

ARCHAEOLOGICAL INVESTIGATIONS IN COLUSA COUNTY, CALIFORNIA  
FUNKS RESERVOIR

Jim West, Valerie Levulett, and D. L. True

Report prepared for United States  
Bureau of Reclamation  
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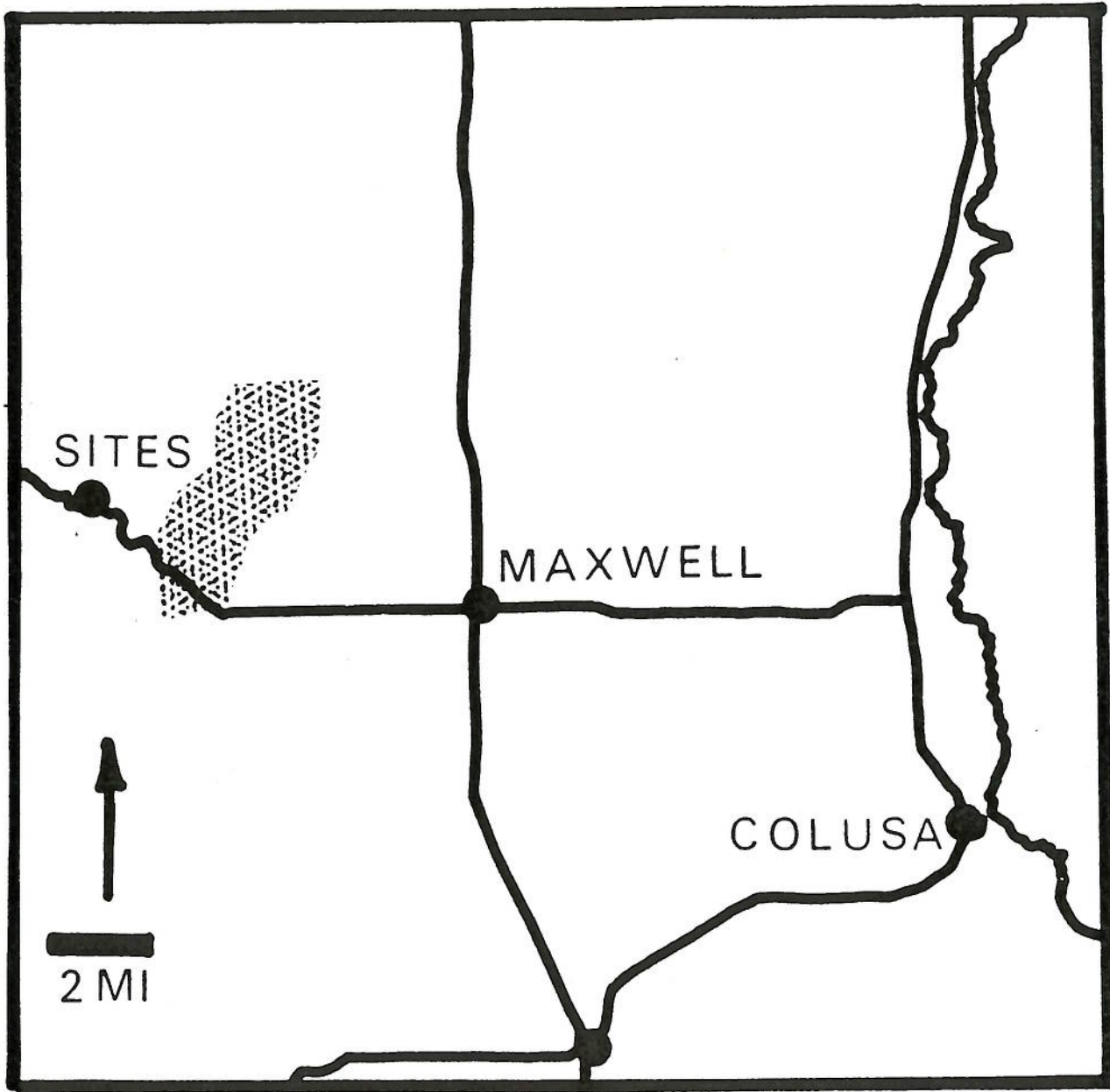
# ARCHAEOLOGICAL INVESTIGATIONS IN COLUSA COUNTY, CALIFORNIA:

## FUNKS RESERVOIR

### INTRODUCTION

As part of an archaeological reconnaissance accomplished in conjunction with planning and engineering development of the west side canal system, two archaeological sites were located within the boundary of the proposed Funks Creek Reservoir, Colusa County, California (Chartkoff 1969:13-17). These sites were given the designations 4-Col-28 and 4-Col-37. The first of the sites is described by Chartkoff:

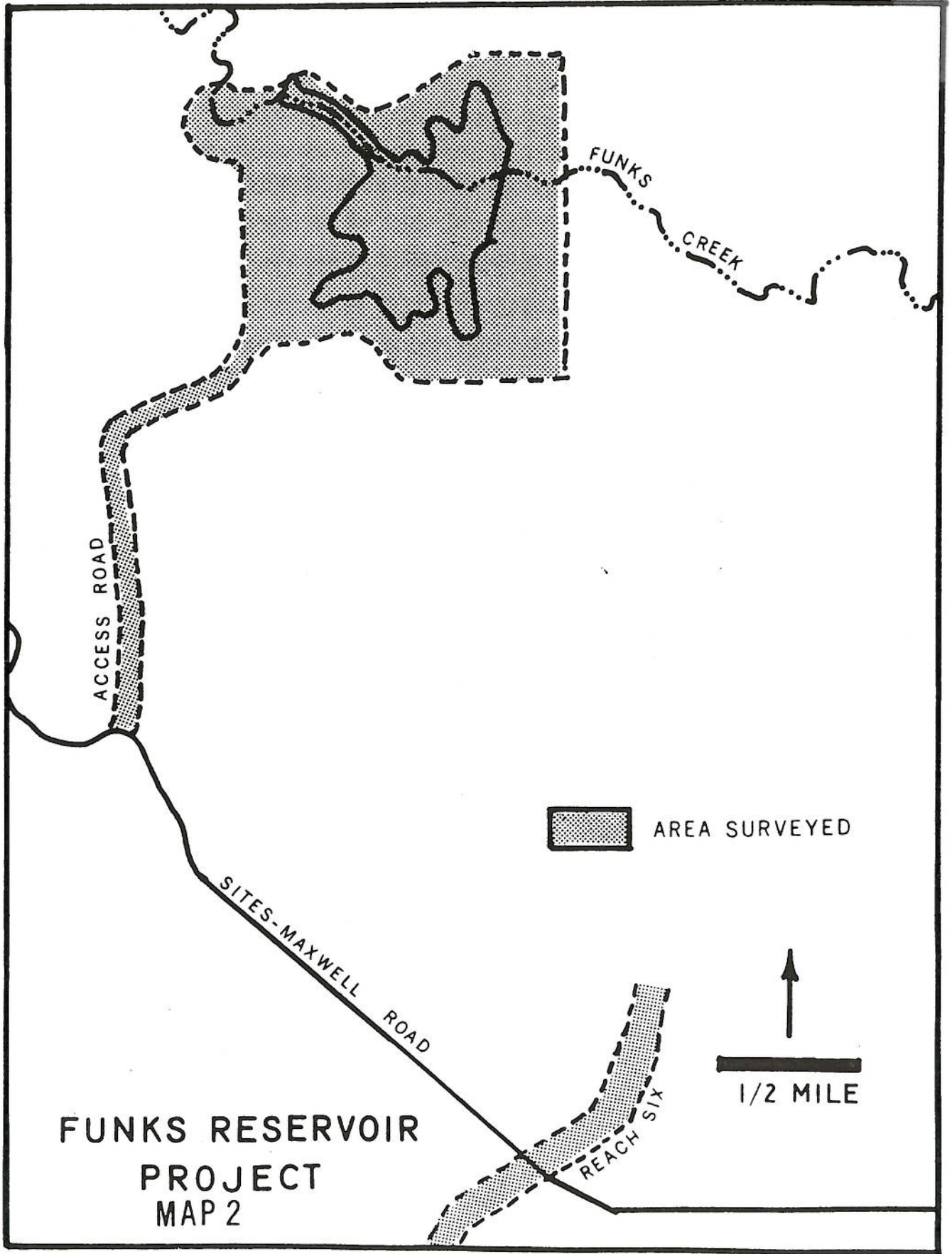
"Col-28 is one of the two archaeological sites located on the proposed Funks Reservoir. It is composed of small light-colored midden deposit situated on a low knoll in the proposed reservoir basin. The knoll is bounded on the north and east by two intersecting seasonal stream channels. The midden covers an area of 7500 square feet and seems to have very little depth. On the surface we found several chert cores and one mano. The surface incidence of both of these kinds of artifacts has been rare in this area suggesting that the site may represent activities not represented elsewhere. A steep trail goes up to the top of the knoll but does not appear to have damaged the site appreciably. The lack of obsidian flakes here and the presence of a mano may indicate that the site is markedly earlier in time of occupation than are most of the sites in the study area." (Chartkoff 1969:13-14).



STUDY AREA

# FUNKS RESERVOIR

## LOCATION MAP I



FUNKS RESERVOIR  
PROJECT  
MAP 2

AREA SURVEYED

↑  
1/2 MILE

Plate 1

Funks Reservoir. Looking southeast from site 2 toward the knoll on which site 1 is located

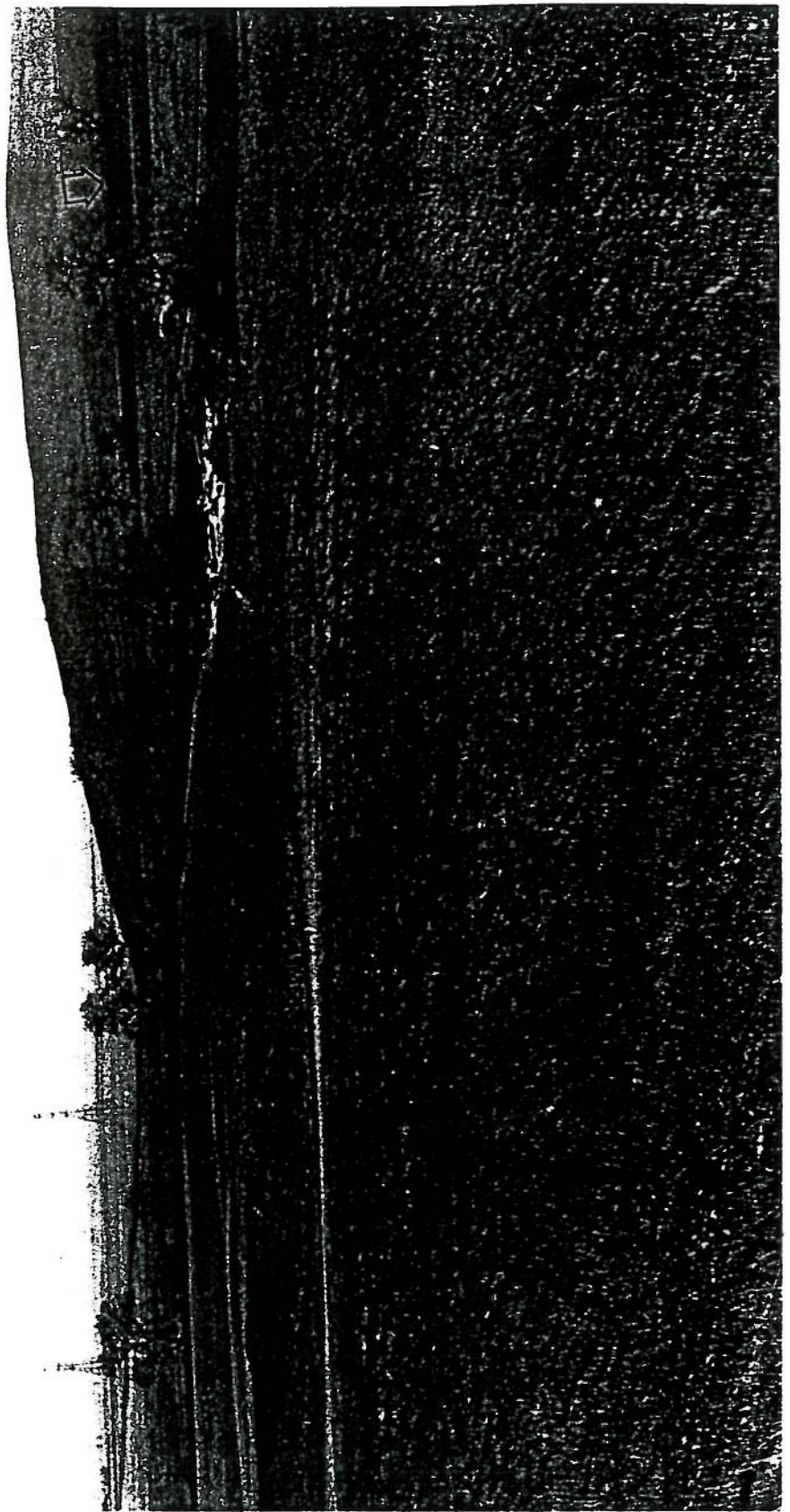


PLATE 1

The second site is described as follows:

"Col-37 is twice as large as Col-28 and considerably more complex. It is a large habitation site located on the north bank of Funks Creek at the base of a small knoll. A light brown midden deposit covers over 15,000 square feet. It is scarcely distinguishable from the surrounding soil, but numerous surface artifacts help distinguish its extent. On the surface of this site we found four manos, four core tools, and a number of flakes and utilized flakes. No house pit depressions were noted, but four bedrock mortars were found in the bed of Funks Creek, which had water standing in it during midsummer. The midden of this site and the kinds of surface artifacts found are similar to those at Col-28, but it would appear that this site is much more of a major seasonal habitation site than is Col-28. Perhaps the greater water supply helps account for the greater size." (Chartkoff, 1969:14).

Recommendations for further investigation of the Funks Reservoir sites were included within a larger proposal designed to deal with the resources of three projects in the area as a package (Site's Reservoir, Funk's Reservoir, and Swift's Corral Reservoir). Therefore, no specific recommendation or discussion of treatment of the Funks Reservoir sites was included.

In September 1973 the project engineer Bureau of Reclamation, Willows Office, requested that Robert Orlins re-examine these sites and make a recommendation relative to their disposal (Personal Communication, 1974). This was accomplished and a recommendation was submitted proposing



further investigations be made at the two locations. In November 1974, in response to an inquiry about the two Funks Reservoir sites from S. Ball (National Park Service, Tucson), Orlins wrote as follows:

"I have reviewed my notes of 3 Sept. 1973 this weekend in response to your inquiry regarding the Funk's Creek sites 4-Col-28 and 4-Col-37. At 4-Col-28, I observed four mano's, chert cores and flakes, and two cobble choppers on the surface. A dirt road, extensive disturbance by cattle, and dense thistle growth made it difficult to define with any accuracy, what may be two small midden areas (emphasis added). A single circular depression was suggestive of a housepit.

At 4-Col-37 I noted four manos, a pestle, and cobble tools. The midden area appeared to be quite extensive.

The contiguity of the two sites, the types of artifacts observed and the potentially excavatable deposit leads me to recommend that both sites be nominated to the Federal Register."

In 1974 the Department of Anthropology, University of California, Davis, was contacted by the Bureau of Reclamation (Sacramento Office) and a request was made for further evaluation and cost estimates for mitigation of the two known sites. This evaluation study was performed during the Winter of 1974-75 along with a more intensive survey of the Reservoir basin and areas related to the proposed construction (access roads etc.). As a result of this work, two additional sites were located within the project area. Examination of these two new locations along with the two original sites resulted in somewhat different conclusions than those derived from the two preliminary surveys. On the basis

of the data in hand at the time it was agreed that there was no recogni-  
zable soil alteration (midden deposit) at either site, that the artifacts  
were almost certainly surface manifestations without significant depth,  
and that the utilization of this area must have been limited to occasional  
occupancies typical of those associated with seasonal activities of short  
duration. The report below presents the results of these evaluations and  
subsequent more detailed investigation of three sites within the proposed  
Funks Reservoir basin, and outlines and procedures used in the recovery  
of these data.

Plate 2

Funks Reservoir. Bedrock dike exposure in Funks Creek. Facing toward the southeast and site 1 which is marked by an arrow.



PLATE 2

## SETTING

The Funks Creek reservoir and damsite, located along the western edge of the Sacramento Valley, is a small relatively flat bottomed basin-like feature bounded by low rolling hills (Plate 1). It is in northern Colusa County (USGS Sites quadrangle, 7 1/2 Minute, R4W, T17N, Section 15). Physiographically, the area represents a transition zone of undulating relief (200 to 600 feet) above sea level) that separates the gently sloping plain of the Sacramento Valley (elevations of 50 to 100 feet above sea level), from the foothills of the coast range with elevations here of 600 to 1500 feet above sea level. This transition area, in its entirety, is a narrow zone several miles wide by some 80 miles long. Funks Creek is

one of several eastward flowing streams draining this zone and portions of the coast range proper to the west. It empties into the Sacramento River.

The area today is used primarily for agriculture. Dry farming of grain and pasture for sheep and cattle seem to be the most important agriculture activities. In prehistoric times the area was visited at least on a seasonal basis by aboriginal occupants of the area at large.

## Climate

Climate of the Funks Creek area is a Mediterranean type with cool winters and hot dry summers. Precipitation, almost exclusively in the form of rain, averages between 18 and 20 inches per year. The major portion of it falls between November and March and virtually none is received in July and August. Winter temperatures average in the 40's (°F) while summer averages are in the 70's, however, frosts are common in the winter and high temperatures between 90° - 100° occur often during the summer. Willows is the closest weather station with any long term reliable data (see Fig. 1). It is located to the northeast on the valley floor, but

the climate recorded there is probably quite similar to that of the damsite locality.

### Geology

The area is marked by a series of rolling parallel ridges trending northwest. This structural configuration (the western edge of the valley syncline) is made up of upper Cretaceous age marine sedimentary rocks dipping  $40^{\circ}$  -  $45^{\circ}$  to the east (Kirby, 1943; Goudkoff, 1945). The beds are composed of sandstones and shales but sandstone outcrops are common while outcrops of shale are rare. Overlying deposits are composed of unconsolidated alluvium of Quaternary and Recent ages. These appear as three types of deposits: stream channel, flood plain and terrace. Stream channel deposits are recent and consist of varying thicknesses of clays, silts, sands, and gravels. Rounded cobbles are locally abundant. Late Quaternary alluvium attains a maximum thickness in the flood plain. Exposures show clays overlying silty to clayey sand with lenses of sand and gravel. Terrace deposits occur along the south and western margins of the flood plain. The terraces here are bench-like deposits of older Quaternary valley fill which have not been buried by younger alluvium and are dissected and eroded into an undulating relief. Auger holes show them to consist of dark brown clays overlying "clayey" gravel. Rounded cobbles are found scattered on the surface of many terrace areas. Several earthflow slides within the study area range up to 300 feet across and extend as much as 200 feet down slope. The slides appear to be slowly moving mostly during the wet season (Burk, 1974).

The hillslopes have soils, formed in place, which derived from the underlying softly consolidated Cretaceous sandstones. In previous times and pristine conditions they were a light colored fine textured soil

of good depth, but today are very shallow and highly eroded. Numerous sheep trails traversing the slopes attest to the heavy grazing which appears to be the major factor leading to the accelerated erosion. Soils developed on the flood plain and terraces are clay to clay loams, dark in color, fine to medium texture and granular in structure. Profiles are moderately developed with moderately dense sub-soils. Soil reaction is neutral, but some soils have a calcareous sub-soil (pH about 8.0) (Harradine, 1948). Some very dark clay soils are found in poorly drained areas.

#### Vegetation

The vegetation of the area can be classed as Valley Grassland (Munz and Keck, 1959) or Central Valley Prairie (Burcham, 1957). In its pristine condition it was characterized by perennial bunch grasses which in the past dominated most of the Central Valley of California. It differed from other prairies of the world in both identity of the perennial species and the large number and the importance of annuals (Beetle, 1947). The bunch grasses have been subsequently replaced by annual grasses due to competition from introduced species, over-grazing by domesticated animals, and other agricultural practices. Common grasses around Funks Creek today are wild barleys, red brome (Bromus rubens), fescues (Fescue spp.), wild oats (Avena fatua) and slender wild oats (Avena barbata). In highly disturbed localities on the valley floor grasses compete with thistle (Cirsium spp.) and filaree (Erodium spp.). In addition to the filaree's, there are large numbers of other annual forbs which germinate with the winter rains and flower during the vernal period. The distribution and density of these plants fluctuates widely based on amount and distribution

of rain and temperatures (Shelford 1963:354-55). Many of them have extremely short life spans and germinate, attain full size, and mature within a few short spring months (Barry, 1972:4).

