ARCHEOLOGICAL SURVEY OF LOWER VINE RANCH, DEATH VALLEY NATIONAL MONUMENT

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ABSTRACT

In late 1986, archeologists from the Western Archeological and Conservation Center conducted two phases of archeological fieldwork at Death Valley Scotty's Lower Vine Ranch property in northern Death Valley National Monument, California. The completion of a large-scale instrument map of the structures and grounds composing the historic ranch complex and a pedestrian survey of the ranch access road were the primary objectives of the initial phase of fieldwork at Lower Vine, carried out from September 3 to September 12, 1986. The succeeding phase of fieldwork, conducted from October 22 to November 9, focused on inventorying the cultural resources located on the remainder of the unsurveyed, lower portions of the ranch. At the completion of the project, the entire fenced 1500-acre Lower Vine Ranch property, including both the lower bajada and the upper mesa areas, had been surveyed, with 57 sites and 74 isolates recorded. Cultural materials located on the property indicate the project area has been utilized from Paleo-Indian (Death Valley I) times through the recent historical past. The following volume documents the results of the fieldwork, provides environmental and cultural background information pertinent to the project area, summarizes the cultural history of the property, assesses the condition of the cultural resources located there and suggests options for managing those resources.
Chapter I
BACKGROUND

Introduction

In mid-1986, a limited amount of time and money became available for archeology at Death Valley National Monument. In consultation with park staff, the Western Archeological and Conservation Center (WACC) agreed that Lower Vine Ranch was an area of high archeological priority for several reasons. First, several archeological sites and numerous artifacts had been found in the vicinity of the ranch buildings, the majority of which had not been documented, mapped or recorded. Second, the cultural resource potential of the property was considered to be high, as the permanently-flowing springs on the property would have provided a reliable water source for people inhabiting this portion of Death Valley. William Wallace, in a preliminary assessment of the spring vicinity, stated that at least 6000 years of occupation were represented at sites nearby (1968). The ranch itself is considered a significant part of the colorful history of Death Valley, a fact reflected by its inclusion on the National Register of Historic Places in 1978 as part of the "Death Valley Scotty Historic District". Finally, park managers may conduct ground-disturbing activities at the ranch in the future which might include brush removal, spring development and maintenance, building rehabilitation, or road maintenance. In addition, managers may chose to open the area up to visitor interpretation.

In order to aid in effective management decisions regarding impacts to archeological resources, an on-ground survey of the zones of highest probable impact, and production of a large-scale, instrument map of the ranch complex, were proposed for early September, 1986, as part of the initial phase of field work at Lower Vine. At this time, the ranch building complex was surveyed in its entirety and the ranch access road and the dry wash paralleling the road to the south were surveyed on foot at 15 meter intervals along a 350-meter wide corridor. All sites located during the survey were recorded, photographed and mapped to National Park Service (NPS) standards. The initial field survey phase
was carried out from September 3 to September 12, 1986. Krista Deal and Lynne D'Ascenzo conducted the field research, and George Teague served as the project director.

Additional monies became available in October following the completion of the manuscript documenting the results of the initial mapping and survey project (see Deal and D'Ascenzo 1986). A second phase of fieldwork was initiated at Lower Vine Ranch, with the primary objective focused toward locating and recording the archaeological resources in the unsurveyed portion of the bajada. During this phase of the fieldwork, other monies were provided to complete the survey of the remaining portions of the ranch. Fieldwork during this second phase of the project was conducted from October 22 to November 9, 1986. Once again, Lynne D'Ascenzo and Krista Deal conducted the fieldwork, and cultural resources were recorded to NPS standards. By the end of the project, all land within the parcel known as Lower Vine Ranch had been surveyed. The WACC project number assigned to both phases of the fieldwork is DEVA 86C. A report documenting the results of the project follows. This report incorporates findings reported in Deal and D'Ascenzo (1986).

Environmental Setting

The Lower Vine Ranch project area is located approximately 2.5 miles southwest of Scottys Castle, in the northwest portion of Death Valley National Monument, in Inyo County, California (Fig. 1). The 1500-acre fenced ranch parcel lies in Township 11 South, Range 42 East, in portions of Sections 10, 11, 2, 3 and 4 (MDBM). The project area is shown on the USGS Ubehebe, California-Nevada, 15-minute (1957) quadrangle, with Lower Vine Ranch shown on the topographic sheet as "Scottys Ranch" (Fig. 2). An enlargement of the ranch property is shown in Figure 3.

Geology and Hydrology

Death Valley lies within the Great Basin portion of the Basin and Range physiographic province, a region characterized by a series of
Figure 1. Death Valley National Monument, including project area (revised from Tagg 1984).
Figure 2. Project area as shown on a portion of USGS Ubehehe Crater Quadrangle, California - Nevada (1957); 1:62500 (15 minute).
Figure 3. Enlargement of project area.
parallel basins or valleys and mountain ranges created by block-faulting. The 156-mile long trough composing Death Valley is bordered on the west by the Panamint Range and on the east by the Amargosa Range, with elevations in the mountains varying from 4000 to 11,000 feet. Nonmarine sedimentary rocks are the primary exposure in the northwest Grapevine Mountains in the general project vicinity (Kurzius 1981:7), with travertine and mudstone outcrops occurring in the specific project area, along with loose boulders of basalt.

In particular, the project area lies within the north end of Death Valley proper at elevations varying from 2880 feet in the southeast portion of the property, to 2060 feet in the southwest project corner, with most of the project area situated on alluvial and colluvial fans near the head of a gently sloping bajada. The property is backed on the northeast by the Grapevine Mountains which constitute the northern portion of the Amargosa Range. Several springs, seeps and intermittent drainages issue out of these mountains, providing the water necessary to support permanent and seasonal habitation within this arid portion of the Monument. Grapevine Springs, a series of alkali springs within the project area and above the ranch house at elevations from 2680 to 2800 feet, provides water to the specific project area, and a spring above the ranch at 2400 feet provided domestic water for homesteading and ranching operations at Lower Vine.

In addition to supplying water, the springs support a diversity of plant life including a variety of grasses, rushes, wild grapes, willows, cottonwoods, mesquite and an occasional palm (Kurzius 1981:267,iix; Jaeger 1957:58). The springs flow out of the mountains into several unnamed intermittent drainages and thence into Little Grapevine Creek (also intermittent) which runs southerly across the western portion of the property. All drainages within the project eventually feed into Death Valley Wash, a southeasterly-flowing intermittent drainage on the floor of the valley. Water from this drainage is lost onto the sandy valley floor further to the south.

Botanically, the Mohave Desert is considered to encompass this southern portion of the Great Basin covering the Monument (Jaeger 1957:7). The Mohave is an arid region with notoriously hot summers and relatively mild winters. In Death Valley, annual precipitation averages
a scant two inches, with several recent years registering absolutely no rainfall (Barton 1983:8). Temperatures vary from low winter ranges of 15 degrees Fahrenheit, to intolerable summer air temperatures as high as 134 degrees. Freezing occurs occasionally on the valley floor in winter, and ground temperatures in the summer may reach as high as 190 degrees (Barton 1983:8; Hunt 1960:4).

In the past, Death Valley and much of the Great Basin was subject to a moister and somewhat cooler climatic regime, with Pleistocene and pluvial lakes dotting the basin floors (Hunt 1960:4-6; Flint 1971:442-451). Lake Manly, a large Pleistocene lake, persisted in Death Valley into the Holocene, or recent geological age, when it dried up completely around AD 1 (Craib 1978:23; Hunt 1975:9-10;34). Temperatures and precipitation approached those characteristic of the area today by at least 2000 years ago (Hunt 1960:4).

**Biotic Communities**

Altitude, and the concomitant change in temperatures and precipitation, accounts for variation in both flora and fauna within this hot, arid region. Lower Vine Ranch lies within the Lower Sonoran Life Zone, as defined by Storer and Usinger (1963). The vegetation community of the project area is Desert Scrub, with dominant plant species represented by creosote. Other important plants of this community include shadscale (saltbush), bursage (burrobrush), Ephedra, desert holly, desert trumpet, rock-nettle (sting bush), prickly pear (beavertail), strawtop cholla, fishhook cactus, cottontop cactus, stickyring and numerous grasses (Barton 1983:9; Kurzius 1981:54-62; Tagg 1984:9-10). Additionally, the springs within the project area attract a localized, diverse association of plants as indicated in Figure 4. Wildlife typical of the Desert Scrub community include a variety of insects, numerous lizards, snakes, toads, frogs, and small mammals, including the kitfox, coyote, skunk, ground squirrel, gopher, jackrabbit, desert cottontail, kangaroo rat and mice (Tagg 1984:12-13). Additionally, six species of fish and fifteen of molluscs have been identified in Death Valley (Tagg 1984:13).
PLANTS COMMON TO SPRINGS AND SEEPAGE AREAS OF THE CREOSOTE BUSH ZONE, GRAPEVINE MOUNTAINS

Trees and Shrubs
+ Populus fremontii
* Salix exigua
+ S. gooddingii
+ Aster intricatus
* Baccharis sergiloides
* Tessaria sericea
  Isomeris arborea
* Suaeda torreyana
* Prosopis glandulosa
* P. pubescens
+ Tamarix sp.
+ Washingtonia filifera

Ferns
Adiantum capillus-veneris

Monocots
Cladium californicum
Cyperus niger
Eleocharis montevidensis
* E. rostellata
Fimbristylis thermalis
Schoenus nigricans
* Scirpus americanus
Sisyrinchium funereum
* Juncus mexicanus
  J. textilis
+ Epipactis gigantea
  Agrostis glomerata
  Andropogon glomerata

Dicots
Cynodon dactylon
* Distichlis spicata
Elymus cinereus
* Muhlenbergia asperifolia
* Phragmites australis
  Polypogon interruptus
* P. monspeliensis
* Sporobolus airoides
+ Typha domingensi

Berula erecta
+ Apocynum sp.
* Cirsium mohavense
  Helianthus nuttallii
* Solidago confinis
  S. spectabilis
* Sonchus asper
+ Heliotropium curassavicum
* Nasturtium officinale
  Thelypodium integrifolium
  Chenopodium berlandieri
  C. fremontii
  Kochia scoparia
+ Cucurbita palmata
  Centaurium namophilum
+ Lythrum californicum
+ Epilobium ciliatum
  Rumex salicifolius
+ Anemopsis californica
  Castilleja exilis
+ Vitis arizonica

* = widespread  + = scattered  _ = local

Figure 4. Plant species at springs and seepage areas of the Creosote Bush Zone of the Grapevine Mountains (from Kurzius 1981).
The lowest elevations of the Valley contain the Salt Flat plant community, a sparsely vegetated area found on the salt pan, in sand dune areas, or in rocky areas lacking sufficient soil moisture to support a more varied plant life. Mesquite, often found along the perimeters of sand dunes, represent the largest woody plant of this association, with desert holly, four-wing saltbush, reed grass, arrowweed, rush grass, pickleweed, seepweed, bursage, Amargosa weed (or jackass clover) also important (Craib 1978:24-25; Tagg 1984:7; Hunt 1960:7). The Salt Flat plant community is generally confined to an area roughly 20 miles southeast of the project area, although small pockets of this community occasionally extend to 3000 feet (Craib 1981:23) within the Grapevines.

The Grapevines Mountains backing the project area rise to an elevation of over 8700 feet, thereby ushering in several other locally important biotic communities in the general project vicinity. Above 4500 feet, sagebrush and Joshua tree occur as dominant shrubs, with pinyon and juniper becoming dominant above 6500 feet. Animals common to these upland habitats include bighorn sheep, mule deer, mountain lion, bobcat, gray fox and pronghorn antelope. Canyons within the Grapevines contain willows, cottonwoods, ferns and coyote melons (buffalo gourd) (Jaeger 1957:36,60), and provide natural routes of travel through the mountains (Hunt 1960:8).

A third, smaller community of the mountains is found at elevations above 10,000 feet in areas dominated by bristlecone pine (Craib 1978:24-25). This community lies primarily in the upper Panamints, roughly fifty miles south of the project area.

Recent Alterations

The most obvious alteration of the environment within the project area has occurred from 20th Century ranching operations associated with Lower Vine. The alterations have included the construction of buildings, corrals, fencelines, reservoirs, roads, pipelines and ditches, and the clearing and planting of domestic gardens and two large alfalfa fields. More recently, the access road has been bladed and, in at least one 150-meter section, realigned. To reduce fire hazard, brush has been removed by tractor from around all the ranch buildings. A
propane tank and a water tank have been added to the property, as has a new water pumphouse and a waterline from one of the springs above the ranch.

Cultural Setting

Previous Archeological Investigations

Serious archeological investigations began in the Mojave Desert in 1925 when Malcolm Rogers investigated an area near Saratoga Springs (Oetting 1980:12). In the following year, Rogers initiated fieldwork in the Mojave Sink and, in 1929, published the results of his initial findings in the area. Elizabeth and William Campbell also conducted fieldwork in the Mojave Desert in the 1920s, initially at Saratoga Springs and in the early 1930s along the Amargosa River. In 1935, the Campbells defined the Pinto Basin Culture (Campbell and Campbell 1935). Both Rogers and the Campbells continued working in the region for the next few decades.

Several investigators worked sporadically in the monument in the 1940s but, for the most part, none of this research was extensive in scope. In 1951, Clement W. Meighan and the University of California excavated the Coville Rockshelter in the northwestern portion of the monument (Meighan 1953). In 1952, William J. Wallace started a 25-year career of fieldwork in Death Valley. In 1958, Wallace proposed a four-period chronological sequence for the monument which is still in use. In 1960, Alice Hunt published her doctoral dissertation summarizing archaeological research conducted in and around the Salt Pan. William and Edith Wallace, and Alice Hunt conducted the majority of the archaeological investigations within the monument from the 1950s to the early 1970s.

Since the late 1970s, major archeological investigations have included excavations at Harmony Borax Works (Teague and Shenk 1977), a survey of 187 mining claims (Craib 1978), a survey along the Emigrant-Wildrose Highway (Oetting 1980), data collection in the Bullfrog Mining District (Hardesty 1981), boundary fenceline related projects (Barton 1983; Tagg 1984) and a survey of the Timba-Sha Village.
Additionally, three historic studies have produced excellent documentation of a variety of historic features within the monument. These include a general survey of historic resources (Tweed 1976), a history of mining in the monument (Greene and Latschar 1981) and an historical survey of the Lower Vine Ranch (Buchel 1985).

In the project area, previous archeological investigations have occurred twice on the specific ranch property--initially by William Wallace in 1963, and again in 1981 by Kathryn Kamp. Wallace spent two days on the property conducting surface surveys of a one-mile stretch of Little Grapevine Creek and a one-mile section of an unnamed canyon to the east of the ranch house. Wallace recorded 13 archeological sites, including four rockshelters, four "workshops" (essentially lithic scatters), two workshop/campsites, one house circle, and two hunting blinds (Wallace 1968:78-99). Twelve of these sites were definitely relocated. The final site, a rockshelter, is believed to correspond to IA-50, the floor of which is presently covered with pack rat midden. None of these sites are in the immediate vicinity of the ranch buildings.

Kathryn Kamp visited the ranch complex in 1981 in relation to two water projects planned for the ranch. These included the installation of a water tank and pipeline on the bluff above the ranch house. Kamp recorded one multicomponent site, DEVA 81A-3, near the ranch house, and noted numerous other sites around the ranch complex but outside her survey area. Kamp's site was relocated in the present survey and recorded as two separate sites, DEVA 86C-8 and DEVA 86C-1, Locus 4.

Historic Land Use

The first Euro-Americans known to have entered Death Valley arrived in 1849 enroute to the California gold fields (Manly 1894). During the 1850s and 60s, people began coming to the area to prospect for gold in the Valley--endeavors which met with little success. The first truly productive mining in Death Valley focused on the extraction and processing of borax in the 1880s (Teague and Shenk 1977:25,31; Craib 1978:38). Over the next few decades, mines and mining camps were established to extract and process a variety of economically important
minerals including gold, silver, lead, talc, borates and copper; most of these mining ventures followed a classic "boom and bust" development pattern, with more monies invested in the mines than were realized by the mining enterprise. However, mining continues on a small scale to this day with profitable production limited primarily to the extraction of talc and borates (Craib 1978:38; Death Valley National Monument 1976:54-59). Death Valley was established as a national monument in 1933, resulting in an increase in tourism, now the major industry of the valley (Tagg 1984:29). The Lower Vine Ranch property was acquired by the National Park Service in 1970 and was made part of Death Valley National Monument at that time.

The Lower Vine Ranch area was first utilized historically in the 1880s by prospectors living in semipermanent camps by the lower springs (Buchel 1985:14). Following this time, several people tried to legally claim the springs and ranch area. An excellent history of these early attempts to gain possession of the ranch area is outlined by Sue Buchell in her master's thesis on the Lower Vine Ranch (1985) and consequently will not be detailed here. By 1907, however, the final inhabitant of the ranch--the colorful historical figure of Walter Scott, or "Death Valley Scotty"--began squatting on the land and filed a homestead claim for the property, although he did not gain legal possession. Bev Hunter constructed the first permanent cabin on the ranch, shown in a 1919 photo with an Indian camp in the background (Buchel 1985:19-20). Hunter's cabin was located just southeast of the large outcrop situated to the northwest of the current ranch house. Beginning as early as 1916, Albert Johnson, the millionaire and life-long friend of Death Valley Scotty and the man who later constructed the Castle in Grapevine Canyon, started purchasing property around the Grapevine Springs near Lower Vine. By 1937, Johnson had acquired full title to the 1500-acre property known as Lower Vine Ranch (Buchel 1985:20-34). Scotty, in the meantime, had moved onto the ranch in 1917 into cabins which were already located on the property (Buchel 1985:147).

