

# ***A Preliminary Report of a Rock Feature Complex on the East Side of Searles Lake (CA-SBR-12134/H), Western Mojave Desert, San Bernardino County, California***

Kish D. La Pierre

## **Abstract**

Nothing stands out on the archaeological landscape (quite literally) like architecture in demonstrating variability and adaptation to a given environment. Waterman (1924:1) looked at structural variations across the North American landscape. A Paiute village was noted “so simple that nothing could be more startlingly primitive.” Structures at Pueblo Bonito were described in contrast as “...very large...hundreds of feet in dimensions. Some were made of tremendous beams in a cyclopean style of carpentry.” This paper examines rock features of the western Mojave Desert from those found at a site on the eastern shore of Searles Lake.

The purpose of this investigation, somewhat like that of Waterman’s (1924), is to examine the rock features of the western Mojave Desert and even more specifically on the east side of Searles Lake at site (CA-SBR-12134/H) (Figs. 1 and 2). The intent of this study is to determine the purpose of these architectural remains in order to understand site function. First, it is pertinent to review theories on the types of rock features in the Mojave Desert, as well as adjoining areas of the Great Basin.

The Great Basin is included in this analysis because the Mojave Desert is often considered an extension of the Great Basin, especially by anthropologists (e.g., Steward 1938, Kroeber 1939, d’Azevedo 1986, Grayson 1993, Lawlor 1995:43). The Mojave Desert is part of the hydrographic Great Basin, meaning the rivers of the Mojave Desert flow into the Great Basin rather than emptying into the sea (Smith and Street-Perrott 1983). Furthermore, native people of the Mojave Desert were materially and linguistically similar to people of the Great Basin (Lawlor 1995:43).

## **The Problem**

There are several styles of rock features, with the greatest amount of variation being identified in regions of California. Cairns, alignments, hearth rings, stone circles, rock stacks, and semicircular enclosures have all been recorded in several areas (e.g. Vierra 1986, von Werlhof 1987, Basgall and Giambastiani 1995).



*Fig. 1. Eastern side of Searles Lake looking toward the Slate Mountain Range.*



*Fig. 2. Rock Features at Eastern Searles Lake site CA-SBR-12134/H.*

Cairns are a common type of feature that consist of piled stacks of rocks placed in a circular fashion. Jett (1986:615) identified 35 native ethnic groups in North America that employed trail side cairns. The function of cairns is not always obvious, although there are instances where they were used in mortuary practices, to cover the dead, or as cairn burials (Halford and Carpenter 2005). Moratto (1984:129–130) noted several sites on the Santa Barbara sub-

region (Glen Annie, Little Sycamore, ZuMa Creek, and Mesa) where there are known mortuary patterns that employed the use of millingstone cairns for burials.

Rock alignments are another somewhat common feature and can be described as dry-laid masonry features constructed in a linear fashion. Rock alignments have been recorded along mountain trails in

arc shapes, with some running parallel to the trail and others crossing the trail. A few of these features have been noted in association with prayer seats (Chartkoff 1983:752). The function for these types of features is not particularly clear, but perhaps in some situations they were used as hunting blinds.

Hunting blinds have been identified in many areas on the western landscape, and like rock alignments, are typically constructed by stacking rocks in a linear fashion, although they sometimes incorporate naturally occurring rock formations. The function of these structures has been described as “camouflaged shelter in which hunters concealed themselves” (Hudson and Blackburn 1979:78). Some (Hudson and Blackburn 1979:78) have postulated that the distribution of hunting blinds may be indicative of their use by all mainland groups. Sutton (1988:66) pointed out that hunting blinds were only known at two sites in the Western Mojave Desert (CA-LAN-296 and CA-KER-1481). Sutton also stressed that it was possible that some of these features might be lean-to shelter foundations, perhaps due to the fact that four of the features were located next to large boulders (*ibid.*).

Prayer seats (*tseksels*) have been noted as three-sided or semicircular dry-laid masonry enclosures. The Native American name for these, *tseksels*, is derived from Yurok and means “a place” (Wylie 1976). Reportedly, few artifacts are found in association with these features. Ethnographically referenced, these features were noted as being traditionally visited by medicine women to gain powers for healing (Chartkoff 1983:746).

Common to many western landscapes are rock stacks marking trails. Historic as well as prehistoric peoples perhaps constructed these. In many cases it is impossible to determine when these features were built.

A seemingly important type of rock feature in western North America is the cache pit. Wilke and McDonald (1989:57) identified 19 sites (rockshelters) in the California deserts and the Southwest containing rock-lined cache pits. Cache pits in the California deserts were described as being up to a meter in diameter and having depths of up to 30 centimeters. Most pits were noted as being carefully constructed and typically “chinked with small rocks” (1989:69). Wilke and McDonald attributed this careful construction as being a deliberate effort on the part of the builder “to render the pits rodent proof” (*ibid.*).

Excavations on four cache pits at Chapman Rockshelter No. 1 in the Coso Range revealed features lined with basalt slabs. Metates were used in the construction of two of these. Three of the pits were lined with materials such as bunch grass, buckwheat plants, Joshua tree fiber, tule matting, and twined basketry. One of the cache pits was not lined, but did contain debitage, a small biface, a basalt mano, a slate pendent fragment, pinyon hulls, twined basketry, and a bone bead (Wilke and McDonald 1989:63).

Southwest rock-lined cache pits were analyzed for comparative purposes. This research found a wide variety of sizes, shapes, and construction methods described for excavated storage pits, although most of the reports lacked details. In the Southwest, cache pits lined with slab rocks are known as cists. Again, the authors argued, “that such features are so commonplace that they often generate little enthusiasm on the part of Southwestern excavators, frequently being reported only as “typical cists” (Wilke and McDonald 1989:65).