There are two other flowering periods. The second occurs in September to October with the appearance of the composite tarweed (Hemizonia spp.). The last flowering of the year occurs during November when two or three species of Eriogonum (Buckwheat family) and Grindelia spp. (Compositae) bloom and continue to bloom until January (Barry 1972:5; Jepson, 1893:238-246). Perennial forbs such as Brodiaea sp., Calochorus sp., and Allium sp., which have bulbs or corms are also found in the area.

A narrow band of trees found along Funks Creek proper includes cottonwood (Populus fremonti), willow (Salix sp.), California Black Walnut (Juglans hindsii) and a lone California Buckeye (Aesculus californica), Cattails (Typha latifolia) and tules (Scirpus sp.) are present on the stream bottom and margins. On the hilltops and terraces adjacent to Funks Creek introduced trees generally mark the location of former ranching or farming activities. In prehistoric times there were apparently no trees in this area other than those found in the immediate vicinity of the stream channels, however, depending on the exposure and steepness of the slope, some of the higher elevations to the west (more than 500 feet) support (or did support in the past) chaparral or oak woodland.

### Fauna

Mammals that occupy or have occupied the area include the pronghorn antelope (Antilocarpa americana) which occurred in herds of two or three thousand, Tule elk (Cervus elaphus nannodes), deer (Odocoileus hemionus), coyote (Canis latrans), as well as animals such as grizzly bear (Ursus



horribilis), jackrabbit (Lepus sp.), ground squirrel (Citellus spp.), badger (Taxidea taxus), pocket gopher (Thomomys sp.), and the pocket mouse (Perognathus spp.). Common birds are the western meadowlark (Sturnella neglecta), horned lark (Otocoris alpestris), Brewer blackbird (Euphagus cyanocephalus), horned owl (Bubo virginianus) and the desert sparrow hawk (Falco sparverius phalaena). Waterfowl are found in the thickets of vegetation and small ponds along the stream. The Pacific pond turtle (Clemmys marmorata), the western rattlesnake (Crotalus viridis), and the gopher snake (Pituophis catenifer) are common poikilotherms (Heady, 1958; Shelford, 1963; and Storer, 1965). Fish fauna appears to be limited and is most probably due to the size of the Funks Creek drainage area.

Of the insects, grasshoppers are an important food source for an aboriginal population. The devastating grasshopper (Melanoplus devastator) normally breeds in the higher grassy woodlands but often migrate into the valley grasslands as a destructive horde. Occasionally the valley grasshopper (Oedaleonotus enigma) occurs in great enough numbers to be a food resource.

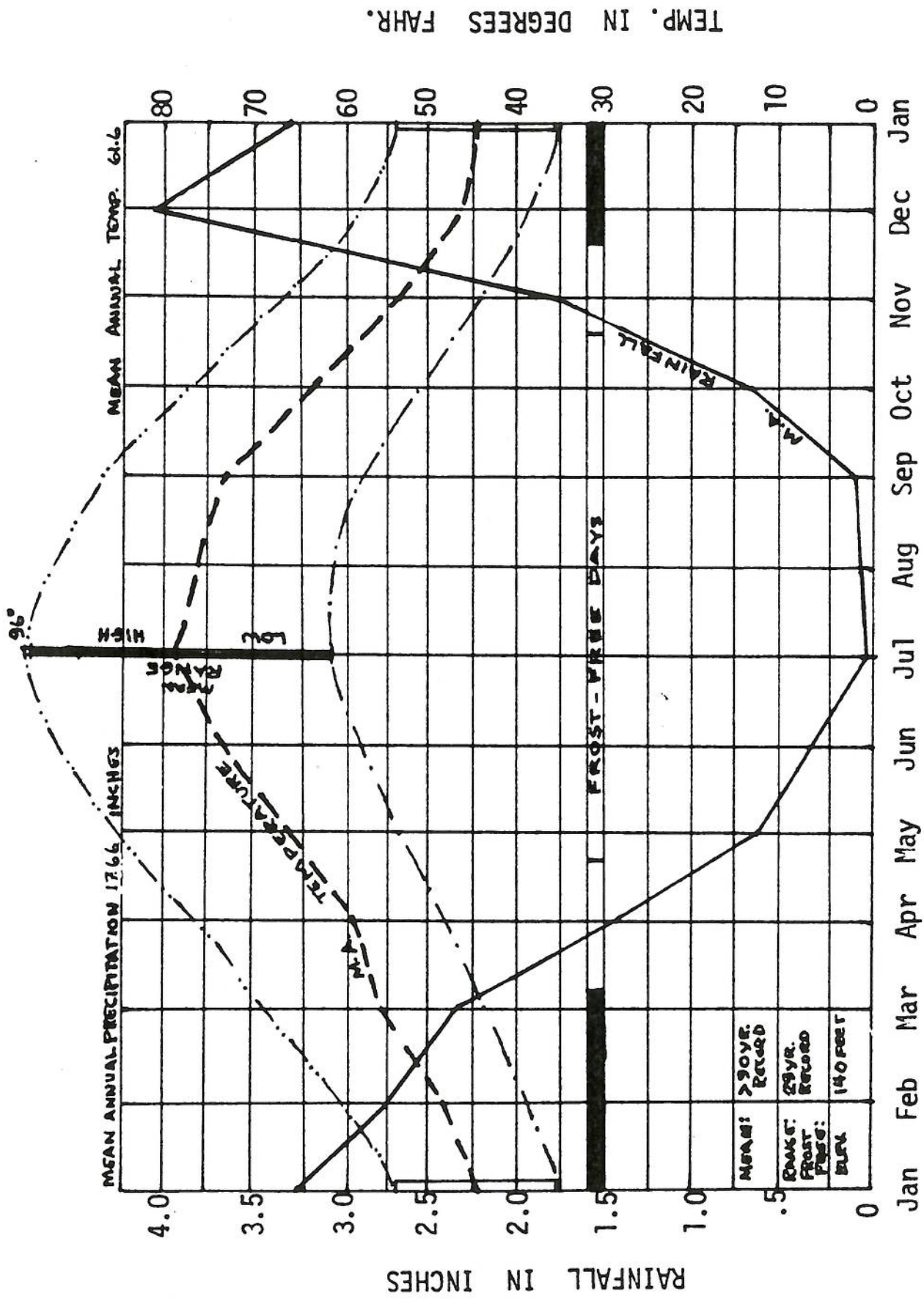


Fig. 1 Mean Monthly Temperature and Rainfall Distribution for Willows, California

## THE ARCHAEOLOGY

Once the surveys had been completed an evaluation of the extant resources was made and a strategy for further investigation developed. Since it seemed quite obvious based on our preliminary examination of the sites, that the artifacts here represented a surface scatter with no developed midden or subsurface concentrations, the primary effort was to be focused on systematic collection of surface artifacts. This was to be supplemented by testing of the subsurface deposits to be as certain as possible that our assessment of the nature of the occupancy and utilization of the area was essentially correct.

Subsequently, each of the three sites located within the proposed Funks Reservoir basin was subjected to an intensive surface collection procedure. Although it was considered unlikely that the surface location of individual artifacts within each site would be meaningful in terms of any postulated socio-cultural activities, or in terms of meaningful temporal distributions, the location of each individual artifact was plotted in relation to a datum using a transit. The distribution of artifacts for each of the sites is indicated in figures 2, 3 and 4.

### The Sites

Based on information recovered as part of the evaluation of these locations, the following represents a summary description of the three Funks Creek sites located within the reservoir basin.

#### Funks Creek 1 (Col. 28)

The site here originally described as being on a small knoll (Chartkoff, 1969:13-14), actually includes part of the knoll and a portion of the adjacent land between the knoll proper and the southern anchor of the

proposed dam structure (see map 3). The site is characterized by a scatter of artifacts on the surface of the ground and there is no evidence of a midden or soil alteration as a byproduct of prehistoric occupancy. Much of the surface of the knoll itself is badly eroded and in places the underlying sandstone bedrock is exposed, both on the top of the rise and along the trail leading to the top. The erosion appears to be the byproduct of heavy grazing and the use of the trail itself which channels runoff into a concentrated area and expedites the removal of surface deposits. Further damage to the soil surface here was almost certainly the byproduct of historic utilization of the knoll. At least as recently as 1917 the knoll itself was occupied by a small structure (house?) (USGS Topographic Map Sites Quadrangle). At the present time, surficial evidence of this structure is minimal and in general is limited to an occasional brick found along the lower margins of the hillside. As part of the current investigations, however, additional evidence for this occupancy was recovered from deposits near the bottom of the hill, and will be described below in Appendix A.

A total of 17 prehistoric artifacts was recovered from the site, most of which were manos and cobble based core tools of some kind (see Table 1). Chipping waste was rare and there is little evidence of tool making on any significant scale. Occasional small thin flakes of obsidian are found although they are not common and are difficult to see because of their translucent character and size. No chert cores were noted. The artifacts recovered here will be discussed below in another section.

Funks Creek 2 (4-Col. 37)

The site here was described originally as a large habitation site on

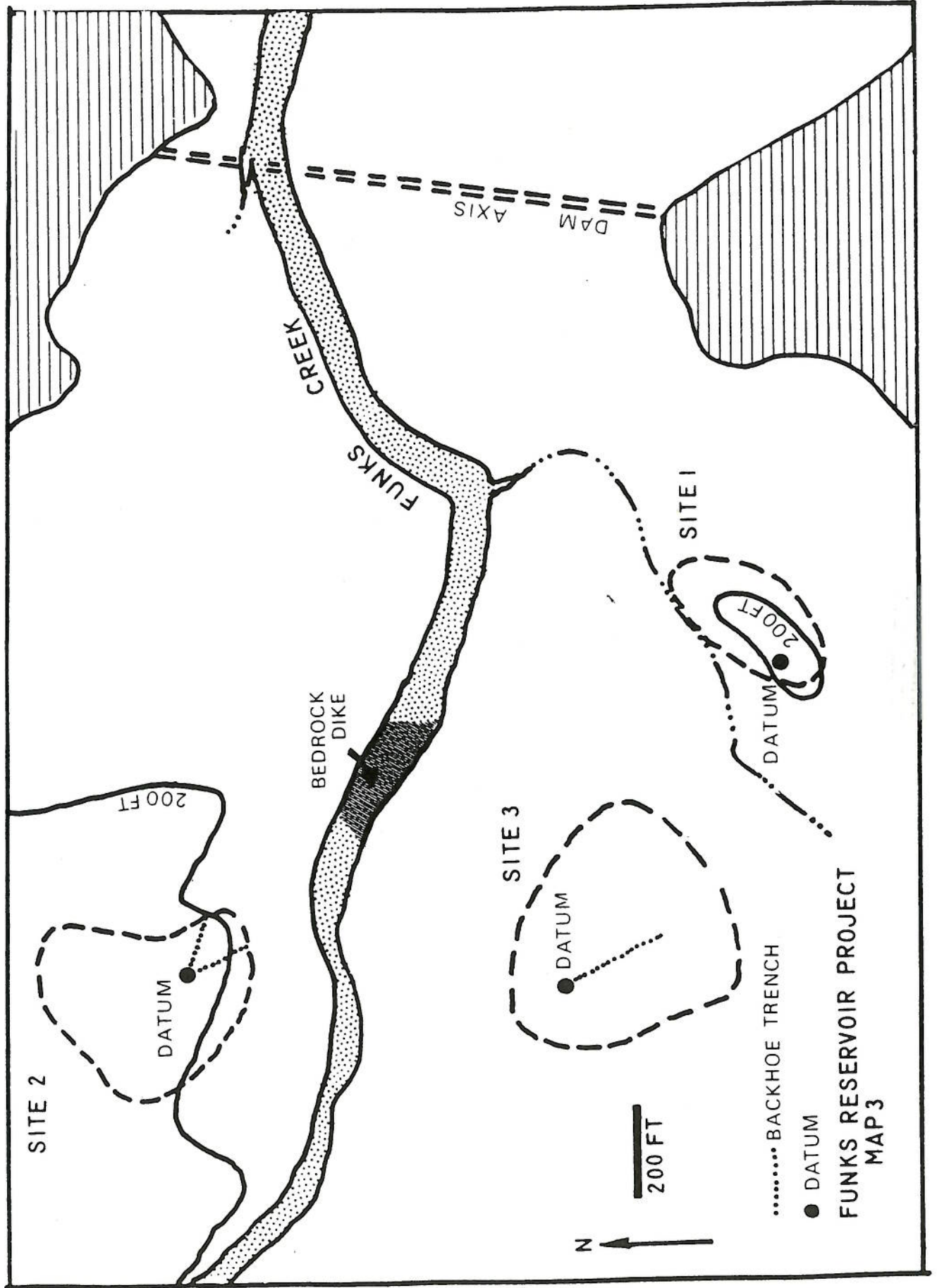
the north side of Funks Creek at the base of a small knoll (Chartkoff, 1969:14). According to Chartkoff a light brown midden covered more than 15,000 square feet of space and four bedrock mortars were reported in the bed of Funks Creek proper.

The present investigation confirmed the location of this site as described. The heaviest concentration of artifacts was located in the area described by Chartkoff but occasional evidence of use or occupancy was found over a wide area extending several hundred yards downstream from this concentration. Map 3 shows the concentration area included in Funks Creek 2 (4-Col-37) as a result of the more recent investigations. The bedrock mortars were located as described (see plate \_\_\_) but the present investigations resulted in no evidence of a midden deposit or indications of any measurable soil alteration resulting from this occupancy.

A total of 102 artifacts was recovered here most of which were manos and heavy core tools made on pebbles or cobbles (see Table 1). As was the case at Site 1, chipping waste was rare and there is little evidence here of tool making on any significant scale. Obsidian is present in the form of occasional small to tiny translucent flakes. No identifiable tools made of obsidian were recovered and there is no basis to suggest the nature of its use relative to this occupancy. The artifacts recovered from this site will be discussed in more detail in a section to follow.

#### Funks Creek 3 (no previous designation)

Funks Creek 3 is located on the south side of the creek west of the knoll on which Site 1 is found. Map 3 shows its location and extent. The site itself is characterized by a scatter of surface artifacts with



SITE 2

200 FT

DATUM

BEDROCK  
DIKE

FUNKS  
CREEK

DAM  
AXIS

SITE 3

DATUM

200 FT

N

SITE 1

200 FT

DATUM

..... BACKHOE TRENCH

● DATUM

FUNKS RESERVOIR PROJECT  
MAP 3

no identifiable features or soil alteration due to sustained or long term occupancy or use. As with Site 2, the artifacts here are predominately manos and occasional core tools made on pebbles or cobbles. Chipping waste is rare. Obsidian is present but not common and confined to tiny flakes which are almost impossible to see (see Table 1). A more detailed discussion of the artifacts will be presented below.

#### Sub-surface Investigation

After all of the surface artifacts had been located and collected, a series of backhoe trenches was cut across parts of each site. For Funks Creek 2, backhoe trenches were cut along two transects laid out to cut across those parts of the site where the artifact concentrations were the heaviest. (Transect A extending south from the datum, and transect B extending east from the datum) see Map 3 for the location of the transect lines relative to the sites in general. Within the indicated transect lines seven (7) test trenches were cut: four along transect line A, and 3 along transect line B. The length of each individual cut varied from 2 meters to 21 meters. The trenches were cut to the sandstone/shale bedrock formation, and were from 30 to 70 centimeters deep. No evidence of cultural material was noted in any of the trench sidewalls. For Funks Creek 3, one major transect was established on a line south from the datum. A secondary cut was made in one location at approximate right angles to the main transect (see Map 5). The secondary trench (trench B) was excavated to a depth of more than 6 meters in order to examine sub-surface soil characteristics in this locality. No cultural materials were noted in either of the cuts on this site.

During the course of the backhoe excavations six archaeology students troweled through the back dirt and watched the actual digging in

order to recover any evidence of occupancy which might be uncovered.

Following the backhoe excavation and examination of the sidewalls of each backhoe trench for evidence of cultural activities (altered soil profiles, soil modification, features or artifacts), soil profiles were drawn for each transect under the supervision of Gene Begg, Department of Soils, University of California, Davis. The soil profiles recorded for the test trenches are presented in figures 5 through 10.

Once the soil profiles had been drawn, column samples were taken from the sidewalls of the trenches. These were taken at two meter intervals from the datum and from the same side of the trench as the soil profile drawings. Each sample was removed in 10 centimeter levels (20 centimeters square) and bagged by level. The columns were excavated to bedrock at Funks Creek 2 and into a dense clay subsoil at Funks Creek 3. After column samples were recovered they were processed using wet screening techniques and flotation to recover all cultural evidence present and possible evidence for modification of the deposit. Cultural material was absent from these samples except for very occasional tiny obsidian flakes which occur in the upper levels and which almost certainly intrude into the subsurface layers by means of large shrinkage cracks which characterize the soils here during the dry season.

In addition to the backhoe trenches, one standard test unit (1 1/2 meters square) was excavated at Funks Creek 3. Here the soil was excavated in 10 centimeter levels and wet screened in nearby Funks Creek. One obsidian flake was recovered at the 30 centimeter level. The complete absence of other indications of sub-surface alteration or use suggest that this flake likewise reached its extant location via the described shrinkage cracks and that it was thus intrusive insofar as the subsurface deposit is concerned.



The sub-surface investigations at these two sites confirmed the observations made during the surface collecting stage and it was concluded after examining the results of the column sample analysis, that no significant soil modification or cultural materials were present below the top few centimeters of this deposit. Occasional flakes of obsidian recovered from depths in excess of 50 centimeters are almost certainly related to the large expansion cracks up to 6 cm wide typical of this soil, and represent almost without question instances of surface and near surface remains being redistributed within the profile. At the time the trenches were cut, it was possible to trace evidence of these cracks up to 150 centimeters in depth and to see within the cracks, seeds and other contemporary debris. Modern seeds some still including the floret and related parts were recovered from depths up to 130 centimeters. No old (or non-modern) vegetable material was recorded. Given the circumstances described, the complete lack of any evidence of culturally induced soil modification, and failure to recover artifacts in subsurface contexts which were not related to the indicated re-deposition process, it seems reasonably safe to say that the occupancy and/or utilization here was indeed confined to the presently exposed surface and that no midden or cultural deposit is associated with these sites.

There is one exception to this generalization. At Site 2; from trench A-4 at a depth of less than 50 centimeters a section of femur shaft identified as human was recovered from the backhoe spill. The fragmentary bone is 13.2 centimeters long and highly mineralized. When dipped into a dilute solution of HCL a strong reaction and lively effervesce took place and portions of the bone began to be eaten away. Evidence of rodent gnawing is present over most of the surface and ends of the shaft. No other bone

fragments were recovered and it appears that the bone was an isolated fragment not associated with any other pieces. Due to the small size and highly mineralized condition of the fragment (75 grams) it is questionable whether or not a C-14 date can be obtained from it. An attempt will be made to date this fragment and the results, if any, will be included in a revised version of the report being prepared for publication.

Plate 3

Funks Reservoir. Bedrock mortars in Funks Creek near Site 2 (4-Col-37).