Prior to gaining full legal title of the land, Johnson began a series of improvements on the property beginning with fencing in the lower portion of the ranch in 1929. During the same year, construction began on the ranch house and outbuildings (Buchel 1985:37-43). Scotty
moved into the ranch house upon its completion (1930) and lived there until 1952 (Buchel 1985:53). The ranch and ranch house have been unoccupied since that time.

**Ethnographic Background**

The Lower Vine project area lies within the ethnographic territory of the Panamint Shoshone as defined by Kroeber (1925:590), Grosscup (1977:109-117) and Wallace (1977:32). Ethnographic descriptions of Shoshonean life have been summarized most completely by Kroeber (1925) and Steward (1938). The Shoshone were the largest Indian group in California at the time of contact with Euro-Americans, and also inhabited the largest territory. Although their territory extended into the Great Basin, it was only sparsely populated. For instance, population for the entire monument probably did not exceed 100 persons at any one time (Craib 1978:36; Wallace 1977).

The Shoshone were dispersed into small kin groups living in seasonally occupied camps near water sources such as springs (Craib 1978:36; Tagg 1984:27). Family groups within the village constituted the primary sociopolitical unit. In the fall, several villages would come together to conduct ceremonies and communal rabbit drives (Steward 1938:86-87; Craib 1978:36-37).

Shoshonean affinities were primarily with other Great Basin groups also belonging to the large Uto-Aztecan language family (Kroeber 1925:575-578). Subsistence strategies were like those described for other Great Basin groups possessing an annual round focusing on gathering vegetal foods, with the harvesting of pinyon nuts in the fall being of the greatest importance (Steward 1938; Craib 1978:36). The nuts were gathered in the mountains and carried back to winter camps on the valley floor where they were processed into a mush or soup (Hunt 1960:9). Various grass seeds and the seeds of *Ephedra*, evening primrose and pincushion cactus were gathered with seed beaters, roasted in shallow baskets, ground, and utilized as flour. Mesquite beans were harvested in the early summer and frequently cached in pits until the following spring, when they were ground with stone pestles in wooden mortars, and also utilized as flour. Prickly pear pads and fruit were
collected, dethorned, dried and stored, or were roasted in shallow, stone-lined hearths (Hunt 1960:10; Kroeber 1925:591-592; Craib 1978:36). Reed stalks provided a sugary, taffy-like substance (Hunt 1960:10). Horticulture was being practiced by the Shoshone by at least the 1890's, with corn, potatoes, squash, watermelon, peaches and grapes cultivated (Hunt 1960:15). Baskets and crude brownware pottery were used for collecting and cooking.

Mammals providing animal protein included mountain sheep, deer, rabbits and small rodents. These were hunted with slings, snares, spears, or by bow with arrows tipped with either wooden points or small side-notched points fashioned of stone. Hunting blinds and brush structures situated along game trails and overlooking springs were also in vogue and were used to take large game animals as well as doves and flickers (Irwin 1980:26-27; Thomas et al. 1986:267-268). In steeper canyons, sheep were taken by driving them into an ambush with the use of dogs. Cairns may have been used as "dummy hunters" to aid in the drive, especially when the cairns were situated on the north-facing sides of canyons where they would be highlighted in silhouette form (see for example Grant et al. 1968:31). Fires were often set to aid in hunting deer or rabbit (Irwin 1980:22-24). Birds, including migratory waterfowl, non-poisonous snakes, lizards and the tortoise completed the diet (Kroeber 1925:592; Grosscup 1977:124; Hunt 1960:11; Thomas et al. 1986:267-268).

Habitations were usually conical brush structures with willow or mesquite wood pole frames and floors circular in outline (Grosscup 1977:149-150; Hunt 1960:174-175). In winter, the floor was excavated slightly to provide extra shelter, and rock circles were used for additional winter wind breaks. Brush lean-tos, brush circles, caves and rockshelters provided additional shelter (Tagg 1984:27; Hunt 1960:19, 174-175), and earth-covered sweathouses were also constructed (Kroeber 1925:591). Winter encampments were generally located on the valley floor in the dune areas; summer camps were often located in the pinyon-juniper zone. At contact, a group of Shoshone were living in winter camps at Mesquite Springs, three miles south of the project area; in Grapevine Canyon; and at Grapevine Springs (Jaeger 1957:9; Grosscup 1977:116-120; Steward 1938:86-88). Lingenfelter (1986:18) suggested
that the village at Grapevine Springs, known as Mahunu, was likely the most prosperous village in Death Valley. Mahunu reportedly had 27 inhabitants around 1860 (Steward 1938:87), while the other two villages may have contained no more than a dozen people (Craib 1978:36). By about 1900, the subsistence pattern based on a seasonal round was disrupted somewhat, with the Shoshone switching to a wage economy working for the ranch or in the local mines (Buchel 1985:11; 37-39; Sennett 1986:personal communication).

Within the project area, the subsistence activities and participation in festivals of the Dock and Cold Mountain Jack families have been documented by Steward (1938:87-91). Cold Mountain Jack's family lived at Grapevine Springs, in Grapevine Canyon or at Mesquite Springs in the winter where they were involved in farming. Dock, an important shaman considered to be "chief of the district" (Steward 1938:88), maintained a winter residence in Grapevine Canyon or at Grapevine Springs and also farmed. Dock functioned as the chief during the annual month-long rabbit drive which united all the families in the northern portion of the valley, and he served as the director of the fall festival when it was held at Surveyor's Well (Steward 1938:89-90). Additional information concerning the life of the local residents is included with the description in Chapter II of the ethnographic camps recorded in the project area, and in Steward (1938:85-91).

Artifactual materials on Shoshone sites include tin cans with soldered and crimped seams, square nails, baling wire, copper pans, cartridges, glass and stone projectile points and scrapers, items of clothing (especially buttons), Olivella saucer-shaped beads, pestles of blue schist, locally produced ceramics, and the remains of habitation structures (Hunt 1960).

Prehistory

Few archaeological investigations beyond surface surveys have occurred in Death Valley and relatively little is known of the specific prehistory of the monument. However, several cultural chronologies have been proposed for the southwestern Great Basin region which can be applied to Death Valley. Although there has been little agreement in
the terms applied to cultural or temporal periods throughout the Mohave Desert Region and much disagreement over the absolute dates of these periods, the major cultural/temporal units for the prehistory of the area have been fairly well established (Warren and Crabtree 1986:183). In Death Valley in particular, an initial chronological framework was proposed by William Wallace who began working in the monument in 1952 (Wallace 1958; 1977). Alice Hunt utilized a chronological sequence which closely followed Wallace during her investigations around the Salt Pan (Hunt 1960). Both Hunt's and Wallace's chronology begins about 9000 years ago with Death Valley I and continues into the ethnographic present with Death Valley IV.

Most recent researchers in the southwest Great Basin have utilized terms with broader regional applications than Hunt and Wallace when defining these cultural or temporal units. Such broader taxonomic terms are useful in that they demonstrate relationships in cultural materials, subsistence and economic systems, and life ways over the larger areas where they occur, rather than simply defining the component assemblages in a restricted geographic range. However, for the needs of defining temporal site occupancy within the monument, the terms and definitions of periods and component assemblages used by Hunt and Wallace are most useful. As such, the discussion which follows utilizes Hunt and Wallace's taxonomic system in conjunction with taxonomic terms having a broader regional significance, such as "Paleo-Indian" or "Desert Archaic". The dates following each period designation are those assigned by Wallace (1977) unless designated otherwise. It should be noted, however, that later investigators have generally given a longer temporal span to the earlier of the respective periods outlined below. Several selected chronologies proposed for the southwestern Great Basin region are summarized in Table 1.

Death Valley I, or Paleo-Indian Period (7000 - 5000 B.C.)

The earliest well-documented occupations within the Great Basin have been dated to this period. Hunting of now extinct megafauna marked this period, with large, stemmed and shouldered spear and atlatl points characteristic of the points in these assemblages. Domed scrapers, spokeshaves, crescents, gravers, and leaf-shaped knives complete the
### Table 1

CULTURAL CHRONOLOGIES PROPOSED FOR THE SOUTHWESTERN GREAT BASIN

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<td><strong>Present</strong></td>
<td>Shoshonean (Ceramic Period)</td>
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<td>Late Prehistoric</td>
<td>Death Valley IV Panamint (Shoshone)</td>
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<td><strong>AD 1000</strong></td>
<td>Rose Spg/Eastgate (Ceramic Period)</td>
<td>Saratoga Springs</td>
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<td><strong>1000 BC</strong></td>
<td>Elko/Gypsum (Desert Archaic)</td>
<td>Gypsum</td>
<td>Elko/Gypsum</td>
<td>Great Basin Archaic</td>
<td>Death Valley II Mesquite Flat</td>
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<td><strong>3000 BC</strong></td>
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<td><strong>7000 BC</strong></td>
<td>Paleo-Indian</td>
<td>Lake Mojave</td>
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Modified from Tagg 1984:20.
flaked stone assemblage. Many sites of this period have been located along relict lake shores, whereas those in Death Valley are on desert pavement, which in turn may be associated at these particular sites with a relict shore of the ancient Lake Manly (Tagg 1984). Alternatively, these sites are on gravel benches near springs (Hunt 1960:20).

Death Valley II, or Desert Archaic Period (3000 B.C. - A.D. 1/A.D. 500)

An increased focus on plant food processing is suggested by the increased number of seed grinding implements characteristic of the early part of this period, referred to as the Pinto Period. Pinto, Humboldt, Mohave, and points in the Silver Lake series are associated with this period, as are drills, gravers, scrapers and scraper planes. In the later portions of the Desert Archaic, or the Elko/Gypsum Period (beginning around 2000 B.C.), Elko, Humboldt and Gypsum point styles are common. Drills, scrapers and knives are found on these sites, along with shell and stone beads, incised and painted pebbles, slate tablets and split twig figurines. Mortars and pestles were added to the seed grinding inventory during this period. Open sites located on silty ground and rockshelters near water courses were occupied in Death Valley during the Desert Archaic Period (Tagg 1984; Hunt 1960:62). Although Wallace designates this period as ending around A.D. 1 (Wallace 1977), a terminal date of A.D. 500 is considered more appropriate as it coincides with the introduction of the bow and arrow to the region—a trait defining the following period (for example, see Hester 1973; Tagg 1984; Warren 1980).

Death Valley III, or Early Ceramic Period (A.D. 500 - 1000)

Around A.D. 500, the bow and arrow were adopted by Great Basin cultures. Use of the bow and arrow is represented by projectile points which are smaller than those of previous periods; projectile points fall into the Rose Spring and Eastgate (or "Rosegate") series. Influence from the Anasazi areas of the Southwest is evident, particularly in the earlier portions of this period. Ceramics imported primarily from the Anasazi, pendants, bone beads, shell beads of Limpet and Olivella (spire-lopped and saucer-shaped), unbaked clay figurines, and conically-shaped clay pipes mark the early half of this period.
Unshaped basin metates and one-hand manos were utilized to process plant foods.

Death Valley IV, or Later Ceramic or Shoshonean Period (A.D. 1000 – Ethnographic Present)

After A.D. 1200, Anasazi influence decreased and locally produced, poorly manufactured brownwares appear in the archeological record. Desert Side-notched points and Cottonwood Triangular points characterize these late assemblages as do knives, drills, gravers, flake knives, scrapers, hammerstones, arrowshaft straighteners, Olivella beads, glass and bone beads, pendants of argillite and talc, and incised stones. Baked and unbaked clay figurines and stone and clay balls are likewise associated with this period. Manos, metates, portable and bedrock mortars, and pestles complete the artifact inventory. Many researchers believe the Numic-speakers (including the Shoshone) spread into the Great Basin and Mojave Desert during this period (for example, see Bettinger and Baumhoff 1982; Hopkins 1965; Lamb 1958; Madsen 1975; Wallace 1987).

Open-air and rockshelter sites are found in Death Valley from this fourth occupational period. Open-air sites are found on gravel surfaces between the sand dunes, a trait which changes in ethnographic times when sites are found on top of or abutting the dunes (Hunt 1960:112). Large circular and rectangularly-shaped rock alignments, mesquite storage pits, rock circles defining habitation areas, and rock burial cairns are also characteristic. Large base camps or villages were located in valleys and along the valley margins. Smaller campsites were located at specific resource area in the mountains and foothills.

Ethnohistoric Period (ca. 1870 – Present)

During historic times, the majority of Death Valley is believed to have been occupied primarily by the Panamint Shoshone (Tagg 1984:25). An ethnographic summary of this group has been provided in an earlier section of this chapter. The Kawaiisu and the Southern Paiute used small areas around the margins of Death Valley (Tagg 1984:25; Wallace 1977:32). All three groups maintained similar socioeconomic lifestyles.
More detailed ethnographic summaries of the Southern Paiute and the Kawaiisu can be gleaned from Kroeber (1925), Kelly (1964), Steward (1938), and Stewart (1942).
Chapter II
PROJECT METHODS AND SURVEY RESULTS

Phase I Project Methods

The ranch complex, including historic features surrounding the ranch house, and topographic features in the same area, was divided into four loci and mapped, using a plane table and alidade. All ranch buildings, the corrals, and the access road were plotted on the map using a scale of 1:60. Topographic features such as drainages, outcrops and the present extent of dense stands of vegetation were also added to the map. Twenty-eight contours were plotted on the map at 0.5 meter intervals, beginning with an arbitrary "0" contour (having a true elevation of approximately 2240 feet) above the shack in Locus 1, and extending downslope to a -13.5 meter contour below the corral in Locus 3. An area measuring 190 meters north-south by 217 meters east-west was instrument mapped from 15 mapping stations onto three 20 by 16 inch sheets which were reproduced for park managers on a 1:1 scale. A reduction of the three map sheets is included as Figures 6-8, along with an overview map (Fig. 5) indicating the relationship of each map sheet and locus area to each other.

The initial survey was designed to locate, record, map and evaluate the cultural resources within the area of highest potential impact—i.e. within a 100 meter wide corridor enclosing the ranch access road within the fenced ranch property and the dry wash immediately south of the road. The area actually surveyed encloses a curved swath approximately 350 meters wide paralleling the access road. The survey was conducted with the investigators spaced 15 meters apart. This spacing is believed to have allowed the surveyors to find the smallest of archeological sites within the survey area. Figure 9 shows the areas covered by the Phase I survey.

In keeping with previous archaeological investigations within the Monument (for example, see Barton 1983), sites were defined as clusters of cultural materials which were spatially distinct and which retained a higher density of artifacts than the area surrounding the site. In this particular survey, a site was identified as a group of features or a
FIGURE 5. Overview map of DEVA 86C-1 showing relationship of Figures 4, 5 and 6.
Lower Vine Ranch

scale 1:80

September 1990
Lynda D'Assence Krista Deal

KEY
- fenceline
- vegetation
- contour
- trash dump
- rocks
- water channel
- travertine outcrop
- road
- possible fence
- railroad ties
- collected area

FIGURE 6. DEVA 86C-1, Locus 1 and 2.
FIGURE 7. Ranch house complex, DEVA 86C-1, Locus 3.
FIGURE A. DEVA 86C-1, Locus 3 and 4.
Figure 9. Area covered by Phase I survey of Lower Vine Ranch.
single feature with a spatially associated scatter of artifacts, with the exception of features and artifact scatters known to be associated with ranch-related activities (these latter were assigned isolate numbers). When sites were found, they were plotted on the appropriate USGS topographic map, recorded on a WACC site form, photographed, and sketch mapped using the compass-and-pace method. Metal rebar was used as the mapping datum and was left on the site along with an attached aluminum site tag indicating the field number. Field numbers were issued consecutively and were preceded by the project designation: DEVA 86C. Temporally diagnostic artifacts which were collected were plotted on the site maps and placed in bags marked with provenience data. Isolated artifacts and features noted within the survey area which were not formally recorded were given sequential "IA" numbers, briefly described, and plotted on the USGS map. All site forms and maps, photographs and field notes are on file at the Western Archeological and Conservation Center, Tucson.

Summary of Phase I Survey

A total of 12 sites (DEVA 86C-1 through -12), including 10 previously unrecorded sites were recorded during the Phase I survey. Also recorded were 12 isolated features or artifacts. Detailed descriptions of these cultural resources are provided in the earlier report documenting the Phase I survey and mapping project (Deal and D'Ascenzo 1986). As "background noise", a sparse artifact scatter, varying in density from one artifact per 50 square meters to one per 20 square meters, was noted as extending from the base of the bluff behind the ranch house downslope past the fenceline on the access road, one-half mile distant. This scatter included both prehistoric and historic artifacts; prehistoric materials are dominated by isolated chert waste flakes, while historic materials range from glass to cans to miscellaneous metal fragments. The majority of the historic trash is along the fenceline, along several old ranch roads crossing the property, and alongside the pipeline constructed in 1929 to bring water from the springs to a trough and reservoir outside the fenceline gate. This fairly consistent, albeit light, scatter of historic trash most
likely overlies some earlier prehistoric sites within this area of the ranch property, thus obscuring their proper temporal placement. Until further testing can be done at specific features within the sites, all temporal designations and the contemporaneity of features within sites should be at least partially suspect.

