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Title: Analysis of Two Late-Prehistoric Archeological Sites

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Excavation of two archeological sites, 35JA47 and 35JA49, in the upper Applegate River Valley of southwestern Oregon was conducted in 1978 by the Department of Anthropology, Oregon State University. Site 35JA47 is a multi-component site, of which only the late-prehistoric stratum, containing one complete and two partial housepits and a possible sweathouse, was the subject of analysis. Site 35JA49 is the peripheral remnant of a once more-extensive single component late-prehistoric site.

Each site was subjected to an activity area analysis to locate specialized work areas and develop a picture of space use by the occupants. At site 35JA47, seven cultural assemblages were

identified from at least two successive late-prehistoric occupations. Inside housepit One, activity areas were identified for food processing, lithic manufacture, storage, and sleeping, and similar areas, less the food processing focus, were identified in the sweathouse. At site 35JA47, three activity areas related to lithic manufacture and general work areas were located. Vertical alignment of the areas indicates that site 35JA49 had also been occupied several times.

The range and morphological styles of artifacts, with a few minor variations, are consistent through the various occupation levels and between sites. Theoretically, similarity of style implies similarity of culture system. Therefore, it can be said that a largely similar culture system was employed by the site occupants across time and space, implying that a "culture steady state" was in effect in the upper Applegate River Valley in the late-prehistoric period.

Cultural ties can also be assumed between the Applegate sites and other late-prehistoric sites in southwestern Oregon and northwestern California, also on the basis of a strong similarity of tool types and house style. This similarity lends support to A. L. Kroeber's hypothesis of a related culture system common between populations in that geographic region. Evidence provided by the Applegate sites indicates that this culture area has existed, however, far longer than Kroeber anticipated, perhaps for 2,000 to 3,000 years.

Analysis of Two Late-Prehistoric Archeological Sites on the Upper Applegate River of Southern Oregon

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Chapter I

Introduction

Four archeological sites excavated between 1978 and 1980 in the upper Applegate River Valley of southern Oregon yielded deposits that span 8,000 to 10,000 years of human occupation of the valley. Diagnostic artifacts indicate that during that time the valley was occupied by populations employing different styles of tools, which implies they also lived by different cultural systems. This paper will focus on two sites, 35JA47 and 35JA49, that represent the late-prehistoric period of occupation. They were occupied at some point during the last 2,000 to 3,000 years and before Euro-American contact.

Sites 35JA47 and 35JA49 were excavated by Oregon State University under contract with the U.S. Army Corps of Engineers, Portland District. The excavation was one aspect of a program designed to mitigate the impact of construction of the Applegate flood control dam upon cultural resources in the upper Applegate River drainage of southwestern Oregon.

The Applegate River flows north from the Siskiyou Mountains in northern California to the Rogue River of southern Oregon.

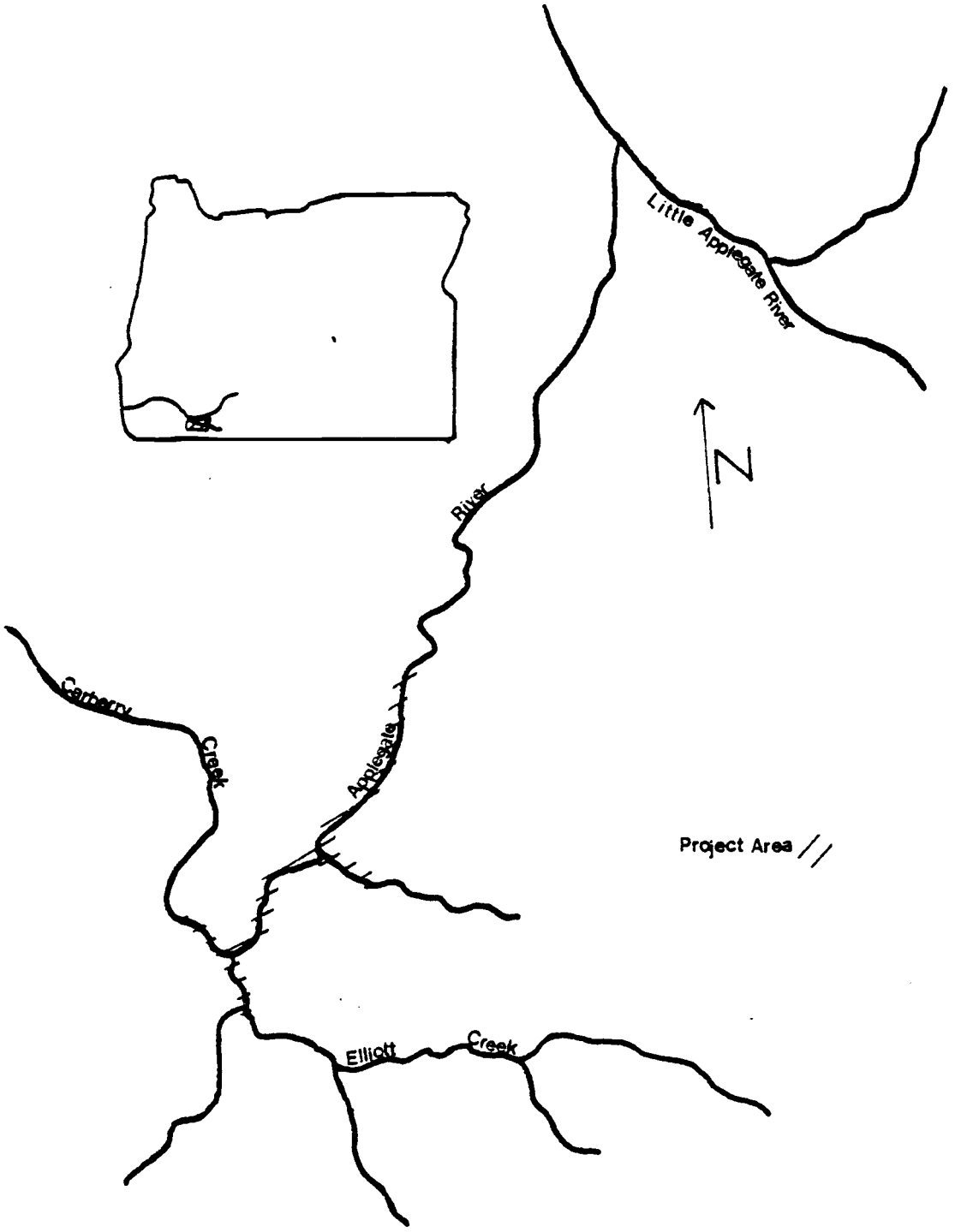


Figure 1. The Project Area in Relation to the State (after Brauner 1978)

The project area lies south of Jacksonville, Oregon, beginning 11 miles above the confluence of the Little Applegate and Applegate Rivers and extending 5 miles upriver to the mouth of Elliott Creek just south of the California border. The project area encompassed the Applegate River canyon, the tributary streams and their canyons, and some upland areas (Figure 1).

Efforts to identify cultural resources in the project area began in 1966 when the National Park Service contracted with David Cole to survey the dam's pool area. Cole located no archeological sites (Cole 1966). Then, in 1976, the Rogue River National Forest hired Joseph Hopkins III to survey four proposed recreation sites adjacent to the pool area. Hopkins located four prehistoric sites and two historic cabins (Hopkins 1976). On the basis of Hopkins' discoveries, the Corps of Engineers decided to re-survey the pool area.

An Oregon State University team, under the direction of David Brauner, conducted the new survey in 1977; twenty-seven prehistoric and historic sites were located. Preliminary assessment indicated that fifteen sites warranted further investigation to determine their eligibility for the National Register of Historic Places (Brauner and Honey 1978).

The University field team returned to the upper Applegate River Valley in the spring of 1978 to test and evaluate the identified sites. Five archeological sites were determined to be significant and eligible for the National Register of Historic Places. Four sites (35JA47, 35JA49, 35JA52, and 35JA53) were

excavated in the summers of 1978 and 1979. At the same time, two standing historic structures were architecturally drawn, and three historic sites planimetrically mapped (Brauner 1979). In 1980, in the final phase of field work in the Applegate Valley, two Euro-American cemeteries were excavated and the burials relocated (Brauner and Jenkins 1980).

In addition to the archeological examination of the cultural resources, an ethnohistoric study of contemporary use of the upper Applegate River Valley was carried out in 1977 (Brauner and Honey 1978). In 1979, an ethnobotanical study of modern valley vegetation was conducted and correlated with ethnographic and historic accounts of plant use by Native Americans in the southwestern Oregon, northwestern California area (Appleton and Smith, ms).

Prior to Oregon State University's excavations in the upper Applegate River drainage, little was known of prehistoric life in southwestern Oregon. Of the few excavations that have been conducted in the area, reporting has largely been limited to a description of cultural features encountered and characteristics of items collected. Analysis of the late-prehistoric component in the upper Applegate River Valley, however, has been conducted in such a way as to permit the extrapolation of cultural information from the material objects recovered during excavation.

Information generated by this analysis, together with information from the preliminary analysis of the older valley components, has provided partial answers to several questions

posed by anthropologists regarding prehistoric life in the upper Applegate River Valley. Questions dealt with include: (1) the length of human occupation of the valley; (2) the antiquity of the historically recorded culture in the valley; and (3) the extent to which the prehistoric populations were affiliated with the regional culture province postulated by other authors (Kroeber 1920; Cressman 1932).

Comparison of information from the final analysis of the older components of the upper Applegate River Valley with late-prehistoric information presented here should generate hypotheses concerning the nature of culture change in the valley throughout the length of its prehistoric occupation. In time, the hypotheses generated from the analysis of upper Applegate River Valley sites can be tested by, and synthesized with, information collected from other sites in southwestern Oregon and northwestern California. This synthesis will permit the formation of hypotheses of prehistoric culture patterns on a regional scale.

Chapter II

Methodology

Lewis Binford states (Binford 1962:218):

> . . . we cannot excavate a kinship terminology or a philosophy, but we can and do excavate the material items which functioned together with these more behavioral elements within the appropriate cultural subsystems. The formal structure of artifact assemblages together with the between element contextual relationships should and do present a systemic and understandable picture of the total extinct cultural system.

Binford's statement implies three assumptions common among archeologists: The first is that human beings act in a patterned way and that everyday activities are performed in a manner determined by cultural factors. The second is that the spatial distribution of archeological debris reflects the behavior that produced it. And the third is that archeologists can develop an image of a social system from its debris. As Watson, Redman and LeBlanc state (1971:113);

> . . . there are always relations between the debris and the actions of ancient peoples and the events and social structures of ancient societies. The archeologist is sometimes limited in his ability to discover just what these relations are. Once he does work them out, however, his only other limitation is the extent of his ability to discern the significance of the reconstructed objects and events.

Several terms will be used throughout this paper that require definition. These definitions are drawn from a discussion of

organizational concepts by Gordon Willey and Philip Phillips (1958). Willey and Phillips postulated several "conceptual units" or "operational tools" for use by archeologists to permit spatial and temporal limits to be fixed to cultural deposits (1958:15). They wished to standardize descriptive terminology to facilitate the synthesis of analytic information. These definitions are:

feature: a term referring to content, duration in time, and spatial extent of a cultural deposit. A feature is a physical object or group of associated objects that exist concretely--a house pit or hearth. It may also be a collection of objects and their spatial distribution that the archeologist perceives to be related in time and space. A feature usually has a well defined area, and the objects involved are contemporaneous. A feature is often task-specific.

assemblage: a term referring to content and duration in time of a cultural deposit. An assemblage is an element of a component; any number of them may exist within a component. An assemblage is a group of artifacts assumed to be contemporaneous. An assemblage is likely produced during a short-term cultural event.

component: a term referring to site content. A component is a cultural stratum in a site which the archeologist perceives to be different from preceding or succeeding strata; differences are usually in artifact style or feature form. Within the component's stratum the artifact and feature form stay the same, indicating a "culture steady state" (Chang 1968) at the site

during that time period. The cultural deposits in a component may represent a single short-term occupation, or may be a series of occupational events spanning several thousand years. A site may have several components or a single one.

Also requiring explanation is the concept of "culture steady state" as defined by K. C. Chang (1967;1968). A culture steady state is a period in which no "significant and meaningful" change occurs within a social system (Chang 1968:3). The system, then, is in a state of equilibrium, both internally and in its relationship with its physical and social environment, and is functioning in such a way that it meets the needs of its participants. That is not to say that the social system is static or stagnant. Rather, the changes that are occurring within it are not of a quality or degree to cause alteration of the system.

When significant change does occur in any element of a society, either the technological, social, or ideological, or in its environment, then according to theory, change will also occur in all the other societal subsystems until they are once again in a state of equilibrium, both internally and with their environment.

A culture steady state is archeologically detectable by the absence of significant change through time in the artifact collection at a site within a culture area. By implication, if no significant change has occurred in the technological system at a site, then none has occurred in the social system as a whole.

An open area method of excavation was employed at sites 35JA47 and 35JA49. This technique is specifically designed to

permit acquisition of artifactual data in their spatial contexts. Technical characteristics of the open area method are: (1) placement of excavation units contiguous to one another to form blocks of units; (2) maintenance of artifacts and debris in their original location until completion of an excavation level; and (3) synchronous excavation of units in a block.

In the open area method, the unit of site excavation is not so much the individual 2 x 2 m unit, but the block of contiguous units. Excavation of blocks of units permits the recovery of whole features and associated living surfaces rather than random fragments of a surface. Synchronous excavation of block units periodically exposes an entire surface for examination. And, as all cultural material is kept in situ until completion of a block level, the archeologist can examine the block area for patterns of artifact distribution indicative of activity areas while the original association between artifacts still exists.

Two blocks of units were excavated at both sites, 35JA47 and 35JA49. All units were excavated in 10 cm arbitrary levels. If a feature was encountered, it was excavated separately along its natural contours. The 10 cm level was maintained inside a feature. To minimize the displacement of artifacts during excavation, skim shoveling and troweling were the approved methods of excavation.

Care was taken to record the exact location of all artifacts encountered during excavation. A cartesian grid of 2 x 2 m squares was established over each site for horizontal control.

The horizontal location of each artifact was measured from a unit's north and east walls. The vertical location of each artifact was measured relative to a permanent datum established at each site. After all units in a block were excavated to a given level, the block was photographed and a map was drawn showing the location of all artifacts and debris exposed in that level.

Activity area analysis was the analytic method used in the study of the data from sites 35JA47 and 35JA49. It was applied in the manner developed by David Brauner for his analysis of the Alpowa locality (1976). The method is founded upon the concept noted earlier that use of space is culturally determined rather than random. The activity area analyst, then, works to extrapolate an image of a social system from the distribution of its debris.

A researcher employing the activity area method first examines the spatial distribution of artifacts and debris in order to isolate task-specific activity areas. The researcher then studies the spatial relationship of the individual activity areas to develop a picture of how the site's occupants organized their living space. Finally, the researcher extrapolates a picture of the site occupants' social system from his space-use model.

An empirical rather than a statistical form of activity area analysis was used in this analysis. Spatial patterns of artifact distribution were determined only by visual examination

of distributional maps. A statistical test of the validity of the empirical results was contemplated, but the idea was dropped. This decision was based upon Diane Hauser's (1978) experiences when she attempted to conduct a statistically based activity area analysis of a house pit from the Alpowa locality. In her attempts to apply a chi-square test to the distributional data, she found that small sample size (9 to 43 artifacts) and relatively large degrees of freedom made tests meaningless. Hauser states (1978:46) ". . .the contents [of an activity area] would have to have been enormously different before any statistically significant differences would have been indicated."

For this analysis, the artifact collection from both sites was classified by an artifact's assumed function and morphological characteristics. Microscopic analysis of the collection was not attempted. All artifacts and cultural debris were plotted on site maps, and then the maps were examined for empirically discernable distributional patterns.

Chapter III

Physical Setting

The Applegate River flows through the Klamath Mountains physiographic province of southwestern Oregon (Baldwin 1964:4). The province is characterized by high topographic relief, with narrow river canyons rising abruptly to rugged mountains. Geologically, the mountains are of Triassic and Jurassic meta-volcanic and metasedimentary deposits of the Applegate and Galice Groups (Baldwin 1964:77-82).

Soils in the upper Applegate River canyon are highly disturbed due to frequent flooding. The modern floodplain is characterized by alluvial deposits, with little or no vegetation. The alluvial soils are variable, ranging from cobbly to sandy. Unmodified alluvial fans in the valley are typically of the Ruch Series soils. They are composed of a well drained dark brown to reddish brown loam bedded on clay loam subsoils (Power and Simonson 1969:60-61). Uplands in the Applegate River drainage are typified by exposed bedrock.

Annual precipitation in the area ranges between 30 and 50 inches per year. Average temperature ranges from 32° in January to 66° in July (Highsmith 1962:31-32). Vegetation within the Applegate River Valley drainage is extremely diverse. Appleton

Table 1

Principal Species of Vegetation of the Upper Applegate River Drainage*

Douglas fir (*Pseuditsuga menziesii*)
Ponderosa pine (*Pinus ponderosa*)
Sugar pine (*P. lambertiann*)
Canyon live oak (*Quercus chrysolepis*)
Pacific madrone (*Arbutus menziesii*)
California black oak (*Quercus kelloggii*)
Oregon white oak (*Q. garryann*)
Chinkapin (*Castanopsis chrysophylla*)
Pacific yew (*Taxus brevifolia*)
Willow (*Salix sp.*)
California hazel (*Corylus cornuta californica*)
Manzanita (*Arctostaphylos patiala*)
Kinnikinnick (*A. uva-ursi*)
Squawgrass (*Xerophyllum tenax*)
Tule (*Scirpus validus*)
Camas lily (*Cammassia sp.*)
Tarweed (*Madia sp.*)
Blackcap (*Rubus leucodermis*)
Blackberry (*R. ursinus*)
Salmonberry (*R. spectabilis*)
Red huckleberry (*Vaccinium parvifolium*)

*Scientific names as given in Franklin and Dryness (1973, Appendix II.

and Smith (ms) identified four distinct vegetation types in the drainage: pine-oak woodland, mixed evergreen forest, riparian, and upland meadows. Principal available species noted by Brauner and Honey (1978:4), Hopkins, et al. (1976:12-13), and Appleton and Smith (ms) are presented in Table 1.

Sites 35JA47 and 35JA49 are situated on opposite ends of Sinns Bar, an alluvial flat on the east side of the upper Applegate River (Figure 2). The bar is 1,800 feet above sea level and is approximately three-quarters of a mile long and one-half mile wide. Mountains rise abruptly from the perimeter of the flat. Easy access to the uplands from the flat is possible, however, through French Gulch, a tributary stream canyon that enters the Applegate River canyon at the northeast end of Sinns Bar.

The physiognomy of much of the floor of the upper Applegate River canyon including portions of Sinns Bar were altered in the historic period by hydraulic mining. Gold was first discovered near Jacksonville, Oregon, in 1852, and miners were active in the upper Applegate drainage by the mid-1850s. In the 1870s, hydraulic mining activity was so extensive in the upper drainage that only a thin stream of water was reaching the mouth of the Applegate River. In hydraulic mining, a high pressure jet of water is used to wash soil and gravel deposits from place and into waiting sluice boxes. Extensive sections of alluvial deposits along the river were scoured to bedrock (LaLande 1980:69-74).

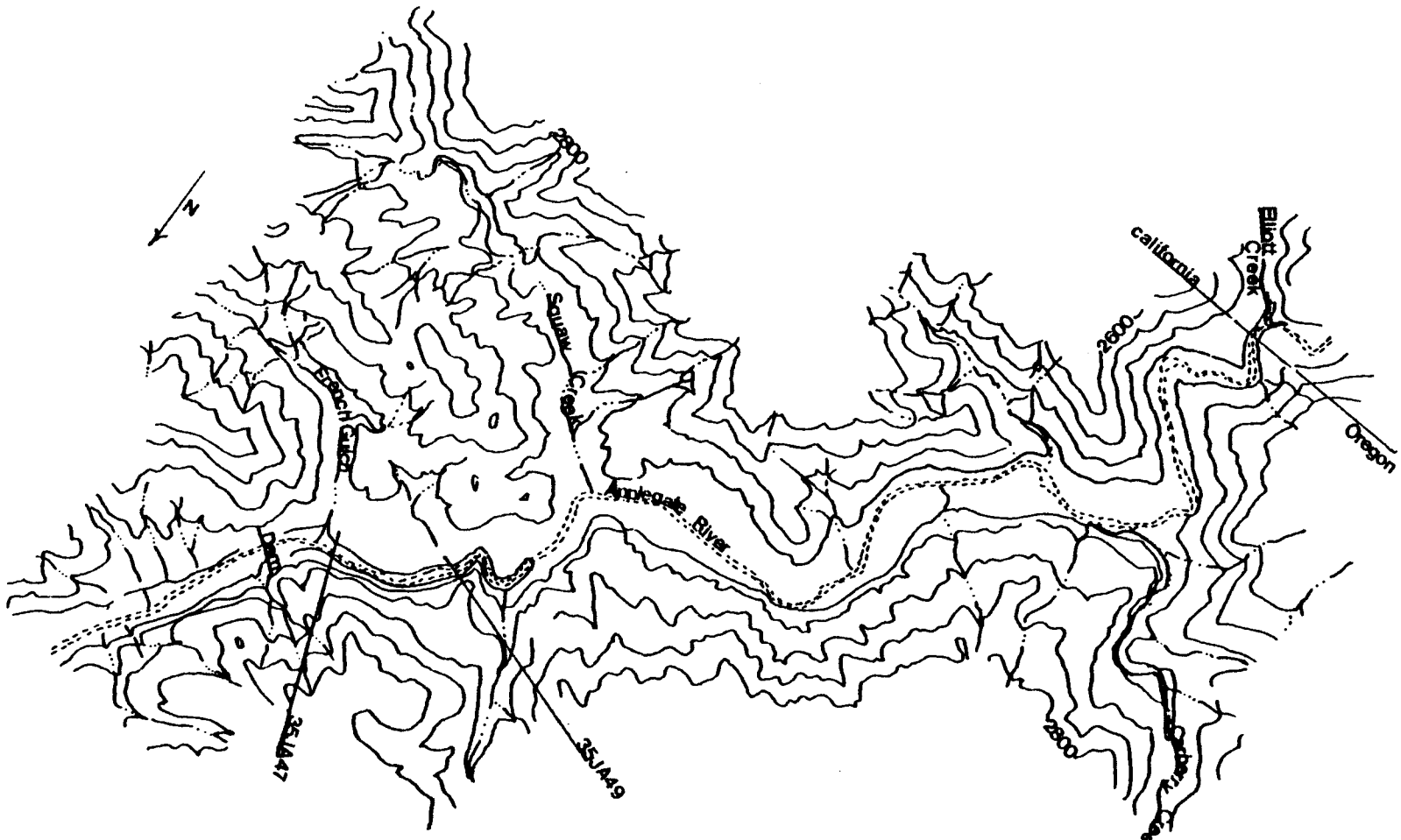


Figure 2. Location of Archeological Sites 35JA47 and 35JA49
(after Brauner 1978)

The latest alteration to the landscape of the upper Applegate River drainage was the construction of the Applegate flood control dam. Completed in 1980, the dam has created a lake approximately 6 miles long from the mouth of French Gulch to Elliott Creek. Sinns Bar is now under water.

Chapter IV

Ethnography

The Takelma Indians were the occupants of the upper Applegate River drainage at the time of Euro-American contact. The Takelma were organized into two politically and geographically separate subgroups, the Dagelma and the Latgawa. The names translate respectively as "those living alongside the river," and "those living in the uplands" (Sapir 1907a:252). They were more commonly referred to as the lowland and upland Takelma.

Little is known about the Takelma, and what is known is from Edward Sapir's interview of Mrs. Frances Johnson in 1907. Mrs. Johnson was of the Dagelma Takelma. She lived on the Rogue River with her people until "more than a mere child" (Sapir 1907b:33). At the time of the interview, only three Takelma were known to be alive. A. L. Kroeber estimates the Takelma population at 500 in 1851 (Beckham 1971:9). Most died in the Rogue Indian Wars of the early 1850s or after 1855, died of illness while living on the Siletz Indian Reservation.

Sapir identifies the lowland Takelma's territory as extending from Cow Creek north of Grants Pass, south to the Rogue River, and from the Illinois River east to Table Rock (1907a:251-252). He places the upland Takelma in the vicinity of Jacksonville and

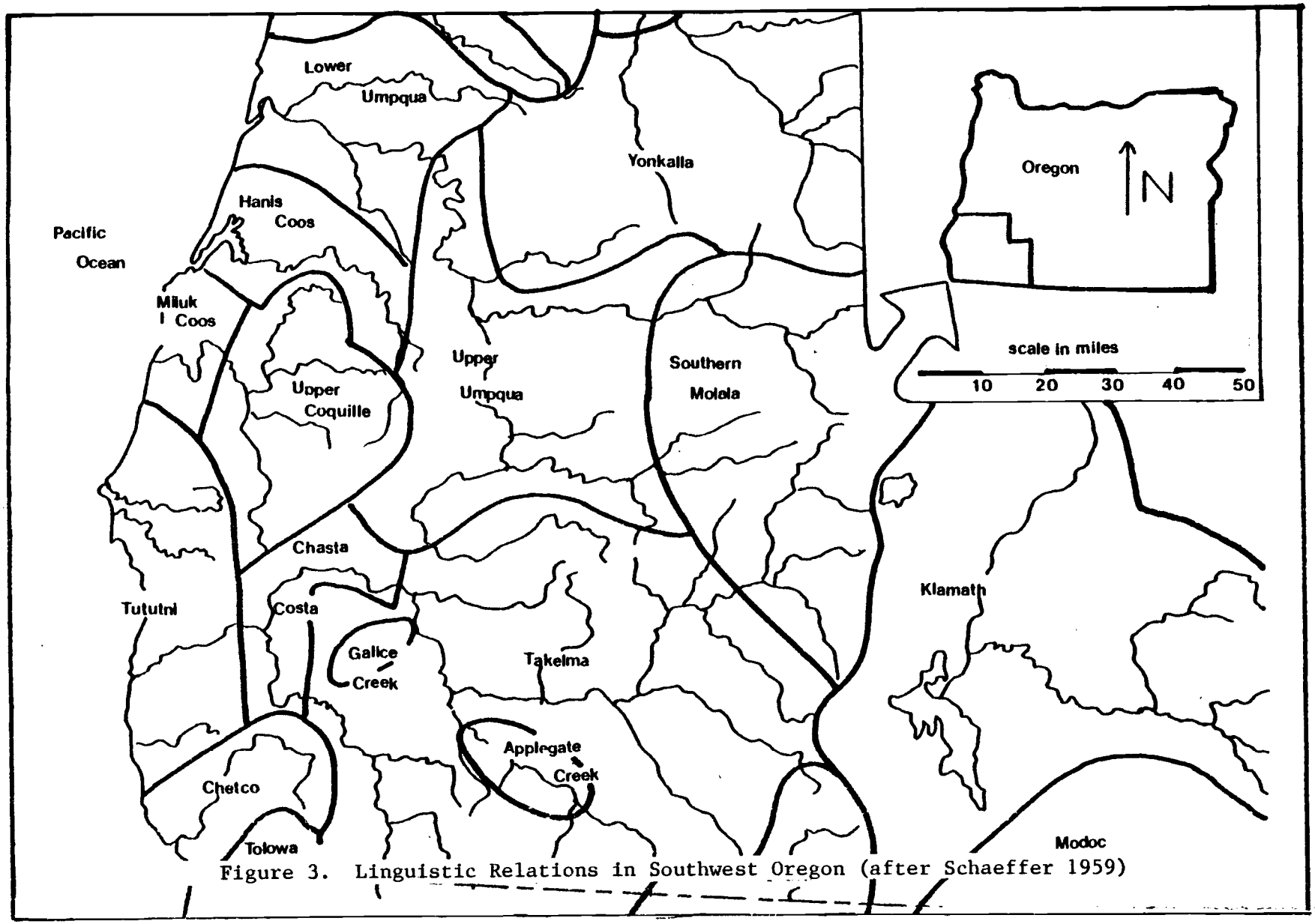


Figure 3. Linguistic Relations in Southwest Oregon (after Schaeffer 1959)

east of Table Rock. A more recent estimate (Shaeffer 1958) indicates that the upland Takelma may have also resided in the upper Applegate River drainage (Figure 3).

Both groups of Takelma spoke a language of the Penutian stock, but Sapir noted dialectical differences between the speech of the two. He states that the upland population's speech was "very nearly the same as Takelma proper, but with distinct phonetic and lexicographic dialectical differences" (1907a:253). His informant detailed additional differences between the two groups; she said the upland Takelma were shorter, more warlike, used log rafts rather than canoes, and ate foods that were disgusting to their lowland relatives. She indicated that the two populations acknowledged their social kinship, but did not live in a state of friendship.

The Penutian speaking Takelma were surrounded by populations belonging to other linguistic families. The Shasta to the south spoke a language of the Hokan-Siouan stock. Athabascan speakers lived to the north and west--the Chasta Costa, Yoncalla and Tolowa. Two Athabascan populations lived inside Takelma-held territory in isolation from their fellow speakers. Drucker says these bands, living on the lower Applegate River and on Galice Creek, had become "almost Takelma in culture" (1940:223).

Despite their linguistic differences, these societies appear to have shared a common way of life. Kroeber (1920) noted that southwestern Oregon and northwestern California societies shared a large number of cultural traits, and these same traits

were not to be seen in populations located further to the north or south. He postulated that the in-common culture traits indicated that populations in southwestern Oregon and northwestern California were "very closely related, so much so, in fact, as to constitute but a single [culture] area" (1920:156). Specifically, he felt that the Shasta and Takelma were very much alike and that both of these societies derived much of their manner of living from societies living further south on the Lower Klamath River.

The ethnographic data presented in this paper are drawn from Sapir's accounts of the Takelma (1907a; 1907b), from Dixon's Shasta ethnography (1907), and from Drucker's account of the Tolowa (1940). Cultural practices for each population were highly similar in form and function. Therefore, they will not be described for each population, but will be presented as generally true for all three, unless specific intersocietal differences were noted.

The ethnographic populations were semi-sedentary hunters and gatherers. For about five months of the year they occupied semi-permanent or permanent winter villages adjacent to a river. In the spring, as roots and berries began to ripen at higher elevations, the village unit would disband into smaller family units. Each family would spend the spring and summer in the uplands collecting plant foods and hunting game, returning again to the river canyon villages in time for the fall fish run. The winter village population held rights to, or controlled access to,

the land through which the families ranged. (Drucker 1940:232; Dixon 1907:421).

The basic political unit was the village. Most villages were occupied by either a single family group or two or three related families. Each village was autonomous; no cohesion of single villages into a tribal unit occurred. Blood ties between members of different villages were recognized, but entailed no obligation to the relative's village or its politics (Drucker 1940:242-245).

Each village had a headman or chief--women could not serve in this role. According to Sapir (1907a:267), a Takelma village could have more than one headman; usually the head of any wealthy family could act as a chief. The Shasta had a hereditary chief with the office passing from a man to his brother, and then to his eldest son (Dixon 1907:451). A chief could be deposed by his successor, as his authority was based only upon his ability to command the respect of his family or village.

A chief or headman's duties included: (1) payment of bloodmoney for a village member if that person could not do so himself--hence, the need for wealthy chiefs; (2) acting as an advisor to people; (3) serving as mediator in inter- and intra-village disputes, and aiding in the payment of any associated fine; and (4) setting peace terms in war--the chief did not participate in a war. A headman had no formal council to assist him in his duties, but often acted with the advice of the older men of the village (Dixon 1907:451-453).

Social position within a village was determined by three factors: (1) economic class--rich or poor; (2) individual status--free or slave; and (3) family status in the village. Social mobility was restricted, as slaves could not become free, and the poor could not become rich. Wealth often passed between wealthy families, but rarely passed from the rich to the poor (Sapir 1907a:267; Drucker 1940:241).

The family was the basic social unit. No totemic clan organization was recognized. The family unit was an extended one and included in-laws and their families. Sapir (1907a:267) identified twenty-seven different terms pertaining to intra-familial relationships among the Takelma. Family membership was inherited through the paternal line; newly married couples moved into the house of the husband's father and became a part of his family.

Property was owned by the entire family--no single family member owned land or wealth objects. Wealthy families owned rights to exclusive use of parcels of land that encompassed prime fishing, hunting, or food collection areas. Only family members were permitted to harvest the food from those parcels, but they were required to give a portion of that harvest to anyone who demanded it. Non-family members could also request or purchase temporary use of a family parcel (Dixon 1907a:452).

An extended family unit had a headman much as a village did (they were often one and the same person), and he decided how the

family's wealth was to be used. He did not own the family possessions himself, only managed them.

The familial headman's duties were: (1) to hold the bride prices of all the daughters of the family; (2) to provide part of the bride price for a needy family member; (3) to help with blood debts incurred by a family member; (4) to build a sweathouse for use by all male family members; and (5) to give feasts (Drucker 1940:242-245).

In return for the monetary benefits a family's headman provided, the poorer family members served as his labor force. Their labor might be used to build the family sweathouse or to hunt for game. Thus, the wealthy and poorer families in an extended family unit were bound together by a system of mutual need and cooperation (Drucker 1940:242-245).

Marriage was also a family business and desirable matches were often made when both partners were young. A bride was purchased from her family; her value was determined by her parents' wealth and social status. A man purchased the most expensive bride within his price range, as her purchase price determined the value of their children. Marriage between two individuals also bound their two families into a system of duties and benefits. Marriage of an individual into a prominent family benefited all members of that individual's family (Dixon 1907:461-465).

Marriage within a family was not permissible; non-marriageable relatives included some classes of in-laws as well as blood relatives. Marriages were often made between members of

different villages since all families in a single village were frequently related. Marriage outside of a person's culture group was not uncommon--Takelma men often married Shasta women (Sapir 1907a:267).

A system of compensation for injury or insult was the norm rather than retaliation in kind. For minor crimes, a family or village headman set a fine to be paid to the victim's family. In serious cases, such as murder, a formal system of settlement involving the entire village was initiated. For murder, the victim's family had to be paid his value, established at the victim's birth. Payment was usually in goods, women or dentalium money. If the victim's family revenged themselves by the retaliatory murder of a member of the killer's family, then the debt was cancelled (Sapir 1907a:265, 270; Dixon 1907:453).

Drucker (1940:225) felt that the compensatory system was motivated by pride rather than greed. He felt that to the Tolowa and other societies with this penal system, injury to an individual's person or property was an assault on that person's prestige. If a stiff payment in return for the insult was not demanded, then the victim was indicating that he was not worthy of the respect of his fellow men.

No systematic worship of a god or power was apparent among the ethnographic populations studied. The most active supernatural elements were spirits or 'pains' that inhabited animals or natural objects in the everyday environment. These spirits were considered to be the cause of all manner of illnesses or bad luck

in humans; no illness was considered to have happened from natural causes (Sapir 1907a:34, 36; Dixon 1907:468).

A shaman was the human vehicle through which a spirit worked its mischief. Most shamans sought power. A spirit could, however, choose an individual who did not seek shamanistic power, and the individual could not refuse the power. A shaman was controlled by their spirit, and could not refuse to do as the spirit desired without risking death or abandonment by their patron spirit (Sapir 1907b:41-42; Dixon 1907:471-477).

A shaman had the power to cause or cure illness. Illness was caused by the injection of their spirit 'pain'. A shaman was often hired to inflict his 'pains' upon a person. Because of their deadly power, a shaman was feared by the general populace; the extent of this fear was reflected in the attitude toward murder of a shaman. Only a small blood debt was paid to a murdered shaman's family as it was felt that the shaman undoubtedly deserved death (Sapir 1907b:40-44).

Few elaborate ceremonial occasions were observed by the ethnographic populations. Births were marked by dietary restrictions and isolation of the parents from the village. Deaths were marked by the performance of formalized dances and singing of songs around the body. These actions were designed to persuade the deceased to carry away all 'pains' with him.

A first fruits ceremony for the acorn harvest was observed, involving dietary restrictions on the part of the women, and a "formulaic ceremony" performed by the men. Dances were also

conducted, and dietary restrictions observed before going to war (Dixon 1907:439, 453-455, 465-467; Sapir 1907a:257-258).

The most complex ceremony performed occurred when a girl reached puberty. The girl was isolated in a menstrual hut and allowed little food or sleep and no view of the sky or fire for five to ten days. At night she emerged to participate in lengthy and highly formal dances held in her honor. After three such occasions she was considered to be marriageable. No corresponding ceremonial occasion marked a boy's advent into manhood (Sapir 1907a:262; Dixon 1907:456-461).

Principal foods utilized by the inland ethnographic populations included acorns, camas, fish, deer, and elk. Other plant foods included a wide range of berries, sunflower and tarweed seeds, and pine and hazel nuts. The protein diet was filled out by small game and birds. The upland Takelma were known to include grasshoppers and yellowjacket larvae in their diet (Sapir 1907a: 258-260; Drucker 1940:232).

Most plant foods were pounded into flour or cooked into a dough and stored for the winter in baskets. Sapir (1907a:257-258) and Dixon (1907:425) detail the method used to process acorns into an eatable form; acorn meal or mush was the "most typical" food of the southwestern Oregon, northern California region (Sapir 1907a: 258).

Women collected acorns in the early spring when the nuts first appeared on the trees. The first step in the preparation process was to shell the acorns on a flat rock embedded in the ground.

The shelled nuts were then placed in a hopper-mortar--a funnel-shaped basket gummed to a large flat rock--and pounded into a fine meal with a stone pestle. Sapir says (1907a:257) pestles used in acorn processing were as much as three feet long with their non-functional end pecked and ground into a decorative shape. The meal was next sifted in a shallow basket, then placed on washed sand and doused with seething water to leach out the bitter acids. The resulting dough was boiled into a mush by dropping hot stones into a waterproof basket full of the food. Acorn mush was eaten fresh, or stored in baskets for later consumption.

Camas root was another highly important vegetable food in the regional diet. Sapir (1907a:258) describes its method of preparation: First, a pit was excavated and filled with alder bark. Next, stones were placed on top of the bark, and then camas on top of the stones. The bark was fired, the whole covered with earth, and the roots left to bake a full day or more. The baked roots were mushed into a dough, then placed into large pans and stored for winter. Dixon (1907:426) describes a similar process for steaming sugar-pine nuts among the Shasta.