It seems that these “cists” are especially common on the Colorado Plateau of the Four Corners area, where they are indicative of the Basketmaker II culture. Cache pits excavated at Steamboat Cave near

the upper Gila River in southwestern New Mexico produced such artifacts as 27 ears of corn with sticks stuck in the end of them, perhaps in an effort for drying. At Sun Flower Cave in Arizona, 12 cists were lined with slabs, some of which were used to dispose of the dead. It was concluded that various situations are reflections of different concepts. Caches that are concealed (rockshelter sites) are perhaps reminiscent of people that were more seasonally nomadic (Wilke and McDonald 1989:65–66).

In 1989, an archaeological survey, part of an Upper Basin Archaeological Research Project, examined the economic prehistory of the region around the Grand Canyon (Sullivan et al. 2001). During this investigation, 126 piles of fire affected cracked rock were located and recorded. Scatters of lithic and ceramic artifacts surrounded most of these features. It was noted that these types of features are unique to the region. During this study, five of the features were thoroughly excavated to understand their function (Sullivan et al. 2001:368).

Methods of analysis included flotation and identification of plant materials. A variety of types of plant foods was recovered and identified, including cactus, Indian rice-grass, cheno-ams, purslane, buckwheat, juniper, and pinyon nuts. No domesticated plants were noted, despite the fact that maize was being produced during this period and is indicative of this region. The authors suggested that these features and their associated lithic scatters are perhaps evidence supporting wild plant food processing (Sullivan et al. 2001:374).

It must be noted that reminiscent of tipi rings/rock-rings, although much larger and somewhat stylistically different, are features referred to as medicine wheels. Medicine wheels are indicative of the Plains and could (and have) contributed to interpretive problems with regards to tipi rings, as they are similar. The Big Horn Medicine Wheel in the Big Horn

Mountains of Wyoming is marked by 28 radiating spokes with rock cairns at its periphery (Malouf 1961:383; Farrer 1984:379–380).

John Eddy, an astronomer at the High Altitude Observatory in Boulder, Colorado, hypothesized in his published thesis that medicine wheels, such as the Big Horn, were observatories used by prehistoric people. To the contrary, some hypothesize that medicine wheels were used in the construction of medicine lodges, although ethnographic evidence to support either argument is lacking (Farrer 1984:379–380).

Another type of rock feature, or rather rock feature complex, is earthen art otherwise known as stone intaglios or geoglyphs. This is a prehistoric art form, but differs from rock art in that it is “an arrangement of rock and earth” (von Werlhof 1987:5). This art form often incorporates cairns and uplifted slabs of rocks, it is deliberate arrangement of rocks in a selected area, which seems to serve no utilitarian purpose, but demonstrates design or a shape. He noted that these types of features are most typically found on ancient terraces composed of cobble-sized rocks. He also points out sometimes rocks were brought in for construction, but most often rocks occurring naturally in the immediate area were used in the design (von Werlhof 1987:10–11).

Rock features, in general, should be considered of great importance for several reasons, and perhaps many archaeologists would agree. One reason is that rock features traditionally have posed interpretive problems for archaeologists, thus any attempt to infer function or use is a step towards unraveling the interpretive problems.

Rock features also are important for their ideotechnic aspects (cf. Binford 1962) which regarding archaeological remains could pose interpretive problems due to their symbolic nature. This is difficult

to pinpoint unless Native American cultures of the particular area have some continuity from prehistoric times to the present, thus enabling the anthropologist to gain knowledge.

Chartkoff (1983:745) argues that “the discovery of a complex is an example of the contribution of archaeological research to a fuller understanding of the ethnographic record.” It was also pointed out that in California many ritual practices with which these rock features are now associated have not been recorded in the ethnographic record. In essence taking on an archaeological investigation of these anomalies contributes information to other areas of anthropological research.

Lastly, and certainly debatable, Chartkoff (1983:745) also argued that recent research had focused on subsistence-settlement patterns as primary variables in the shaping of culture systems. Chartkoff noted “elements of a traditional religious system have endured at least successfully as have traditional subsistence systems. The case therefore raises important issues for anthropological theory” (ibid.).

The rock feature variety, or complexes, from California has not been found anywhere else in North America although particular features or elements associated with this complex do occur more widely (Jett 1986:615–616). One example identified and reported on several subterranean, or subfloor, rock-lined, cache pits built in sheltered places by aboriginal peoples across several locations in the California deserts and the Southwest (Wilke and McDonald 1989:50).

Unfortunately, there seems to be a lack of interest with regards to rock features at archaeological sites. Although many archaeologists’ methods for interpreting rock features are lacking empirical data for support (minimal artifacts noted and no chronometric analysis), at least there are a few publications that

attempt to explain archaeological rock features. Most of the literature regarding rock features has to be gleaned out of reports and articles that offer only snippets of information. Wilke and McDonald (1989:50) stressed this same concern regarding rock-lined cache pits:

These features have received almost no attention in California because excavations traditionally have emphasized the recovery and analysis of portable artifacts. Studies in which non portable structural features of any kind have been discovered, exposed, and systematically investigated in California are few. Failure to more consistently investigate non portable facilities has hindered interpretation of the archaeological record in the desert region.