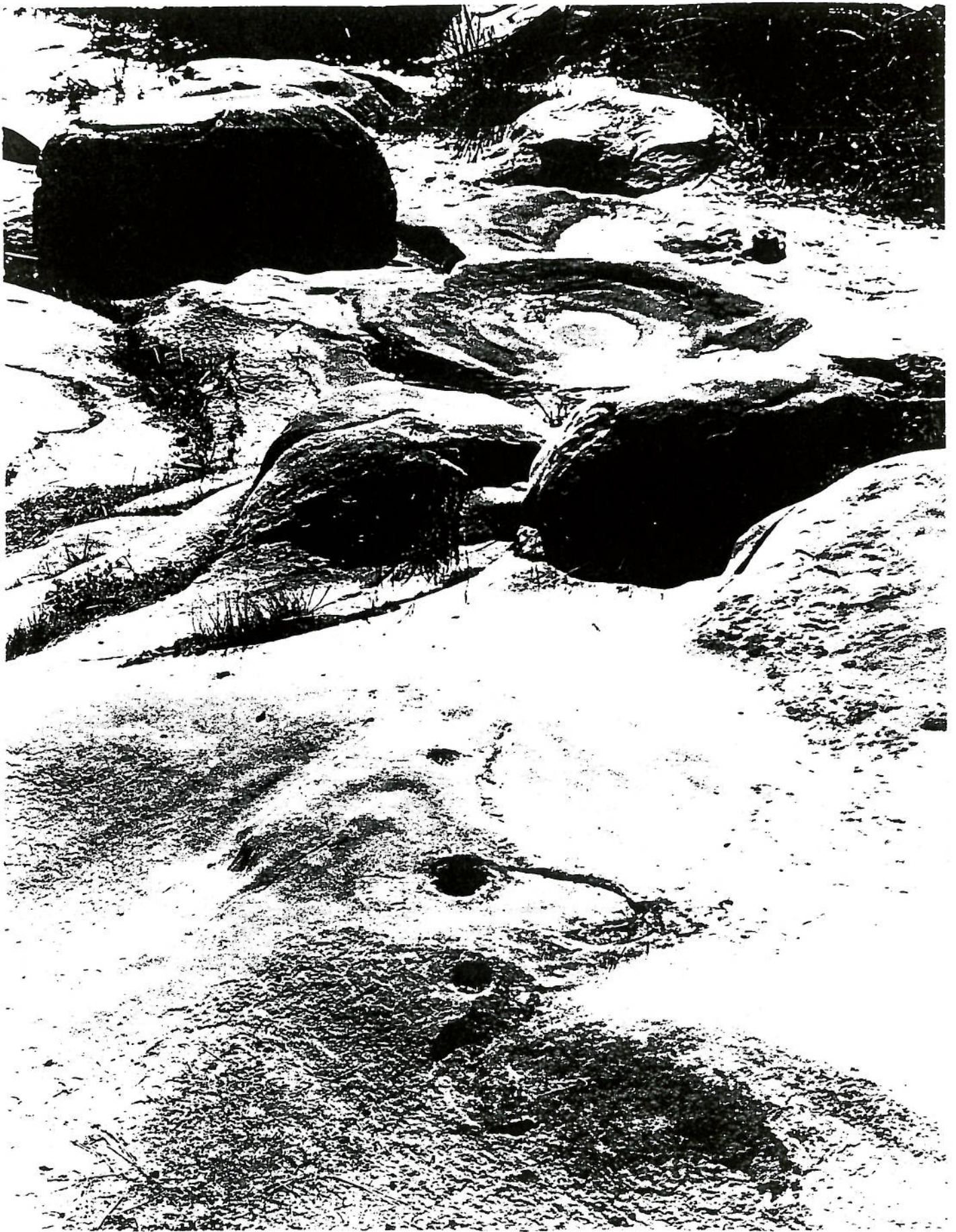
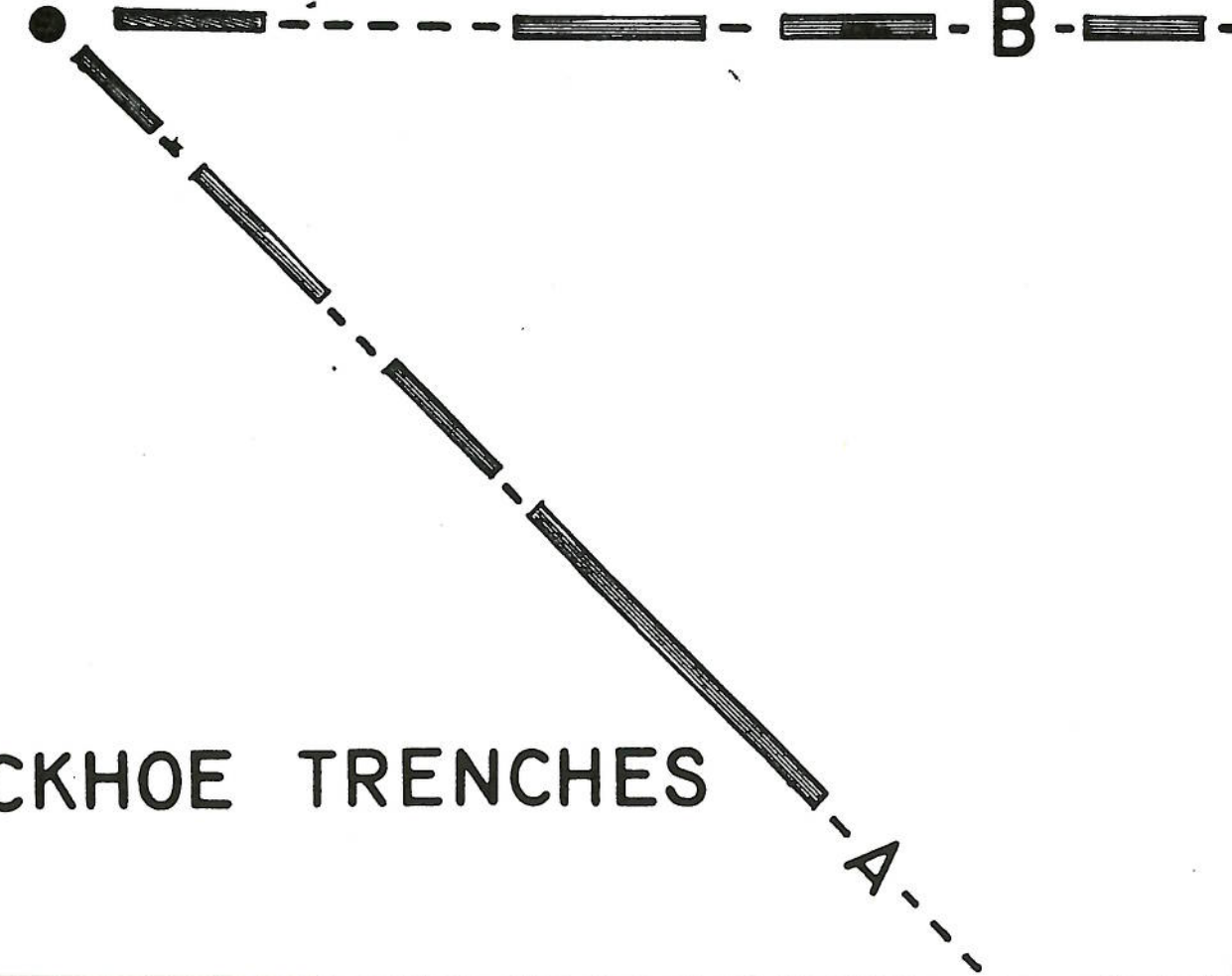


PLATE 3

FUNKS CREEK 2  
MAP 4

8 METERS

DATUM



BACKHOE TRENCHES

FUNKS CREEK 3  
MAP 5

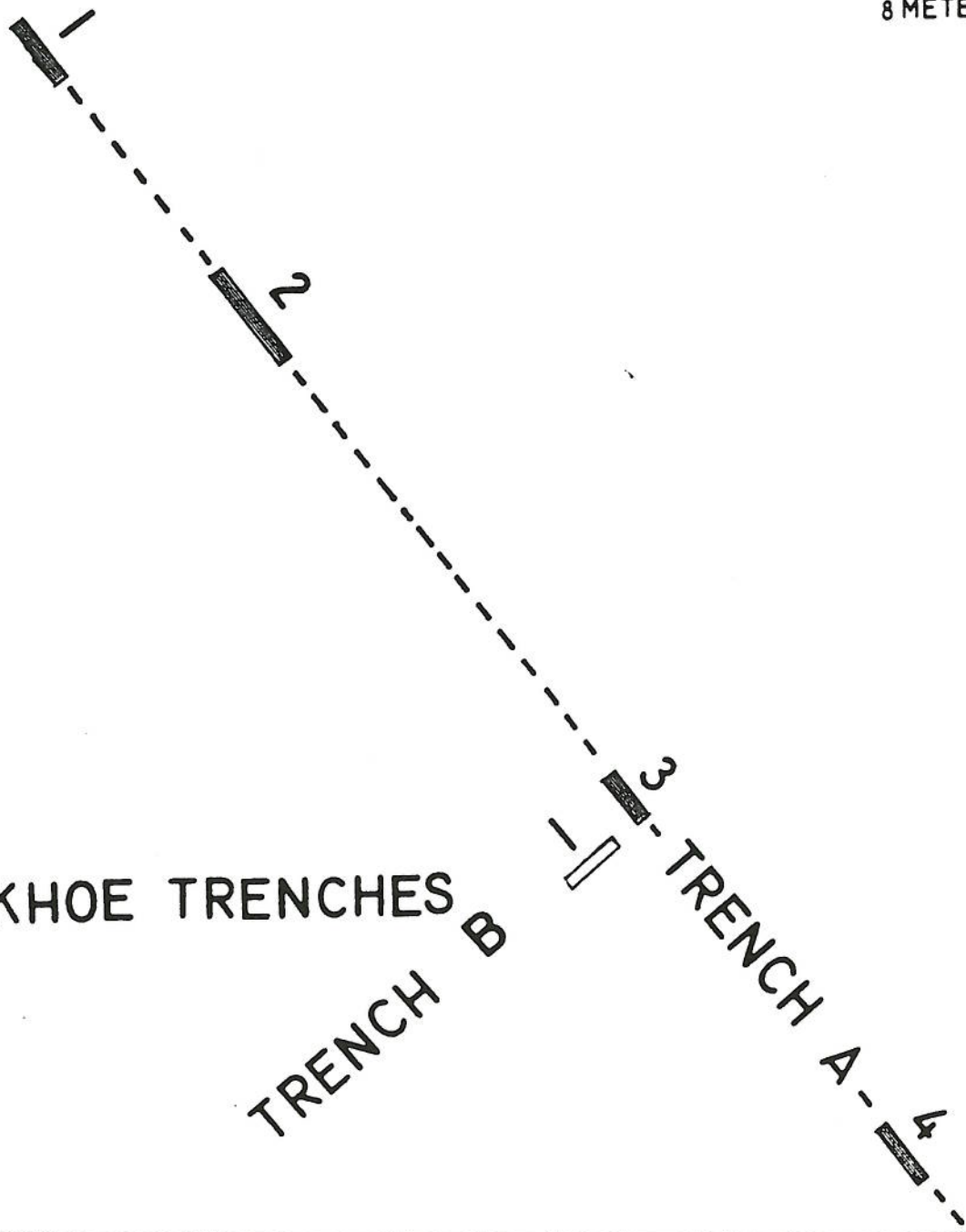


● DATUM

BACKHOE TRENCHES

TRENCH B

TRENCH A



## THE ARTIFACTS

The artifacts recovered from the surface of the Funks Creek sites have been categorized in descriptive and functional terms although at this point in the discussion no attempt will be made to deal with function per se.

Table 1 proposes an artifact typology for the collections and provides information on the provenience and distribution of the indicated categories by site. It is assumed that the material used for the manufacture of these artifacts is locally derived since most appear to be made on cobbles found in adjacent terrace deposits. The obsidian (represented only by few very small flakes) is not local and must have been carried in. It is not yet known where the obsidian was obtained, or what kind of tool use is represented.

### Ground Stone

#### MILLING STONES

Only five relatively small fragments of milling stones were recovered. All are sandstone and have flat milling surfaces on one side only. No pecking is present on these surfaces. (not illustrated). 4 bedrock mortars are present in Funks Creek proper associated with site 2 (4-Co1-37). See plate 3.

#### MANOS

All the manos recovered are made on stream or terrace cobbles and appear to be local in origin. They have been divided into two main categories based on the number of grinding surfaces (unifacial and bifacial). Further subdivision is based on the presence or absence of shaping other than that represented by the basic wear surfaces. Most grinding surfaces show evidence of pecking.

Type 1A: Unifacial, unshaped. Grinding here is on one surface. These are made on unshaped cobbles. Sizes range from 13.6 cm to 9.7 cm in length, from 10.7 cm to 7.2 cm in width and from 8.4 cm to 5.1 cm in thickness. The average size artifact in this category is 11.8 cm by 8.8 cm by 6.4 cm.

B: Uniface mano - hammer - unshaped manos which have been used for pounding. Batter may be present on one or more surfaces but is usually confined to the edges rather than surface of the artifact. See plate 4.

Type 2: Biface Manos. Artifacts with definite evidence of use on two surfaces.

A. Biface - unshaped: no form modification other than the wear surfaces. Sizes range from 16.8 cm to 8.2 cm in length; from 11.3 cm to 5.7 cm in width; and from 9.1 cm to 3.7 cm in thickness. The average size of artifacts in the category is 12.4 cm by 9.2 cm by 6.0 cm.

B. Biface - shaped: Biface manos with evidence of edge shaping apart from modification produced by grinding and use. Sizes in this category range from 17.5 cm to 7.5 cm in length; from 11.2 cm to 6.1 cm in width; and from 8.3 cm to 3.2 cm in thickness. The average size of artifacts in this category is 12.6 cm by 9.2 cm by 5.6 cm. See plate 5.

C. Biface Manos - hammer: Shaped and unshaped biface manos which have been used for some kind of pounding. Batter on one or more surfaces but usually on the ends of the longest axis. Sizes here range from 10.0 cm to 6.0 cm in length; from 8.9 cm to 5.1 cm in width; and from 5.9 cm to 4.0 cm in thickness. The average size of



artifacts in the category is 7.8 cm by 6.5 cm by 4.8 cm. See plate 6,a.

#### Polished Stone

A single specimen was recovered which shows evidence of polish other than the polished surfaces associated with grinding. Other than the polish the stone appears to be unmodified. The dimensions are 10.4 cm by 8.1 cm by 6.6 cm. See plate 6,b.

#### Flaked Stone

COBBLE TOOLS Artifacts in this category have been divided into three groupings on the basis of the number of flaked surfaces and the amount of intact cortex.

Type 1: Uniface. Cortex backed cobbles with unifacial flaking.

Some have stepped flakes and or crushed working edges. Usually the working edge is relatively straight. See plate 6,c and d; and figure 11,d and e.

Type 2: Biface. Cortex backed cobbles with bifacial flaking. The working edge here is usually curved and battered. See plate 6,e, f, and g.

Type 3: Multiface. Little or no cortex remains. Irregularly flaked with one or more edges battered. See plate 6,h and i; and figure 11, a.

Sizes for tools in this grouping range from 13.1 cm to 5.7 cm in length, 11.4 cm to 4.5 cm in width, and 7.2 cm to 2.7 cm in thickness. The average size is 8.2 cm by 7.8 cm by 4.6 cm.

HAMMERSTONES Heavily battered cobbles with more than one working face or edge. The category includes broken or fragmentary artifacts from the categories described above which have been re-used and modified by extensive battering. See plate 7,a, b, c, d, e, f, g, h, and i.

CORES Two types of cores are present in the assemblages from Funks Creek.

Type 1: Amorphous cores have no discernable or regular pattern of flake removal. See plate 7,l and m; and figure 11,c.

Type 2: Platform cores have flakes removed from the core following the striking of a platform prepared by removing a preliminary flake or splitting a cobble. In the present sample only 1 platform core has been recovered. In this specimen, approximately three fourths of the periphery of the platform has been utilized. See plate 7,j; and figure 11,b.

FLAKES Flakes recovered from Funks Creek have been categorized into three basic groupings. Retouched, utilized, and un-modified. The retouched group has been further subdivided into types on the basis of the location of the retouching, and the overall shape.

Type 1: Retouched Flakes

Subtype 1a - Convex. Curved worked edge flaked on one face. Not illustrated.

Subtype 1b - low backed. Large flake with steep high angle flaking around part of the periphery. Not illustrated.

Subtype 1c - Convex. Same as type 1a except that it has flaking on two faces. Not illustrated.

Subtype 1d - Straight. Here the retouched edge is straight and on the long axis of the flake. Not illustrated.

Subtype 1e - Point midsection (?). Retouching here occurs bifacially and the artifact appears to be part of a projectile point or small knife-like tool (see plate 7,n; and figure 11,f).

Type 2: Utilized flakes - Flakes that show signs of use, but lack purposeful modification or shaping.

Type 3: Unmodified - Flakes that show no evidence of shaping, modi-

fication, or use.

Flake sizes range from 10.5 cm to 5.4 cm in length, 6.4 cm to 3.4 cm in width, 2.7 cm to 1.7 cm in thickness and the average size flake (other than obsidian) is 7.2 cm by 4.9 cm by 2.3 cm.

TABLE 1

	Artifact Typology			
	FC-1	FC-2	FC-3	Total
I. Ground Stone				
A. Milling Stone Fragments	0	2	3	5
B. Manos (Handstones)				
1. uniface, unshaped	1	3	5	9
a. mano/hammerstone	0	1	2	3
2. biface				
a. unshaped	3	8	5	16
b. shaped	2	12	23	37
c. mano/hammerstone	0	2	7	9
3. fragments	0	5	1	6
II. Polished Stone	0	1	0	1
III. Flaked Stone				
A. Cobble Tools				
1. uniface	2	9	7	18
2. biface	1	5	3	9
3. multiface	0	0	2	2
B. Hammerstone	2	12	11	25
C. Cores				
1. amorphous	3	6	8	17
2. platform	0	0	1	1
D. Flakes				
1. retouched				
a. convex (uniface)	0	2	1	3
b. low backed	0	1	0	1
c. convex (biface)	0	2	1	3
d. straight	0	1	0	1
e. point mid-section	1	0	0	1
2. utilized	0	4	0	4
3. unmodified	2	13	9	24
IV. Recent Material	0 <sup>a</sup>	1	3	4
Total	17	102	92	200

a. See Appendix A

# FUNKS CREEK 1 ARTIFACT DISTRIBUTION

5 4 1  
2 3 16



- UNIFACE UNSHAPED MANO
- BIFACE UNSHAPED HAMMERSTONE
- BIFACE SHAPED MANO
- UNIFACE COBBLE TOOL
- BIFACE COBBLE TOOL
- CORE
- HAMMERSTONE
- UNMODIFIED FLAKE
- PROJECTILE POINT (MIDSECTION)

8 7 6 13 12 9 10 11 14 15

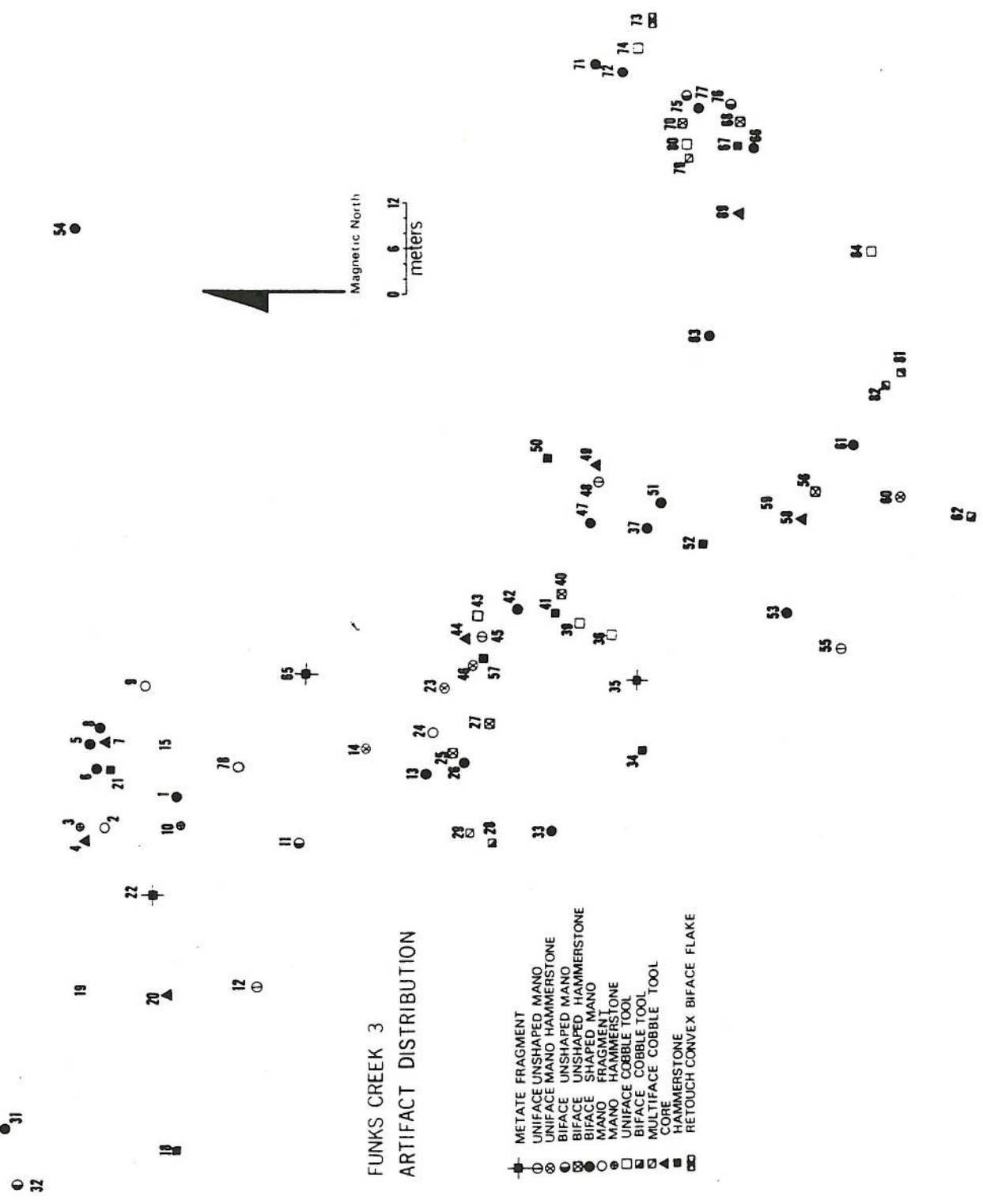


FIGURE 2

FUNKS CREEK 2  
ARTIFACT DISTRIBUTION



FIGURE 3



FUNKS CREEK 3  
ARTIFACT DISTRIBUTION

- ⊕ METATE FRAGMENT
- UNIFACE UNSHAPED MANO
- ⊗ UNIFACE MANO HAMMERSTONE
- ⊘ BIFACE UNSHAPED MANO
- ⊙ BIFACE UNSHAPED HAMMERSTONE
- MANO FRAGMENT
- MANO HAMMERSTONE
- ⊖ UNIFACE COBBLE TOOL
- ⊗ UNIFACE COBBLE TOOL
- ⊘ MULTIFACE COBBLE TOOL
- CORE
- ⊖ HAMMERSTONE
- ⊗ RETOUCH CONVEX BIFACE FLAKE

FIGURE 4

## DISCUSSION

The Funks Creek Reservoir area is within the ethnographically described territory of southern Wintun (Patwin). Descriptions of these early historic and late prehistoric peoples can be found in Kroeber, 1925, 1932; Barrett, 1908, 1919; DuBois, 1935, 1939; Merriam, 1955. The nature of the resources found within the Funks reservoir basin area, however, is inconsistent with these ethnographic descriptions, and inconsistent with archaeological data available for the area at large. The differences in artifact assemblages found at Funks Creek and those known from other sites in the Coast Range or the adjacent Valley provinces, seem quite clear. This was recognized by Chartkoff in his original survey report, when he proposed that the sites here might be somewhat earlier in time than the known resources for the general region (Chartkoff 1969:13-14).

