



United States Department of the Interior
National Park Service

National Register of Historic Places
Registration Form

This form is for use in nominating or requesting determinations of eligibility for individual properties or districts. See instructions in *Guidelines for Completing National Register Forms* (National Register Bulletin 16). Complete each item by marking "x" in the appropriate box or by entering the requested information. If an item does not apply to the property being documented, enter "N/A" for "not applicable." For functions, styles, materials, and areas of significance, enter only the categories and subcategories listed in the instructions. For additional space use continuation sheets (Form 10-900a). Type all entries.

1. Name of Property

historic name Modoc Lava Beds Archeological District
other names/site number Lava Beds National Monument Archeological District

2. Location

street & number Lava Beds National Monument (LABE) not for publication
city, town Tulelake vicinity
state California code CA county Siskiyou, Modoc code 093,049 zip code 96134

3. Classification

Ownership of Property	Category of Property	Number of Resources within Property	
<input type="checkbox"/> private	<input type="checkbox"/> building(s)	Contributing	Noncontributing
<input type="checkbox"/> public-local	<input checked="" type="checkbox"/> district	<u>204</u>	<u>16</u> buildings
<input type="checkbox"/> public-State	<input type="checkbox"/> site		<u>25</u> structures
<input checked="" type="checkbox"/> public-Federal	<input type="checkbox"/> structure		<u>1</u> objects
	<input type="checkbox"/> object	<u>204</u>	<u>42</u> Total

Name of related multiple property listing:
N/A

Number of contributing resources previously listed in the National Register 4

4. State/Federal Agency Certification

As the designated authority under the National Historic Preservation Act of 1966, as amended, I hereby certify that this nomination request for determination of eligibility meets the documentation standards for registering properties in the National Register of Historic Places and meets the procedural and professional requirements set forth in 36 CFR Part 60. In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

Signature of certifying official _____ Date _____

State or Federal agency and bureau _____

In my opinion, the property meets does not meet the National Register criteria. See continuation sheet.

Edmund C. Beasly
Signature of commenting or other official _____ Date Mar. 31, 1990

Nat. Chief Historian National Park Service
State or Federal agency and bureau _____

5. National Park Service Certification

I, hereby, certify that this property is:

entered in the National Register.
 See continuation sheet.

determined eligible for the National Register. See continuation sheet.

determined not eligible for the National Register.

removed from the National Register.

other, (explain:) _____

Carel D. Shue _____ 3-21-91

6. Function or Use

Historic Functions (enter categories from instructions)

SUBSISTENCE/processing

PROCESSING/processing

TRADE/trade

DOMESTIC/village/camp

(see continuation sheet)

Current Functions (enter categories from instructions)

LANDSCAPE/park

RECREATION AND CULTURE/outdoor recreation

7. Description

Architectural Classification

(enter categories from instructions)

N/A

Materials (enter categories from instructions)

foundation N/A

walls

roof

other

Describe present and historic physical appearance.

Summary

Located in northeast California, the approximate [redacted] Modoc Lava Beds Archeological District is characterized as a highly diverse and well preserved site catchment area which is unique to the [redacted]. Bordering the [redacted] [redacted] presently contains four vegetation communities, ranging from lake marsh to pine forest. It also includes a variety of volcanic features such as lava flows, lava tube caves, and cinder cones. Except for [redacted] the only source of water within the District is that found in ice caves. Holocene climatic changes and historic land use practices have particularly affected [redacted], which is now largely reclaimed for agriculture. Vegetation patterns and their faunal associations have also changed over time. Because the Archeological District encompasses Lava Beds National Monument, which has been administered since 1925 under a preservation mandate, recent developments are minimal, having little effect on the natural and archeological integrity of the District. Presently identified within the District are 208 contributing prehistoric and historic archeological sites including four previously listed in the National Register; 16 non-contributing structures; and one non-contributing object.

Survey data imply that the "lakeshore zone" of the District contains the highest concentration of prehistoric sites, characterized as multiple use village sites similar to those described ethnographically for the Modoc. The "ice cave zone" contains the second highest concentration of prehistoric sites, characterized as multiple use base camps. Prehistoric site density is lowest in the "intermediate zone" between the lakeshore and the ice caves, where sites are described as task-specific sites. The majority of District prehistoric sites contain artifacts and features suggestive of more than one of the following site functions and uses: processing of subsistence resources; manufacture of lithic tools; participation in an obsidian exchange network; seasonal or more temporary habitation; human cremation or burial; and ceremonial activities. The District historic sites associated with the Modoc War of 1872-1873 are concentrated in the lakeshore zone, where the principal Modoc and U.S. Army encampments were established and major battles were fought. The Modoc War historic sites contain features which imply a defensive function and use as fortifications, military facilities, and/or battle sites. In conclusion, the

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Description, continued:

Archeological District contains a broad range of functionally different prehistoric and historic sites related to long-term Native American use of a highly diverse catchment area. Relative to the District's environmental setting, the archeological manifestations hold high integrity in regard to location, design, setting, materials, workmanship, feeling, and association.

District Cohesiveness

The Modoc Lava Beds Archeological District is located at the [REDACTED] in northeastern California. Geographically and culturally, the District lies at the [REDACTED]

[REDACTED] The District is characterized as a highly diverse site catchment area unique to the [REDACTED]. It contains a large number of functionally different and well preserved archeological sites related to the Native American use of the lake edge and Lava Beds, from prehistoric times through the Modoc War of 1872-73. Currently, the District exhibits the highest integrity of setting for any area of similar size within the basin. The high integrity of District cultural and natural resources is largely due to the fact that the District encompasses the Lava Beds National Monument, administered under a preservation mandate since its establishment in 1925 (Presidential Proclamation No. 1755, November 21, 1925).

Setting

Topography

The District is noted for its open vistas and volcanic features (Maps 1-8). The terrain increases in elevation to the south, averaging about 4000 feet along the northern, shoreline boundary and about 5000 feet along the southern boundary. Except for the 500-foot high escarpment known as [REDACTED] and low, scattered lava flow features, the northern half of the District generally lacks topographic relief (Photo 1). In contrast, the southern half contains a number of cinder and spatter cones, which rise above and dominate the landscape (Photo 2). Lava tube caves and other volcanic features that created large depressions, craters, and rifts are also more

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prevalent in the southern half. The vegetation appears to be sparse and more scrub desert-like in the northern portion than the southern, where more conifers grow. The view from the District to the north is dominated by the shallow and expansive [redacted] basin, the barren hills on the north side of the basin, the north-south trending [redacted] side, and the remnant caldera known as [redacted].

Looking out from the District, [redacted]

[redacted] is visible from certain areas of the Archeological District.

Flora and Fauna

Four vegetation communities are presently identified within the Archeological District (Perry and Schlegel 1975). A remnant of the "lake marsh" community is identified along the eastern half of the northern District boundary, adjacent to the [redacted] at an elevation of about 4000 feet. The "bunchgrass-sagebrush community," which predominates, is found in the northern half of the District and near the former lakeshore; it occurs at elevations below about 4500 feet. The "juniper-brushland community" is the second most common vegetation type, occurring at elevations roughly between 4500 and 5000 feet. The lower limit of the "pine forest community" is present at the higher, southern margin of the District above about 4600 feet. Each of these four vegetation communities has its own characteristic association of native fauna, including fishes, migratory waterfowl, and large and small mammals (Perry and Schlegel 1975; Ray 1963:193; U.S. Fish and Wildlife Service 1988).

Changes within the District in the distribution and composition of vegetation communities and their associated fauna may be attributed to historic land use practices and to Holocene climatic changes. Historic photographs dating to the late nineteenth century show that the area around [redacted] supported a bunchgrass-sagebrush community and paucity of juniper. Recent expansion of western juniper and native and exotic pioneer dominants, and increasing density of sagebrush in the [redacted], are attributed to wildfire suppression

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and overgrazing (Mehringer and Wigand 1986:3). The expansion of juniper within the District has often been viewed as a uniquely historic phenomenon. However, study of macrofossils from woodrat midden nests in the District affirms the presence of junipers over their full present elevational range at other times during the past 5300 years, implying that significant Holocene climatic change has occurred.

Hydrology

Other than [REDACTED] at the northern boundary, water sources are scarce within the Archeological District. [REDACTED] had no surface outlet, although it was [REDACTED] which flows into the northwestern side of the lake. No streams or springs exist within the District, and rainwater and snowmelt are rapidly absorbed by the porous volcanic soil, leaving no surface pools. Within the District away from the lakeshore, the only source of water is found in "ice caves," where water condensed from warm air at the entrances to certain caves is seasonally held in ice pools, or is available year round as frozen water deep in certain caves where air circulation is restricted.

The most dramatic alteration to the landscape involves historic and prehistoric changes in [REDACTED]. Historically, most of the 150-square-mile [REDACTED] was drained and the reduced water level was maintained by a series of irrigation canals and dikes. By 1910 the former lakebed had been reduced to a controlled sump approximately one-sixth its former size, yet still serving as a wildlife refuge for migratory waterfowl along the Pacific Flyway. Reclaimed lands were converted to agriculture, with domesticated crops replacing the earlier, abundant populations of waterfowl, shellfish, fish and water lilies, the "wocus" seeds being the staple food of the Modoc.

Climatic Change

Holocene climatic fluctuations are implied by the macrofossils contained in radiocarbon dated woodrat (*Neotoma* spp.) middens collected from lava tubes and rock shelters in Lava Beds National Monument (Mehringer and Wigand 1986). Fossil plants show that since their appearance 5300 years ago, western junipers have occupied elevational extremes equivalent to the

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present. In order to reveal the timing at Lava Beds of juniper oscillations in prehistory, continuous pollen records from the District vicinity are needed, in conjunction with the woodrat midden macrofossils (Mehringer and Wigand 1986:3).

Evidence of Holocene climatic changes are also inferred from archeological data for an environmentally similar context and from paleoenvironmental studies for the Great Basin. Faunal remains, pollen and soils data preserved in the Nightfire Island archeological site, [REDACTED], in the Lower Klamath Lake basin, imply fluctuations over the past 6500 years: in climate, involving wet-cool and dry-warm episodes; in habitats of diver and dabbler avifauna; and in lake levels (Sampson 1985). The Nightfire Island site data generally support the LaMarche (1973, 1974) White Mountain bristlecone pine temperature and moisture curves for the period 3400 B.C. to A.D. 1900, refining the model of Antevs (1955) for the western United States.

During the Pleistocene, the greater Klamath Basin was covered by pluvial "Lake Modoc" (Dicken 1980). A shift to a warmer, drier climate at the close of the Pleistocene contributed to a lowering of the water level of Lake Modoc from a maximum elevation of 4240 feet to 4142 feet, resulting in a separation of the Tule Basin (Dicken 1980:183). Because the northern shore is too flat and sandy and the southern shore is formed by lava flows, [REDACTED] is a poor candidate for the direct dating of terraces (Cleghorn 1959:4). Wave cut notches [REDACTED] outside the District in the non-contiguous portion of Lava Beds National Monument known as the Petroglyph Section, were created after the newly formed [REDACTED] had stabilized in area near or after the end of the Pleistocene, in concert with similar changes occurring in other pluvial lakes of the region (Lee et al. 1988; Cleghorn 1959). Studies of pluvial lakes subject to similar regional climatic conditions as Lake Modoc and [REDACTED] should refine the paleoenvironmental model for the late Pleistocene and Holocene.

Geology

The geology of the Archeological District is distinctive, because it is situated at the south end of the Klamath graben on the north flank of the Medicine Lake shield volcano (Donnelly-Nolan and Champion 1987). Within the District, flank vents of

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the Medicine Lake volcano created cinder and spatter cones, extensive smooth pahoehoe and rough aa lava flow surfaces, and approximately 300 lava tube caves (Maps 5-8). The most recent eruption of about 1000 years ago deposited a fairly thin layer of pumice pebble fragments over the surface of much of the District. Absolute ages of the geologic features within the District are undetermined, however, paleomagnetic studies conclude that the flows date to the Pleistocene and Holocene and are undisturbed by tectonic displacements.

The Archeological District is located in the vicinity of a number of obsidian sources. The nearest sources are [REDACTED] where six distinctive trace element groups are identified (Hughes 1985). Sources to [REDACTED] include the Spodue/Sycan and Drews Creek/McComb geographic groups in southeastern Oregon. Sources [REDACTED] include the Warner Mountains, Blue Mountain, and Massacre Lake/Guano Valley geographic groups of northeastern California. Small, pebble-sized nodules of obsidian have also been observed in all quarters, but predominantly in the southeast quarter of the District (Eidsness 1988).