The above overview of rock features is just a sample of what has been identified in western North America. Rock art (petroglyphs/pictographs) was not considered for this investigation, although it is sometimes found in conjunction with certain rock features (Gilreath 1997, Rogers 2005). And as previously mentioned, often it is difficult to distinguish certain types of rock features from others (Sutton 1988, Eckhardt and Hatley 1982).

As noted, stone-rings probably are found universally, in both prehistoric and historic contexts. They can be simply described as features composed of rocks laid in a circle with none of the rocks touching each other. When found in association with charcoal and ash, function is most likely that of a hearth. When no charcoal or ash is found in association, then function is not so easily deciphered.

Specifically noted by Wilke (1983), Simms (1989), and Basgall and Delacorte (2003), data are often lacking with regard to artifacts found in association with rock features. To prepare for a situation such

as this, it is suggested that noninvasive models be applied to rock features.

### Other Aspects to Consider

Contrarily speaking, ethnoarchaeology has demonstrated that in some cultures the trash of the inhabitants is typically found where activities and residence were not taking place (Gould 1966; Ammerman and Feldman 1974; Gallagher 1977; Gifford 1977; Binford 1978a, 1978b, 1987; Kent 1984; Simms 1989:2). Typically, many archaeologists (Binford 1978a, 1978b, 1987; Kent 1984; O'Connell 1987; Simms 1989; Fisher and Strickland 1989; Metcalfe and Heath 1990; Simms and Heath 1990) realized that "the presence, size, density, and distribution of refuse in relation to features hold implications for interpretations of site structure" (Simms 1989:2). These situations should be taken into consideration prior to, and during, excavation.

To reiterate, Sutton (1988:64) noted, "rock-rings are known at a number of sites but are not numerous." Because these features are not numerous in the western Mojave Desert, they are especially intriguing and worth investigating. As demonstrated earlier in this paper, aside from previous investigations conducted at Stoddard Valley (Eckhardt and Hatley 1982) and Rogers's (2005) preliminary investigations in the El Pasos, little work has been conducted in the Mojave with regards to rock-ring configurations. Furthermore little archaeological work has been conducted at prehistoric sites on the shoreline of Searles Lake. This paper proposes an investigation focused primarily on rock features and their usage in the western Mojave Desert, more specifically on the east side of Searles Lake shown in Figures 1 and 2.

### Investigations in the Mojave Desert and Great Basin

Despite the fact that aboriginal ethnoarchaeology is now nearly non-existent in the Mojave Desert and the Great Basin, there have been a few situations where archaeologists have come in contact with large sites with excellent preservation, outstanding artifact density, and distinct patterns of refuse in relation to structures and/or sites in general (Simms 1989:2). One such example is the Bustos wickiup site near Ely, Nevada. This site was marked by "semi-erect remains of five juniper log structures dating to the last half of the eighteenth century" (ibid).

Hypotheses regarding feature function do vary according to location and/or site proximity. An earlier investigation by Wilke (1983) in the Owens Valley at sites along the lower Cottonwood Creek reported on rock-rings surrounding bedrock associated with milling slicks and handstones. At this time he postulated that these features were threshing floors, however flotation samples recovered from one of the features did not contain many seeds or other organics (Basgall and Delacorte 2003:232).

Bettinger (1989) investigated rock-ring occurrences at Crater Middens in the Owens Valley, reporting large bedrock milling features in association. He hypothesized that they were merely wind/sun shades for cover at grinding areas; the threshing hypothesis was not addressed. Flotation was conducted, but data went unreported (Basgall and Delacorte 2003:232).

Surveys by Basgall and Giambastiani (1995) in the Volcanic Tablelands, Northern Owens Valley, revealed numerous ground-level bedrock exposures with grinding slicks, milling equipment, rock-rings, and carbon stains within the features. During this

investigation, it was hypothesized that these features served as threshing floors for seed processing by way of flash-burning methods. Flotation samples were taken, but never fully analyzed, however there was evidence supporting rice grass processing (e.g., Basgall and Delacorte 2003).

One site, CA-KER-230, located in the western Mojave Desert, was recorded by Sutton (1988), and consists of several rock-rings of differing shapes. One of the features at this site is described as a large rock "circle" with two smaller connecting circles giving appearance of a "Mickey Mouse" head. Apparently, the shape does not indicate that the feature is of historic times because similar features of prehistoric origin have been reported elsewhere. However, a feature function or site use at CA-KER-230 was not offered (Sutton 1988:64).

Eckhardt and Hatley's (1982) investigations at Owl Canyon and Stoddard Valley in the Mojave provided information on 20 rock features. Most of these features appeared to be rock-rings, although a few were identified as cairns. Detailed drawings of these features demonstrated large amounts of diversity with regards to shape. The rock-ring assemblages and cairns were unique in that they were swept clearings, circles, semi-circles, alignments, or other amorphous configurations (Eckhardt and Hatley 1982). They suggested a wide range of interpretations regarding cultural affiliation and functions of rock-rings and they noted, "other configurations have been proffered by many investigators" (ibid.:81).

#### **Investigations in Areas Adjacent to CA-SBR-12134/H**

Rogers (2005:6) noted that in the El Paso Mountains southwest of Searles Lake, "Little systematic research has been done in this area." In a summary of an archaeological survey, Apostolides

(1969) pointed out that the entire area (known then as the Saltdale Quad) "is so rich in archaeological material that it is doubtful that one could walk more than 50 yards in any direction without stumbling across signs of a site."

