Flake	FGM	908
			1	Utilized Flake	FGM	909
			1	Utilized Flake Fragment	FGM	910
			11	Flakes	FGM	911
404	E	173°/267 Feet	3	Flakes	MGM	912
			1	Flake	FGM	913
405	E	172°/220 Feet	2	Flakes	MGM	914
			1	Core Tool	FGM	915
406	E	168°/201 Feet	1	Flake	FGM	916
			1	Utilized Flake Fragment	FGM	917
407	E	141°/124 Feet	1	Flake	FGM	918
			1	Core	MGM	919
			7	Flakes	MGM	920
408	E	78°/76 Feet	1	Flake	FGM	921
			1	Core	MGM	922
408	E	78°/76 Feet	2	Flakes	FGM	923
			2	Debitage	MGM	924

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
409	E	73°/51 Feet	1	Core Tool	FGM	924
410	E	33°/53 Feet	1	Utilized Flake	FGM	925
			2	Flakes	FGM	926
411	E	329°/126 Feet	1	Utilized Debitage	FGM	927
			1	Debitage	FGM	928
			2	Flakes	MGM	929
412	E	349°/164 Feet	1	Utilized Debitage	FGM	930
			1	Flake	FGM	931
			1	Flake	MGM	932
413	E	346°/156 Feet	2	Flakes	FGM	933
414	E	356°/197 Feet	1	Flake	FGM	934
415	E	8°/178 Feet	1	Flake	MGM	935
416	E	0°/214 Feet	1	Utilized Debitage	FGM	936
			1	Flake	FGM	937
			1	Utilized Debitage	MGM	938
417	E	1°/243 Feet	3	Debitage	FGM	939
			12	Flakes	FGM	940
			1	Utilized Flake	Quartz	941
418	E	4°/248 Feet	2	Debitage	FGM	942
			5	Flakes	FGM	943
419	E	0°/268 Feet	12	Flakes	FGM	944
			1	Flake	MGM	945
420	E	353°/272 Feet	1	Utilized Debitage	FGM	946
421	E	357°/292 Feet	1	Flake	FGM	947
			2	Flakes	MGM	948

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
422	E	5°/285 Feet	1	Flake	FGM	949
			1	Utilized Flake	MGM	950
			1	Flake	MGM	951
423	E	11°/296 Feet	1	Debitage	FGM	952
			2	Flakes	MGM	953
424	E	7°/316 Feet	1	Hammerstone Fragment, Undetermined	FGM	954
			1	Utilized Flake	FGM	955
			1	Debitage	FGM	956
			2	Flakes	FGM	957
			2	Flakes	MGM	958
425	E	2°/342 Feet	1	Flake	FGM	959
426	E	358°/314 Feet	2	Flakes	FGM	960
			3	Flakes	MGM	961
427	E	350°/332 Feet	1	Utilized Flake	FGM	962
428	E	357°/351 Feet	1	Flake Scraper	FGM	963
			1	Flake	FGM	964
			1	Core Scraper	MGM	965
			1	Flake	MGM	966
429	E	356°/379 Feet	2	Flakes	FGM	967
430	E	357°/450 Feet	1	Hammerstone Fragment, Undetermined	Quartz	968
431	E	3°/454 Feet	1	Debitage	FGM	969
			2	Flakes	FGM	970
			1	Flake	MGM	971
432	E	1°/498 Feet		Not an Artifact		972

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
433	E	359°/533 Feet	1	Flake	FGM	973
			1	Core Tool	MGM	974
			1	Flake	MGM	975
434	E	0°/580 Feet	2	Debitage	FGM	976
			1	Flake	FGM	977
			1	Debitage	MGM	978
			4	Flakes	MGM	979
435	E	5°/577 Feet	2	Flakes	FGM	980
			1	Retouched Flake	MGM	981
436	E	6°/707 Feet	1	Core Tool	FGM	982
			1	Utilized Flake	MGM	983
437	E	3°/692 Feet	1	Hammerstone Fragment, Undetermined	FGM	984
			1	Core Tool	FGM	985
			1	Flake	MGM	986
438	E	5°/759 Feet	1	Debitage	FGM	987
439	E	8°/793 Feet	3	Flakes	FGM	988
440	E	8°/845 Feet		Not an Artifact		989
441	E	9°/874 Feet	1	Flake	MGM	990
442	E	7°/884 Feet	1	Utilized Flake	FGM	991
			2	Flakes	FGM	992
			1	Utilized Flake	MGM	993
443	E	13°/824 Feet	1	Flake	FGM	994
			1	Flake	MGM	995
444	E	9°/706 Feet	1	Debitage	FGM	996
			3	Flakes	FGM	997

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/Weight	Recovery	Description	Cat. No.
445	E	14°/574 Feet	1	Chopper/Hammerstone	FGM	998
446	E	18°/595 Feet	1	Flake	FGM	999
			2	Debitage	MGM	1000
447	E	22°/545 Feet	1	Core Tool Fragment	MGM	1001
			1	Debitage	MGM	1002
448	E	10°/519 Feet	1	Utilized Debitage	FGM	1003
			1	Debitage	FGM	1004
			2	Flakes	FGM	1005
			4	Flakes	MGM	1006
449	E	9°/421 Feet	1	Flake	FGM	1007
450	E	212°/46 Feet	1	Flake	FGM	1008
			3	Flakes	MGM	1009
451	E	202°/17 Feet	2	Debitage	MGM	1010
			5	Flakes	MGM	1011
452	E	323°/27 Feet	1	Retouched Flake Fragment	FGM	1012
			1	Debitage	FGM	1013
			1	Flake	FGM	1014
			1	Hammerstone Fragment, Undetermined	MGM	1015
			1	Debitage	MGM	1016
			2	Flakes	MGM	1017
453	E	75°/46 Feet	1	Hammerstone, Spherical	FGM	1018
			1	Flake	FGM	1019
			1	Flake	MGM	1020
454	E	115°/58 Feet	1	Core Tool	FGM	1021
			1	Debitage	FGM	1022
			1	Flake	FGM	1023
			2	Flakes	MGM	1024

Recovery Location	Datum	Location from Datum Azimuth/Range	Quantity/ Weight	Recovery	Description	Cat. No.
455	E	123°/80 Feet	1	Hammerstone Fragment, Undetermined	FGM	1025
			1	Core Fragment	FGM	1026
			1	Debitage	MGM	1027
			4	Flakes	MGM	1028
456	E	63°/75 Feet	3	Flakes	FGM	1029
			1	Hammerstone Fragment, Circular	MGM	1030
			1	Debitage	MGM	1031
			4	Flakes	MGM	1032
457	E	39°/124 Feet	1	Hammer/Core	FGM	1033
			1	Utilized Flake	MGM	1034
			1	Debitage	MGM	1035
			1	Flake	MGM	1036
458	E	351°/102 Feet	1	Debitage	MGM	1037
459	E	305°/77 Feet	1	Debitage	MGM	1038