Developments

The Archeological District has undergone relatively few developments (Maps 1-9), largely because the proclamation establishing Lava Beds National Monument in 1925 forbids "any use of the land which interferes with its preservation or protection." Initially, the Monument was placed under the jurisdiction of the U.S. Forest Service; in 1933 it was transferred to the National Park Service by Executive Order No. 6166 (National Park Service 1983). Before the Monument was established, District lands were minimally used for livestock grazing. Existing structures within the District are listed in Table 2.

The social programs of the New Deal, carried out by the Civilian Conservation Corps (CCC), provided the earliest impetus for development within the District. These developments included the construction of roads and trails, campgrounds and staff facilities at two principal areas of the District (Chappell 1980). In the first area at [REDACTED] a ranger station and garage were constructed and a CCC camp of temporary buildings was established

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in the 1930s. Although no longer extant, both facilities and grading impacted the prehistoric lithic artifact scatter at [REDACTED] (CA-SIS-111/H); however, the architectural integrity of historic Modoc War features constructed at [REDACTED] was not impacted. The second principal development area is [REDACTED]

[REDACTED] In this area, adverse impacts to a large prehistoric lithic scatter and pictograph site (CA-SIS-25/26/27/28) were minimal (Photo 3), whereas, a smaller prehistoric lithic scatter (CA-SIS-1328) in the campground was largely destroyed (Photo 4).

Constructed in the 1960s, [REDACTED]

[REDACTED] With the official designation in 1972 of two Wilderness Areas, totalling 28,460 acres, in the southwestern and eastern portions of the Monument (maps 1-4), several former roads were closed to motor vehicles and now serve as hiking trails (National Park Service 1983:4).

Additional developments are limited to a CCC fire lookout on top of Schonchin Butte, a picnic area at Fleener Chimneys, an overhead powerline and visitor facilities such as minimally developed interpretive pull-outs, viewpoints, trails and pit toilets at various geologic and historic features located along or near the main Monument road (Photos 8, 10). All are outside the designated Wilderness Areas. Near the former lake at the extreme northern edge of the District, within the jurisdiction of the U.S. Fish & Wildlife Service and the U.S. Bureau of Reclamation, are several irrigation ditches, dikes, dirt farm roads, and an active quarry used mainly for road maintenance materials. The District is [REDACTED]

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Cultural Context

Regional Archeological Studies

The Great Basin [REDACTED] District contains one of the oldest archeological records in North America of human adaptation to now dessicated pluvial lakes, dating back some 10,000 years or more. Archeological studies in the northwestern fringe of the Great Basin, including northeast California and southeast Oregon where shallow lakes survived the post Pleistocene warming, are inexorably tied to questions about the nature and timing of human adaptation to lakemarsh econiches. These questions are also significant to the Modoc Lava Beds Archeological District because of its lakeside setting, well-preserved catchment area, and its large number and broad range of temporally and functionally different prehistoric cultural resources.

The major regional archeological studies by Cressman (1940, 1942), Squier (1956), and Sampson (1985) are the most significant for determining the potential time depth of District prehistoric sites. In 1940 Luther Cressman brought his Great Basin perspective to the study of Klamath basin archeology and lakemarsh adaptation. His interdisciplinary approach was exemplary for its day, involving the excavation of two Lower Klamath Lake sites, studies of surface collections from modern shoreline sites, and consideration of the affects of local geology, hydrology and the Holocene climatic fluctuations hypothesized by Ernst Antevs on lake levels and site formation processes (Cressman 1940). The intent was largely cultural-historical, stressing the development of a chronological sequence defined primarily by time-sensitive assemblages. Age estimates were based upon climatological sequences suggested by a study of old beach terraces.

Cressman (1940, 1942) proposed three cultural phases, termed "horizons," for the Lower Klamath Lake vicinity. The oldest horizon, dating to approximately 5500 B.C., was based primarily on the "Narrows" site, including some material not in situ. The assemblage seemed to be associated with fossilized mammal bones including elephant, horse and camel, and included fossilized bone points, heavily weathered handstones, large willow leaf, and large side-notched projectile points. The middle horizon, dating to approximately 2000 B.C., was based primarily on the more in

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situ "Laird's Bay" site. The assemblage included bone awls, a bone flesher, worked antler, handstones, a drilled human skull cap, and large side and corner-notched projectile points. The most recent horizon, based largely upon analysis of surface collected artifacts from the modern shoreline, was believed to be representative of the characteristic Klamath-Modoc type material culture documented ethnographically. Labeled the "Historic" horizon, dating to approximately A.D. 500, the assemblage included groundstone pipes, special wocus mullers and grinding slabs, mortars and pestles, shell beads, and small side and corner-notched projectile points. The value of Cressman's 1942 publication lay less in what it explained than in what it described, providing an enormous body of detailed data against which materials from the Great Basin, Plateau, and California areas could be compared.

Subsequent site surveys and excavations of eight open air and rockshelter sites in the [redacted] some of which are in the District, led Squier (1956:34-35) to subdivide Cressman's late period "Historic" horizon into three phases. Oldest was the Indian Bank Phase, identified only at open air sites on [redacted]. Noting a strong California influence, Squier described the following elements for the Indian Bank Phase: large projectile points, flexed burials, stone mauls, antler wedges, bone awls, olivella shell beads, bird bone whistles, bone pins and pendants, tubular stone pipes, portable bowls, mortars, and thin grinding slabs. The lowest level of the deposit at several rockshelter sites yielded tentative evidence of the middle Gillem Bluff Phase. The sparse inventory for the Gillem Bluff Phase included: medium to large projectile points, large obsidian blades, bone awls, stone mauls, thin grinding slabs, and crevice burials. Rockshelter and open air sites also yielded evidence of the most recent Tule Lake Phase, thought by Squier to reflect the material culture of the late prehistoric and protohistoric Modoc. Relative to the middle phase, the Tule Lake Phase implied the introduction of small projectile points, the decline of thin millingstones, and the appearance of the hopper mortar; other elements included large obsidian blades, twined basketry, bone awls, bone flaking tools, mammal and bird bone beads, shell and pine nut beads, and cremations. While Squier's study provided further detail on temporal changes in the material cultures of prehistory, it made little advance towards understanding the nature of this change.

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The report by Sampson (1985) on the excavations of the rich Nightfire Island site [REDACTED] is the most significant, multi-disciplinary and inductive approach to archeological research for the region. The site was first visited in 1960 by the amateur archeologist Carrol B. Howe, who excavated a large trench in the center of the site and amassed a large collection of artifacts from bulldozer cuts made earlier; these materials are described in two popular books by Howe (1968, 1979) on Modoc area archeology. Controlled excavations, sampling all portions of the site yet totalling less than 1% of deposit, were directed in the 1960s by Leroy Johnson, Jr., then Curator of Ethnology at the Museum of Natural History, University of Oregon. Johnson's major objectives of the excavation were to:

- (a) outline the depositional history of all parts of the site, (b) determine the sedimentary processes which caused the observed strata to accumulate, (c) outline the sequence of cultural events expressed in the artifact-content of each stratum, (d) determine the economic pursuits of the prehistoric occupants expressed in the faunal content of each stratum, (e) reconstruct the local environmental history through (d) and through pollen analysis, (f) date each stratum, and (g) determine the horizontal variability in artifact- and faunal-content of each stratum (Sampson 1985:49).

In order to analyze the copious and varied archeological materials recovered by Johnson, Sampson (1985) developed two rival models: first the "know it all" model, that the lakeshore adaptation at Nightfire Island arrived fully developed, having been brought in from the Pluvial lakes to the east; and second the "learner" model, that the lakeshore adaptation developed in situ over several thousand years, being perfected by the Modoc over time. Four site type analogs for Nightfire Island were considered, based on the site's location and on ethnographic data for the Modoc subsistence strategy and settlement pattern. For each rival model the changes in the role of the site were predicted in relationship to long-term changes in the site catchment area, which took into account regional paleoecological data. The archeological implications for each model were also explored, taking into account the possible masking effects of lakeshore fluctuations on the second model.

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Stratigraphic data from the 25, 2x2 meter control units excavated at Nightfire Island were correlated on the basis of sedimentary descriptions, radiocarbon and obsidian hydration dates, avifaunal contents, projectile points, and flake sizes. Three gross stratigraphic zones based on lithic technology were identified initially and each zone was further subdivided into strata based on sedimentary, avifaunal, and dating criteria. Twenty-eight radiocarbon samples were dated with reference to the nearby White Mountains bristlecone pine tree ring calibrations. The analyses of microconstituents, including pine pollen, fungal spores, phytoliths, charcoal and wood fragments, were limited because of the lack of basic research on their identifying morphological criteria; however, the results tentatively supported the interpretation of the site's depositional history.

Fifteen distinct occupational layers of different ages, with many periods of site abandonment or nonuse, are identified for the Nightfire Island site, dating from approximately 5000 B.C. to A.D. 1300 or later, but before White contact. Archeological remains evidence the chronic shifting of settlement and economic regimes, which closely coincided with lake level fluctuations and corresponding changes in the site catchment area. Dietary remains highlight the site's importance as a fowling and fishing station, with the site serving variously as a waterfowling station, a winter village, a hunting camp, and a fish camp. Burial features imply that basic ceremonial procedures for cremation, as practiced ethnographically by the Modoc, were in use for the previous 2000 years, as were other characteristic features of Modoc society: the shaman, the trophies and victims of raiding parties, and rules for the disposal of slaves and infants. Chemical sourcing of more than 300 obsidian projectile points suggested two major shifts in the direction of primary obsidian exchange relationships over time.

In conclusion, Sampson (1985:516) suggested that the Learner Model applies to the initial part of the site's history and the Know-It-All Model applies to the later part after approximately 3500 B.C. According to Sampson, archeological indicators that the earliest inhabitants of Nightfire Island did not practice a specialized lakemarsh adaptation include the heavy exploitation of the coot, an easily captured bird, and the lack of any tools specifically adapted to lakemarsh exploitation. Sampson notes that the comparison of the two models is inhibited by the extreme paucity of objects preserved in the archeological record that can

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readily be identified as specialized fowling or fishing gear. In addition, he noted that the obvious proliferation of equipment of all types over time, in support of the Know-It-All Model, can also be explained in terms of the change in site function from a waterfowling station to a semi-permanent village and/or the involvement of the site occupants with an increasingly complex regional exchange network over time.

Ethnographic Background

The Lava Beds Archeological District is situated in the western portion of the territory controlled by the Modoc, in the "exploitation sphere" (cf. Sampson 1985:8-11) of the Gumbatwas geographical division (Ray 1963; Barrett 1910). Ethnographic descriptions for the Modoc are pertinent to inferring the functions or uses of certain District cultural resources, as well as to predicting the archeologically sensitive zones within the District. However, Modoc ethnographic data are sketchy, being limited to the works of Barrett (1910), Ray (1963), and Voegelin (1942). Of the available data, the most important to archeology are those regarding the Modoc settlement pattern, subsistence, architecture, burial customs, and religious practices.

A generalized account of the Modoc subsistence round and settlement pattern is documented by Ray (1963:180-183) and summarized by Sampson (1985:6-11). During the sub-zero winter months the Modoc occupied permanently maintained winter villages, situated on lakeshores and riverbanks. Except for the elderly and infirm, the winter villages were abandoned in the early spring with the village community moving as a whole or in split groups to riverside fishing camps for the sucker fish run. Following the three to four week long fish run, the group(s) moved to one or more late spring camps, where women dug epos roots and men fished for trout; waterfowl eggs were also collected if the late spring camps were suitably located. In midsummer the groups became more widely dispersed and mobile in their quest for camas roots, which were relatively scarce in Modoc territory; where possible, the men fished for trout and hunted waterfowl. In late summer the focus shifted again, with women digging white camas and men hunting mountain sheep in the lava beds or pronghorn on the plains. These activities were followed by fishing during the second sucker run, the gathering of wocus seeds, and the harvesting of lowland berry crops. In the fall, groups reconvened at remote camps in the highlands,

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where men hunted deer and elk and the women gathered berries; various ceremonial and gambling activities took place at several of these fall camps. By late fall groups returned to their winter villages, where houses were refurbished and supplies stored while the men hunted until the first snows. From the winter villages, the men would occasionally supplement their food reserves with fresh fish or game.

Based on the above, the most archeologically sensitive area of the District is the [REDACTED], since the Modoc focused their activities and concentrated their major settlements near the highly diverse and abundant resources of the lakemarsh. Some villages likely served as both principal winter and summer habitation sites, and cremation grounds were often located nearby. No ethnographic description of Modoc ceremonial centers exists, therefore its archeological trace is uncertain. Also lacking are ethnographic data for the many unmapped short-term camps used as specialized bases for fishing, hunting, waterfowling, wocus or berry gathering, epos or camas digging, or any combinations of these.