**Summary of Phase II Survey**

The remaining previously unsurveyed portions of the fenced ranch property were systematically inspected during the second phase of fieldwork at Lower Vine with the intent of providing an inventory of all cultural resources located on the parcel. The investigators covered the property at 15 to 25 meter intervals, and all sites were defined and recorded as per the standards mentioned previously. Forty-five additional sites were recorded during the second field project, bringing the total number of sites recorded on the fenced ranch property to 57. Sixty-two additional isolated artifacts or features were also encountered, for a total of 74.

The cultural resources encountered on the entire ranch property, including sites and isolated artifacts and features, are grouped together by type and are discussed below and in Chapter III under separate headings.

**Site Descriptions**

A total of 57 sites were recorded during the survey of Lower Vine Ranch (see Fig. 10). Since a large number of sites were recorded, descriptions of each individual site will not be provided here. Rather, sites have been grouped into nine types, based on the kinds of internal features present and the general site configuration. These include the historic ranch, ethnographic/historic Indian camps, dry-laid masonry structures, simple sites with house circles, sites with bedrock mortars, complex sites with a variety of features, rockshelters and overhangs, lithic scatters and quarries, and miscellaneous sites.
Figure 10. Location of sites recorded at Lower Vine Ranch.
Historic Ranch

Scottys Ranch, also known as Lower Vine Ranch, was recorded as DEVA 86C-1 (Fig. 5 and 11). The ranch buildings visible on the property today were constructed in the late 1920s and early 1930s by Albert Johnson as a home for Walter Scott, or "Death Valley Scotty". The total ranch property includes a fenced 1500-acre parcel containing several roads, reservoirs and outbuildings. For practical purposes, the discussion here deals primarily with the features in the immediate vicinity of the ranch house.

The ranch house complex is situated at the base of the slopes along the southwest edge of the Grapevine Mountains immediately below a 200-foot bluff containing several small permanent springs. Several hundred feet above the bluff, a mile-long terrace contains numerous additional springs. The springs are of two types (hot and cold) with each attracting a slightly different vegetation community (Kurzius 1981). The ranch is therefore located at one of the few and most reliable water sources in this portion of Death Valley.

The Lower Vine Ranch area was first visited historically by prospectors in the 1880s who established fairly permanent camps near the lower springs (Buchel 1985:14). Subsequently, several people developed the property, with Bev Hunter erecting several structures on the property prior to Johnson gaining legal title to the ranch. However, none of Hunter's buildings remain on the property. Death Valley Scotty began squatting on the ranch as early as 1907. Scotty continued to live on the ranch until 1952 when he moved to the castle. The ranch has been unoccupied since that time.

Construction by Johnson and Scotty began on the ranch in 1927 with the completion of the corral located farthest from the present ranch house (Buchel 1985:43). In 1929, a fenceline was placed around the portion of the property located on the bajada. Later in the same year, construction of the ranch house and several outbuildings was initiated (Buchel 1985:53). All buildings on the ranch were single-story and most were made of redwood. The ranch house had two bedrooms, a bath, an enclosed porch, and a combination kitchen/living room. Construction of the house began in 1929 and was completed in 1930. The single-car
garage was built at the same time. An open-air, ramada-covered blacksmith shop was added to the property in 1931, along with a feed shed and a circular corral/training arena. The access road to the ranch area was in place by at least 1926 according to old ranch maps.

The ranch complex was plane table mapped in four loci, each of which are detailed separately below. Locus 1, located roughly 100 meters southeast of the ranch house (Fig. 6), includes a six-foot tall shack constructed of redwood and corrugated metal siding. A concrete-based cast iron two-burner stove is inside the shack, and the remains of a possible corral are attached to the south side of the structure. The shack may have been constructed in 1927 from corrugated metal removed from the original stables at Scottys Castle during stable reconstruction. Two small can dumps, a scatter of cans and milled timbers, three possible retaining walls or check dams, and a large boulder pile are in this locus. An old section of ranch road runs roughly north-south through the lower, western portion of this locus.

The old ranch road passes from Locus 1 into Locus 2 (roughly 80 meters south of the ranch house) with a built-up road embankment leveling the road as it crosses a small drainage (Fig. 7). The road alignment is indistinct beyond this point, but probably skirted along the north or south edge of the prominent knoll located in this locus. Several boulder piles of undefinable origin are also located here as are scattered tin cans, miscellaneous metal fragments, and glass bottle shards. An historic Shoshone Indian camp, recorded separately as DEVA 86C-2, is encompassed by this Locus. The camp is shown on a 1924 map of the ranch drafted during Hunter's tenure.

Locus 3 contains the ranch house, corrals and outbuildings detailed earlier (Fig. 7 and 8). During recent brush removal operations around the buildings, artifactual materials from four dumpsites in this locus were collected and accessioned by Park Service personnel at the Monument prior to the present survey. The dumpsites are keyed to the plane table map with numbers and to Monument computers with the following designations: Dumpsite #1 is on the Monument computers as the "slash pile"; #3 refers to the "wash south of feed shed" and is actually adjacent dumpsite #1 and probably originally part of it; #4 is designated as the dump "east of the corral", while #5 is the dump "north
of corral". Dumpsite #2 was observed in the field as a scatter of cans bulldozed into the drainage between dumps #1 and #3. This material was not collected by the Park, but was obviously part of the original #1/#3 dump. The collected material from the dumps included a variety of domestic trash including ceramics; beer, medicine, condiment, coffee and food bottles; harness hardware; pots, pans and lantern parts; cartridges; and a variety of miscellaneous material. This material is housed in the collections at Scottys Castle.

Locus 4 is located 60 meters north of the ranch house and consists of an historically utilized masonry structure (Fig. 8 and 12). The structure measures 3.75 by 4.2 meters, and is backed by a travertine outcrop. An historic entrance (visible in early photographs) was situated in the center of the front wall which is now mostly collapsed. A wooden beam protrudes from the south corner of the west wall and a second beam is in the rubble at this southwest corner. Several evenly spaced circular holes appear to have been cut into the travertine outcrop at the back of the structure, suggesting that two rooms were once in use here. Scattered historic artifacts include stoneware fragments; dark green bottle fragments and one dark green bottle with a kick-up bottle base; aqua-colored and brown beer bottle glass; a metal suspender buckle; meat tins; a metal cooking dish; a .22 caliber long/long rifle cartridge with an "H" headstamp (Winchester Repeating Arms); and tin cans with soldered, rather than crimped seams. This locus produced the oldest historic material currently evident on the ranch, and may therefore represent one of the early 1880s prospector's camps.

Locus 4 also shows evidence of prehistoric use and it appears that the historic mortared structure was originally a prehistoric masonry structure similar to those recorded at DEVA 86C-8 and DEVA 86C-6. Wallace and Taylor (1956) recorded similar historically-scavenged prehistoric sites as "robbers roosts" and suggest that early prospectors were responsible for reconstructing these sites. Artifacts of aboriginal manufacture at this locus include a basalt metate fragment and a second possible fragment of a metate, several edge-damaged flakes, and approximately 30 chert waste flakes. Midden was noted outside the west wall of the structure in an area believed to have been central to
FIGURE 12. Interior view of north wall of masonry structure, DEVA 86C-1, Locus 4.
the aboriginal occupation of the Locus. Kathryn Kamp recorded this masonry feature as Structure One at DEVA 81A-3.

The ranch property was added to the National Register of Historic Places in July, 1978, and excellent descriptions of the ranch are provided on the National Register nomination forms. A detailed history of the Lower Vine was completed in 1985 by Sue Buchel for her masters thesis. Buchel's monograph outlines the history of ranching operations, the people involved with the ranch, and describes many of the outlying features known to have been constructed on the remainder of the 1500-acre ranch property.

Ethnographic/Historic Indian Camps

Two sites (DEVA 86C-2 and -9) were identified from pre-1925 ranch maps as historic Shoshone Indian camps. The first of these, DEVA 86C-2 (Fig. 13), is a relatively small site situated on top of and around portions of the sides of a small knoll 90 meters southeast of the ranch house on the opposite side of a flowing spring-fed drainage. The site was evidently a Shoshone camp shown on old ranch maps dating to 1924. The camp consists of two circular surface depressions, two rock-ringed circular flats or clearings (all presumably cleared for wickiups), and a rectangular rock alignment, as detailed below.

Feature 1 is a cleared area ringed with rocks enclosing an interior 4.0 meters in diameter. Stove pipe remains were noted just outside the feature. Feature 2 is a 3.5 meter diameter circular flat dug into the side of the knoll and ringed on two-thirds of the downslope side with rocks. A scatter of cans with crimped seams and glass fragments (sun-turned amethyst, light green and brown) were concentrated along the southern, downslope edge of Feature 2 and within the small drainage adjacent to the edge of the feature, while window screen was noted inside the flat. Feature 3 is a circular surface depression excavated to a depth of 30 centimeters into the top of the knoll; the depression measures four meters rim to rim. Wickiup withes, a scraper, and a handstone indicate this is a probable house location. The fourth feature, a partially eroded circular surface depression roughly
Key to Symbols on Site Maps

- Datum (tagged rebar)
- Artifact Concentration
- Historic Artifacts
- Cleared Area; In shelters = dripline
- Rock Alignment
- Site Boundary. Delineates light artifact scatter.
- Fire Cracked Rock
- Cairn
- Hearth
- Depression
- In shelter = natural bench / shelf
- Old Road
- Trail
- Fence
- Bedrock
- Travertine or Mudstone Outcrop
- Small Gravels
- Vegetation
- Spring
- Erosional Channel / Drainage
- Spring Channel
- Wash
- Grass-covered Area
- Locus Designation
- Contour Lines
- Slope Direction (arrow across contours)
Figure 13. Site map of DEVA 86C-2.
3.5 meters in diameter, is also excavated into the top of the knoll northwest of Feature 3. It too is believed to be a wickiup location.

Feature 5 is dissimilar to the circular features presumed to be wickiup or "house" rings, as it is a roughly rectangular rock foundation with dry laid walls to five courses high. A possible rock circle may be attached to the north wall. The feature measures 6.5 by 4.5 meters, and may be ranch-related, or alternatively was part of the Indian camp but served a different function than the other four features. A large boulder pile to the northwest of Feature 5 is believed to be the result of ranch activities, although it is somewhat similar to rock-covered burials reported from other parts of Death Valley (see for example Hunt 1960:191).

Approximately 40 chert flakes were noted on the site as were five wickiup withes, some of which had baling wire attached. Historic materials of Euro-American manufacture on the site included tin cans with crimped seams; purple, green and brown bottle glass; ironstone plate fragments; round wire nails; window screen; barbed wire; pocket tobacco tins; barrel hoops and a kaolin clay pipe fragment.

Also of interest are the "Indian Gardens" shown on the 1924 ranch map on the mesa top northeast of the site, and a second "Indian Garden" indicated on an undated map of the Hunter Ranch at Lower Vine. This second garden is located below the bluff and within 150 meters of the site in an area to the northeast of the current ranch house. These gardens are discussed in greater detail below in the discussion of DEVA 86C-9.

Although the site area is shown on the 1924 ranch maps as an Indian Camp, some of the artifacts here may not have been used by the occupants of the camp, but rather may have been deposited as the result of specific ranch activities. One of the old historic ranch access roads cuts through the site and a rock embankment was apparently constructed to build up and support the road across the drainage southeast of Feature 3. In either case, the encampment probably represents a Shoshone occupation during the transition from an annual subsistence round to a wage economy probably related to employment on the ranch, and as such could yield information relevant to changes in subsistence patterns and to the history of ranching at Lower Vine.
DEVA 86C-9 (Fig. 14) is the second of two historic Shoshone camp sites at Lower Vine associated with Bev Hunter's occupation of the land, although this camp probably overlapped Scotty's tenure on the ranch. This camp is depicted in several circa 1919 photos of the ranch (see, for example, Fig. 15). Combining two of these old views, at least eight various structures are evident. Remnants of these structures, along with a substantial amount of trash, are apparent on the ground today.

This site occupies all the ground between the current ranch access road and the first wash to the south, starting about 150 meters west of the ranch house and covering an area measuring 54 by 80 meters. Portions of the sloping fan on which the site is located appear as if it may have been purposely altered during occupation. This is especially true of a small flat near the west end of the site. Details of the various features noted on the site are described below.

Feature 1 is a 2.0 by 2.5 meter square alignment dug into a slight slope at the edge of the wash (Fig. 16). It is three-sided with the downslope end open and facing north. Two of the courses of rock are above ground and rubble lies to the east and west sides. A drainage channel running west past the open end of the structure has deposited cans inside and in front of the feature.

Feature 2, an 8.0 by 12.0 meter trash dump, is 15 meters upslope and east of Feature 1. Erosion has resulted in some of the materials being washed to Feature 1 and beyond. The dominant artifacts in the dump are tin cans with crimped seams.

Feature 3 is an L-shaped alignment 3.0 by 4.0 meters, perhaps delineating a foundation. The long east-west arm of the alignment consists of one course of rock. The north-south alignment is a bit more substantial, being one to two courses high and having a pile of rubble on its west side, indicating it may have been even higher. Wagon parts and a suitcase frame were found outside the southeast corner of the feature.

Feature 4, alongside the ranch access road, is a semicircular arrangement of rock, open to the south. It is one to two courses high and nearly 3.0 meters in length. It tends to blend somewhat with rock on the side of the road which was probably moved out of the roadway during construction. Because of this, the short alignment just east of
Figure 14. Site map of DEVA 86C-9.
FIGURE 15. Photograph of Indian Camp, looking east, with Hunter's Cabin in right background. Remains of this camp recorded as DEVA 86C-9. Photo circa 1919.
FIGURE 16. Detail of Feature 1, DEVA 86C-9.
this feature may not actually be an intentional extension of the feature, although this alignment appears to be on undisturbed ground. Lying in this feature was a makeshift stovepipe of rolled corrugated metal, wrapped with baling wire to help hold its shape. Some cans, milled timber and a leather shoe heel were also found in and around this feature. Interestingly, a flat-ended pestle (hopper pestle) was found outside the east end of the alignment. This pestle appeared to have been originally utilized with a hopper mortar and subsequently was worn from use in a conically-shaped stone mortar, as there was wear on the side of the pestle near the flattened end. Across the road from the feature was a vesicular basalt metate fragment. Both of these groundstone items may have originally been used by occupants of DEVA 86C-10 which is a little farther north and west of this site.

The fifth feature is a 3.0 by 4.0 meter rectangular alignment with rubble inside, making it rather difficult to define. Associated trash includes milled timber, mesh screen and tin cans.

A circular, rock-ringed depression three meters in diameter was designated as Feature 6. It is slightly eroded and artifacts are found to the south and west, including aqua and amethyst colored glass, an oven pan, and wagon parts. This feature, at the west end of the site, is just upslope of the flat area mentioned earlier as perhaps being artificially constructed.

Metal items were the most abundant of the many artifacts on this site. Most frequently noted were "condensed milk" cans, pocket tobacco tins, and meat tins. A variety of other crimped-seam cans, including lard containers, were also present. Two manufactured stove pipes were on the site in addition to the makeshift stovepipe already noted at Feature 4. Enough wagon parts to nearly re-create a single wagon were strewn about, although a single pile of a number of parts was present. Fragments of amethyst, brown, aqua, clear, olive and light green glass were scattered widely, although most of the glass was concentrated in the dump (Feature 2). Domestic items such as loaf pans, enamel plates, pots, lantern parts, door hinges, ironstone fragments with floral decorations and handmade four-hole shell buttons were also observed.

These two sites have additional interest in that recent ethnographic research by Beth Sennett (1986:personal communication) has
brought to light further information on the late Shoshone use of the Lower Vine area. Sennett's interviews with Ivy Shaw, a 78-year old Shoshone informant, indicated that as a child she went with her family to the gardens on the mesa near the hot springs on the Lower Vine Ranch where her family grew squash, tomatoes, melons and "sugar cane". The cane was evidently an indigenous reed (Phragmites communis) common to the area (Hunt 1960:9; Irwin 1980:10-15). Additionally, the hot springs, according to Sennett's informant, were used for bathing throughout the construction of the castle. It might be assumed the springs served much the same function perhaps for the entire occupational history of the area. Additionally, the Dock family and the Cold Mountain Jack family, were also gardening at Lower Vine historically (Sennett 1986:personal communication; Steward 1938:87-90).