On the basis of the investigations at Funks Creek so far the following can be stated with some degree of certainty:

- (1) The sites consist of a surface scatter of artifacts and there is no subsurface concentrations of cultural material or midden;
- (2) The artifact assemblages from all the sites are similar and suggest a limited range of activities. (The lack of perishable materials may be considerably narrowing the possible range of activities, but this is always a problem in archaeology).
- (3) There is no significant distributional pattern evident in the location of the individual artifacts and they are randomly distributed over the individual site areas. Taken as a whole the artifacts mark a loci of activities, in this case three individual sites.

From the data presented here two models are postulated, and the two main differences between them is their chronological position and their



relationship to the total subsistence pattern. Information on these kinds of sites or activities for the area is lacking and none has been described in the literature. This limits to some degree perhaps the development of a larger range of models. The two models presented, however, are consistent with data from sites in other areas which do have similar assemblages, and, at present, seem the most reasonable possibilities. Since the assemblages from the 3 Funks Creek sites are essentially the same, they will be discussed as a unit.

The first model proposed for the Funks Creek assemblages is that the sites represent satellite camps which are part of the procurement system of semipermanent villages. In this context they would be seasonal campsites or gathering stations located in especially productive locales relative to some specific resource. The resource in this case being grass seeds of various kinds and a possible exploitation of grasshopper populations under favorable conditions. In this context the Funks Creek sites would be considered relatively recent in time and part of the exploitation and subsistence pattern prevailing more or less at the time of contact.

The second model proposes that the Funks Creek sites may represent an earlier exploitation of the area and are not directly related to the pattern described above and possibly are related to the Borax Lake Pattern as defined by Fredrickson (1973:129-131). Borax Lake sites, however, are rare, and little is known or has been published about either the sites or the artifacts believed to be associated. Chartkoff (ibid.) from observations made during the initial survey of this area felt that the presence of a mano and the absence of obsidian flakes possibly placed the site Col-28 (Funks Creek 1) at a much earlier period of occupation than most of the

other sites in the area. However, our excavations have revealed the presence of small obsidian flakes which changes the situation somewhat. No obsidian tools or cores were noted however and this, plus the size of the flakes, suggests the pressure retouching was done at the sites to sharpen tools that were carried in and not manufactured there. If obsidian use is in fact a measure of age (not demonstrated by the record overall), this means the site is not as old as it might seem. Unfortunately, the data needed to resolve at least part of the problem were not present at the Funks Creek location and the answers, if available at all will have to be sought elsewhere.

Given the Funks Creek material overall, the most obvious observation is that almost 80% of the artifacts can be related to some kind of milling activity. Milling activity, in this sense, entails not only the grinding process itself but the cobble tools and hammerstones which are used to sharpen and shape the actual grinding tools by pecking, etc. These classes of artifacts in fact can be considered a milling complex, since they are, in California almost always associated in the same site context, and are described in the ethnographic record as milling implements.

Basically milling stones and their manos or handstones are used primarily for the grinding of hard seeds. In this instance, it is felt that the most likely types of seeds processed at the Funks Creek sites are derived from grasses. If the assumptions that the area is in the Central Valley prairie ecozone and was dominated by perennial grasses, and that similar conditions prevailed in prehistoric times, it is reasonable to assume that the sites were utilized on a seasonal basis to exploit grass seeds as a food resource. It is considered likely that in pre-Spanish times most of the Central Valley prairie was dominated mainly by two perennial bunch grasses: purple needle grass (Stipa pulchra) and nodding needle

grass (S. cernva). During the spring months these and other grass grow most vigorously and produce their seed. The seeds are mature by late spring or early summer depending on climatic factors. However, there is only a short period of several weeks where the grasses would be most amenable for harvesting using aboriginal methods (i.e., seed-beater and conical basket), which is between when the seeds ripen and fall to the ground. For the Stipa spp. grasses, the critical period usually falls between the end of May and the beginning of August.

Seed gathering is most efficiently done by individuals, working alone or in a small group. It is suggested, then, that the sites represent short-term (at most several weeks) seasonal processing stations for grass seeds that were gathered locally by small groups of individuals. This time duration, and settlement pattern would account for the lack of midden development on the Funks Creek sites.

Other resources, such as grasshoppers, which are available at about the same time as grass seeds, may have also been exploited, but evidence other than ethnographic data are lacking. Since both small and large mammals were probably present they too were a potential resource, but none of their remains or implements for their exploitation such as projectile points, were recovered. Four bedrock mortars were noted in the sandstone outcrop exposed in the stream bed, but no pestles were recovered from the sites. The mortars suggest the utilization of other resources such as acorns. Today, however, the nearest stands of oak are approximately two miles west on steep hill slopes.

Other artifacts (cores, retouched and utilized flakes) which make up the rest of the assemblage, are primary processing or general utility tools. These would be items functionally classed as a planes, scrapers and possibly a blade; they can be used for a wide range of activities and,

as such, can not be functionally related to any specific task. There is the possibility that a study of edge wear patterns may suggest uses, but so far this has not been undertaken. A single midsection of a bifacially flaked implement resembling a large projectile point or knife is too fragmentary to be useful in any diagnostic sense.

From the results available so far it is felt that the model proposing that the Funks Creek sites represent recent prehistoric short-term seasonal gathering camps or stations occupied by a few individuals and possibly related to a larger permanent or semipermanent village, is the most likely option. If this can be further substantiated by the location and analysis of collections from similar sites in the area, the description and analysis of the Funks Creek sites can be used to correct and supplement the limited and fragmentary ethnographic data available for this locale. Any interpretation remains conjectural, however, until datable material is recovered from these kinds of sites. Documentation of a consistent pattern of use with essentially similar artifact assemblages over a wider area would strengthen the proposal advanced above, and with some modicum of luck, datable material could be recovered from one or more of these postulated locales which would provide the basis for clarification of at least one aspect of the extant dilemma.

Investigations oriented toward the location of other similar sites in similar environmental contexts seems the next obvious move, then, and such investigations are in progress.

## CONCLUSIONS AND RECOMMENDATIONS

Based on investigations carried out under the auspices of the Bureau of Reclamation (Sacramento) Purchase Order number 5-01-01-4990 it seems almost certain that the Funks Creek Sites located within the basin of the Funks Reservoir represent short term seasonal occupancies by small groups of people. Likewise it is almost certain that the reason for this occupancy must have been related to the grassland resources found in this region. Without significant changes in the basic environmental situation there is little basis for suggesting the presence of significant stands of oak trees (acorns), and no evidence of fish was recovered from any of the column samples. It is unlikely that Funks Creek has supported significant fish populations in recent past.

The age of the sites is not known and is essentially unknowable based on the extant resources of this particular locale. No organic material suitable for dating purposes was recovered with the possible exception of the isolated bone fragment noted above and the nature of the sites (surface) makes it unlikely that any such material could be recovered regardless of the amount of time invested in further excavation. (An attempt will be made to get a C-14 date from the bone fragment). Obsidian, which has some marginal potential for approximate dating is not present here in large enough fragments to measure the hydration rims (No datable fragment of obsidian was recovered). Tool types which in some circumstances provide at least clues to age possibilities, are in this context nondiagnostic insofar as age is concerned. In California manos are found in almost all age categories as are most of the cobble tools and flakes included in this assemblage. On the other hand, in northern California concentrations of manos and core/cobble tools without associated artifacts in other categories (projectile points, knives, beads, drills etc.) are

not common. In other geographic contexts similar assemblages have been generally assigned a relatively early age.

The Funks Creek artifact assemblage is nearly identical to those identified with the so-called Milling Stone complexes in Southern California which have been dated as early as six and seven thousand years B.C. The only complex or pattern so far identified in northern California in which these kinds of tools are common elements appears to be the Borax Lake Pattern identified by Fredrickson (unpublished Ph.D. dissertation). This too is assigned a fairly early date.

Given the apparent uniqueness of the artifact assemblage here, the general paucity of concentrations of manos and cobble tools in many northern California sites, the similarities between the Funks Creek assemblages and those identified with the quite early Southern California Milling Stone Complexes, and Fredrickson's placement of similar artifact assemblages in a fairly early context for the north coast ranges in general, there was a strong tendency to see the Funks Creek sites as early and unrelated to the ethnographically described proto-historic and late prehistoric occupancies attributed to this area. These similarities and circumstances cannot be ignored and the possibility that Funks Creek sites represent evidence of an early milling stone based complex in this area has not been discarded. On the other hand, the extreme geographic distance between the closest identified Milling Stone complex in the Southern California tradition and the Funks Creek locale; the complete lack of empirical evidence suggesting or supporting any significant time depth (absolute or relative) and the existence of viable alternative explanations which do not require either great age or Southern California connections, tends to complicate what at first glance appears to be quite simplistic and easy answers.

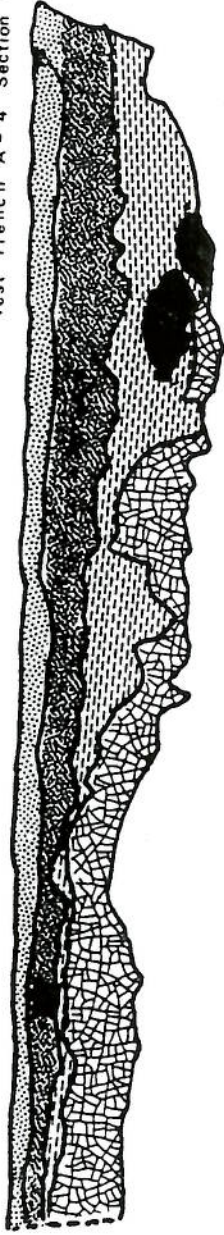
On balance then, and while not totally discarding the possibility of some significant time depth for the assemblages, we prefer to see the Funks Creek remains as evidence of specialized seasonal activities relating to some larger subsistence pattern and probably as part of a significantly larger population based in some different but not necessarily distant locale.

Verification of this proposal requires empirical dating, substantially increased knowledge of the local settlement patterns through some considerable time span, and investigations over a variety of prehistoric site situations within the north coast range in general. Some work related to these situations is in progress and other works are planned which should bear upon the problems outlined above. The answers are however, not inherent in the Funks Creek Reservoir sites and for this specific complex no further investigation is recommended.

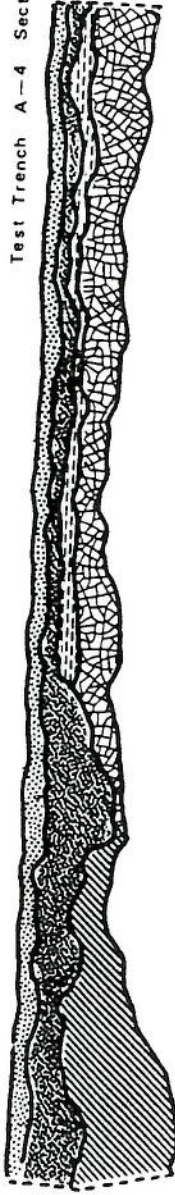
In our opinion the data potential for these sites has been exhausted or at the very least the law of diminishing returns must be invoked and we propose that continued investigations here are highly unlikely to produce significant or useful data. Based on the investigations conducted here so far, the almost total recovery of surface artifacts, and the total lack of evidence for subsurface soil modification as a result of cultural activities, we propose that no further work be required and that these sites not be placed on the National Register.

Insofar as the Bureau of Reclamation is concerned the sites identified as Funks Creek 1, 2 and 3 have been mitigated.

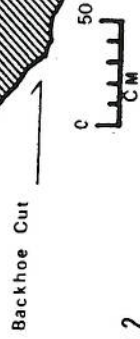
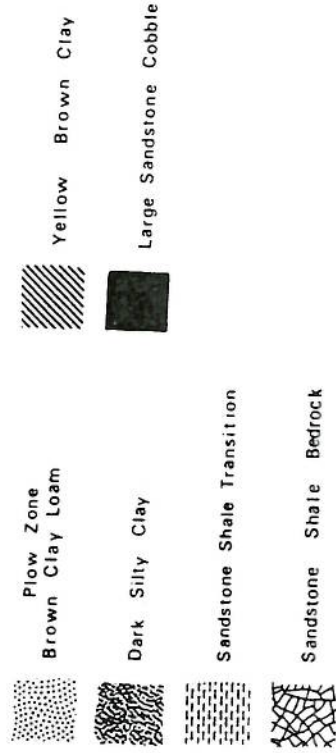
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Test Trench A-4 Section 2



Test Trench A-4 Section 3



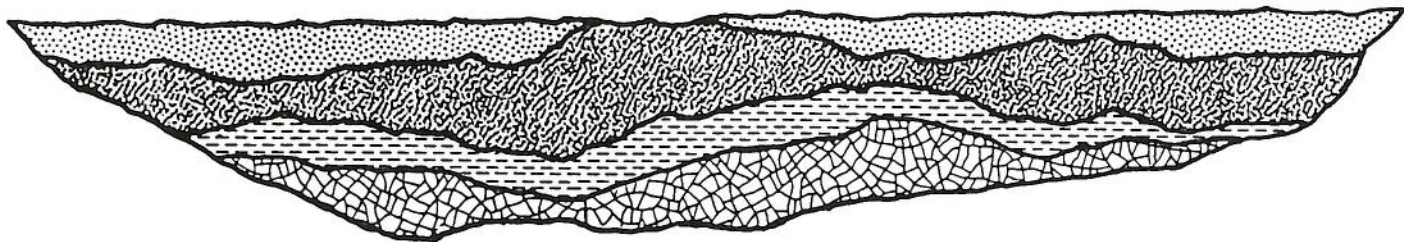
FUNKS CREEK 2  
TEST TRENCH  
SOIL PROFILES  
WEST WALL

FIGURE 5

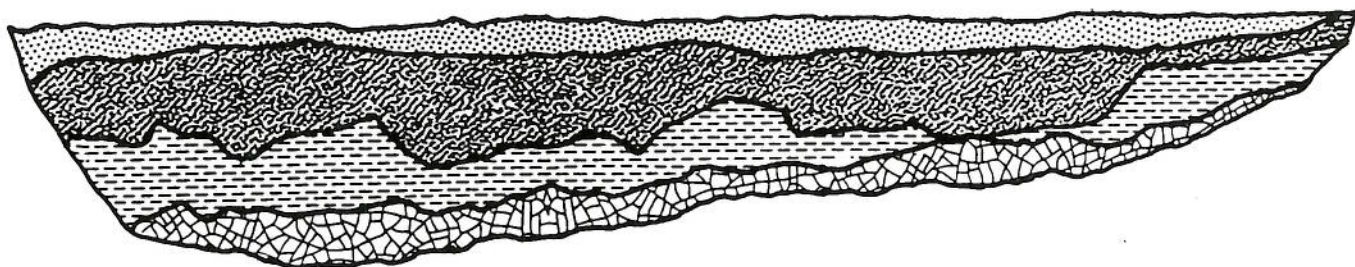


FUNKS CREEK 2  
 TEST TRENCH  
 SOIL PROFILES  
 WEST WALL

Test Trench A-1



Test Trench A-2



Test Trench A-3

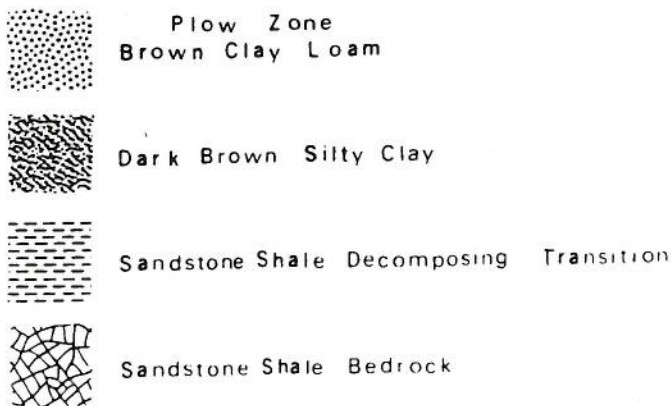
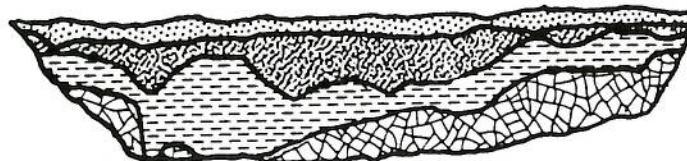