Gardner (2002) excavated the Coffee Break Site (CA-KER-5043) in Red Rock Canyon (southwest of Searles Lake). She determined that this site is a multi-component, seasonal habitation occupied during the Gypsum/Newberry and Rose Spring/Haiwee Periods. The radiocarbon dates for this site clearly demonstrated two temporal phases, one at  $880 \pm 50$  RCYBP and the other around  $2490 \pm 60$  RCYBP. Interestingly, no Late Prehistoric/Marana component was present (Gardner 2002:66). Obsidian hydration measurements coincided with the radiocarbon dates (Gardner 2002:68, Table 14). Artifacts recovered at the Coffee Break Site included Rose Spring and Humboldt projectile points, several types of ground stone, and Olivella shell beads. Faunal remains were mostly that of *Lepus* sp. (Gardner 2002:6).

Rogers (2005) has conducted numerous surveys and mapped a total of seven sites on the eastern slope of the El Paso Mountains, all of which are along the drywash that drained into China Lake. Test excavations were conducted in 2005 at the Terese Site (CA-KER-6188), and artifacts recovered from these excavations included metates, manos, pestles, hammerstones, modified cobbles, lithic cores, flakes, bifaces, points, and shell beads. All of the aforementioned mapped sites are marked by rock-rings, extensive milling implements, lithic scatters, and rock art (Rogers 2005:7–12).

Mark Allen and students from Cal Poly, Pomona (2004) have conducted numerous surveys and excavations at Red Mountain (south of Searles Lake). Chronological evidence gathered from these investigations suggests human occupation during

the Gypsum, Rose Spring, and Late Prehistoric periods (Marana/Haiwee), or rather continuity of occupation during, and after, the medieval climatic anomaly (Allen 2004:9). Surface features at the Red Mountain archaeological district were suggested as being late prehistoric; they include hunting blinds, stone circles, cleared areas, cairns, and milling implements (Allen 2004:11).

### Previous Research at Searles Lake

Many archaeological sites have been located and recorded during surveys in the vicinity of the Searles (Dry) Lake Basin (e.g. von Werlhof 1987; Reed 2006; Hildebrandt and Darcangelo 2004), however no known subsurface investigations have been reported.

A recent non-invasive study by Cervený et al. (2006) analyzed anthropogenic modifications to rock coatings by way of radiocarbon dating of pedogenic carbonate and rock-varnish microlaminations on rock features in the Searles Valley. Results from this investigation suggested some of the features (e.g., rock-ring, rock alignment) to be from the mid-Holocene or about 4110±40 BP, rock alignment, and 3860±50 BP, rock ring (ibid.:298).

### Investigations at CA-SBR-12134/H

#### *Previous Investigations*

The site (CA-SBR-12134/H) is located in a restricted area of the Mojave B Range, Naval Weapons Station, China Lake. The site is situated along the western front of the Slate Mountain Range (Fig.1), near the distal end of an alluvial fan that extends west towards the eastern edge of the Searles Lake playa. There does not seem to be any real water source nearby, and the ancient Searles Lake bed is approximately 1,000 meters from the site (Hildebrandt and Darcangelo 2004).

The site is situated at approximately 550 meters above mean sea level (AMSL). The local vegetation falls within the Mojave Desert geographic region. The largest and most conspicuous woody plant growing naturally in the study area is the desert shrub Creosote Bush or greasewood (*Larrea tridentata*) (Erwin and Schorn 2006).

As noted previously Searles Lake is a dry lake bed. The western portion of its basin is located in the vicinity of Trona and Pioneer Point. This area of the lake bed is currently the site of a mining operation that is involved in the extraction of commercially valuable mineral deposits. These evaporate deposits were made available as the lake began to retreat approximately 100,000 years ago. Searles Lake is also known for its massive calcareous tufa deposits, which are referred to as “The Pinnacles”. These deposits have recently been investigated and it was demonstrated that these “Pinnacles” are tufa-encrusted trees that are most similar to juniper (*Juniperus* sp.) (Erwin and Schorn 2006).

Searles Lake was one of many Pleistocene lakes that existed in the Great Basin. What is known about this lake comes mostly from the survey work of Smith and Street-Perrott (1983) and Smith (1984), geologists with the United States Geological Society. They suggested that the lake reached its highest stand by 16000 to 15000 BP, and remained high until approximately 14000 BP and then sharply declined thereafter. The final rise in level at Searles Lake occurred sometime between 11000 and 10500 BP (Smith and Street-Perrott 1983, Smith 1984, Reed 2006).

The proposed area for this study (CA-SBR-12134/H) was hypothesized as being situated well below the late Pleistocene/early Holocene shorelines of the former lake and also 25 to 30 meters below any hypothetical middle Holocene stand (Hildebrandt and Darcangelo 2004:10).



The site measures 600 by 200 meters in size and four distinct loci (Fig. 3) were identified at the site during a 2004 survey (Hildebrandt and Darcangelo 2004). Locus A was noted as being relatively small, measuring only 50 by 30 meters, but contained 26 rock features (eight cairns and 18 alignments). Locus D was relatively large (120 by 50 meters), but had a lower density of rock features ( $n=21$ , with seven cairns and 14 alignments). Locus B was also quite large (160 by 40 meters) and contained a large number of features ( $n=35$ ), including 27 cairns and eight alignments. Locus C contained high frequencies of mining-related features and artifacts including two settling ponds, and a pile of slag, waste rock, and broken kiln bricks. No rock alignments or cairns were noted at Locus C, and historical artifacts decreased in frequency outside this area. Locus C lies in the southwest portion of the site near an historical road, whereas loci A, B, and D extended out to the northeast of the site. No prehis-

toric artifacts were noted during this 2004 survey; due to wind swept desert sands that had covered the rock features.