Sennett's research suggested that there was no gardening practiced at Lower Vine by the 1920s as the local Shoshone switched to a wage economy when Scottys Castle was under construction. Food during this time was obtained at grocery stores in Tonopah, Beatty and Bonnie Clair and fresh meat was purchased from a man who periodically traveled through the canyon. The camps in Grapevine Canyon were probably used year-round, as Sennett's data indicates the Shoshone had places they "kept up" throughout the year, although much traveling within the district was conducted to harvest food resources (Steward 1938:88-90). With respect to the Lower Vine area, it is possible some of the prehistoric sites were also occupied or tended year-round. The permanently flowing springs and the slightly cooler temperatures afforded at this elevation might have precluded the need for major residential moves in the summer, as believed common for the lower portions of Death Valley. Furthermore, even at lower elevations, adaptations to the heat included harvesting plant food products "at night by the light of the moon" (Irwin 1980:15).

The subsistence round and economy of the Shoshone in Death Valley first began to change in the 1860s and 70s when prospectors began coming into the area (Sennett 1986:personal communication). Shortly thereafter, the Shoshone switched to a wage economy as they began working on ranches and in activities related to mining. They were often paid in food and goods from the ranches, or were paid as much as $3.50
per day—wages which were considered very good for the times (Sennett 1986:personal communication). Despite this sudden change in lifestyle and subsistence economy, Sennett claims the Shoshone incorporated these changes into a traditional framework of doing things. Additional information on the Shoshone use of the Grapevine Springs and Grapevine Canyon areas, and on the Dock and Cold Mountain Jack families, can be found in Steward (1938) and Lingenfelter (1986).

**Dry-Laid Masonry Structures**

Three sites had dry-laid masonry structures: DEVA 86C-1, Locus 4 (described previously), DEVA 86C-8 and DEVA 86C-30. It is also possible some of the house circles constructed of travertine or mudstone slabs are actually collapsed masonry structures.

DEVA 86C-8 (Fig. 17) is situated approximately 60 meters north of the ranch house within a nearly barren area amongst exposed outcrops of travertine. The site sits just north of a permanently flowing spring-fed drainage. Dense vegetation, including mesquite, cottonwoods, willows and grapes line the drainage, providing a stark contrast to the barren travertine outcrop. Four features were recorded as part of this 30 by 55 meter area site, including two masonry structures/enclosures, one rock and brush wall, and one small semicircular rock alignment.

Feature 1, located on the southern portion of the site, is a 12 by 6 meter dry-laid travertine structure backed by a 4 meter tall travertine outcrop. The base and west end of the structure are still intact to four courses (one meter) high. The walls to the north have collapsed into a large, indistinct rubble pile. Two possible rooms are indicated by the rubble and internal features of this structure, although no good walls now divide the enclosed area. Stoneware fragments, two square brown bottle fragments, a single tin can with crimped seams, and a one-inch diameter embedded stick with a burnt end were noted inside Feature 1. Just outside the feature to the northeast were two .22 caliber long/long rifle rimfire cartridges with an "H" headstamp (Winchester Repeating Arms); these cartridges were manufactured as early as the 1870s.
Figure 17. Site maps of DEVA 86C-8 and DEVA 86C-30.
The second feature lies to the northwest of Feature 1 and consists of dry-laid masonry walls of travertine, roughly circular in outline, enclosing a small shelter/overhang one meter high and two meters in diameter. The west wall is intact, reaching 13 courses high, with four upright travertine slabs placed along the outside base of the west wall, perhaps to add support to the wall and to provide an additional windbreak. A probable hearth is centrally located on the interior of this same wall. The east wall is still intact where adjacent to the outcrop, although portions of the wall farther from the rock have collapsed. Olive colored glass bottle shards litter the inside floor of the structure. Downslope (to the southeast) of the feature are brown bottle glass fragments with embossed letters too fragmentary to read, a clear glass crown top bottle neck with the seam extending over the lip, and pale green glass fragments.

The third feature is a short rock wall and brush enclosure eight meters due east of Feature 2. This wall is two courses high (40cm) and encloses a small area (1.0 by 2.0 meters) backed by a low travertine boulder. Most of the wall is constructed of loose travertine; a small chopped mesquite has been placed upside-down at the north end of the wall. This feature probably functioned as a windbreak. Downslope of the wall is a broken brown crown-top beer bottle with the seam extending over the lip, while to the northeast is a pocket tobacco tin.

The final feature consists of a small curved rock alignment extending one meter east from a low travertine boulder. The function of this feature is unknown, but the general size and shape suggest its possible use as a hearth.

Only ten chert flakes were noted in association with this site. It is probable that the site has been disturbed by prospectors and ranchers over the last 100 years. The site is currently subject to gullying and is slightly silted over in places from sheetwash. Artifacts originally present on the site might therefore have washed away or been silted over.

A circa 1919 photo shows Feature 2 in essentially the same collapsed condition as today, suggesting that the site was abandoned sometime prior to that date. Since the historic materials on the site generally post-date the 1920s, it is possible the site is earlier than
it would initially appear to be based on the artifact inventory, perhaps being an early DV IV or late DV III site. As such, this site may well be associated with the earlier component noted at DEVA 86C-1, Locus 4 which is within 20 meters to the west of the site, or with DEVA 86C-6 which had no historic materials, 40 meters further north. Kathryn Kamp recorded Feature 2 of this site as Structure 2 on her DEVA 81A-3 site record form.

DEVA 86C-30 (Fig.17) is located on the top of the mesa overlooking a large stand of palms roughly 550 meters northeast of the ranch house. Three loci were defined at the site. Locus A contains two small overhangs partially enclosed with dry-laid masonry walls (Features 1 and 2) and a three course high semicircular travertine wall enclosing the downslope edge of a circular artificial bench (Feature 3). Feature 1 is constructed of stacked travertine slabs varying from five to eight courses high. Large travertine slabs have been set upright outside the base of the east wall in a manner similar to DEVA 86C-8, probably as additional architectural support and for extra protection against the wind. This enclosure measures 3.0 meters long by 2.3 meters deep by 2.0 meters tall. The interior may contain intact cultural deposits. Feature 2 is a smaller overhang varying from 1.2 to 1.8 meters high; it is 2.0 meters long with dry-laid masonry walls along the west and south sides. The east side appears to have been left open for an entryway. Charcoal and a few flakes were found inside, and the shelter appears slightly silted in and may thus contain intact deposits. Feature 3 measures 2.0 by 1.5 meters. The travertine walls are two to four courses high; roughly 10 flakes were found inside. This feature is four meters downslope of Feature 1.

Locus B contains a single feature and lies roughly 30 meters downslope of Locus A on the flats near the spring. Five upright travertine slabs, set facing the palm grove, may have been utilized as a hunting blind or might have been used in some way to channel runoff from the spring.

Locus C is situated on top of the hill north and 40 meters upslope of Locus A. This locus consists of a cleared area (2.0 by 1.0 meters) behind a natural travertine wall which is littered with roughly 60 chert flakes and trace amounts of obsidian. Five rhyolite and three chert
cores were located just outside the clearing. A quartzite handstone was found 25 meters northwest of the cleared area. A rock cairn, believed to be historic, is located northeast of the cleared area. This cairn, made of stacked travertine slabs 1.5 meters tall by 1.0 meters in diameter, marks "Rick's Rock", a highly visible landmark along this portion of the mesa.

Simple Sites with House Circles

Ten sites (DEVA 86C-14, -15, -18, -20, -24, -27, -38, -39, -42 and -47) had a single circular or oblong alignment of rocks consistent with descriptions of wickiup, house or sleeping circles from other parts of Death Valley (for example, see Fig. 18). These 10 sites were rather simple, in that few other features were associated with the house circles. An eleventh site, DEVA 86C-54, contained two house circles, a rock pile and a cairn, but few other cultural materials and is also considered to be a "simple" site. Likewise, DEVA 86C-3 had one house circle and one semicircle which is also believed to be domestic, and this also is considered to be a simple site. Figures 19 through 26 refer to sites in this category.

The simple sites with single rock circles varied in size from 7.0 square meters to 2002.0 square meters with a mean size of 468.0 square meters. The house circles were oblong (DEVA 86C-20 and -14) or round, and varied in dimensions from 1.5 to 4.0 meters. The mean diameter of the house circles, based on length was found to be 2.7 meters. This corresponds nicely to ethnographic accounts of the size of Panamint Shoshone domestic structures which varied from 2.5 to 3.0 meters in diameter (Dutcher 1893:379-380). Many of the house circles were situated in shallow gullies, dips or depressions, probably to increase their protection from the wind. These areas were generally less rocky than the surrounding terrain and would have required less time in clearing a comfortable sleeping area.

House circles were obviously constructed of the materials most readily available. Those circles located on the bajada (DEVA 86C-14, -15, -18 and -20) were constructed of rounded basalt cobbles and an occasional piece of travertine, stacked to as much as three courses
Figure 18. House circle at DEVA 86C-14.
Figure 19. Site map of DEVA 86C-15.
Figure 20. Site maps of DEVA 86C-24 and DEVA 86C-47.
Figure 21. Site maps of DEVA 86C-14 and DEVA 86C-42.
Figure 22. Site map of DEVA 86C-39.
Figure 23. Site maps of DEVA 86C-18 and DEVA 86C-27.
Figure 24. Site map of DEVA 86C-38.
Figure 25. Site maps of DEVA 86C-20 and DEVA 86C-54.
Figure 26. Site map of DEVA 86C-3.
high. Sites on the terraces or mesa where the underlying bedrock was travertine (or "mudstone"), had house circles constructed of either stacked travertine slabs (DEVA 86C-24, -39, -42 and -47) or travertine slabs set upright into the ground (DEVA 86C-27). It is possible this difference in the architectural use of travertine slabs is temporally diagnostic, although further research is necessary to validate this notion. A final site, DEVA 86C-38, atop a large hill composed of red chert was constructed of chert cobbles and boulders.

Four sites in this category had additional rock features including a rock pile and rock alignment on DEVA 86C-14; a two meter long semicircle and a rock ring (a circular alignment of rock less than 1.5 meters in diameter and therefore too small to sleep in) on DEVA 86C-20; a short alignment probably creating a windbreak on DEVA 86C-38; and a small travertine semicircle attached to the house circle on DEVA 86C-42.

A light scatter of flakes was associated with nearly all these sites, although occasional sites contained marked concentrations of lithics. Two sites, DEVA 86C-15 and -27, had no flaked stone evident, although DEVA 86C-27 may be associated with DEVA 86C-28, a nearby site containing a number of flaked stone items. The mean number of estimated artifacts per site was 371 items, over 99% of which were chipped lithics. Artifacts (excluding debitage) associated with these sites include 16 cores, two hammerstones, eight edge-damaged flakes, 12 retouched pieces, two scrapers, seven biface fragments, and seven projectile points or fragments. Of note is the fact that no ceramics and no groundstone were found at any of these simple, single-house circle sites.

Three of the above sites warrant additional comment. DEVA 86C-38 and -39 both produced a varied artifact inventory including a number of projectile points and biface fragments and a relatively large number of waste flakes. Cottonwood Triangular points and points in the Rosegate series would date these two sites to at least DV III times (A.D. 500 to 1850), although two large biface fragments may represent the bases of large stemmed points typical of earlier periods in the Great Basin (for example, see Pendleton et al. 1982:22-24). DEVA 86C-24 had one of the more elaborate of the house circle structures, as the stacked travertine
slabs were quite large and the walls of the circle still stand to a meter. The density of the debitage at this site was the greatest in this category, with well over 2000 flakes noted. The site is situated on the edge of the first terrace above the canyon to the east of the ranch house and has a commanding view of the canyon and bajada area, particularly in the vicinity of the ranch.

Once again, it is possible these rock circles were sleeping areas or supports for brush structures housing a single family located in the area to exploit resources. Interestingly, none of these sites is located in close proximity to present water courses or springs, although securing water at any place in the project area would not have been overly difficult. The lack of groundstone and ceramics at these sites, taken together with their location away from springs and water sources, might suggest their use as sleeping areas or temporary camps for small hunting parties.

With respect to the possible presence of domestic structures, ten additional sites also had possible house circles although they were associated with a wider variety of rock features on these other sites. These sites are thus described in separate categories under the headings of ethnographic/historic Indian camps (DEVA 86C-2), sites with bedrock mortars (DEVA 86C-40 and -48), and complex sites (DEVA 86C-5, -6, -12, -35, -49, -53 and -56).

**Sites with Bedrock Mortars**

Three sites (DEVA 86C-40, -48 and -57) were assigned to this category based on the presence of bedrock mortars and the presumed relative importance of plant food processing as major activities at the three locations. All three sites were located on the mesa.

DEVA 86C-40 (Fig. 27) is a large, fairly complex site with two loci. Locus A contains two rock alignments which may be house circles. A partially disturbed alignment which could possibly also represent a house circle (IA-53) was located in the drainage roughly 80 meters southwest of Locus A, and may be associated. Locus B contains a house circle, a 4.0 meter long linear rock alignment at the edge of the bluff overlooking the spring channel, an overhang which may have been utilized, and two bedrock outcrops containing three bedrock mortars with
Figure 27. Site map of DEVA 86C-40.
a pestle found in situ in each of the mortars. The mortar cups vary in diameter from 8.0 to 19.5 centimeters. All of the pestles are unshaped and are of a dark-colored, dense igneous material.

The house circle at Locus B is constructed of upright travertine slabs. One portion of the circle has been disturbed during the construction of a cairn which is situated on the southern portion of the circle wall. The cairn was probably constructed historically, and may represent a marker on a north-running line from the USGS quarter-section corner which is located southwest of Locus A. Three plainware sherds were found in front of the overhang, and the remains of what might have been a brush and rock windbreak are inside. Very little lithic debris was noted on the site.

DEVA 86C-48 (Fig. 28) is a large, complex site containing an incredible variety of features, including rock rings situated on sediments (Features 1 and 2) and rock rings sitting directly on bedrock (Feature 5; Fig. 29a); a probable mesquite storage pit (Feature 3; Fig. 29b); a house circle (Fea. 4) and probable collapsed house circle (Feature 9); small rock piles (in Feature 5 area); rock walls believed to be windbreaks (Features 6 and 7 and at Feature 8); a cairn (north of Feature 9); several dense concentrations of lithics; and two bedrock mortars with a single unshaped pestle found in situ in the smaller mortar and four other unshaped pestles lying nearby (Feature 8). The deeper mortar measured 32 centimeters in diameter and 50 centimeters deep, while the smaller mortar was 20 centimeters in diameter and 30 centimeters deep. Such deep cupules might suggest an intensive use of the site, an extensive temporal occupation of the site, or both. Alternatively, the larger cup might have been deepened for use as an on-site water storage facility; as such, the basin would have held 10.6 gallons of water. The utility of maintaining a centrally located bedrock water storage facility on the site might be reflected in the decreased evaporation rate of water in a covered bedrock basin over basketry or pottery water storage vessels; in the facilitation of preparing mesquite or other plant food products for consumption at the same time and place as they are being processed; in minimizing the number of trips necessary to the local springs and thereby increasing animal traffic to water and the returns on hunting; or possibly a
Figure 28. Site map of DEVA 86C-48.
Figure 29a. Rock rings on bedrock slabs at DEVA 86C-48.

Figure 29b. Possible mesquite storage pit at DEVA 86C-48.
combination of these or some other factors. Another possibility is that dry goods, such as plant food products awaiting processing, might be stored in the basin on a short-term basis.

In addition to the debitage, two basin metate fragments, five possible wickiup withes, a metal screw top and a lard(?) can with crimped seams were noted on the site. Commanding views of the entire north half of Death Valley, the bajada below the mesa, and the entire mesa area are afforded from the ridge the bedrock mortars are located on.

Like DEVA 86C-48, several other sites in the project area had rock rings, 60 to 120 centimeters in diameter, which were situated directly on bedrock. Although the function of these rings is not known, it is suggested they served as food processing or drying stations, perhaps associated with the processing of the common reed for the sugary substance it provided (Hunt 1960:9; Irwin 1980:12,14). According to Sennett (1986:personal communication), the Shoshone of Lower Vine grew "sugar cane", which was undoubtedly the reed mentioned by Hunt. The reed was processed in historic times by first drying it, then beating it ("hard") on canvas to remove the sweet crystalline substances in the stalk (Sennett 1986:personal communication). It was then dampened with water and packed into hard lumps which afterwards were broken up with a rock prior to consumption (Irwin 1980:12). A second plant which might be processed in the rings was Mentzalia albicaulis. Shoshone women placed stacks of collected Mentzalia on "nice flat rocks" to dry; once dry, the women "danced" on the stacks to remove the seeds from the stalks (Irwin 1980:10; 14-15). The stacks were then covered with rock to protect the cache. These bedrock-rock rings might therefore mark flat areas on a hard surface useful for processing Mentzalia or the reed common to the springs in the mesa area. Alternatively, seeds or other vegetal products may have been laid out to dry on the bedrock, with the rocks used to hold the plant products down, or the rings might simply have marked or delineated the processing area. The rings could also have served as excellent food caches if covered, as rodents would not be able to borrow into the cache from underground. The rock rings might also have supported large baskets during the collection of plant foods or during their processing on the site (see Raab 1973 and the discussion...
in Ervin 1986:71). In southern Nevada, Blair (1984) has suggested similar rock rings located on limestone outcrops were once chinked with mud and used to store water. However, the rings might have served another function entirely. No evidence of thermal discoloration of the bedrock within the rings was noted, thus lessening the possibility that these were fire-related facilities. It is also possible the rings served a more esoteric purpose, such as a "prayer seat" (for example, see Chartkoff 1983), or as an individual's dance, power or vision circle (see Dreyer 1987).