FIGURE 6

FUNKS CREEK 2  
TEST TRENCH  
SOIL PROFILES  
NORTH WALL

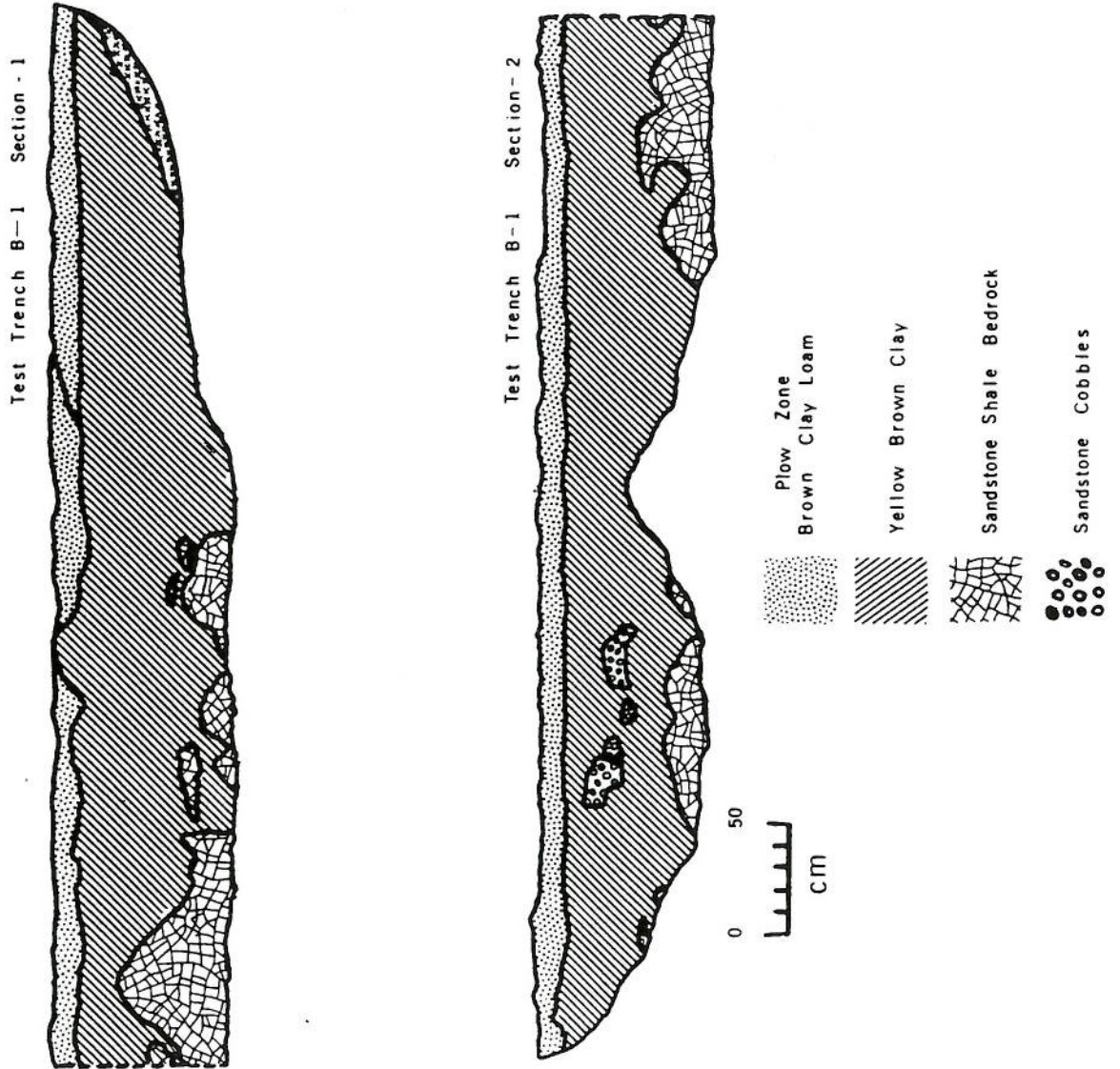


FIGURE 7

FUNKS CREEK 2  
 TEST TRENCH  
 SOIL PROFILES  
 NORTH WALL

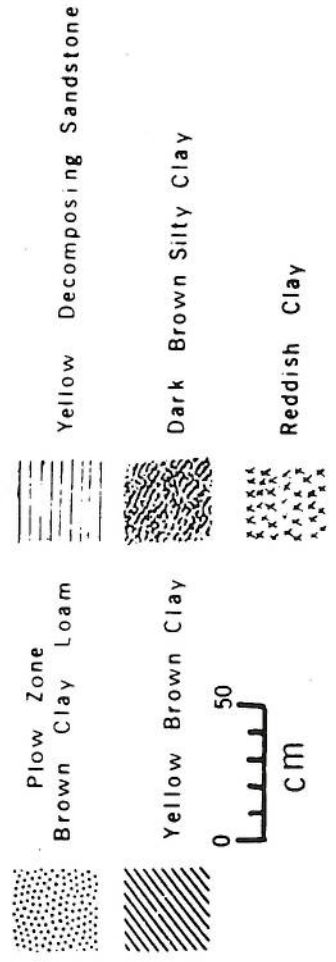
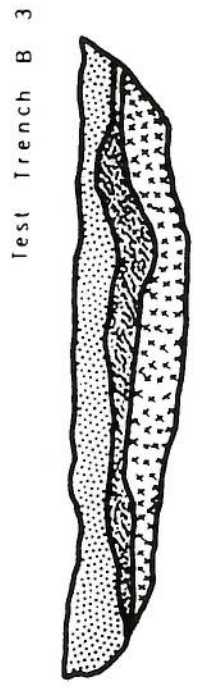
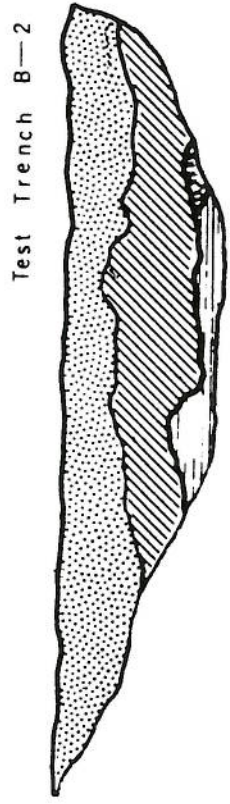
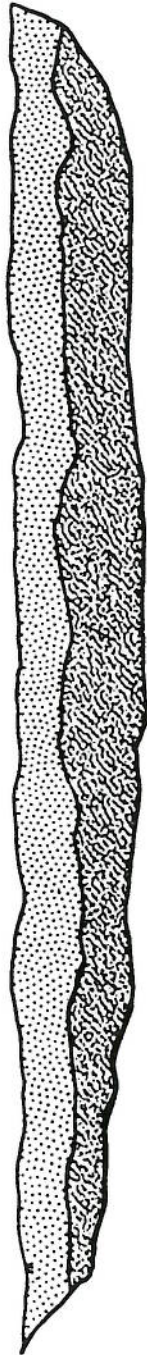


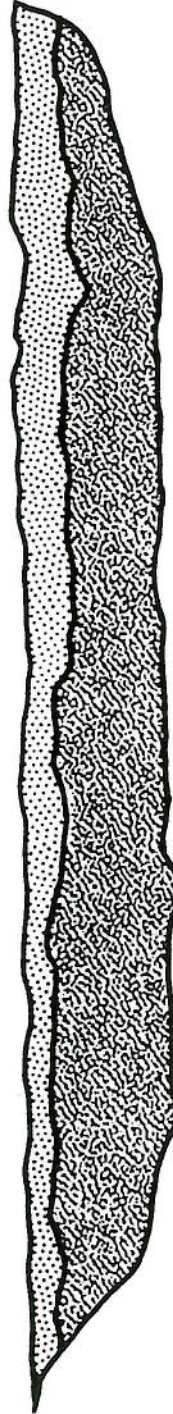
FIGURE 8

FUNKS CREEK 3  
TEST TRENCH  
SOIL PROFILES  
WEST WALL

Test Trench A-1



Test Trench A-2



Plow Zone  
Grayish Brown Silty Clay Loam

Dark Brown Silty Clay

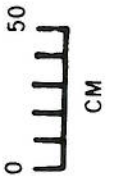


FIGURE 9

FUNKS CREEK 3  
TEST TRENCH  
SOIL PROFILES  
WEST WALL

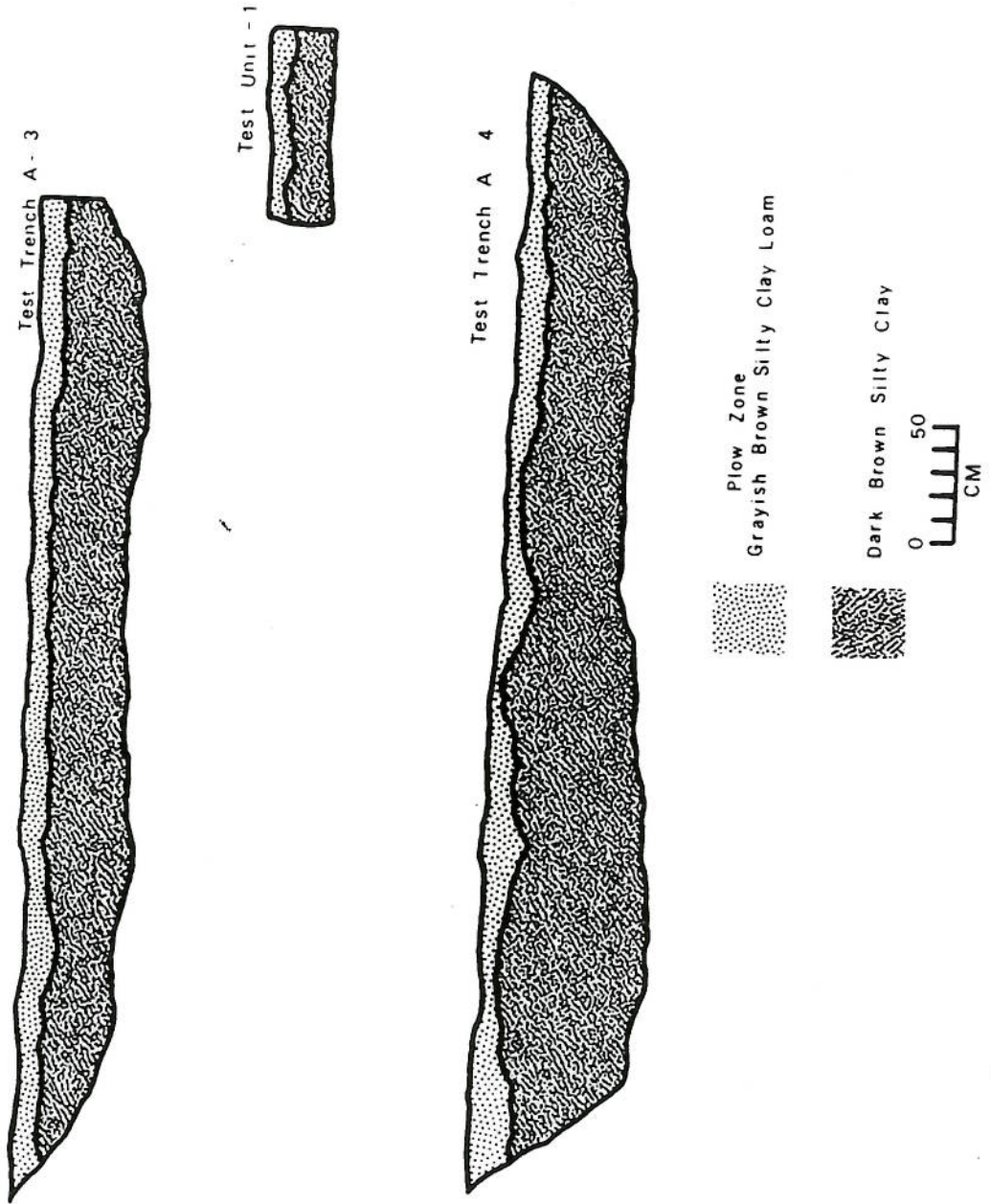
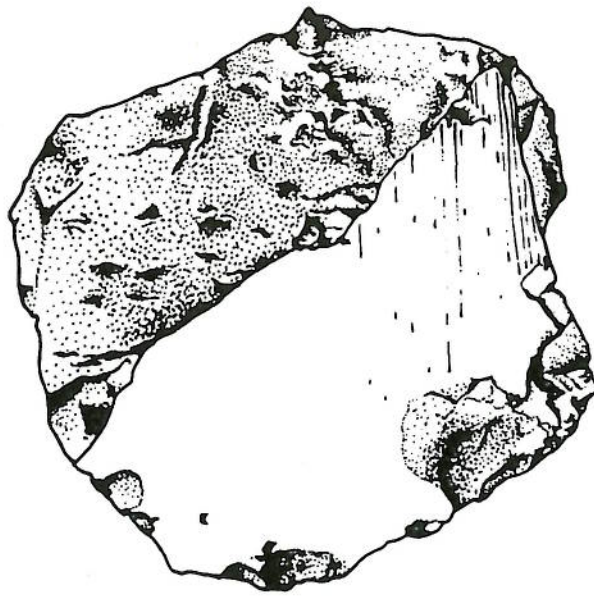
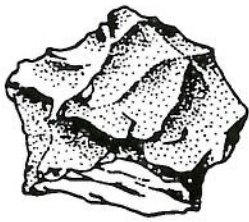
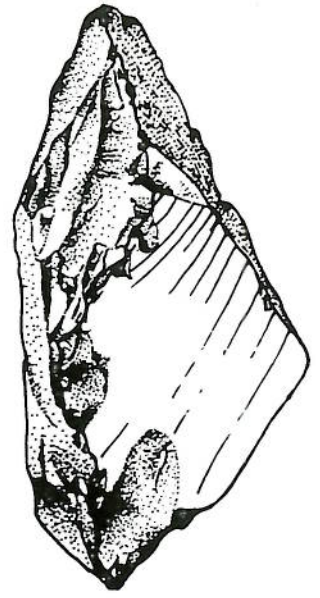


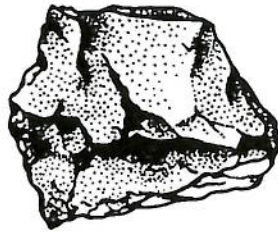
FIGURE 10



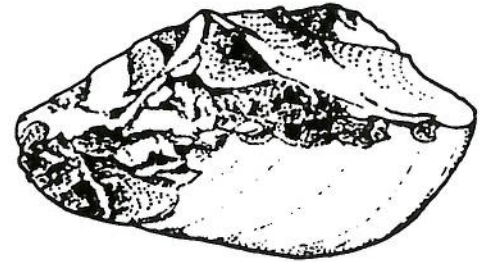
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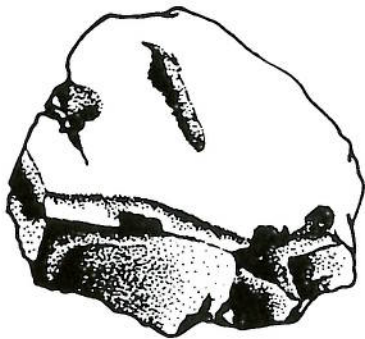
b



c



d



e



f



figure 11

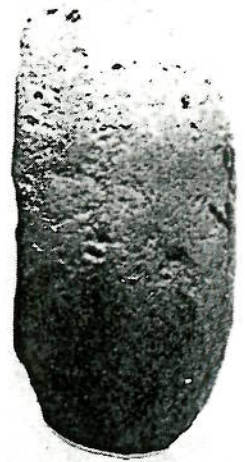
Plate 4

Funks Reservoir. Manos

- a. unifaced - unshaped
- b. unifaced - unshaped
- c. unifaced - unshaped
- d. biface - unshaped
- e. biface - unshaped
- f. biface - unshaped



a



b



c



d



e



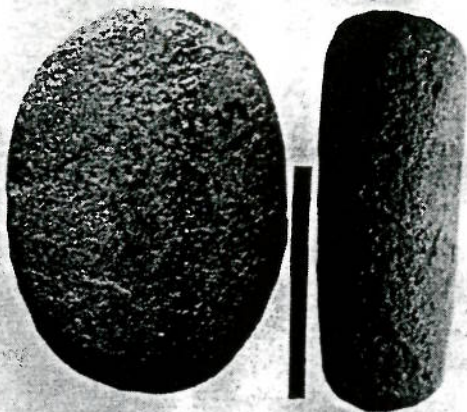
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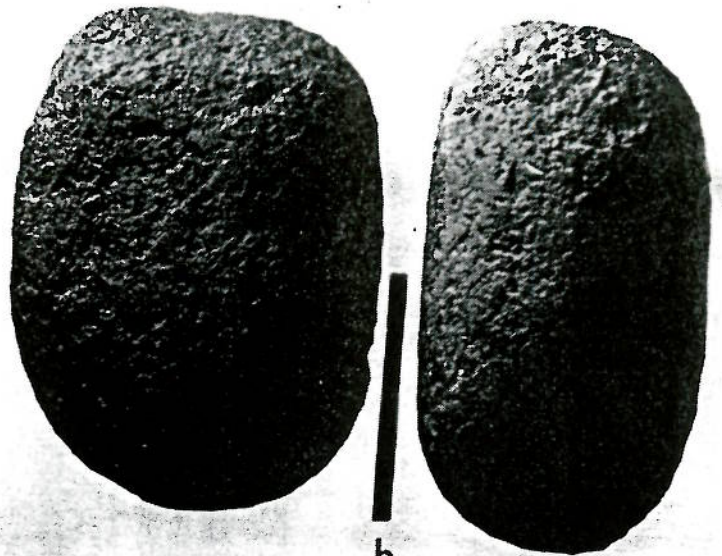
Plate 5

Funks Reservoir. Manos

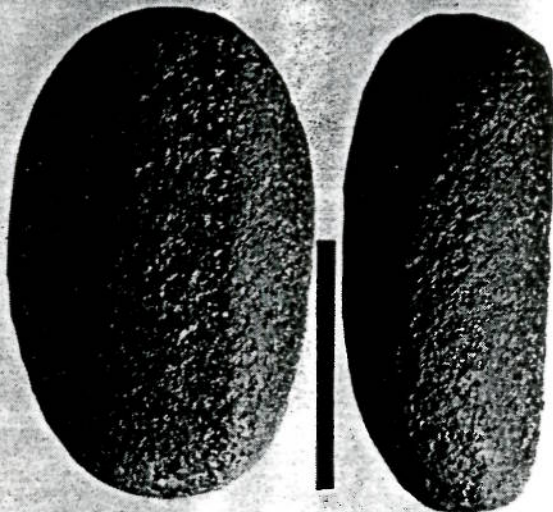
- a. biface - shaped
- b. biface - shaped
- c. biface - shaped
- d. biface - shaped
- e. biface - shaped
- f. biface - shaped



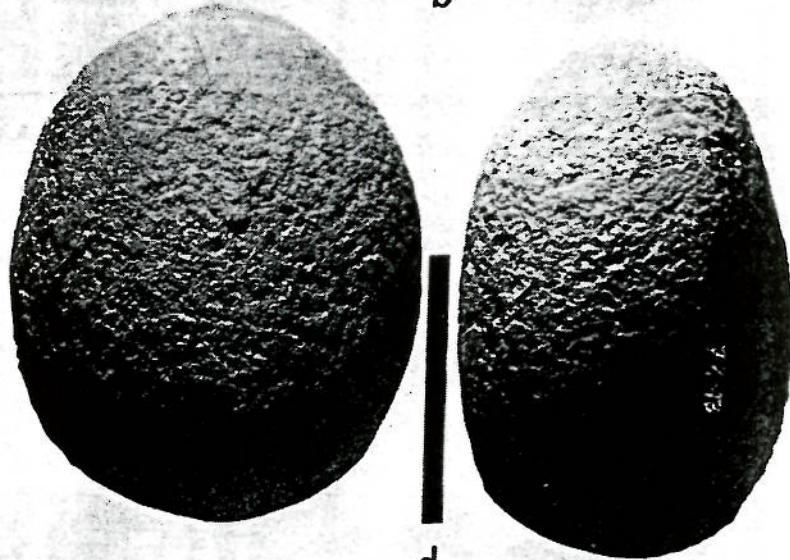
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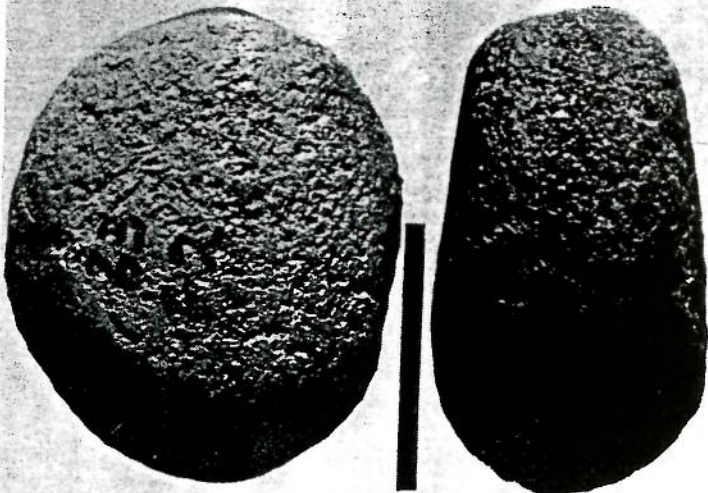
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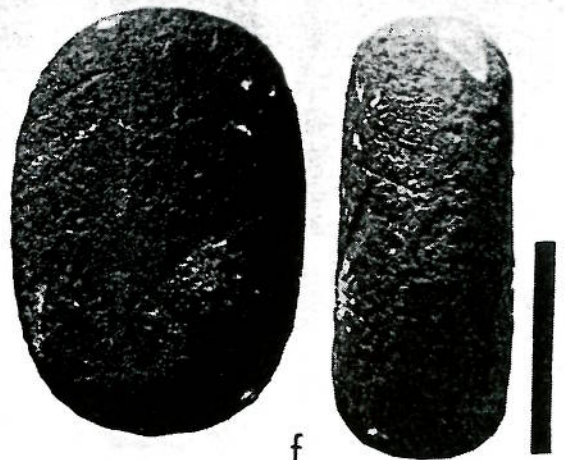
c



d



e



f

Plate 6

Funks Reservoir. Lithic artifacts

- a. Mano - biface hammer
- b. polished stone
- c. cobble tool - uniface
- d. cobble tool - uniface
- e. cobble tool - biface
- f. cobble tool - biface
- g. cobble tool - biface
- h. cobble tool - multifaced
- i. cobble tool - multifaced