A large scale ethnographic map by Ray (1963:Map 2) shows the Gumbatwas' most influential, principle village of Gu'mbat located within the Archeological District on [REDACTED]

[REDACTED] (Ray 1963:208, Map 2). According to Ray (1963:208), the houses of Gu'mbat were widely spaced, "some on the flats and some on a low butte," with a nearby cremation place mapped farther back from the lakeshore. Certain features which may be visible archeologically are described for Modoc winter and summer villages (Ray 1963; Barrett 1910). At permanently maintained winter villages, groupings of round, semi-subterranean pit houses or earth lodges served as the principal family residences (Ray 1963:147-149). At winter villages a simpler mat-covered house was also used, differing from the earth lodge in the shallowness or absence of the pit, the absence of a bark or plank layer, the lack of earth covering, the more elongated rectangular shape, and the entrance at one end (Ray 1963:155). Occasionally constructed at winter villages was an above-ground, circular, dome-shaped structure constructed of matting over a framework of bent willow poles (Ray 1963:156-157). Near all earth lodges and most mat houses, one or more separate utility houses were constructed in a manner identical to the domed dwelling, serving as a cooking hut, a storage place for bulky materials other than food, as work rooms for women, and as

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menstrual huts (Ray 1963:157-158). In rocky areas such as the [REDACTED] within the District, these above-ground structures may be evidenced within archeological village site contexts by cleared level areas.

Permanently maintained Modoc summer villages were also located along lakeshores and river banks, suggesting that some winter village localities may also have served as summer village sites. At Modoc summer villages all structures were above-ground, including the rectangular mat-covered houses and circular dome-shaped houses (described above), and a simple circular windbreak of sagebrush (Ray 1963:154-157; Barrett 1910:244-245). These feature locations may also be marked archeologically in village site contexts by cleared, rock-free areas large enough to accommodate the above-ground structures.

Cremation centers are mapped near a number of the Modoc winter villages (Ray 1963:Map 2). Factors considered by the Modoc during the selection of a cremation site include convenience to and isolation from the nearby village, fuel supply, and the availability of broken stone suitable for covering the ashes (Ray 1963:115). At a regular village crematory, where the remains were consistently and completely reduced to ash, the cleared and levelled area of the pyre was rectangular, about four by eight feet in area. When it was feared that the remains would not be completely ashed due to a fuel scarcity or time shortage, a shallow trench was dug, the fuel added and after firing, the remaining bones backfilled with ashes and stones. Except for the disapproved and secret burials of aborted fetuses and infanticides, the Modoc practiced cremation exclusively (Ray 1963:113).

Ritual centers include those places mapped but not described by Ray (1963:Map 2) in the high country away from rivers and lakes, and others on lakeshores and near [REDACTED]. A Modoc ritual center is mapped in the south-central portion of the District, however, no information about the location or nature of this place is given (Ray 1963). Although not readily apparent from surface observations today, certain abandoned earth lodges, where deceased shamans had lived or performed rituals, were used by novices in their acquisition of spiritual power through dreaming (Ray 1963:33). Other ritual centers include places where mythological beings formerly gathered, and certain pits and depressions other than deserted housepits (Ray 1963:33).

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Descriptive and locational data about these are lacking, however. Rock cairns were constructed by the Modoc as prayer offerings along trails, and as a strenuous artificial activity by men or women during vision quest rituals undertaken at puberty, the birth or death of one's child, gambling losses, illness, or the death of one's spouse (Ray 1963:23, 77, 79). There is no mention of the Modoc creating petroglyphs and pictographs, or ground stone cupule depressions.

Historic Background

Historical events leading up to the Modoc War of 1872-73 are relevant to evaluating the significance of certain historic cultural resources of the Modoc Lava Beds Archeological District. The Hudson's Bay Company trappers led by Peter Skene Ogden were the first known Euro-Americans to make direct contact with the Modoc of the [REDACTED] and Lava Beds area in December 1826 (Davies 1961:46). Relative to the events which followed, this and other sporadic, brief contacts by fur trappers had little impact on the traditional Modoc culture and population, other than the introduction of trade items. In the 1840s and 1850s government sponsored exploration parties and emigrants to the Oregon and California gold fields ventured periodically through Modoc country. Notable was the second topographical survey party of Lieutenant John C. Fremont, which in the spring of 1846 passed by [REDACTED] before making camp in Klamath country at [REDACTED] (Gates 1983:159-162). While camped, Fremont's party was attacked by a small group of Indians. In response, Kit Carson, who was a member of Fremont's party, led a retaliatory attack, ravaging Klamath villages around the lake for several days before the expedition moved on (Murray 1959:13-15). Carson's raid ignited a distrust and fear of Whites among the Modoc and Klamath groups throughout the region.

Soon after the hostile events of 1846, increasing numbers of Americans traversed Modoc country via the [REDACTED] which passed along the north side of [REDACTED] (Murray 1959:15-17). These intrusions into the Modoc homeland, the impact on subsistence resources and the atmosphere of fear and distrust, resulted in numerous conflicts between the Modoc and Whites. Although Indian attacks declined between 1847 and 1849 due to a smallpox epidemic, the Modoc's reputation as hostile Indians was widespread among Americans.

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The 1849 discovery of gold in California stimulated increased use of the [REDACTED] and therefore, more frequent contact between the Modoc and Americans. In the early 1850s civilian groups were organized at the gold mining center of Yreka to the west, to patrol the [REDACTED] (Gates 1983:171-172). In 1852 the Modoc increased their attacks, hoping to discourage the flow of emigrants. In the late fall of 1852 the leader of the Yreka mounted civilian group, Ben Wright, called a meeting with the Modoc at his Lost River camp to discuss a treaty. After five days of meetings, Wright concluded that only a single course remained, to "kill or be killed," and he ordered that his volunteers open fire on the 48 assembled Indians in a treacherous act witnessed by a 15-year-old survivor named Kientepoos, later known as Captain Jack (Gates 1983:172-173).

In 1854 the Modoc again organized in defense of their homeland, engaging a group of 73 military and 15 volunteers in a running battle at [REDACTED] from August 18 to September 4. The Modoc sued for peace, which was granted with the condition they stop harassing emigrants along the trail. In 1856, however, the Governor of California ordered the militia to battle the Modoc, who were peaceful at the time, around [REDACTED]. Following heavy losses, old Chief Schonchin of the Modoc entered Yreka in January 1857, agreeing to cease hostilities (Gates 1983:173).

By the early 1860s White ranchers and homesteaders argued for the removal of the Klamath and Modoc to a reservation. The Treaty of 1864 established the Klamath Indian Reservation, located totally within Klamath Indian territory on [REDACTED] Lake, for the Klamath, Modoc, and Snake (Yuhuskin Paiute) Indians. Old Chief Schonchin and his Modoc followers peacefully agreed to give up their traditional lands and lifestyle and relocate to the Klamath Reservation, whereas his rival, Captain Jack, along with his followers adamantly refused. Captain Jack, who had learned the White man's language and ways in the bawdy mining camps, approached his trusted friend, Judge Elisha Steele of Yreka, to draft a treaty establishing a reservation for them along [REDACTED]. However, Steele did not have the authority to negotiate Indian treaties and the Office of Indian Affairs ignored this effort.

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Eventually Captain Jack and his followers moved to the Klamath Reservation. Within a few months the division widened between Captain Jack and Chief Schonchin, who was favored by Indian agency officials and government authorities because of his willingness to cooperate. Resentments also surfaced between the Modoc and the Klamath. In 1865 Captain Jack, old Chief Schonchin's brother, John, and their followers left the reservation, returning to their [REDACTED] country only to find the American ranchers had taken up residence there (Gates 1983:180; Thompson 1967:8-9).

Tensions between the Lost River Modoc and the settlers were heightened but few verifiable incidents occurred. Between 1865 and 1868 Captain Jack repeatedly refused to return to the Klamath Reservation, and he continued to travel freely between Lost River and Yreka to trade and seek advice from Judge Steele and Steele's partner, A.M. Rosborough, the County Judge. Succumbing to the pressure from the ranchers to remove Captain Jack's band, the government persuaded the Indians to return to the Reservation in 1869. However, the problems between the Modoc factions and the Klamath and the Modoc remained unresolved and in April 1870 Captain Jack's band again fled to the Lost River area. Mutual distrust between the Modoc and ranchers continued, with occasional incidents involving threats and thievery by the Modoc reported by the ranchers (Thompson 1967:10-12).

In September 1872 T.B. Odeneal, Superintendent of Indian Affairs for Oregon, wrote General E.R.S. Canby, commanding the Department of the Columbia, that the Modoc should be moved to the Klamath Reservation, using army forces if necessary. After Captain Jack refused invitations to meet Superintendent Odeneal and return to the Klamath Reservation, a small military patrol was directed to Jack's Lost River village to forcibly remove them. A skirmish ensued at Jack's village, with several lives lost among both the Modoc and soldiers. The Modoc survivors fled across [REDACTED] to the Lava Beds. At the same time a group of civilians exchanged fire with men of a second Modoc village on the [REDACTED]. These Modoc also fled to the Lava Beds, travelling by land around the eastern shore of [REDACTED] attacking a number of ranches and killing a number of Whites. Thus began the infamous Modoc War of 1872-73, an event which attracted national attention (Thompson 1967:23-29).

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Detailed descriptions of the Modoc War, which was fought mainly within the bounds of the Archeological District, are given by Thompson (1967), Murray (1959), and Riddle (1914), among others. After the initial conflagration at [REDACTED], the two Modoc groups rendezvoused at the lava beds on the south shore of [REDACTED], taking refuge in the place now known as Captain Jack's Stronghold in the [REDACTED] of the District. Over the next several months under harsh winter conditions, hundreds of regular Army troops, civilian volunteers from California and Oregon, and Klamath and Warm Springs Indian scouts laid siege to an estimated 170 Modoc men, women, and children in the Stronghold. Principal military camps were established in the District to the [REDACTED]

[REDACTED] With only about 57 warriors, the Modoc successfully repelled an attack by more than 300 Americans on January 17, 1873. Throughout America, the Modoc War had become a media event, with news reports triggering a widespread sympathy among Americans for the plight of the Modoc. On April 11, 1873, during peace negotiation talks between the Modoc and the U.S. Forces, General E.R.S. Canby and Dr. Thomas were assassinated and A.B. Meacham was wounded by Captain Jack and other Modoc warriors. Once Americans nationwide learned about the assassination of Canby, the only regular Army general officer to be killed in the Indian wars, their sympathy for the Modoc turned into a latent feeling of revenge (Thompson 1967:94-95). A second military attack was soon launched by more than 500 U.S. forces; however, by the time the Stronghold was overrun by the military, the Modoc had fled unnoticed into the lava beds to the south.

With the morale low, army troops pursued the Modoc south into the lava beds and vicinity during the next two months. In the [REDACTED] portion of the District [REDACTED], an Army patrol led by Captain Evan Thomas and Lt. Thomas F. Wright was ambushed by 24 Modoc warriors under Scarface Charley on April 26, 1873. While under pursuit, Captain Jack and his band of about 165 Indian followers briefly sought refuge and water in several ice caves in the [REDACTED] portion of the Archeological District, at places known as Captain Jack's Ice Cave, Frozen River Cave, and Caldwell Ice Cave (Murray 1959:243). Eventually, internal dissent divided the Modoc into two groups, with one group heading west and the other under Captain Jack heading northeast. On May 20, 1873, the western band surrendered and on June 1, 1873, Captain Jack was captured.

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After their defeat, six Modoc leaders faced the military commission: Captain Jack, Schonchin John, Black Jim, Boston Charley, Barncho, and Sloluck. All were found guilty of the two charges of murder and assault, with intent to kill, in violation of the laws of war. All but Barncho and Sloluck were publicly hanged and their decapitated heads were shipped to the Army Medical Museum in Washington, D.C. (Thompson 1967:176-181). Soon after the hangings, 155 of the Modoc who followed Captain Jack were forcibly relocated to a small reservation set aside near the Quapaw Agency near Baxter Springs, Kansas, while those Modoc who had remained at the Klamath Reservation with old Chief Schonchin were not forced to relocate. In the early 1900s a few of these Modoc returned to the Klamath Reservation, joining those Modoc who had not been involved in the war (Thompson 1967:181-182).

Today, people of Modoc descent are affiliated primarily with two federally recognized groups: the Klamath Tribe, whose tribal office is at Chiloquin, Oregon, and the Modoc Indian Tribe of Oklahoma, whose office is at Miami, Oklahoma. The Modoc Indian Tribe presently has about 100 members, located throughout the United States (Freiser 1988:45).