According to Sapir (1907a:359), fish were the most important animal food for the lowland Takelma. They caught trout, salmon and steelhead, and collected freshwater mussels and crawfish. Fish were netted and clubbed, speared from the shore, and caught by hook and line from a canoe. Among the Shasta, women in rafts beat the water with branches while men speared the fleeing fish from

the shore (Dixon 1907:430). Fish were smoked or the flesh and bones ground into a powder and then stored in baskets for the winter.

Deer were hunted by ambush or driven into traps. Sapir (1907a:260) reports that the Takelma used dogs to run the deer down or frighten them into traps. Animals were forced into a fence with a small gate leading into an enclosure where they became entangled in rope traps and were clubbed to death. Elk were most often hunted in the winter when snow impeded their movements. The fresh meat was boiled and salted for storage. Deer fat was considered choice and was eaten raw or stored in cakes for winter.

Houses in the winter villages were semi-subterranean, rectangular gable-roofed pithouses. Walls were usually constructed of split cedar or sugar pine boards, although poorer families used pine bark rather than boards. A single doorway provided access to the house; the doorway into a lowland Takelma house was two to three feet above the ground and reached by an earthen ramp (Sapir 1907a:262). Entries were commonly closed with a sliding plank door. Inside a house a single fire hearth was centrally located; smoke was vented through a roof smokehole. Plank floors were common in wealthier homes.

Cattail mats covered the floor around the fire in a lowland Takelma winter house and were used at night as sleeping mats (Sapir 1907a:262). The Shasta placed mats on the floor from the fire out to within one-half meter of the house wall. The mat covered area was used for lounging and sleeping, and the uncovered perimeter

used for storage (Dixon 1907:413). Women and children occupied the houses, while men commonly spent much of their time in the sweathouses.

Sweathouses were a common feature of a winter village. They were semi-subterranean and quadrangular, with plank walls and an earth-covered entry. Floors were usually bare earth or of clay. The sweathouses were only for male use--no woman was permitted to enter. They served a combined function of sweathouse, sleeping quarters for the men and for male guests to the village, recreation hall, and the scene for medical cures by the shaman. Takelma sweathouses were distinguished from those of the Shasta and Tolowas by the absence of an inside hearth to heat rocks for use in the sweat. Instead, the Takelma heated the rocks on fires outside and close to the sweathouse, and then passed them into the house through a small opening (Sapir 1907a:263). Women constructed brush shelters for use as sweathouses which were immediately torn down after each use.

Circular brush shelters served as summertime habitations. They were often roofless with multiple doorways or openings for ventilation. A fire hearth was located in the center of the shelter's floor (Sapir 1907a:263; Dixon 1907:414).

Europeans first penetrated into the upper Rogue River basin in 1827 when Peter Skene Ogden led his fur brigade over the Siskiyou Mountains north to the Grants Pass area. His route led him down the Little Applegate and Applegate Rivers. A group of Indians visited the brigade's camp on the Little Applegate; Ogden

noted that they possessed European trade goods, probably traded inland from the coast (Ogden 1961:70).

In 1851-1852, gold was discovered in Jackson Creek near the present location of Jacksonville, and miners rushed to the valleys of southwestern Oregon. Relations between the Euro-Americans and the native inhabitants of the valleys, never good, worsened rapidly. The southern Oregon valleys became the scene of a number of skirmishes, pitched battles and massacres, collectively identified as the Rogue Indian War. Prospectors entered the upper Applegate River drainage in the early 1850s when John C. Cardwell led a group up the Applegate River to Elliott Creek. On the way, Indians stood on the hillsides and rolled rocks down on the party as they passed (LaLande 1980:66-69).

In 1856, the last band of Indians resisting removal to a reservation surrendered and combat ceased. The Takelma were removed to the Siletz Reservation on the central Oregon coast. Many died there of disease; the survivors were allowed to return to southern Oregon in the 1870s.

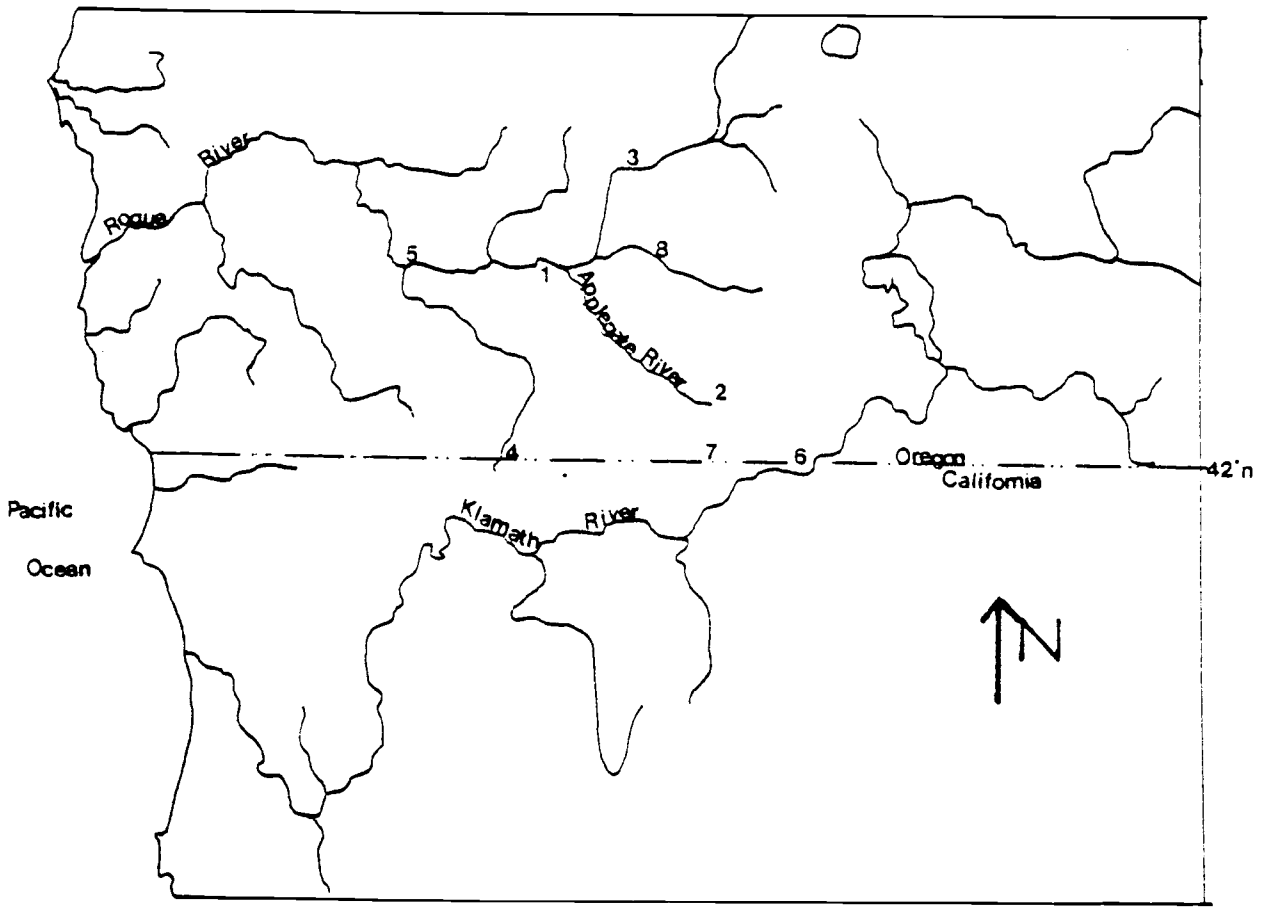
Chapter V

Previous Archeology

Archeological examination of the upper Rogue River drainage began in 1931-1932 with L. S. Cressman's excavation of the Gold Hill Burial Site. The site, a mound 40 yds in diameter and 7 ft deep, was located 12 mi west of Medford, Oregon, on the south bank of the Rogue River (Figure 4).

The Gold Hill mound was an occupation and burial site used, Cressman feels, by a "pre-Athapascan" population from about 2000 B.P. until sometime before Euro-American contact (Cressman 1933:22). Excavation revealed 31 oval to circular occupation features between 4 ft and 20 ft in diameter, each with a fire hearth and associated fire-cracked rock, charcoal, bone, and artifacts. No evidence of a superstructure built over the occupation features was detected. Three tool-making areas were noted near the occupation features.

Thirty-nine human burials were discovered at the Gold Hill site, located in areas to either side of the centrally located occupation area. All burials were flexed, but body orientation varied. Many of the individuals examined displayed such pathological characteristics as abscesses and extreme tooth wear, and 9 of the 16 crania studied had well developed tympanic osteomae or



1 Gold Hill Site
2 Emigrant Dam Reservoir
3 Elk Creek Dam Reservoir
4 Applegate Project
5 Site 35JO4
6 Iron Gate Site
7 Salt Caves Sites
8 Salt Creek Site

Figure 4. Location of Archeological Sites Noted in the Text (after Brauner 1978)

bony tumors on the eardrum that must have almost closed the auditory meatus (Cressman 1933:11).

Most projectile points recovered were of the Gunther barb or Gold Hill types; 22 obsidian blades were also found, most in association with burials. Fifteen basalt pestles and a number of flat river rocks with centers hollowed from use as bases for grinding foods were recovered. Most pestles were no more than 6 in long, and many had their working end fractured from use. Non-lithic artifacts included shell ornaments, a bone awl, and a deer bone fragment with a cutting edge. Three mounds of freshwater mussel shells were also noted.

Cressman hypothesizes a Lower Klamath River culture influence at the Gold Hill site, based on the similarity of obsidian blades recovered at the site to those found ethnographically among the Hupa and Yurok. A second point of similarity was the flexed burial position, which was also a southern and coastal culture trait. Cressman feels, however, that British Columbian culture influence was likely during later periods of site occupation (Cressman 1933:19).

Wilbur Davis conducted an archeological survey of the Elk Creek and Lost Creek Valleys in 1965-1967 and 1972 in connection with dam construction projects by the Corps of Engineers. He located seven prehistoric sites in the Elk Creek and 10 in the Lost Creek project areas. From site testing data collected, Davis developed a tentative phase sequence for the Lost Creek/Elk Creek locality (Davis 1974:52-53):

Phase IV. Terminal phase defined by the association of hopper-mortars and Gunther Barbed type points. Earlier projectile point and tool forms persisted. The phase had probably been established by A.D. 1400.

Phase III. The phase was defined by the association of mortars and pestles, micropoints, efflorescence of triangular stemmed point styles, and the scraping and incising tool complexes. It is speculated that the phase emerged during the 1st Millenium B.C.

Phase II. The phase was defined by the appearance of the side-notched point styles, keeled end scrapers and milling stones.

Phase I. Initial occupation defined by Gold Hill type points, possibly the transitional notched points, and a rather generalized small tool kit. The phase might have begun in the 4th Millenium B.C.

In 1979, David Brauner conducted additional survey and testing in the Elk Creek Lake Project area for the Corps of Engineers (Brauner and Honey 1980). He located 14 prehistoric sites and one prehistoric/historic site in addition to those recorded by Davis. From preliminary examination of site distribution, Brauner defined three primary settlement zones in the project area on: (1) basaltic benches adjacent to Elk Creek; (2) the second terrace above the creek; and (3) the uplands east of the creek (1980:141). All zones are above the creek's floodplain.

Thomas Newman conducted test excavation of two sites, 35JA1 and 35JA2, in the Emigrant Dam reservoir area south of Ashland, Oregon, in 1958 (Newman 1959). Site 35JA2, reputed to have been a late-summer campsite in use during the historic period, was a surface site that yielded manos, a hammerstone,

and chipping debris. Site 35JA1 was a short-term campsite that produced a quantity of late-prehistoric tanged projectile points, manos, metates, scrapers, and gravers. Quantities of deer bone, some small canid teeth, and a fragment of turtle plastron were also recovered.

Timothy Satler tested site 35JA77 in 1979 for the Bureau of Land Management (Satler nd). The site, located northeast of Medford, Oregon, is on a ridge above Salt Creek in the transitional zone between the Western Cascade and Interior Valley geographic zones. No structural or occupational features were found at the site, but a number of projectile points, preforms, blanks and miscellaneous bifaces, and a large number of unmodified flakes were recovered. Projectile points recovered were of the small lanceolate, notched, and tanged varieties. While most of the artifacts found were made of obsidian, only 3.8% of the debitage recovered was obsidian--most was of red jasper. Satler notes jasper is locally available in the creek gravels, while the nearest obsidian source is in Sam's Valley, 20 mi from the site.

In 1977, David Brauner directed the excavation of site 35J04, a prehistoric site located on the south bank of the Rogue River 4 mi west of Grants Pass, Oregon. Site analysis was conducted by Bart Wilson (Wilson 1979). It is a multicomponent site, with Component I carbon-14 dated at 460±80 B.P., and Component II at 1400±80 B.P. and 1470±100 B.P.

Component I contained concave-base, triangular-bladed projectile points of a style common in more recent coastal sites.

Component I also yielded net-sinkers, scrapers, gravers, choppers, edge-polished cobbles, and a hammerstone. Most of the projectile points are of obsidian, but little obsidian debitage was recovered at the site. Wilson hypothesizes that the points were brought to the site in finished form (1979:55).

Component II contained two circular semi-subterranean house-pits 3.5 to 4 m in diameter. No house structural features remained. House I had a central hearth set into the floor; House II had no prepared hearth, but one charcoal concentration in the center of the house and another west of center mark the location of surface fires. A food processing area, indicated by the presence of two hopper-mortar bases, was situated in the southwest area of House I. A chipping station with a high concentration of debris was noted near a fire/hearth area in House II.

Artifacts recovered from both house floors included small notched and Gunther barb projectile points, scrapers, utilized flakes, cobble spalls, choppers, and edge-polished cobbles. House I also produced two hopper-mortar bases and a bone awl, and two salmon vertibrae were found near the hearth. House II also contained a core, a hammerstone, and a grooved stone. Because artifact recovery was rather limited from the house floors, it appears that the occupants either took most of their tools, and possibly the superstructural members, with them when they left, or the house was scavenged after abandonment.

An exterior living area dated at 1150±100 B.P. was discovered at site 35JO4. A multi-use area was noted in the living area

near the rim of House I. A graver, scraper, biface fragment, several utilized flakes, choppers, cores, an edge-polished cobble, and several preforms were present in the use area. The remaining surface yielded a similar range of artifact types arranged in no detectable distribution pattern.

Component II contained none of the net-sinkers or concave-based projectile points seen in Component I. This disparity is interpreted by Wilson to indicate a change in economic practice and source of culture influence through time at site 35JO4 (1979:55-56). The earlier inhabitants appear to have utilized an interior-zone hunting and gathering subsistence pattern, with fish serving only as a dietary supplement. Later occupants apparently were more strongly influenced by coastal cultures, or were transplanted coastal dwellers, themselves.

In 1960, Frank Leonhardy excavated portions of the Iron Gate site, located on the south bank of the Klamath River 3 mi south of the Oregon border (Leonhardy 1967). Iron Gate is a small village site of 13 house depressions dated between 1400 and 1600 A.D. Leonhardy excavated three housepits and tested a fourth, all of which contained multiple living floors. Altogether, 11 living floors were excavated and mapped, and 785 artifacts were recovered.

All houses excavated were circular to ovoid in plan view, and ranged from 4.5 to 9 m in diameter. Most had central firepits, although variations in number and location of the pits occurred. None of the houses examined had benches around their perimeters.

Charred superstructure remnants were associated with one depression. Apparently, the superstructure had consisted of a conical framework of poles arranged over the depression, with slabs of bark, planks, or wood splinters laid over the poles, and dirt banked part way up the side. Rocks may have been used to weight the bark slabs. No evidence of internal support posts was recovered. Although the means of access into the house was not apparent, entry was probably from ground level and through the side wall.

The lithic assemblage included projectile points, knives, scrapers, drills, basalt choppers, net-sinkers, grinding and abrading stones, hopper-mortar bases, and pestles. Most projectile points were small triangular stemmed or small barbed points, but some notched or convex-base specimens were also recovered. The hopper-mortar bases were unmodified flat river cobbles with shallow depressions worn at their centers; pestles were tapered basalt cobbles. Obsidian was the most commonly used lithic material; however, basalt was used for the cobble tools.

Bone, antler, shell, and wood artifacts were recovered at the Iron Gate site. Bone artifacts included beads, awls, a net shuttle, a spatulate tool, and a variety of incised fragments.

Most of the artifacts found were simply worked, with little elaboration beyond that required for use (Leonhardy 1967:40). The kinds of tools recovered from the depressions indicated that food processing and preparation, and lithic manufacturing activities occurred inside the houses.

Deer bone was the most common faunal remains recovered, but small mammal, mountain sheep, bear, and turtle remains were also present. Plant and fish utilization was indicated by the inclusion of net-weights in the tool inventory. The range of mammal species represented at the site indicated that it was occupied during late fall, winter, and early spring.

The Iron Gate site is situated in territory historically belonging to the Shasta. Ethnographic information indicates, however, that the Shasta built rectangular rather than circular houses. Leonhardy notes (1967:30) that circular houses much like those at the Iron Gate site were common in northern California among tribes living in the mountains to either side of the Sacramento Valley. He postulates that the circular style may have been used by a population that lived in the site area prior to the Shasta, or that it may be a house form used by people ancestral to the Shasta. Leonhardy estimates (1967:33) that the Rogue River was the northern-most manifestation of the circular house.

Michael Olien conducted excavations of housepits at several sites within the Salt Caves Dam Reservoir in 1962-1963 (Cressman and Olien nd). The project area was along the Klamath River just north of the Oregon/California border near Dorris, California. Olien extrapolated a list of features common to the housepits excavated: (1) they were ovoid in plan view and saucer-shaped in cross section; (2) they had a centrally located fire pit; (3) cache pits were found near or just outside the house rim; (4) a ring of stone surrounded the outer rim; (5) they had a cedar

superstructure; (6) entrance was through the wall of the superstructure; (7) partial benches circled the pit rim; and (8) the house timbers were re-used (Cressman and Olien nd:14-15).

Olien found one housepit with an additional feature near its rim, which he describes as a pit with "low wall-like edges" setting it off from the main floor (Cressman and Olien nd:13). It was probably originally used as a cache pit and then converted to a fire pit.

Superstructure features recovered from one house and thought to be representative of all indicate that a square framework of timbers was raised inside the house, with side-members laid from the pit rim toward the house center, resting on the framework. Evidence of a main post east of the house center and a number of randomly arranged post molds remained, but Olien could not discern their roles in the house superstructure.

Artifacts recovered from the sites included small notched and small barbed projectile points, knives, scrapers, mortars, metates, manos, pestles, a hammerstone, and awls. Most tools were made of obsidian, but chert was also in common use.

Faunal remains were those of large and small mammals, turtle, bird, and fish. Plant processing at the site was indicated by the food processing implements included in the tool inventory. Olien postulates that the site occupants employed a hunting and gathering economy, with only secondary utilization of fish resources (Cressman and Olien nd:19).

Chapter VI

Site 35JA47

Introduction

Site 35JA47 is located on the north end of Sinns Bar, about 100 m east of the present channel of the upper Applegate River. Test excavations indicated that the site had been frequently occupied throughout the last 5,000 years; cultural material is nearly continuous from the ground surface to the basal gravels. The basal deposits are thought to be between 4,000 and 5,000 years old. The late-prehistoric component is the final apparent Native American use of the location (Brauner and Honey 1977; Brauner 1978).

Cultural deposits at site 35JA47 are bedded in alluvial sands and gravels that fill an old channel of the upper Applegate River. Sandy deposits are approximately 2 m deep, with a dark brown sandy loam from surface to about 40 cm down, followed by yellow brown sandy silt loam that terminates at the basal gravels. River deposited angular to rounded gravels are mixed throughout the sandy matrix (Brauner 1978:20-22). The dark brown sandy matrix contains the late-prehistoric component at the site; analysis and discussion presented in this paper is confined to this component.

Small notched and lanceolate projectile points are hallmarks of the late-prehistoric stratum at the site. Large lanceolate

points are standard in the earlier cultural strata; these large points are a diagnostic feature of the older cultural deposits throughout the Applegate Valley and elsewhere in southern Oregon (Nesbit 1981:37-43).

Two blocks of contiguous units were excavated at 35JA47 (Figure 5). Block N was a 10 x 10 m area excavated to a maximum depth of 80 cm below the ground surface. Block O, 10 m east of Block N, was originally 8 x 8 m in size, but at 20 cm below surface the excavation area was reduced to 6 x 6 m area. This smaller area was excavated to 60 cm below ground surface. Late-prehistoric cultural material was recovered only from the upper 10 cm and an intrusive feature in Block O, and from the first 40 cm and two intrusive features in Block N.

The late-prehistoric component at site 35JA47 yielded 2,048 prehistoric and 485 historic artifacts. Projectile points recovered are of a wide range of shapes and styles, but small notched and small lanceolate points predominate (see p 157 and 159).[1] Other major categories of artifacts recovered include scrapers, gravers, drill/perforators, utilized flakes, biface fragments and blanks, and cores (see p 161-165). A majority of the tools are produced on flakes, with only the working edge purposefully modified prior to use. Surface modification of the flake is usually minimal.

Hopper-mortar bases and metates recovered are large, flat, unmodified river cobbles that exhibit hollowed or smoothed surfaces from use (see p 167 and 169). Pestles are oblong to

[1]All artifact photographs are found in Appendix A.

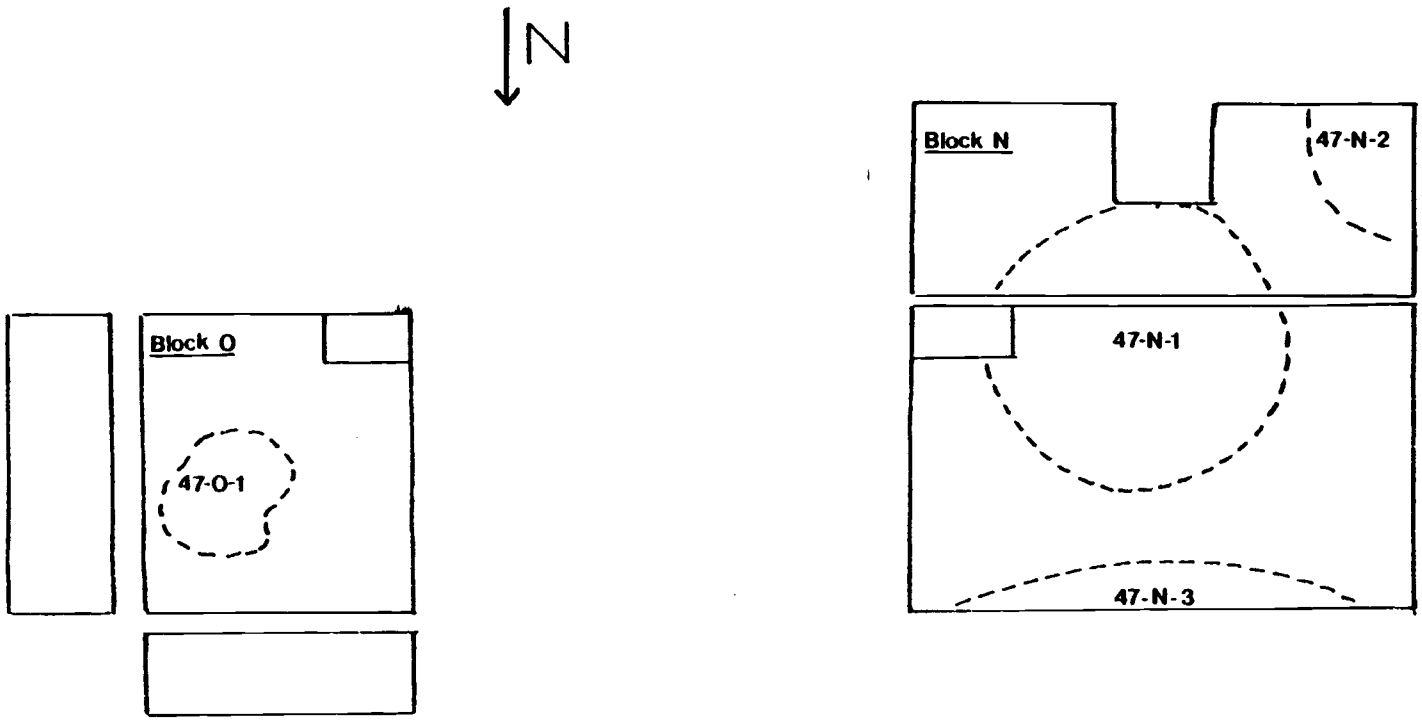


Figure 5. Excavation Blocks and House Features at Site 35JA47

triangular cobbles devoid of decoration, with their broad working end battered from use (see p 171). A number of unmodified cobbles were recovered with their edges and surfaces smoothed or battered from use as grinding or milling stones (see p 171).

A fragment of a baked clay object decorated with a punctate design, and several miscellaneous clay fragments were recovered in the late-prehistoric deposit (see p 183); baked clay objects are not commonly found in southwestern Oregon sites excavated to date. Several specimens of a lithic tool type that is as yet unique to the Applegate Valley sites were also recovered. This tool, provisionally classified as a drill/perforator subtype (0305A), is plano-convex in cross-section, tear-drop to bi-point in plan view, and modified over the entire dorsal surface (see p 161:n-o).

Obsidian is the principal material used for tool production at the site. Specifically, 54% of the projectile points, 96% of the drill/perforators, 79% of the scrapers, and 85% of the biface fragments and blanks are made of obsidian. Chipping debris is also largely obsidian, and the bifacial reduction flake type predominates the debris collection.

No bone tools were recovered at the site; the acidic soil undoubtedly prevented their preservation as part of the archeological record. Quantities of burned and fractured bone fragments were recovered from the House One floor; most are no more than 1 to 2 cm long. The absence of complete animal bones is probably not the result of poor preservation, but a reflection of the occupants' food preparatory practices. Ethnographic accounts

indicate that the southwest Oregon and northwest California populations often pounded bones into fragments and then boiled the bone to maximize marrow extraction.

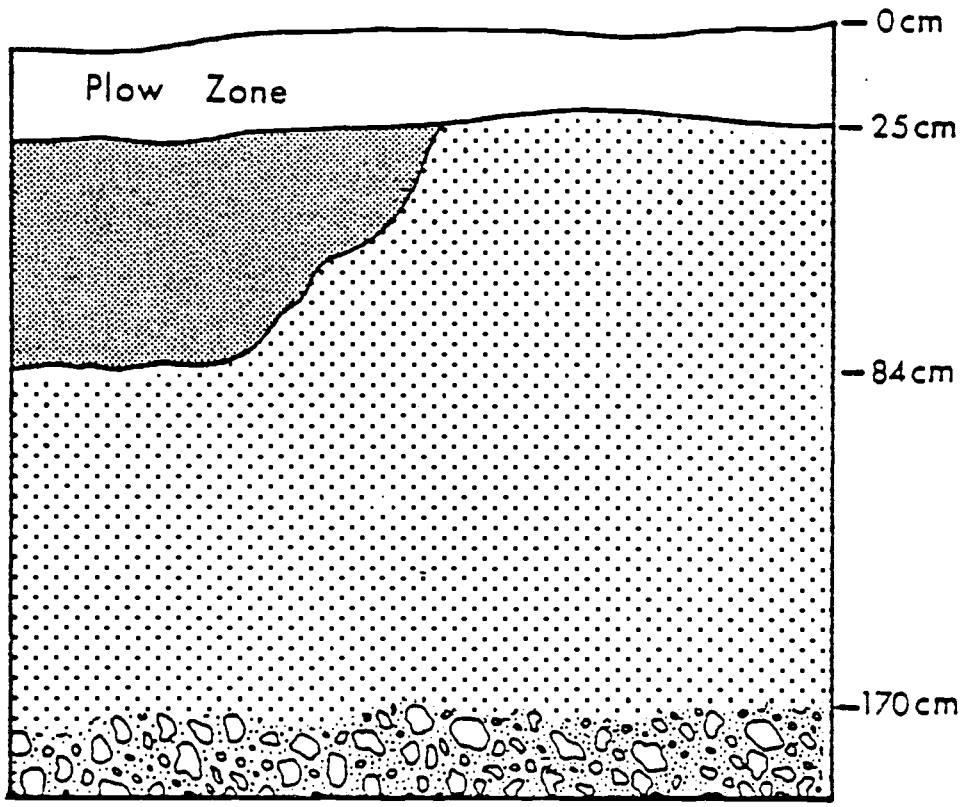
Eight cultural assemblages were identified in the late-prehistoric component excavated at site 35JA47. Three housepits were encountered in Block N; one was excavated in its entirety, and rim portions of the other two were sampled. In Block O, a feature tentatively identified as a sweathouse was completely excavated. The exterior ground surface associated with these features is encompassed in the plow zone; its disturbed context renders it unsuitable for distribution analysis. Also sampled was an exterior stratum stratigraphically older than the housepits lying undisturbed below the plow zone.

Houses

House One: Floor

House One was excavated in its entirety; the artifact assemblage from the house floor is designated as 47-N-1. The housepit originates in the dark brown sandy stratum, and was excavated into the underlying yellowish sandy matrix. After abandonment, the house gradually filled with organically rich sand silt and cultural debris. The contrast between this organic soil and the yellowish sand facilitated the definition of the house boundaries.

House One is about 5 m in diameter, round to oval in plan view, and may have originally been 70 to 80 cm deep (Figure 6).



0 - 25 CM	Plow Zone
25 - 84 CM	10YR 3/2 Very dark grayish brown loamy sand (House Pit Fill)
25 -170 CM	10YR 4/3 Brown loamy sand with abundant small to medium subangular to rounded gravels
170 -200 CM	Large subangular to rounded gravels

Figure 6. Stratigraphic Profile, House One; Site 35JA47

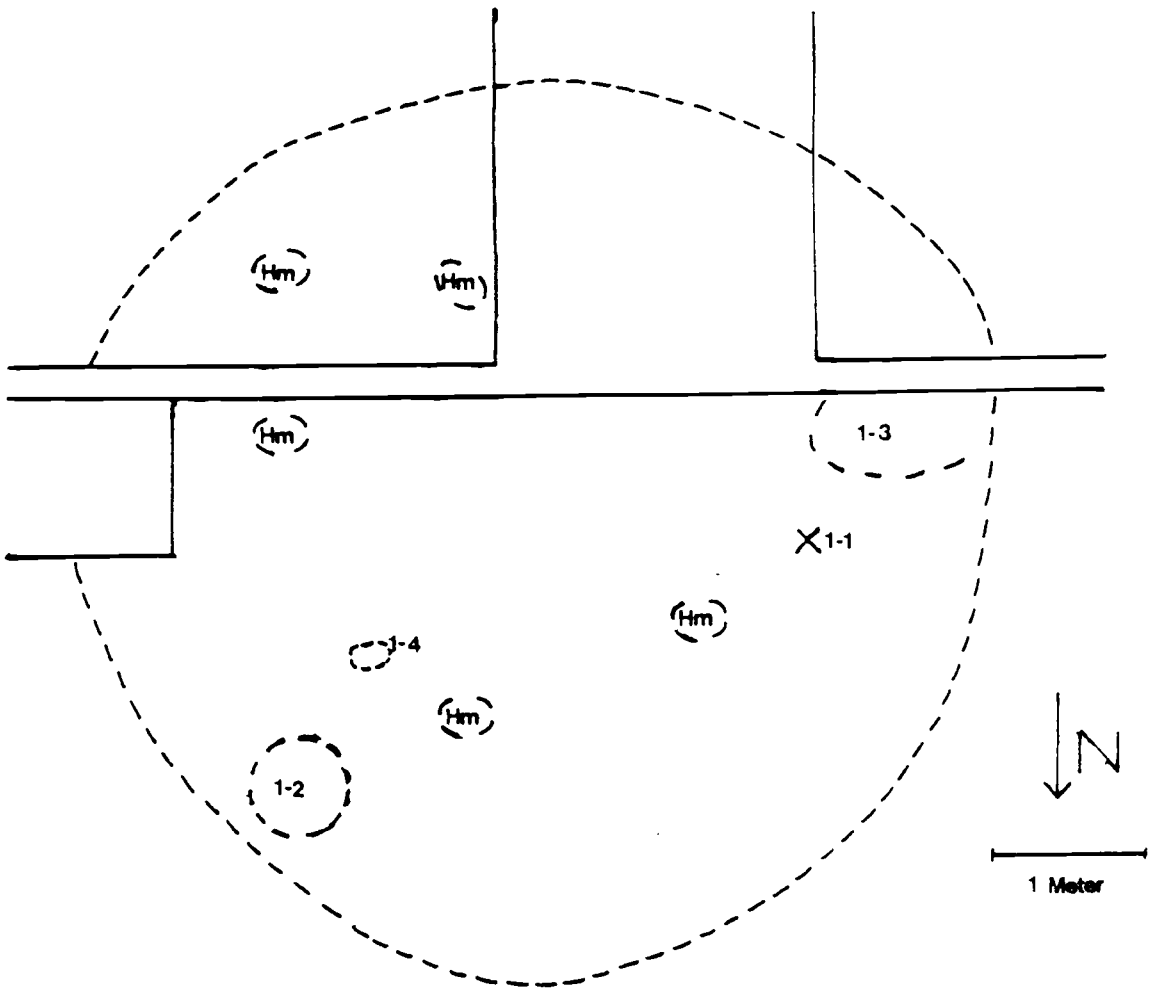
No direct evidence of the house superstructure remains, but five concentrically arranged flat river cobbles found on the floor may once have served as footings for roof support posts (Figure 7). All five stones appear to have been previously used as hopper-mortar bases; the use-pecked surface of each stone was face down when recovered during excavation.

A large elongated river cobble found embedded lengthwise in the house floor may also have served a structure-related function (Figure 7 and p 174). The stone, designated as feature 1-1, may possibly have anchored ropes used to secure the house roof on the windward side. Ethnographic and historic accounts of house structural elements do not describe a similar object.

No hearth is evident in House One. The central floor area is, however, stained black and conspicuously free of artifacts. Also, large quantities of fire-cracked rock was recovered from the central area. These factors indicate that an unlined hearth may well have existed in the center of the house.

A rock pavement that most likely served as a doorstep is located on the northeast slope of the house wall (Figure 7). This northeasterly location places the doorway on the opposite side of the house from the prevailing winds, which commonly blow down the river from the southwest.

The doorstep, designated as feature 1-2, is made of seven flat circular river-washed cobbles arranged to form an ovoid pavement. The feature is situated approximately 30 cm above the



Feature 1-1 Grooved Stone
Feature 1-2 Doorstep
Feature 1-3 Possible Stone Boiling Pit
Feature 1-4 Cache Pit
HM Hopper-mortar Base / Possible Roof Post Footing

Figure 7. House One Floor Features; Site 35JA47

house floor, and about the same distance below the lip of the housepit (Figure 7).

A second rock feature, designated as house feature 1-3, is located along the west wall of the house, also about 30 cm above the floor (Figure 7). Feature 1-3 consists of four thick rectangular to oblong river cobbles set end to end and lying on their side to form three sides of a square. The area created is about 20 cm deep and 50 wide.

A cache pit has been excavated into the house floor about 50 cm south of the doorstep and toward the center of the house (Figure 7). The pit, designated as feature 1-4, is approximately 25 cm in diameter and 10 to 15 cm deep. The pit contained 128 cryptocrystalline silica flakes, an obsidian flake, one andesite blank, and an unmodified stone fragment. Most of the flakes from the pit are from 25 to 45 mm long, square to rectangular in shape, and weigh between 3 and 20 grams. A majority of the flakes have cortex remaining only on the striking platform or on an edge, or are cortex-free (Figures 8-10).

Fire-cracked rock covers much of the house floor, particularly in the central and southeast areas (Figure 11). A secondary mass of fire-cracked rock, about 1 m by ½ m in size, appears to extend out from feature 1-3. This concentration may indicate that feature 1-3 served as a stone boiling pit; a basket might have been placed in the rock circle, and the heated rock used to boil the basket's contents discarded to one side as it cooled.