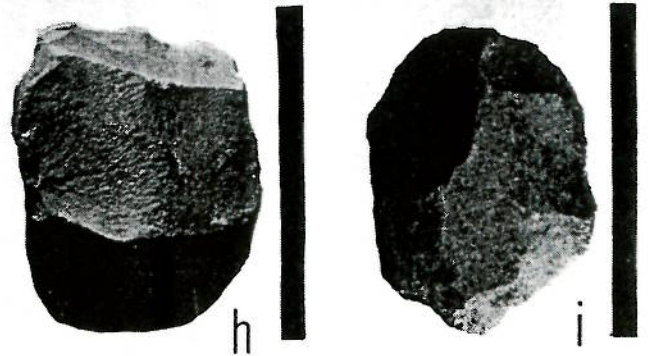
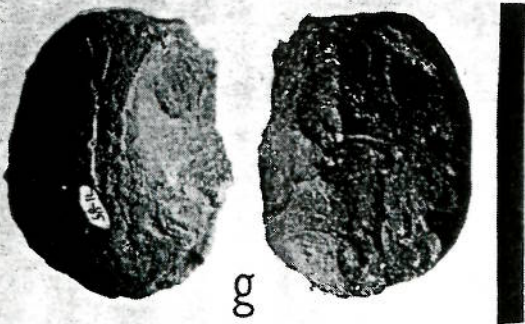
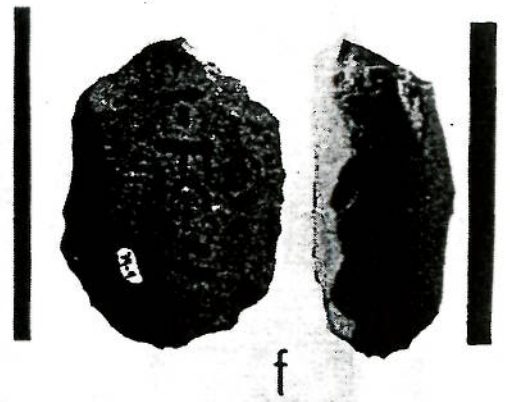
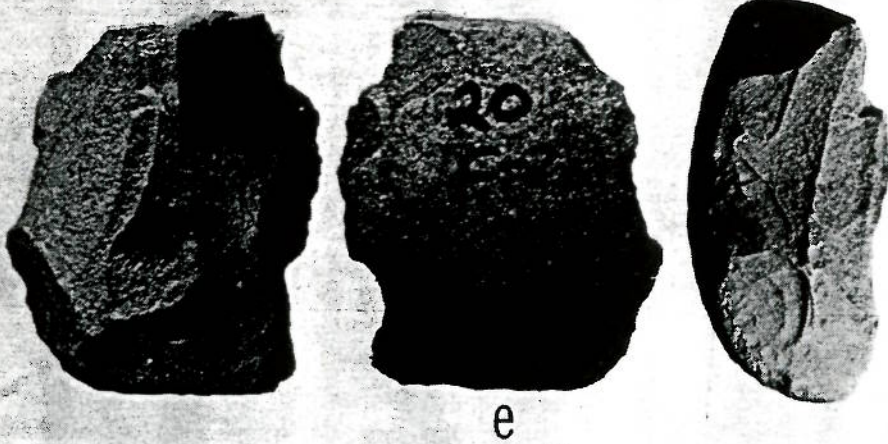
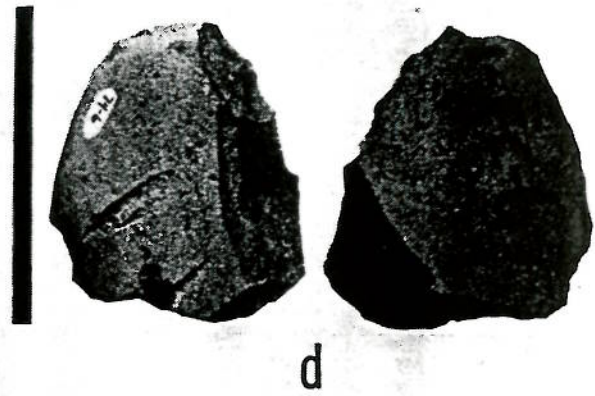
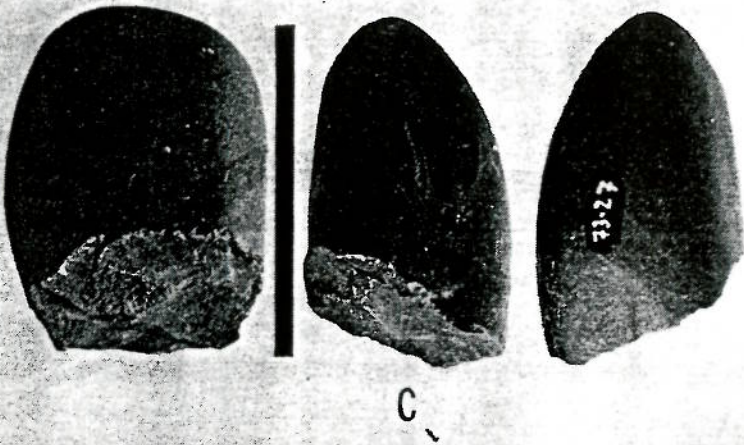
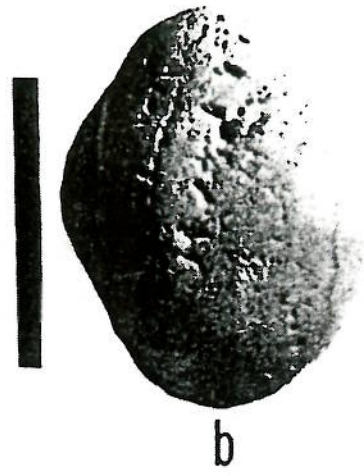
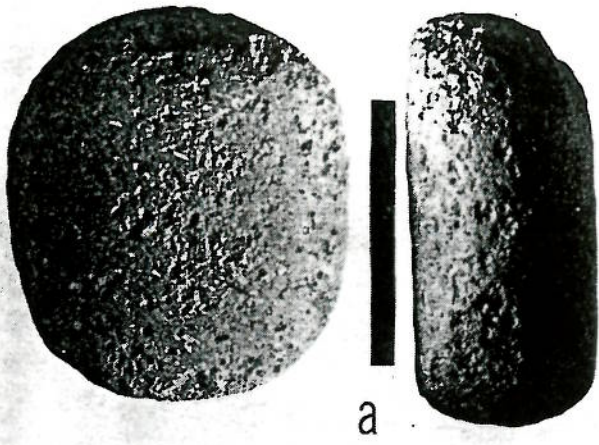
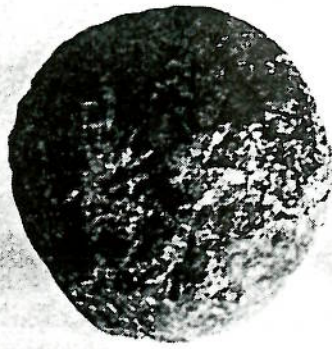


Plate 7

Funks Reservoir. Lithic artifacts

- a. hammerstone
- b. hammerstone
- c. hammerstone
- d. hammerstone
- e. hammerstone
- f. hammerstone
- g. hammerstone
- h. hammerstone
- i. hammerstone
- j. platform core
- k. core
- l. core
- m. core



a



b



c



d



e



f



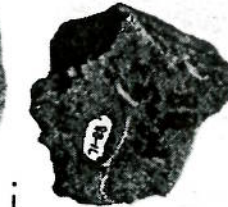
g



h



i



j



k



l



m



n



2 CM

## REFERENCES

- Barrett, S.A.  
1908 The Ethnogeography of the Pomo and Neighboring Indians. University of California Publications in American Archaeology and Ethnology, Vol. 8, No. 1:1-332, Berkeley.
- 1919 The Wintun Hesi Ceremony. University of California Publications in American Archaeology and Ethnology, Vol. 14, No. 4:237-488, Berkeley.
- Barry, W.J.  
1972 The Central Valley Prairie, Vol. 1. State of California - Resources Agency, Department of Parks and Recreation, Sacramento, California.
- Beetle, A.A.  
1947 Distribution of the Native Grasses of California, Hilgardia, 17(19):309-57.
- Burcham, L.T.  
1957 California Range Land: An Historico-ecological Study of the Range Resources of California. California Department of Natural Resources, Division of Forestry, Sacramento, California.
- Burk, G.D.  
1974 Geology and Location Map, Tehama-Colusa Canal-Reach 5, Funks Damsite and Reservoir Area. USDI, Bureau of Reclamation.
- Chartkoff, J.L.  
n.d. Archaeological Resources of the West Sacramento Canal Unit. Report submitted to the National Park Service, Western Region. June 1, 1969.
- DuBois, C.  
1935 Wintu Ethnography. University of California Publications in American Archaeology and Ethnology, Vol. 36, No. 1:1-148.
- 1939 The 1870 Ghost Dance. University of California Anthropological Records. Berkeley.
- Fredrickson, D.  
n.d. Early Cultures of the North Coast Ranges, California. Unpublished Ph.D. dissertation submitted to the Department of Anthropology, University of California, Davis. 1973.
- Goudkoff, P.P.  
1945 Stratigraphic Relations of Upper Cretaceous in the Great Valley, California. Bull. Amer. Assoc. Petrol. Geologists, (29):2,990.
- Harradine, F.  
1948 Soils of Colusa County, California. Berkeley, California.

- Heady, H.F.  
1958 Vegetational Changes in the California Annual Type. Ecology, 39(3):402-416.
- Jepson, W.L.  
1893 The Riparian Botany of the Lower Sacramento. Erythea, 1:238-246.
- Kirby, J.M.  
1943 Upper Cretaceous Stratigraphy of the West Side of the Sacramento Valley South of Willows, Glenn County, California. Bull. Amer. Assoc. Petrol. Geologists, (27):3.
- Kroeber, A.L.  
1925 Handbook of the Indians of California. Bureau of American Ethnology, Bulletin, No. 78, Washington, D.C.  
1932 The Patwin and Their Neighbors. University of California Publications in American Archaeology and Ethnology, Vol. 29, No. 4: 253-423.
- Merriam, C.H.  
1955 Studies of California Indians. University of California Press. Berkeley and Los Angeles.
- Munz, P.A. and D. Keck  
1959 A California Flora. University of California Press, Berkeley.
- Shelford, V.E.  
1963 The Ecology of North America. University of Illinois Press, Urbana.
- Storer, T.I.  
1965 Animal Life of the Sacramento Valley - Past and Present, I-III. Outdoor California, 26(7,8,9).



## APPENDIX A

### HISTORICAL OBJECTS FROM FUNKS CREEK 1, COLUSA COUNTY, CALIFORNIA

Jeanette Schulz

The archaeological site designated Funks Creek 1 (4 Col-27) was also utilized in historic times and a cabin was situated on the knoll which marks this location at least as recently as 1917 (USGS topographic map sites quadrangle 1917 edition). The nature of this occupancy is not known and research so far has not identified the occupants. Evidence for the cabin (on the knoll itself) is almost nonexistent at the present time. An occasional fragment of tile and one or two bricks are all that have survived. Examination of the small creek bed (intermittant) at the base of the knoll, however, revealed several additional artifacts. Some were located in the creek bed proper, others were embedded in the bank of the stream. Since the isolated location here almost certainly eliminates the possibility that these remains were carried in and dumped as a method of trash disposal, it is believed that they are related to the site occupancy, and represent artifacts utilized by the occupants of the cabin. With the exception of heavy cast iron stove fragments, all artifacts were collected and returned to the laboratory for analysis.

#### DESCRIPTION OF THE ARTIFACTS

The artifacts are mostly fragmentary and represent common utilitarian items. Objects made of metal are the most abundant, comprising 52 of the 68 recovered items. The remainder consisting of 2 bricks, 11 crockery sherds and 3 glass fragments. The recovered artifacts have been categorized according to their use.

SEWING MACHINE: Elements recovered include:

1. A welded and cast-iron pulley wheel for a treadle-style sewing machine. It is 14 inches in diameter and the grooved rim to house the pulley belt welded to the frame is 11 1/2 inches in diameter. Three, curved metal rods welded equilaterally to the rim form the spokes and support the center shaft. The general style of this balance wheel was in use for many decades, beginning in the late nineteenth century (Sears, Roebuck and Co., 1897; Wards 1894, 1895, 1922). (Not illustrated)

2. A cast-iron leg for a sewing machine. It has a castor wheel base and is 6 inches high and 3/4 inch wide. The shaft has two sections. One is straight and the other curves off at an angle (not illustrated).

3. A rounded, cast-iron fragment (6 x 1 inch) with the name "STEWART" on the concave inner surface in raised lettering (not illustrated).

4. A cast-iron fragment, rounded at one end with a hole in the middle, and a straight center shaft. The other end is missing but was probably round because a portion of a center hole is visible at the edge. This may be the connecting rod for the sewing machine (not illustrated).

#### STOVE FRAGMENTS

1. A small, plain cast-iron leg base 1 1/2 inches long.

2. A flat, cast-iron fragment (3 x 1 5/8 inches) with screw or bolt holes and raised projections on back. It has traces of black paint on the front surface and is probably part of a stove.

3. An angled piece of cast-iron (4 x 1 1/4 inches).

4. A curved, cast-iron fragment (4 1/2 x 7/8 inches). One side is flat, the other has a raised rim. It may also be a stove section.

#### KITCHEN ACCESSORIES

This category includes both tableware and other equipment commonly

found in a kitchen. It includes crockery fragments, china, and glassware.

Tableware. Very few items in this category were collected. The crockery is mostly heavy, white ironstone used widely by households and restaurants. Ten fragments of ironstone ware were found:

1. Oval serving platters--1 rim fragment, 1 flat base fragment. The base fragment has black charcoal stains indicating it was burned.
2. Saucer or shallow bowl--1 rim fragment with base edge.
3. Cup or mug--1 curved rim fragment.
4. Serving bowl or wash basin--one large section, fluted with flaring rim. It is 3 1/2 inches high and a glaze-firing trivet mark may be seen on the base. (Fig. 2).
5. Two unidentifiable fragments.

Two crockery sherds are decorated and one bears a manufacturer's mark.

The decorated pieces include:

1. A flat base fragment with a brown lithographed flower and leaf design on the interior surface, (Fig. 1,b).
2. A curved fragment with a grey-blue lithographed design on the inside and a manufacturer's mark on the outside bottom ("J & G MEAKIN, HANLEY ENGLAND".) This trademark was introduced in 1890 (Godden, p. 427, 1964) (Fig. 1a).

In addition one fragment of white, soft-paste porcelain was found and is probably from a small bowl or cup. This is a finer ware than the white ironstone.

Only three glass items were collected. All are clear glass and include:

1. A bottleneck rim fragment from a small, mold-brown bottle (mold lines are visible on the neck). The rim is a stopper-type and was probably formed by a lipping tool (Lorrain, pp. 40-41, 1968). This bottle style was commonly used for patented medicines (Fig. 3).

2. A heavy, angled glass fragment with fluting. It possibly is a vase or mug.

3. A 3/8 inch thick, curved glass fragment from a bottle or mug.

Eating utensils are represented by a badly rusted and corroded handle fragment which flares slightly to a rounded end (1 3/4 x 5/8 inch). It is delicate enough to represent a fork or teaspoon handle.

Kitchen equipment other than tableware is represented by two artifacts:

1. A cast-iron food grinder trademarked "UNIVERSAL 2". The wing nut used to fasten it to a surface is rusted to the body, but the handle and grinding mechanism are missing (9 1/2 x 3 1/4 inches) (Fig. 4). Grinders of this style may be purchased in hardware stores today.

2. A coiled wire fragment tapering to a point which is believed to be a corkscrew. This item would be useful in the late nineteenth and early twentieth centuries since many foodstuffs and medicines came in cork-stoppered bottles. Corkscrews are, of course, still widely available today.

Personal items. Several artifacts which might best be considered in this category were recovered.

1. A 1916 Liberty Head Dime. The "S" on the reverse indicates it was made at the San Francisco mint (Fig. 5).

2. A cast-iron mechanical bank in the shape of a square house with gabled roof and arched windows. The roof has one chimney with a square hole opposite it for another which is now missing. One side is indented and has a slot in the wall and the remains of a swivel base in the floor (Fig. 7a, b). Traces of red paint may be seen along the edge of the roof. Banks such as this were popular children's toys and similar examples may

be found in the Montgomery Wards catalogues 1894 and 1895, as well as in the Sears Roebuck Catalog of 1897.

3. Part of the receiver and barrel of a rifle were found. The receiver has a pull-knob charging mechanism and the barrel has a recoil spring at the end suggestive of some kind of semi automatic wear. Tentative identification of the rifle suggests that it is a Remington Model 81. This was an automatic weapon (35 caliber), and was popular during the 1920's and 30's (Emil Z. Amutto, Personal communication 1975).

Tools, Farm and Building Equipment. The only item that could be classified directly as a "tool" is a heavily rusted augur bit 7 3/4 inches long (Fig. 9a). Two forged, square metal spikes or chisel punches may also have been used as tools. Both are 5/8 inch square. One is 8 inches long and the other is 11 1/4 inches long (Fig. 9,d). Both heads are flattened and flared in profile which indicates they were struck forcibly on the top.

Farm equipment is represented by several objects including:

1. Two sections of a rectangular, linked drive chain consisting of 17 and four links each. The links are rectangular with a curved lip at one end to attach to the next link. Each link is 1 1/2 x 1 1/4 inches. They might represent similar drive chain units which could be used to drive heavy farm machinery.

2. A cast-iron tapered bar 7 3/4 inches long with spaced holes and a trapezoidal plate riveted to one end. This end also has a 3/4 inch round hole for mounting on a rod and a groove with holes for possible hinge movement. This also might represent farm machinery (not illustrated).

3. Harness fragments including:

A. A 6 1/2 inch forged iron bar with curved ends enclosing two loops (2 and 3 inches in diameter). The large loop has a

narrowed area that does not fit into the bar (Fig. 8,d).

This item is possibly the cheek ring portion of horse's bit.

B. A large harness buckle (Fig 8,a).

C. A small buckle with a recessed shaft (Fig. 8,c).

D. A buckle fragment the same size as c above.

E. Three copper rivets possibly used on leather strapping (Fig. 6,a, b and c): additional description of each item includes:

a. Is flat surfaced (1/2 inch diameter) with the backing ring attached.

b. 3/8 inch diameter head with raised lettering "LS & Co. SF" around edges. The backing ring also has "LS & CO. SF" impressed into it. This rivet may be from the Levi Strauss Company of San Francisco and represents some clothing item rather than a harness element.

c. a plain rivet backing ring.

F. A horse shoe fragment 7 inches long. It is very worn (Fig. 8b).

4. Several items were recovered that relate to construction or building. These include:

A. three bolts with nuts attached (9, 5 1/4, 3 inches long)

B. two bolts with threaded ends (4 1/4 and 3 3/4 inches long),

C. two bolts without threaded ends (5 3/4 and 3 inches long).

All of the above appear to be carriage bolts (see Fig. 9b, c).

D. Metal rod 9 1/4 inches long with threaded end.

E. One wood screw 1 inch long.

F. Threaded bolt fragment with groove in 3/4 inch head.

G. Eleven square nails. Maximum length was 4 inches, minimum length was 2 inches (Fig. 10,a).

- H. Thirteen round wire nails. Maximum length was 3 inches, minimum length was 2 inches (Fig. 10,g).
- I. 47 nail fragments too badly rusted to tell which type they were.
- J. Two fragments of 2 strands of wire twisted together that probably represent fencing of some kind.
- K. One fragment barbed wire.
- L. Metal U-band 2 inches wide.
- M. Fragment of metal slag, (3 1/2 by 1 3/4 inches).
- N. Two dark red clay bricks (8 x 3 3/4 x 2 3/8 inches). They are rough finished with surface striations and are probably locally manufactured.
- O. Fragment of a cast-iron window sash weight. The presence of this item suggests that the cabin had double hung sash type windows with enclosed pulleys and sash counter balance.

#### SUMMARY

Although the objects recovered here are very fragmentary, several inferences may be made. First, these objects represent items normally found at a small ranch or farm and cabin dwelling. Secondly, most of them are items of simple, everyday necessity of sturdy manufacture. Thirdly, while many of the items are elements associated with ranch work or structure, the presence of the sewing machine and toy bank suggest a family situation. The presence of the sash pulley weight suggests that the house was not casually constructed and that it was framed in a conventional manner. This seems to indicate more than a make shift line cabin or shelter.