District Archeological Studies

Surveys

Although approximately 5% of the District has been archeologically surveyed, the areas sampled include a wide range of settings. In addition, the sites recorded suggest different intensities of human use in different settings. Of the previous surveys listed in Table 1, the large scale projects conducted by Squier and Grosscup (1952), by Swartz (1961), and by Eidsness (1990) are the most notable. Formally initiating the inventory of cultural resources within Lava Beds National Monument, the Squier and Grosscup survey focused on areas held intuitively to be the most sensitive for major prehistoric archeological concentrations, namely, the lakeshore vicinity and the lava tube caves containing water sources. Swartz also concentrated his survey efforts in the lakeshore vicinity, where a new road was proposed. The purpose was to identify major prehistoric sites in the right-of-way that would likely yield significant excavation results.

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Both the Squier and Grosscup and Swartz survey projects were nonintensive and incomplete in coverage, as indicated by the recent identification of previously unknown features at recorded sites and the identification of additional unrecorded sites within areas previously surveyed (Eidsness 1990). Neither survey report explicitly discusses survey methods or includes survey area coverage maps. In addition, both earlier survey projects were biased towards the identification and recordation of prehistoric sites, with minimal and incomplete effort given to treatment of historic properties affiliated with the Modoc War. Surface artifact collections were made at a number of sites, however, the sampling strategies were unstated, provenience data other than site number were not maintained, and the catalogue records are incomplete and/or inaccessible. Archeological sites recorded by Squier and Grosscup and by Swartz on shown on Map 9.

The 1989-90 survey project of Eidsness (1990) initiated the resurvey of District archeological sites recorded by Squier and Grosscup (1952) and by Swartz (1961), figuring directly into the development of this National Register District nomination. The purposes of this project were to: relocate previously recorded sites and identify unrecorded sites, update site records according to current standards, plot site and survey area locations on newly available 7.5-minute USGS quadrangle topographic maps, and assess site integrity based on surface observations.

For the Eidsness survey project, the initial goal of the 1989 fieldwork was to define the northern boundary of the National Register District by resurveying shoreline sites and by evaluating the integrity of this area. The northern District boundary area includes a narrow strip of land administered by both the U.S. Fish and Wildlife Service and the U.S. Bureau of Reclamation, that borders agricultural leaseholds in the reclaimed lakebed area to the north (Maps 1-2, 5-6). For the 1990 fieldwork, the primary goal was to conduct systematic, intensive and complete survey of selected sample areas in the lakeshore zone, the ice cave zone, and the intermediate zone of the District. Survey areas were selected using one or more of the following attributes: high archaeological sensitivity; high

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visitor use; potential for future development or maintenance actions; and threat of vandalism. Focus was given to resurveying a wide range of functionally different archeological sites in a variety of settings, in order to obtain data important to the development of this National Register nomination.

As a result of the Eidsness (1990) project, a total of 80 previously recorded sites were resurveyed and 51 previously unknown sites were recorded. Site locations described and mapped earlier by Squier and Grosscup and by Swartz were found to be generally accurate. However, in a number of instances in the lakeshore zone, previously undescribed prehistoric archeological features such as rock alignments and housepits were identified at formerly recorded sites. Archeological site density, especially in the lakeshore zone where the site resurvey focused, is higher than implied by previous studies. The discovery of previously unrecorded historic and prehistoric sites in the vicinity of recorded sites implies that the earlier surveys were incomplete in coverage. Archeological site integrity is exceptionally high south of the edge of the reclaimed lakebed, especially within the Lava Beds National Monument.

Lastly, since 1978, archeological survey has also been conducted in conjunction with specific proposed National Park Service projects. In contrast to the earlier survey projects, these more recent surveys involved more complete, intensive ground coverage of relatively small or linear areas often removed from the lake and ice caves. In addition, all identified historic and prehistoric cultural resources were formally recorded. All classifiable projectile points and occasionally, other selected time-sensitive artifacts observed on the surface were systematically collected and their proveniences mapped.

Excavations

Archeological excavations within the District, conducted for the National Park Service between 1935 and 1962, were limited in number and in scope (Table 1). All projects involved sites within or near the lakeshore zone. Except for the partial excavation of CA-SIS-101 as a road salvage project, the rationale for excavating the other five sites was unstated. None of the projects were directed by formal research designs, taking an inductive approach. Field and laboratory procedures and results are not described according to current standards.

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However, these excavations yielded data important to site dating, burial practices, architectural features, social organization, site functions, and site population estimates. The test trenching of the Fern Cave site (CA-MOD-17), which was conducted by an amateur, yielded evidence of human occupation and the fairly good preservation of organic materials such as basketry and culturally introduced charcoal; however, the deposit was not radiocarbon dated (Crouch 1935). At three rockshelter sites (CA-SIS-299, -304 and CA-MOD-186), seven disarticulated burials covered over by lava blocks, were examined by trowelling (Swartz 1961:3, 12). The screening of fill at a cremation site (CA-MOD-190) yielded hundreds of shell, bone, and glass trade beads, and evidence that the site had previously been vandalized (Swartz 1960:2, 6). Two, five foot square pits excavated at CA-SIS-303 yielded a variety of flaked lithic and groundstone implements, a bone tool, and shell beads in the 12-inch deep deposit (Swartz 1961:2).

The test excavation of CA-SIS-101 by Swartz (1961, 1963) is the largest project undertaken within the District to date.

[REDACTED] this large, complex site may represent the ethnographically mapped Modoc village of Gu'mbat, the primary winter settlement of the Gumbatwas band of Modoc (cf. Gatschet 1890; Squier and Grosscup 1952:10; Swartz 1963:8-9). Of the 42 housepits recorded on the surface, seven were excavated and one was tested; five trenches were also excavated into the 48-inch deep midden deposit.

Swartz (1963:104-110) employed a variety of techniques to date the four stratigraphically defined components at CA-SIS-101. Dendrochronology was unsuccessful due to the lack of master chronologies of some length for the region. Comparing the CA-SIS-101 assemblages, especially projectile point forms, with those described by Cressman (1940) for the Upper Klamath Lake region, Swartz cross-dated his Components I and II to Cressman's Laird's Bay Phase, dating ca. 4000 B.P. to 2000 B.P. Radiocarbon dating proved most successful, resulting in a date of A.D. 803 \pm 160 for a beam used in the construction of a Component III housepit, attributed by Swartz to the late prehistoric Modoc period of occupation. This datum pushed back the beginning date of A.D. 1500 proposed earlier by Squier (1956:35-36) for his "Tule Lake Phase," hypothetically representing the culture of the late prehistoric and protohistoric Modoc. Swartz (1963:109)

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suggested that if CA-SIS-101 is Ku'mbat, the Modoc occupied the site until 1869 (cf. Nash 1937:389). The terminal Component IV was assigned to the historic period and specifically, U.S. military troop activities during the Modoc War of 1872-73. The following sequence was proposed by Swartz (1964:172) for CA-SIS-101:

- Component I - pre-1500 B.C.
- Component II - 1500 to 500 B.C.
- hiatus-----
- Component III - A.D. 500 to 1869 (probably a short time span within this period)
- Component IV - A.D. 1872 to 1873

From the burial data for CA-SIS-101, -299, -304, CA-MOD-1, -186 and -190, Swartz (1963:6-31) identified four types of mortuary practices for the District and vicinity: (1) deposition of disarticulated bones (often charred and/or associated with charcoal) in rockshelters, under lava block cairns and often associated with twined basketry; (2) secondary midden burial of intentionally fractured bones under lava block cairns; (3) secondary deposition under lava block cairns of portions of cremated remains in housepits destroyed by fire and littered with rocks; and (4) cremation. He hypothesized that for the region, the earliest practice involved flexed primary midden burials (not known for the District), followed in time by deposition of disarticulated remains in rockshelters under lava blocks, and finally, cremation in pits, which is documented exclusively for the Modoc and the Klamath groups.

Seriatng sites having time-sensitive artifacts or features, Swartz (1964:163-165) cross-dated the following District resources using the CA-SIS-101 results:

- Component I. None
- Component II. CA-SIS-299, -304, CA-MOD-31, -186
- Component III. CA-SIS-92, -116, -303(?)
- Component IV. CA-SIS-146, -300, -319, -320, CA-MOD-189

Swartz (1963:25) suggested that the clustering of housepits at CA-SIS-101 into 13 spatially distinct settlement units and 11 isolated housepits, may represent extended family aggregates for Component III. Assuming that all housepits were occupied contemporaneously and calculating the total number of such

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features, their average size and number of occupants, he estimated a village population of 100 individuals (Swartz 1962:24-25). Drawing from ethnographic and archeological data, Swartz divided the housepits into two architectural types, suggestive of different functions: planked earth lodges, including a shaman assembly house and winter domiciles; and branch-framed dome-shaped earth lodges. Information regarding the methods of construction, design, and furnishings were also obtained (Swartz 1963:19-23).

Addressing the stacked lava block features identified on the surface at CA-SIS-101 and other northern District area sites visited by Swartz (1961; 1963:25-26), he noted two construction plans. One type is described as a small circular rampart, usually situated in open areas, offering a panoramic view. The other type is a linear, wall-like construction, usually built on lava outcrops, bluff ridges especially along the shoreline, and rugged areas where outcrops provide building materials and/or serve as natural buttresses. Functionally and temporally, Swartz credited them as U.S. Army breastwork fortifications constructed during the Modoc War of 1872-73 (cf. Murray 1959:211).

District Archeological Sites

Time Periods

Comparison of projectile points collected from District sites by Squier and Grosscup (1952), Swartz (1961, 1963), Eidsness (1988, 1990), and others with those illustrated for the Nightfire Island site (Sampson 1985) imply that the Modoc Lava Beds was occupied by Native Americans for approximately 7000 years, beginning circa 5000 B.C. Among the temporally defined assemblages identified by Cressman, Squier, and Sampson for northeast California, projectile points are generally considered the most time-sensitive artifact type. A terminal date of A.D. 1869 for the traditional Modoc occupation of the District is suggested by ethnographic and historic data. Major historical events of the Modoc War within the District are dated A.D. 1872-73.

The potential also exists within the District for discovery of archeological sites dating back approximately 10-12,000 years, as suggested by a finely made obsidian, Clovis-like fluted projectile point allegedly found by a collector near Schonchin

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[REDACTED] portion of the Archeological District (Moratto 1984:87, Figure 3.2E). In the far western portion of the United States, Clovis-like fluted points are typically found along ancient lakeshores like that identified along the northern District boundary, as well as in piedmont zones of former grasslands and in mountain passes between fossil lakes (Moratto 1984:81). Additional survey within the District is needed to formally identify the presence or absence of archeological materials dating back 10-12,000 years.

Distribution of Archeological Sites

Three archeologically sensitive environmental zones are identified for the District. These are based on survey results and on ethnographic and historic data. The most archeologically sensitive is the "lakeshore zone," defined as the area within approximately [REDACTED]. This zone has the highest concentration of prehistoric and Modoc War cultural resources (Maps 1-4, 9). The second most sensitive is the "ice cave zone," defined spatially by an [REDACTED]

[REDACTED] The third, "intermediate zone" is defined as the area outside the lakeshore zone and the ice cave zone, where archeological site density is lowest. These differences in archeological site density largely reflect prehistoric settlement and subsistence patterns within the catchment area contained within the Archeological District.

While no archeological surveys of extensive lava flow areas, such as the Devil's Homestead (Map 1), have been conducted for the District, sparse lithic scatters have been identified in lava flow settings outside the District (Gerry Gates 1989:personal communication [PC]). Archeological site density is expected to be relatively low in extensive lava flow areas.

For each environmental zone, gross differences in the type and intensity of prehistoric human use are implied by the District survey data. In general, archeological remains within the lakeshore and ice cave zones suggest multi-activity use, whereas remains in the intermediate zone typically suggest task-specific use. Multi-activity use sites are characterized by relatively large numbers of artifacts and a wide range of flaked lithic and ground stone tool types; many contain milling, rock art and/or alignment features, and midden deposits. In contrast,

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task-specific sites are marked by small artifact amounts and a narrow range of tool types; many are characterized as sparse lithic scatters, with few flaked lithic tools and no rock art or alignment features. These gross site type classifications are offered with the caution that temporal and spatial controls of individual sites, including multiple component deposits, are presently inadequate due to a paucity of site-specific research. However, these observations also support the premise that the catchment area of the District contains a broad range of functionally different prehistoric sites, reflective of settlement patterns and subsistence practices over a lengthy time period.