The third site with bedrock mortars, DEVA 86C-57 (Fig. 30), is situated between two springs near the edge of the mesa. Although fairly small, the site possesses a rich artifact inventory, probable subsurface deposits and possible human remains. The single bedrock mortar had an unshaped vesicular basalt pestle setting within the cup on the day the site was recorded, although it appeared to have been placed in that position fairly recently as the interior of the cup was essentially clear of any deposition. A second unshaped vesicular basalt pestle was laying on the ground northwest of the bedrock mortar. One of the pestles was flat-ended -- wear that might be expected in use with a hopper, rather than a bedrock, mortar.

An eroding rock pile containing bits of charcoal and burnt bone probably represents a cremation locus at DEVA 86C-57. A triangular basalt projectile point (Fig. 31a) was found eroding out of the rock pile; it should be noted that basalt is rare in the project area. A third feature on the site is a rock semicircle 1.8 meters long which is nearly silted over. This feature may mark a partially buried house circle. A trail runs past the bedrock mortar to the southeast past the possible cremation and continues on to the springs to the east of the site.

Sixteen plainware sherds were noted at the site, all with coiling evident. Roughly 300 pieces of debitage were also observed with an estimated 98% of these being chert, 2% quartzite and trace amounts of obsidian. Flaked stone artifacts noted on the site include two chert cores, one chert projectile point tip, one basalt projectile point (collected), one knife, four scrapers, two biface fragments, one chert drill, two quartzite hammerstones and two chert choppers. Groundstone
Figure 30. Site map of DEVA 86C-57.
Figure 31. Artifacts collected from site DEVA 86C-57 (a) and from DEVA 86C-25 (b - d).
items other than the pestles include two vesicular basalt basin metate fragments, probably from the same item. A soldered-seam tin can was noted in the immediate site vicinity and may be associated.

Complex Sites

Twelve sites have been categorized as "complex" due to the multiple and varied features found on them. Two of these sites, DEVA 86C-40 and -48 (described previously) have bedrock mortars which distinguish them from the others. Complex sites on the bajada and other areas where igneous cobbles and boulders are present have features constructed of rounded cobbles and boulders and thus appear distinctly different from those sites on the mesa which have features constructed of rough, flat travertine slabs. This architectural difference is believed to be due to construction materials available at each site and is not believed to be temporally significant.

Three sites, DEVA 86C-5, -11 and -12 are situated on the bajada fans. Each has various rock features constructed mainly of igneous material. DEVA 86C-5 (Fig. 32) has eight rock features which include a rock circle, a rock ring, a "U"-shaped and an "8"-shaped alignment. Rock circles are defined here as those which are over 1.5 meters in diameter; they are believed to have been occupational "house rings", with the rocks providing support for a brush structure or simply defining a cleared area for sleeping. Rock rings are smaller circles (less than 1.5 meters in diameter) which would not have been large enough to sleep in. These rings may have served as fire circles or hearths, as food processing areas (for example, see Vierra 1986:112-114), as storage areas for items such as pinyon nuts (see Vierra 1986:112-114), as supports for large baskets during harvests or baskets used on-site for storage (see Ervin 1986; Raab 1973), or some as yet undefined function.

Four features were noted on DEVA 86C-11 (Fig. 33), including a rock circle, an "8"-shaped alignment, a small cairn and an excavated pit resembling the mesquite storage pits common on Death Valley (or DV) III and DV IV sites. The bottom of the pit is currently 25.0 centimeters below the surrounding ground surface and has an encircling earthen and
Figure 32. Site map of DEVA 86C-5.
Figure 33. Site map of DEVA 86C-11.
cobble berm measuring 2.0 meters from rim to rim. Similar mesquite storage pits are shown in Hunt (1960:181-183). The "8"-shaped alignment is 3.0 by 4.0 meters in size with the interior openings of the two rings each being close to a meter in diameter. The function of these abutting rings is not known, although cooking hearths or plant food processing areas (leaching pits?) are proposed as two possibilities. In addition to debitage, historic artifacts were noted on the site including clear, milk and brown bottle glass; tin cans with crimped seams; a piece of baling wire; and an 1890 Liberty Head nickel.

DEVA 86C-12 (Fig. 34 and 35) covers 112.0 by 192.0 meters of ranch land immediately inside the gate; the site is bisected by the access road. In an 8.0 by 12.0 meter area along a spring channel at the north edge of the site are three piles of thin mesquite withes. The mesquite is cut into sections and riddled with round wire nails. Some of the pieces have been bent to form half-circles. A small assortment of cans and fragments of Coca-Cola and Dr. Pepper bottle glass are associated with this feature, as are a number of chert flakes concentrated at the northern-most pile of wood. This debris may represent a wickiup or some other aboriginal construction from the ethnographic period.

Eight meters southeast of the mesquite withes is a 30.0 by 60.0 centimeter one course high horseshoe-shaped alignment of small rocks open to the southeast. At the edge of the south side of the access road is a circular, cleared area outlined by discontinuous rock. Paiute utility-ware sherds are scattered in and around the feature. If these artifacts were used in conjunction with the circle (and the other alignments on the site) a late DV III or DV IV occupation would be indicated. A rock ring is three meters east of the circle.

Included within the boundaries of this site are two historic trash dumps. One is on the north side of the road five meters from the gate, at the mouth of a small wash. The other is located at the southern site boundary along a drainage channel. Artifacts in the dumps are largely habitational and include an assortment of cans, tobacco tins, wire, wood, stoneware fragments, and two wagon wheel hubs. This trash may be related to the construction of the fence or the water pipeline, and the materials may have been spread by erosion. The historic materials might
Figure 34. Site map of DEVA 86C-12.
FIGURE 35. Lynne D'Ascenzo recording Feature 2, DEVA 86C-12.
therefore represent a component separate from the various rock features noted on the site.

DEVA 86C-35, -49, -56 are all located near the edge of the mesa top and utilize the travertine outcrops which are common there. DEVA 86C-35 (Fig. 36) encompasses a widespread group of features recorded in four loci. In addition to three circles and a ring of travertine slabs which once stood upright, four hearths were seen on the site. These hearths appear as circular areas, generally one meter in diameter covered by small travertine rocks. The central rocks of each hearth have been discolored to a light grey presumably from heat. Near two of the hearths are piles of small stones, perhaps hearth 'spares', or boiling rocks. Rock rings situated on bedrock, similar to those described previously on DEVA 86C-48 were also identified, although these were not as well constructed. A series of three rock walls resembling check dams on locus B may be historic, as a metal spoon was found in association with the largest rock wall at the head of the small erosional channel which these short alignments span.

DEVA 86C-49 (Fig. 37) shares many characteristics of DEVA 86C-48, although it is not nearly as extensive. Present on this site are two possible rock retaining walls, a figure "8" rock alignment, a rock semicircle large enough to function as a house circle, and a smaller rock semicircle which may have functioned as a "lookout". The site is situated on a ridge with a commanding view of both the bajada and the deep wash draining the northern portion of the project area.

DEVA 86C-56 (Fig. 38) is a large site encompassing approximately 125,400 square meters on a broad, flat-topped ridge which extends down from the mesa. Spring channels run downslope on either side. The features are found on flat ground near the mesa top where the slopes are gentler and water is most easily accessible. The site has been divided into five loci, each of which is described below.

Locus A consists of a single circle of collapsed travertine slabs which were originally propped upright by supporting rocks. A mano and a projectile point fragment were found near the circle.

Locus B is on a travertine outcrop which overlooks the steep gully running the length of the ridge's south side. On this outcrop a group of twenty small travertine rock piles dot a 25.0 by 30.0 meter area. Each
Figure 36. Site map of DEVA 86C-35.
Figure 37. Site map of DEVA 86C-49.
Figure 38. Site map of DEVA 86C-56.
pile or cairn is made up of 5 to 10 pieces of travertine. Three to five rock rings, 50 to 70 centimeters in diameter, are also present in this area. The rocks used in these have fallen, making it difficult to determine exactly how many rings were originally present. At the edge of the outcrop is a rock circle much like the one at Locus A, except that it rests on a horizontal slab of rock.

Locus C resembles B in that it is dotted with rock piles, although Locus C has roughly half the number of features. The presence of the small piles or cairns on these two loci is rather puzzling, although such occurrences have been noted by others in adjacent regions. Rogers mentions groups of cairns in various areas in the desert in which no purposeful arrangement is apparent, and attributes them to possible shamanistic or ceremonial activities (1966:53). This concept probably evolved from ethnographic references to shrines which are made of piled rock.

Locus D has two distinct rock circles and the only dense concentration of artifacts at the site. In addition to the many flakes, Owens Valley Brown Ware sherds were noted, indicating a DV IV occupation.

On Locus E are the remains of what may have been a shallow reservoir next to a spring channel dammed by an alignment of rocks 17.0 meters long. Behind the alignment is an area 30.0 by 40.0 meters covered with silt where water has apparently been impounded. It is possible that such a reservoir might be built to attract indigenous or migratory game such as ducks, geese, teal, heron, egrets or local mammals (see Lingenfelter 1986:18). Fifteen meters south, a wall two meters long and one meter high provides an ideal point for viewing the reservoir while remaining hidden. Its presence helps to support the theory that the reservoir functioned to attract mammals or waterfowl. Since this feature is related to the manipulation of water, it could also be associated with farming activities known to have occurred on other parts of the mesa.

One rock circle is on the low hill north of the reservoir, and three are on the ridge to the south, along with a cairn. These complete the feature list of Locus E except for the section of a trail which skirts around the north and east edge of the ridge. Pieces of cut
mesquite which may have been fence posts lay at intervals along this side of the ridge. A second trail is also visible on the site; it emerges from the gully at the southern site boundary near Locus B and cuts across the site center in a northwest direction.

DEVA 86C-53 (Fig. 39) is also a very large site. It is situated on two parallel ridges separated by active spring channels flowing along the length of both ridges. The east ridge is travertine-encrusted and the west covered by igneous rock and gravel. Rock alignments and circles are visible on both ridges. Locus A and B are located on the easternmost ridge. Locus A retains two features, both rock circles. The soil on this part of the site was especially soft and other remains are probably buried. Locus B had an area of concentrated artifacts near the one rock alignment and a small area of fire cracked rock is associated with this roughly shaped semicircular feature. Farther down this ridge to the west and possibly related to this site, was IA-66, assumed to be a mesquite pit. At the east end of the ridge 220 meters from Locus A is a flake concentration.

Locus C, on the western ridge, had no noticeable artifacts on the surface. Two definite features appear more intact than several other disturbed alignments. The two "intact" features include a rock circle, the center of which has been dug out, and a rectangular alignment of rock 1.5 by 2.5 meters which was partially excavated into a low knoll at the east end of the ridge. This second feature is reminiscent of a Euro-American grave. Several trails cross this ridge. One trail which ran nearly the entire length of the ridge seemed to lead to each feature in turn and then down to the spring channel at the southwest end of the ridge. A second trail crossed the width of the ridge from spring channel to spring channel near the north end of the ridge.

Although not as large, DEVA 86C-6 (Fig. 40) consists of three dissimilar rock features, an associated lithic scatter, and a previously-collected hopper basket. A running, spring-fed drainage flows within six meters of the northwest edge of the site. The southernmost feature on this site is composed of two semicircular rock wall alignments enclosing a circle three meters in diameter believed to have originally been a house circle or sleeping area. The northeast and southwest ends of the feature are open.
Figure 39. Site map of DEVA 86C-53.
Figure 40. Site map of DEVA 86C-6.
A U-shaped alignment of travertine slabs, open to the southeast, is six meters north of the circle. The slabs lean inward and stand roughly thirty centimeters high, and the alignment measures 1.5 meters long by 2.0 meters wide on the open end. A small scatter of possibly fire-cracked rocks is one meter northeast of the alignment. This feature resembles the arc-shaped hunting blind recorded by Craib as DEVA-77-70 (1981:78), although its orientation on the site towards an obstructing ridgeline and outcrop leaves this interpretation questionable. Alternatively, this may represent a windbreak for a hearth, or the feature may serve some more esoteric purpose such as a "prayer seat" (Chartkoff 1983:748).

The third feature is a low rock alignment of travertine enclosing an area 3.0 by 2.0 meters and backed by a 2.5 meter high travertine outcrop. Approximately 30 small chert flakes litter the floor of the enclosure. This feature resembles the DV III shelter shown in Hunt (1960:125). Like the first feature, this might also be a sleeping or habitation area. In 1985, Park Service personnel removed a complete hopper mortar basket from a small dry drainage six meters north of this feature. The basket is curated at Scottys Castle with the accession number 19753.

This site was recorded separately from DEVA 86C-8, a site located within 40 meters having somewhat similar architectural features, as DEVA 86C-6 has no historic artifacts and DEVA 86C-8 has predominantly historic artifactual materials. However, the sites might be associated and the historic materials at DEVA 86C-8 may be ranch-related (as opposed to occupationally-related) trash. As such, both 86C-6 and 86C-8 may be associated with the possible earlier component in evidence at the masonry structure at DEVA 86C-1, Locus 4 (also in the immediate vicinity of these two sites) where it appears that an earlier aboriginal site was vandalized to construct the masonry structure currently visible at Locus 4. Locus 4 contains midden, flakes and a metate fragment. Further work would be needed to confirm whether or not these sites are coeval.
Rockshelters and Overhangs

Eight rockshelters (DEVA 86C-22, -43, -45, -50) or overhangs (DEVA 86C-31, -51, -13, -16) were recorded on the property. As each site is fairly distinct, each one is described in detail below. Also of note are several rockshelters which were recorded as isolated features. Although these shelters might have been utilized, they lacked any evidence of use. However, the floors of most were obscured by large pack rat middens.

DEVA 86C-22 (Fig. 41) was recorded by Wallace in 1963 and is one of the few sites in the project area which contains a well-developed midden. The midden is dark and contains occupational debris including charcoal and bird bone fragments. Artifactual materials included two vesicular basalt metate fragments, four chert cores, five obsidian flakes, roughly 195 pieces of chert debitage and one plainware sherd. Several pieces of cut branches are thought to have been used as part of a wall and brush windbreak. Additionally, Wallace reported blades, a chopper, projectile point fragments, scrapers, mano fragments and glass trade beads from the site.

The shelter is situated at the base of a travertine outcrop on the edge of the bajada and is partially obscured from view by seepweed. Little Grapevine Creek is 150 meters south of the Shelter and a spring is 25 meters west. The shelter opening faces westsouthwest and is partially enclosed on the entrance and sides by a rock and brush wall. The shelter measures 1.5 meters high at the mouth by 5.0 meters long and 3.5 meters deep; midden is located in the south end of the shelter and the roof is fire-blackened throughout. A second, smaller shelter to the immediate southeast of the shelter may have been utilized, perhaps for storage, as midden also extends to the front of this overhang.

This is the only rockshelter located on the bajada, rather than on the benches leading up to the mesa. The presence of undisturbed midden deposits suggest the possibility of subsurface features and a long occupational history. This, coupled with a varied artifact inventory, is indicative of the importance of this site in regional prehistory.

A second site with midden and a varied artifact inventory, DEVA 86C-43 (Fig. 42), falls into this class. This site had the richest
Figure 41. Site map of DEVA 86C-22.
Figure 42. Site map of DEVA 86C-43.
artifact assemblage visible on the surface, including approximately 50 brownware sherds, a broken wooden crate, an antler tine flaker, a steatite pipe fragment, a granitic mano fragment, six biface fragments, five scrapers, two unifacial retouched flakes, 1 chopper, 1 core and approximately 200+ pieces of debitage (80% chert, 20% obsidian, 10% quartzite). Several small bone fragments may be human, and human interments may thus be present.

The remains of several structures—either house or sleeping circles—are present on the site. Two of these (Features 1 and 2) utilize a 1.5 to 2.0 meter high overhanging rock face as rear walls. Feature 1 is constructed of an upright alignment of travertine slabs set in a semicircle measuring 4.0 meters across (Fig. 43). The slabs extend up to a meter in height and are supported by other smaller slabs. Feature 2 covers a 3.0 by 2.0 meter area with a semicircle of upright travertine enclosing an area which appears to have been slightly excavated. Midden extends from Feature 1 to Feature 2 and downslope towards Feature 3, which is a house circle located near the drainage. Feature 4 consists of a rock semicircle in a travertine outcrop atop the hill on the opposite side of the drainage.

Like DEVA 86C-22, this site has a well-developed midden and still retains a large and varied artifact inventory. The richness of the assemblage, the possibility of subsurfaces deposits and interments also makes DEVA 86C-43 one of the most significant sites on the property.

Two additional rock shelters were recorded on property—DEVA 86C-45 and -50. The first of these, DEVA 86C-45, has two small shelters immediately adjacent one another (Fig. 44). The northernmost shelter measures 1.5 meters deep by 3.0 meters long by 1.5 meters high. The southernmost shelter has cultural materials, including approximately 60 chert flakes and five plainware sherds, extending three meters downslope of the overhang. The shelters face west and are located just below the edge of the mesa and roughly 150 meters above two springs. They appear to have only been lightly used.