A more recent site visit in June, 2006, proved differently; winds had blown away most of the sand that previously covered the rock features. In addition, one possible enclosed rock structure or habitation area at Locus A (Fig. 4) was discovered, and several artifacts were noted (e.g., one amber-colored bead, one mano, and an abundance of lithic debitage). Prehistoric artifacts were visible on the ground and inside several of the rock features mostly at Locus A (Figs. 5 and 6). Charcoal also was noted in the habitation area.

#### *Recent Investigations at CA-SBR-12134/H*

When this site was first mapped in 2004, Hildebrandt and Darcangelo plotted 82 rock fea-

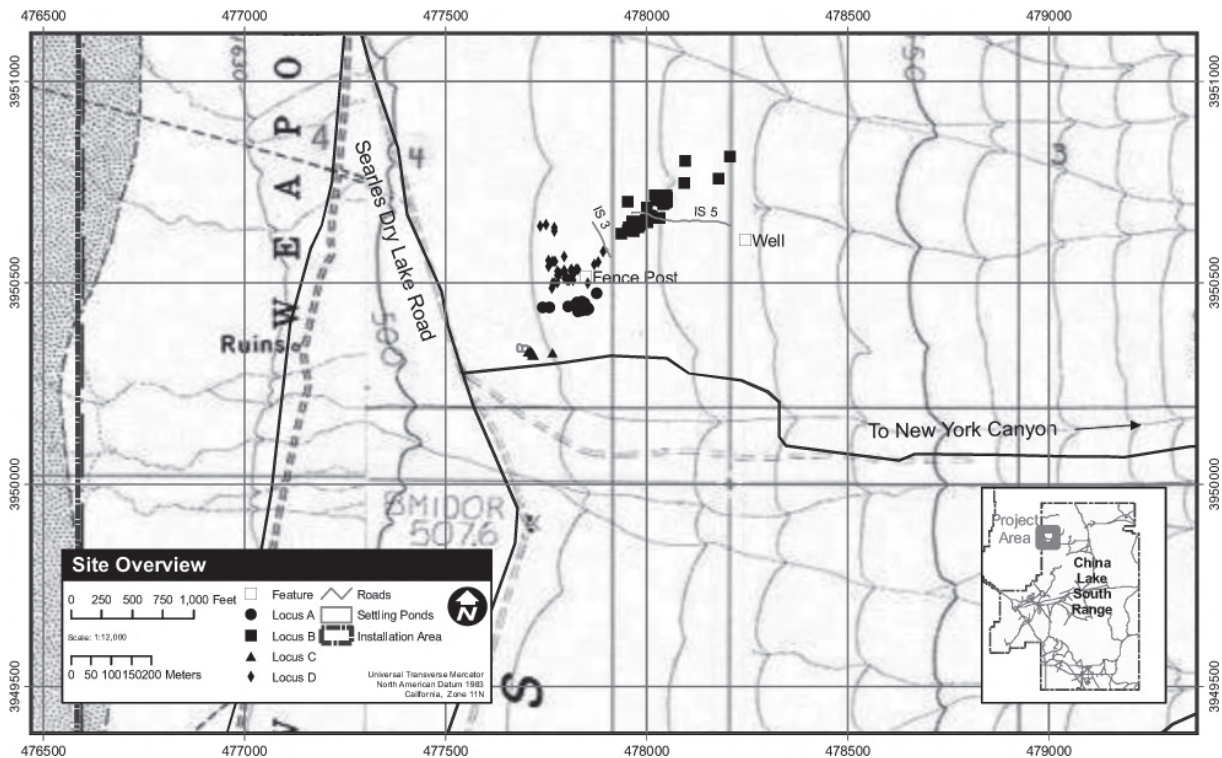


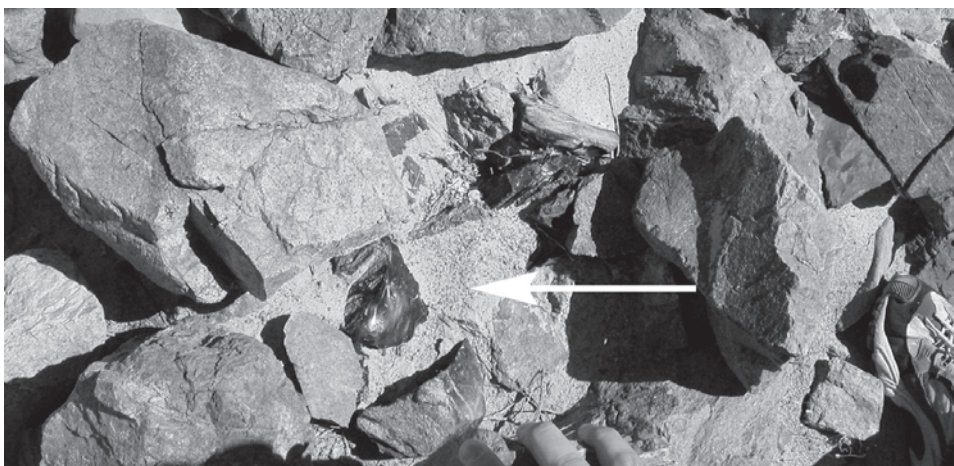
Fig. 3. Site map of CA-SBR-12134/H, showing the four loci.



*Fig. 4. CA-SBR-12134/H, Locus A, proposed habitation area.*



*Fig. 5. Arrow points to antler tip inside rock cairn, Locus A.*



*Fig. 6. Arrow points to obsidian debitage inside rock cairn, Locus A.*

tures (cairns and alignments) spread over three loci. Since this initial investigation, prevailing winds have shifted the sands revealing artifacts and additional features, bringing the total to 111.