Recorded Sites

A total of 224 archeological sites are formally recorded within the District. Based on results of the 1989-90 site resurvey and a review of existing site records, the 224 sites are grouped as follows: 199 prehistoric sites, eight historic sites, and 17 sites with both prehistoric and historic components. This grouping is tentative, as future surface reconnaissance of earlier recorded sites may result in the identification of previously unrecorded historic and/or prehistoric components; additional survey will undoubtedly result in the identification of many more archeological sites contributing to the significance of the District. As further data are generated through archeological studies, the Lava Beds District nomination form and maps will be amended.

Contributing and Non-Contributing Resources

Of the total number of recorded archeological sites, 204 are sites contributing to the significance of the District and 16 sites are non-contributing (Table 2; Maps 1-4, 9). Among the contributing sites, four are previously listed in the National Register of Historic Places. Contributing sites date to A.D. 1873 or earlier, are associated with Native American use and/or events associated with the Modoc War, and exhibit a high degree of integrity.

In contrast, non-contributing sites date after 1873, or exhibit poor integrity and a low research potential. For example, non-contributing sites listed in Table 2 include several CCC-era refuse dumps, a turn-of-the-century horse breeder's cabin

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(Photo 5), and a number of prehistoric sites [REDACTED] that presently appear to yield a low research potential (Photo 4). While the post-1873 non-contributing sites are not thematically related to the present District, these sites may be eligible for inclusion in the National Register in their own right.

Also identified within the District are 25 non-contributing structures and one non-contributing object (Table 2; Maps 1-4). All of the non-contributing structures date to the 1930s CCC-era or later, and the majority are located in the Lava Beds National Monument headquarters area. The non-contributing object, Canby's Cross Monument, was erected after the turn-of-the-century to commemorate the place where General E.R.S. Canby was assassinated by Captain Jack during the peace negotiations; the present monument replaced the original one constructed in 1875.

Site Functions and Uses

Archeological remains at contributing prehistoric sites imply one or more of the following functions and uses, listed in order of their predominance or visibility within the District: SUBSISTENCE/processing, PROCESSING/processing, TRADE/trade, DOMESTIC/village/camp, FUNERARY/mortuary/grave/burial, and RELIGION/ceremonial site. As characterized above, prehistoric multi-activity sites are more complex archeologically, having served a greater number of functions than task-specific sites; overlapping function at individual District sites is the norm rather than the exception, however. Contributing historic sites, temporally affiliated with the Modoc War, exhibit archeological remains which imply a defense function and fortification use. The archeological materials and site settings for each function/use category are characterized below.

The functions of several features at contributing sites are presently unclear without more rigorous study. Examples include low rock walls and rock alignments located [REDACTED] of CA-SIS-123/124 (see Site Record, features A-C) and CA-MOD-39/H (see Site Record, feature 2); a roughly rectangular stacked lava rock enclosure on the [REDACTED], also at CA-SIS-123/124 (see Site Record, feature D); and a large rectangular enclosure with a thick, rock rubble filled wall, also at CA-MOD-39/H (see Site Record, feature 1).

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SUBSISTENCE/processing sites: The majority of contributing prehistoric sites, including task-specific and multiple use sites in all three settings described above, contain evidence, or are likely to contain evidence, of prehistoric subsistence activities involving the procurement and processing of floral and faunal resources. For District sites, the archeological evidence of subsistence activities is often indirect, as implied by the presence of artifacts such as mortars and pestles used to process vegetal and faunal resources, or artifacts such as projectile points and flaked stone blades used to procure and process game. Bedrock mortars, found as isolated features and in large concentrations, are especially common to sites in the lakeshore zone (Photo 6). At many sites, evidence of subsistence processing is direct, as in discarded dietary remains such as freshwater shellfish commonly noted during surface reconnaissance of lakeshore zone sites. The preservation of discarded organic dietary remains is also implied by the high frequencies of butchered deer and/or mountain sheep bones that were surface collected from several District sites (Squier and Grosscup 1952:39-40, 45); the bones of a variety of large mammals, birds and fish, along with abundant shellfish, recovered during excavation of CA-SIS-101 (Swartz 1963:99-100); and the preservation of organic archeological materials recovered during excavation of the Fern Cave site, CA-MOD-17 (Crouch 1935).

PROCESSING/processing sites: The majority of task-specific and multiple use sites in all three District zones contain evidence of the manufacture of flaked stone tools. Lithic chipping debris, dominated materially by obsidian, is an archeological element common to and often dominant at District sites, implying that various stages of flaked lithic tool reduction occurred. The potential exists for the direct and indirect evidence of on-site manufacture of other items, e.g., bone tools may infer the manufacture of organic artifacts such as nets, baskets or mats; certain edge battered artifacts may infer the manufacture of groundstone milling equipment such as bedrock mortars.

TRADE/trade (archeology) sites: The majority of District prehistoric sites in all settings contain archeological evidence of the former occupants' involvement in an exchange network. Obsidian detritus, which is the dominant archeological element at District sites, may provide indirect evidence of obsidian trade. In addition, direct evidence of obsidian exchange is suggested by

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the one obsidian bifacial preform cache site (CA-SIS-1295) identified in the intermediate zone of the District (Photo 7). A source of good quality obsidian suitable for knapping, is unknown within the District. However, the District is located near a number of obsidian sources in the Medicine Lake Highland to the [REDACTED], suggesting that the prehistoric occupants of the Lava Beds may have controlled to a considerable degree the trade of obsidian to more distant groups to the north and elsewhere. Previous regional research underscores the fact that obsidian was a highly valued commodity, which preserves well in archeological contexts and can be directly sourced by x-ray fluorescence analysis (cf. Hughes 1985).

Other trade items are preserved archeologically at District sites. Evidence of prehistoric trade relationships with coast-oriented groups is implied by the marine shells such as the whole olivella and clamshell disk beads recovered from CA-SIS-303 and CA-MOD-190 (Swartz 1963:90). Evidence of a historic or protohistoric trade relationship between the Modoc and Euro-Americans is implied by the recovery of a variety of glass trade beads from the cremation sites CA-MOD-190 (Swartz 1963:90-91) and CA-MOD-15.

DOMESTIC/village/camp sites: A number of recorded District prehistoric sites, including open air, cave and rockshelter sites, contain archeological evidence that they functioned as habitation sites. All are characterized as multi-activity use sites. Based on recent site inspections and review of site records, a conservatively estimated total of 63 District resources are presently identified as domestic prehistoric sites. The criteria for determining the domestic site function was limited to presence of one or more of the following archeological elements: housepits, midden and/or smoke blackened rockshelter or cave ceilings. The actual number of prehistoric habitation sites within the District, ranging from permanent villages to temporary camps, is likely to be higher. Additional domestic sites will undoubtedly be identified during further survey and more rigorous investigation of District sites.

Prehistoric domestic sites are concentrated in two District zones. The lakeshore zone contains the largest number of domestic sites, the majority of which are generally larger and more complex than domestic sites elsewhere in the District. This confirms settlement/subsistence pattern data described above for

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the ethnographic Modoc. A large number of these open air sites, located [REDACTED] were likely used as winter and/or summer villages, analogous to those described for the Modoc (Photos 5, 8-10). In addition to the dense concentrations of flaked and ground stone artifacts, these sites contain one or more of the following archeological features: midden with shell; concentrations of bedrock mortars (Photo 6); housepit depressions of various depths and diameters (Photo 8); localities of above-ground structures (e.g., rectangular mat-covered house; circular dome-shaped structure; circular windbreak), marked by roughly circular lava rock clearings or alignments of various shapes, heights, diameters and degrees of workmanship, on low bedrock or soil bases (Photo 9); and smaller artificially cleared bedrock areas, possibly indicating individual or group work or activity areas (Photo 6). Examples of complex lakeshore village archeological sites include CA-SIS-101 excavated by Swartz (1963) (Photo 8); CA-SIS-143/144/H (Photo 13; see attached Site Record); and CA-SIS-130/132 (see attached Site Record).

Several rockshelter and cave sites within the lakeshore zone also show evidence of habitation, such as smoke-blackened ceilings and ashy midden with or without shell. However, these are smaller in area and generally have fewer complex features than observed at lakeshore village sites, implying that the cave and rockshelter sites functioned as less intensively occupied, more temporary or special purpose occupation sites as opposed to villages. Examples include the Fern Cave site (CA-MOD-17), a listed National Register property (cf. Crouch 1935), and the rockshelter site on [REDACTED], CA-SIS-49 (Photos 11, 12; see attached Site Record). Both of these examples lack bedrock milling features, but include complex rock art features.

The second concentration of domestic sites is identified in the ice cave zone. These resources are characterized by relatively dense concentrations of flaked and ground stone tools, frequently in open air settings near cave entrances (Photo 3) and occasionally within the cave entrances; pictographs are frequently associated with ice cave sites. Charcoal stained midden and smoke blackened ceilings are identified inside several ice caves. In contrast to the more intensively used, complex domestic sites identified in the lakeshore zone, the ice cave zone domestic sites lack midden with shell, concentrations of

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bedrock mortars, housepit depressions, and rock alignments or clearings indicative of above-ground structure localities or work areas. Therefore it is likely that ice cave zone domestic sites were occupied on a more temporary but repeated basis, perhaps as relatively short-term, seasonal base camps for hunting and foraging expeditions.

FUNERARY/mortuary/grave/burial sites: Eleven known and three possible prehistoric mortuary or burial sites are presently identified within the District. These are located in rockshelter, cave, crevice, rocky knoll and open village site settings (CA-MOD-15, -31, -48, -49, -186 and -190; CA-SIS-101, -142, -145, -299, -304, -1563, -1564, and -1565). The majority of the known sites contain cremated human remains (rather than primary interments), which show different degrees of burning; some represent crematorium burial places and others are secondary interment of disarticulated and fire-affected skeletal remains. Some are associated with grave offerings and others are not. Locally available lava blocks are typically placed over the burials, forming cairn-like structures. The practice of cremation was documented ethnographically and archeologically for the Modoc (cf. Ray 1963; Barrett 1910; Sampson 1985). Excavation data for CA-SIS-101 within the District (Swartz 1963) and for the Nightfire Island site (Sampson 1985) demonstrate that the cremation burials do occur within village settings. However, most cremation sites identified within the District are located outside but near village sites in the lakeshore zone (cf. Ray 1963:115). The concentration of recorded cremation sites in the northeast corner of the District may be a factor of the incompleteness and bias of earlier surveys.

RELIGION/ceremonial sites: Recorded District prehistoric resources which imply a ceremonial or ritual significance include rock art (pictograph and petroglyph, including cupule) and cairn features. Pictograph features are formally recorded at the following lava tube caves, most of which contain water sources and are associated with artifact scatters characterized as multiple use sites (see above): CA-SIS-1/3 at Symbol Bridge cave; CA-SIS-5 at Ship Cavern; CA-SIS-20/21 at Antelope Well; CA-SIS-22/23/24 at Big and Little Painted caves; CA-SIS-23 at Little Painted Cave; CA-SIS-25/26/27/28 at Indian Well and Stinking Cave; CA-SIS-29/30 at Bear Foot (Paw) Cave; CA-SIS-1479 at Juniper Cave; and CA-MOD-17 at Fern Cave. Of these, the Fern Cave site contains the most complex and largest number of design

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elements (Photo 14). Lee, et al. (1988), concluded that the rock art at Fern Cave is similar to the petroglyph designs located outside but near the District at Petroglyph Point, a listed National Register property. Although there is no ethnographic reference about the Modoc creating rock art, shamanism was the basis of Modoc religion and probably those who preceded them. Based on locational and graphic evidence, California and Great Basin archeologists generally agree that prehistoric rock art functioned in some capacity in connection with ritual and in other shamanic contexts (cf. Schaafsma 1986; Clewlow 1978). As Lee, et al. (1988:136), observe:

Rock art is a manifestation of religious belief, ritual activities, prayers to the gods and spirits, or attempts to acquire power.... Supernatural power is basic in shamanistic societies in that all things contain power to some degree, but certain places, individuals, or objects were believed to have power in concentrated form. It was the job of the shaman to make supplications, contact the supernatural world, and safeguard welfare of the tribe. A natural landmark or exotic feature such as a cave or cliff would be revealed to the shaman as a place of power, and sacred rites would be enacted, often including the making of rock art.

The pictograph feature at Juniper Cave (CA-SIS-1479, Photo 15) has been documented scientifically as a summer solstice sign (Walker 1985). The Juniper Cave pictograph feature is also known to contemporary Modoc people as an ancient solstice observatory (Faithful 1988; Patty Hunt and Gordon Bettles 1989:PC). In addition, the associated Juniper Cave rock cairn is identified by contemporary Modoc as a "prayer cairn," a type of feature which is described ethnographically by Ray (1963:23, 77, 79).