When this dwelling was in existence is difficult to determine with

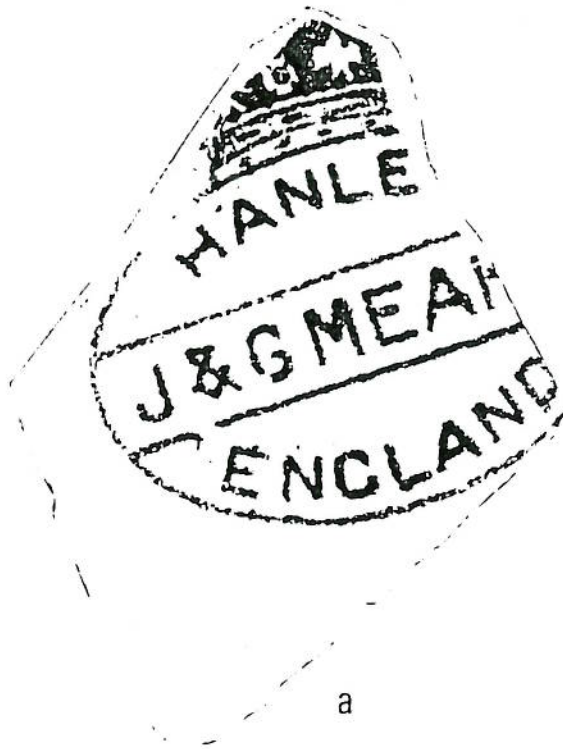
any precision. There is no stratigraphy, and much of the material itself can be dated to the late nineteenth through the early twentieth centuries. The 1916 dime and 1890+ crockery sherd provide a general indication of the time of occupation time range. It is certain that the structure was still standing as of because it is shown on the preliminary topography map of the area which is dated .

Although it is possible that the creek area from which the majority of the artifacts were recovered could have been a dump site, this is considered unlikely because of its isolated location and the known existence of the structure on the immediately adjacent knoll. The burned condition of some of the artifacts suggest that the cabin may have been destroyed by fire.

While it is possible that additional information may be recovered relative to this location and the postulated occupancy via local inquiry and oral history, there is little basis for additional investigation on the site itself. Whatever, additional evidence may have survived the initial destruction of the structure has long since been removed from the site and/or has disintegrated beyond recovery.

No further investigation is recommended and there is no basis for proposing that this locale be included in the National Register.





a



b

FIGURE 1

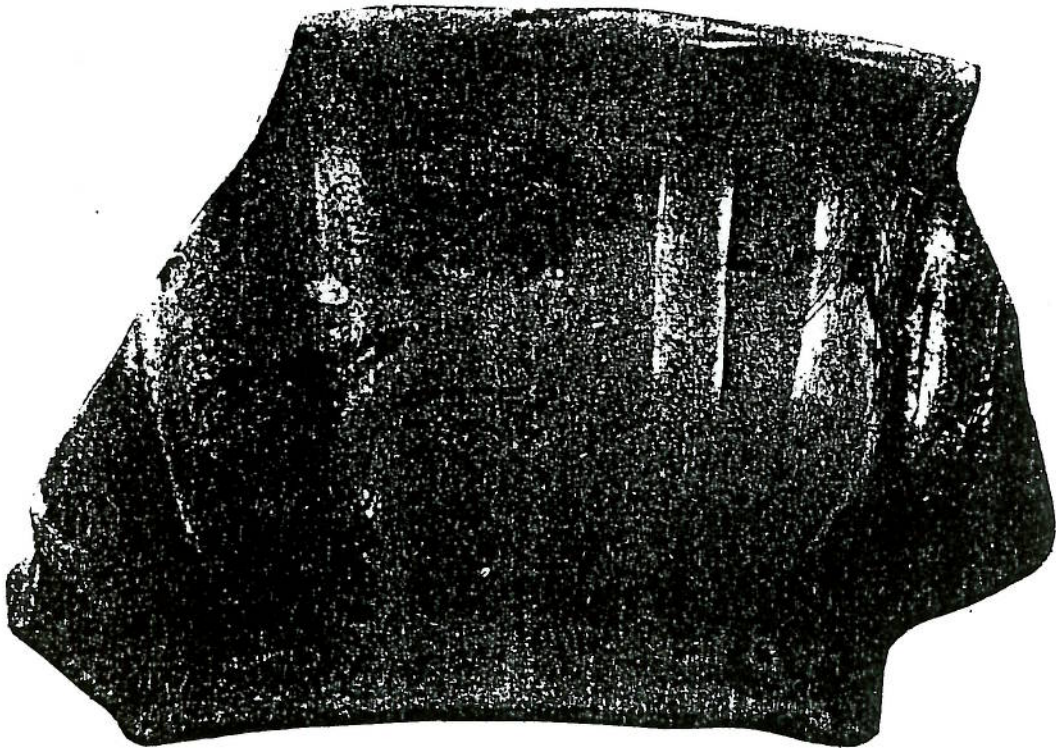


FIGURE 2

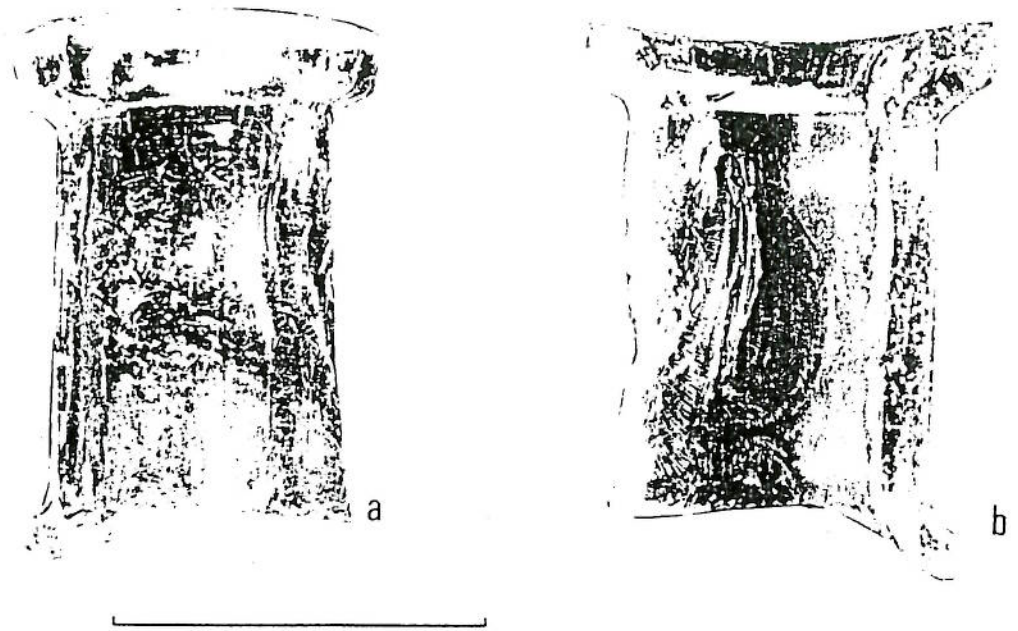


FIGURE 3

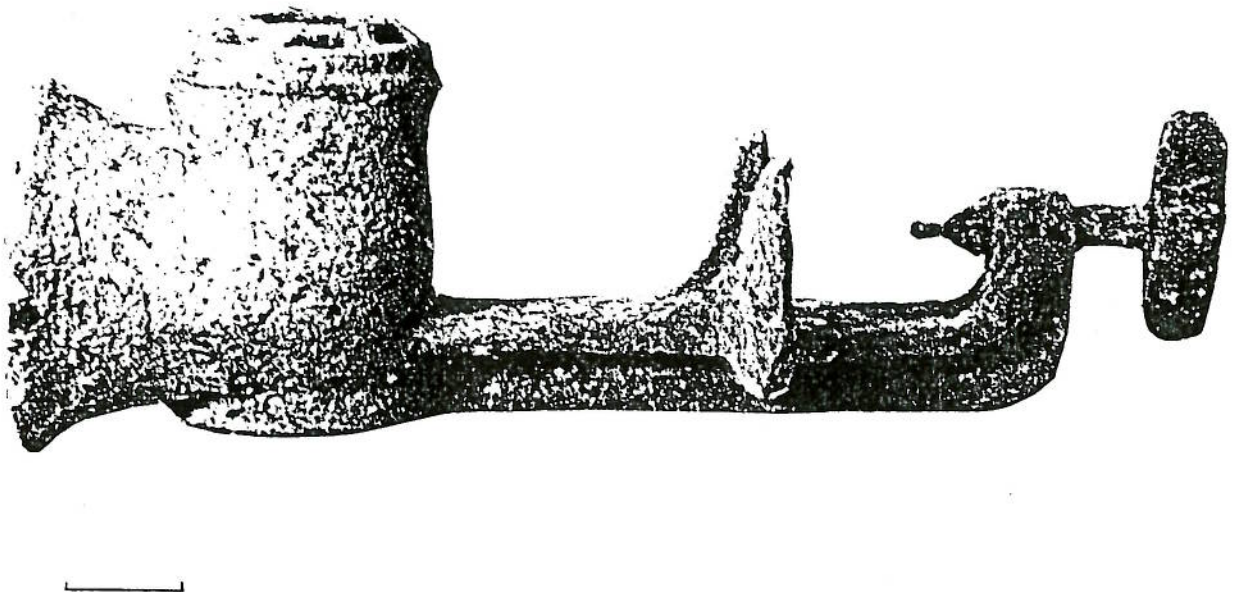


FIGURE 4



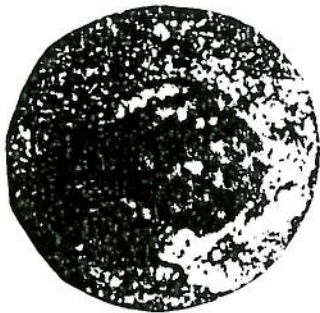
a



b



FIGURE 5



a



b



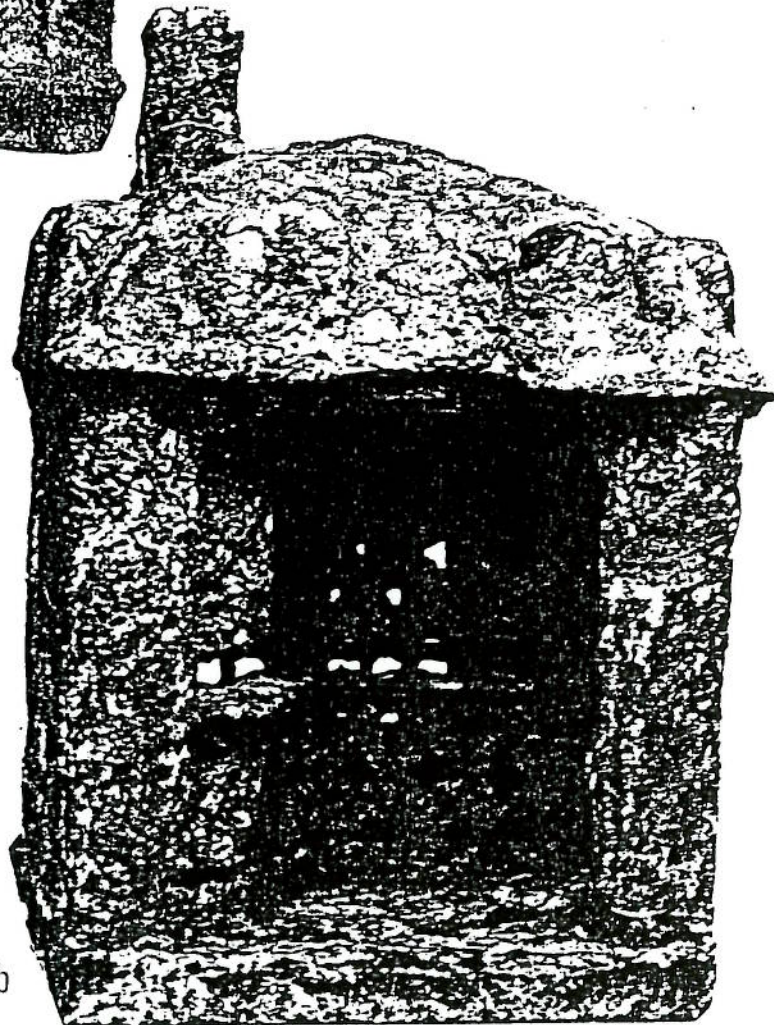
c



FIGURE 6



a



b

FIGURE 7

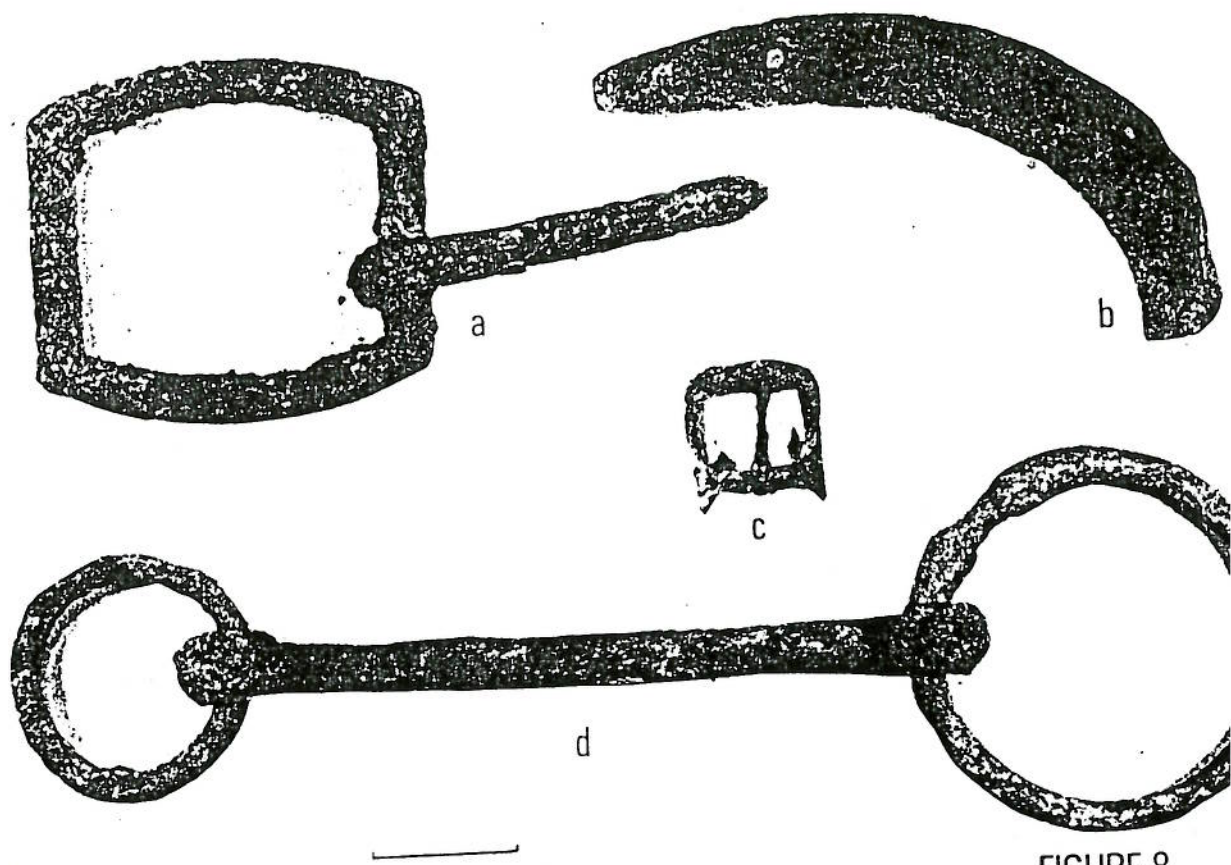


FIGURE 8

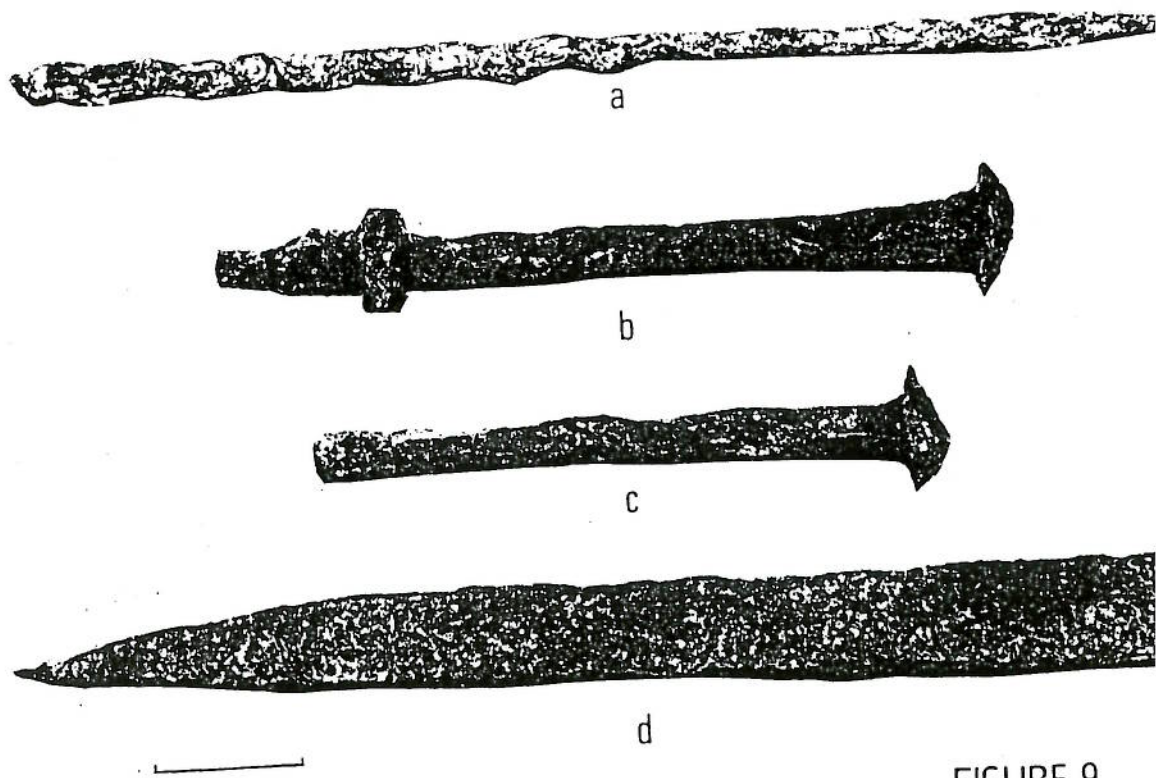


FIGURE 9

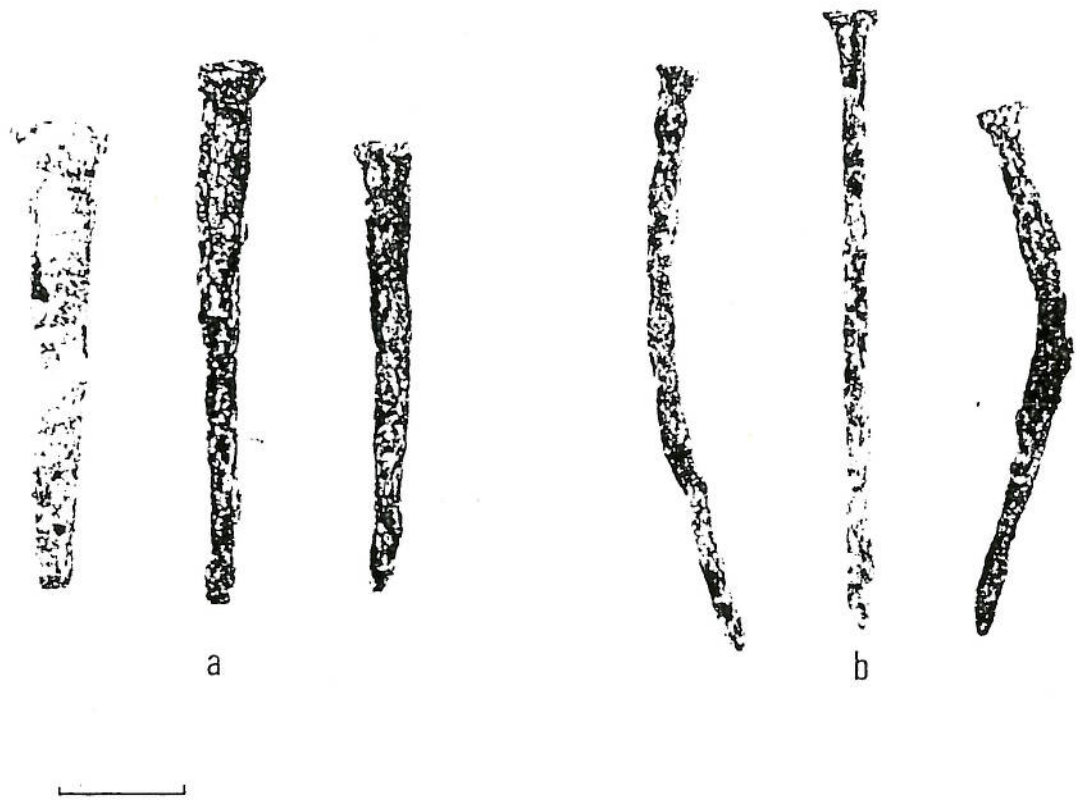


FIGURE 10

## REFERENCES

### ANONYMOUS

- 1895 Montgomery Ward and Company, Catalogued Buyer's Guide No. 57, Spring and Summer. (Reprinted by Dover Publications, New York, 1969).