The second shelter, DEVA 86C-50 (Fig. 45), consists of two shelters roughly 80 meters apart in a fairly sheer 40-foot high rock face at the edge of the mesa. The chamber of the first shelter is 3.0 meters wide, 3.0 meters deep and 2.0 meters high with a low rock wall across the
Figure 43. House circle of upright slabs against bedrock outcrop, feature 1 at DEVA 86C-43.
Figure 44. Site maps of DEVA 86C-31 and DEVA 86C-45.
Figure 45. Site map of DEVA 86C-50.
entrance. Two short alignments in the south half of the shelter may represent additional windbreaks or part of a fire ring. A pile of cut and burnt mesquite branches is located in the south corner of the shelter. Five chert flakes were observed inside the shelter and 40 were noted downslope. The second shelter is located at the same elevation and 80 meters south of the first. This second shelter is not visible from below as it is situated behind a large slab of travertine which has fallen such that a small cavern was created behind the slab. This chamber measures 3.5 meters long, 3.0 meters deep and 2.0 meters high. Two small rock alignments inside may represent the remains of a fire circle or hearth. The north side of the slab has left a low opening into the shelter. A rock alignment along this opening probably represents the remains of a wall used as a windbreak. Flakes are scattered downslope of this opening; a chert core and projectile point midsection were noted in the scatter outside the shelter.

Four additional sites are classed as overhangs in that slightly overhanging cliffs or boulders were utilized as major aspects of the architectural features on the site. DEVA 86C-31 (Fig. 44), is located on the second bench above the ranch house at an elevation of 2360 feet. The site has an L-shaped rock alignment on a two meter wide bench situated at the base of the slightly overhanging cliff. Artifacts, including debitage and a mano fragment, are scattered downslope of the bench. A flowing spring emerges from the cliff face at a point 10 meters southeast of the rock alignment, and a dense stand of vegetation lines the spring drainage.

DEVA 86C-51 (Fig. 46) is located at the north end of the property and consists of approximately 1500 pieces of debitage, a quartzite hammerstone, a plainware sherd, a metal can lid and three pieces of cut and milled wood in an area surrounding several large boulders adjacent a spring. One of the larger boulders (roughly 3.0 meters tall) is slightly overhanging and a semicircular rock alignment under the overhanging portion of the boulder is believed to have been used as a windbreak or large fire hearth. A second semicircle against another large boulder probably served the same function. A third cleared area against a boulder also has the remains of a small rock wall.
Figure 46. Site maps of DEVA 86C-13 and DEVA 86C-51.
DEVA 86C-13 (Fig. 46) is located on the south-facing slopes of a canyon to the east of the ranch house. The site consists of a possible windbreak under an isolated travertine boulder which is surrounded by a scatter of lithics, and a two meter high quarried chert boulder which has a rock alignment extending out from the east side of the boulder. Two isolated features may be associated with the site: IA-15, 70 meters southwest of the site, consists of an alignment of cobbles set atop a travertine boulder which probably functioned as a hunting blind; and IA-14, 175 meters southwest, consisting of a small rock ring and a possible collapsed hunting blind(?) on a terrace immediately above the drainage.

A final site, DEVA 86C-16 (Fig. 47), is located in the travertine outcrop above the ranch-related reservoir and changing house (IA-19). The parallel rock formations on the site delineate a small natural plaza-like area, with rock features built on and against them. Although this site has a variety of rock features, the site was included in this category, as two shelters and one overhang constitute major features of the site. The largest of these, Feature 1, has a 0.6 meter high semicircle of stacked travertine enclosing a shelter 1.5 meters deep and 2.5 meters wide; the entire enclosed area 2.5 meters in diameter. The opening of this shelter faces east. Historic materials were found inside this shelter, and the north end of the roof is fire-blackened. Two meters northeast of the shelter across a small, sandy flat are five small rock alignments including an oval, a semicircle, adjoining semicircles and a short wall. All of these are in a line along the base of a travertine outcrop.

The second shelter is located on the west-facing side of the travertine outcrop in which Feature 1 is situated. The shelter itself faces south-southwest. It is 3.0 meters wide, 2.0 meters deep and 1.5 meters high and has an outwardly sloping floor. The two rock alignments inside may represent the remains of windbreaks or firehearths.

The overhang is fronted by a one to three course high rock semicircle enclosing an area roughly 1.5 meters in diameter. The slope drops off steeply to the immediate southwest of the alignment.
Figure 47. Site map of DEVA 86C-16.
Additional features on the site include three short linear alignments, a cairn, a large U-shaped alignment and two small rock semicircles.

A chert core and roughly 100 pieces of chert debitage were found on the site, along with tin cans with crimped seams, meat tins, pocket tobacco tins, a shovel, miscellaneous metal, brown and amethyst-colored glass, stoneware fragments and earthenware. The majority of the historic material was situated around the large rock shelter (Feature 1), while most of the lithics were scattered about Feature 3. It is possible an earlier aboriginal component of the site has been obscured by later historic use, or alternatively, the area was only utilized in historic times.

At least two of the sites in this category, DEVA 86C-22 and -43, are believed to have been used intensively, probably for primary habitations, or were used over a long period of time, as well-developed midden was present. The rockshelters would have provided easily accessible shade in the summer, and would be easily heated in the winter. Sixty percent of the shelters or overhangs have basically southern orientations, 20% face westerly, 10% open to the east, and 10% face to the northwest. Assuming for the moment that rock shelters were available facing any direction, there would appear to be a predisposition for selecting shelters having a southern exposure. As this orientation would be the warmest throughout the entire year, it might be assumed the shelters facing southerly were used in the fall or winter, if heating was a primary criterion for selection.

Although rare, individuals were occasionally buried in rockshelters in Death Valley (see Tagg 1984:62). Shelters were also used to cache plant food products, to store collecting equipment such as seed beaters and burden baskets, or to store filled water baskets (Irwin 1980:17). Some shelters in Death Valley were also used as workshops, rather than habitation areas: Wallace (1978:127) reports a basket weaver's workroom in Butte Valley, and a stone tool knapper's workroom in Grapevine Canyon. Several caves and rockshelters have been utilized as "family shrines" where offerings have been left, and others, particularly those containing pictographs and petroglyphs may have functioned within the cosmological and religious system of the early inhabitants (Wallace 1978:129). Wallace suggests the earliest use of caves in Death Valley
occurred during the Death Valley II Period (Wallace 1978:126). The use of rockshelters increased during Death Valley III times and reached a peak during the following Death Valley IV Period (Wallace 1978:126-127).

**Lithic Scatters and Quarries**

Fourteen sites were classified as quarries (DEVA 86C-17, -19, -21, -34, -37, -52 and -55) or lithic scatters (DEVA 86C-7, -10, -23, -29, -33, -36 and -44) as the dominant presence on these sites was debitage, cores, assayed cobbles and/or quarried boulders (Fig. 48-55). The sites varied in size from 628 square meters to 116,769 square meters, with a mean size of 22,392 square meters. The six sites considered to be principally lithic scatters had a mean size of 5432 square meters and an estimated average artifact density of 2567 items which were predominantly debitage. The remaining sites, considered to be primarily quarry workshops had an average estimated artifact density of 26,000 items and a mean site size of 36,929 square meters. Three of the lithic scatters are located on the bajada as are three quarry areas, while three lithic scatters and four quarries are situated on the mesa. Desert varnish was noted as a significant attribute of the flakes on four sites (DEVA 86C-34, -36, -52 and -55), three of which are quarries and all of which are located on the mesa. The possibility that these four sites have major components representing quarrying activities of the Paleo-Indian period should not be overlooked (for example, see Hunt 1960:17).

All but one site (DEVA 86C-34) had at least one rock feature. These included rock piles (DEVA 86C-7, -10, -36 and -55), cairns (-19, -36, -37 and -52), small rock rings less than 1.2 meters in diameter (-33 and -55), linear rock alignments (-10, -21 and -36), a hearth (-36) and a possible hearth (-29), a possible check dam (-44), a semicircular rock alignment situated on bedrock (-52), a rock semicircle probably utilized as a windbreak (-29), a possible house circle (-23) and historic materials (-10, -17, -23 and -52). Most of the lithic scatters, particularly on the mesa, were situated on gravel fans containing numerous chert and occasional quartzite cobbles and boulders.
Figure 48. Site maps of DEVA 86C-7 and DEVA 86C-10.
Figure 49. Site map of DEVA 86C-33.
DEVA 86C-36

Figure 50. Site map of DEVA 86C-36.
Figure 51. Site maps of DEVA 86C-17 and DEVA 86C-23.
Figure 52. Site maps of DEVA 86C-29 and DEVA 86C-44.
Figure 53. Site maps of DEVA 86C-19 and DEVA 86C-21.
Figure 54. Site maps of DEVA 86C-34 and DEVA 86C-37.
Figure 55. Site maps of DEVA 86C-52 and DEVA 86C-55.
which provided the source material for the stone tools found throughout the project area.

Although not exhaustively inventoried, artifacts noted on the sites (excluding cores and waste flakes) include three projectile point fragments, a knife, 12 bifaces, 76 scrapers, one scraper plane, six retouched pieces, numerous edge-damaged flakes, three hammerstones, one chopper, three manos and three metates. The number of cores per site ranged from as few as three to as many as 3000. One site (DEVA 86C-17) was reported by Wallace in 1963 as having ceramics, and four of the sites also contained historic materials.

Once again, a preliminary assessment of these sites indicates that the earliest tool manufacturing activities occurred on the mesa during Death Valley I, or Paleo-Indian, times. Three of these early sites were located on the "backside" of the mesa near water sources at the base of the edge of the mountains. During subsequent periods, a larger portion of the project area was utilized for stone tool production.

Miscellaneous Sites

Seven sites (DEVA 86C-4, -25, -26, -28, -32, -41 and -46) fall into a miscellaneous category as they do not fit comfortably into any of the previously defined site types. Four of these contain rock features with an associated scatter of lithics (DEVA 86C-25, -26, -28 and -46). The others are sites in and around outcrops of travertine where various alignments of rock have been constructed using portions of the outcrops as part of the alignments; these sites also have associated flake scatters. Two of the sites appear to have distinct functions—one as a hunting blind (DEVA 86C-4) and the other as a "lookout" (DEVA 86C-41).

DEVA 86C-4 is a "U"-shaped hunting blind on the bajada (Fig. 56 and 57). The blind opens to the south, measures 2.0 by 1.5 meters, and is constructed of dry-laid basalt cobbles stacked 30 to 50 centimeters high. The feature is situated on the northwest edge of a deep arroyo, facing the mountains and a presumed game trail leading up the arroyo edge to the springs. This blind might be associated with sites DEVA 86C-3 and/or DEVA 86C-5, both in the vicinity.
Figure 56. Site maps of DEVA 86C-4 and DEVA 86C-28.
FIGURE 57. Detail of hunting blind, DEVA 86C-4.
DEVA 86C-41 (Fig. 58) is a rock circle situated atop a very steep isolated hill. The feature covers nearly all the usable space on this prominent point which overlooks a bend in the large wash running down the small canyon on the southeast side of the ranch property. A concentration of flakes is found in the circle and eroding downslope through the opening on the circle's west edge. Due to its prominent position and the paucity of usable space outside the circle, this site is assumed to be a lookout, most probably associated with hunting (Hoffman 1878:473). During the summer, the Western Shoshone reportedly monitored the daily movements of bighorn sheep in order to best predict when they could be taken in ambush (Thomas et al. 1986:267). This "lookout" then might have functioned as a summertime position to observe sheep within this portion of the project area. The site's location on such a difficult to reach spot, and the rather commanding view of the surrounding landscape, strongly suggests such a use.

DEVA 86C-28 (Fig. 56) consists of a flake scatter associated with a collapsed three-course high alignment of travertine which appears to be the ovoid remains of a rock ring measuring 1.0 by 1.5 meters across. A possible second, 1.0 meter long linear alignment abuts against an outcrop 6.0 meters west of the above feature. Two edge-damaged flakes were noted in the scatter. This site may be associated with and a contemporary of DEVA 86C-27, (a house circle) and of DEVA 86C-29, (a lithic scatter). All three of these sites are within 70.0 meters of each other on a discrete bench of land which is separated from the surrounding area by a canyon to the west, the mesa edge above and to the north, hills to the east and to the south, and a drop to a lower bench.

The greatest diversity of lithic material was seen on DEVA 86C-25 and -26 (Fig. 59 and 60). Both these sites are on the same sharply sloping ridge, and are located on relatively flat saddles overlooking springs. Both sites contain straight alignments of rock; on DEVA 86C-26 they supplement natural outcrops of boulders, on DEVA 86C-25 the desert pavement along the north side of the alignments has been cleared to leave only the small gravels. The center of the rock circle on DEVA 86C-25 has been cleared in the same manner. Artifacts are concentrated on the south sides of the major features of both sites, and on either site the artifacts are somewhat embedded into the desert pavement and
Figure 58. Site map of DEVA 86C-41.
Figure 59. Site map of DEVA 86C-25.
Figure 60. Site maps of DEVA 86C-26 and DEVA 86C-46.
many have become varnished through weathering. These sites may thus have DV I, or Paleo-Indian components.

The list of tools from DEVA 86C-25 includes some 30 scrapers, 13 fragments of bifacially worked flakes, and an estimated 100 flakes showing edge damage. Most exciting were the two drills and the projectile point and point fragments found (Fig. 31, b-d), including a projectile point with morphological similarities to both the Elko and Rosegate series, and the base to a possible Gatecliff Contracting Stem. The presence of the Gatecliff point suggests the former projectile point is more likely to be in the Elko series. Also noted were four point tips. One drill had a square base, the other a triangular. Drills are a general indicator of the DV II, or Archaic, period, as are scrapers and Elko and Gatecliff points, while Rosegate points are indicative of DV III occupation.

Over twenty biface fragments were noted on DEVA 86C-26, including eight midsections, five tips, three bases and three possible knife bases. The northeastern-most feature on this site is in a somewhat similar topographic setting to the feature at DEVA 86C-41, and may also have functioned as a lookout.

DEVA 86C-46 (Fig. 60) is located on a saddle or bench at the head of a narrow ridge extending from the mesa to the bajada. The site contains two slightly curving linear rock alignments measuring 1.8 and 1.9 meters long. Both alignments open to the northeast and face a spring channel, and might possibly represent hunting blinds (although both alignments are quite low), windbreaks, or supports for brush house structures. Over 500 pieces of debitage are estimated to be located here, as are two scrapers, two choppers, five cores, four bifaces and a quarried chert boulder.

The final site in this category, DEVA 86C-32 (Fig. 61), is located on a broad, flat, sandy bench which encompasses a 40.0 by 50.0 meter area. This sandy bench is surrounded by rock, creating a natural "plaza" area. The north side of the flat is bordered by an outcrop against which the first two features have been constructed. The first feature consists of two fairly distinct and one indistinct rock wall segments situated under a small, slightly overhanging boulder. The second feature is a 3.0 meter long linear rock wall alignment anchored
to the travertine outcrop. The third feature is just west of the center of the sandy flat; this feature consists of several travertine slabs stacked atop a low travertine boulder. Approximately 75 unmodified chert flakes were noted on the site. A trail leads up to this bench, crosses by the first feature, and proceeds up to the top of the ridge where the springs and large grove of palms are located.
Figure 61. Site map of DEVA 86C-32.
Chapter III
ISOLATED ARTIFACTS AND FEATURES

A total of 74 isolated artifacts or features were noted during the survey. Once again, isolates were defined as an isolated artifact or feature, a small non-site cluster of artifacts, or isolated, outlying features and artifacts known to be associated with the historic ranching operations at Lower Vine. When encountered, each was assigned an isolate, or "IA", number, plotted onto project maps and briefly described. The large number of isolates precludes their being described individually here; however, the isolates fell into several types which are discussed below. The location of the isolates is indicated in Figure 62, and a brief description of each is shown in Table 2.

Cairns

Twenty-eight IA numbers were assigned to single or multiple cairns. In all, 42 individual cairns were encountered. The majority of the cairns are located on the northern and southern portions of the mesa area. These varied widely in construction. Most, particularly those atop the mesa area, were constructed of stacked slabs of travertine. Stacked igneous and quartzite cobbles and boulders mixed with travertine slabs were used most often on the bajada. The cairns varied in height from 25.0 to 150.0 centimeters, with the majority falling between 60.0 to 100.0 centimeters (see Fig. 63).