**Study Questions**

This 2007 investigation is focused primarily on two research questions:

- What was the function of the rock features at this site?
- What was the occupation sequence and chronology, and do these differ at each locus?

The chronological framework for this report (Table 1) follows the one used at the neighboring Terese Site (Rogers 2005), originally developed by Bettinger and Taylor (1974) and later enhanced by Pearson (1995).

**Methods**

Recent fieldwork (January, March, and May, 2007) focused on surface collection of artifacts, and a detailed recording and photographing of all rock fea-

*Table 1. Chronological Framework for CA-SBR-12134/H.*

Period	Time Span
Historic Period	Post-AD 1850
Marana Period	600 BP-AD 1850
Haiwee Period	1350-600 BP
Newberry Period	3150-1350 BP
Little Lake Period	6000-3150 BP
Mojave Period	Pre-6000 BP

tures for mapping. In addition, five surface scrapes, and the excavation of eight test units was conducted to determine the extent of cultural materials associ-

ated with the rock features. Units were excavated to depths between 10 and 65 centimeters. Deposits were shallow due to a bedrock deposit situated immediately below the sand.

Test units were placed directly on top of four selected features (Fig. 7); this allowed for the exposure of two sides for profiling and probing. This method also provided means to determine if there were any types of artifacts directly associated with the feature, and if burials were beneath the rocks. No burials were encountered during these excavations, however artifacts were found in association with three of the features.

Numerous artifacts were noted and collected during survey and excavation (Tables 2, 3, and 4). Cultural deposits were very superficial and most of the items were recovered from 0-15 centimeters. Cataloging and analysis of these artifacts currently is in progress.

*Table 2. Artifact assemblage at CA-SBR-12134/H (cataloging and analysis in progress).*

Artifacts	Locus A	Locus B	Locus C (Historic Area)	Locus D
Bead	99	----	----	----
Lithic debitage	approx. 300	----	----	
Ground stone	3	2	----	----
Bullet	1	----	----	----
Brownware	approx. 4	----	----	----
Glass bottles/frag.	approx. 5	----	approx. 10	----
Metal frag.	approx. 10	approx. 5	approx. 10	approx. 10
Marble	1	----	----	----
Biface	3	----	----	----
Projectile point	3	1	----	----



Fig. 7. Rock alignment (Feature 4) during excavation, CA-SBR-12134/H.

Table 3. Faunal assemblage at CA-SBR-12134/H (cataloging and analysis in progress).

Faunal (bone)	Locus A	Locus B	Locus C	Locus D
Deer (antler tip)	1	----	----	----
Equus (mule/horse)	----	approx. 2 fragments	----	approx. 10 fragments

Table 4. Excavation unit types and soil volumes at CA-SBR-12134/H.

Unit type and number	Rock feature	Dimensions (meters) (NS by EW)	Depth (centimeters)
Locus D, SSC 2	Feature 38	1.0 by 2.0	0–5
Locus D, SSC 3	Feature 61	1.0 by 1.0	0–5
Locus B, SSC 4	Feature 70	1.0 by 1.0	0–5
Locus B, SSC 5	*Feature 109	3.0 by 3.0	0–5
Locus B, CU 7	Feature 111	2.0 by 2.0	0–40
Locus A, CU 9	Feature 12	1.0 by 1.0	0–40
Locus A, CU 4	North Feature 5	1.0 by 1.0	0–30
Locus A, CU 3	North Feature 5	1.0 by 1.0	0–30
Locus A, CU 5	South Feature 5	1.0 by 1.0	0–10
Locus A, CU 6	North Feature 12	1.0 by 1.0	0–20
Locus A, CU 8	Feature 5	1.0 by 0.8	0–65
Locus A, CU 2	South Feature 5	1.0 by 1.0	0–40
Locus A, SSC 1	South Feature 5	3.0 by 3.0	0–10

Notes: CU-Control Unit; SSC-Surface Scrape; \*Feature 109 later was determined to be not a cultural feature; 1/8-inch and 1/16-inch mesh screens used.

### Protein Residue Analysis Results

The Laboratory of Archaeological Sciences at California State University, Bakersfield conducted cross-over immunoelectrophoresis (CIEP) analysis on five artifacts. The artifact assemblage included two flaked stone artifacts, two ground stone artifacts, and one brownware rim sherd. The residues were tested against a variety of animal and plant antisera relevant to the study area. One positive reaction for protein was registered on the brownware rim sherd. A positive for bear indicates the presence of bear protein from either black bear or grizzly bear. The absence of identifiable proteins on the remaining artifacts is possibly due to poor preservation of protein, or because proteins present did not match up with any of the organisms included in the available antisera (Yohe, Newman, and Schneider 1991).

### Remarks

To completely address the proposed research questions, further analyses are required and are currently in progress. These analyses include a statistical analysis considering variables observed on the features, and GIS mapping to depict spatial distribution and patterning of the features. Also, further attention will be given to Locus C, the historical locus, and to methods of dating for these artifacts. Other analyses include: 1) analysis of temporally diagnostic artifacts; 2) obsidian hydration; 3) radiocarbon dating on charcoal samples collected from Locus A; and 4) thermoluminescence of pottery.

The Northern Paiute and Shoshone of Idaho refer to rock feature complex sites as “vision quest sites,” “puha places” and/or “power spots” despite the fact that some of these areas appear to be regular habitation sites (Robert Yohe, personnel communication, 2005). This function also may be the case at CA-SBR-12134/H. In addition, there may be a pat-

tern with regards to the hydrographic/archaeological region in, and around, Searles Lake (Davis and Winslow 1965; Halford and Carpenter 2005) that may be useful for understanding the rock features at CA-SBR-12134/H.