### COHEN, HAL L., ed.

- 1922 Montgomery Ward and Company, Catalogue No. 97, Fall and Winter, 1922-1923. (Reprinted by H.C. Publishers, New York, 1969).

### GODDEN, GEOFFREY A.

- 1964 Encyclopedia of British Pottery and Porcelain Marks. Crown Publishers, Inc., New York.

### ISRAEL, FRED L., ed.

- 1897 Sears Roebuck and Company Catalogue. (Reprinted by Chelsea House Publishers, New York, 1968).

### LORRAIN, DESSAMAE

- 1968 An Archaeologist's Guide to Nineteenth Century American Glass. Historical Archaeology, Vol. 2, pp. 35-44.

### SCHROEDER, JOSEPH J., JR., ed.

- 1894 Montgomery Ward and Company Catalogue and Buyer's Guide. No. 56 Fall and Winter. (Reprinted by Follett Publishing Co., Chicago/ New York, 1970).





Paper presented at:

Prehistoric aboriginal utilization of  
foothill grasslands in Western Colusa County,  
Calif. presented at SCA 1976 San Diego, West, True, Leavelle

In conjunction with a archaeological evaluation of the proposed Funks Creek Reservoir, a previously unrecorded artifactual pattern was noted as occurring in the western transition zone of the Northern Sacramento Valley. The pattern is similar to what is commonly referred to in Southern California as a "milling stone complex." Although assemblages of artifacts characterized by milling stone elements (primarily manos and metates and a variety of crude core and cobble tools) are relatively common in Southern California sites, they appear to be quite rare in published Northern California sites. The presence of a possible form of milling stone pattern has long been recognized in the North Coast Ranges; Meighan's (1955) as well as, Fredrickson (1974) syntheses of North Coast Range archaeology note the occurrence of milling stone implements in the Borax Lake pattern being representative of an early milling stone manifestation. Other work such as Edwards' (1969) description of artifacts from Thomas Creek, Tehama County, has revealed artifactual assemblages which also appear to be very similar to Southern California milling stone assemblages. This, according to Edwards, represents a Northern milling stone phase and associated chopper industry, and is defined by an almost exclusive occurrence of milling stone.

*More recently, Ed Clevett (1977) reported the association of milling stone implements at a quite early date of 4500 B.C.*

Milling stone elements and core tools made on cobbles are thus not missing from Northern California artifactual inventories. However, they do not traditionally appear in the form of integral assemblages with the same relationships to subsistence base and or age implications as ones from the south. Preliminary evaluation of artifacts from three small sites along the lower reaches of Funks Creek, appear to be almost exact replicas of milling stone assemblages as defined from Southern California sites.

The next

The Funks Creek Reservoir Area is within the ethnographically described territory of the Hill Patwin. Descriptions of these early historic and late prehistoric peoples can be found in Kroeber, 1925; 1932; Barrett, 1908, 1919; Dubois, 1935, 1939; Merriam, 1955. The nature of the archaeological resources within the Funks Creek Reservoir Basin area, however, is inconsistent with these ethnographic descriptions and inconsistent with archaeological data available for the area at large. The differences in artifact assemblages found at Funks Creek and those known from other sites in the Coast Ranges or the adjacent valley provinces, appears quite clear. Previous references to these sites had been made by Chartkoff (1969) as part of a larger multi-reservoir survey project. It was recognized at that time that artifacts from Funks Creek sites appeared to be different than those associated with the area at large. The possibility was entertained that the sites may be representative of an older complex than the known resources for the general region (Chartkoff 1969:13-14). It was then proposed that additional investigation be initiated prior to the construction of the reservoir. The following represents part of the initial results of these additional investigations.

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The Funks Creek Reservoir site is located along the western edge of the Sacramento Valley in a relatively small, flat-bottomed basin bounded by low rolling foothills. The study area is approximately five miles west of the town of Maxwell, Colusa County, California. Physiographically, this region is a transition zone of gently undulating relief (~~— meters above sea level~~) which separates the gently sloping plain of the Sacramento Valley with elevations from ~~— meters above sea level~~, from the Coast Ranges (~~with elevations — above sea level~~). The transition zone represents a narrow zone several miles wide by approximately 80 miles in length. Funks Creek, is one of several eastward flowing streams draining this zone, which empties into the Sacramento River.

The climate of the Funks Creek area is a Mediterranean type with cool winters and hot dry summers. Precipitation is almost exclusively in the form of rain and averages between 18 and 20 inches per year. The majority of the rainfall occurs between the months of November and March with virtually none being received in July and August. Winter temperature average is about 40°F and in the 70's during the summer months. Frost is common in the winter, and temperatures between 90 and 100°F occur often during the summer.

new  
slides  
#4  
#5  
#6

The vegetation of the area can be classed as Valley Grassland (following the typology of Munz and Keck, 1959) or Central Valley Prairie (Burcham, 1957). In its pristine condition, it probably was characterized by perennial bunch grasses which in the past supposedly dominated most of Central Valley prairie. The Central Valley prairie differed from other prairies of the world in both types of perennial species and the larger number and importance of annuals (Beetle, 1947). The bunch grasses have been subsequently replaced by European annual grasses due to their inability to compete with these introduced species, overgrazing by domesticated animals and other agricultural related practices. Today, common grasses around Funks Creek <sup>are</sup> Wild Barley, Bromes (Bromus rubens), Fescues (Fescue spp.) Wild Oats (Avena fatua) and Slender Wild Oats (Avena barbata). In highly disturbed or overgrazed localities on the valley floor grasses compete with Thistle (Cirsium spp.) and Filaree (Erodium spp.). In addition to the filaree's there are a large number of annual forbs which germinate with the winter rains and flower during the vernal period. Many of these have extremely short life spans and germinate, and mature within a few short spring months (Berry 1972:4). Two other flowering periods occur, the second occurring in September with the appearance of the composite Tarweed

(Holocarpha spp.) and the last flowering of the year occurring in November when two or three species of Eriogonum (Buckwheat family) and Grindelia spp. (Composite) bloom and continue to bloom until January (Berry 1972:5; Jepson 1893:238-246). A narrow band of trees found along Funks Creek

#7 proper includes Cottonwood (Populus fremonti), Willow (Salix spp.), California Black Walnut (Juglans Hindsii), and a lone California Buckeye (Aesculus californica). Cattails (Typha spp.) and Tules (Scirpus spp.) are present on the stream bottom and margin.

Mammals native to the area of ~~substance~~<sup>substance</sup> importance included herbivores such as prongbuck<sup>horn</sup> (Antilocarpa americana), Tule Elk (Cervus elaphus nannodees), Deer (Odocoileus hemionus), Jackrabbit (Lepus spp.) as well as carnivores such as Coyote (Canis latrans) and Grizzly Bear (Ursus horribilis).

TE MAP slide

#8

The archaeological sites within the Funks Reservoir occur adjacent to Funks Creek. Funks Creek I (Col-28) was originally described as being on a small knoll (Chartkoff 1969: 13-14), but actually includes the knoll proper as well as the anchor to the proposed dam structure. This site is characterized by a surface scatter of artifacts. There is no evidence of midden or soil alteration as a by product of prehistoric occupancy. A total of 17 artifacts were recorded from the site's surface of which le<sup>35%</sup> were manos and B<sup>47%</sup> were cobble based tools. Chipping waste was rare and there is little or no evidence of tool making. Occasional small thin flakes of obsidian were noted although they are not common.

Funks Creek II (Col-37) is located on the north side of Funks Creek at the base of a small knoll. The site was originally described as a large habitation site with midden covering more than 1500' and four bedrock mortars reported in the bed of Funks Creek. The present study confirmed the location of the site, but our initial surface examination did not result in a confirmation of the presence of a midden deposit and/or any measurable soil alteration resulting from this occupancy.

A total of 102 artifacts were recovered here of which 34 were manos and 32 heavy core tools made on pebbles or cobbles. As was in the case with Funks Creek I, chipping waste are rare and there is no evidence of flaked tool making on any significant scale. Obsidian is present in the form of an occasional <sup>small</sup> flake and no identifiable tools made from obsidian were recovered.

(Col-53)  
Funks Creek III is located on the alluvial basin floor on the south side of the creek west of the knoll on which Funks Creek I is located.

The site is characterized by a surface scatter of artifacts, and as in the case of the previous sites described, <sup>of 92 present they</sup> the artifacts are predominately manos <sup>50%</sup> 46 and core tools made on cobbles <sup>34%</sup> 32.

discussion  
of artifact

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The entire assemblage from the sites can be broken down into nine major categories. These are milling stone fragments, manos or hand stones, cobble tools, hammer stones, cores, retouched, utilized and unmodified flakes and <sup>a single</sup> polished stone. A few pieces of broken bottle glass and iron wire were also noted.

sites described, the artifacts are predominately manos \_\_\_\_\_ and core tools made on cobbles \_\_\_\_\_. ~~Discarding artifacts here; w/Slide~~

As indicated by the above slide the Funks Creek sites were mapped by transit and totally surfaced collected. It was considered unlikely at the time of collection that the surface location of any individual artifact within each site would reflect any significant distributional pattern, due to more than a century of intermittent dry land farming and associated agricultural activities. However, taken as a whole the artifactual assemblages were seen as reflecting a loci of specific activities, in this case, three individual sites.

Once the surface collection was completed Funks Creek II and III were investigated for the presence/absence of midden. Funks Creek I was excluded from this phase of the investigation due to the highly eroded nature of the knoll and its partially exposed bedrock formation along both the top and adjacent slopes. As indicated on the above slides, after the backhoe trenches were examined, soil profiles were recorded. In general the soils of Funks Creek II overlay a sandstone shale bedrock formation followed by a decomposing transition zone (characteristic of soils formed in place), followed by a dark brown silty clay, again followed by a plow zone characterized as a brown clay loam. Back hoe trenches for Funks Creek III reveal a soil profile characteristic of the alluvial basin in which it is located. The lower levels are marked by a dark brown silty clay. The upper plow zone is a grayish brown silty clay loam. At Funks Creek II, trenches were cut to the sandstone shale bedrock formation. No cultural materials were located in any of the trench sidewalls. At Funks Creek III the trenches were cut into the dark brown silty clay and one cut was made at an approximate right angle to the main transect. The secondary cut was excavated to a depth of more than six meters. Again, no cultural material was located in any of the sidewalls --

slide  
#9  
#10  
#11

slide  
#12

CII  
slide

#13  
CIII  
slide

During the course of the backhoe operation each trench cut and excavated soil was examined, subsequent to trenching, with complete soil profile mapping, ~~and~~ column samples <sup>were</sup> ~~being~~ taken along the length of each trench every two meters. These were later separated by methods of wet screening and flotation. Cultural material was absent from these samples except for an occasional tiny obsidian flake recovered from depths in excess of 50 centimeters. The occurrence of these flakes appeared to be related to the large expansion/contraction cracks up to 6 cm wide, which are typical of clay soils, thus representing an instance of surface and near surface remains being redistributed within the soil profile. At the time the trenches were cut, it was possible to trace the presence of these cracks up to 150 cm in depth, and to see fresh plant seeds and other contemporary debris within them. The flotation procedures recovered modern seeds with the floret and related parts still intact from depths up to 130 cm.

<sup>this</sup>  
On the basis then, of the investigation at Funks Creek, so far, the following can be stated with some degree of certainty:

(1) the sites may be characterized as a surface scatter of artifacts and there is no subsurface concentrations of cultural material or midden development.

(2) the artifact assemblages from all the sites are similar and suggest a limited range of activities.

From the data presented here two models can be postulated. The two principal differences between them is their chronological position and relationship to the total subsistence pattern. These two models are consistent with data from sites in other areas which have similar assemblages. Because the assemblages from the three Funks Creek sites are essentially

the same, they will be discussed as a unit.

The first model proposed for the Funks Creek assemblages is that the sites represent satellite camps which are part of the larger resource procurement system of a permanent/semi-permanent village. In this situation they would be seasonal campsites or gathering and processing stations located in especially productive locales of some specific resource. The resource in this case being most probably (~~grass~~) seeds of various kinds. In this model the Funks Creek sites are considered to have been occupied relatively recent in time and thus may have been part of the exploitation and subsistence pattern at the time of contact.

The second model proposes that the Funks Creek sites may represent an earlier exploitation of the area and therefore are not directly related to the pattern previously described, but to the Borax Lake Pattern as defined by Fredrickson (1974:129-131). Borax Lake sites, however, are rare, and little is known or has been published about either the sites or the artifacts believed to be associated. Unfortunately, the data needed to resolve at least part of the problem were not present at the Funks Creek location and answers, if available at all, will have to be sought elsewhere.

In summation the most obvious observation is that almost 80% of the artifacts can be related to some kind of milling activity. Milling activity, in this sense, refers to not only the grinding process itself but <sup>to</sup> the cobble tools and hammerstones which are used to sharpen and shape the actual grinding tools by pecking, etc. These classes of artifacts thus can be considered as representative of a milling complex, since in California they are almost always associated in the same site context, and have been described in the ethnographic record as milling implements.

Basically milling stones and their manos or handstones are



used primarily for the grinding of hard seeds. In this instance, it is felt that the most likely types of seeds processed at the Funks Creek sites were derived from the grasses. If the assumption is made that the area was in the Central Valley Prairie ecozone and was dominated by perennial grasses, and that similar conditions prevailed in prehistoric times; it is reasonable to further assume that the sites were utilized on a seasonal basis to exploit grass seeds as a food resource.

#14 With these assumptions, a more specific description of the aboriginal seed procurement system can be made utilizing botanical and ethnographic data. It is considered likely that in pre-Spanish times most of the Central Valley prairie was dominated by two perennial bunch grasses: purple needle grass (Stipa pulchra) and nodding needle grass (S. cernva). During the spring months these and other grasses grow most vigorously and produce seeds. The seeds are mature by late spring or early summer depending on climatic factors. However, there is only a short period of several weeks where the grasses would have been amenable for harvesting using aboriginal methods (i.e., seed-beater and conical basket). This is between the time when the seeds ripen and fall to the ground. For the Stipa spp. grasses, the critical period usually falls between the end of May and the beginning of August.

I now doubt that Stipa was being utilized since it produces little in the way of usable food, more likely some of the Late Summer Compositae were utilized. T. Gilbert '80

Seed gathering was most efficiently done by individuals, working alone or in a small group. It is suggested, then, that the sites represent short-term (at most several weeks) seasonal processing stations for grass seeds that were gathered locally by small groups of individuals. This time duration and settlement pattern would account for the lack of midden development on the Funks Creek sites.

Other resources, such as grasshoppers, which are available at about the same time as grass seeds, may have been exploited, but evidence other than ethnographic data are lacking. Since both small and large mammals were

a potential resource, but none of their remains or implements for their exploitation, such as projectile points, were recorded. Four bedrock mortars were noted in the sandstone outcrop exposed in the stream bed, but ~~no~~ pestles were recovered from the sites. The mortars suggest the utilization of other resources such as acorns. Today, however, the nearest stand of oak are approximately two miles <sup>away</sup> on the steep hill slopes. Without significant changes in the basic environmental situation there is little basis for suggesting the presence of significant stands of oak tree immediately at hand.

From the results available so far it is felt that the model proposing that the Funks Creek sites represent recent prehistoric short-term seasonal gathering camps or stations occupied by a few individuals and possibly related to a larger permanent or semi-permanent village, is the most likely option. If this can be further substantiated by the location and analysis of collections from similar sites in the area, the description and analysis of the Funks Creek sites can be used to correct and supplement the limited and fragmentary ethnographic data available. Any interpretation remains conjectural, however, until datable material is recovered from these kinds of sites. The age of <sup>the F.C.</sup> these sites is not known and is essentially unknowable based on the extant resources of this particular locale, since no organic material suitable for dating purposes was recovered. Documentation of a consistent pattern <sup>have exact, similar</sup> of site location with an essentially similar artifact assemblage over a wider area would strengthen the proposal advanced above. Once datable material is recovered from one or more of these postulated locales greater control will have been generated over this little known artifactual pattern.

Evidence of an early military site has not been discarded.



# BETA ANALYTIC INC.

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CORAL GABLES, FLORIDA 33124  
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## RADIOCARBON SAMPLE DATA SHEET

Please assist us by answering all pertinent questions. It is important for best results.  
Please contact us at any time for advice, assistance or discussion of results.

SUBMITTER: G. James West DATE 3-8-85

ADDRESS: U.S. Bureau of Reclamation, 2800 Cottage Way, Sacramento, CA 95825

COLLECTOR: G. James West DATE 1975

AFFILIATION: University of California, Davis TEL. (916) 484-4794

COLLECTOR'S SAMPLE CODE NO. 73-95

### INSTRUCTIONS TO LABORATORY CHECK APPROPRIATE BOXES

NORMAL DELIVERY  RUSH

ANALYZE: RADIOCARBON   $^{13}\text{C}/^{12}\text{C}$    $^{18}\text{O}/^{16}\text{O}$   CALCITE/ARAGONITE X-RAY

SPECIAL HANDLING: PRETREATMENT  COUNTING  CALCULATIONS  OTHER

SPECIFY Bone pretreatment

GEOGRAPHIC LOCATION On north bank of Funks Creek in Colusa County, California. Now inundated by Funks Reservoir.

LATITUDE 39° 20' LONGITUDE 122° 17' 30"

TYPE OF MATERIAL Bone, Femur

WEIGHT 75 grams ESTIMATED AGE  < 15,000  > 15,000

EVIDENCE OF CONTAMINATION (ROOT PENETRATION, LEACHING, HUMUS, ETC)

COLLECTION, TREATMENT AND STORAGE PROCEDURES Collected in 1975, museum storage since that time. One end of bone has been dipped in a very dilute solution of HCL.

STRATIGRAPHIC AND ENVIRONMENTAL DETAILS. PUT DRAWINGS AND ADDITIONAL TEXT ON BACK

Found in back dirt pile of exploratory Trench A4 at site FC-2. From less than 50 cm

depth.

DAVIS ARTIFACT

73-95

SITE FC-2

TRENCH A4

DISTANCE FROM CENTER (ca) 40m

UNKNOWN <sup>50cm</sup> ~~10cm~~

HUMAN BONE

...

FRAG. RODENT KNOW

...

13.2" LENGTH, 3.1 DIA (75 GRAMS)

HIGHLY MINERALIZED, STRONG HCL REACTION

WBST



**BETA ANALYTIC INC.**

**(305) 667-5167**

**UNIVERSITY BRANCH**

**P.O. BOX 248113**

**CORAL GABLES, FLA. 33124**

## REPORT OF RADIOCARBON DATING ANALYSES

FOR: G. James West  
U.S. Bureau of Reclamation  
\_\_\_\_\_  
\_\_\_\_\_

DATE RECEIVED: March 15, 1985

DATE REPORTED: May 23, 1985

BILLED TO SUBMITTER'S  
INVOICE NUMBER \_\_\_\_\_

OUR LAB NUMBER	YOUR SAMPLE NUMBER	C-14 AGE YEARS B.P. $\pm 1\sigma$	C13/C12	C-13 adjusted C-14 age
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Beta-12336

73-95

650  $\pm$  70 B.P.

-20.9 0/00

720  $\pm$  80 B.P.

Note: the small sample was done using the AMS technique.

These dates are reported as RCYBP (radiocarbon years before 1950 A.D.). By international convention, the half-life of radiocarbon is taken as 5568 years and 95% of the activity of the National Bureau of Standards Oxalic Acid (original batch) used as the modern standard. The quoted errors are from the counting of the modern standard, background, and sample being analyzed. They represent one standard deviation statistics (68% probability), based on the random nature of the radioactive disintegration process. Also by international convention, no corrections are made for DeVries effect, reservoir effect, or isotope fractionation in nature, unless specifically noted above. Stable carbon ratios are measured on request and are calculated relative to the PDB-1 international standard; the adjusted ages are normalized to -25 per mil carbon 13.