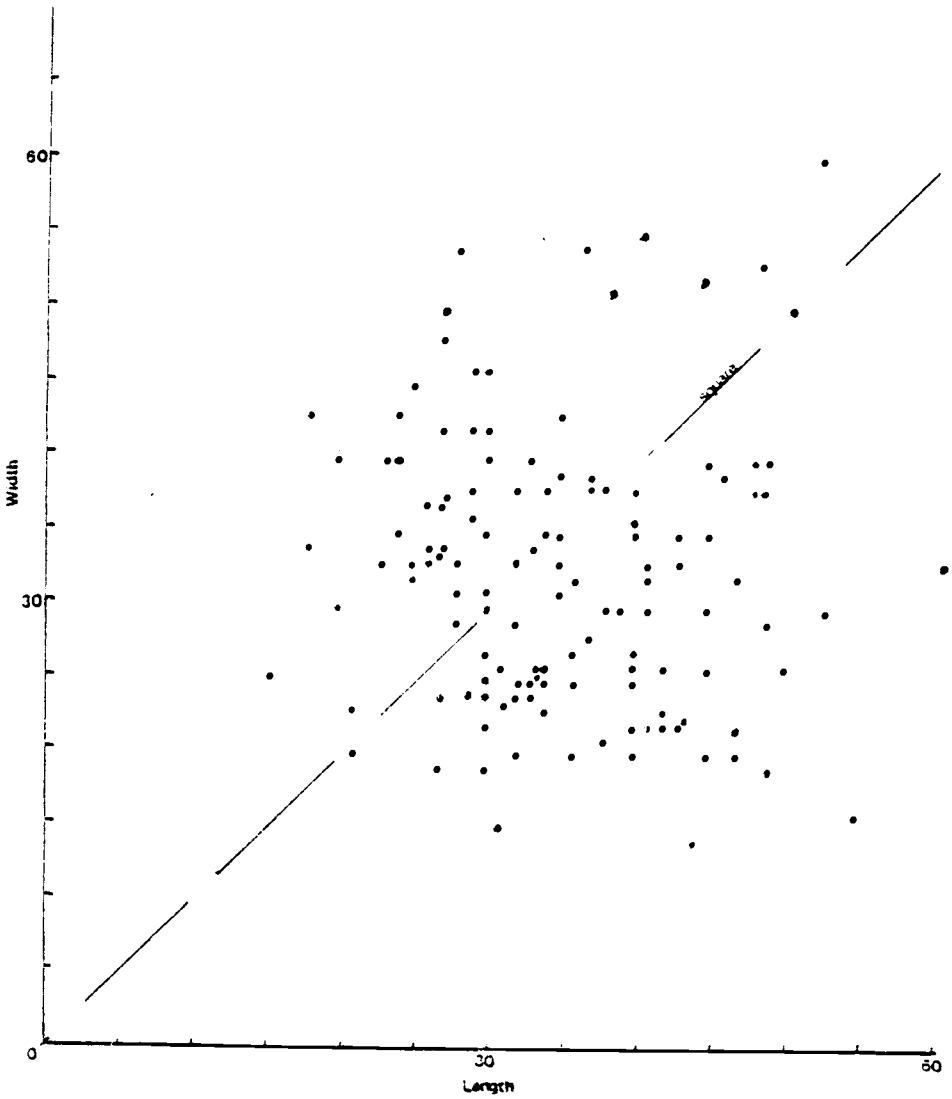


Figure 8. Length to Width Ratio of Flakes from Feature I-4, the Cache Pit; Site 35JA47

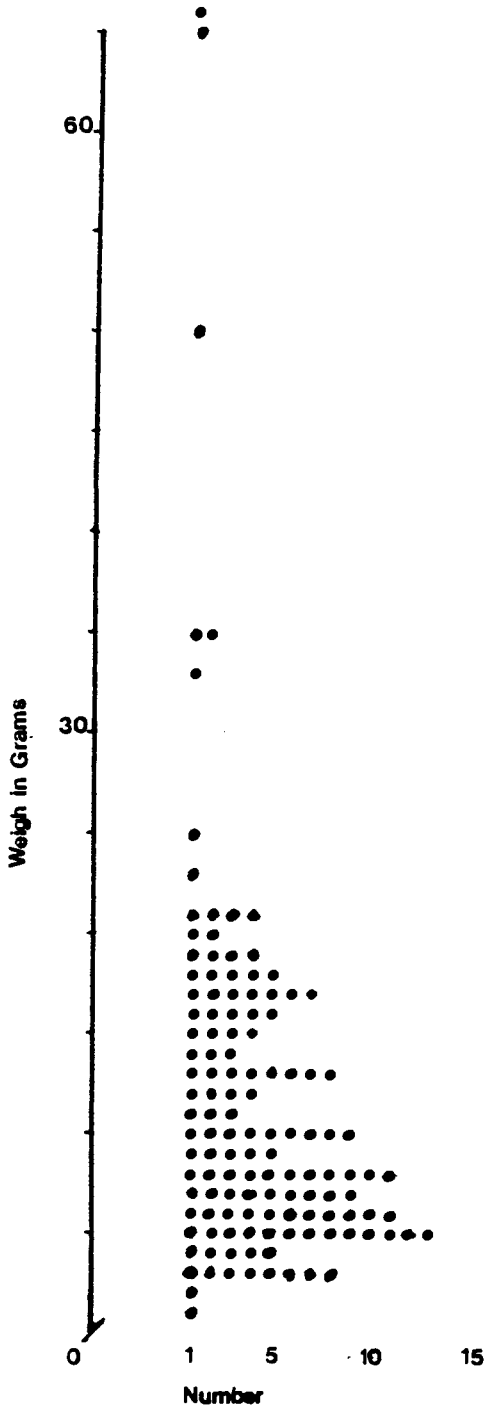


Figure 9.

Weight of Flakes from
Feature I-4; Site 35JA47

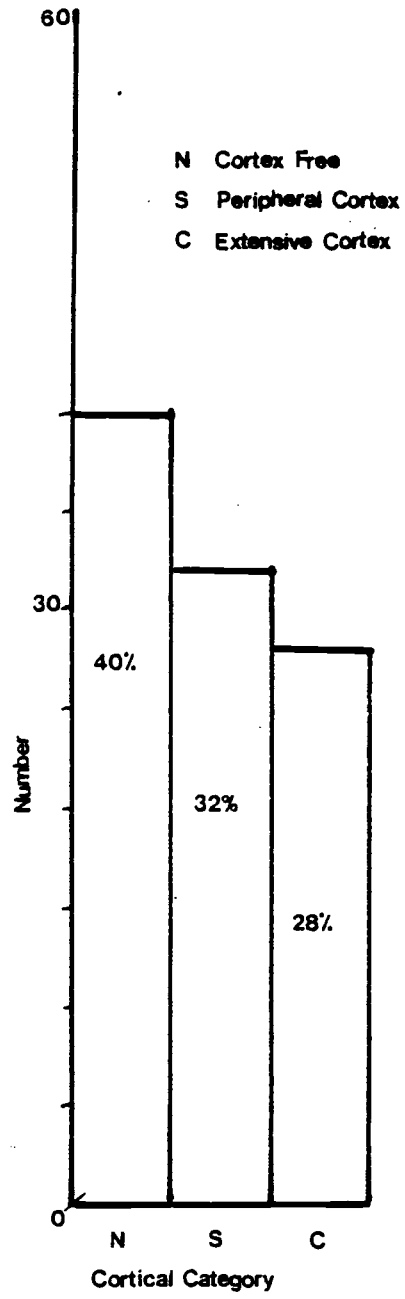


Figure 10.

Presence of Cortex on Flakes
from Feature I-4; Site 35JA47

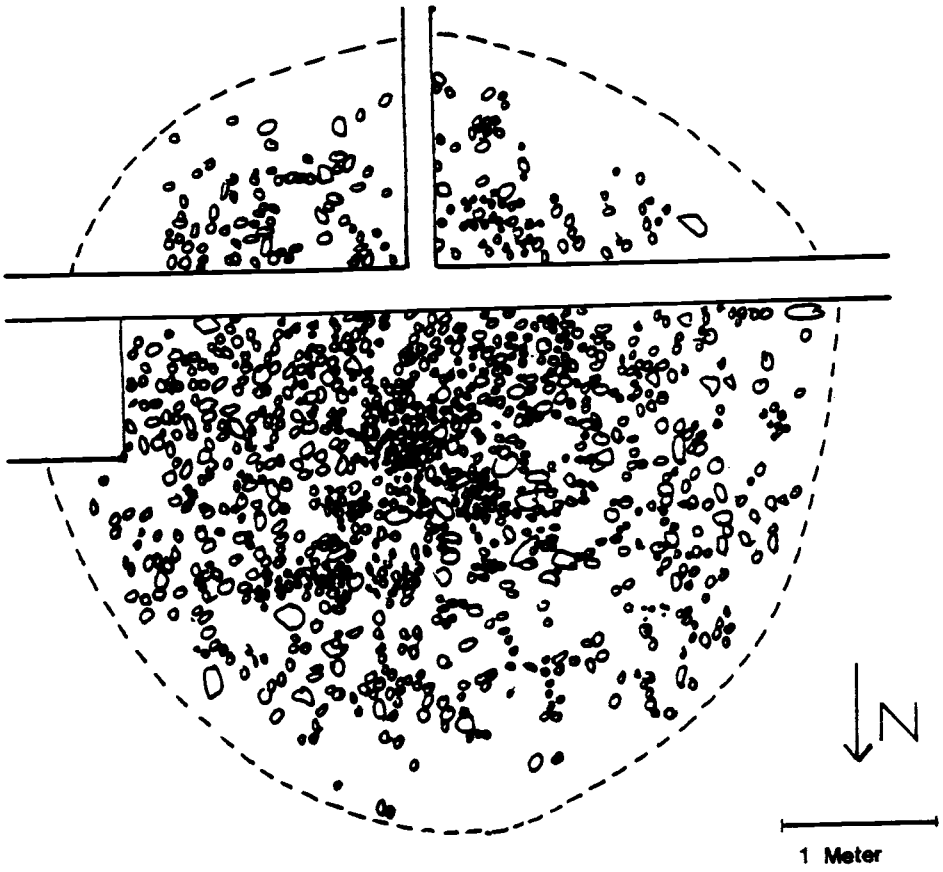


Figure 11. Distribution of Fire-Cracked Rock on the Floor of House One; Site 35JA47

The perimeter of House One is relatively free of fire-cracked rock. The northwest floor area is also sparsely covered with fire-cracked rock, from the proposed hearth area out to the wall, and from the doorstep west approximately 3 m along the wall.

Of the 124 artifacts recovered from the House One floor, all but 13 of the manufactured tools are made of obsidian. Chipping debris from the house is also predominately of obsidian. Obsidian bifacial reduction flakes, produced when reducing an already partially formed object into a finished tool, comprise 75% of the debris recovered (Figure 12). Biface reduction flakes also predominate the cryptocrystalline silica debris, but by a much smaller percentage.

The density to chipping debris varies over the house floor. The heaviest concentration is near the doorstep, to either side along the wall, and toward the center of the house (Figure 13). Chipping debris is generally sparse around the house perimeter along the south and east walls. A secondary concentration of debitage occurs in the southwest corner, in the area behind feature 1-3.

Seventeen projectile points and 19 point fragments were found on the house floor (Table 2; Figure 14a and b). Small lanceolate points are the principal type found, with a variety of small notched points and a single stemmed point completing the collection. Projectile points are not evenly distributed over the house floor; a majority of the whole specimens are found from just west of the doorstep to midway along the east wall, and then

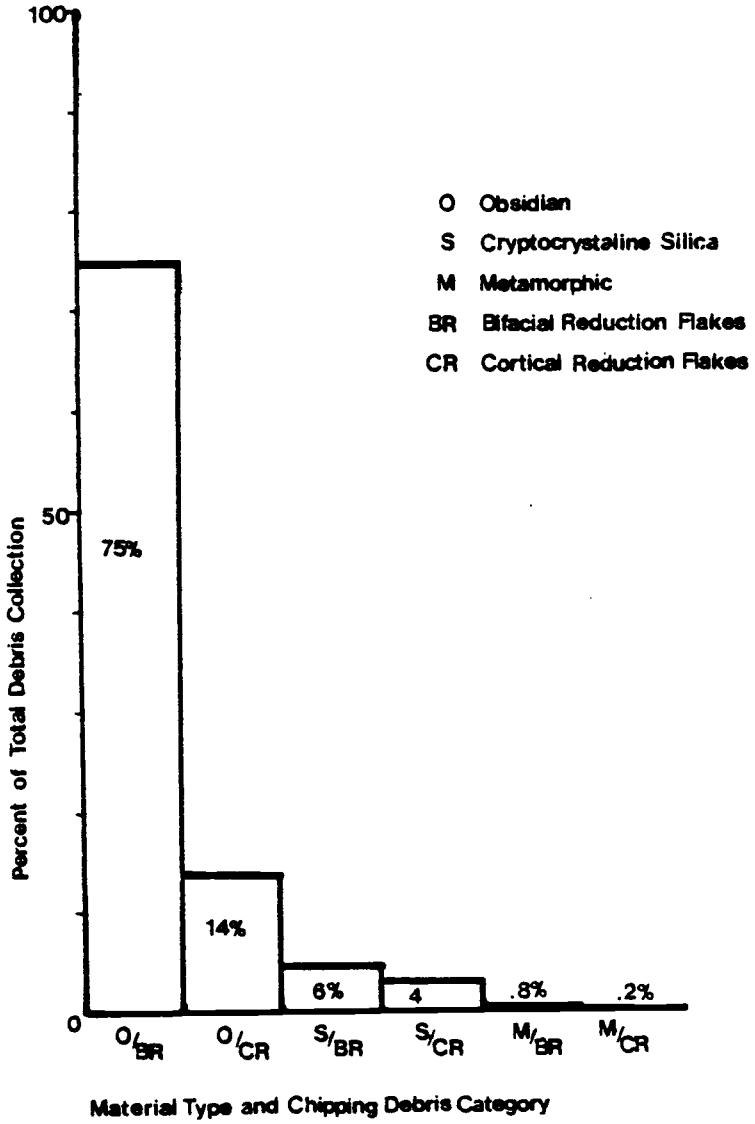


Figure 12. Material Type and Reduction Category of Chipping Debris from the House One Floor; Site 35JA47: Percentage of the Total Debris Collection

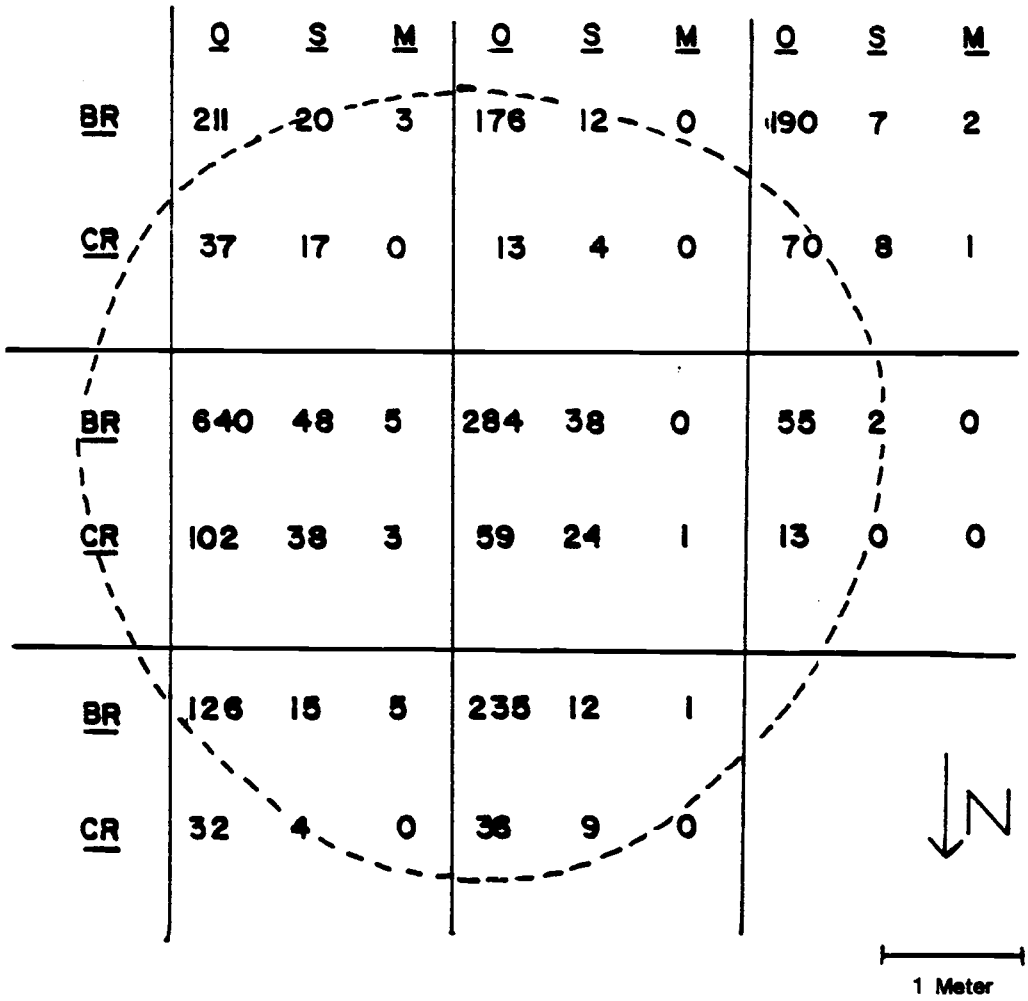


Figure 13. Distribution of Chipping Debris on the House One Floor; Site 35JA47

Table 2

Artifacts Recovered from the House One Floor
Site 35JA47: Assemblage 47-N-1

Artifact Description	Number
Projectile Points	
01-01B	1
01-01D	1
01-02A	1
01-02B	1
01-03C	2
01-04H	1
01-06C	3
01-06D	5
01-06E	2
01-10A	3
01-10C	1
01-10D	5
Knives	
02-01A	2
Drill/Perforators	
03-01A	1
03-02A	1
03-05A	2
Gravers	
04-02A	1
04-03A	4
Scrapers	
05-01A	5
05-01B	2
05-01C	1
05-01D	1
05-01G	1
Scrapers (continued)	
05-01N	3
05-02A	3
Utilized Flakes	
06-01A	3
06-01B	1
06-01C	4
06-01D	2
06-01E	2
06-01F	1
06-01G	4
Biface Fragments and Blanks	
08-01A	4
08-01B	18
08-02A	4
Cores and Core Fragments	
10-01A	1
10-02A	3
10-03A	1
10-03B	1
Choppers	
12-01A	5
Edge Ground, Battered and Polished Cobbles	
13-02A	1
Hammerstones	
14-01A	3

Table 2
(continued)

Artifact Description	Number	Artifact Description	Number
Pestles		Worked Flakes	
15-01A	2	18-01A	1
Metates		Grooved Object	
16-02A	1	23-01A	1
Hopper-Mortar Bases		Unmodified Stone	
17-01A	5	27-01A	1

Figure 14a.

Distribution of In Situ Artifacts from the House One Floor; Site 35JA47

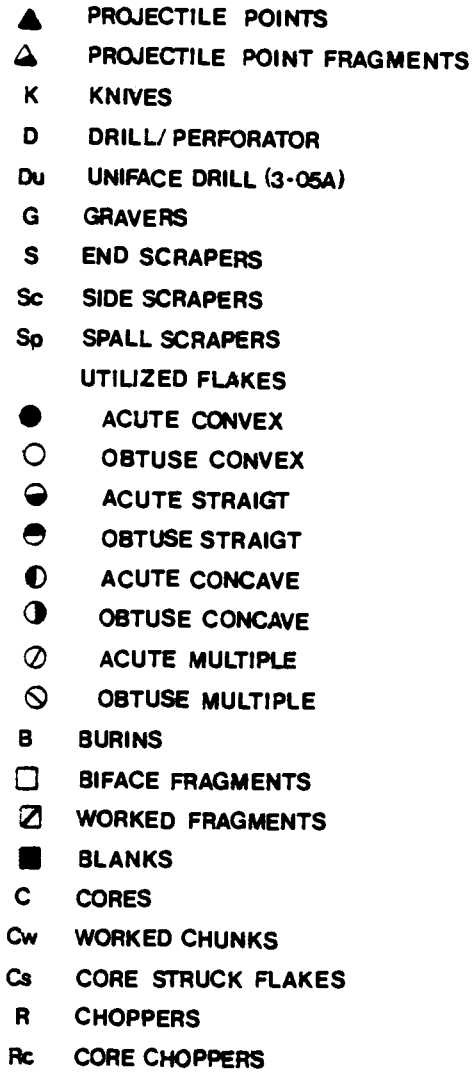
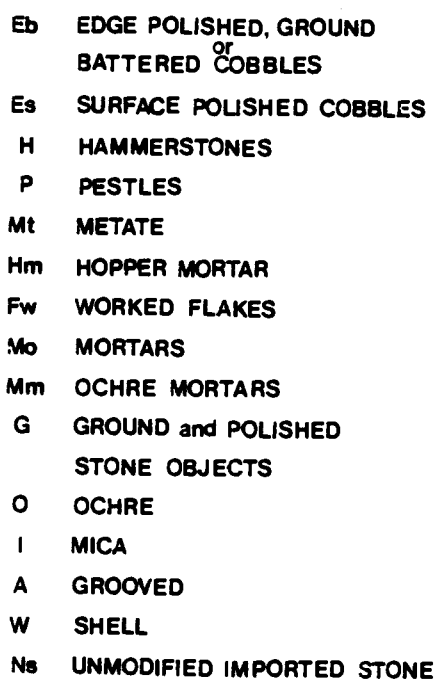


Figure 14b.

Distribution of Artifacts Recovered by Excavation Unit from the House One Floor; Site 35JA47



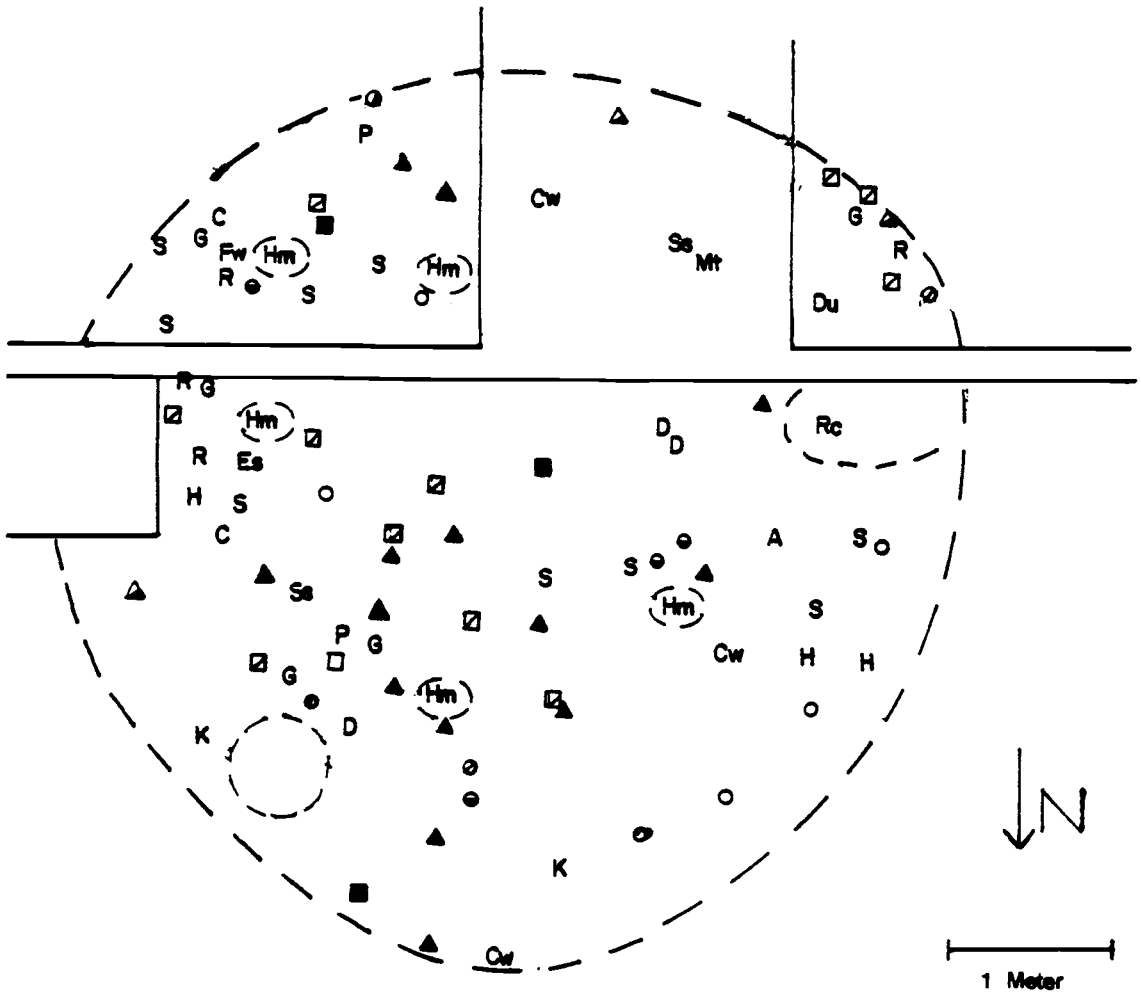

P
Cw
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Figure 14a.

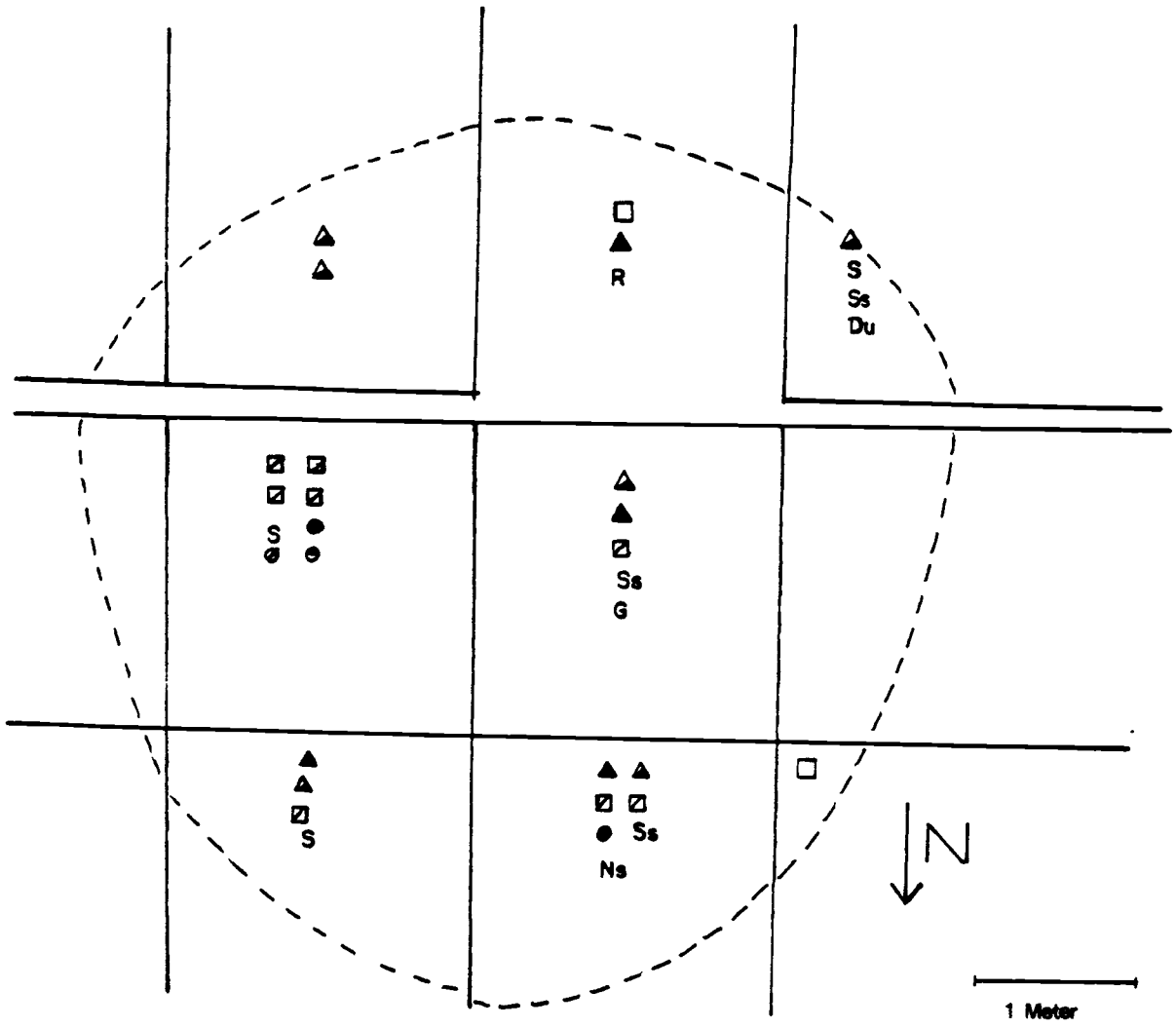


Figure 14b.

toward the center of the house. Most lanceolate points are found here along the east wall. Projectile point fragments cluster along the south wall; only two whole points are found along this wall. Fragments are usually found on the rising slope of the house wall, while whole specimens are found both on the floor and the slope.

Twenty-five biface fragments and blanks were recovered; most fragments are amorphose chunks that exhibit some bifacial working. Biface fragments and blanks concentrate along the east wall, from the doorstep area to the southeast corner. A small cluster of worked chunks is located in the southwest house corner, behind feature 1-3.

Seventeen scrapers were recovered from the house floor. Only three are side scrapers; the rest are end scrapers in a variety of shapes. Scrapers are more randomly distributed over the house floor than either the projectile points or biface fragments. Seven cluster along the slope of the east wall, with another two in the southwest corner. Most are confined to the rim portion of the floor; only three scrapers are found well out into the center.

Gravers are largely found along the house rim, but do not cluster in any particular area. Cores and core fragments are also confined to the slope of the floor. The fragments are rather generally distributed around the rim of the floor, but both whole cores recovered--one conical and one discoidal--are found in the east rim area.

All six subcategories of utilized flakes recovered at the site were found on the house floor. No single subcategory

dominates the collection; however, a majority of the specimens recovered have an acute rather than an obtuse working edge. Utilized flakes are generally scattered, but roughly conform to two areas: one concentration on the house floor in the southeast area, and another on the slope in the northwest area.

Core-choppers are found only on the outer floor and slope areas of the southern half of the house. Three of the six specimens found cluster in the east-southeast area, while two others are found in or near feature 1-3. Also found in the east-southeast area of the house is a hopper-mortar base, a hammerstone, a pestle, and an edge battered cobble. A single metate was recovered in House One, from the south slope area.

Several activity areas are apparent on the house floor, after examination of the artifact and debris distribution (Figure 15). A lithic manufacturing area is indicated in the house's northeast quadrant near the doorway. The activity area is characterized by a dense concentration of projectile points, biface fragments and blanks. The cache pit full of flakes, as well as the highest concentration of chipping debris from the house floor, is also found here. It is interesting to note that the manufacturing area is adjacent to the doorway, placed to permit maximal use of natural light.

Primary reduction of lithic raw material appears to have rarely occurred inside the house as few cores and only small amounts of cortical reduction flakes are found on the house floor. In-house lithic manufacture likely began on flakes already

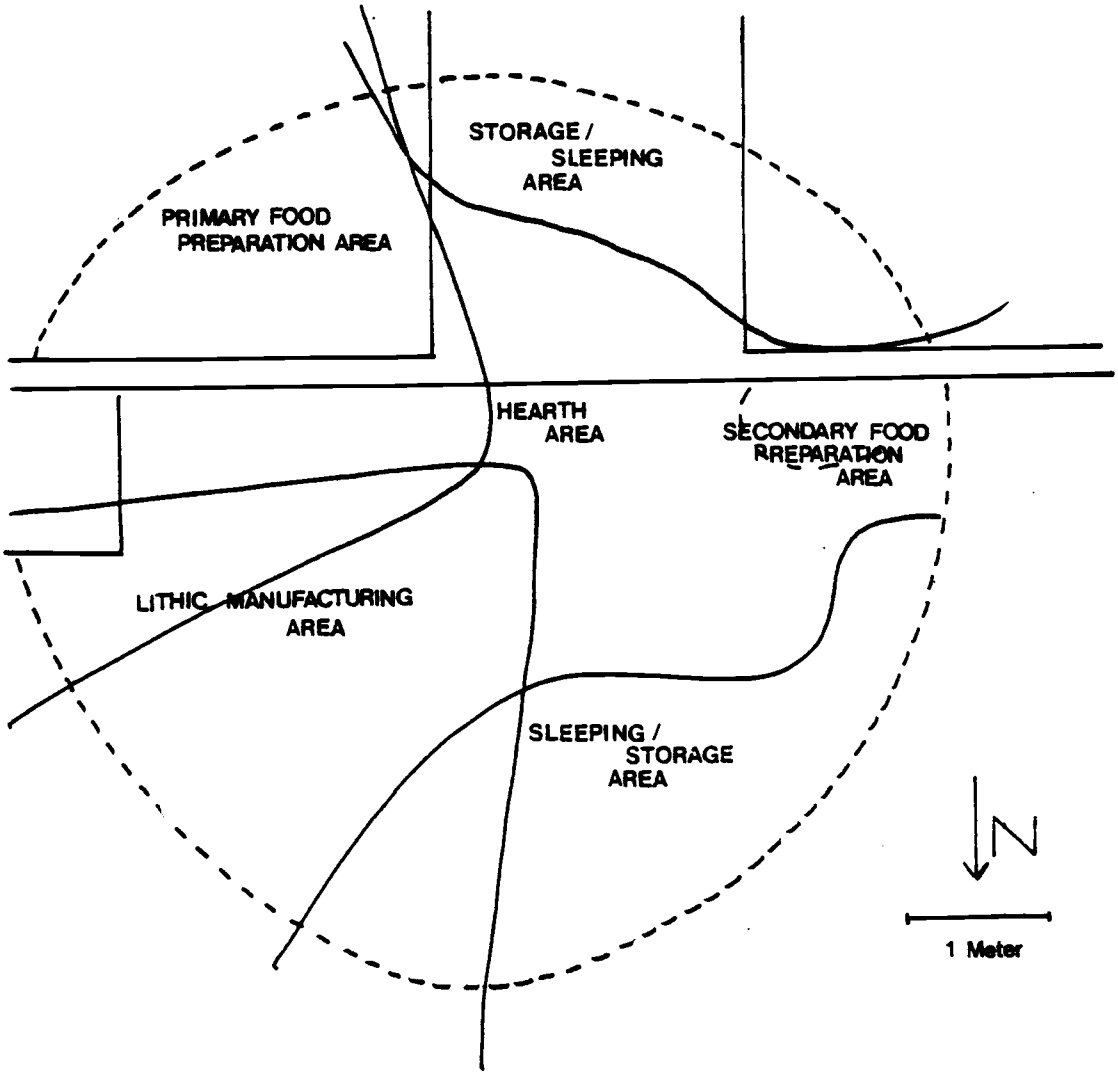


Figure 15. Activity Areas on the House One Floor; Site 35JA47

reduced to an appropriate size and shape, much like those recovered from the cache pit.

Inferences about the users of the lithic manufacturing area can be made from the nature of the cache pit items and the finished tools found in the area. Most of the finished tools are projectile points, tools that were made and used by men. Most projectile points found at the site are made of obsidian, and indeed, obsidian is the predominant form of chipping debris found inside the house.

The cache pit, however, almost exclusively contains cryptocrystalline silica flakes, and the flakes are of a size and thickness that prohibits their being used to manufacture most styles of projectile points. Most are of a shape and size appropriate for manufacture into or use as scrapers, drills, or gravers.

Scrapers, in particular, are a woman's tool, used principally during hide preparation. Although not evident among the in-house scrapers, many of the scrapers from the total late-prehistoric component are of cryptocrystalline silica. The inference can be made, then, that the flakes stored in the pit may have belonged to a woman, indicating that both men and women were using the lithic manufacturing area to produce their respective tools.

A second activity area, a food processing and preparation area, is apparent in the southeast quadrant of the house floor. Artifacts associated with the activity area are one, and possibly

two hopper-mortar bases, three choppers, a pestle, a hammerstone, and an edge battered/surface polished cobble. A similar tool kit is described ethnographically for grinding and pounding meat and vegetable foods for consumption. Five steep end scrapers are also found in the cooking area, nearly one-third of the scrapers found on the house floor. Two of the three projectile point tip fragments found on the floor are from the activity area; they appear to have broken during use rather than while being manufactured. Tip fragments may well have been transported into the house embedded in game.

Some overlap between the cooking and lithic manufacturing areas can be seen. A pestle was recovered resting on top of the cache pit, and a discoidal core was found near the hopper-mortar base. These isolated instances may be the result of post-abandonment smearing of the floor deposits, but may also reflect multiple use of an activity area or of a tool. The spent core could have been appropriated by the cook for use as a chopper. The pestle's location, in what was primarily a lithic manufacturing area, may indicate that, when the area was not in use for lithic reduction activity, it did double duty as an adjunct of the cooking area. Light from the doorway may well have drawn an individual to use that area for other than its postulated primary purpose.

No other activity area is as clearly defined as the food processing and lithic manufacturing areas. It is possible, however, to tentatively identify several other activity areas on the floor. A secondary food processing area may have existed in

the area of feature 1-3, tentatively identified earlier as having an association with stone boiling activities. A chopper, a core-chopper, a metate, four scrapers, and a hammerstone; all tool types also associated with the primary food preparation area, cluster near feature 1-3. A pestle found in the housepit fill close to the feature may also belong to the tool assemblage.

The floor along the south wall of the house between the two food processing areas may be an associated storage area. Only six artifacts were recovered here, two of which, a small metate and a chopper, are connected with food-processing activities. The scarcity of artifacts indicates that the area received little everyday use.

One small area in the southwest corner of the house immediately behind feature 1-3 yielded 12 artifacts, including biface fragments, drill/perforators, a chopper, a graver, and two projectile point fragments. Chipping debris density is also much higher here than elsewhere along the south and west walls. This part of the house may have been a portion of the storage area that also occasionally functioned as a secondary lithic manufacturing area.

A sleeping/storage/multi-use area is postulated to have existed along the north and northwest walls, from the doorway to feature 1-3 and inward from the wall to the central hearth. The sleeping area is characterized by a scarcity of fire-cracked rock and by low artifact density. The area may have also been used for a specific task that required cutting tools; the only knives and

most of the utilized flakes recovered from the house floor are from this area.

A number of artifact categories are found only around the house perimeter on the slope of the wall. The consistent ring-shaped distribution of these items may indicate that a portion of the central house floor was covered with mats. Ethnographic accounts document the use of floor mats in sleeping and lounging areas of historic era houses.

House One: Fill

After the abandonment of House One, the house pit began to fill with material unrelated to its occupation. For analysis, the House One fill was lumped as a single assemblage, identified as 47-N-1F, and was not included in the activity area analysis of the house floor. The fill assemblage includes all artifacts from the first three levels excavated inside the house and artifacts located more than 1 m from the house wall in levels 5 and 6 (Table 3).