### References Cited

- Allen, Mark W.  
2004 Paper presented at the Great Basin Anthropology Conference, Sparks, Nevada, October 15, 2004.
- Ammerman, Albert J., and M. W. Feldman  
1974 On the Making of an Assemblage of Stone Tools. *American Antiquity*. 39:610–616.
- Apostolides, Alex  
1969 Kern County, California—The Saltdale Quadrangle: Archaeological Survey, Summary to 1 Feb 1969. Copy on file at Southern San Joaquin Information Center, Bakersfield, California.
- Basgall, Mark E., and Michael G. Delacorte  
2003 Phase II Evaluations at Nine Archaeological Sites Near Independence, Inyo County, California. Copy on file at Fresno, California Department of Transportation.
- Basgall, Mark E., and Mark A. Giambastiani  
1995 The Role of Structures. In, Prehistoric Use of Marginal Landscape: Continuity and Change in Occupation of the Volcanic Tablelands, Mono and Inyo Counties, California, M.E. Basgall and M.A. Giambastiani, eds., pp.257–261. *Center for Archaeological Research, Publication No.12*, Davis, California.

- Bettinger, Robert L., and R. E. Taylor  
1974 Suggested Revisions in Archaeological Sequences in the Great Basin and Interior Southern California. *Nevada Archaeological Survey Research Notes* 5:1–26. Nevada Archaeological Society, Reno.
- Bettinger, Robert L.  
1989 The Archaeology of Pinyon House, Two Eagles and Crater Middens: Three Residential Sites in Owens Valley, Eastern California. *American Museum of Natural History Anthropological Papers* 67.
- Binford, Lewis R.  
1962 Archaeology as Anthropology. *American Antiquity*. 28:217–225.  
1978a *Nunamiut Ethnoarchaeology*. Academic Press, New York.  
1978b Dimensional Analysis of Behavior and Site Structure: Learning from an Eskimo Hunting Stand. *American Antiquity* 43:330–361.  
1987 Researching Ambiguity: Frames of Reference and Site Structure. In, *Methods and Theory for Activity Area Research: An Ethnoarchaeological Approach*, S. Kent, ed., pp. 449–512. Columbia Press, New York.
- Cervený, N. V., Russell L. Kaldenberg, Judyth E. Reed, David S. Whitley, Joseph Simon, and Ronald I. Dorn  
2006 A New Strategy for Analyzing the Chronometry of Constructed Rock Features in Deserts. *Geoarchaeology: An International Journal*, Vol. 21, No. 3, 281–303.
- Chartkoff, Joseph L.  
1983 A Rock Feature Complex from Northwestern California. *American Antiquity*. 48 (4)745–760.
- Davis, Emma Lou and S. Winslow  
1965 Giant Ground Figures of the Prehistoric Deserts. *Proceedings of the American Philosophical Society*, Vol. 109, No.1.
- d' Azeverdo, Warren L.  
1986 *Handbook of North American Indians*. Volume 11, *Great Basin*. Smithsonian Press, Washington D.C.
- Eckhardt, William, and M. J. Hatley  
1982 *The Archaeology of Owl Canyon and Stoddard Valley, Mojave Desert*. Corner Stone Research Publications, Bureau of Land Management, Riverside District Office.
- Erwin, D. M., and H. E. Schorn  
2006 Tufa-Encrusted Trees From Late Pleistocene Searles Lake. *A Festschrift Honoring the Contributions of California Archaeologist Jay von Werlhof*, ed., by Russell L. Kaldenberg, pp. 1–28. Maturango Museum Publication No. 20, Ridgecrest, California.
- Farrer, C. R.  
1984 Is There an American Stonehenge? *The Journal of American Folklore*. 97(385) 379–380.
- Fisher, J. W., and H. C. Strickland  
1989 Ethnoarchaeology among the Efe Pygmies, Zaire: Spatial Organization of Campsites. *American Journal of Physical Anthropology* 78:473–484.

- Gallagher, James P.  
1977 Contemporary Stone Tools in Ethiopia: Implications for Archaeology. *Journal of Field Archaeology* 4(4):407–414.
- Gardner, Jill K.  
2002 Testing a Regional Model of Changing Settlement and Subsistence Patterns in the Western Mojave Desert: Results from the Coffee Break Site. *Coyote Press Archives of Great Basin Prehistory*, No. 6.
- Gifford, D. P.  
1977 Observations of Contemporary Human Settlements as an Aid to Archaeological Interpretation. Ph.D. dissertation, University of California, Berkeley.
- Gilreath, Amy J.  
1997 Enhanced Recordation/Evaluation of Four Archaeological Sites within the Coso Rock Art District, Naval Air Weapons Station, China Lake. Far Western Anthropological Research Group, Inc. Prepared for Naval Air Weapons Station, China Lake, California.
- Grayson, Donald K.  
1993 *The Desert's Past: The Natural Prehistory of the Great Basin*. Smithsonian Institution Press, Washington, D. C.
- Gould, Richard A.  
1966 Archaeology of the Point St. George Site and Tolowa Prehistory. *University of California Publications in Anthropology* 4, Berkeley..
- Halford, F. Kirk, and Kimberley Carpenter  
2005 Results of Limited Phase II Testing at the Keeler Dunes Sites, Owens Valley, California. Far Western Anthropological Research Group, Inc. Prepared for United States of the Interior Bureau of Land Management, Bishop, California.
- Hildebrandt, William, and Michael Darcangelo  
2004 Exploratory Archaeological Survey of the East Side of Searles Lake. Far Western Anthropological Research Group, Inc. Draft Report Prepared for Russell L. Kaldenberg at NAWS.
- Hudson, D. Travis, and Thomas C. Blackburn  
1979 *The Material Culture of the Chumash Interaction Sphere*. Volume I: Food Procurement and Transportation. Ballena Press/ Santa Barbara Museum of Natural History Cooperative Publication, California.
- Jett, Stephen C.  
1986 Observations regarding Chartkoff's California "Rock Feature Complex." *American Antiquity*. 51(3):615–616.
- Kent, Susan  
1984 *Analyzing Activity Areas: An Ethnoarchaeological Study of the Use of Space*. University of New Mexico Press, Albuquerque.
- Kroeber, Alfred L.  
1939 Cultural and Natural Areas of Native North America. *University of California Publications in American Archaeology and Ethnology* 38.
- Lawlor, E. J.  
1995 Archaeological Site-formation Processes Affecting Plant Remains in the Mojave Desert. Dissertation, University of California, Riverside.