Cupule features, consisting of small pecked and ground cups in rock, are identified at the following District sites: CA-SIS-49, -50, -91, -117, -120, -143/144/H, and -1565. All are situated within the lakeshore zone and are associated with prehistoric archeological deposits characterized as multiple use sites. The settings of two of these cupule features (CA-SIS-49

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and -50) are rare to the region (Gates 1989:PC), in that the cups are located on the rear bedrock wall and ceilings of small rockshelters (Photo 12). The remainder consist of cupules positioned on boulders at open air sites (Photo 13), a setting which is common to cupule features throughout the region.

A petroglyph design on a boulder is identified on the surface of the prehistoric village site CA-SIS-101 (Swartz 1963:33). The grooved curvilinear design consists of a circle with a vertical trailing line.

DEFENSE/fortification/military facility/battle sites:

Sixteen District sites contain archeological features related to American military and/or Native American activities during the Modoc War (CA-SIS-73H, -101/H, -106, -111/H, -131/H, -146/H, -300H, -319/H, -320, -1426/H, -1564/H, -1585/H, -1592/H, -1595/H, -1600H; CA-MOD-189H). The majority are located in the lakeshore zone, in the vicinity of Gillem's Camp (CA-SIS-111/H), Captain Jack's Stronghold (CA-SIS-146/H) and Hospital Rock (CA-SIS-319/H); the latter two are listed National Register properties of particular significance to Modoc War history. Stacked lava rock fortifications constructed by the U.S. military are the most visible historic war feature within the District. Typically circular in plan and about waist high, these well-fitted stacked wall features are usually large enough to provide shelter for one to three adults (Photos 16, 17). The recorded military fortification features have been found as single features and in clusters of up to 16 (see attached Site Record for CA-SIS-131/H). The features are commonly situated on low rises near available sources of rock (Photos 8, 16). Modoc War battles are documented in the vicinity of the lakeshore zone fortifications, as well as those recorded at the Thomas-Wright Battle Site (CA-SIS-73H), a listed National Register site in the intermediate zone of the District. Presently, associated Modoc War era historic artifacts are seldom observed on the surface at District sites; collection of artifacts by visitors, including ones using metal detectors, has been reported in the past.

Captain Jack's Stronghold (CA-SIS-146/H) contains preserved fortification features constructed by the Modoc. In contrast to the military fortifications, the Modoc constructed lower, more simply constructed linear and snake-like walls which blend in with the natural rocky terrain; natural cracks in the lava flow pressure ridge served as the primary defensive structure for the

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Modoc at the Stronghold. Also preserved at the Stronghold are U.S. military fortifications like those described above and a stone fireplace at the Army encampment site established after Captain Jack and his band abandoned the site.

Historic archeological features related to the military facility at Gillem's Camp (CA-SIS-111/H) include a large stacked rock circle that served as a howitzer ring, a smaller, circular stacked rock fortification, a rectangular stacked rock wall around the cemetery, and a trail traversing Gillem's Bluff, which served as the primary military supply route to the camp (cf. Thompson 1967). The cemetery at Gillem's camp no longer contains skeletal remains, which were reinterred elsewhere after the war.

Contributing District site exemplify a variety of official themes, subthemes, and facets described by the National Park Service (1987). Outlined below using the NPS code numbers, these relate to the site functions and uses discussed above, as well as to the significance of the District.

- I. Cultural Developments
 - A. The Earliest Inhabitants
 - 7. Western Archaic Adaptations
 - B. Post-Archaic and Pre-Contact Developments
 - 5. Plateau Hunters, Gatherers, and Fishermen
 - C. Prehistoric Archeology: Topical Facets
 - 1. Architecture/Shelter/Housing
 - 2. Technology
 - 7. Diet/Health
 - 8. Economics/Trade
 - 10. Religion, Ideology, and Ceremonialism
 - 12. Settlements and Settlement Patterns
 - D. Ethnohistory of Indigenous American Populations
 - 1. Native Cultural Adaptations at Contact
 - f. Native Adaptations to Plateau Environments
 - 2. Establishing Intercultural Relations
 - e. Defending Native Homelands
 - f. Defending Native Religious Systems
 - i. Trade Relationships
 - 3. Varieties of Early Conflict, Conquest, or Accomodation
 - b. Forced and Voluntary Population Movements
 - 4. Military Removal and Concentration

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- X. Western Expansion of the British Colonies and the United States, 1763-1898
 - C. Military-Aboriginal American Contact and Conflict
 - 6. The Pacific Coast

Notes on Attached Archeological Site Records: Selected site records are included to illustrate: (1) the level of detail in modern site records (all attachments); (2) examples of certain archeological features with unknown functions (CA-SIS-123/124, features A-D; CA-SIS-39/H, feature 1); (3) examples of the complex archeological features at lakeshore prehistoric village sites (CA-SIS-123/124, -130/132, and -143/144) and at a Modoc War era military fortification site (CA-SIS-131/H); and (4) detailed locations of certain photo points on site sketch maps (CA-SIS-49, Photo #11, #12,; CA-SIS-143/144, Photo #13; CA-SIS-131/H, Photo #16 and #17).

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Continuation SheetSection number 7 Page 35Table 1. Previous Archeological Studies in Modoc Lava Beds
Archeological District

<u>Study Type</u>	<u>Date</u>	<u>Affiliation</u>	<u>Reference</u>
excavation	1935	National Park Service	Crouch 1935
survey	1936	National Park Service	Glaeser 1936
survey	1952	University of California, Berkeley, for National Park Service	Squier and Grosscup 1952
survey	1961	Klamath County Museum, for National Park Service	Swartz 1961
excavation	1961	Klamath County Museum, for National Park Service	Swartz 1961
excavation	1962	Klamath County Museum, with Arizona State Museum, for National Park Service	Swartz 1963
clearance surveys	1978-1990	National Park Service	Western Archeological & Conservation Center; see Item #9, Bibliography
survey	1988	National Park Service	Eidsness 1988
resurvey	1989-1990	National Park Service	Eidsness 1990

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Table 2. Archeological Sites, Structures and Object in Modoc
Lava Beds Archeological District

Contributing Sites (total = 208)

CA-SIS-1/3*	CA-SIS-66	CA-SIS-122*
CA-SIS-4	CA-SIS-67	CA-SIS-123/124*
CA-SIS-5	CA-SIS-68	CA-SIS-125*
CA-SIS-7	CA-SIS-69	CA-SIS-129*
CA-SIS-20/21*	CA-SIS-70	CA-SIS-130/132*
CA-SIS-22/23/24*	CA-SIS-71	CA-SIS-131/H*
CA-SIS-25/26/27/28*	CA-SIS-72	CA-SIS-133*
CA-SIS-29/30*	CA-SIS-73H+	CA-SIS-134*
CA-SIS-31	CA-SIS-74	CA-SIS-135*
CA-SIS-33	CA-SIS-75	CA-SIS-136*
CA-SIS-34*	CA-SIS-76	CA-SIS-137*
CA-SIS-35	CA-SIS-77	CA-SIS-142*
CA-SIS-36	CA-SIS-78	CA-SIS-143/144/H*
CA-SIS-37	CA-SIS-79	CA-SIS-145
CA-SIS-38	CA-SIS-80	CA-SIS-146/H*+
CA-SIS-40/H*	CA-SIS-81	CA-SIS-147
CA-SIS-41	CA-SIS-82	CA-SIS-148
CA-SIS-42/43*	CA-SIS-83	CA-SIS-149
CA-SIS-44*	CA-SIS-84	CA-SIS-150
CA-SIS-46*	CA-SIS-91	CA-SIS-151
CA-SIS-47	CA-SIS-92	CA-SIS-299
CA-SIS-48*	CA-SIS-93	CA-SIS-300H*
CA-SIS-49*	CA-SIS-94*	CA-SIS-301
CA-SIS-50*	CA-SIS-95/96/97/98/99/100*	CA-SIS-302
CA-SIS-51	CA-SIS-101/H*	CA-SIS-303
CA-SIS-52*	CA-SIS-104*	CA-SIS-304
CA-SIS-53	CA-SIS-106*	CA-SIS-305
CA-SIS-54*	CA-SIS-107*	CA-SIS-306
CA-SIS-55	CA-SIS-109	CA-SIS-307
CA-SIS-56/H*	CA-SIS-110	CA-SIS-308
CA-SIS-57	CA-SIS-111/H*	CA-SIS-309
CA-SIS-58	CA-SIS-112*	CA-SIS-310
CA-SIS-60	CA-SIS-113/114/115/116*	CA-SIS-311
CA-SIS-61	CA-SIS-117*	CA-SIS-312
CA-SIS-62	CA-SIS-118	CA-SIS-313*
CA-SIS-63	CA-SIS-119	CA-SIS-314
CA-SIS-64	CA-SIS-120*	CA-SIS-315
CA-SIS-65	CA-SIS-121*	CA-SIS-316*

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Table 2, continued

Contributing Sites, continued

CA-SIS-317	CA-SIS-1571*	CA-MOD-15
CA-SIS-318	CA-SIS-1572*	CA-MOD-17*+
CA-SIS-319/H+	CA-SIS-1573*	CA-MOD-29
CA-SIS-320	CA-SIS-1574*	CA-MOD-30
CA-SIS-321	CA-SIS-1575*	CA-MOD-31
CA-SIS-1294*	CA-SIS-1584*	CA-MOD-32
CA-SIS-1295*	CA-SIS-1585/H*	CA-MOD-33
CA-SIS-1296*	CA-SIS-1586*	CA-MOD-35
CA-SIS-1297*	CA-SIS-1587*	CA-MOD-38
CA-SIS-1298*	CA-SIS-1588*	CA-MOD-39/H*
CA-SIS-1322*	CA-SIS-1589*	CA-MOD-40*
CA-SIS-1323*	CA-SIS-1590*	CA-MOD-41
CA-SIS-1324*	CA-SIS-1591*	CA-MOD-42
CA-SIS-1325/H*	CA-SIS-1592/H*	CA-MOD-43
CA-SIS-1327*	CA-SIS-1593*	CA-MOD-44*
CA-SIS-1331*	CA-SIS-1594*	CA-MOD-45
CA-SIS-1332*	CA-SIS-1595/H*	CA-MOD-46
CA-SIS-1425*	CA-SIS-1596*	CA-MOD-48
CA-SIS-1426/H*	CA-SIS-1597*	CA-MOD-49
CA-SIS-1477*	CA-SIS-1598*	CA-MOD-50
CA-SIS-1478*	CA-SIS-1600H*	CA-MOD-52
CA-SIS-1479*	CA-SIS-1601*	CA-MOD-53
CA-SIS-1554/H*	CA-SIS-1602*	CA-MOD-54
CA-SIS-1555*	CA-SIS-1603*	CA-MOD-186
CA-SIS-1556*	CA-SIS-1604*	CA-MOD-187
CA-SIS-1557*	CA-SIS-1605*	CA-MOD-188
CA-SIS-1558*	CA-SIS-1606*	CA-MOD-189H
CA-SIS-1559*		CA-MOD-190
CA-SIS-1560*		
CA-SIS-1561*		
CA-SIS-1562*		
CA-SIS-1563*		
CA-SIS-1564/H*		
CA-SIS-1565*		
CA-SIS-1566*		
CA-SIS-1567*		
CA-SIS-1568*		
CA-SIS-1569*		
CA-SIS-1570*		

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Table 2, continued

Non-Contributing Sites (total = 16)

CA-SIS-32*	CA-SIS-126*	CA-SIS-1330*
CA-SIS-45*	CA-SIS-128*	CA-SIS-1333H*
CA-SIS-90*	CA-SIS-271*	CA-SIS-1334*
CA-SIS-102*	CA-SIS-1328*	CA-SIS-1424H*
CA-SIS-103*	CA-SIS-1329H*	CA-SIS-1599H*
CA-SIS-105*		

Key: * site resurveyed or recorded 1987-90 (see Maps 1-4;
additional sites shown on Map 9)
+ listed National Register property

Non-Contributing Structures (total = 25)

#1	Administrative Building (Headquarters)
#2	Library/Audiovisual Room (Headquarters)
#20	Visitor Center (Headquarters)
#21-23	Comfort Stations (Headquarters)
#40	Stone House (Headquarters)
#41-44	Mission 66 Houses (Headquarters)
#45-46	Apartment Buildings (Headquarters)
#47-48	Prefab Cabins (Headquarters)
#70	Fire Cache Building (Headquarters)
#71	Maintenance Shop (Headquarters)
#72	Gas Building (Headquarters)
#74	Pump House (Headquarters)
#75	Lookout (Schonchin Butte)
#91-95	Pit Toilets (Headquarters, Skull Ice Cave, Merrill Ice Cave, Fleener Chimneys, Captain Jack's Stronghold)

Key: #1 = National Park Service building number (see Maps 1-4)

Non-Contributing Object (total = 1)

Canby's Cross Monument

8. Statement of Significance

Certifying official has considered the significance of this property in relation to other properties:

nationally statewide locally

Applicable National Register Criteria A B C D

Criteria Considerations (Exceptions) A B C D E F G

Areas of Significance (enter categories from instructions)

- ARCHEOLOGY/prehistoric
- MILITARY
- ETHNIC HERITAGE/Native American
- ARCHEOLOGY/aboriginal
- COMMERCE
- ARCHITECTURE
- ART
- RELIGION

Period of Significance

Approx. 5000 BC-AD 1873

Significant Dates

1872-1873

Cultural Affiliation

Modoc

Significant Person

Captain Jack

Architect/Builder

N/A

State significance of property, and justify criteria, criteria considerations, and areas and periods of significance noted above.