The 47-N-1F tool assemblage closely resembles the house floor assemblage; much the same range and styles of tool types were recovered from both cultural layers. Some change is noticeable, however, in the relative importance of specific projectile point subcategories between the two collections. The fill collection contains a significantly greater number of corner notched (01-03) and stemmed (01-04) varieties than does the floor

Table 3

Artifacts Recovered from the House One Fill
Site 35JA47: Assemblage 47-N-1F

Artifact Description	Number
Projectile Points	
01-01A	1
01-01C	1
01-01E	1
01-02A	3
01-03A	3
01-03B	2
01-03C	1
01-04A	1
01-04C	1
01-04F	3
01-04H	2
01-06C	4
01-06D	2
01-06E	3
01-06F	1
01-10A	8
01-10B	1
01-10C	4
01-10D	16
Knives	
02-01A	3
02-02A	1
Drill/Perforators	
03-01A	7
03-02A	1
03-03C	1
03-04A	1
Drill/Perforators (continued)	
03-05A	2
03-10A	2
Gravers	
04-02A	3
04-03A	5
Scrapers	
05-01A	10
05-01B	4
05-01C	4
05-01F	1
05-01N	2
05-02A	9
Utilized Flakes	
06-01A	13
06-01B	5
06-01C	11
06-01D	4
06-01E	10
06-01F	3
06-01G	6
06-01H	3
Biface Fragments and Blanks	
08-01A	25
08-01B	32
08-02A	10

(continued)

Table 3
(continued)

Artifact Description	Number	Artifact Description	Number
Core and Core Fragments		Pestles	
		15-01A	4
10-01B	2		
10-02A	6	Hopper-Mortar Bases	
10-03A	1	17-01A	2
10-03B	1	Worked Flakes	
		18-01A	1
Choppers			
12-01A	3		
Edge Ground, Battered and Smoothed Cobbles			
13-01A	1		
13-02A	1		

collection. No new principal point categories have been introduced, nor do any disappear between the two collections.

House Two: Floor

House Two is located approximately 2 m to the southwest of House One (Figure 5). Only the northeast portion of the house is within Block N; the remainder was not excavated. The house appears to be round to ovoid in plan view, and to be approximately 70 cm deep. No evidence of the house superstructure remains.

A 3 m area along the east and northeast walls of House Two was fully excavated; cultural material recovered there is designated as assemblage 47-N-2 (Table 4). Two hopper-mortar bases and a large number of scrapers were recovered from the house floor, but other artifact categories associated with the House One food processing area, such as choppers, pestles, or smoothed cobbles, are absent. Very little bone was recovered from the House Two floor.

A number of cutting and perforating tools were found in the excavated area. Projectile points recovered include several varieties of medium-sized notched points, a single small lanceolate point, and three point fragments. A number of blanks, biface fragments, and bifacially worked flakes, all items associated with tool manufacturing activities, complete the House Two floor collection. Most of the tools recovered are made of obsidian; 81% of the chipping debris collection are obsidian bifacial reduction flakes.

Table 4

Artifacts Recovered from the House Two Floor
Site 35JA47: Assemblage 47-N-2

Artifact Description	Number	Artifact Description	Number
Projectile Points		Utilized Flakes	
01-01B	1	06-01A	2
01-01D	1	06-01D	2
01-02B	1	06-01E	1
01-06E	1	06-01F	3
01-10A	1	06-01G	1
01-10D	1	Burin	
Drill/Perforators		07-01B	1
03-01A	2	Biface Fragments and Blanks	
03-04A	1	08-01A	3
Gravers		08-01B	2
04-02A	1	08-02A	2
04-03A	2	Cores and Core Fragments	
Scrapers		10-02A	1
05-01A	1	Hopper-Mortar Bases	
05-01B	2	17-01A	2
05-01N	1		
05-02A	3		

The small area excavated in House Two limits the delineation of activity areas, as the distributional information needed is not available. It is possible, however, to determine that food processing and lithic manufacturing activities occurred in the northeast portion of the house. It is interesting to note that the same activities occurred along the east and northeast walls in House One, indicating that similar patterns of interior space utilization may have occurred in both houses.

House Two: Fill

The wall contours of the upper portions of House Two were not readily apparent during excavation, so the exact horizontal boundary of the house fill is not certain. For the purpose of analysis, all items excavated from below the plow zone and above the house floor in level 6 and within the known horizontal boundary of the floor deposits are lumped together as House Two fill (Table 5). The house fill assemblage, designated as 47-N-2F, includes much the same categories of artifacts found on the house floor. The only alterations are the addition of several tool subcategories, such as stemmed projectile points not seen in the floor assemblage.

House Three: Fill

House Three is situated approximately 1 m north of House One (Figure 5). Only the southernmost portion of the house rim is within Block N; the remainder was not excavated. The exact

Table 5

Artifacts Recovered from the House Two Fill
Site 35JA47: Assemblage 47-N-2F

Artifact Description	Number	Artifact Description	Number
Projectile Points		Scrapers	
01-02A	1	05-01A	2
01-04B	1	05-01N	1
01-04H	1	Utilized Flakes	
01-06E	3	06-01A	2
01-10A	1	06-01C	1
01-10D	2	06-01E	1
Drill/Perforators		06-01H	2
03-03A	1	Biface Fragments and Blanks	
Gravers		08-01B	3
04-02A	2	08-02A	2

boundary of the house is indistinct, and no floor deposits were recovered.

The limited area excavated from House Three and the small number of artifacts recovered prohibits the meaningful examination of tool distribution and the delineation of activity areas. It can be noted, however, that a number of biface fragments and cores were recovered from the area excavated, which may indicate that some lithic manufacturing activity occurred in the southern portion of the house. In House One this area was given over to food processing and storage activities.

The House Three fill yielded the same kind and range of artifacts noted in the House One and Two fill (Table 6). The assemblage, designated as assemblage 47-N-3, differs markedly from the -1F and -2F assemblages in only one respect--no notched projectile points were recovered from -3F. The style of points that were recovered--small lanceolate and medium-sized stemmed points--are consistent with the other two fill assemblages.

Feature 47-0-1: Sweathouse

47-0-1 is an irregular to ovoid pit 3 x 4 m wide and 20 to 30 cm deep, tentatively identified as a sweathouse/men's house. The sweathouse is situated in the middle of Block 0, and was excavated in its entirety (Figure 5). It originates in the dark brown sandy loam soil, only about 10 cm thick in Block 0 and entirely encompassed in the plow zone, and penetrates 20 cm into the underlying yellowish sandy soil.

Table 6

Artifacts Recovered from the House Three Fill
Site 35JA47: Assemblage 47-N-3F

Artifact Description	Number	Artifact Description	Number
Projectile Points		Biface Fragments and Blanks	
01-04A	1	08-01A	2
01-06D	1	08-01B	2
01-10A	1		
01-10D	1	Cores and Core Fragments	
		10-02A	2
Scrapers		10-03A	1
05-01A	1		
05-01B	1	Choppers	
05-01C	1	12-01A	1
Utilized Flakes		Worked Flakes	
06-01A	1	18-01A	1
06-01E	1		
06-01F	1		
06-01G	1		

The exact horizontal dimensions of feature 0-1 are uncertain; no structural elements were recovered to indicate the sweathouse walls, and no clear soil change, as seen for the Block N houses, was apparent during excavation.

The central area of the sweathouse was identified during excavation by heavy concentrations of unmodified river cobbles and fire-cracked rock set in a dark stained soil (Figure 16). The house area surrounding the rock feature became evident only after examination of the artifact and debris distribution maps from excavation levels 2 and 3. Then, an interruption in artifact distribution was noted to the west and southeast of the rock feature; the interruption did not coincide with any discernable soil change.

The rock feature forming the core of the sweathouse can be divided into two vertical layers, each with differing depositional characteristics. The bottom layer, extending to approximately 20 to 30 cm below the surface, is largely composed of non-heat fractured unmodified river cobbles. The cobbles do not appear to have been naturally deposited; rather, they are distributed in small clusters within the entire unmodified cobble feature (Figure 17). Each cluster looks as if it was deposited as a unit and not as individual rocks. The unmodified cobbles concentrate in the center of the feature, inside the heavily stained soil, but begin to disperse and become more random as they extend to the west. Some fire-cracked rock does occur within the unmodified cobble layer of the rock feature, but is found only in localized clusters.

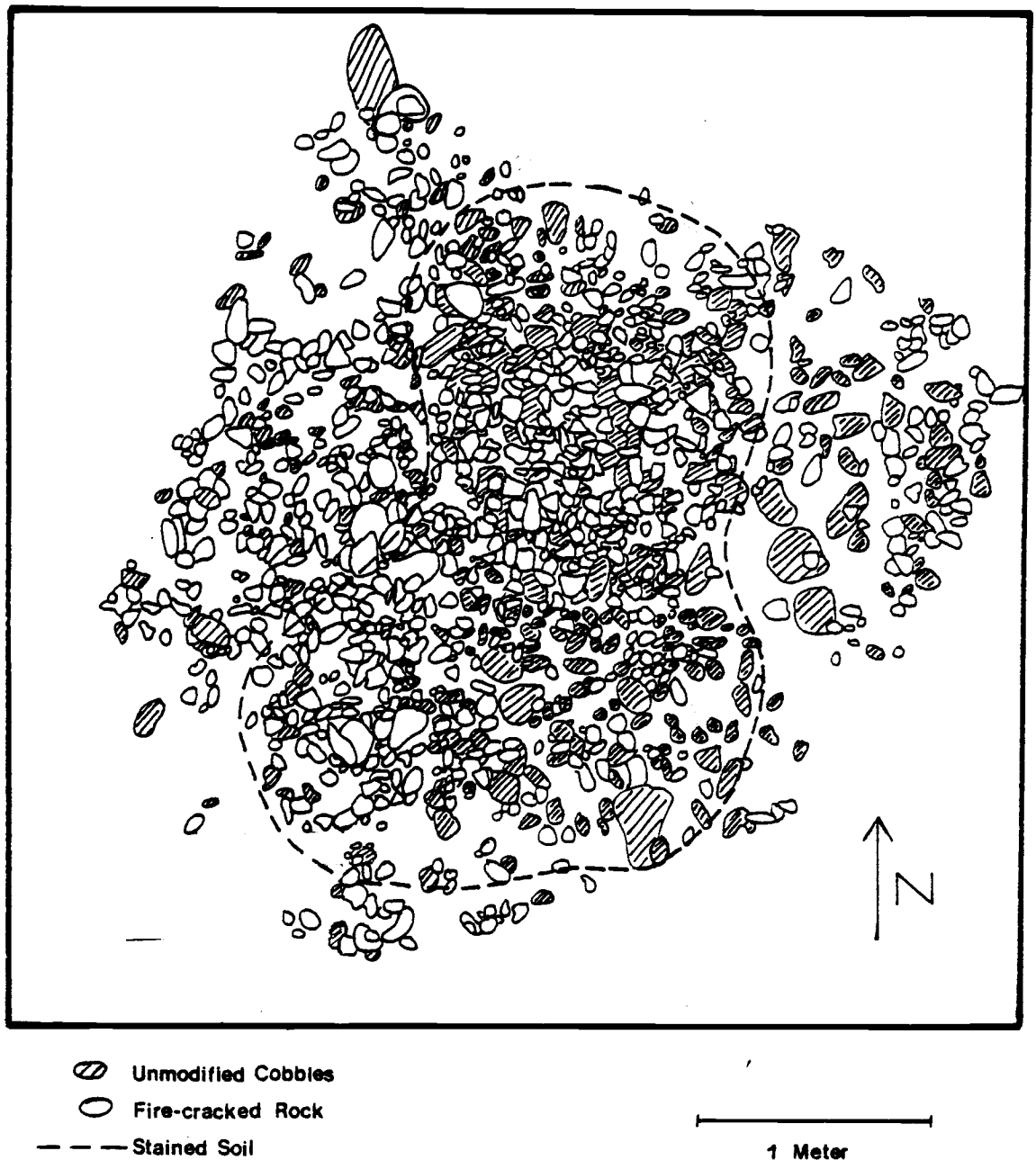


Figure 16. Distribution of Fire-cracked Rock and Unmodified Cobbles in Feature 0-1; Site 35JA47

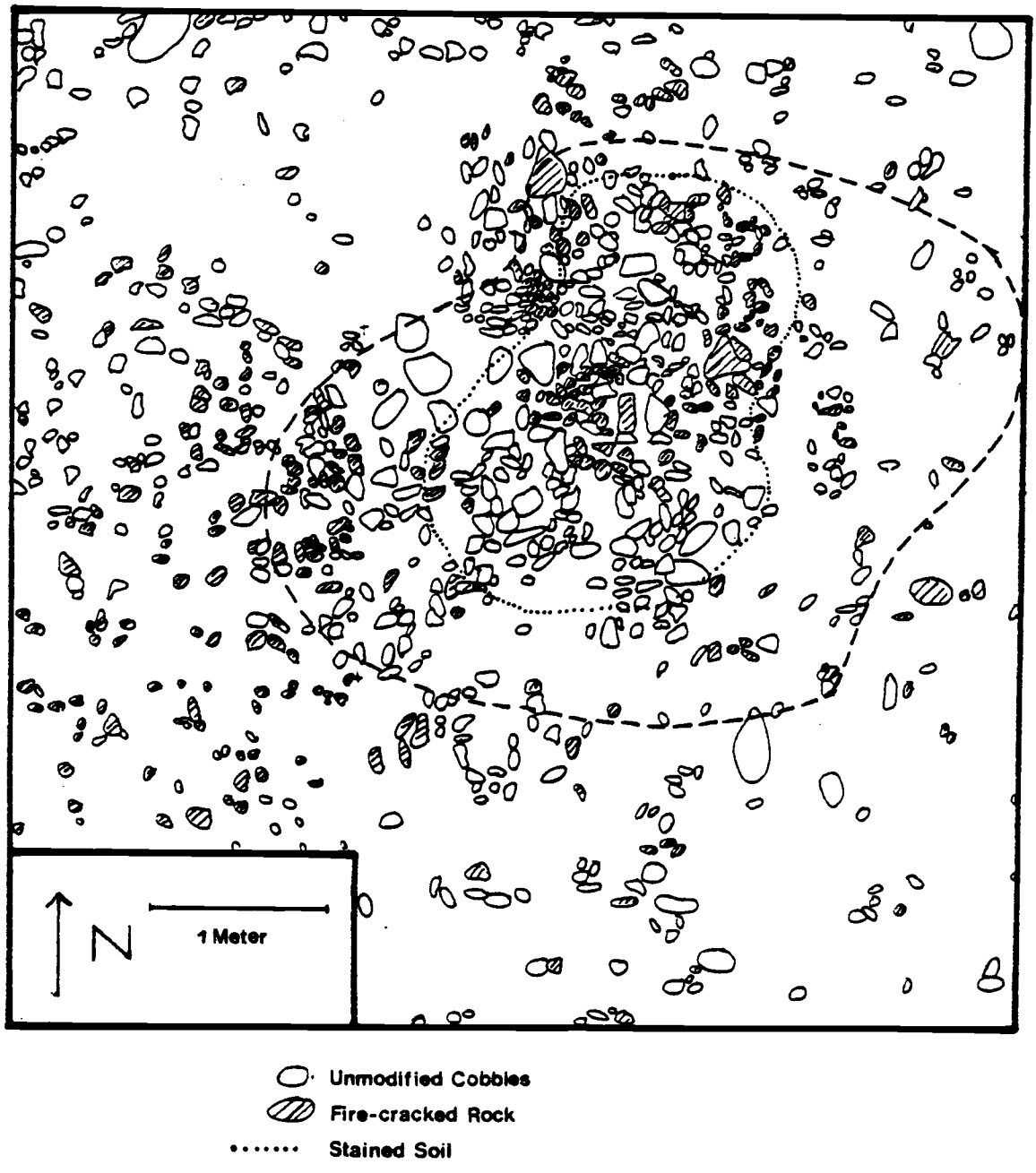


Figure 17. Distribution of Fire-cracked Rock and Unmodified Cobbles in Feature 0-1, 20 to 30 cm Below Surface

The core of the sweathouse has a different composition in level 2, from 10 to 20 cm below the surface. Here, the feature is composed almost entirely of small fire-cracked rocks (Figure 18). The rocks appear to be randomly deposited, without the appearance of internal clustering seen in level 3. The level 2 fire-cracked rock concentration does not conform to the horizontal boundaries of the level 3 deposit; it overlaps the underlaying dense cobble area, but extends further to the east. The fire-cracked rock deposit does not overlay the sparse cobble deposit that extends west of the dense cobble/stained soil area in level 3.

The western wall of the sweathouse was delineated by the examination of the level 2 and 3 artifact and debris distribution maps; these levels contain deposits that predate the late-prehistoric component at site 35JA47. The late-prehistoric sweathouse pit, then, is an intrusion into this earlier cultural deposit. Examination shows that, in level 3, the general deposit is characterized by thinly scattered small fire-cracked rock. The abrupt termination of this scatter, and the commencement of the larger unmodified cobbles inside 0-1 marks the feature's west wall (Figure 18). The east wall is indicated by the termination of the general fire-cracked rock scatter, and the beginning of a relatively artifact-free area (Figure 18).

Fifty-one artifacts were recovered from the sweathouse; this assemblage is designated as 47-0-1 (Table 7). The 9 projectile points within the 0-1 assemblage are all either small to medium-sized notched or small lanceolate points, the same array seen in

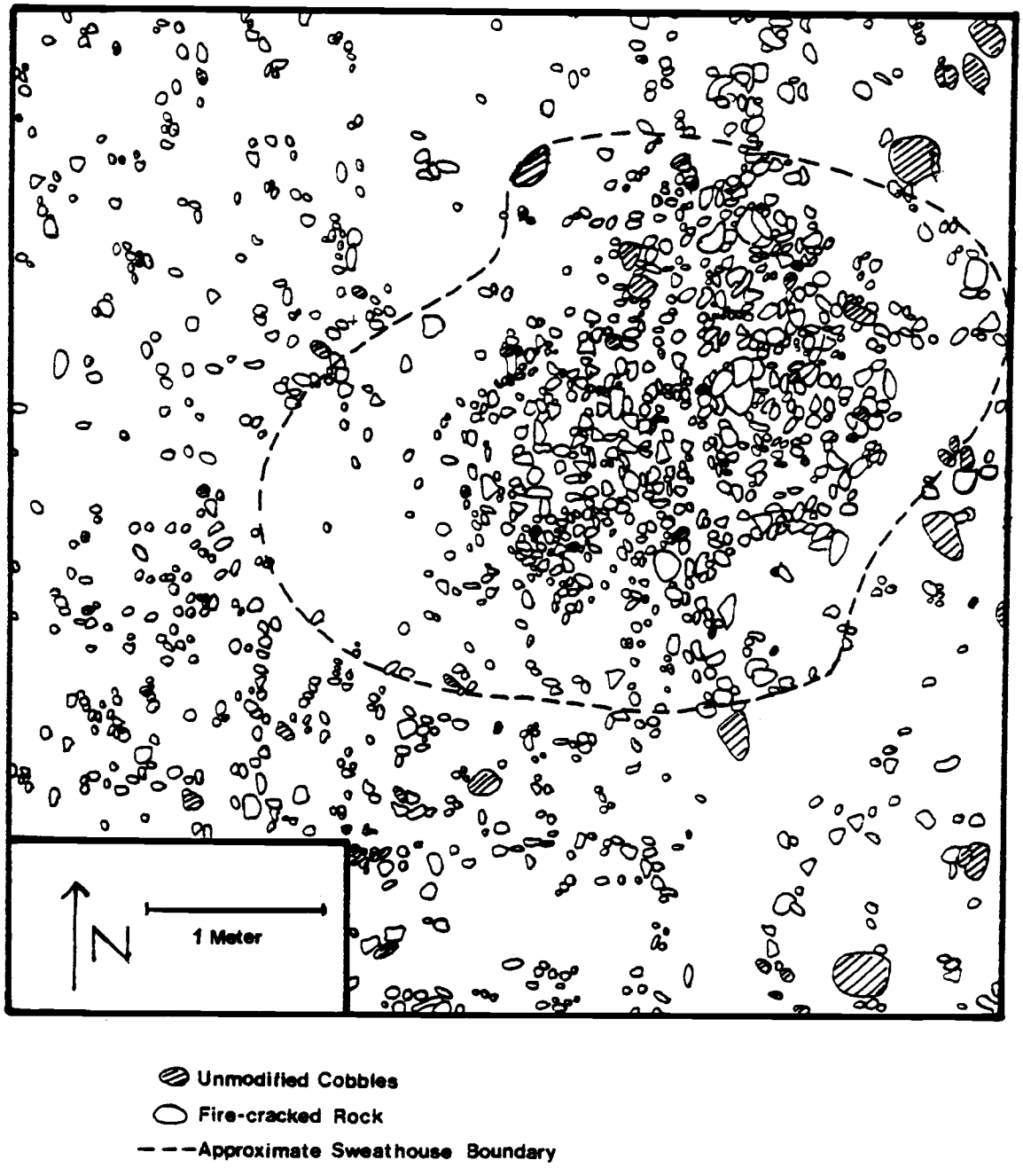


Figure 18. Distribution of Fire-cracked Rock and Unmodified Cobbles in Feature 0-1, 10 to 20 cm Below Surface; Site 35JA49

Table 7

Artifacts Recovered from Feature 0-1
Site 35JA47: Assemblage 47-0-1

Artifact Description	Number	Artifact Description	Number
Projectile points		Utilized flakes	
01-02A	2	06-01A	4
01-03A	2	06-01B	1
01-03B	1	06-01D	1
01-06E	2	06-01E	2
01-10D	2	06-01G	1
Drills or Perforators		06-01H	3
03-03A	2	Biface fragments and Blanks	
03-05A	1	08-01A	2
Gravers		08-01B	7
04-02A	2	08-02A	1
04-03A	1	Cores and Core fragments	
Scrapers		10-01A	1
05-01A	3	10-01B	1
05-01B	1	10-02A	2
05-01N	1	10-03A	1
05-02A	1	Hammerstones	
05-03A	1	14-01A	1
		Pestles	
		15-01A	1

the Block N housepits. The projectile points are not evenly distributed over the feature's floor (Figure 19a and b); five of the points and a point fragment are clustered in the north corner of the area. All three specimens of the 01-03A and -03B point subcategories were recovered from the north corner, as well as the only pestle found in the feature.

Five end scrapers, a side scraper, and a spall scraper were recovered from 0-1, all from the feature's southeast quadrant. Two are located near the projectile point concentration, and another two near the south wall.

A majority of the remaining artifacts from feature 0-1 were recovered from excavation unit 106 north/112 east, encompassing the central portion of the feature and most of the south and west walls. Many of the artifacts recovered from these areas were not found in situ, and so detailed distributional data are not available from the unit.

Twelve utilized flakes were recovered from the feature, three from the northeast area of concentration, and two near the scrapers and cores at the south wall. Three gravers were recovered, one near the point concentration, and the other two in unit 106/112. Two drill/perforators were also found in or near unit 106/112, and a third near the north wall of the feature.

All but 8 of the tools found within 0-1 are made of obsidian; five of the remaining tools are of cryptocrystalline silica, another of metamorphic rock, and the core fragments are of obsidian. Chipping debris recovered from 0-1 are principally obsidian

Figure 19a.

Distribution of In Situ Artifacts from Feature 0-1; Site 35JA47

Figure 19b.

Distribution of Artifacts Recovered by Excavation Unit from the House One Floor; Site 35JA47

▲	PROJECTILE POINTS
◭	PROJECTILE POINT FRAGMENTS
K	KNIVES
D	DRILL/ PERFORATOR
Du	UNIFACE DRILL (3-05A)
G	GRAVERS
S	END SCRAPERS
Sc	SIDE SCRAPERS
Sp	SPALL SCRAPERS
	UTILIZED FLAKES
●	ACUTE CONVEX
○	OBTUSE CONVEX
◒	ACUTE STRAIGT
◓	OBTUSE STRAIGT
◐	ACUTE CONCAVE
◑	OBTUSE CONCAVE
⊘	ACUTE MULTIPLE
⊘	OBTUSE MULTIPLE
B	BURINS
□	BIFACE FRAGMENTS
◪	WORKED FRAGMENTS
■	BLANKS
C	CORES
Cw	WORKED CHUNKS
Cs	CORE STRUCK FLAKES
R	CHOPPERS
Rc	CORE CHOPPERS

Eb	EDGE POLISHED, GROUND or BATTERED COBBLES
Es	SURFACE POLISHED COBBLES
H	HAMMERSTONES
P	PESTLES
Mt	METATE
Hm	HOPPER MORTAR
Fw	WORKED FLAKES
Mo	MORTARS
Mm	OCHRE MORTARS
G	GROUND and POLISHED STONE OBJECTS
O	OCHRE
I	MICA
A	GROOVED
W	SHELL
Ns	UNMODIFIED IMPORTED STONE

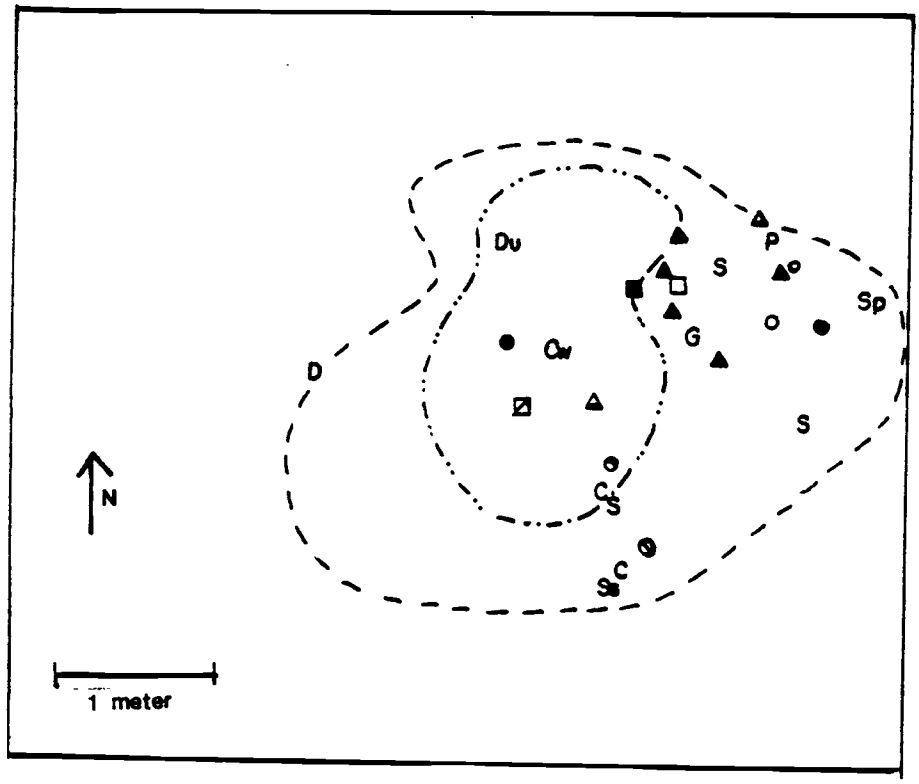


Figure 19a.

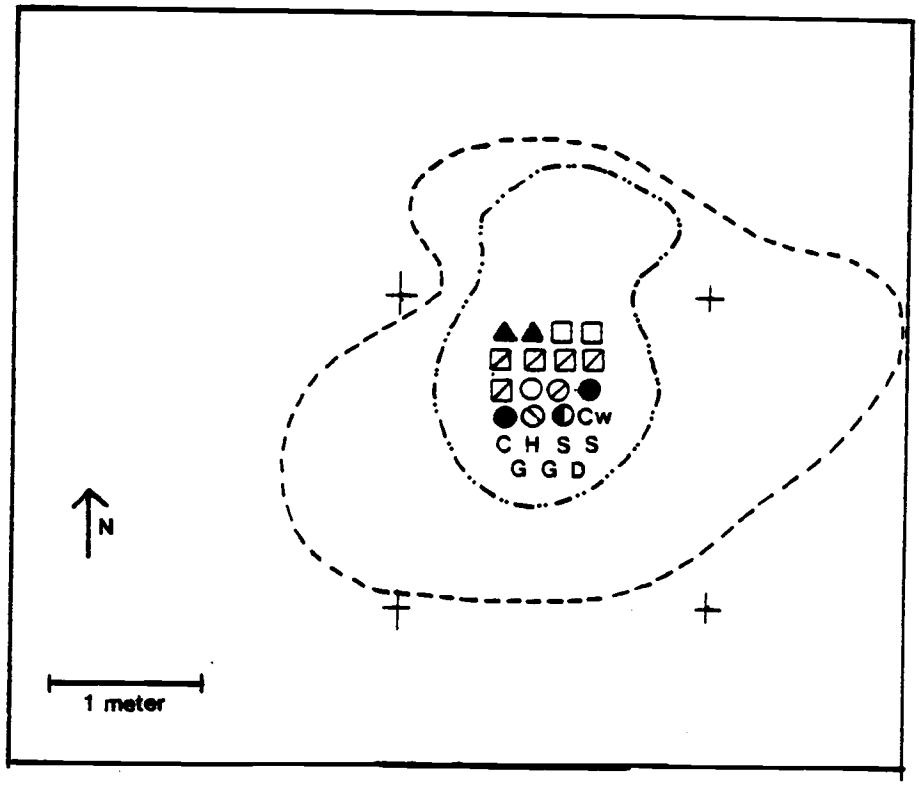


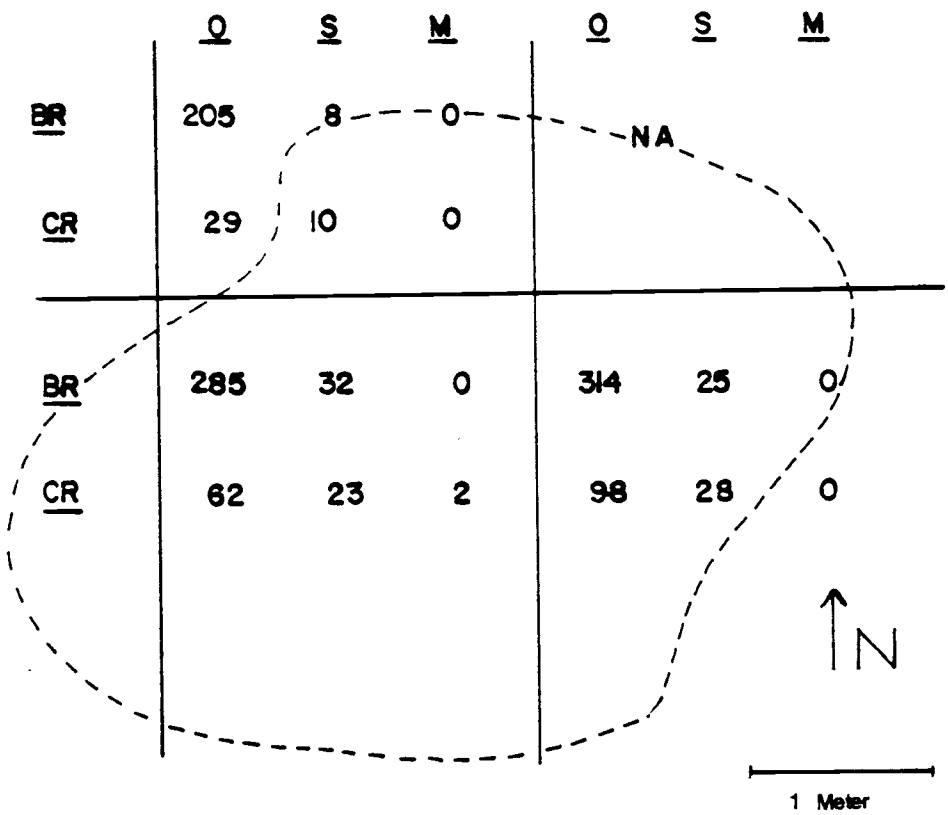
Figure 19b.

bifacial reduction flakes (Figure 20). Only two metamorphic flakes were found, forming a much lower percentage of the total debris collection than seen in the Block N housepits. No clear areas of chipping debris concentration are discernable; there is a smaller quantity of debris in the northern portion of the feature than in the southern or central areas, but all have rather large amounts of debris as compared to non-lithic reduction areas in the housepits (Figure 21).

Two distinct areas of artifact concentration are discernable inside the feature; a number of projectile points and a point fragment, a biface fragment, blank, graver, pestle, and several scrapers and utilized flakes cluster in the northeast corner. A second cluster occurs along the east wall of unit 106/112. Here, two scrapers, a core and core fragment, two utilized flakes and a point fragment are found in a rough line from the south wall out about 75 cm into the center of the feature. The line roughly follows the contour of the level 3 unmodified cobble feature as it moves out from the south wall (Figure 19a).

Unit 106/112 appears to be the focus of a majority of the biface fragment, cores and cutting and perforating tools, and has the only hammerstone recovered in the feature. It is also notable for the near absence of fire-cracked rock from the area.

Two areas in 0-1 are notable for the paucity of artifacts within their limits. An area approximately 1 m^2 in the southeast corner contains only one artifact, a scraper. The projectile point cluster noted earlier is immediately north of this area, and



O Obsidian
S Cryptocrystaline Silica
M Metamorphic
BR Bifacial Reduction Flakes
CR Cortical Reduction Flakes

Figure 20. Distribution of Lithic Reduction Debris from Feature 0-1 by Excavation Unit; Site 35JA47

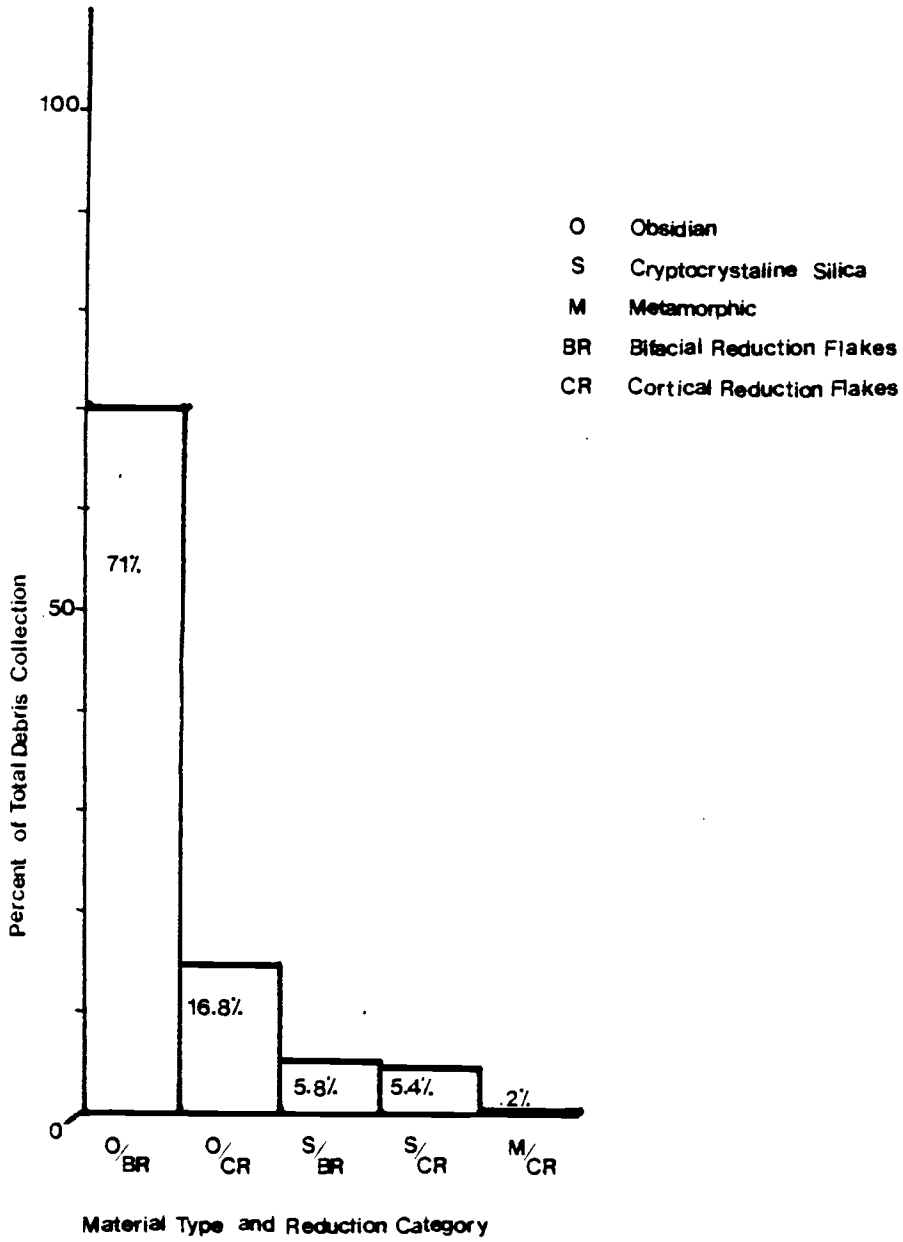


Figure 21. Material Type and Reduction Category of Lithic Debris Recovered from Feature 0-1; Site 35JA47

the linear cluster immediately west. Few fire-cracked rocks are found inside the empty area.

Only one artifact from 0-1 is an item commonly identified with food processing activity, a pestle found along the northeast wall. No hopper-mortar bases, choppers, or smoothed cobbles, and only a small quantity of bone was found inside the feature. Lack of these artifact types indicates that food processing did not take place inside feature 0-1.

The principal tool types present in 0-1 are those used for cutting, drilling or scraping; biface fragments, cores and core fragments are also common. The range and kind of tools found are generally very similar to those found in the non-food processing areas of House One.

47-0-1 is tentatively identified as a sweathouse for several reasons: (1) the lack of any indication of a hearth area inside the feature precludes the notion that the pit was used as an oven; (2) the similarity of tools from the feature to those found in portions of the housepits, and the non-random distribution of those artifacts within the pit indicate it was the scene of activities much like those that occurred in the houses; and (3) the lack of tools associated with food processing and the presence of the extensive rock feature indicate that the structure functioned as a sweathouse.

The rock feature dominating the floor was likely formed when heated rocks were placed there during the structure's use as a sweathouse. Ethnographic data indicate that heated rocks were

doused with water to produce the steam necessary for a sweat. The quantity of uncracked rocks at the base of the feature may be those that did not crack when doused and which were subsequently trod into the floor, undoubtedly muddy from the water. They may also have been deliberately placed there as a rough pavement to keep the heated rocks, or the occupant's feet, out of the mud.

It is possible that the empty area noted in the house's southeast corner behind the rock feature served as the access area for the heated rock (Figure 22). Ethnographic information detailed earlier indicates that the Takelma did not heat the rock used during a sweat inside the sweathouse, but instead, heated them outside and then passed them inside through a small opening in the house wall. The lack of structural remains prevents examination of this possibility.

Although no concrete evidence such as a doorstep is available to indicate the location of the sweathouse entrance, either of the empty areas detected may have served such a purpose. The northwest area appears to be the more likely entrance as it leads directly into the only sizeable area free of rock.