- Malouf, Carling  
1961 The Tipi Rings of the High Plains. *American Antiquity* 26(3):381–389.
- Metcalfe, Duncan, and Kathleen M. Heath  
1990 Micro-Refuse and Site Structure: An Archaeological Example. *American Antiquity*, 55:781–796.
- Moratto, Michael J.  
1984 *California Archaeology*. Academic Press, Orlando.
- O’Connell, James F.  
1987 Alyawara Site Structure and its Archaeological Implications. *American Antiquity* 52:74–108.
- Pearson, James L.  
1995 Prehistoric Occupation at Little Lake, Inyo County, California: A Definitive Chronology. Unpublished M.A. thesis, California State University, Los Angeles.
- Reed, Judyth E.  
2006 Late Pleistocene/Early Holocene Archaeology of the Southwest Searles Lake Basin, Kern County, California. *A Festschrift Honoring the Contributions of California Archaeologist Jay von Werlhof*, ed., by Russell L. Kaldenberg, pp. 159–168. Maturango Museum Publication No. 20, Ridgecrest, California.
- Rogers, Alexander K.  
2005 Survey and Excavations at the Terese Site (CA-KER-6188) in the El Paso Mountains, East Kern County, California: A Progress Report Part I-Site Description and Research Results. Maturango Museum, Ridgecrest, California.
- Simms, Steven R.  
1989 The Structure of the Bustos Wickiup Site, Eastern Nevada. *Journal of California and Great Basin Anthropology* 11(1):2–34.
- Simms, Steven R., and Kathleen M. Heath  
1990 Site Structure of the Orbit Inn: An Application of Ethnoarchaeology. *American Antiquity*, 55:797–812.
- Smith, George I.  
1984 Paleohydrologic Regimes in the Southwestern Great Basin, 0–3.2 my Ago, Compared with Other Long Records of “Global” Climate. *Quaternary Research* 22, 1–17.
- Smith, George I., and F. Alayne Street-Perrott  
1983 Pluvial Lakes of the Western United States. In, *Late Quaternary Environments of the United States*, Volume 1, S.C. Porter ed., pp. 190–212. University of Minnesota Press, Minneapolis.
- Steward, Julian H.  
1938 Basin-Plateau Aboriginal Socio-Political Groups. *Bureau of American Ethnology Bulletin* 120.
- Sullivan III, A. P., R. A. Cook, M. P. Purthill, and P. M. Uphus  
2001 Economic and Land-Use Implications of Prehistoric Fire-Cracked-Rock Piles, Northern Arizona. *Journal of Field Archaeology* 28:376–382.
- Sutton, Mark Q.  
1988 *An Introduction to the Archaeology of the Western Mojave Desert, California*. Coyote Press, Salinas, California.



- Vierra, Robert K.  
 1986 The Rock Ring Features of Pahute and Rainier Mesas. In, An Overview of Cultural Resources on Pahute and Ranier Mesas of the Nevada Test Site, Nye County, Nevada, ed., by Lonnie C. Pippin, pp. 111–131. *Desert Research Institute Social Sciences Center Technical Report* No. 45, Reno.
- von Werlhof, Jay C.  
 1987 *Spirits of the earth. A study of earthen art in the North American deserts*. Volume 1. *The North Deserts*. Imperial Valley College Museum, El Centro, California.
- Waterman, Thomas T.  
 1924 North American Indian Dwellings. *Geographical Review* 14:1–25.
- Wilke, Philip J.  
 1983 An Archaeological Assessment of Certain Sites on Lower Cottonwood Creek, Inyo County, California. Report on file, USDA Forest Service, Inyo National Forest, Bishop, California.
- Wilke, Philip J., and M. McDonald  
 1989 Prehistoric Use of Rock-Lined Cache Pits: California Deserts and Southwest. *Journal of California and Great Basin Anthropology* 11(1)50–73.
- Wylie, H. G.  
 1976 Archaeological Reconnaissance Report, Chimney Rock Section of the Gasquet-Orleans Road (#05-10-26). Draft Environmental Statement. Gasquet-Orleans Road, Chimney Rock Section, pp. 311–346. Ms. On file, Six Rivers National Forest, Eureka, California.
- Yohe, Robert M. II, M. E. Newman, and Joan S. Schneider  
 1991 Immunological Identification of Small-Mammal Proteins on Aboriginal Milling Equipment. *American Antiquity* 56(4)659–666.