Summary

The Modoc Lava Beds Archeological District is significant for its well preserved, diverse archeological record reflecting Native American use from approximately 5000 B.C. to A.D. 1873. First, under Criterion A, the District is associated with the Modoc War of 1872-73, a nationally significant event in the history of Indian-White relationships. District sites dating to the period 1872-73 include two principal U.S. Army field camps, defensive and battle sites, and the stronghold site occupied by the Modoc while under siege during the war. These Modoc War period sites and constructed fortification features are significant in the areas of military history and architecture. Second, also under Criterion A, the District holds traditional cultural significance for contemporary Modoc as demonstrated by on-going traditional ceremonial use of certain District sites. Among the Modoc, the District represents one of the important tangible links with their Native American ethnic heritage during both the prehistoric and historic periods. Third, under Criterion B, the District holds strong associations with Captain Jack, the principal Modoc leader during the 1872-73 war, who is a nationally significant figure in the areas of American military history and Modoc ethnic heritage. Finally, under Criterion D, the District archeological sites have the potential to yield information important to the research domains of prehistoric chronology, prehistoric settlement/subsistence patterns, Native American exchange relationships, Native American and U.S. military architecture, prehistoric art and religion.

Significance Under Criterion A

Modoc War

As described in Item 7 above, major battles and events of the Modoc War of 1872 - 1873 occurred within the Modoc Lava Beds Archeological District. Twelve recorded historic sites of the District, including three listed National Register

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Statement of Significance, continued:

properties, are affiliated with Modoc War events; additional associated sites are likely to be identified within the District. The majority of the recorded sites have stacked lava rock fortifications constructed by the Army and Captain Jack's Stronghold contains ones constructed by the Modoc. At Gillem's Camp, rock walls built during the war to serve as a corral and to demark the military cemetery are extant. These Modoc War affiliated sites and architectural features exhibit a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

The Modoc War of 1872-73 was an event of national historic significance. It attracted country-wide attention through on-the-spot news coverage, making it the one of the media events of the decade in the United States. Initially, the general public sympathized with the tenacity of Captain Jack and his band, but especially after General Canby was assassinated during a truce, the event attracted national attention and public opinion called for revenge on the Modoc. The Modoc War was the only major organized battle between a California Indian group and the U.S. military. General E.R.S. Canby was the only regular Army general officer killed in the Indian Wars. Considering the shortness of the war and the number of Indians involved, the Modoc War was the Army's most expensive Indian War (Murray 1959:3).

Like other major Indian Wars, the Modoc War was fought during the period of U.S.-Indian policy termed "Removal and Relocation, 1828-1887" by Rock (in Freiser 1988). During this period, the removal of Indians from tribal lands through military action was expensive and politically unsettling. Relocation of Indian groups to Indian Territory also worked poorly, since it coincided with the westward expansion of Anglo-Americans, who felt privileged to settle reservation lands as well. By the 1880s wars of extermination like the Modoc War were viewed as inhuman and unacceptable policy, leading the Government to adopt a new policy whereby Indians would be assimilated into the larger American society.

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Modoc Indians

The Archeological District holds traditional cultural significance for contemporary Modoc, who are now primarily affiliated with the Klamath Tribe of Oregon and the Modoc Tribe of Oklahoma. Because of its integrity of location, setting, feeling and association, Modoc War history and public accessibility, the District presently serves the Modoc as the most tangible link with their ethnic heritage. With the significant population decline and cultural disruption after historic contact, followed by their dispersal after the war of 1872-73, the Modoc had lost much knowledge about their heritage. Today there is a revitalized interest among the Modoc about their traditional culture, and the Modoc Lava Beds District serves as one of the foci of this interest.

Certain archeological sites within the District are identified by contemporary Modoc consultants as having traditional cultural significance. Presently, a Modoc religious leader affiliated with the Klamath Tribe regularly prepares himself for traditional ceremonies by visiting Captain Jack's Stronghold (Patty Hunt 1989:PC). In August 1990, a "return to the Stronghold" ceremony is planned by local Modoc descendants. During the Modoc War of 1872-73, the Modoc religious leader Curley Headed Doctor performed a number of ceremonies at the Stronghold in preparation for battle (Murray 1959:117-118). In 1988 when a reburial location for Native American skeletal remains held in the Lava Beds National Monument collections was being decided upon, Modoc representatives from Oklahoma and Oregon preferred that the reinterment occur near Captain Jack's Stronghold. In addition, the National Park Service has been approached informally by the Klamath Tribe about future reburial within the Monument of Native American remains from Modoc territory sites (Gordon Bettles 1989:PC).

The pictograph at Juniper Cave is recognized as a solstice marker by contemporary Modoc (Gordon Bettles 1989:PC; Faithful 1988). The Juniper Cave cairn consists of rocks placed by ancient visitors as prayer offerings, a Modoc religious practice that is documented ethnographically (Ray 1963) and continues today among traditional Modoc at certain localities, including unrecorded cairns located within the District (Gordon Bettles 1989:PC; Patty Hunt 1989:PC).

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Because the potential is high for additional District resources of contemporary cultural significance to Modoc ethnic heritage, Native American consultations are needed to identify these cultural resources. To date, the National Park Service staff have initiated consultations on a project specific basis (e.g., 1988 reburial of skeletal remains in Monument collections), learning informally about the places of contemporary cultural significance described above.

Significance Under Criterion B

Captain Jack

Captain Jack, whose Indian name was Kientepoos, led a band of dissident Modoc against the federal government, its agents, their treaties and the reservation system, in a series of events which culminated in the Modoc War of 1872-73. The historical accounts of Riddle (1914), Murray (1959) and Thompson (1967), among others, detail the association of Captain Jack with the Modoc Lava Beds Archeological District: as the principal leader of the Modoc in defense of the Stronghold, his role in the peace negotiations and assassination of Canby, and flight with his band from the Stronghold to several ice caves in the District. Captain Jack is a nationally significant figure in the area of military history. Captain Jack is also significant in the area of ethnic heritage for contemporary Modoc and other Indian people, being a prominent and nationally known figure in Native American history.

The District holds high integrity of location, feeling and association with the 1872-73 period of Captain Jack's life, which he is best known for. Today, Captain Jack would likely recognize the Stronghold, fields of battle and ice caves in the District, otherwise noting the dramatic change in landscape with the reclamation of [REDACTED] of the District, minor changes in vegetation and minimal developments such as roads, trails, and interpretive signs within the District.

Future consideration should be made of other potentially significant persons associated with Modoc War cultural resources within the District. These include other prominent Modoc persons, such as Schonchin John, second in command to Captain Jack; Curley Headed Doctor, the religious leader of Captain Jack's band; Scarfaced Charley, who led the Modoc ambush against

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the Thomas-Wright patrol; and Toby Riddle (Winema), a Modoc woman who served as the foremost interpreter and go-between for the Army. These also include non-Indians, such as General E.R.S. Canby, Colonel Alvan C. Gillem, Alfred B. Meacham, Captain Thomas F. Wright, and Captain Evan Thomas.

Significance Under Criterion D

The cultural resources of the Modoc Lava Beds Archeological District have the potential to address a number of research domains, including regional chronology, prehistoric settlement/subsistence patterns, Native American exchange relationships, Native American and military architecture, and prehistoric art/religion. In addition, these research domains are relevant to Native American ethnic heritage, specifically, Modoc culture history through the Modoc War of 1872-73. As described in Item 7 above, District archeological sites exhibit a high degree of integrity of location, design, setting, materials, workmanship, feeling, and association.

Chronology

Because the District contains a broad range of site types spanning a period of approximately 7000 years or more, the dating of District archeological sites will contribute further to the refinement of the prehistoric chronology for the [REDACTED] basin area of northeast California. The initially proposed, rather general regional sequence by Cressman (1940, 1942) was refined by Squier (1956) and by Swartz (1964) following their archeological studies in the Modoc Lava Beds area. A single radiocarbon date of A.D. 803 \pm 160 was obtained during the only major excavation within the District, for a housepit affiliated with one of four components identified at CA-SIS-101 by Swartz (1964). This C-14 date suggested that the culture of the late prehistoric and protohistoric Modoc was centuries older than previously hypothesized by Squier (1956) for his "Tule Lake Phase." As Sampson (1985:35) observed, the correlation and refinement of the sequences of Cressman, Squier, and Swartz are inadequate without additional absolute dates with which to verify them.

Datable archeological materials are known for District sites. Organic remains, including wood fragments, were readily identified in archeological contexts during limited excavations

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at both open air (CA-SIS-101) and cave (CA-MOD-17) multiple use sites within the District (Swartz 1964; Crouch 1935). These data highlight the potential for future recovery of organic and wood remains which can be dated absolutely through radiocarbon analysis and dendrochronology. Relative dating techniques can also be applied at District sites. Source-controlled hydration analysis of obsidian artifacts may be used to identify single component activity areas at multiple component District sites and to test for both vertical and horizontal stratigraphic integrity (cf. Hildebrandt and Hayes 1983). Same source obsidian hydration values from District sites can be compared with similar data for the Nightfire Island site (Sampson 1985), among other sites in a climatologically similar setting, to cross-date District archeological deposits. These same hydration values may be converted to a calendric date using a formula recently proposed by Basgall and Hildebrandt (1989). In addition, time-sensitive artifacts such as projectile points can be compared with others from the region to cross-date District sites.

Figuring into the regional chronology is the question of when the ancestral Modoc first occupied the [REDACTED]. The Modoc and their neighbors, the Klamath, spoke two closely related dialects which together are classified as an isolate Penutian language (Moratto 1984:534). Based on linguistic-archeology research, it is hypothesized that the ancestral Modoc-Klamath initially settled in their ethnographic territories by approximately 2000 B.C. (Moratto 1984:556-557). Coupled with dating studies of District sites, evidence suggestive of long-term cultural continuity or change may contribute to a better understanding of the time depth of the Modoc in the Lava Beds area as well as the region.

Settlement/Subsistence Patterns

Studies of District sites and the surrounding catchment area are likely to enhance our understanding of regional prehistoric settlement and subsistence practices over a period of approximately 7000 years. The catchment area delineated by the District presently contains four vegetation zones and a variety of geological features. Holocene climatic changes and historic land-use practices have affected this catchment area. In

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particular, lake levels have fluctuated, which in turn probably affected the productivity of the fishery, lakemarsh vegetation, and the human settlement/subsistence pattern in prehistory (cf. the Nightfire Island site, Sampson 1985).

Figuring into the study of settlement/subsistence patterns are the three archeologically sensitive areas presently identified within the District. Archeological site survey data suggest that the lakeshore zone was the most intensively utilized, being the focus of permanent village settlement as described ethnographically for the Modoc. The second highest site concentration is associated with the District's ice caves, which provided the only source of water away from the lake; these sites are characterized as regularly used seasonal camps. In contrast to the multiple use sites of the lakeshore and ice cave zones, task-specific sites are identified in the intermediate zone. Additional site survey and study of recorded prehistoric sites within the District, coupled with temporal control, can address and elaborate on the settlement pattern implied by existing survey data; these new data can then be compared with settlement pattern data for other surveyed catchment areas of the region to elucidate differences or similarities between the District and other settings over time.

The District can also contribute new insights into prehistoric subsistence practices. The study of the nature and timing of human adaptation to lakemarsh settings is a major research domain for regional archeology. The "learner" and "know-it-all" models applied by Sampson (1985) at Nightfire Island could be addressed through study of dietary remains and the distribution of functionally distinctive tool types identified at sites in the lakeshore zone and elsewhere in the District. For example, bedrock mortars, which are indicative of plant and animal food processing, are common to lakeshore zone sites but are uncommon elsewhere in the District. It may be that mortars are concentrated near the lakeshore and not elsewhere because of the proximity to wocus, waterfowl, fish, and other lakemarsh resources that were processed by grinding. Pollen which may be preserved in the bedrock mortars can be analyzed to determine what plant resources were processed in them. Are the bedrock mortar sites in the lakeshore zone younger in age than sites without mortars located elsewhere in the District? If so, a case for the "Learner" model might be made.