The function of the cairns is not known. Some are situated alongside trails and may have served as trail markers or trail shrines (Rogers 1966:49). Others may have marked prehistoric caches (Hunt 1960). Some of the cairns might also have been part of the ceremonial or religious aspects of the prehistoric societies in the area (see Rogers 1966), while it is also possible some of the cairns were used to predict astronomical events (for example, see Carrico 1982:3). Cairns have also been used in the Death Valley region as aids in hunting, with cairns serving as blinds (Thomas et al. 1986:267) or as "dummy hunters" when herding large game to ambush (for example, see Grant et al. 1968:31). Historically, the cairns may have marked property lines,
Figure 62. Location of isolated artifacts and features at Lower Vine Ranch.
### Table 2

**ISOLATED ARTIFACTS AND FEATURES ENCOUNTERED AT LOWER VINE RANCH**

<table>
<thead>
<tr>
<th>IA NO.</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Hammerstone</td>
</tr>
<tr>
<td>2</td>
<td>Concrete fence post</td>
</tr>
<tr>
<td>3</td>
<td>Concrete fence post with historic trash scatter</td>
</tr>
<tr>
<td>4</td>
<td>Historic dump</td>
</tr>
<tr>
<td>5</td>
<td>Olive-colored bottle break</td>
</tr>
<tr>
<td>6</td>
<td>Mesquite storage pit</td>
</tr>
<tr>
<td>7</td>
<td>Rock pile</td>
</tr>
<tr>
<td>8</td>
<td>Cairn</td>
</tr>
<tr>
<td>9</td>
<td>Historic trash</td>
</tr>
<tr>
<td>10</td>
<td>Winnowing tray (collected)</td>
</tr>
<tr>
<td>11</td>
<td>Rosegate projectile point (collected)</td>
</tr>
<tr>
<td>12</td>
<td>Core/chopper; 2 waste flakes</td>
</tr>
<tr>
<td>13</td>
<td>Cairn</td>
</tr>
<tr>
<td>14</td>
<td>Rock ring</td>
</tr>
<tr>
<td>15</td>
<td>Possible hunting blind or windbreak</td>
</tr>
<tr>
<td>16</td>
<td>Short rock wall</td>
</tr>
<tr>
<td>17</td>
<td>Berm; ditch</td>
</tr>
<tr>
<td>18</td>
<td>Chopper</td>
</tr>
<tr>
<td>19</td>
<td>&quot;Changing area&quot;: reservoir, standing structure, structural platform, trash</td>
</tr>
<tr>
<td>20</td>
<td>Two rock piles</td>
</tr>
<tr>
<td>21</td>
<td>Two historic rock walls</td>
</tr>
<tr>
<td>22</td>
<td>Hearth(?)</td>
</tr>
<tr>
<td>23</td>
<td>Berm; old pond(?)</td>
</tr>
<tr>
<td>24</td>
<td>Concrete fence post</td>
</tr>
<tr>
<td>25</td>
<td>Linear rock alignment</td>
</tr>
<tr>
<td>26</td>
<td>Rock wall; metate fragment</td>
</tr>
<tr>
<td>27</td>
<td>Shovel and bottle at small rockshelter</td>
</tr>
<tr>
<td>28</td>
<td>Barbed wire fence</td>
</tr>
<tr>
<td>29</td>
<td>Concrete fence post</td>
</tr>
<tr>
<td>30</td>
<td>Rockshelter - no evidence of use</td>
</tr>
<tr>
<td>31</td>
<td>Cairn</td>
</tr>
<tr>
<td>32</td>
<td>Four large cairns (historic); 1 small cairn erected recently</td>
</tr>
<tr>
<td>33</td>
<td>Chipping station</td>
</tr>
<tr>
<td>34</td>
<td>Hearth</td>
</tr>
<tr>
<td>35</td>
<td>Cairn</td>
</tr>
<tr>
<td>36</td>
<td>Probable hunting blind, possibly associated with DEVA 86C-35</td>
</tr>
<tr>
<td>37</td>
<td>Windbreak or &quot;U&quot;-shaped blind</td>
</tr>
<tr>
<td>38</td>
<td>Small cairn</td>
</tr>
<tr>
<td>39</td>
<td>Cairn</td>
</tr>
<tr>
<td>40</td>
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<td>41</td>
<td>Cairn</td>
</tr>
<tr>
<td>42</td>
<td>Two cairns</td>
</tr>
<tr>
<td>43</td>
<td>Cairn</td>
</tr>
</tbody>
</table>
Table 2 (continued)

<table>
<thead>
<tr>
<th>IA NO.</th>
<th>DESCRIPTION</th>
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</thead>
<tbody>
<tr>
<td>44</td>
<td>Metate fragment</td>
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<tr>
<td>45</td>
<td>Cairn</td>
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<tr>
<td>46</td>
<td>Cairn</td>
</tr>
<tr>
<td>47</td>
<td>Mesquite storage pit(?)</td>
</tr>
<tr>
<td>48</td>
<td>Historic bridge; cairns</td>
</tr>
<tr>
<td>49</td>
<td>Two cairns</td>
</tr>
<tr>
<td>50</td>
<td>Rockshelter - no evidence of use</td>
</tr>
<tr>
<td>51</td>
<td>Rock ring</td>
</tr>
<tr>
<td>52</td>
<td>Historic trash</td>
</tr>
<tr>
<td>53</td>
<td>Eroded house circle(?) - may be associated with DEVA 86C-40</td>
</tr>
<tr>
<td>54</td>
<td>Rockshelter - no evidence of use</td>
</tr>
<tr>
<td>55</td>
<td>Three large cairns</td>
</tr>
<tr>
<td>56</td>
<td>Cairn</td>
</tr>
<tr>
<td>57</td>
<td>Cairn</td>
</tr>
<tr>
<td>58</td>
<td>Cairn</td>
</tr>
<tr>
<td>59</td>
<td>Cairn; rock ring</td>
</tr>
<tr>
<td>60</td>
<td>Rock wall on travertine outcrop; 2 cairns</td>
</tr>
<tr>
<td>61</td>
<td>Cairn</td>
</tr>
<tr>
<td>62</td>
<td>Cairn</td>
</tr>
<tr>
<td>63</td>
<td>Ditches</td>
</tr>
<tr>
<td>64</td>
<td>Small chipping station</td>
</tr>
<tr>
<td>65</td>
<td>Six cairns</td>
</tr>
<tr>
<td>66</td>
<td>Mesquite pit(?)</td>
</tr>
<tr>
<td>67</td>
<td>Cairn supporting wooden railroad ties</td>
</tr>
<tr>
<td>68</td>
<td>Cairn supporting wooden railroad ties</td>
</tr>
<tr>
<td>69</td>
<td>Fenceline (possible corral?) constructed of railroad ties</td>
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<td>Cairn</td>
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<td>72</td>
<td>Cairn; small rock ring</td>
</tr>
<tr>
<td>73</td>
<td>Five small rock piles</td>
</tr>
<tr>
<td>74</td>
<td>Rosegate projectile point</td>
</tr>
</tbody>
</table>
Figure 63. IA-39, a cairn of stacked travertine slabs, typical of many seen on the ranch property.
early mineral or water claims, or caches. At least one of the cairns was constructed in the last few months by a Park Service employee.

Several cairns are associated with, or in close proximity to, other features. IA-48 includes three cairns near the historic bridge located in the southeast portion of the ranch property. IA-58 includes a cairn and a small rock ring which measures 60.0 centimeters in diameter. A rock wall five meters long and two courses high (IA-60) was associated with two partially collapsed cairns. This wall was made of stacked travertine slabs placed on top of a travertine outcrop alongside a small mesquite bosque; this feature may be an isolate associated with DEVA 86C-56 which is located in the general vicinity. A small rock ring which may represent a fire circle was located with the cairn at IA-72. Two cairns, IA-67 and -68, are probably part of a possible historic corral (IA-69), as the cairns support wooden railroad ties and appear to be in alignment with the corral. Likewise, IA-8, a rock cairn supporting a six-foot tall two-by-two inch wooden stake brings to mind a mining claim marker. It is also possible this is an early boundary marker for the property, set up when the legal title for the land was as yet unsettled.

**Rock Piles**

Three numbers (IA-7, -20 and -73) were assigned to isolates containing a total of eight rock piles. IA-73 consisted of five small travertine rock piles similar to those recorded at DEVA 86C-56. Each pile measures roughly 20 by 30 centimeters and is constructed of three to six small travertine slabs. Their function is unknown, although several possibilities have been suggested in the discussion of DEVA 86C-56. Of particular note here is that rock piles have frequently been associated with burials, cremations or caches (see Hunt 1960) in other parts of Death Valley. Smaller rock piles signaled ownership of plant resources among other ethnographic groups (see Tagg 1985:100) and such a use might be indicated here.
Isolated Cement Fence Posts

Seven isolated cement posts (IA-2, -3, -24, -29, -70, -19 and -23) identical to those utilized in the fenceline surrounding the ranch were set into the ground in various places within the ranch property. According to Buchel (1985:54), Scotty's favorite pets were buried on the ranch in graves marked with rock or cement posts.

One cement post supported by a rock pile (IA-3) was also surrounded by a trash scatter. The post is similar to the one described above and may have served the same purpose. The historic trash around the post consisted of broken Dr. Pepper bottles, brown beer bottle fragments, light blue and amethyst colored glass shards, cans with crimped seams, a metal screw-cap jar lid with an attached handle, a one gallon gas can, paint cans, a coiled spring, round wire nails and pieces of a ironstone cup. This trash is obviously related to late ranching activities, may have been deposited during fenceline construction, the clearing of the alfalfa fields, or during some other ranch-related activity.

Dumps and Trash Scatters

Four areas were classed as light historic trash scatters or small dumps associated with the occupation of Lower Vine Ranch. One of these trash scatters was described previously in association with IA-3. A moderate sized dump at the end of an old ranch road northwest of the ranch house on a small fan of desert pavement was recorded as IA-4. Objects in the dump include: tin cans with crimped seams, meat tins, a jello can lid, Iris coffee jars, a 7-up bottle, a Bayer aspirin bottle, clear and amber glass fragments, an enamel pan, a pie tin and yellow-glazed stoneware fragments. None of these items appeared to predate the mid-1940's.

IA-9 was located in a shallow wash and along a severely eroded portion of the gravel fan. A light scatter of trash (meat tins, cans with crimped seams, a metal grill, wire mesh screen, barbed wire, and a lard bucket) was found in this area along with a few pieces of milled timber containing round wire nails and two sections of cut mesquite. The trash may be related to pipeline installation; a small, possible
check dam in the wash might also be related. The trash here is diffuse and dispersed into a fairly large area (30m diameter) and is severely disturbed.

IA-52 consisted of four tin cans with crimped seams, an enamelware wash basin, a Log Cabin syrup can, three amethyst-colored bottle glass fragments, two clear bottle glass fragments, a spoon, an "Agate" nickel steel ware cup with "L&G Mfg Co" marked on the base. This scatter was located near the edge of the mesa in the general vicinity of the possible corral location and might be associated with short-term camping activities in the area, perhaps by Scotty when in attendance to his mules.

**Water Manipulation**

Five features are believed to be associated with the manipulation of water on the ranch: IA-17, -19, -23, -25 and -63. IA-17 is represented by a berm along a portion of the Little Grapevine Creek drainage. A ditch, now severely eroded, runs off the creek from the berm, most probably to supply water to the historic alfalfa field once located to the east of this spot. A small berm in a spring-fed drainage (IA-23) apparently served to create a small, shallow pond or reservoir at the spring, and might have been used as a watering area for the burros Scotty kept at the ranch.

A fairly large, deep reservoir, designated as IA-19, is associated with several historic structures including a "changing house" and a structural platform. This area most likely represents the place where Scotty began squatting on the land in 1907 (see Buchel 1985:23,26) although these particular structures and the elaborateness of the reservoir evidently reflect improvements initiated during Albert Johnson's development of the ranch land (Buchel 1985:27). Several photographs in possession of the Park Service show the reservoir in use as a swimming pool by Johnson and Scotty. The reservoir is fed from ditches running from the drainage along the north property boundary (IA-63) and from the springs and Little Grapevine Creek immediately north of the reservoir area. The reservoir and the structures in this
area have been included on the National Register as part of the Death Valley Scotty Historic District.

The final feature, IA-25, consisting of 22 cobbles in a five meter long single course high linear rock alignment, is located near DEVA 86C-20 and may be associated. A round wire mesh screen twelve inches in diameter was found lying next to the feature. The alignment is situated at a 45-degree angle to a small drainage and might be a check dam or part of a water control system.

Water manipulation features need not be Euro-American nor historic, as there is some evidence that the Shoshone in Saline Valley and on Hunter Mountain irrigated prior to contact, and that Shoshone living in Hall Canyon in Panamint Valley, in Hunter Canyon in Saline Valley, and Cottonwood Canyon in Death Valley were irrigating by the early 1890s (Greene and Latschar 1981:363-366; Irwin 1980:xii-xii).

**Walls, Fences and Linear Rock Alignments**

Five isolated features have been included in this category. IA-28 consists of several sections of barbed wire fence which appear to have originally encircled the large grove of palms northeast of the ranch house on the mesa top. The fence, which is mostly down, is constructed of cut branches held upright by rock piles. The wire is double strand with double wrapped barbs. According to Buchel (1985:14), this fencing dates to the 1880s when prospectors first began using the area. Further north on the mesa is an area believed to have been used as a corral by Scotty (IA-69). The fenceline and corral in this spot were constructed of railroad ties, doubtless those purchased by Johnson for use at the Castle as fuel, a function for which they were unsuited. Scotty frequently camped on the mesa, bringing his food and camping gear to the mesa top by mule (Buchel 1985:49). A corral would have been useful during such trips.

Two rock walls (IA-21) extend up the steep slope behind the ranch house. The walls are constructed of dry-laid slabs of travertine and average 50 centimeters in height. Each ends within a few hundred meters of the house at the base of the steeper sections of the slope. The walls probably predate the Johnson-Scotty tenancy at the ranch as they
were both responsible for the major concrete and wire fence construction evident today and may therefore represent construction by Bev Hunter or an earlier Euro-American occupant.

One additional wall-like alignment (IA-60) consists of a five meter long section of stacked travertine two courses high placed atop a travertine outcrop adjacent a mesquite bosque (Fig. 64). As mentioned previously, two cairns are associated with this wall. This alignment is believed to be a feature associated with DEVA 86C-56 which is located nearby and contains a variety of rock features. A second alignment (IA-16) is one meter long and two courses high; one cobble in the alignment appears fire-fractured and the alignment may represent a windbreak for a fire.

Miscellaneous Historic Isolates

IA-5 was recorded as an olive-colored bottle glass scatter, apparently from a single bottle. The sherds are located across the wash and above DEVA 86C-9 and it is likely one of the site's occupants dropped the bottle in this spot.

A shovel with a sawn-off handle (IA-27) was found in a small overhang measuring 0.6 meters tall by 2.0 meters long and 1.0 meters deep. The floor of the overhang was covered with rush which was evidently gathered and placed in the shelter; the shelter itself is removed from any nearby spring vegetation. A pale green square bottle base fragment was located just outside the shelter.

Bridge

During the construction of the fenceline around the ranch property, Johnson's ranch crew constructed a road to facilitate the completion of the fence. A single-lane, thirty-six foot long wooden bridge (IA-48) was constructed over a deep wash near the southeast corner of the property. The bridge was apparently constructed in 1927 or 1928 (Buchel 1985:37-38). This structure is on the National Register as part of the Death Valley Scotty Historic District.

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Figure 64. IA-60, a rock alignment on a travertine outcrop.
Rock Circles, Rock Rings, Hunting Blinds, Hearths

The nine isolated features falling into this category are believed to be associated with the aboriginal use and occupation of the area. An isolated eroded alignment of rocks (IA-53) might be a house circle, although little remains of the alignment and no artifacts were noted in association. Although it is removed from DEVA 86C-40, it may be an outlying feature associated with the occupation of this site.

Two rock rings, IA-14 and -51, measure 0.6 and 1.0 meters in diameter respectively. IA-13 is near DEVA 86C-13 and may be associated; a jumble of rocks two meters east of the feature may be the remains of a collapsed hunting blind reported by Wallace to have originally been in the vicinity. IA-51 is located on the flats below and to the north of DEVA 86C-41 and could therefore be an outlying feature of this site.

Three features might have been utilized as hunting blinds: IA-15, -36 and -37. IA-15 is near DEVA 86C-13 and may thus be related. This feature consists of two courses of cobbles stacked atop a travertine outcrop. Wallace recorded this blind as a separate site in 1963. The other two features (IA-36 and -37) were previously unrecorded.

IA-26 is a short linear alignment of rock atop a small knoll just north of Little Grapevine Creek. A metate fragment was found at the base of the knoll. This feature lies between three sites (DEVA 86C-17, -22 and -23) and might be associated with any of these three. A possible hearth is represented by an alignment of fist-sized cobbles backed by a one meter high travertine boulder (IA-22). This feature measures 60 by 30 centimeters. A second hearth (IA-34) was located near the historic Indian gardens near the center of the mesa by the hot springs.

Mesquite Storage Pits

IA-6 is a circular excavated pit lined with a rock and earthen berm which resembles in size and shape the mesquite storage pits recorded by Hunt (1960:50-51; 177-185; Fig.49). Hunt indicates that these are numerous in DV III and transitional DV III/IV sites, and are also common in DV IV times. This pit is situated between four sites (DEVA 86C-2,
-9, -3 and -5) and may be associated with any of the four. The pit is 40.0 centimeters deep and measures 2.5 meters from rim to rim.

IA-47 and -66 are similar to IA-6 although one is oblong and the other roughly rectangular in shape. IA-47 is fairly isolated and situated on the side of the large chert hill in the southeast corner of the property. This feature is fairly removed from any stands of mesquite. As no cultural materials were found in association, it is possible this rectangular pit represents the work of prospectors in the area. IA-66 is located several hundred meters down the finger ridge where DEVA 86C-53 is located and is probably associated with this site.