The area behind the rock feature along the east and southeast walls likely served as a general work area. The range of cutting and scraping tools, as well as the core, core fragments, and chipping debris in the area, indicates that a range of manufacturing activities occurred there. The empty area between the two artifact clusters may have been the spot where the artisan sat while working.

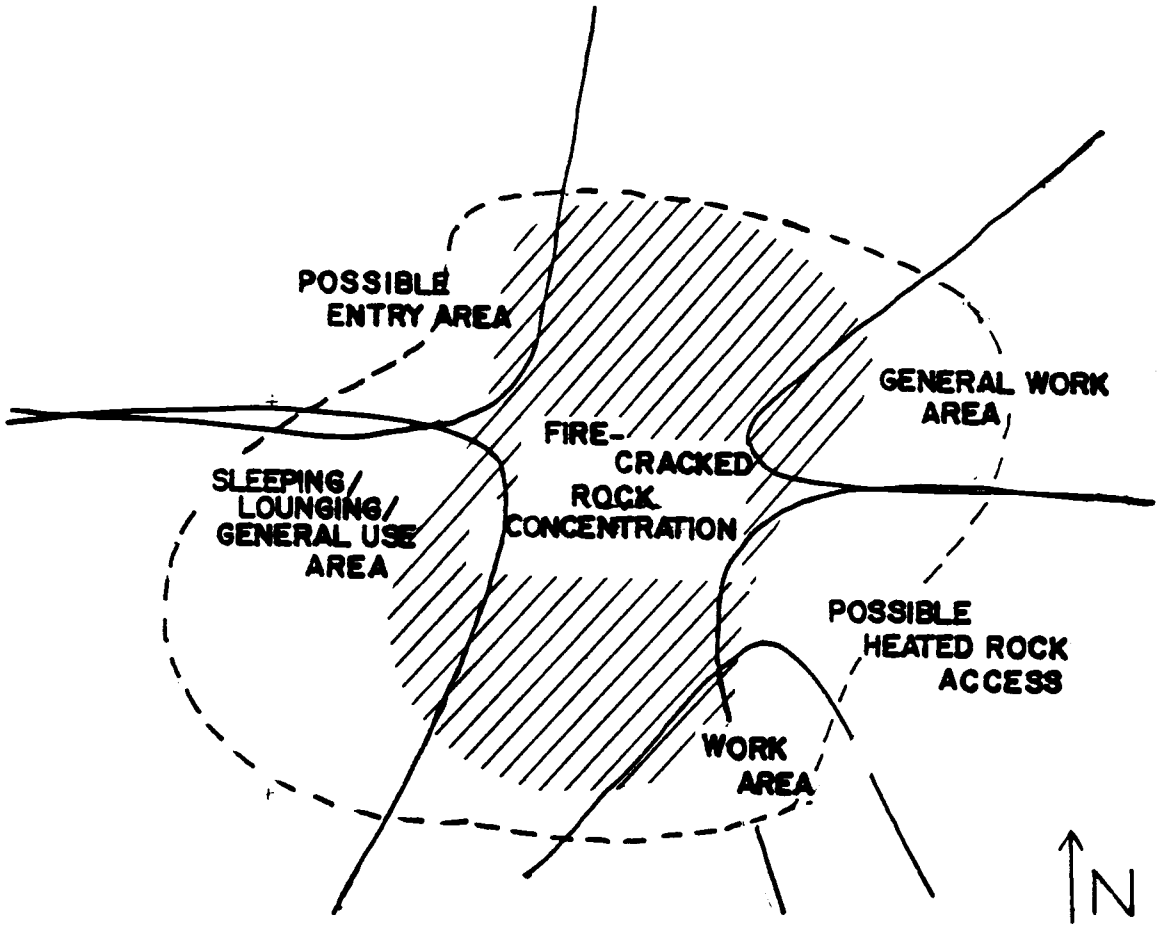


Figure 22. Activity Areas on the Sweathouse Floor, Feature 0-1; Site 35JA47

The 106/112 unit comprising the northeast portion of the sweathouse was likely a sleeping/lounging/general use area. The absence of fire-cracked rock indicates that the sweathouse occupants may have spent a portion of their time seated or reclining there. During use, the floor was likely covered with mats for added comfort. Tools and debris found in the unit also indicate that tool manufacturing activities occurred there. Light from the doorway would make the area a desirable work locale. It is interesting to note that the postulated sleeping/lounging areas for both House One and the sweathouse are adjacent and to the right of the doorway. This correlation may indicate that use of space within the house and the sweathouse was organized in much the same way.

Plow Zone

The plow zone encompasses the initial 10 to 15 cm of soil matrix at site 35JA47, including the contemporaneous living surface associated with the housepits and sweathouse discussed above. The plow zone yielded 1,092 artifacts, 724 late-prehistoric components, and 368 historic items (Table 8).

The range of artifacts found in the plow zone does not differ greatly from that found throughout the late-prehistoric component. Only four artifact types are found exclusively in the plow zone; each have only a single representative in the plow zone. The four types include: one lanceolate projectile point, subtype (01-06A); a perforator/drill, subtype (02-03A); a t-hafted graver, a

Table 8

Artifacts Recovered from the Plow Zone
Site 35JA47

Artifact Description	Number Block N	O
Prehistoric Artifacts		
Projectile points		
01-01A	2	0
01-01B	1	0
01-01C	1	0
01-01D	0	1
01-02A	1	4
01-02B	0	1
01-03A	6	3
01-03C	1	0
01-04D	1	1
01-04F	1	1
01-04G	1	1
01-04H	5	1
01-05A	1	0
01-06A	0	1
01-06C	1	0
01-06D	2	1
01-06E	6	3
01-10A	10	2
01-10B	3	2
01-10C	4	1
01-10D	30	19
Knives		
02-01A	2	0
02-03A	0	1
Drill/Perforators		
03-01A	4	1
03-02A	1	0
03-03A	1	0
03-03B	1	0
03-05A	4	1
03-10A	3	0
Gravers		
04-01A	2	1
04-02A	7	7
04-03A	16	3
Scrapers		
05-01A	15	10
05-01B	13	4
05-01C	5	2
05-01D	1	1
05-01N	6	6
05-02A	10	3
Utilized flakes		
06-01A	51	26
06-01B	9	4
06-01C	36	14
06-01D	23	5
06-01E	30	14
06-01F	10	2

(continued)

Table 8
(continued)

Artifact Description	Number Block N	Number Block O
Prehistoric Artifacts		
Utilized Flakes (continued)		
06-01G	12	11
06-01H	10	3
Biface Fragments and Blanks		
08-01A	48	19
08-01B	64	21
08-02A	4	8
Cores		
10-01A	0	1
10-01B	3	0
10-01D	0	1
10-02A	22	6
10-03A	2	1
10-03C	2	0
Choppers		
12-01A	4	2
Polished, Ground or Battered Cobbles		
13-01A	0	1
13-02A	1	0
Pestles		
15-01A	1	0
Worked Flakes		
18-01A	3	0
Historic Artifacts		
Nails and Staples		
30-01A	15	23
30-02A	2	5
30-02B	2	35
30-03B	1	2
30-04A	0	3
Wire Fragments		
31-01A	0	9
Unidentifiable Tin Can Fragments		
32-01B	0	9
Plastic Fragments		
35-01A	0	13
35-01B	0	1
Brick		
37-01A	0	5
37-01B	0	1
Ceramic Fragments		
38-01A	3	15
38-01B	4	34
Shell Casings		
39-01A	0	5
39-04A	1	0
Glass Fragments		
40-01A	5	39
40-01B	20	47

(continued)

Table 8
(continued)

Artifact Description	Number Block N	O
Historic Artifacts		
Glass Fragments (continued)		
40-01C	7	8
40-01D	2	11
40-02A	6	3
Horse Shoe		
41-01A	0	1
Safety Pin		
42-01A	0	1
Clothes Pin Spring		
43-01A	0	1
Fork Tines		
44-01A	0	1
Metal Clamp		
46-01A	0	2
Brass Tube		
47-01A	0	1
Unidentified Metal Object Fragments		
48-01A	2	5
Chain Link		
49-01A	1	0
Nut and Bolt		
50-01A	0	1
Glass Marble		
51-01A	0	1
Pipe Stem Fragment		
52-01A	0	1
Painted Wood Fragment		
53-01A	0	1
Hairbruch Back Fragment		
54-01A	0	1
Glass Bead, Mandrel Wound		
55-01A	0	2
Unidentified Object		
56-01A	0	1
Light Bulb Fragment		
57-01A	0	1
Whet Stone		
59-01A	0	1
Zinc Jar Glass Lined Fragment		
60-01A	0	2
Eyelets		
62-01A	0	1
Buttons		
63-01A	0	2
63-01B	1	1
Grommet		
64-01A	0	1

(continued)

Table 8
(continued)

Artifact Description	Number Block N	O	Artifact Description	Number Block N	O
Historic Artifacts					
Washer			Bottle Cap		
65-01A	1	0	66-01A	0	1

subtype (03-03B); and a core, subtype (10-01D). Only a single example of the graver and core subtypes are found at site 35JA47.

Twenty-one artifact subtypes found elsewhere in the site's late-prehistoric component are not present in the plow zone. All of those subtypes, however, are sparsely represented in the component. It is interesting to note, however, that no hopper-mortar bases were recovered in the plow zone; seven of the component's 9 hopper-mortar bases were found resting on house floors. Only one pestle was found in the plow zone, but the remaining specimens recovered from the late-prehistoric component were scattered between house floors, fill, and deeper external deposits.

Miscellaneous Strata

Intact Exterior Deposits:

The dark brown sandy loam soil stratum that encompasses the late-prehistoric component extends to approximately 40 cm below ground surface and 25 cm below the plow zone. This stratum stratigraphically predates the house and sweathouse deposits, indicating that site 35JA47 was occupied several times during the late-prehistoric period.

Limited portions of this stratum were available for excavation; the intrusive houses in Block N had severely disturbed the previous deposits. These intact exterior deposits, then, are those from the areas left between the houses and below the plow

zone. No activity areas are detectable in the stratum due to the extent of disturbance.

This deeper cultural stratum produced 244 artifacts; all but one are of types also found elsewhere in the component (Table 9). That artifact, a ground schist object of unknown function (20-01A), is the only one of its kind recovered at the site.

Site Discussion

The late-prehistoric component at site 35JA47 appears to be the remains of a winter village site. Site function was determined by reference to ethnographic sources, which indicate that winter villages were located adjacent to rivers, that the occupants lived in semi-subterranean pithouses, and that each village had a sweathouse where the men congregated and slept. Summer camps were usually in the uplands, and houses there were temporary brush shelters built on the natural ground surface. Additional support for the winter village thesis is provided by evidence that a wide range of activities occurred at the site;--summer camps usually served a task-specific function. Activities occurring at site 35JA47 include food preparation, lithic manufacture, largely in the final reduction stages, and various cutting and scraping activities.

The site was occupied several times during this period, as evidenced by the late-prehistoric deposits underlying the houses and filling the abandoned pits. The functional and morphological characteristics of artifacts recovered remain much the same throughout the late-prehistoric deposit, indicating that the

Table 9

Artifacts Recovered from the Intact Exterior Deposits; Site 35JA47

Artifact Description	Number
Projectile Points	
01-01B	1
01-02A	5
01-02B	1
01-03C	2
01-04F	1
01-04H	3
01-06D	1
01-06E	3
01-10A	5
01-10C	5
01-10D	11
Drill/Perforators	
03-01A	4
03-02B	1
03-03C	1
03-05A	1
Gravers	
04-01A	1
04-02A	4
04-03A	5
Scrapers	
05-01A	12
05-01C	4
05-01N	4
05-02A	6
05-02C	1
Clay Object and Fragments	
28-01A	2
Utililized Flakes	
06-01A	16
06-01B	5
06-01C	11
06-01D	11
06-01E	16
06-01F	9
06-01G	9
06-01H	5
Burin	
07-01B	1
Biface Fragments and Blanks	
08-01A	15
08-01B	39
08-02A	4
Cores and Core Fragments	
10-02A	8
10-03A	1
10-03B	1
10-03C	1
Choppers	
12-01A	2

(continued)

Table 9
(continued)

Artifact Description	Number	Artifact Description	Number
Pestles		Unidentified Ground and Polished Objects	
15-01A	3	20-01A	1
Worked Flakes			
18-01A	1		

occupants, each in their own time, performed similar activities at the site using largely similar tools. The lack of change may indicate that the same group occupied the site at several different times, or that populations from the same or largely similar culture group used the site at different times.

During excavation, data was recovered from several house floors, as well as from exterior surface deposits. Artifact collections from the two were contrasted to isolate evidence concerning the patterning of activity area locales at an occupation site, i.e., what kinds of activities occurred in-house as opposed to outside.

Examination of artifact distribution data indicates that food processing activities occurred both in the houses and outside. Tools commonly associated with the in-house activity areas include hopper-mortar bases and pestles, hammerstones, choppers, and scrapers. The exterior deposits also yielded the same collection of food processing tools, except for hopper-mortar bases. In addition, the exterior deposits contained several edge or surface smoothed or battered cobbles that probably functioned as grinding stones or manos. It is apparent that, although food processing activities occurred both inside and outside of the houses, processing activities associated with the mano and metate tool kit only occurred outside of the house. It is also apparent that food processing did not occur in the sweathouse as only a single tool exclusively associated with that activity was recovered there.

Lithic manufacturing activity occurred in the houses, the sweathouse, and outside. Debris and artifacts associated with the in-house activity include projectile points, blanks and biface fragments, cores and core fragments, and large quantities of unmodified bifacial reduction flakes. All the above items are also common in the exterior deposits; chipping debris data are unavailable for exterior deposits, so a comparison cannot be made. A number of artifact types not associated with specific activity areas, principally cutting and perforating tools, were also common both in-house and in the exterior deposits.

Comparison of space use inside the Block N houses to determine if between-house use patterns exist was largely curtailed by the limited sample collected from Houses Two and Three. Artifacts associated with lithic manufacturing were collected from all three houses, but it is impossible to say if the activity primarily focused in the same portion of each house. Lithic manufacturing and food processing activities do seem to have occurred along the east wall in House Two, where they are known to have occurred in House One.

Several similarities are evident in the space use patterns employed in House One and the sweathouse. First, in each structure the doorway faces in a northerly direction, to the northeast in House One, and northwest in the sweathouse. Second, the principal manufacturing area in both houses is located adjacent to the doorway, to its left in House One and to the right in the sweathouse, in the same area used for sleeping and/or lounging. A

second manufacturing area was postulated in the sweathouse, in the southeast corner opposite the doorway. A small heated rock entrance may also have existed in the same corner. And third, the sleeping area in both houses is situated to the right of the doorway.

Pragmatic rather than symbolic criteria may have dictated the location of several of the activity areas common between the house and sweathouse. Doorway location was likely determined by the direction of the prevailing winds and by attempts to maximize in-house exposure to light. If, indeed, the heated rock entrance existed near the secondary manufacturing area in the sweathouse, then this activity area was also located adjacent to a light source. Expedient reasons for the selection of the sleeping/lounging locale are not as apparent. Perhaps cultural factors were indeed instrumental in the selection of this activity area's location.

The validity of the hypothesis of a village-wide set of criteria, culturally dictated or otherwise, for the location of activity areas within occupation structures cannot be adequately determined from data at site 35JA47 alone. The possibility will require testing by data from other sites in the culture area before any sound conclusions can be presented.

Chapter VII

Site 35JA49

Introduction

Site 35JA49 is located on the south end of Sinns Bar, about 50 m east of the Applegate River, and lies about three-quarters of a mile south of site 35JA47. Test excavations indicated that site 35JA49 was likely a single component late-prehistoric site. Most projectile points recovered are of the small notched and small lanceolate varieties.

Before excavation it was apparent that site 35JA49 was the remnant of a site that had been partially destroyed by hydraulic mining in the last century. All soil deposits between the western edge of the site and the Applegate River had either been washed down to bedrock or severely churned. Artifacts were still to be found in the washed area, but in a re-deposited context (Brauner 1978:11).

During excavation it became apparent that the site area remaining behind the mined area had also been impacted by mining activity. A large ditch, probably used to feed water to the hydraulic jets, transected the excavation area from the northeast to southwest corners (Figure 23). Intact deposits did remain, however, on either side of the ditch. Late-prehistoric artifactual

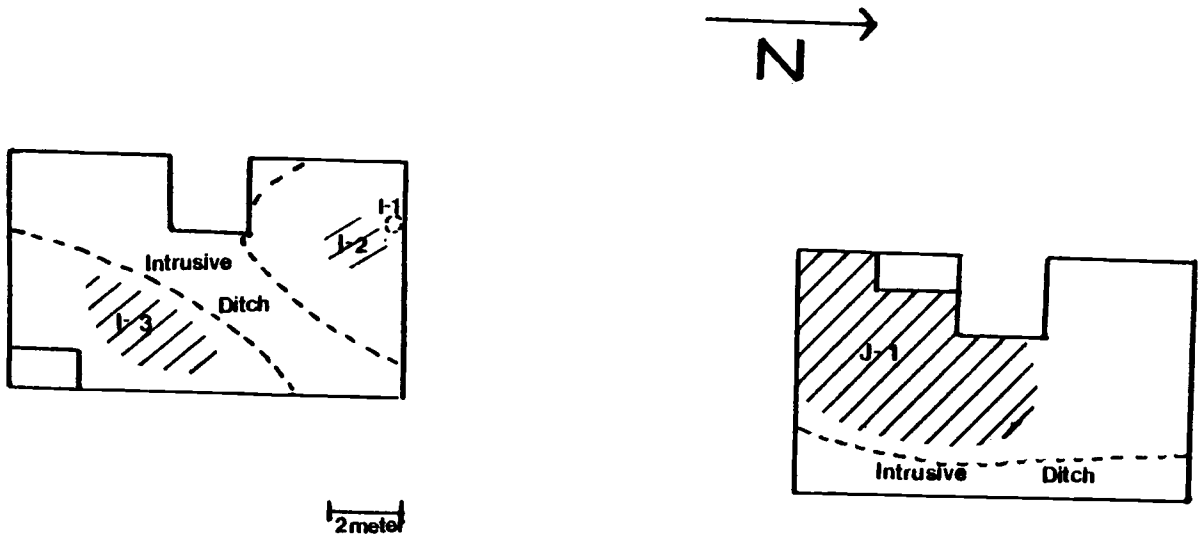


Figure 23. Excavation Blocks and Features at Site 35JA49

material, mixed with historic debris, was recovered from the ditch but lacked locational integrity.

The site's cultural deposits were bedded in a loose reddish-tan soil that extended from ground surface to 60 cm below the surface, and ended approximately 20 cm above the basal gravels. No clear break in stratigraphy was apparent throughout the soil matrix, just a gradual change from a rather red to a yellower sand. The soil was largely rock- and gravel-free, except in the intrusive ditch fill.

Two blocks of contiguous units, each 6 x 10 m in size, were excavated at 35JA49. Block I was uniformly excavated to a depth of 60 cm below ground surface. Block J, 8 m to the north of I, was excavated to 40 cm below surface in all areas except the eastern-most line of units. These units, encompassed in the intrusive ditch, were excavated to only 20 cm below surface.

Site 35JA49 yielded 1,007 prehistoric and 169 historic artifacts (Table 10). Projectile points recovered are of a wide range of shapes and styles, but nearly all conform to styles typical of the late-prehistoric period. Most common are small base- or side-notched and small convex based projectile points (see p 157 and 159).

Scrapers, gravers, drill/perforators, biface fragments, and utilized flakes comprise the principal remaining categories of artifacts recovered at the site (see p 161, 163 and 165). Nearly all of the tools are produced on flakes, with a minimal amount of surface modification employed in their creation.

Table 10

Artifacts Recovered from Site 35JA49

Artifact Description	Number I	Number J
Prehistoric Artifacts		
Projectile Points		
01-01B	4	5
01-01C	0	1
01-01D	1	0
01-01E	2	2
01-02A	4	5
01-02B	1	1
01-03A	3	2
01-03C	2	0
01-04B	0	2
01-04F	2	1
01-04G	3	0
01-04H	2	4
01-06A	1	3
01-06B	1	0
01-10A	9	11
01-10B	0	1
01-10C	2	2
01-10D	11	15
Knives		
02-01A	2	1
Drill/Perforators		
03-01A	4	0
03-02A	4	1
03-03A	0	2
03-05A	11	7
Gravers		
04-01A	3	1
04-02A	23	19
04-03A	15	13
04-04A	8	5
Scrapers		
05-01A	8	6
05-01B	12	7
05-01C	3	4
05-01D	1	2
05-01F	0	2
05-01G	1	0
05-01N	5	7
05-02A	13	3
05-02C	0	1
05-03A	2	8
Utilized Flakes		
06-01A	43	45
06-01B	41	34
06-01C	39	42
06-01D	25	34
06-01E	16	17
06-01F	18	9
06-01G	32	29
06-01H	8	18
Burins and Burin Fragments		
07-01A	4	2

(continued)

Table 10
(continued)

Artifact Description	Number I	Number J
Prehistoric Artifacts		
Biface Fragments and Blanks		
08-01A	35	34
08-01B	30	48
08-02A	7	9
Cores and Core Fragments		
10-01A	2	0
10-01B	2	4
10-02A	5	2
10-03A	5	3
10-03C	3	5
Choppers		
12-01A	5	3
Edge Ground, Battered and Polished Cobbles		
13-01A	3	4
13-01B	0	2
13-01C	0	2
13-02A	1	3
Hammerstones		
14-01A	0	1
Metates		
16-01A	0	3
16-01B	0	1
Hopper-Mortar Bases		
17-01A	0	1
Worked Flakes		
18-01A	10	3
Mortars		
19-01A	1	0
19-01B	1	0
19-01C	1	0
Unidentified Gound and Polished Objects		
20-01A	0	1
Ochre		
21-01A	0	1
Mica		
22-01A	1	0
Shell Fragments		
25-01A	0	1
Unmodified Stone		
27-02A	0	1
Historic Artifacts		
Nails		
30-01A	5	0
30-02A	0	1
30-02B	4	1
30-03A	1	0
30-03B	5	5
Wire Fragments		
31-01A	5	10

(continued)

Table 10
(continued)

Artifact Description	Number I	Number J
Historic Artifacts		
Tin Can Fragments		
32-01A	2	0
32-01B	4	2
32-01C	2	0
32-01D	1	0
Rat-tail File Fragments		
33-01A	2	0
Knife Handle		
34-01A	1	0
Plastic Fragments		
35-01A	3	0
Wood Fragments		
36-01A	1	1
Brick Fragments		
37-01A	3	0
Ceramic Fragments		
38-01A	1	0
Shell Casings		
39-01A	1	1
39-01B	0	6
39-02A	1	0
39-03A	1	0
39-05A	1	0
39-06A	1	0
Glass Fragments		
40-01A	38	6
40-01B	49	3
40-01C	1	0

No pestles or hopper-mortar bases, and only a single hammerstone, were recovered during excavation; one hopper-mortar base was recovered from the site during test excavations in 1977. One net-sinker was also recovered during test excavation (see p 163, c).

Several ground and polished stone objects were found during testing and site excavation; their function is unknown (see p 175). One ground stone object, apparently made of a badly decomposed soapstone, has been ground into a crescent shape. Two others of schist have been ground into a rough blade shape.

A number of objects, provisionally classified as a drill/perforator subtype (03-05A; see p 161, N-O), were recovered at the site. These objects, plano-convex in cross-section and tear-drop to bi-pointed in plan view, are as yet unique to Applegate Valley sites.

Most projectile points and small tools recovered at the site are made of obsidian; large tools are commonly made of a variety of metamorphic rock cobbles. Chipping debris from the site is also predominantly obsidian, with nearly 90% of that recovered being bifacial reduction rather than cortical reduction flakes (Figure 24). This indicates that little primary reduction of obsidian raw material into blanks occurred at the site; rather, tools must have been brought there in rough form and then turned into finished tools at the site.

A number of cryptocrystalline silica flakes were also recovered, although in much smaller quantities than the obsidian flakes. However, nearly one-half of the silica flakes are

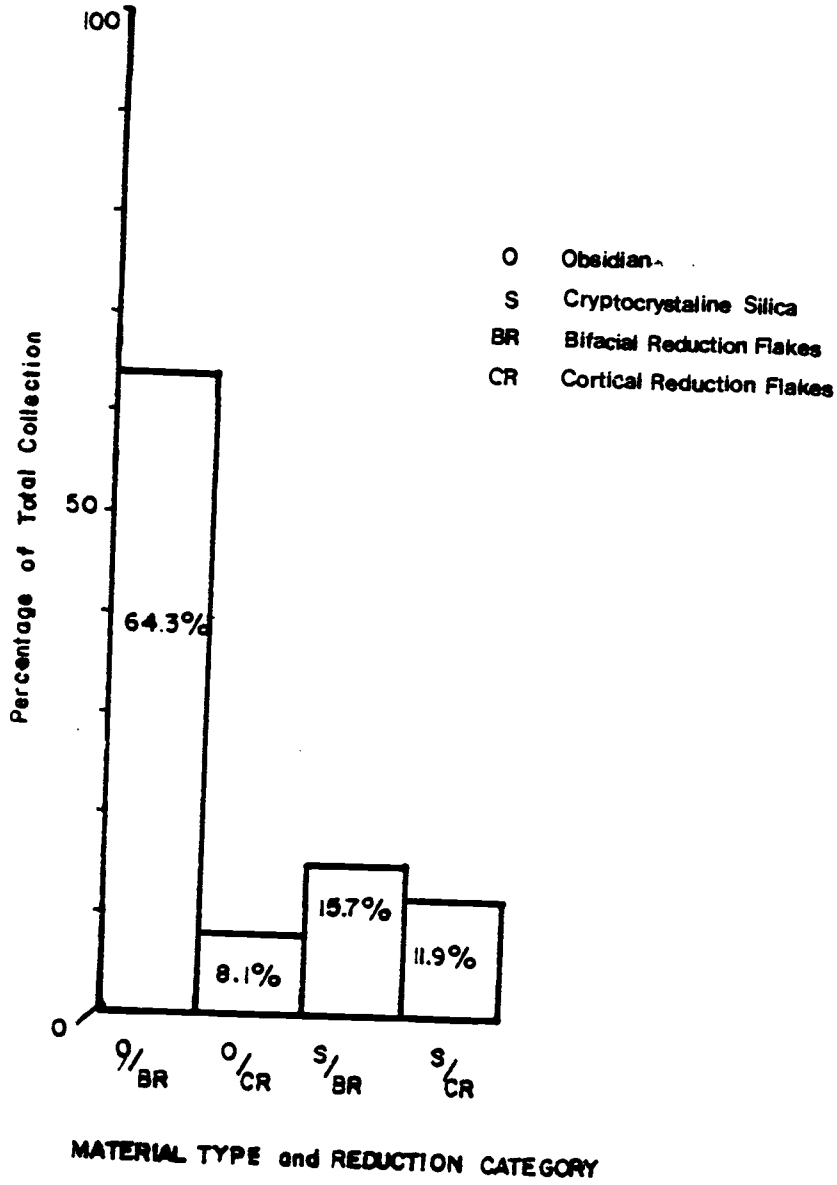


Figure 24. Material Type and Reduction Category of Lithic Debris Recovered from Site 35JA49

cortical reduction flakes, indicating a greater number of silica tools were manufactured from the raw material stage into a finished tool at the site. The discrepancy between the number of obsidian and cryptocrystalline silica cortical reduction flakes is not surprising since cryptocrystalline silica is locally available in the river gravels, while obsidian had to be imported from a distance.

Very little bone was recovered at site 35JA49; no bone tools were found. Undoubtedly such tools were used there, but were not preserved in the slightly acidic soils. Small unmodified bone fragments, often not more than 1 cm^2 and usually burned, were recovered from the deposit. No bone fragments exhibited cut marks, and fragments did not concentrate in any particular portion of the site.

Fire-cracked rock is found generally scattered throughout the site, although some areas of concentration were noted. These areas will be discussed below. Other than in these areas, fire-cracked rock is rather thinly and evenly distributed over the site surface. Most fire-cracked rocks are rather small--5 to 10 cm long. Small quantities of non-heat fractured unmodified cobbles are also found at the site.

No housepits, occupation features, or hearths were found at site 35JA49, and no organic material was recovered in sufficient quantities to permit carbon-14 dating. One intact feature, a stone-lined pit, was excavated in Block I. In addition, three

activity areas were revealed after examination of artifact distributional patterns, two in Block I and a third in Block J.

Features

Feature I-1: Stone-lined Pit

A stone-lined pit, identified as feature I-1, is a pit shaped rather like a truncated cone, about 1 m^2 in diameter at its rim and narrowing to 50 cm at its base. Feature I-1 is 15 to 20 cm deep, originating at approximately 15 cm below ground surface. The entire surface area of the feature is rock lined. The bottom is paved with flat, circular unmodified river cobbles, and the sides are lined with oblong cobbles. Four artifacts were recovered from the fill; a projectile point fragment, two biface fragments, and a utilized flake. The pit was filled with sand identical with that in the surrounding matrix when excavated.

As mentioned above, fire-cracked rock is rather thinly and evenly scattered over much of the site. However, two distinct concentrations of fire-cracked rock appear to be associated with feature I-1; a small cluster of unmodified and fire-cracked rock adjacent to and extending southwest from the pit, and a second sizable cluster of larger fire-cracked rock located about 1 m east of the pit. Several larger fire-cracked rocks are also clustered around the rim of the pit. All clusters originate at the same level as feature I-1, 15 cm below ground surface (Figure 25).

Figure 25.

Distribution of Fire-cracked Rock and Unmodified Cobbles in the Area of Feature I-1; Site 35JA49

Feature I-1's function is problematical; the pit does not appear to have been used as a hearth or fire pit, as the rocks lining it are not burned and only a few flecks of charcoal were found in the vicinity. Nor does it seem to have been used as a container in which material was pounded as the cobble lining is free of peck-marks and fracturing.

Ethnographic accounts examined provide no description of a similar feature. Several possible functions for feature I-1 can, however, be postulated based on activities described in the literature. These proposed functions are purely hypothetical; their validity cannot be tested by available archeological or ethnographic data.

A first possibility is that the pit was used for stone-boiling food. Sapir (1907a:257) states that the Takelma stone-boiled food in woven baskets. Perhaps a cooking basket was placed in a pit such as the one at site 35JA49 to give it support and to conserve heat. The fire-cracked rock concentrations noted in the vicinity of feature I-1 could be of rocks discarded after they had cooled or when the food was satisfactorily cooked.

A second functional hypothesis is that the pit served a purpose in the acorn leaching process described by Sapir (1907a:257). Sapir states that the pounded meal was placed on washed sand and doused with seething water to leach out the bitterness. No detail of the equipment used in the process is given. Perhaps, at site 35JA49, the meal was placed in a

stone-lined pit for leaching rather than on sand, which was bound to contaminate the food.

Feature I-2: Lithic Manufacturing Area

An area approximately 1 x 2 m in diameter in the east-central portion of Block I has been identified as a possible lithic manufacturing activity area (Figure 26a and b). Feature I-2 originates at about 15 cm below ground surface, and extends through the subsequent deposits for 20 to 25 cm. The activity area is bounded on the northwest by the intrusive ditch, and on the southeast by a gravel deposit.

The activity area is defined both by the relative absence of random unmodified cobbles and gravels seen elsewhere in the area and by a concentration of tools and debris. Feature I-2's area is remarkably free of cobbles and gravels; indeed, the gravel concentration noted to the southeast of the feature might be the result of the work area having been cleared and the castoff cobbles being tossed to one side. Support for this assumption is provided by the distribution of chipping debris in the feature area (Figure 27). The feature area also contains somewhat fewer chipping debris than found in surrounding units, while the gravel area to the southeast has a higher than average number of debris in its matrix. This suggests that lithic debris was periodically removed from the activity area to clear it for use.

Artifacts are found in higher density in feature I-2 than elsewhere in the block. Certain categories of artifacts also cluster within the activity area; four of the six cores and four

Figure 26a.

Distribution of In Situ Artifacts from Feature I-2; Site 35JA49

Figure 26b.

Distribution of Artifacts Recovered by Excavation Unit from Feature I-2; Site 35JA49

▲	PROJECTILE POINTS
△	PROJECTILE POINT FRAGMENTS
K	KNIVES
D	DRILL/ PERFORATOR
Du	UNIFACE DRILL (3-05A)
G	GRAVERS
S	END SCRAPERS
Sc	SIDE SCRAPERS
Sp	SPALL SCRAPERS
	UTILIZED FLAKES
●	ACUTE CONVEX
○	OBTUSE CONVEX
◒	ACUTE STRAIGT
◓	OBTUSE STRAIGT
◐	ACUTE CONCAVE
◑	OBTUSE CONCAVE
⊘	ACUTE MULTIPLE
⊘	OBTUSE MULTIPLE
B	BURINS
□	BIFACE FRAGMENTS
◪	WORKED FRAGMENTS
■	BLANKS
C	CORES
Cw	WORKED CHUNKS
Cs	CORE STRUCK FLAKES
R	CHOPPERS
Rc	CORE CHOPPERS

Eb	EDGE POLISHED, GROUND or BATTERED COBBLES
Es	SURFACE POLISHED COBBLES
H	HAMMERSTONES
P	PESTLES
Mt	METATE
Hm	HOPPER MORTAR
Fw	WORKED FLAKES
Mo	MORTARS
Mm	OCHRE MORTARS
G	GROUND and POLISHED STONE OBJECTS
O	OCHRE
I	MICA
A	GROOVED
W	SHELL
Ns	UNMODIFIED IMPORTED STONE

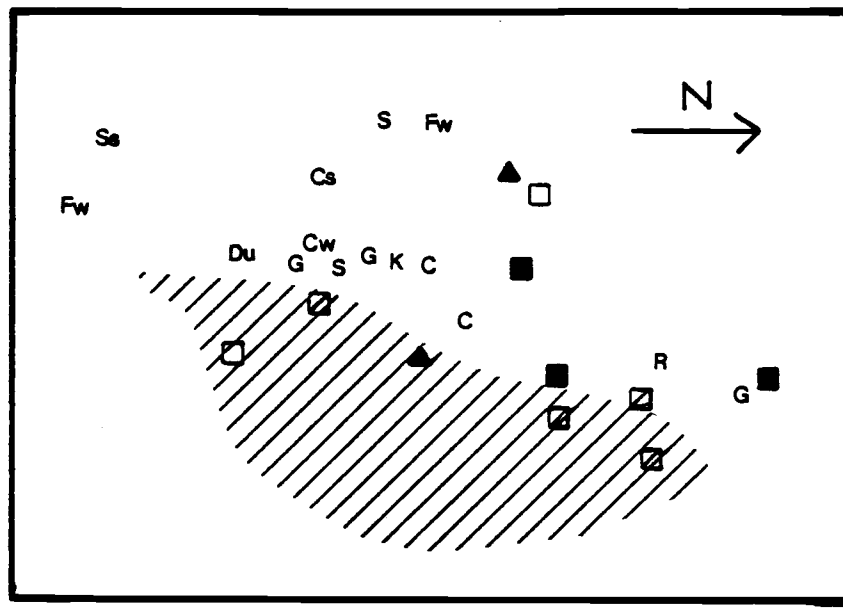


Figure 26a.

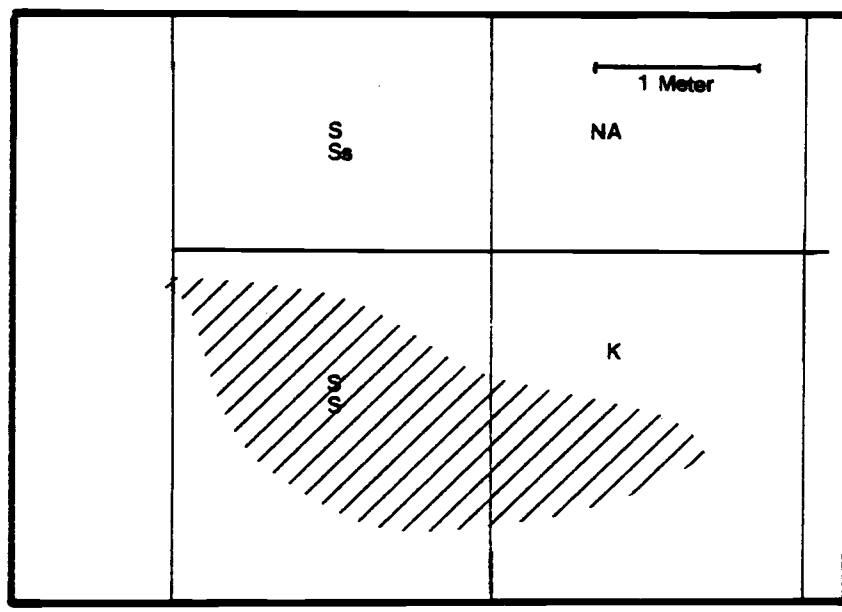
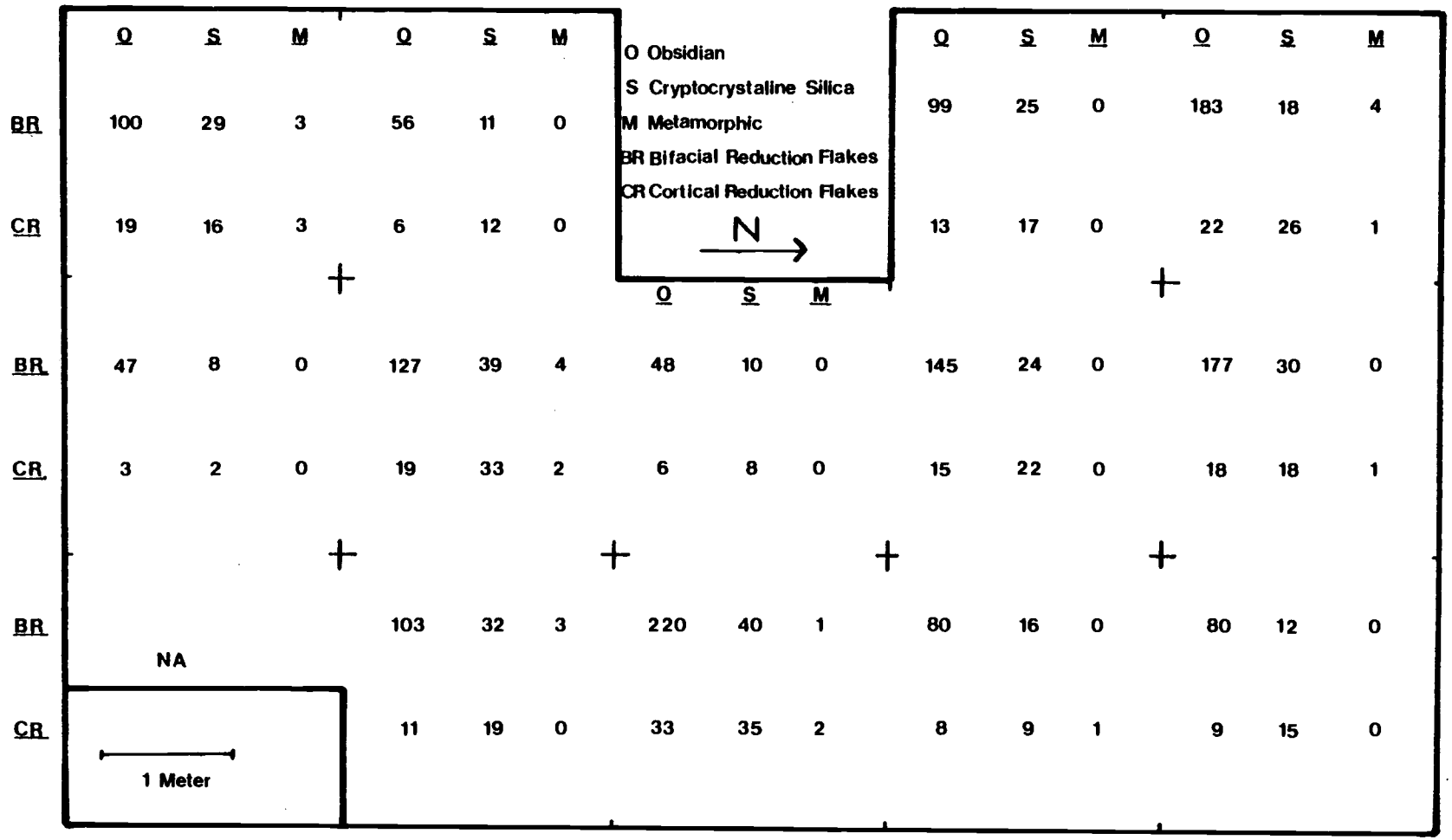


Figure 26b.