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Reconstruction of past environments, along with the elucidation of their effects on human ecology, is another major research area for the region (Raven 1984:460-464). Paleoclimatic changes and their affects on floral and faunal resources of the catchment area can also be investigated for the District. The recovery and analysis of pollen and other botanical remains likely preserved in District sites, woodrat midden nests, and the nearby lakebed can refine the Holocene climatic model for the region. Pollen analysis data can also be correlated with results of dating and stratigraphic studies for District sites along the lakeshore, to investigate the effects of fluctuating lake levels on archeological site formation processes (cf. Sampson 1985) and on the lakeshore zone settlement/subsistence pattern over time. Examples of major District sites that were likely affected by fluctuating lake levels include CA-SIS-95/96/97/98/99/100, -113/114/115/116, -143/144/H, and -1565. In addition, the analysis of faunal remains and botanical microconstituents recovered through flotation from archeological sites can elaborate on the subsistence base of the prehistoric inhabitants, as well as changes in the catchment area which may have affected subsistence practices over time.

Exchange Systems

The Archeological District holds great potential for the examination of both prehistoric and historic exchange relationships between the Native Americans of the Lava Beds and others. The Modoc Lava Beds vicinity can be considered a major geographic crossroads area for the far western United States. As one archeologist observed:

Physiographically the Klamath basin serves as a corridor for the transmission of numerous ideas and objects of trade. To the south it serves as a funnel to the Sacramento Valley of northern California; to the west the Klamath River serves as a route to the coast; to the north there are few physical barriers as is borne out by the development of a slave-trade through this area in ethnographic times; and to the east is a series of foothills which allowed a spillover of lowland Great Basin groups. (Swartz 1978:22)

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Of particular interest is the role of the District occupants in the exchange of obsidian from the Medicine Lake Highland (MLH) volcanic field. The proximity of the Lava Beds District to these obsidian sources, which represent a highly valued resource material and prehistoric exchange item throughout northern California, suggests that the District inhabitants controlled to a significant degree its distribution northward. Further, the principle of least effort implies that because of its proximity, MLH obsidian was the material preferred for manufacture of flaked lithic tools by the Lava Beds occupants throughout the prehistoric record. However, the least effort principle is inadequate to account for the temporal shifts in preference for obsidian from a number of sources in the region among the Nightfire Island inhabitants (Hughes 1985).

Chemical sourcing of obsidian artifacts from District sites, coupled with hydration data for temporal control, can readily provide the data needed to address the role of the District in the regional obsidian exchange system, both diachronically and synchronically. Analysis of obsidian detritus in terms of a lithic reduction sequence can determine if obsidian was traded in a regularized form such as bifacial preforms, blanks and/or finished tools such as projectile points. Future identification and study of caches of obsidian biface preforms such as CA-SIS-1295, can also contribute to a better understanding of the obsidian exchange system.

Other exotic cultural materials useful for investigating exchange relationships are likely to be identified during future investigations of District sites. Two types of marine shell beads, typical of the late prehistoric period California culture, were recovered from two District sites by Swartz (1963). By about 300 A.D., the nearby Nightfire Island occupants were involved in a wider exchange network than before, as implied by the numerous marine shell beads and steatite objects found at the site; Sampson (1985:412) suggests that these materials were traded between the coast and the Modoc territory via the Klamath River. After A.D. 900, ceremonial blades of Warner Mountain obsidian (sourced to the east of the District) and more utilitarian items of MLH obsidian were important trade items from northeast California sought by the Wiyot on Humboldt Bay (Hughes 1978).

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In addition, glass trade beads were recovered from two cremation sites in the District (Swartz 1963). The discovery of additional items of non-Indian manufacture at District sites occupied historically by Native Americans will aid in the investigation of the affects of initial white contacts and acculturation on Modoc culture.

Architecture

The District contains a number of well-preserved features which lend themselves to the study of both traditional Modoc Indian and U.S. military architecture. In 1989-90, housepit features were identified at fourteen sites (Eidsness 1990): CA-SIS-95/96/97/98/99/100, -101/H, -112, -113/114/115/116, -123/124, -133, -313, -1478, -1559, -1561, -1569, -1584, -1591, and -1596. The potential is high for preservation of additional housepits in the lakeshore zone, where these features are clustered. Many more housepits are likely to be preserved than are visible on the surface, as the windblown sediments from the reclaimed lakebed most likely settled in these small artificial basins, obscuring their surfacial identification while enhancing the preservation of housepit features.

Of the 42 housepits recorded at CA-SIS-101 by Swartz (1961, 1963, 1964), only eight were excavated and all of the remainder were not effected by subsequent road construction. A beam used in the construction or repair of one excavated housepit was radiocarbon dated at A.D. 803 \pm 60. Swartz (1964:48) observed that while housepit floor sizes exposed through excavation were generally smaller than their depressions measured from the surface, housepit sizes could not always be predicted from surface observations. Based on data for these excavated housepits, Swartz (1964:45-48) identified three types which he clustered on the basis of size, as well as differences in floor shapes, presence or absence and pronouncement of benches, and presence or absence and type of firepit; all lacked postholes but did have central rock cairns which anchored roof supports, no side entrances were identified, and slab mortars were standard house furnishings. Although certain pertinent design features described for ethnographic Modoc structures were absent, Swartz (1964:91-92) uncritically divided the seven excavated housepits into two types: planked earth lodges, including shaman assembly houses and winter domiciles, and branch-framed dome-shaped earth lodges.

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The housepit architecture for CA-SIS-101 above contrasts in design as well as age with that described for the Nightfire Island site (Sampson 1985:427-441). Identified during excavation at Nightfire Island was a small group of closely spaced dwellings marked by gray and/or white clay floors and postholes, among other features, dating between approximately 2700 B.C. and 367 B.C. Excavation data led to the reconstruction of two of these structures, one a shallow circular pit with an interior layout analogous to the Modoc winter mat-hut and the other a trapezoidal plan somewhat analogous to the Modoc earth-covered sudatory. About Nightfire Island, Sampson (1985:441) remarked, "the recovery of more and better records of pit house structures and their associations is one of the most compelling arguments for further excavation of the site." The same can be said about CA-SIS-101 and other District sites containing Native American architectural features.

To date, no formal study of Modoc War period fortifications has been conducted, beyond the simple recordation of features at selected sites (e.g., Swartz 1964:48-54). Presently, fortification features are formally recorded at only sixteen District sites. According to National Park Service historian Erwin Thompson (n.d., page 7), approximately 130 fortifications have been informally identified in and around Captain Jack's Stronghold, and "undoubtedly many more exist, both to the east and west of the center of the Modoc defense." Based on limited survey data, Swartz (1964) recognized two plans of construction used by the U.S. military during the Modoc War: circular ramparts and lineal, wall-like constructions. In addition, recent survey data indicate that some circular ramparts were built in isolation, whereas others were grouped together.

A systematic survey and formal recordation of District fortifications would contribute to a better understanding of their architectural variability and would supplement the written record in the reconstruction of military strategies and battles of the Modoc War. It is presently unknown whether these architectural types of defensive feature are unique to American military history.

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Art and Religion

The scientific interest in the rock art and archeology of the region dates to the nineteenth century, with well over 100 publications addressing the subject (Lee, et al. 1988:74-85, 108-112). In his survey of 120 rock art sites in the Klamath Basin, Swartz (1978:20) notes that rock art sites seem to be concentrated in the Tule Lake vicinity.

Presently recorded within the District are pictographs associated with eight lava tube cave sites, including the Fern Cave site (CA-MOD-17) (Photo 14); a petroglyph design feature at an open air village site; and cupule features at two rockshelter and five open air sites (Photos 12, 13). The rockshelter cupule sites are apparently a unique setting for the region (Jerry Gates 1989:PC). The pictograph (Photo 15) at Juniper Cave is also rare, in that it functioned as a summer solstice marker (Walker 1985; Faithful 1988). Additional rock art and other ceremonial features are likely to be identified within the Archeological District.

The rock art of the District has the potential to address a number of regionally significant research areas: (1) the implications of site settings and associated archeological remains on rock art dating, on religious function and on interpretation (see Item 7 discussions); (2) interregional and intraregional similarities and differences in style motifs, in methods of manufacture and in sources of pigment; and (3) long-term in situ tribal solidarity versus recent migration of the Modoc.

Although the literature regularly states that Modoc area rock art motifs were influenced by or an extension of the Great Basin Curvilinear Style, Lee, et al. (1988:132-133), argue strongly against this interpretation. They also discount the connection cited by Steward (1929) between the Fern Cave pictographs and the Santa Barbara-Tulare Painted Style (Lee, et al. 1988:134-135). In their recent study of the rock art of the Fern Cave site and nearby Petroglyph Point, Lee, et al. argue, that Modoc territory motifs are unique, hypothesizing:

The difference in stylistic and symbolic content between the rock art of the Modoc and that of other, adjoining, areas may reflect different socio-cultural

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or ritual behavior, the general aesthetics of the society, and the people's world view. Exactly why and how these variations came about are unclear and most likely unanswerable at this distance in time. We can suggest that tribal solidarity noted for the ethnographic Modoc may have much deeper roots in time and there was probably little ritual interaction with adjoining Indian groups. (Lee, et al. 1988:133)

Alternatively, they suggest that a comparison of Central California rock art styles with that of the Modoc territory could be used to test the hypothesis of Aikens (1985) that the Modoc descended from Penutian speakers who moved into the area about 2000 years ago (Lee, et al. 1988:133).

According to Lee, et al. (1988:138), geometric designs such as lines, circles and cupules, and zigzags, are elements which predominate among the rock art, as well as the portable and ornamental art, of the Modoc area. Also noted are a few insect-like motifs and some human figures; conspicuously absent are images of ungulates, which are typical of Great Basin rock art.

Cupules are likely associated with the acquisition or manipulation of power, such that the act of making them imbues the supplicant with power and the cupules themselves mark a place of ritual (Lee, et al. 1988; Buckskin and Benson 1988). For the Pit River Indians who lived south of Modoc territory, cupules also represent the footprints of the "first people" or celestial beings (Buckskin and Benson 1988). Ethnographic evidence from elsewhere suggests that cupules served a variety of purposes, including a cure for sterility or control of the weather (Lee 1981). The painted white dots at the Fern Cave site are reminiscent of lines of cupules at nearby Petroglyph Point (Lee, et al. 1988:139).

The circular disks, sun motifs, and zigzag designs may be representational of the belief that powerful shamans could pass through rocks marked with circles and zigzags, such that the circular elements are "tunnels" into another world and the zigzags refer to the Milky Way, often considered to be the path of dead souls (Lee, et al. 1988:139). The white ghost-like figures with long trails of white dots placed high on the curved ceiling of Fern Cave (Photo 14) suggest the magic flight of the shaman (Lee, et al. 1988:141-142).

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- preliminary determination of individual listing (36 CFR 67) has been requested
- previously listed in the National Register
- previously determined eligible by the National Register
- designated a National Historic Landmark
- recorded by Historic American Buildings Survey # _____
- recorded by Historic American Engineering Record # _____

See continuation sheet

Primary location of additional data:

- State historic preservation office
- Other State agency
- Federal agency
- Local government
- University California State Univ., Chico
- Other

Specify repository: *Northeast Information Office of California Archeological Inventory (see continuation sheet)

10. Geographical Data

Acreage of property _____

UTM References

A
 Zone Easting Northing

C

B
 Zone Easting Northing

D

See continuation sheet

Verbal Boundary Description

The Modoc Lava Beds Archeological District Boundary is shown on the accompanying USGS 7.5-minute topographic quadrangles (Maps 1-4) and USGC 7.5-minute ortho-photoquads (Maps 5-8). The northern boundary of the District _____

See continuation sheet

Boundary Justification

The approximate _____ District encompasses a diverse site catchment area of high cultural and natural integrity, both of which are unique to the _____. The District settings include the bunchgrass-sagebrush, juniper-brushland, and pine forest communities. The District also contains _____

See continuation sheet

11. Form Prepared By

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Federal agency, repositories:

National Park Service, Western Archeological and Conservation Center, Tucson (NPS Cultural Sites Inventory Database)

National Park Service, History Division, Washington, D.C., and Western Regional Office, San Francisco (NPS List of Classified Structures Database)