**Miscellaneous Isolated Aboriginal Artifacts or Features**

Miscellaneous isolated aboriginal artifacts include a hammerstone (IA-1), two choppers (IA-12 and -18), two chert Rosespring/Eastgate projectile points (IA-11 and -74), two small chipping stations (IA-33 and -64), a metate fragment associated with a small, a single event chipping station (IA-44), and a fragment of a winnowing tray (IA-10). The winnowing tray was collected by Park Service personnel from a pack rat's nest in the travertine outcrop near DEVA 86C-8, -6 and -1, Locus 4, and might be associated with any of these sites. This artifact appears to be a partially burnt fragment of a winnowing tray. The item is curated at Scotty's Castle, with the accession number 19755. IA-11 (one of the aforementioned projectile points) was also collected by the Park Service and is also curated at Scotty's Castle under accession number 19754.

IA-12 consisted of a core/chopper and two flakes scattered within an 80 meter area on a consolidated fan of desert pavement. All three artifacts were discolored with the "distinctive" yellow-brown stain Hunt attributes to Death Valley I (or Paleo-Indian) period artifacts. The fact that these three items are on a fan of desert pavement which appears to have been overlain in the rest of the project area by an unconsolidated gravel fan supports the idea that these artifacts may date to an early period.
Trails

A number of trails crossed the project area. The majority of these are believed to be aboriginal, although some probably originated historically and a few were possibly created or enlarged by burros Scotty kept on the ranch. None of these linear features were mapped or assigned isolate numbers. In recent years, several large-scale surveys have documented an elaborate and complex trail system within the Mohave Desert. That these trails were quite extensive is shown by the distances traversed by the trails: one system began near Yuma, Arizona, and connected with another trail system which led to Riverside; a second trail went from the Oregon border to Bishop; a third went from Las Vegas to Los Angeles to Yuma; while a fourth, known as the Cocomaricopa Trail, extended from Tucson to Palm Springs (Carrico 1982:3-4). Aboriginal trails are found throughout Death Valley and it is likely these trails are part of a larger complex with regional significance.

Potentially Utilized Rockshelters

In addition to the above, three shelters were noted on the property and assigned isolate numbers (IA-30, -50 and -54). None of the shelters had conclusive evidence of use, as the floor of each was obscured with large pack rat middens. However, the possibility that they were utilized should be considered, particularly if any ground disturbing activities are planned in their vicinity.
Chapter IV
MANAGEMENT RECOMMENDATIONS AND CULTURE HISTORICAL SUMMARY

This report documents the results of a complete survey of the fenced Lower Vine Ranch property. The information included herein provides Park managers with an inventory necessary to adequately manage the cultural resources of the ranch. This chapter summarizes the types of disturbance noted on the sites and offers recommendations for their protection.

Resource Condition

Forty-six of the 57 sites were considered to have either "good" or "very good" integrity, while one other was considered to be "fair". Ten others were more difficult to assess, with nine considered to be from fair to good, and one from poor to good. Essentially every site was subject to sheet erosion or minor gullying. Deposition resulting from sheet wash was noted on 13 of the sites and was believed to be a disturbing factor on another site. Wind deflation was noted on 15 sites and was believed to be contributing to the disturbance of an additional site, while aeolian deposition was noted on eight sites. Rodent activities were felt to be a significant disturbing factor on at least two sites. Construction accounted for some disturbance on 19 sites, with ranch roads crossing eight sites, the ranch fence crossing five, and water pipelines, reservoirs or ditches present on six others. At least two sites may have been disturbed by historic alfalfa cultivation or grazing. At least three sites were subject to previous collection, either by Wallace in 1963 or subsequently by Park Service personnel; five additional sites might have been collected, although this is not certain at present. Finally, a fire in the 1970s and the resulting fire suppression activities may have disturbed two sites on the bajada near Little Grapevine Creek. The disturbance noted on each site is indicated in Table 3.

Despite the wide variety of disturbance observed on the sites, it should be noted that the disturbance is for the most part considered
<table>
<thead>
<tr>
<th>Site</th>
<th>Aeolian Deposition</th>
<th>Deposition by Sheetwash</th>
<th>Erosion (Primarily Sheetwash)</th>
<th>Vandalized</th>
<th>Road Construction</th>
<th>Fence Construction</th>
<th>Previously Collected</th>
<th>Cultivated</th>
<th>Deflated</th>
<th>Other</th>
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**Integrity Code:**

- VG = Very good
- G = Good
- F = Fair
- P = Poor
minimal, and the integrity of the large majority of the sites is considered to be good.

Resource Significance

The archaeological sites of the Lower Vine Ranch constitute a significant and valuable cultural resource, and all the sites are considered eligible for inclusion in the National Register as per Title 36 CFR 800, and could be appended to the Death Valley Scotty Historic District which was included in the register in 1978, or could be nominated as a separate district focused on the prehistoric and Shoshone use of the area. Although the sites are individually valuable and eligible for inclusion independent of each other, their value is considerably enhanced when grouped together. As a unit, the sites collectively document the entire prehistoric and historic use of a discrete resource area in the Monument--the Grapevine Springs area of Lower Vine Ranch--a human presence which most assuredly extends back at least 6,000 years and possibly even for 10,000 years. As such, the sites have the potential to yield data relevant to regional chronologies, settlement patterns, ethnic boundaries, population movements, exchange networks, subsistence strategies, changes in subsistence systems and the adoption of wage economies, and historic homesteading and ranching activities. The sites thus have the potential to yield additional data pertinent to the prehistory and history of the Monument as a whole, to the Grapevine Springs area in particular, and to further enhancing the existing knowledge of Death Valley Scotty's and Albert Johnson's association with the Lower Vine Ranch.

Management Options

The preferred option for the management of these cultural resources is preservation. Specifically, planning should opt for avoiding impacts of either a direct or indirect nature to the sites. Should avoidance be impossible, appropriate measures should be enacted to mitigate the effects of both direct and indirect impacts to the cultural resources. If portions of the ranch are opened in the future to visitor use and
interpretation, measures should be taken to lessen the probability of vandalism, and visitors should be directed away from sites which are particularly fragile, are likely to have subsurface cultural deposits, or which contain midden.

In addition to the 57 sites recorded on the property, 74 isolated artifacts or features were noted. Two of these objects (a projectile point base and a winnowing tray fragment) were collected in 1985 and are curated at Scottys Castle. Any projects or development in the vicinity of any of the rock piles or cairns should proceed with extreme caution as the possibility of human remains, especially in association with rock piles, has been documented in other parts of Death Valley and probably also on one of the sites recorded during the present survey. The cairns and rock piles might also mark caches, shrines, or may be features of a ceremonial or astronomical site. IA-6, an undisturbed mesquite storage pit, was recorded as an isolate on the grounds that it could not be adequately associated during the survey with any one of the four sites located in its vicinity. This pit was doubtless a feature of one of the sites and should therefore not be disturbed without further assessment. These same cautions apply to the two other possible mesquite pits (IA-47 and -66) located on the property. IA-9, although dispersed and severely eroded, suggests the potential for a structure in the vicinity, and caution should be exercised in this area if any developments are planned near this spot in the future. Likewise, the isolated eroded alignment which might be a housecircle (recorded as IA-53) should be avoided as this may be an outlying feature of DEVA 86C-40. Also, avoidance of impact to the three potentially utilized rockshelters (IA-30, -50 and -54) is recommended. Finally, those features of the ranch which are included on the National Register as part of the Death Valley Scotty Historic District (IA-19 and -48) should be avoided. In as much as no further significant information can be gleaned from the remainder of the isolates, no further management attention is required.

**Culture Historical Summary**

A rich and varied occupational history is evident on the Lower Vine Ranch, beginning perhaps as early as 10,000 years ago. The use of
the project area in this earliest, Paleo-Indian Period (DV I), was generally light. During the subsequent Archaic period (DV II), use of the area increased; during the Ceramic (DV III) and Shoshonean/Historic Periods (DV IV), the project area was utilized fairly extensively. Occupation and use of the property continued into the recent Historic Period, with both Shoshone and Euro-American exploitation of the ranch area occurring.

Sites in the project were defined as clusters of cultural materials which were spatially distinct from one another, and which retained a notably higher density of artifacts than the area surrounding the sites. For the purposes of this survey, sites were defined as a group of features or a single feature with a spatially associated scatter of artifacts. Outlying features known to be associated with the historic ranch were recorded as isolates. A light scatter of both historic and prehistoric materials was found throughout much of the property, particularly on the lower bajada in the ranch vicinity and occasionally in other areas. Particularly distinctive artifacts, and isolated features, were noted, given "Isolate" numbers and plotted on project maps. In all, 74 isolates and 57 sites were located and recorded on the Lower Vine Ranch property.

Nine general types of sites were defined in the project area including the historic ranch; ethnohistoric Shoshone camps; dry-laid masonry structures; "simple" sites with housecircles; "complex" sites; sites with bedrock mortars; rockshelters and overhangs; lithic scatters and quarries; and miscellaneous sites. For the first two types, documentation indicates occupation of these sites in the Historic Period. In the latter instances, sites with associated historic trash fall into the Historic or DV IV Period. It is possible, however, that on at least a few of these sites later historic materials were deposited on earlier prehistoric occupations, thus obscuring their proper temporal placement. Sites with ceramics and no historic materials were considered to fall primarily into a DV III period and possibly extended into DV IV times. Sites having stone tools or debitage with a distinctive yellow-brown stain, or varnish, were considered to have components dating to DV I, or the Paleo-Indian Period, as indicated by Hunt (1960). Sites without temporally diagnostic artifacts were
tentatively dated with reference to general artifact assemblages and the
types of features present on the sites. In general, sites lacking
ceramics and varnish on the flaked stone were considered to be DV II
sites, with site use possibly extending into the DV III Period. Table 4
provides temporal references for the sites at Lower Vine.

It should be noted that these temporal assignments are at present
only tentative. Although sites have been provisionally assigned to a
particular time period, the possibility that components from earlier or
later time periods are also present on the sites should be considered
until further research addressing temporal issues is conducted. Despite
these cautions, a tentative chronological discussion of site use
follows.

Sites with Death Valley I Components

Sites having the earliest components, tentatively dated to the
Paleo-Indian Period (DV I) are located on the mesa. Five of these (DEVA
86C-52, -55, -36, -34 and -37) are quarries located on chert-covered
gravel fans. Possible domestic structures (i.e., housecircles) are
represented on two of these sites (DEVA 86C-36 and -55), which also have
later DV II-III components. Two additional sites with DV I components
(DEVA 86C-25 and -26) also have rock features which may represent
windbreaks for sleeping, or alternatively may be foundations for
domestic structures.

Sites with Death Valley II-III Components

Sites falling into DV II - DV III Periods include eight lithic
scatters (DEVA 86C-7, -19, -21, -23, -29, -31, -33 and -44), four
complex sites (DEVA 86C-3, -5, -35 and -53), five miscellaneous sites
(DEVA 86C-4, -28, -32, -41 and -46), eight simple sites with
housecircles (DEVA 86C-18, -20, -24, -27, -38, -42, -47 and -54), two
rockshelters or overhangs (DEVA 86C-13 and -50) and one dry-laid masonry
structure (DEVA 86C-8). Of these, DEVA 86C-23 and -52 have materials
extending into the Historic Period. Archaic (DV II) components might
also be present on DEVA 86C-3, -10, -11, -17 and -49. No artifacts were
Table 4
TENTATIVE TEMPORAL PLACEMENT OF SITES AND SITE TYPE AT LOWER VINE RANCH

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<td>Historic, DV IV</td>
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<td>DV IV-Historic</td>
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<td>3</td>
<td>Simple site with house circle</td>
<td>DV II-III</td>
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<td>Miscellaneous</td>
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<td>Complex</td>
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<td>Lithic scatter</td>
<td>DV II-III</td>
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<td>8</td>
<td>Dry-laid masonry structure</td>
<td>DV II-III</td>
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<td>9</td>
<td>Ethnohistoric Shoshone camp</td>
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<td>Simple site with house circle</td>
<td>DV II-III</td>
</tr>
<tr>
<td>21</td>
<td>Quarry</td>
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Table 4 (continued)

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<tr>
<th>SITE NUMBER</th>
<th>SITE TYPE</th>
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<tbody>
<tr>
<td>22</td>
<td>Rockshelter</td>
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</tr>
<tr>
<td>23</td>
<td>Lithic scatter</td>
<td>DV II-Historic</td>
</tr>
<tr>
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</tr>
<tr>
<td>25</td>
<td>Miscellaneous</td>
<td>DV I</td>
</tr>
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<td>26</td>
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</tr>
<tr>
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</tr>
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<td>29</td>
<td>Lithic scatter</td>
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<tr>
<td>30</td>
<td>Dry-laid masonry structure</td>
<td>DV III-IV</td>
</tr>
<tr>
<td>31</td>
<td>Overhang</td>
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</tr>
<tr>
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<td>34</td>
<td>Quarry</td>
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<td>Complex</td>
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<td>44</td>
<td>Lithic scatter</td>
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Table 4 (continued)

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<th>SITE NUMBER</th>
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<td>45</td>
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<td>Simple site with house circle</td>
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<td>Site with bedrock mortars/complex</td>
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<tr>
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<td>52</td>
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<td>DV I-Historic</td>
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<td>Complex</td>
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<td>54</td>
<td>Simple site with house circles</td>
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<tr>
<td>55</td>
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<td>DV I-III</td>
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<tr>
<td>56</td>
<td>Complex</td>
<td>DV III-IV</td>
</tr>
<tr>
<td>57</td>
<td>Site with bedrock mortars</td>
<td>DV III-IV</td>
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</table>
noted on the surface of DEVA 86C-14 or -15 and these sites are believed to be either DV II or III occupations. Sites with this provisional temporal classification tend to be located in a narrow band concentrated on the upper bajada, on the terraces between the bajada and the mesa, or on the mesa edge overlooking the bajada.

It should be noted that ceramics are absent from all the above sites tentatively assigned to DV II to DV III Periods, an attribute which suggests pre-Ceramic, or pre-DV III occupations. However, despite the lack of ceramics, those sites in this category with rock circles would tend to fall into the DV III Period as suggested by previous archaeological work in the region. Although rock circles or rock rings are reported from the Paleo-Indian to the Historic Period, Rogers (1966) indicates that topographic settings could be used to distinguish early from late rock rings, with Shoshonean house circles located close to available water sources. The rock circles found by Hunt around the Death Valley salt pan were all dated to the Ceramic Period (DV III) or later, and fell into two types--circles with pits, and those without (Hunt 1960:177-181). Those without pits were interpreted as probable sleeping circles, while those with pits are believed to have been utilized for mesquite bean storage. The location of the sites near water at Lower Vine, and the general types of features evident on the sites, fits nicely with those described above by Rogers and Hunt for DV III and DV IV occupations. Again, as ceramics were not observed on the surface of these sites, they have tentatively been lumped here into a combined temporal assignment to DV II and III.

Sites with Death Valley III-IV Components

Fifteen sites were assigned to Death Valley III periods based on the presence of ceramics or temporally diagnostic artifacts such as Rose Springs or Eastgate points. Most of these extended into the Historic Period as historic materials were also present on many of the sites, although the possibility that this material is intrusive should be kept in mind. Ceramics (all Owens Valley Utilityware) were observed on nine of the above sites (DEVA 86C-56, -40, -12, -43, -45, -57, -51, -22 and -17), either during the course of the present survey or by Wallace in
1963. Sites provisionally assigned to this time span include seven rockshelters or overhangs (DEVA 86C-16, -22, -30, -43, -45, -49(?), and -51), three bedrock mortar sites (DEVA 86C-40, -48 and -57), one "simple" site with a housecircle (DEVA 86C-39), three "complex" sites (DEVA 86C-6, -12 and -56) and one lithic scatter (DEVA 86C-17). Additional sites which may have components of these periods include DEVA 86C-3, -4, -23, -33 and -52.

Eight of the sites are on the mesa, three are located on the northern portions of the bajada, while eight others tend to cluster on the bajada in the area along the wash running parallel to the ranch access road to the west of the ranch house. The two ethnohistoric Shoshone camps are also on the bajada in close proximity to the ranch house, a settlement pattern which probably reflects an initial interest in tending gardens on the mesa, followed by a switch to a wage economy focused on employment on the Lower Vine Ranch. A general tendency for late period sites to be located on the bajada is thus noted. Once again, however, final temporal placement of these sites can only be made with further research.

In addition to the above, 74 isolated artifacts or features were noted during the survey. These include materials believed to extend from the Paleo-Indian through the Historic Period.

**Concluding Remarks**

It can be seen, then, that the Grapevine Springs area, probably due to the availability of year-round water and the diversity of plant life present, has attracted human use and occupation for thousands of years. As such, the cultural resources in the project area have the potential to yield information pertinent to several millennia of human use of this extremely harsh region.

The ranch house and complex were included on the National Register in July 1978, as part of "Death Valley Scotty Historic District". The remaining sites are considered to be eligible for inclusion on the National Register, as all have the potential to yield important information (both singly and as a group) which is relevant to the history or prehistory of Death Valley, and thus all are considered
significant as per Title 36 CFR 800. In view of the density, significance and fragility of these cultural resources, it is important that park managers and WACC archeologists cooperate to assess the potential impacts of any future development or construction which may be proposed at Lower Vine so that suitable avoidance or mitigation efforts may be taken.
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