	O	S	M	O	S	M	O	S	M	O	S	M	O	S	M
BR	100	29	3	56	11	0				99	25	0	183	18	4
CR	19	16	3	6	12	0				13	17	0	22	26	1
							O	S	M						
BR	47	8	0	127	39	4	48	10	0	145	24	0	177	30	0
CR	3	2	0	19	33	2	6	8	0	15	22	0	18	18	1
BR				103	32	3	220	40	1	80	16	0	80	12	0
CR				11	19	0	33	35	2	8	9	1	9	15	0

Figure 27. Distribution of Chipping Debris in Block I; Site 35JA49

of the six blanks recovered from Block I are all from feature I-2. The remaining cores and blanks are all located in the southeast quadrant of Block I, within a few meters of I-2. Few projectile points or point fragments are found in or near the feature. Artifacts associated with feature I-2 are listed in Table 11.

Feature I-3: Function Unknown

Feature I-3 is a collection of projectile point fragments, biface fragments, gravers, and drill/perforators in the northwest quadrant of Block I in the area of feature I-1 (Figure 28a and b; Table 12). The feature is situated in a cobble-free area extending southeast from the south edge of feature I-1 for about 1 m. The artifact collection appears to originate 15 cm below surface and extends for 20 to 25 cm through the soil matrix. The function of the tool collection is unknown; the possible association between features I-1 and I-3 cannot be determined.

Chipping debris is evenly scattered in the units in and around feature I-3. Evidently the debris was not being removed from this activity area, as it appears to have been from feature I-2.

Feature J-1: General Work Area

The third activity area discovered at site 35JA49, feature J-1, appears to be a general work area. Feature J-1 is an ovoid area approximately 4 x 6 m in diameter in the southwest corner of Block J. The activity area appears to originate 10 cm below ground surface and extend to 40 cm below surface.

Table 11

Artifacts Recovered from Feature I-2
Site 35JA49

Artifact Description	Number	Artifact Description	Number
Projectile Points		Biface Fragments and Blanks	
01-02A	1	08-01A	2
01-04F	1	08-01B	4
Knives		08-02A	3
02-01A	2	Cores and Core Fragments	
Drill/Perforators		10-02A	1
03-05A	1	10-03A	2
Gravers		10-03C	1
04-02A	2	Choppers	
04-03A	1	12-01A	1
Scrapers		Worked Flakes	
05-01A	2	18-01A	2
05-01B	1		
05-01C	1		
05-01N	1		
05-02A	2		

Table 12

Artifacts Recovered from Feature I-3
Site 35JA49

Artifact Description	Number	Artifact Description	Number
Projectile Points		Utilized Flakes	
01-06B	1	06-01A	1
01-10A	2	06-01D	1
01-10C	1	06-01F	2
01-10D	3	06-01G	1
Drill/Perforators		Biface Fragments and Blanks	
03-01A	1	08-01A	4
03-02A	1	08-01B	3
Gravers		Edge Ground, Battered and Polished Cobbles	
04-02A	1	13-01A	1
04-04A	1		
Scrapers			
05-02A	1		

Figure 28a.

Distribution of In Situ Artifacts from Feature I-3; Site 35JA49

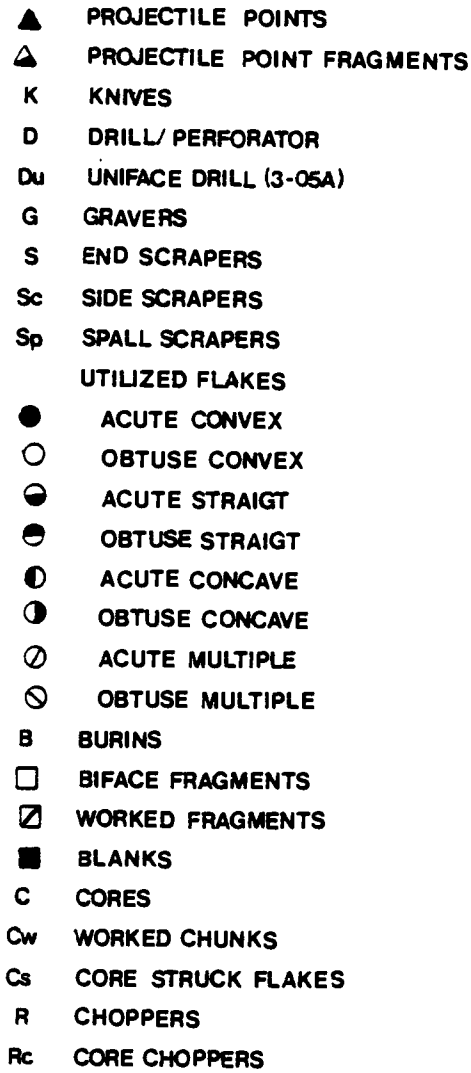
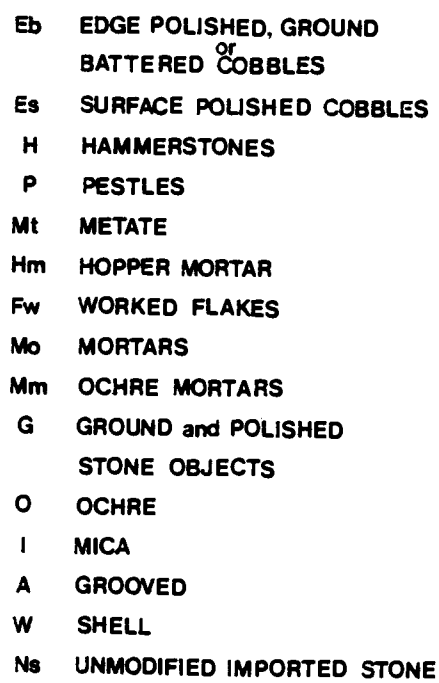


Figure 28b.

Distribution of Artifacts Recovered by Excavation Unit from Feature I-3; Site 35JA49



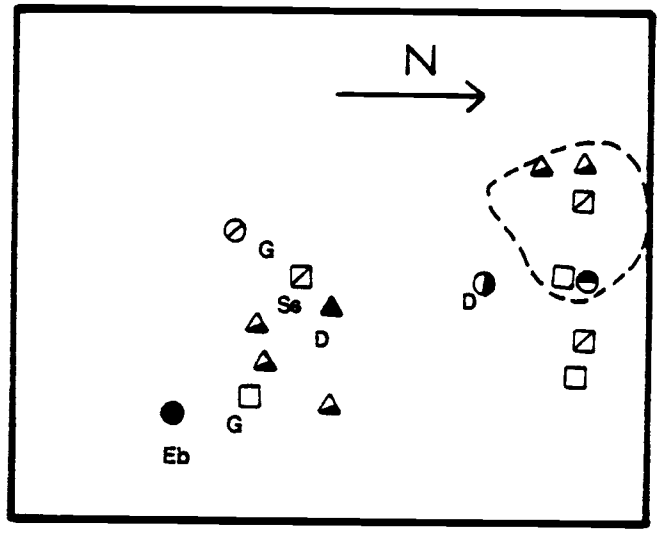


Figure 28a.

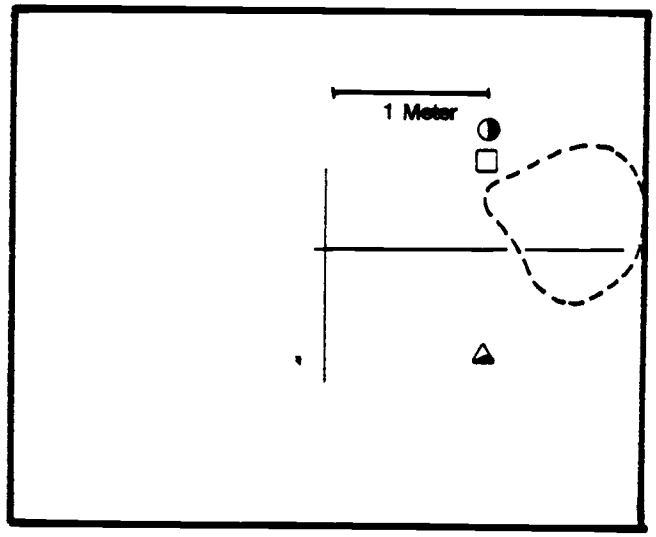


Figure 28b.

Feature J-1 consists of a central area with few unmodified cobbles or fire-cracked rock, bounded by a dense ring of rock (Figure 29a and b). Apparently, the rock from the central area was removed and tossed aside to form the outer ring.

Artifact distribution within J-1 echoes the rock distribution pattern. A total of 159 artifacts were recovered from the feature, the densest concentration of artifacts recovered from any portion of the site. However, only seven artifacts were recovered in situ in the cleared area, while 61 were found in situ in the surrounding ring (Figure 29). The remaining artifacts were not recovered in situ, and so their location, either inside the core area or in the ring, can only be viewed generally (Figure 29).

Included among the 159 artifacts recovered from feature J-1 are a number of projectile points and point fragments, scrapers, cores, and biface fragments (Table 13). Two of the three metates found at the site are from feature J-1. Examples of all major categories of artifacts recovered at site 35JA49 are found in the feature J-1 collection.

Disturbed Deposits

Cultural material recovered from the plow zone and the historic ditch are listed together as disturbed deposits (Table 14). The plow zone encompassed the upper 10 cm of soil at the site. The ditch extended through the entire culture-bearing matrix.

The disturbed areas yielded 122 historic and 317 prehistoric artifacts. Nails, fence staples, wire fragments, glass fragments,

Figure 29a.

Distribution of Artifacts from Feature J-1; Site 35JA49

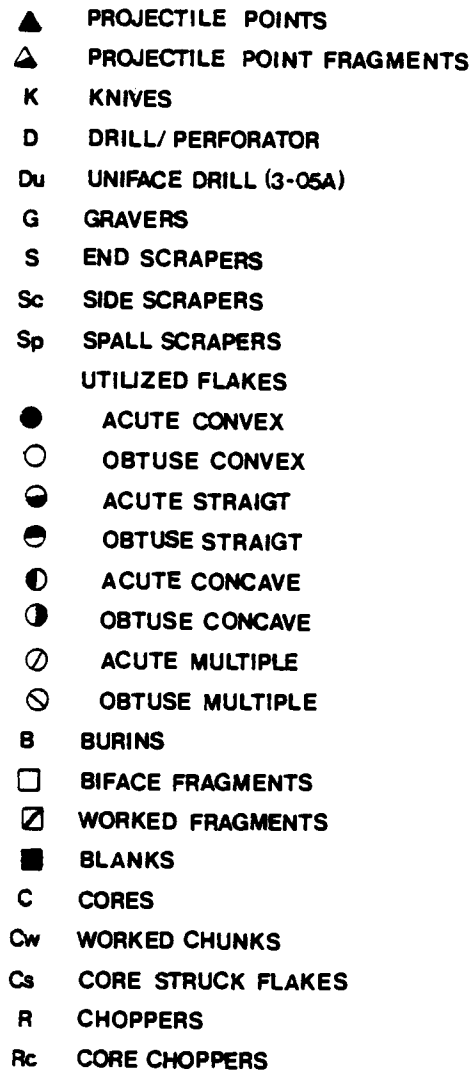
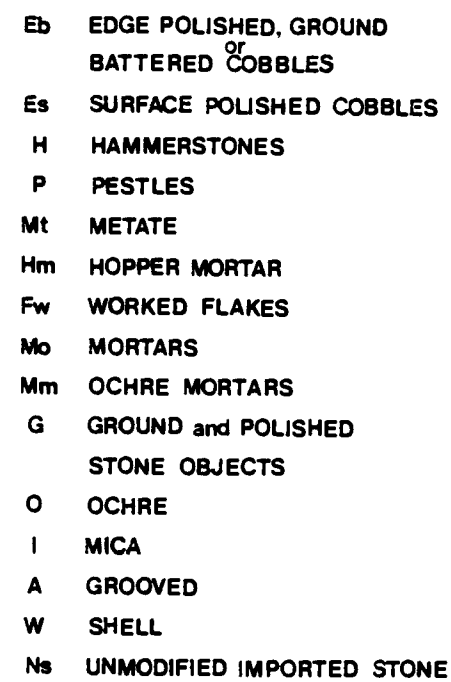


Figure 29b.

Distribution of Artifacts Recovered by Excavation Unit from Feature J-1; Site 35JA49



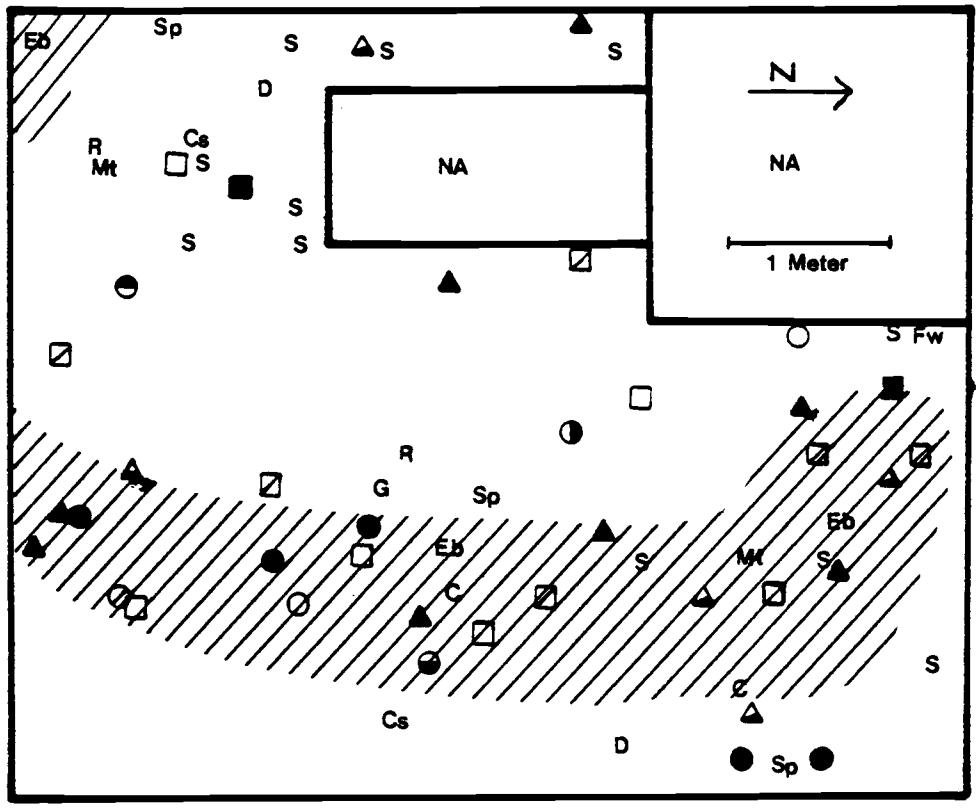


Figure 29a.

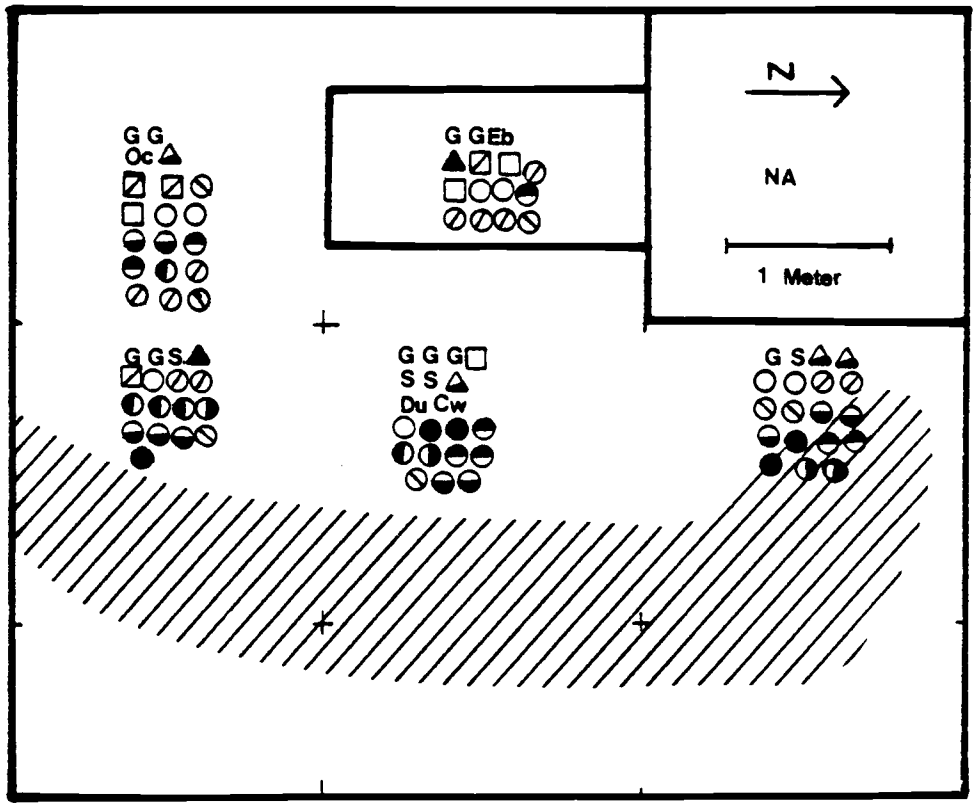


Figure 29b.

Table 13

Artifacts Recovered from Feature J-1
Site 35JA49

Artifact Description	Number
Projectile Points	
01-01B	2
01-02A	1
01-02B	1
01-03A	2
01-04H	1
01-06A	3
01-10A	3
01-10C	1
01-10D	5
Drill/Perforators	
03-02A	1
03-03A	1
03-05A	1
Gravers	
04-01A	1
04-02A	8
04-03A	1
04-04A	1
Scrapers	
05-01A	5
05-01B	4
05-01C	2
05-01D	1
05-01F	1
05-01N	2
05-03A	3
Utilized Flakes	
06-01A	10
06-01B	10
06-01C	11
06-01D	10
06-01E	5
06-01F	5
06-01G	12
06-01H	7
Biface Fragments and Blanks	
08-01A	10
08-01B	11
08-02A	2
Cores and Core Fragments	
10-01B	1
10-02A	1
10-03A	1
10-03C	2
Choppers	
12-01A	2
Edge Ground, Battered and Polished Cobbles	
13-01A	3
13-01B	1
Metates	
16-01A	1
16-01B	1

(continued)

Table 13
(continued)

Artifact Description	Number	Artifact Description	Number
Worked Flakes		Ochre	
18-01A	1	21-01A	1

Table 14

Artifacts Recovered from Disturbed Deposits
Site 35JA49

Artifact Description	Number I	Number J
Prehistoric Artifacts		
Projectile Points		
01-01B	3	1
01-01C	0	1
01-01D	1	0
01-01E	1	0
01-02A	0	4
01-02B	1	0
01-03A	1	0
01-03C	2	0
01-04B	0	1
01-04F	1	1
01-04G	2	0
01-04H	0	2
01-06A	1	0
01-10A	3	2
01-10B	0	1
01-10D	4	6
Knives		
02-01A	0	1
Drill/Perforators		
03-01A	3	0
03-02A	1	0
03-05A	2	2
Gravers		
04-01A	2	0
04-02A	7	4
Gravers (continued)		
04-03A	4	5
04-04A	2	3
Scrapers		
05-01A	4	1
05-01B	4	0
05-01C	2	2
05-01D	1	1
05-01N	3	4
05-02A	4	1
05-03A	0	3
Utilized Flakes		
06-01A	11	16
06-01B	6	12
06-01C	6	14
06-01D	2	10
06-01E	4	5
06-01F	7	1
06-01G	6	9
06-01H	0	5
Burin		
07-01A	0	2
Biface Fragments and Blanks		
08-01A	13	17
08-01B	7	23
08-02A	0	5

(continued)

Table 14
(continued)

Artifact Description	Number I	Number J
Prehistoric Artifacts		
Cores and Core Fragments		
10-01A	1	0
10-01B	1	2
10-02A	2	1
10-03A	1	1
10-03C	2	0
Choppers		
12-01A	2	1
Edge Ground, Battered and Polished Cobbles		
13-01A	0	1
13-01B	0	1
13-01C	0	2
13-02A	0	3
Metates		
16-01A	0	2
Worked Flakes		
18-01A	2	2
Mortars		
19-01A	1	0
19-01B	1	0
19-01C	1	0
Unidentified Ground and Polished Cobbles		
20-01A	0	1
Historic Artifacts		
Nails		
30-01A	1	0
30-02A	0	1
30-02B	1	1
30-03B	4	5
Wire Fragments		
31-01A	2	8
Tin Can Fragments		
32-01A	2	0
32-01B	3	1
32-01C	2	0
32-01D	1	0
File Fragments		
33-01A	2	0
Knife Handle		
34-01A	1	0
Plastic Fragments		
35-01A	2	0
Brick Fragments		
37-01A	3	0
Shell Casings		
39-01A	1	1
39-01B	0	6
39-02A	1	0

(continued)

Table 14
(continued)

Artifact Description	Number I	Number J	Artifact Description	Number I	Number J
Historic Artifacts			Glass Fragments		
			40-01A	27	4
Shell Casings (continued)			40-01B	37	3
39-03A	1	0			
39-05A	1	0			

and bullet casings were the most common historic artifacts recovered. Among the prehistoric items encompassed in the disturbed soils were 39 projectile points and point fragments, numerous gravers, scrapers, biface fragments, and utilized flakes.

Site Discussion

Site 35JA49 is a single component late-prehistoric archeological site. Its location, adjacent to the Applegate River, and the depth of deposits indicate that site 35JA49 is probably a winter village site. Ethnographic evidence demonstrates that summer occupation sites were usually in the uplands, and were occupied only for short periods.

The portion of the site excavated, all that remains intact after extensive historic damage, appears to be a general use work area rather than an occupation area of the village. No houses or hearth features indicative of the living area of a village were recovered at the site. Work areas, detected as activity areas in the archeological context, appear to be lithic reduction and general use areas located behind the houses relative to the river. This rear portion of the village was principally used for lithic manufacture, with little food grinding or processing occurring there. Some cooking activity is suggested, however, by the presence of the rock-lined feature, possibly used for stone-boiling or acorn meal leaching. Two tool types that typify food processing areas at other southwestern Oregon and northwestern

California sites, hopper-mortar bases and pestles, were not, however, recovered from the site.

The presence of two distinct artifact assemblages is postulated at site 35JA49, based upon the horizontal distribution of material. The two assemblages likely represent two periods of site occupation. The time span between the two occupations can only be assumed to have been brief due to the lack of a sterile soil stratum between the two cultural strata.

The first assemblage is distinguishable by the vertical location of features I-1, I-2 and I-3. All three features originate at about 15 cm below ground surface, and extend to about 40 cm below surface. The fact that all three features occupy the same vertical span implies a simultaneous use. The depth of the activity areas and the consistency of artifact types found in each activity area, indicates that the same areas were in use for specific purposes for a respectable length of time--probably during the full span of one winter's occupation of the site.

None of the three features extend into the overlaying 15 cm of cultural deposit; the pattern of site space use consistent in the underlying 25 cm is abruptly discontinued. This discontinuity of site spatial use implies that the upper deposit, or assemblage two, is the result of a separate occupation of the site. No break in soil stratigraphy is discernable, however, between the proposed assemblages.

The relationship of feature J-1 to the Block I features is not apparent; J-1 originates at 10 cm below ground surface. It may belong to either of the two assemblages detected in Block I.

No change in artifact type is seen between the two proposed assemblages; both yield the same kinds of tools with similar morphological characteristics. Specifically, both assemblages contain small notched and small convex-base projectile points. Both also contain the uniface drill/perforators so distinctive to the Applegate Valley sites.

The strong congruency of artifact type between assemblages indicates either that the same group of people returned to use site 35JA49, or that another group of the same or a highly similar culture group subsequently occupied the site. Either way, the respective occupants, each in their own time, appear to have performed similar activities at the site, possibly in a similar way. The conservation of tool type and site function at site 35JA49 during the intervening period indicates that the occupants' cultural system had not changed sufficiently to result in the alteration of either their stone tool kit or their concept of appropriate use of space at a village site.

Chapter VIII

Comparison of Sites 35JA47 and 35JA49

Site Comparison

The artifact collections and distribution data from sites 35JA47 and 35JA49 were compared in several ways to determine their degree of similarity. As discussed earlier, by inference, similarity between collections indicates similarity in tool function, site function, and culture system.

The total tool collection from each site was first contrasted to determine the similarity of tool types present and the relative importance of a type in each collection (Table 15). Comparison indicated that 8 tool categories are present only at one or the other of the two sites. However, seven of those are represented by only a single specimen. Therefore, the lack of any of these seven categories from either site does not constitute a significant divergence between the respective tool collections.

The absence of the eighth category, pestles, from site 35JA49's collection is, however, a significant change; 15 pestles were recovered from the late-prehistoric component at site 35JA47. Pestles are a task-specific tool, used to pound and grind food-stuff contained in a hopper-mortar basket. Significantly, only one hopper-mortar base was recovered at site 35JA49. At site 35JA47,

Table 15

Comparison of Artifact Collections
from Sites 35JA47 and 35JA49:
Percentage of the JA Sites Total Collection
Comprised of an Individual Tool Type

Category	Site 35JA47	35JA49	Difference
Projectile Points	5.3%	5.2%	.1%
Knives	.9	.3	.6
Drill/Perforators	3.9	2.9	1.0
Gravers	4.1	8.5	4.4
Scrapers	11.0	7.3	3.7
Utilized Flakes	31.2	45.0	13.8
Burins	.3	.4	.1
Biface Fragments and Blanks	23.0	16.0	7.0
Cores	4.6	3.2	1.4
Choppers	1.1	.8	.3
Net Sinker	-	.1	.1
Polished, Ground Battered Cobbles	.5	1.5	1.0
Hammerstones	.4	.5	.3
Pestles	.7	-	.7
Metates	.4	.3	.1
Hopper-Mortar Bases	.6	.1	.5
Worked Flakes	.4	1.3	.9
Mortars	-	.3	.3
Ground and Polished Objects	.05	.3	.25
Ochre	-	.1	.1
Mica	-	.1	.1
Grooved Stone	.05	-	.05
Shell	-	.1	.1
Unmodified Imported Stone	.05	.1	.05
Clay Objects and Fragments	.02	-	.02

many of the pestles were recovered from an in-house context, and no house features were recovered at site 35JA49. The absence and near absence of these tools from site 35JA49's tool inventory indicates that associated food processing activities did not occur in the portion of the site excavated.

Barring this single significant discrepancy, both sites share largely similar tool assemblages. Most tool categories also have the same degree of importance at each site, as indicated by the percentage of the total collection each category represents (Table 15). The percentages vary, but the same categories are most commonly found at both sites.

The utilized flakes and the biface fragment and blank categories are by far the largest recovered; together they comprise more than 50% of each site's total collection. Scrapers, gravers, cores, and projectile points also represent significant portions of both collections.

When the subcategories of the sites' tool categories are compared, several dissimilarities between sites become apparent. One dissimilarity noted is the difference in importance of the lanceolate projectile point subcategory at either site. At site 35JA47, the small lanceolate subcategories comprise 34% of the total projectile point collection, while at site 35JA49 they form only 10% of the total collection. Evidently, at site 35JA47, the small lanceolate point was preferred for use more often than at site 35JA49. This preference may be attributable to ideosyncratic behavior rather than cultural difference. The small

lanceolate point style is the single significant divergence between the two sites' point collections.

Site 35JA47's occupants also appear to have preferred use of an acute-edged rather than an obtuse-edged flake for utilization; the former represents 75% of the site's utilized flake collection. At site 35JA49, however, 58% of the utilized flakes recovered are acute-edged. This discrepancy may indicate that utilized flakes were used for different purposes at each site; obtuse-edged flakes likely functioned as a scraping tool, while acute-edged flakes acted as cutting tools.

Site 35JA49 yielded 13 gravers with multiple working tips on a single flake; site 35JA47 produced no multiple gravers. However, the kind of tip and the method of its production on a flake does not differ from the single to the multiple tip style. This discrepancy, then, likely represents a difference in style preference rather than a functional difference between sites.

A between-site comparison of lithic material and debris types was conducted to determine the degree of similarity in the kinds of lithic manufacturing activity and material preference between sites. At both sites, a majority of the manufactured tools are made of obsidian rather than cryptocrystalline silica (Table 16). Cobble tools from both sites are made of metamorphic river cobbles. The same preference for material type is indicated by examination of the in-house collection at 35JA47 (Table 17).

Table 16

Preferred Material Type for Several Principal Tool Categories at Sites 35JA47 and 35JA49

Artifact Category	Percentage of total number 35JA47	35JA49
Projectile points	54%	64%
Drill/perforators	96	76
Gravers	83	73
Scrapers	79	48
Biface fragment/blanks	85	69

Lithic reduction debris from both sites is largely similar in material and debris type; discussion and supporting data were presented earlier in the individual site discussion sections. To briefly summarize the earlier discussion, obsidian reduction flakes are the principal debris category recovered at both sites; cortical reduction flakes are found in much smaller quantities. Far fewer cryptocrystalline silica chipping debris were recovered and approximately one-half of the silica debris are cortical reduction rather than bifacial reduction flakes. Apparently, then, the occupants of both sites manufactured the cryptocrystalline silica tools from start to finish, from raw material to final tool form, at the site. The obsidian tools, however, were being imported in a partially finished state as blanks, and then were shaped to final form on location.

Thus far, comparisons have been made between total site collections. Also compared during analysis were in-house and

Table 17

Percentage of the Total In-House Artifact Collection Comprised of Individual Tool Types at Site 35JA47

Category	Percent of Total In-House Collection
Projectile Points	14.5%
Knives	1.0
Drill/Perforators	4.1
Gravers	5.7
Scrapers	13.6
Utilized Flakes	20.2
Burin	.5
Biface Fragments and Blanks	21.8
Cores	6.2
Choppers	2.6
Edge Battered, Ground or Polished Cobbles	.5
Hammerstones	2.1
Pestles	1.6
Metate	.5
Hopper-Mortar Base	36.0
Worked Flakes	.5
Grooved Stone	.5
Unmodified Imported Stone	.5

exterior deposits in an attempt to isolate village-wide patterns of space use. During analysis, the tool collections recovered from the three house and the sweathouse floors at site 35JA47 were contrasted with the combined total site collection from site 35JA49 and the exterior deposit collection at site 35JA47.

In-house activities and tool kits are discussed previously in the sections entitled Site Discussion in Chapters VI and VII. Principal in-house activities noted include food processing and lithic manufacturing. Tools associated with food processing activities include hopper-mortar bases, pestles, hammerstones, choppers, and scrapers. Only a single metate and grinding stone were recovered inside the houses. Lithic manufacturing activity areas contain projectile points, biface fragments and blanks, cores and core fragments, and quantities of bifacial reduction chipping debris. Finished projectile points comprise a significantly higher proportion of the in-house assemblage than they do in the exterior deposits (Tables 12 and 13).

No activity area particularly devoted to cutting and perforating activities was delineated inside the houses, although a number of tools appropriate to those activities were recovered. Scrapers are found inside all occupation features. However, inside House One they are almost exclusively associated with food processing areas, while in the sweathouse, where no food processing occurred, they are associated with general work and lithic manufacturing areas.

Comparison of the in-house collection with the combined exterior deposits indicates several points of divergence, indicating differentiation in their space-use patterns. First, although food processing activities appear to have occurred outside of, as well as inside of the houses, some differences are indicated in the kinds of processing activities that occurred at each location; namely, the exterior deposit's food processing tool kit emphasizes the metate/grinding stone combination rather than the hopper-mortar base/pestle focus noted in-house. No pestles and only a single hopper-mortar base were recovered at site 35JA49, and no hopper-mortar bases were found outside of the houses at site 35JA47. The trend noted, then, in the interior-exterior discussion that associated the hopper-mortar/pestle tool kit with in-house deposits and the metate/grinding stone tool kit with the exterior deposits, remains true at both sites.

A second dissimilarity noted between in-house and exterior deposits is in the distribution of spall scrapers, a large heavy scraper usually used in hide preparation. A single spall scraper was found in the sweathouse; otherwise, all came from exterior deposits. Spall scrapers are also more common at site 35JA49 than at site 35JA47.

Three activity areas were delineated in the exterior deposits at site 35JA49; none were detectable in the largely disturbed exterior deposits at site 35JA47. The existence of activity areas in the exterior deposits points up a basic similarity between those and the in-house deposits--neither area was used randomly. Rather,

space use patterns directed the location of activity areas both in-house and outside. An individual did not simply select a spot at random and sit down and go to work. Instead, particular locations were consistently selected for use and re-use. Use of space, then, was organized rather than random.

Activity areas in the exterior deposits do, however, appear to have served more of a general-use function than did the in-house areas. Some overlap of activity areas was noted in House One, where some cutting and perforating tools were found in the sleeping area, and the food processing and lithic manufacturing areas blended somewhat on their common boundary. One pestle and the cache pit, hypothesized to have been used by a woman, were found well into the lithic manufacturing area. On the whole, though, the different activity areas were quite distinct.

At site 35JA49, however, only one of the three activity areas located had a clearly specific function; feature I-2 appears to have been used exclusively for lithic reduction and tool manufacturing. Feature I-3 has no clearly definable function, but apparently is a miscellaneous collection of tools, perhaps associated with the rock-lined pit feature I-1. Feature J-1 is a general use area; a wide variety of activities occurred there, including food processing, lithic manufacture, and cutting and scraping activities, possibly including hide preparation.

It appears, therefore, that at site 35JA49, and by implication in all exterior deposits, activity regularly occurred in particular locations, but that the kinds of use to which the area was put

varied, i.e., they were not task-specific. It is possible, then, that some exterior activity areas were assigned to an individual or family rather than to a specific function. Rather than a number of individuals using the same area for a specific purpose, one person or family may have used a single area for a range of activities that they performed outside the home. In contrast, in-house areas were more task-specific, as well as possibly being used by particular individuals or persons of a particular sex.

Discussion and Conclusions

Sites 35JA47 and 35JA49 are both winter village sites occupied several times during the late-prehistoric period. Both are located on Sinns Bar within 100 m of the upper Applegate River.

After comparison of the artifact collections and the material distribution patterns at the sites, it is apparent that they correspond in a number of ways. The tool kits from both sites are highly similar in both their functional and morphological characteristics. By inference, then, the sites' occupants were performing the same kinds of activities at the sites and in highly similar ways. Both also regularly performed certain activities in the same kinds of locations at the sites; metate/grinding stone oriented food processing activities, acorn meal preparation, and hide preparation activities regularly occurred outside of the houses and often in the rear periphery of the site. Occupants at both sites also imported obsidian, the preferred tool material, to the village in a partially reduced form and completed the tools'

manufacture there, where cryptocrystalline silica tools were manufactured from start to finish at the site.

Consistencies are apparent not only between sites but also between occupation levels at each site. The populations using both sites during each of their occupation events were employing the same general tool kit, performing the same kinds of tasks, importing partially manufactured obsidian blanks, and apparently were also employing similar space-use patterns.

Given the strong technological and functional congruency between the sites, it is possible to infer that the persons that occupied both sites during each of their use events were participants in the same or a highly similar cultural group.

Sufficient differences occur between the site collections to indicate that both were not occupied by a single group at different years; the prominence of the small lanceolate projectile point subtypes at site 35JA47 indicates a preferential difference inconsistent with a single group. It is more probable that two populations from the same culture group occupied the sites, either at the same time or at separate intervals through time. The lack of carbon-14 dates for either site prevents an assessment of their contiguity in time.

If, indeed, the two sites were occupied by members of the same cultural group, and the populations reoccupying the locations were also of the same cultural group, then it is apparent that, for an unspecified length of time, little archeologically detectable change occurred in that group's cultural system.

The conservation of the technological system and the social concepts of appropriate site function and inter-site space-use behavior may indicate that an equal conservatism occurred in the non-archeologically detectable elements of the occupants' total social system. This premise is based upon K. C. Chang's concept of a culture steady state, discussed earlier. Chang states (1968:3) that "significant and meaningful" change in any element of a social system will cause change in all elements of a society, including its technological system. Conversely, if the tool technology remains unchanged, then a lack of significant change elsewhere in the system is implied. This is not to say that change did not occur, just that it was not of a quality or degree to alter the social system.

Analysis of the combined deposits from sites 35JA47 and 35JA49 indicate that for an undetermined length of time, the same general tool assemblage was in use and concepts of site function and appropriate space-use patterns remained consistent at the sites. A state of cultural equilibrium, then, can be hypothesized to have occurred in the cultural system of the late-prehistoric occupants of the upper Applegate River Valley of southwestern Oregon.

Chapter IX

Comparison of Sites 35JA47 and 35JA49 with Previously Excavated Sites and the Ethnographic Record of Southwestern Oregon and Northwestern California

Deposits recovered from sites 35JA47 and 35JA49 strongly resemble those described in reports of previously excavated sites, and somewhat resemble the winter village sites described in ethnographic accounts; the archeological and ethnographic data was discussed earlier in the paper. All sources place winter village sites adjacent to a river or stream, such as was seen in the Applegate Valley. House descriptions from archeological sites are all of circular, semi-subterranean pithouses; ethnographic accounts are of rectangular pithouses. All houses had centrally located hearths or fire pits; House Two from site 35J04, like House One at site 35JA47, had no excavated or constructed hearth.

No house superstructure remains were recovered from the Applegate sites. It is possible that the occupants removed the structural members for re-use when they left the site, as is hypothesized at site 35J04 and the Salt Cave sites. The conical pole and slab-roofed structures postulated from remains recovered at the Iron Gate and Salt Cave sites appears to have been the roof form used at the Applegate sites. The arrangement of the

hopper-mortar bases/pole footings inside House One could well have functioned as part of a roof support system like that described by Cressman and Olien.

Cache pits were common in the house floors at the Salt Caves sites and were noted at the Iron Gate site. The walled cache pit described by Cressman and Olien may correspond to the rock walled feature (I-3) noted near the west wall in House One at site 35JA47. A stone-paved doorway similar to that found in House One is described for Shasta houses, and houses at the Iron Gate site, site 35J04, and possibly at the Salt Caves sites were all entered from ground level. The occurrence of sleeping benches varied between sites; none were found in houses excavated at the Applegate and Iron Gate sites or at site 35J04, but were the rule in houses at the Salt Cave sites.

Ethnographically described houses are rectangular rather than circular, but conform in many other ways to the circular-style house. Common features in the ethnographic period houses are a wooden superstructure over a partially excavated house, a central fireplace, and a ground level entry. Leonhardy hypothesizes that these rectangular houses are a rather recent development in northwestern California, and that the circular house style excavated at the archeological sites is an older style, possibly used by the ancestors of the ethnographic populations.

Little discussion of activity areas is available in reports of excavated sites, and the ethnographic accounts say little about activity locations within a house or village. At the 35J04 and

Iron Gate sites, food processing and lithic manufacturing activities were noted to have occurred inside the houses. The ethnographic accounts say peripheral areas around the house rim were used for storage, and that sleeping areas extended from the hearth area toward the house wall. Accounts also indicate that the men conducted many of their activities in the sweathouse. Both the archeologically and ethnographically noted activity patterns, then, are consistent with those observed at site 35JA47.

Similarities also exist between the tool assemblages recovered at the Applegate sites and elsewhere. Much the same functional assemblage was recovered, namely, projectile points, gravers, scrapers, hopper-mortar bases and pestles, choppers, and metates and grinding stones. Tools recovered from the Applegate sites and all reported sites were manufactured on flakes or cobbles with little elaboration beyond that required for use.

Some divergence in point style occurs; many of the sites contain Gunther barb points, a style not recovered at the late-prehistoric Applegate sites. The Gunther barb appears to be a stylistic addition to the region's projectile point collection that was not used by the Applegate Valley populations. A single Gunther barb point was found in an historic-era pithouse partially excavated just downstream from site 35JA47. The late-prehistoric Applegate sites also yielded no coastal-style points such as those found in Component I at site 35J04. All other projectile point types recovered at the Applegate sites were also found at the other reported sites, with variations in stylistic emphasis at each site.

Cobble tools found at Applegate are much like those described ethnographically and excavated elsewhere. At all sites, hopper-mortar bases and metates are unmodified flat river cobbles with surfaces hollowed or smoothed from use. Pestles are rectangular to expanding cobbles with the working end fractured from use. Only one of the very large or decorated pestles commonly associated with the historically reported populations in the region was recovered from the excavated sites.

In 1920, A. L. Kroeber proposed that during the ethnographic period, a single culture area existed that encompassed southwestern Oregon and northwestern California. His thesis was based upon the large number of culture traits, particularly architectural features and tool types, held in common among the ethnographic populations residing in the region. Archeological data presented in this paper, all recovered from sites excavated since Kroeber first presented his hypothesis, provides support for that hypothesis.

The sites examined share functionally and morphologically similar tool assemblages, with a few stylistic variations or shifts in emphasis. House style also remains consistent at all occupation sites examined until the recent introduction of the rectangular style. And, although imperfectly understood, activities which occurred inside the houses are also consistent through time.

As demonstrated in the comparison of the two Applegate sites, the strong similarity of tool type and house style across the region implies that a similarity also exists in the cultural system

employed. Evidently, as Kroeber hypothesized, various populations throughout the region were in contact and actively engaged in culture exchange to the point that a degree of homogeneity in their lifestyle resulted.

Evidence provided by the analysis of the late-prehistoric Applegate sites amplifies as well as supports Kroeber's thesis. Stylistic comparison of tool traits indicates that the sites were occupied between 2000 and 3000 years B.P. The culture system evident in the upper Applegate River Valley is, however, still recognizably related to that employed at sites occupied elsewhere in the region as late as 400 B.P. Therefore, evidence provided by the analysis of the late-prehistoric sites in the upper Applegate River Valley indicates that, not only was a southwestern Oregon, northwestern California culture area in existence 2,000 to 3,000 years ago, long before Kroeber postulated its existence, but that this pervasive culture system had been in a state of relative equilibrium for several thousand years.

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APPENDIX A

Photographs Referenced in the Text

Figure 30. Notched Projectile Points
from Site 35JA47 and 35JA49
A, F: Side Notch (01-01A)
B: Side Notch (01-01D)
C, D: Side Notch (01-01B)
E: Side Notch (01-01C)
G: Side Notch (01-01E)
H, J: Base Notch (01-2A)
K, L: Base Notch (01-2B)
M, N: Corner Notch (01-3A)
O: Side Notch (01-2C)
P: Base Notch (01-3B)
Q, R: Base Notch (03-3C)

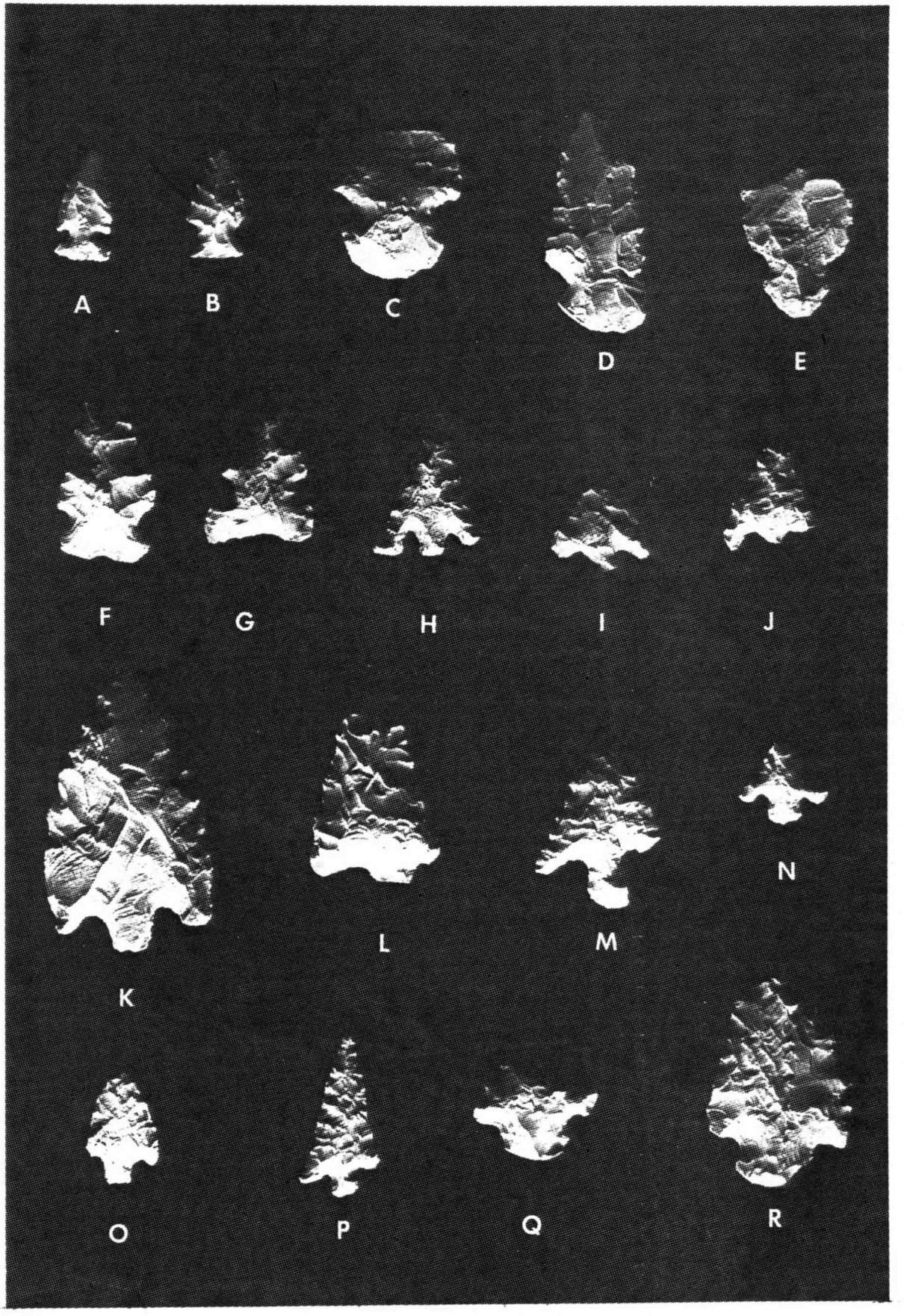

Figure 30.

Figure 31. Stemmed, Hafted and Lanceolate Projectile Points from Sites 35JA47 and 35JA49

A: Stemmed (01-4A)
B: Stemmed (01-4B)
C: Stemmed (01-4C)
D: Stemmed (01-4D)
E: Stemmed (01-4F)
F: Stemmed (01-4G)
G, H: Stemmed (01-4H0
I: Hafted (01-5A)
J: Lanceolate (01-6C)
K: Lanceolate (01-6B)
L: Lanceolate (01-6C)
M, N: Lanceolate (01-6B)
O, P: Lanceolate (01-6E)
Q: Lanceolate (01-6F)

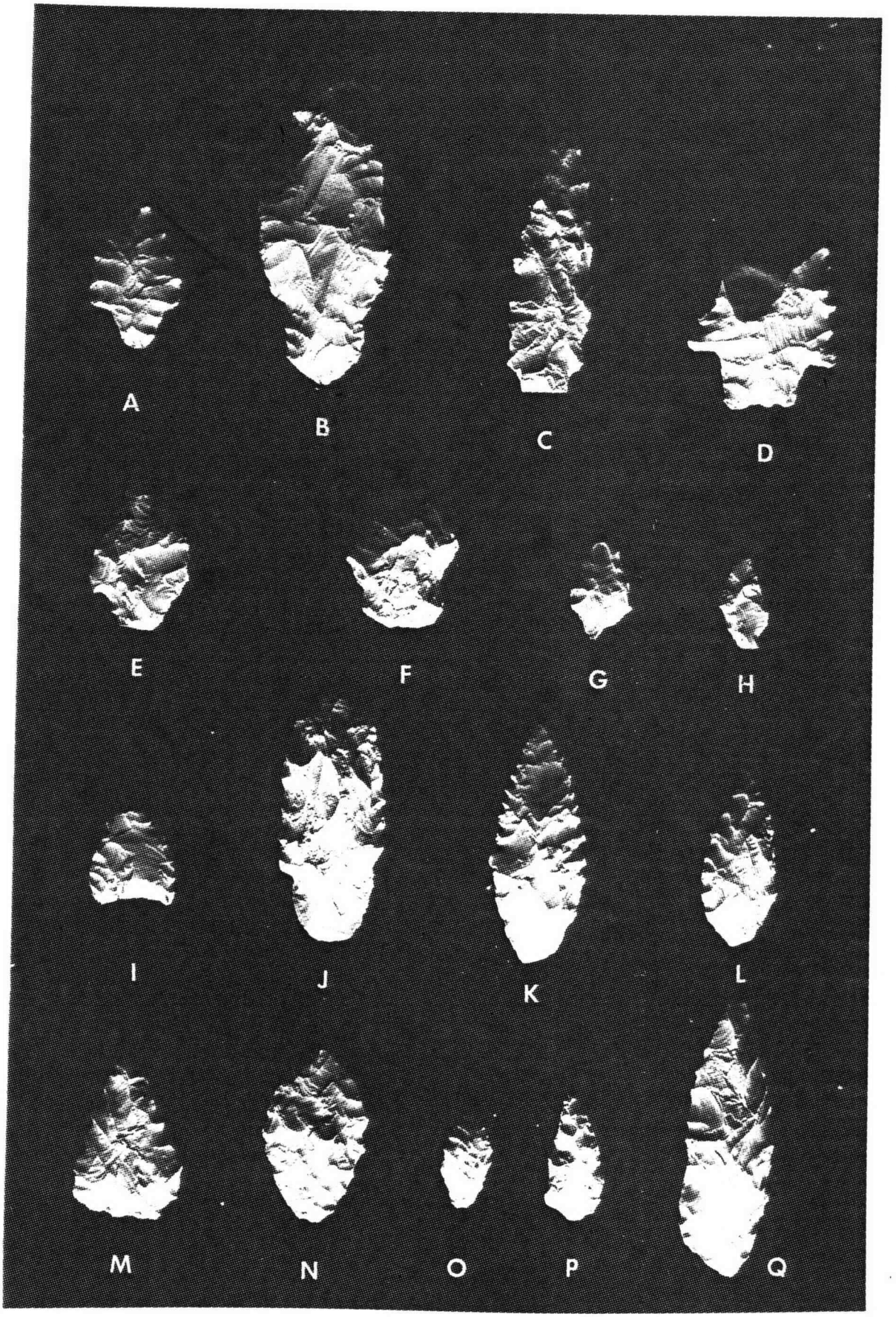

Figure 31.

Figure 32. Knives, Drill/Perforators and Gravers from Sites 35JA47 and 35JA49 (actual size)

A, B: Knives (02-1A)
C: Knife (02-3A)
D: Knife (02-2A)
E, F: Drill/Perforator (03-1A)
G: Drill/Perforator (03-2A)
H: Drill/Perforator (03-4A)
I: Drill/Perforator (03-2B)
J: Drill/Perforator (03-3A)
K: Drill/Perforator (03-3B)
L: Drill/Perforator (03-3G)
M: Graver (04-2A)
N, O: Drill/Perforator (03-5A)
P: Graver (04-1A)
R: Graver (04-2A)

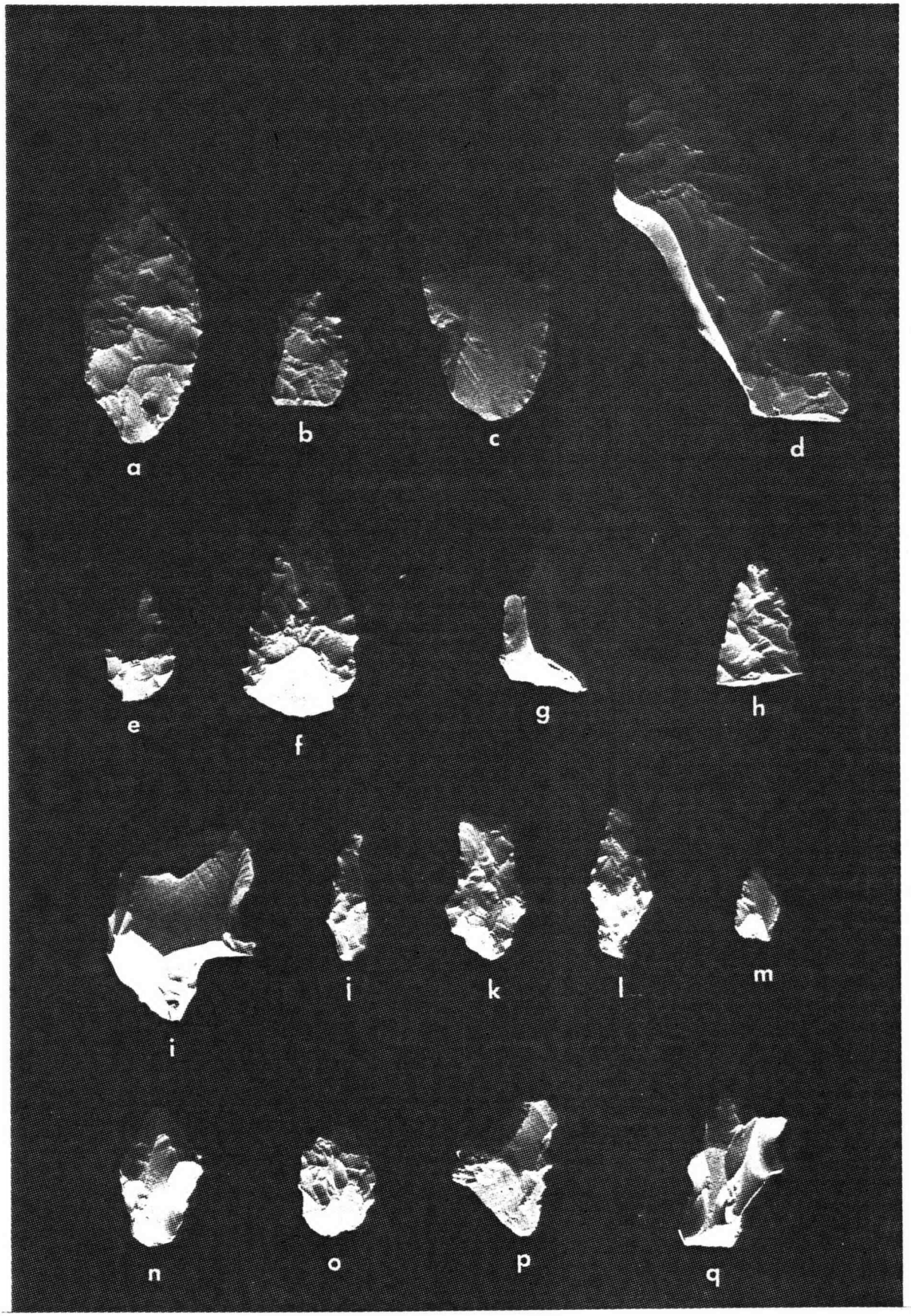

Figure 32.

Figure 33. Scrapers, Biface Fragments and Blanks and Burins from Sites 35JA47 and 35JA49
A, B: End Scraper (05-1A)
C, D: End Scraper (05-1B)
E, F: End Scraper (05-1C)
G: End Scraper (05-1D)
H: End Scraper (05-1E)
I: End Scraper (05-1F)
J: Side Scraper (05-2A)
K: End Scraper (05-1G)
L: Side Scraper (05-2A)
M: Side Scraper (05-2B)
N: Side Scraper (05-2C)
O: Burin (07-1A)
P, Q: Blanks (08-2A)

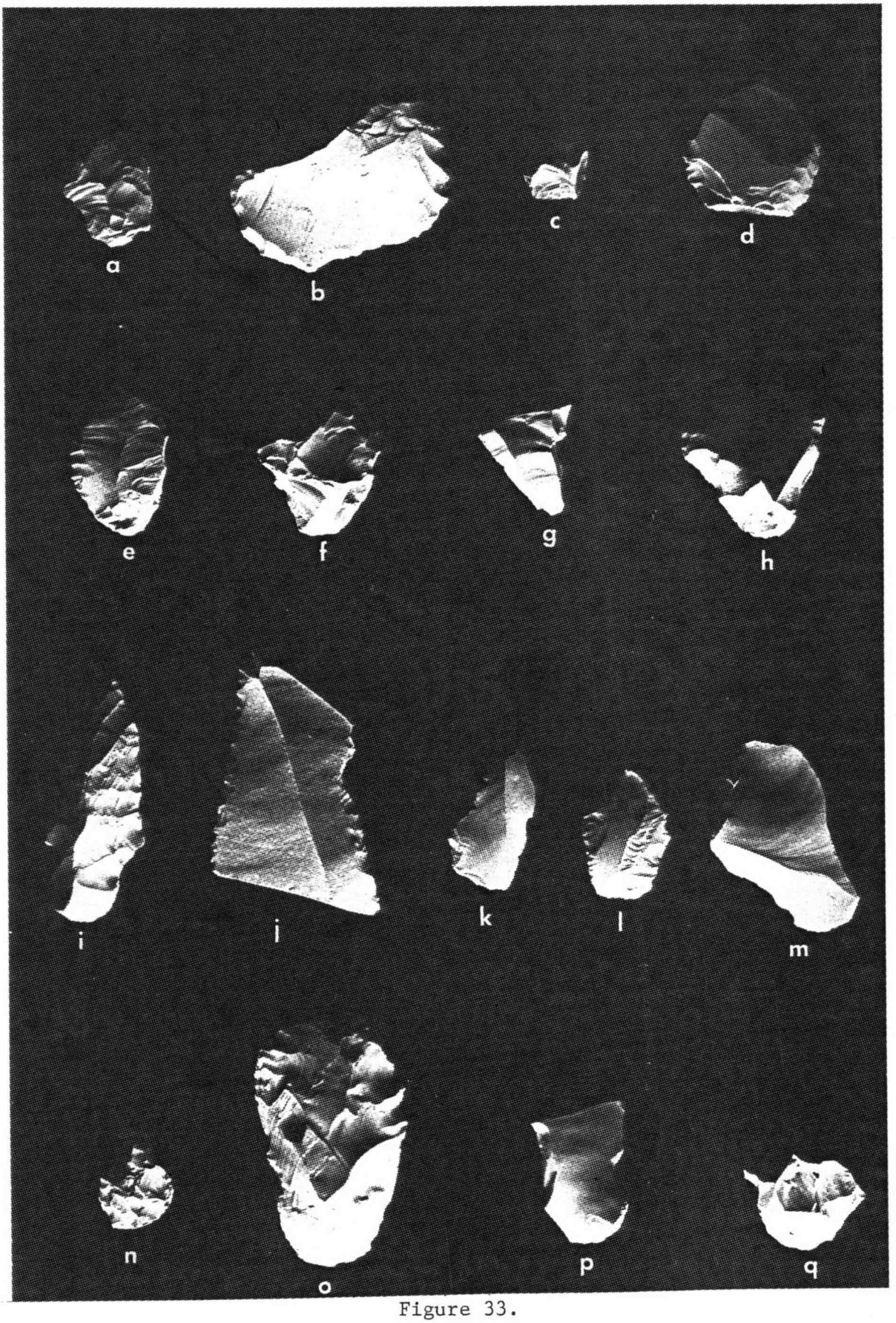

Figure 33.

Figure 34. Cobble Tools from Sites 35JA47 and 35Ja49
A, B: Choppers (12-01A)
C: Net-sinker (11-01A)
D: Spall Scraper (5-03A)
E: Discoidal Core (10-03A)
F: Core-chopper (10-03B)

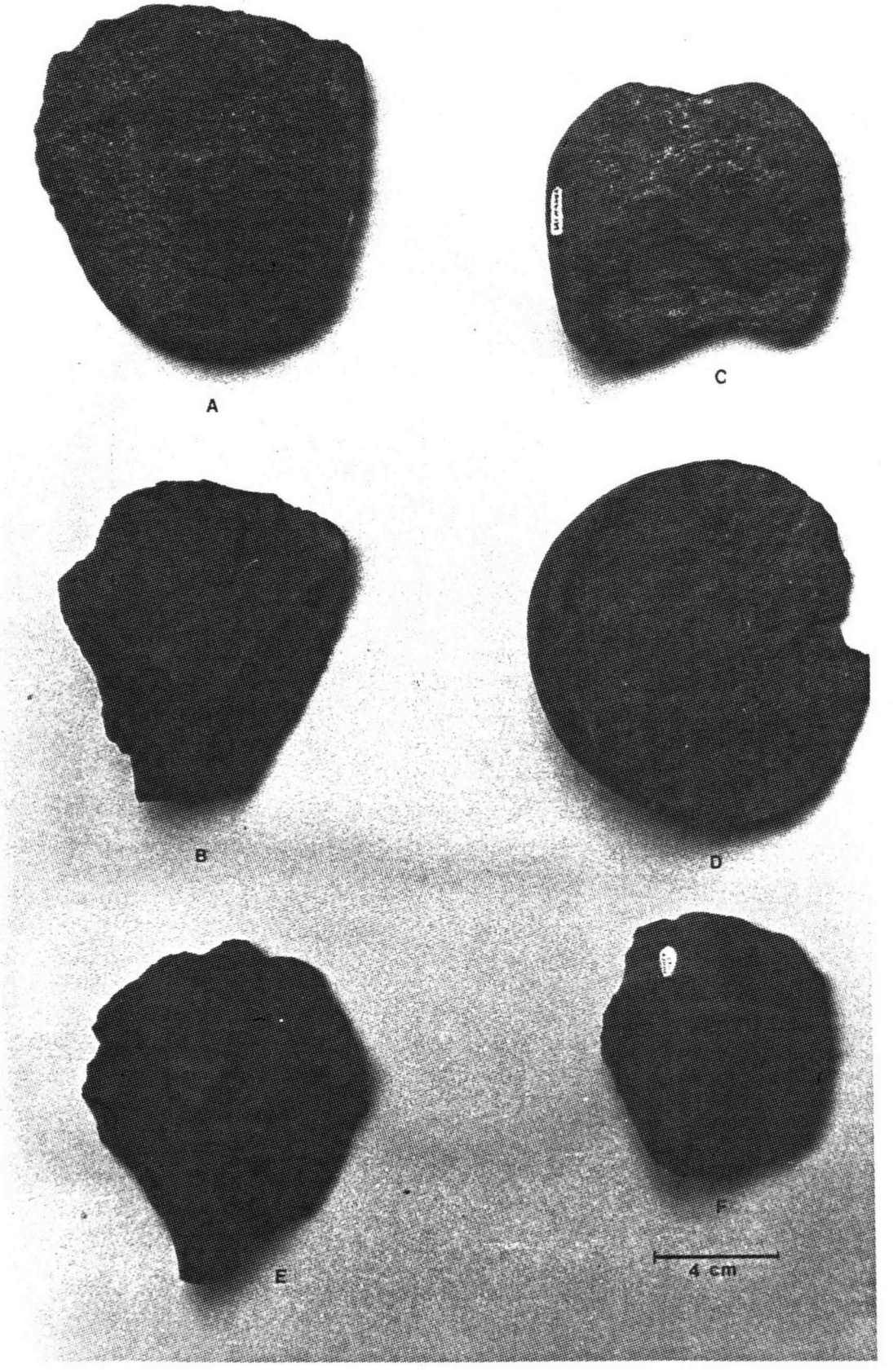

Figure 34.

Figure 35. Hopper-mortar Bases and Metates from Sites 35JA47 and 35JA49
A: Hopper-mortar Base (17-01A)
B: Mortar (16-01B)
C: Mortar (16-01A)

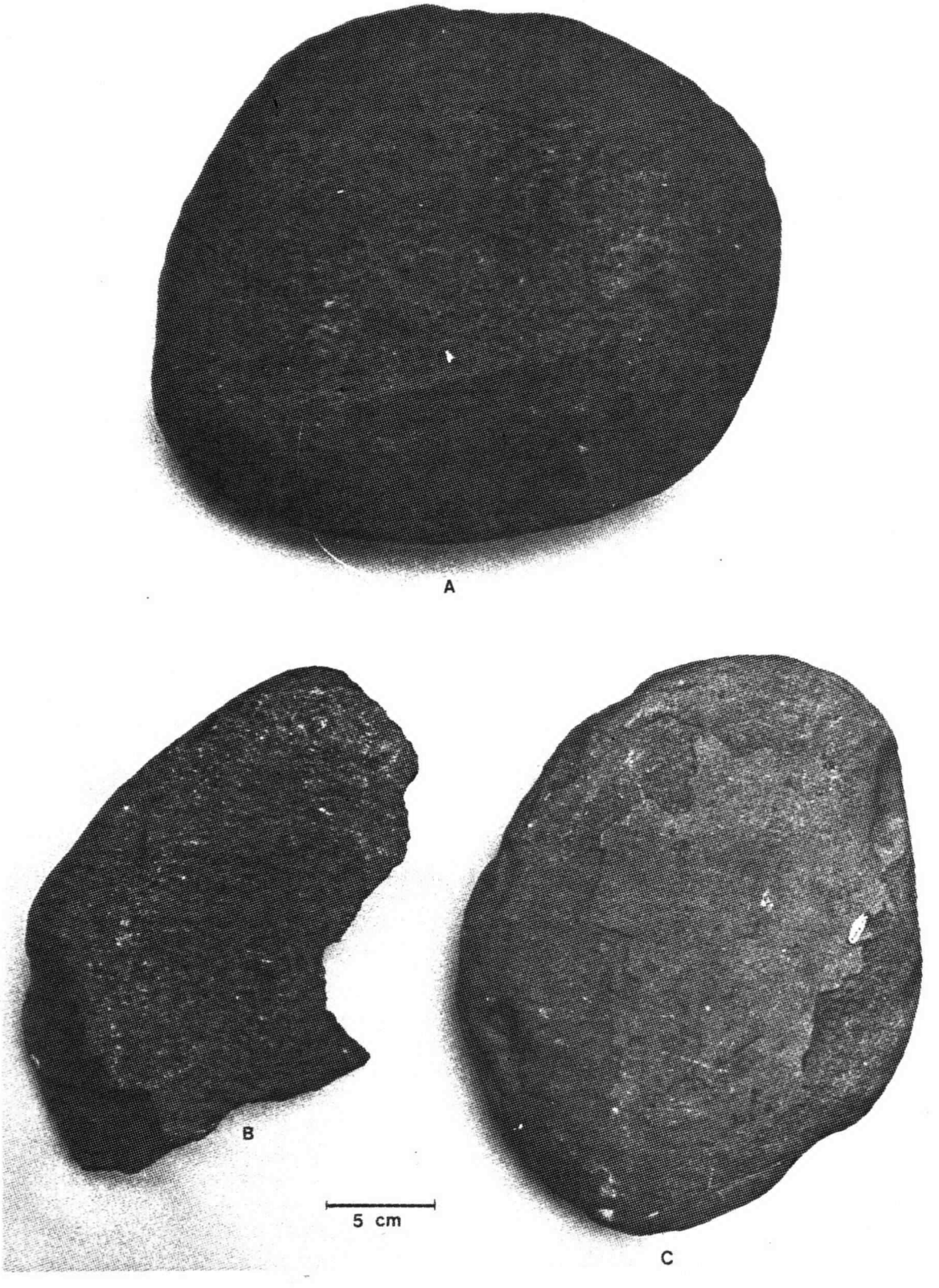

Figure 35.

Figure 36. Mortars from Site 35JA49
A: Small Mortar (19-01C)
B: Bowl (19-01B)
C: Deep Mortar (19-01A)

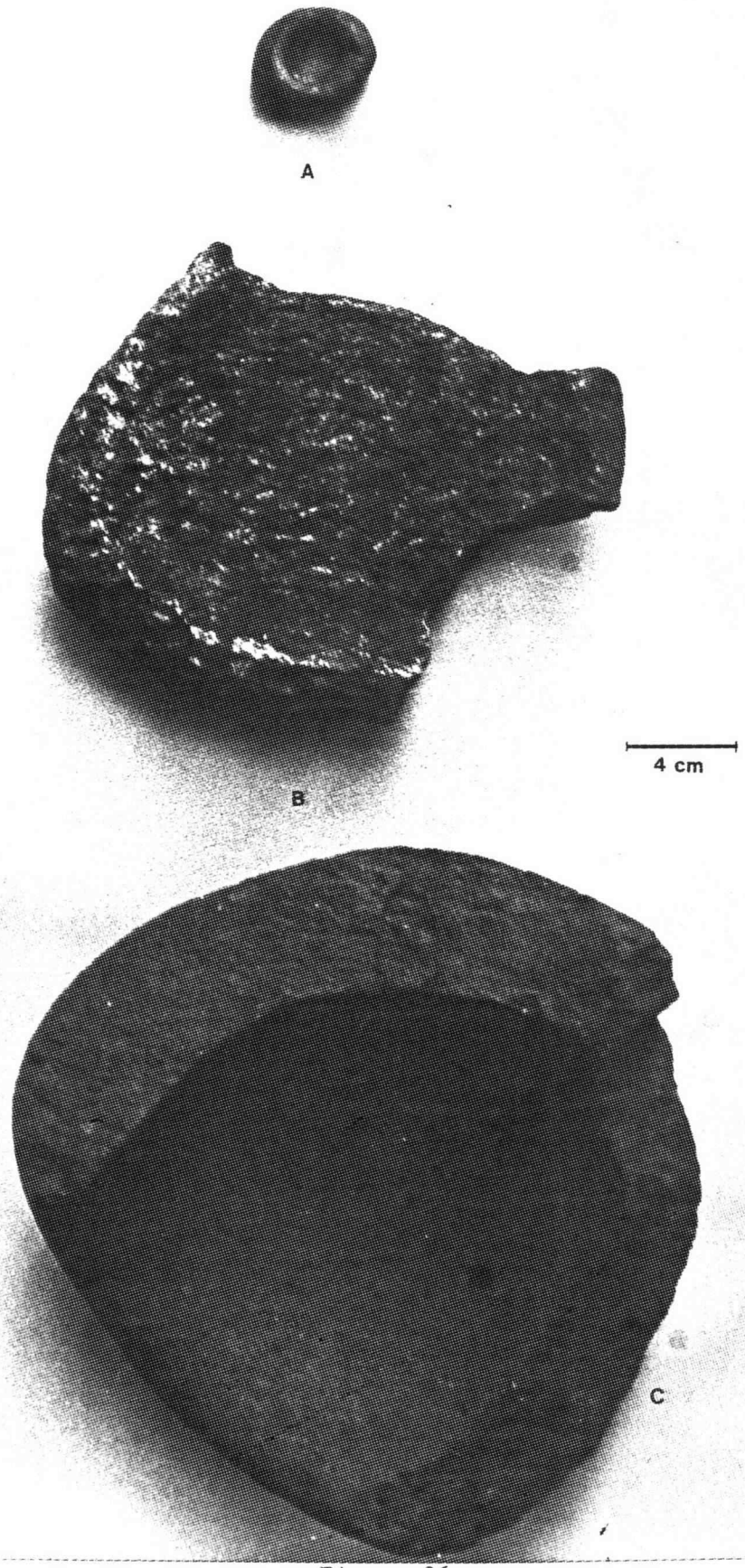

Figure 36.

Figure 37. Cobble Tools from Sites 35JA47 and 35JA49
A, B: Hammerstones (14-01A)
C, D: Pestles (15-01A)
E: Edge Battered Cobble (13-01B)
F, G: Edge Polished or Battered Cobbles (13-01A)

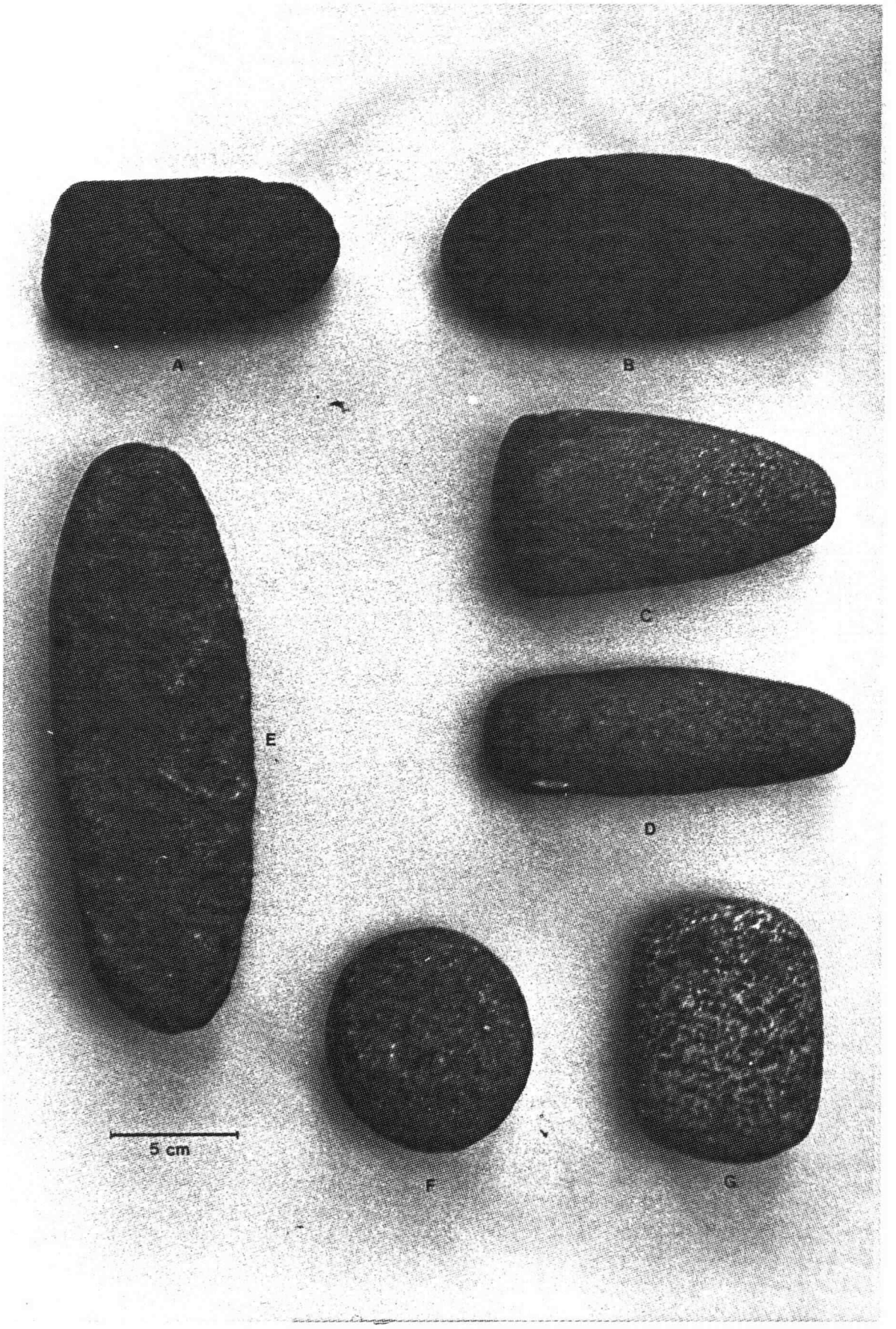

Figure 37.

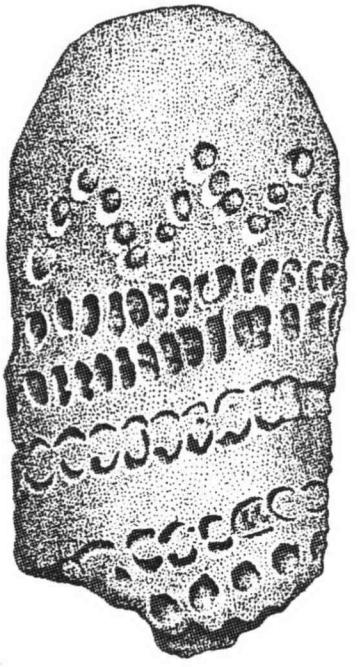

Figure 38. Clay Object Fragment
from Site 35JA47

Figure 39. Feature I-1, House One; Site 35JA47: Grooved Stone Object

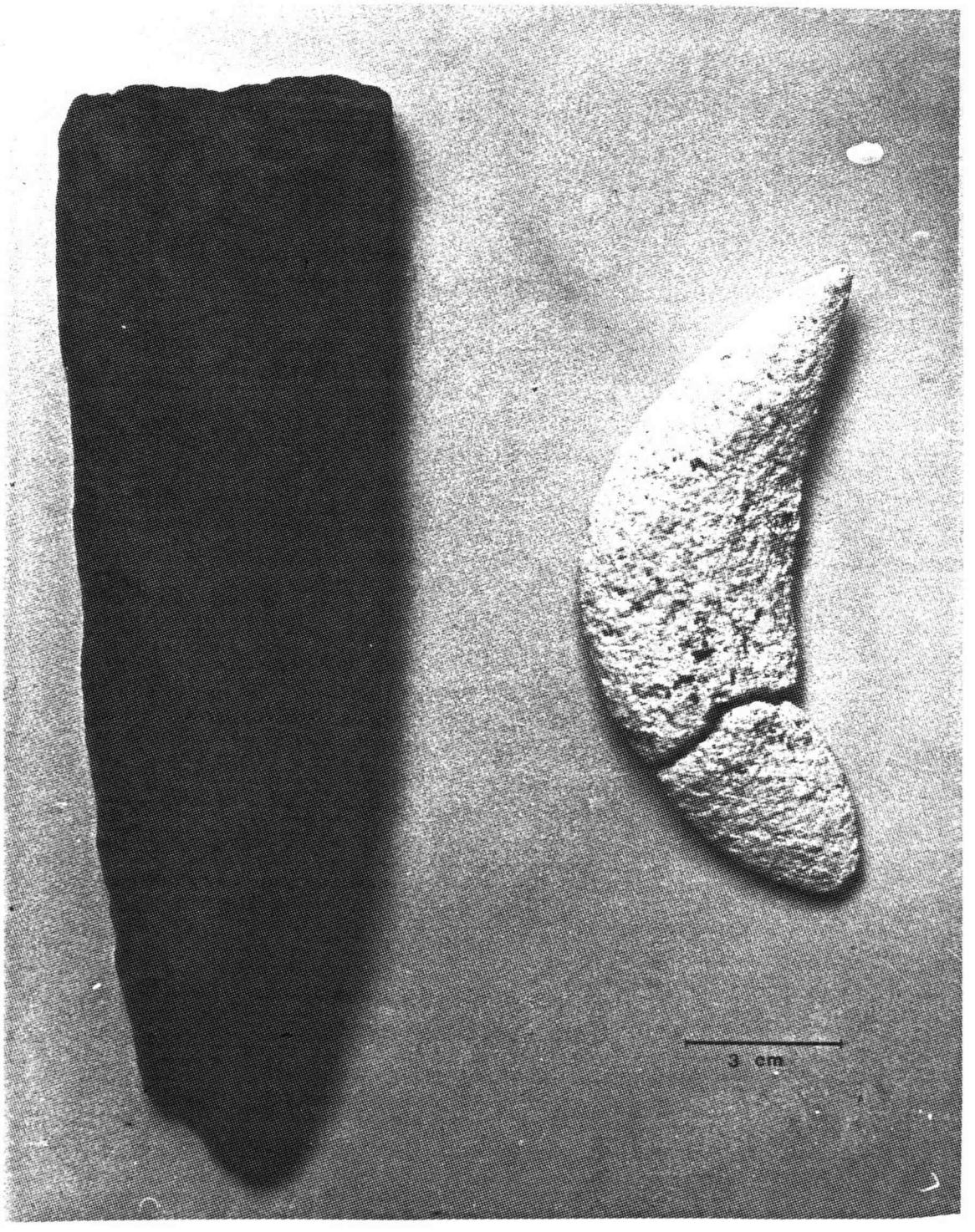

Figure 40. Unidentified Ground and Polished Objects (20-01A) from Sites 35JA47 and 35JA49

APPENDIX B

Catalogue of Artifacts from Sites 35JA47 and 35JA49

ARTIFACT DESCRIPTION

01 PROJECTILE POINTS

01-01A Side-notched, expanding stem, straight to slightly convex base, small triangular blade produced on a thin flake, edges straight to slightly convex, flaking random.

	Range	Mean
Length	16-22 mm	13.8 mm
Width (Max. Blade)	10-6 mm	7.8 mm
Thickness	4-2 mm	2.8 mm
Neck Width	6-4 mm	5.2 mm
Width (Max. Base)	9-6 mm	7.6 mm
Material	Obsidian	5
N Sample	35JA47	5

01-01B Side-notched, expanding stem, convex base, large triangular blade produced on thick flake, edges straight to slightly convex, flaking random, several specimens impact shattered.

	Range	Mean
Length	34-18 mm	21.0 mm
Width (Max. Blade)	19-10 mm	13.0 mm
Thickness	8-3 mm	4.8 mm
Neck Width	15-4 mm	8.7 mm
Width (Max. Base)	16-7 mm	11.9 mm
Material	Obsidian	10
	Cryptocrystalline Silica	6
N Sample	35JA47	7
	35JA49	9

01-01C Same as 01-01B except base narrow and rounded.

	Range	Mean
Length	29-25 mm	27.0 mm
Width (Max. Blade)	17-10 mm	13.7 mm
Thickness	6-4 mm	4.7 mm
Neck Width	9-6 mm	7.7 mm
Width (Max. Base)	10-8 mm	9.2 mm
Material	Obsidian	2
	Cryptocrystalline Silica	2
N Sample	35JA47	3
	35JA49	1

01-01D Same as 01-01B except small notch placed in center of base. Similar to Elko series in Great Basin.

	Range	Mean
Length	25-18 mm	25.5 mm
Width (Max. Blade)	14-10 mm	11.7 mm
Thickness	7-5 mm	5.5 mm
Neck Width	10-9 mm	9.2 mm
Width (Max. Base)	14-12 mm	13.0 mm
Material	Obsidian	2
	Cryptocrystalline Silica	2
N Sample	35JA47	3
	35JA49	1

01-01E Same as 01-01B except well-formed and thinned concave base, small triangular blade produced on a thin flake. Similar to desert side-notch.

	Range	Mean
Length	24-18 mm	21.6 mm
Width (Max. Blade)	12-9 mm	11.0 mm
Thickness	4-3 mm	3.7 mm
Neck Width	11-6 mm	9.2 mm
Width (Max. Base	23-15 mm	18.3 mm
Material	Obsidian	2
	Cryptocrystalline Silica	3
N Sample	35JA47	1
	35JA49	4

01-02A Base-notched, straight to constricting stem, small triangular blade produced on a thin flake, edges straight to slightly concave, flaking random.

	Range	Mean
Length	27-12 mm	16.6 mm
Width	16-8 mm	15.9 mm
Thickness	4-1 mm	3.6 mm
Neck Width	4-2 mm	4.4 mm
Material	Obsidian	23
	Cryptocrystalline Silica	8
N Sample	35JA47	22
	35JA49	9

01-02B Same as 01-02A except large triangular blade.

	Range	Mean
Length	40-24 mm	30.8 mm
Width	23-14 mm	17.3 mm
Thickness	6-3 mm	4.3 mm
Neck Width	6-3 mm	4.4 mm
Material	Obsidian	6
	Cryptocrystalline Silica	2
N Sample	35JA47	6
	35JA49	2

01-03A Corner-notched, straight to slightly expanding stem, base straight to convex, small triangular blade produced on a thin flake, edges straight to slightly concave, flaking random.

	Range	Mean
Length	26-9 mm	10.4 mm
Width	19-5 mm	7.5 mm
Thickness	4-2 mm	2.0 mm
Neck Width	5-3 mm	2.9 mm
Material	Obsidian	15
	Cryptocrystalline Silica	5
N Sample	35JA47	15
	35JA49	5

01-03B Same as 01-03A except blade long and narrow.

	Range	Mean
Length	26-21 mm	24.2 mm
Width	12-9 mm	10.5 mm
Thickness	3-2 mm	2.7 mm
Neck Width	5-3 mm	3.7 mm
Material	Obsidian	3
	Cryptocrystalline Silica	2
N Sample	35JA47	4
	35JA49	0

01-03C Same as 01-03A except large triangular blade produced on a relatively thick flake, broad hafting element.

	Range	Mean
Length	33-17 mm	27.2 mm
Width	21-17 mm	19.3 mm
Thickness	7-3 mm	5.1 mm
Neck Width	11-6 mm	9.0 mm
Material	Obsidian	7
	Cryptocrystalline Silica	2
N Sample	35JA47	7
	35JA49	2

01-03D Asymmetrical projectile point, one side side-notched with blade edge straight and parallel to axis of blade, other side corner-notched with straight edge diverging toward base, expanding stem, concave base, flaking random.

	Range	Mean
Length	15 mm	
Width	13 mm	
Thickness	4 mm	
Neck Width	7 mm	
Material	Cryptocrystalline Silica	1
N Sample	35JA49	1

01-04A Stemmed, constricting stem, convex base, broad triangular blade produced on a thin flake, edges convex, flaking random.

	Range	Mean
Length	29 mm	29.0 mm
Width	16-15 mm	15.5 mm
Thickness	5-4 mm	4.5 mm
Neck Width	7 mm	7.0 mm
Material	Obsidian	2
N Sample	35JA47	2

01-04B Large stemmed, constricting stem, convex base, relatively thick elongated blade, straight to convex edges, flaking random.

	Range	Mean
Length	58 mm	58.0 mm
Width	22-17 mm	20.7 mm
Thickness	10-7 mm	8.7 mm
Neck Width	13-10 mm	11.4 mm
Material	Obsidian	1
	Cryptocrystalline Silica	3
N Sample	35JA47	2
	35JA49	2

01-04C Same as 01-04B except blade much narrower and flake scars larger and more regular.

	Range	Mean
Length	45 mm	
Width	13 mm	
Thickness	7 mm	
Neck Width	10 mm	
Material	Cryptocrystalline Silica	1
N Sample	35JA47	1

01-04D Stemmed or shouldered, straight to slightly constricting broad stem, straight base, large triangular blade produced on a relatively thick flake, straight to slightly convex edges, flaking random, some specimens with serrated edges.

	Range	Mean
Length		
Width	33-24 mm	25.0 mm
Thickness	9-5 mm	7.5 mm
Neck Width	16-13 mm	14.2 mm
Material	Obsidian	2
	Cryptocrystalline Silica	4
N Sample	35JA47	6

01-04F Same as 01-04D except overall smaller size and no edge serration.

	Range	Mean
Length	30-22 mm	26.1 mm
Width	19-13 mm	16.0 mm
Thickness	9-3 mm	5.0 mm
Neck Width	13-9 mm	10.7 mm
Material	Obsidian	9
	Cryptocrystalline Silica	1
N Sample	35JA47	7
	35JA49	3

01-04G Large constricting stemmed projectile point produced on a relatively thick flake. Bare straight to convex. Short triangular blade probably the end product of resharpening; flaking random.

	Range	Mean
Length	28-23 mm	25.60 mm
Width	23-14 mm	18.00 mm
Thickness	8-6 mm	7.00 mm
Neck Width	21-10 mm	14.67 mm
Material	Cryptocrystalline Silica	6
N Sample	35JA47	3
	35JA49	3

01-04H Same as 01-04G except very small overall size.

	Range	Mean
Length	22-13 mm	15.6 mm
Width	12-8 mm	9.4 mm
Thickness	6-2 mm	3.4 mm
Neck Width	21-10 mm	6.4 mm
Material	Obsidian	17
	Cryptocrystalline Silica	2
N Sample	35JA47	13
	35JA49	6

01-05A Small triangular bladed concave base projectile point produced on a thin flake. Sides straighe to slightly concave. No stem or purposely manufactured hafting element. Flaking random.

	Range	Mean
Length	16 mm	
Width	13-14 mm	13.5 mm
Thickness	2-3 mm	2.5 mm
Material	Obsidian	1
	Cryptocrystalline Silica	1
N Sample	35JA47	2

01-06A Lanceolate, rounded base, sides symmetrically convex, produced on a thick flake, maximum width one-third to one-half length above base, flaking usually random with some specimens exhibiting diagonal or double diagonal flaking from edge, many with serrated edges.

	Range	Mean
Length	19-15 mm	18.0 mm
Width	18-6 mm	11.8 mm
Thickness	10-3 mm	5.5 mm
Material	Obsidian	5
	Cryptocrystalline Silica	3
N Sample	35JA47	4
	35JA49	4

01-06B Same as 01-06A, except resharpened edges retained serration.

	Range	Mean
Length	32 mm	32.0 mm
Width	21-15 mm	17.7 mm
Thickness	8-5 mm	6.7 mm
Material	Obsidian	1
	Cryptocrystalline Silica	1
N Sample	35JA47	1
	35JA49	1

01-06C Same as 01-06A, except smaller in size and none with serration.

	Range	Mean
Length	34-26 mm	28.8 mm
Width	15-10 mm	11.9 mm
Thickness	7-4 mm	5.3 mm
Material	Obsidian	2
	Cryptocrystalline Silica	8
N Sample	35JA47	10

01-06D Lanceolate, medium sized, rounded to straight base, sides convex to straight, produced on a thin flake, flaking random, no edge serration.

	Range	Mean
Length	35-18 mm	27.3 mm
Width	20-8 mm	14.9 mm
Thickness	7-2 mm	4.6 mm
Material	Obsidian	14
	Cryptocrystalline Silica	2
N Sample	35JA47	16

01-06E Lanceolate, very small, based rounded, sides symmetrically convex, produced on a thin flake, flaking random, sometimes confined to edge retouch.

	Range	Mean
Length	21-12 mm	15.1 mm
Width	10-6 mm	8.3 mm
Thickness	5-2 mm	3.0 mm
Material	Obsidian	6
	Cryptocrystalline Silica	19
N Sample	35JA47	25

01-06F Same as 01-06A, except not serrated.

	Range	Mean
Length	26 mm	
Width	15 mm	
Thickness	10 mm	
Material	Obsidian	1
N Sample	35JA47	1

01-10A Projectile point tip fragments.

Material	Obsidian	44
	Cryptocrystalline Silica	19
N Sample	35JA47	42
	35JA49	19

01-10B Projectile point lateral fragments.

Material	Obsidian	1
	Cryptocrystalline Silica	6
N Sample	35JA47	6
	35JA49	1

01-10C Projectile point medial fragments.

Material	Obsidian	15
	Cryptocrystalline Silica	6
N Sample	35JA47	17
	35JA49	4

01-10D Projectile point basal fragments.

Material	Obsidian	120
	Cryptocrystalline Silica	24
N Sample	35JA47	118
	35JA49	26

02 KNIVES

02-01A Asymmetrical knife produced on a thin flake, flaking random, peripheral and bifacial on most specimens; one edge straight to slightly convex, the other moderately to extremely convex; some specimens with serrated cutting edge; bases varied, from convex to concave.

	Range	Mean
Length	48-21 mm	28.57 mm
Width	29-13 mm	17.00 mm
Thickness	2-6 mm	3.97 mm
Material	Obsidian	13
	Cryptocrystalline Silica	1
N Sample	35JA47	11
	35JA49	3

02-02A Triangular knife produced on a thick flake; edges straight; bifacially thinned to an acute edge.

	Range	Mean
Length	73 mm	
Width		
Thickness	9-3 mm	6.00 mm
Material	Obsidian	2
N Sample	35JA47	2

02-03A Cutting edge produced on an otherwise unmodified flake; cutting edge usually convex and acute; flaking peripheral and usually random, bifacial on one-half of specimens.

	Range	Mean
Length	58-22 mm	35.80 mm
Width	33-16 mm	22.50 mm
Thickness	14-2 mm	6.17 mm
Material	Obsidian	3
N Sample	35JA47	6

03 DRILLS AND PERFORATORS

03-01A Lanceolate, tapered bit; usually plano-convex in cross-section; edges convex and obtuse; base concave or flat; flaking random; amount of surface worked varies from peripheral work on dorsal surface to whole dorsal surface worked with minor work on ventral surface to shape the bit, to both surfaces worked. One specimen has two bits, worked on opposing ends of the flake.

	Range	Mean
Length	38-14 mm	22.0 mm
Bit Length	19-4 mm	10.9 mm
Bit Width	15-14 mm	7.9 mm
Material	Obsidian	32
	Cryptocrystalline Silica	3
N Sample	35JA47	31
	35JA49	4

03-02A Drill bit produced on an otherwise unmodified flake.

	Range	Mean
Bit Length	13-7 mm	9.9 mm
Bit Width	13-5 mm	8.3 mm
Material	Obsidian	11
	Cryptocrystalline Silica	1
N Sample	35JA47	7
	35JA49	5

03-02B Drill bit produced on lateral edge of an otherwise unmodified flake; bit short and tapered.

	Range	Mean
Bit Length	7-3 mm	5 mm
Bit Width	8-6 mm	7 mm
Material	Obsidian	2
N Sample	35JA47	2

03-03A Elongated blade-like bit, worked completely.

	Range	Mean
Bit Length	28-9 mm	17.50 mm
Bit Width	9-5 mm	6.88 mm
Material	Obsidian	4
	Cryptocrystalline Silica	2
N Sample	35JA47	4
	35JA49	2

03-03B Same as 03-03A except with a T-shaped hafting element.

	Range	Mean
Bit Length		
Bit Width	10 mm	
Material	Obsidian	1
N Sample	35JA47	1

03-03C Same as 03-03A except with a double-ended bit.

	Range	Mean
Bit Length	5 mm	5 mm
Bit width		8 mm
Material	Obsidian	1
N Sample	35JA47	1

03-04A Fragmented biface (projectile point tip) modified to form a drill bit.

	Range	Mean
Bit Length	3 mm	3.00 mm
Bit Width	6-3 mm	3.25 mm
Material	Obsidian	4
N Sample	35JA47	4

03-05A Uniface perforators; plano convex in cross-section; ventral surface naturally or worked flat; edges usually obtuse and convex; complete specimens taper to an acute point; two specimens with convex hafting elements.

Material	Obsidian	43
	Cryptocrystalline Silica	4
N Sample	35JA47	29
	35JA49	18

03-10A Bit fragments.

Material	Obsidian	7
	Cryptocrystalline Silica	1
N Sample	35JA47	8

04 GRAVERS

04-01A Small, acute projection purposefully manufactured on a thin, irregular flake; top produced by unifacial flaking of two small notches leaving a functional projection between; tip 1-3 mm in length; shows wear.

Material	Obsidian	6
	Cryptocrystalline	5
N Sample	35JA47	7
	35JA49	4

04-02A Small, usually acute projection purposefully manufactured on an irregular flake; edge of flake reduced, usually by unifacial flaking, to form a functional projection; tip 1-4 mm in length; shows wear.

Material	Obsidian	54
	Cryptocrystalline Silica	18
N Sample	35JA47	31
	35JA49	41

04-03A Natural projection on an irregular flake used as a graver without previous modification; shows wear.

Material	Obsidian	67
	Cryptocrystalline Silica	7
N Sample	35JA47	46
	35JA49	28

04-04A Multiple graver tips on a single flake; often tips of different design on a single flake.

Material	Obsidian	7
	Cryptocrystalline Silica	6
N Sample	35JA49	13

05 SCRAPERS

05-01A End scraper purposefully manufactured on a thick to moderately thin flake; overall oval shape; obtuse convex working edge usually produced on end of the flake, occasionally on the side of the flake; most modification unifacial, often worked and used around most of edge to striking platform; working usually polished by use.

	Range	Mean
Edge Angle	94°-42°	62.9°

Material	Obsidian	70
	Cryptocrystalline Silica	22
N Sample	35JA47	78
	35JA49	14

05-01B Same as 05-01A except produced on a rectangular flake; working edge confined to the straight to convex end opposite the striking platform.

	Range	Mean
Edge Angle	81°-36°	64°
Material	Obsidian	37
	Cryptocrystalline Silica	24
	Metamorphic	1
N Sample	35JA47	43
	35JA49	19

05-01C Same as 05-01B except produced on a triangular flake.

	Range	Mean
Edge Angle	90°-37°	60.8°
Material	Obsidian	27
	Cryptocrystalline Silica	13
N Sample	35JA47	33
	35JA49	7

05-01D End scraper with graver.

	Range	Mean
Edge Angle	79°-57°	65.2°
Material	Obsidian	7
	Cryptocrystalline Silica	1
N Sample	35JA47	5
	35JA49	3

05-01E End scraper with knife.

	Range	Mean
Edge Angle	78°	
Material	Obsidian	1
N Sample	35JA47	1

05-01F End scraper with side scraper.

	Range	Mean
Edge Angle	66°-59°	62.5°
Material	Obsidian	2
	Cryptocrystalline Silica	1
N Sample	35JA47	1
	35JA49	2

05-01G End scraper with utilized edges.

		Range	Mean
Edge Angle		91°-74°	82.5°
Material	Obsidian		1
	Cryptocrystalline Silica		1
N Sample	35JA47		1
	35JA49		1

05-01N Scraper fragments

			Mean
Edge Angle		92°-31°	59.77°
Material	Obsidian		44
	Cryptocrystalline Silica		3
N Sample	35JA47		35
	35JA49		12

05-02A Side scraper manufactured on a moderately thin to thick irregular flake; flaking peripheral and usually unifacial; working edge usually obtuse; approximately one-half of specimens have convex to straight worked edge, the other straight to concave; often multiple working edges on a flake; most show polish or edge damage through use.

Material	Obsidian	63
	Cryptocrystalline Silica	7
N Sample	35JA47	54
	35JA49	16

05-02B Hafted sidescraper; thick flake plano-convex in cross-section with random flaking over both surfaces; edges obtuse and convex narrowing to acute tip; unthinned convex base as hafting element; edges show distinct polish.

Material	Obsidian	1
N Sample	35JA47	1

05-02C Side scraper with graver

Material	Obsidian	3
N Sample	35JA47	2
	35JA49	1

05-03A Spall scraper; cobble spalls with utilized convex acute edges; no purposeful modification prior to use.

Material	Metamorphic	14
N Sample	35JA47	4
	35JA49	10

06 UTILIZED FLAKES

06-01A Acute edge of a flake utilized without prior intentional modification; edge convex prior to use or as a result of utilization; flake detachment usually unifacial.

Material	Obsidian	241
	Cryptocrystalline Silica	38
N Sample	35JA47	192
	35JA49	87

06-01B Same as 06-01A except obtuse edge utilized.

Material	Obsidian	86
	Cryptocrystalline Silica	22
	Metamorphic	1
N Sample	35JA47	34
	35JA49	75

06-01C Acute edge of a flake utilized without prior intentional modification; edge straight prior to use or as a result of utilization; flake detachment usually unifacial.

Material	Obsidian	185
	Cryptocrystalline Silica	11
N Sample	35JA47	115
	35JA49	81

06-01D Same as 06-01C except obtuse edge utilized.

Material	Obsidian	105
	Cryptocrystalline Silica	9
N Sample	35JA47	55
	35JA49	59

06-01E Acute edge of a flake utilized without prior intentional modification; edge concave prior to use or as a result of utilization; flake detachment usually unifacial.

Material	Obsidian	115
	Cryptocrystalline Silica	16
	Metamorphic	1
N Sample	35JA47	99
	35JA49	33

06-01F Same as 06-01E except obtuse edge utilized.

Material	Obsidian	51
	Cryptocrystalline Silica	12
N Sample	35JA47	36
	35JA49	27

06-01G Acute edge of a flake utilized without prior intentional modification; edge utilized in multiple locations; flake detachment usually unifacial.

Material	Obsidian	118
	Cryptocrystalline Silica	17
N Sample	35JA47	74
	35JA49	61

06-01H Same as 06-01G, except obtuse edge utilized.

Material	Obsidian	55
	Cryptocrystalline Silica	6
N Sample	35JA47	34
	35JA49	26

07 BURINS

07-01A Burin tip produced by removing a lateral edge from an irregular flake; flakes otherwise unmodified; tip shows utilization.

Material	Obsidian	6
	Cryptocrystalline Silica	1
N Sample	35JA47	2
	35JA49	5

07-01B Burin spalls.

Material	Obsidian	2
N Sample	35JA47	1

08 BIFACE FRAGMENTS AND BLANKS

08-01A Unidentifiable biface fragments, most of which are probably fragmented blanks.

Material	Obsidian	171
	Cryptocrystalline Silica	51
	Metamorphic	1
N Sample	35JA47	154
	35JA49	69

08-01B Flakes and fragments exhibiting random unifacial or bifacial flaking, usually peripheral; probably broken in primary reduction into blanks or a flaked tool; do not exhibit signs of use.

Material	Obsidian	297
	Cryptocrystalline Silica	44
	Metamorphic	1
N Sample	35JA47	264
	35JA49	78

08-02A Blanks and blank fragments; large, thick bifaces crudely worked to shape and thin; whole specimens lenticular to plano-convex in cross-section; edges convex; tip and base rounded; many specimens in primary reduction stage; percussion flaked.

Material	Obsidian	51
	Cryptocrystalline Silica	25
N Sample	35JA47	60
	35JA49	16

09 NOT IN USE

10 CORES

10-01A Conical cores; small, flat striking platform; flake removal uni-directional.

Material	Obsidian	0
	Cryptocrystalline Silica	6
	Metamorphic	1
N Sample	35JA47	4
	35JA49	3

10-01B Core fragments; likely from core renovation; small, roughly conical.

Material	Obsidian	7
	Cryptocrystalline Silica	8
N Sample	35JA47	9
	35JA49	6

10-02A Worked chunks; small irregular chunks with many facets due to flake removal; most facets do not show a bulb of percussion.

Material	Obsidian	49
	Cryptocrystalline Silica	17
N Sample	35JA47	59
	35JA49	7

10-03A Discoidal cores.

Material	Metamorphic	20
N Sample	35JA47	12
	35JA49	8

10-03B Core-choppers; small to large metamorphic cores showing evidence of battering on a convex edge; modification of core was made prior to use as a chopper.

Material	Metamorphic	5
N Sample	35JA47	5

10-03C Core struck flakes.

Material	Metamorphic	13
N Sample	35JA47	5
	35JA49	8

11 NET SINKER

11-01A Small flat river cobble with a notch crudely flaked into the edges on three sides.

Material	Metamorphic	1
N Sample	35JA49 (Test Pit)	1

12 CHOPPERS

12-01A Medium to large cobbles or cobble fragments intentionally modified to form an obtuse convex edge suitable for chopping; edge battering apparent on most specimens; two specimens show battering with no modification prior to use.

Material	Metamorphic	31
N Sample	35JA47	23
	35JA49	8

13 POLISHED, GROUND, OR BATTERED COBBLES

13-01A Edge polished or battered cobbles; medium-sized river cobbles either naturally or modified into a discoidal cross-section in the circular to rectangular edges; ends battered; surfaces polished either from hand action during use or from use as a mano.

Material	Metamorphic	15
N Sample	35JA47	8
	35JA49	7

13-01B Edge battered cobbles; medium to large river cobbles with edges battered through use; edges otherwise unmodified; battering appears on ends and/or lateral edges; two specimens have a polished surface, either from hand action during use or from use as a grinding tool.

Material	Metamorphic	2
N Sample	35JA49	2

13-01C Edge polished cobble; an oblong river cobble with one lateral edge faceted and polished; probably polished through use; slight battering on ends.

Material	Metamorphic	2
N Sample	35JA49	2

13-02A Surface polished cobbles or fragments; small to medium fine-grained cobbles with surfaces smoothed through use; no intentional modification of edges; no specimens exhibit battering, but two of three specimens are fragmented.

Material	Metamorphic	7
N Sample	35JA47	3
	35JA49	4

14 HAMMERSTONES

14-01A Elongated river cobbles used as hammerstones with no modification prior to use; ends crushed and broken through use.

Material	Metamorphic	9
N Sample	35JA47	8
	35JA49	1

15 PESTLES

15-01A Elongated, naturally tapering river cobbles, most with minimal intentional modification; distal end flattened to enlarge crushing surface; both ends exhibit battering; the proximal end of one specimen and a later side of another exhibit polish through use.

Material	Metamorphic	15
N Sample	35JA47	15

16 METATES

16-01A Large flat river cobble with surface smoothed through use; two of three specimens fragmented.

Material	Metamorphic	7
N Sample	35JA47	4
	35JA49	3

16-01B Large cobble with deep concavity worn into surface, probably through use; surface of concavity smoothed.

Material	Metamorphic	2
	Soapstone	1
N Sample	35JA47	2
	35JA49	1

16-02A Small cobbles with surface smoothed through use.

Material	Metamorphic	2
N Sample	35JA47	2

17 HOPPER MORTAR BASE

17-01A Large, flat, circular river cobble with small circular depression ground into surface through use; depression has roughened surface.

Material	Metamorphic	13
N Sample	35JA47	12
	35JA49	1

18 WORKED FLAKES

18-01A Medium to large basaltic reduction flakes with minor intentional modification of edges.

Material	Metamorphic	22
N Sample	35JA47	9
	35JA49	13

19 MORTARS

19-01A Large round cobble with the interior hollowed out to form a concavity 17 cm deep and 14^{+} cm wide; specimen fragmented.

Material	Metamorphic	1
N Sample	35JA49	1

19-01B Bowl; the surface of a rather flat soapstone (cobble) has been hollowed out to form a shallow depression approximately 2 cm deep; the depression covers most of the surface; interior surface appears to have been burned.

(Code 5) Found in the vicinity of 35JA49

19-01C Small cobble, approximately 4 cm wide, with a depression hollowed out on one surface approximately 1 cm deep and 2 cm wide.

Material	Metamorphic	1
N Sample	35JA49	1

20

20-01A Unidentified ground and polished objects; entire surface of objects have been shaped.

Material	Soapstone	1
	Schist	3
N Sample	35JA47	1
	35JA49	3

21

21-01A Ochre; small natural rock oxidized to show red-ochre stains.

N Sample	35JA49	1

22

22-01A Mica fragment; small unmodified fragment.

N Sample	35JA49	1

23

23-01A Unidentified grooved object; large oblong river cobble; battered over a portion of end; pecked groove extends the length of one face, terminating in the battered surface at one end and short of rounding the other end. A groove on the opposite face starts about two-thirds of the way down the object terminating in the battered surface. This groove is likely an extension of that on the other face. A third, shallower groove begins at the starting point of the second groove two-thirds of the way down the face of the object and travels perpendicular to it across the later edge of the object to terminate at the first groove. Function is unknown.

Material	Metamorphic	1
N Sample	35JA47	1

24 NOT IN USE

25

25-01A Shell fragment.

N Sample	35JA49	1

26 NOT IN USE

27

27-01A Fragments and chunks of natural stone unmodified by human use, but not natural to the area.

Material	Metamorphic	1
	Soapstone	1
N Sample	35JA47	1
	35JA49	1

28

28-01A Clay object and fragments; one fragment of a baked clay object with punctate impression, oblong in shape; several miscellaneous baked clay fragments as well.

N Sample	35JA47	4

29 NOT IN USE

30 NAILS

30-01A Square nails, machine cut; many specimens fragmented; completed, 45-100 mm long.

N Sample	35JA47	52
	35JA49	5

30-02A Wiredrawn nails, 100^{+} mm long.

N Sample	35JA47	7
	35JA49	1

30-02B Wiredrawn nails, less than 100 mm long.

N Sample	35JA47	47
	35JA49	5

30-03A Fence staples, squared.

N Sample	35JA49	1

30-03B Fence staples, rounded.

N Sample	35JA47	3
	35JA49	10

30-04A Finishing nails.

N Sample	35JA47	3

31

31-01A Wire fragments.

N Sample	35JA47	14
	35JA49	15

32 TIN CAN AND UNIDENTIFIABLE METAL FRAGMENTS

32-01A Tin can rim fragments.

N Sample	35JA47	4
	35JA49	2

32-01B Unidentifiable tin can fragments.

N Sample	35JA47	10
	35JA49	6

32-01C Aluminum fragments.

N Sample	35JA49	2

32-01D Aluminum foil fragments.

N Sample	35JA47	1
	35JA49	1

33

33-01A Rat-tail file fragments.

N Sample	35JA49	2

34

34-01A Metal handle, possibly of a linoleum or table knife.

N Sample	35JA49	1

35 PLASTIC FRAGMENTS

35-01A Miscellaneous plastic fragments.

N Sample	35JA47	15
	35JA49	3

35-01B Plastic comb fragment.

N Sample	35JA47	1

36

36-01A Wood fragments.

N Sample	35JA49	2

37 BRICK FRAGMENTS

37-01A Brick fragment.

N Sample	35JA47	6
	35JA49	3

37-01B Mortar.

N Sample	35JA47	1

38 CERAMIC FRAGMENTS

38-01A Crock fragments, clear surface glaze, circular base fragments, straight side fragments, no trademark.

N Sample	35JA47	19
	35JA49	1

38-01B Ceramic and china fragments; miscellaneous plain-ware with one fragment with a pattern.

N Sample	35JA47	45

39 SHELL CASINGS

39-01A .22 short.

N Sample	35JA49	2

39-01B .22 long.

N Sample	35JA47	2
	35JA49	6

39-01C .22 long rifle.

N Sample	35JA47	2

39-02A .25 Remington.

N Sample	35JA49	1

39-03A .30 Rimfire/.30-30 Winchester.

N Sample	35JA47	1
	35JA49	1

39-04A .32 Winchester.

N Sample	35JA47	1

39-05A 12 gauge shotgun shell (Federal).

N Sample	35JA49	1

39-06A 411 gauge shotgun shell (Federal)

N Sample	35JA49	1

40 GLASS FRAGMENTS

40-01A Amber glass fragments.

N Sample	35JA47	57
	35JA49	66

40-01B	Clear glass fragments.		
	N Sample	35JA47	106
		35JA49	44
40-01C	Green glass fragments.		
	N Sample	35JA47	16
		35JA49	1
40-01D	Blue glass fragments.		
	N Sample	35JA47	17
40-02A	Window glass fragments.		
	N Sample	35JA47	10

41

41-01A	Horse shoe.		
	N Sample	35JA47	1

42

42-01A	Safety pin, large, constructed from a single wire.		
	N Sample	35JA47	1

43

43-01A	Clothes pin springs.		
	N Sample	35JA47	2

44

44-01A	Metal fork tines.		
	N Sample	35JA47	1

45

45-01A	Metal strap fragments.		
	N Sample	35JA47	1

46

46-01A	Metal clamps.		
	N Sample	35JA47	2

47

47-01A Brass tube.
N Sample 35JA47 1

48

48-01A Unidentifiable metal object fragments.
N Sample 35JA47 7

49

49-01A Chain link.
N Sample 35JA47 1

50

50-01A Nut bolt.
N Sample 35JA47 1

51

51-01A Large glass marble.
N Sample 35JA47 1

52

52-01A Pipe stem fragment.
N Sample 35JA47 1

53

53-01A Painted wood fragment.
N Sample 35JA47 1

54

54-01A Hairbrush, wooden back, fragment.
N Sample 35JA47 1

55

55-01A Glass bead, mandrel wound.
N Sample 35JA47 2

56

56-01A Unknown.
N Sample 35JA47 1

57

57-01A Light bulb fragment.
N Sample 35JA47 1

58

58-01A Rubber hose fragments.
N Sample 35JA47 1

59

59-01A Whet stone.
N Sample 35JA47 1

60

60-01A Glass liner fragments of zinc canning lid.
N Sample 35JA47 3

61

61-01A Unknown.
N Sample 35JA47 2

62

62-01A Eyelets.
N Sample 35JA47 2

63

63-01A Glass buttons.
N Sample 35JA47 2

63-01B Metal buttons.
N Sample 35JA47 3

64

64-01A Grommet.
N Sample 35JA47 1

65

65-01A Washer.

N Sample	35JA47	2

66

66-01A Bottle cap.

N Sample	35JA47	1

67

67-01A Insulator.

N Sample	35JA47	1