

ARCHAEOLOGICAL RESEARCH IN THE BIG CREEK RANGER DISTRICT,  
PAYETTE NATIONAL FOREST, IDAHO

by

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INTRODUCTION

The Laboratory of Anthropology and the Wilderness Research Center of the University of Idaho began a study of prehistoric human adaptation to the mountain environments of central Idaho in 1983. This research, funded by the National Geographic Society, the U.S. Forest Service, and the University of Idaho Research Council, is designed to find out how prehistoric peoples survived in an environment which today is used only for summer and fall recreation. There are presently very few permanent residents in what is called the River of No Return Wilderness and they are almost totally dependent on supply from the outside for survival. No one today "lives off the land." Yet, little more than a hundred years ago the area was home for a poorly known Indian people called "tekudeka"--the Sheepeaters. These people lived in the mountains year round and not only survived, they apparently thrived. Our simple objective is to learn how the Sheepeaters or their predecessors survived in an environment now considered too severe to live in during the winter without supplies from remote towns, flown in at great expense.

Wildesen (1982), in her cultural resources overview for the River of No Return Wilderness Area, indicated the potential for archaeological research by emphasizing what was not known--virtually everything! Until this project began the total excavation within the wilderness area was less than 10 cubic meters. There has been extensive survey in the major river

corridors and an amazing number of sites has been recorded, but without excavation to answer specific research questions, little can be learned from them.

### The Research Design

The research design for this project was developed by Leonhardy and Thomas (1983). We proposed to develop an initial framework for the prehistory of the wilderness area by creating a settlement-subsistence model applicable for the past thousand or two thousand years. To do this we selected a sample area of 113 square miles, 8 miles wide and variously 13 to 15 miles long extending from Big Creek northward to Upper Meadows. This small area contains a variety of landforms and habitats and should be generally representative of the entire wilderness area. Archaeological sites had already been recorded in the area (Dahlstrom 1973), including putative "village sites," clusters of housepit depressions. Some sites in the high country were also recorded. We presumed that most resources probably used by prehistoric peoples were present in the area and so it seemed a good area to begin a pilot project.

The data necessary for formulating a formal model was lacking, so the first part of the project was to acquire sufficient archaeological and environmental information. An initial series of questions were posed to guide the research (Leonhardy and Thomas 1983, 26-27):

1. What are the resources available for exploitation?
2. Where do these resources occur in time and space?
3. Are there archaeological sites associated with places where resources occur or
4. What are the resources in reasonable proximity of the

archaeological sites?

5. What is the relationship between the observed settlement and a seasonal economic round?
6. What are the artifact assemblages associated with different sites in different places?
7. Can the seasonality of site occupation be determined?

After two years we are very nearly ready to answer these questions and develop the initial settlement-subsistence model.

### The Research

In 1983 a small University of Idaho field school began a survey of the sample area. Many different kinds of landforms were investigated and 50 sites were added to the inventory. Sites of different kinds--house depressions, rockshelters, cairns, pits, and lithic scatters, were found in many different places, including river bars, terraces, tributary canyons, steep hillsides, xeric ridges, at the margins of meadows and near cirque lakes. Sites were found in many different habitats. Site 10-VY-31, a presumed winter settlement in Big Creek canyon was tested to determine if the depressions on the site in fact represented houses and to acquire an artifact sample. The results of the 1983 field work were presented in two reports (Leonhardy and Thomas 1984; Leonhardy and Johnston 1984).

Excavation continued at 10-VY-31 during the summer of 1984 to expand the sample of artifacts and faunal remains and to acquire more information about the houses. A high altitude site, 10-IH-197, was tested and a controlled surface collection made to acquire a sample from a late summer or fall occupation to compare with that from a winter settlement. In addition to the archaeological research, a botanical survey identified the food plants available in Big Creek canyon and the habitat types in the

sample area were identified and mapped. Independent research on the ungulate populations that winter in Big Creek canyon provides abundant useful data (Akenson and Akenson 1983). A newly instituted study on the local mountain sheep population will add to the information about animal resources.

This report deals with the archaeology. The botanical studies are sufficiently extensive to be submitted as independent reports rather than as appendices to this one.

structures. These features seldom have direct surface evidence to suggest that they are the product of human activity rather than some other process (cf. Knudson and others 1982:104-105).

A final reason for selecting this particular site rather than some other appropriate site in the wilderness area is its proximity to the University of Idaho Wilderness Research Station at Taylor Ranch. Use of this facility to house and maintain the crew greatly facilitated the project.

#### OBJECTIVES AND METHODS

The working hypotheses fundamental to the field work were that the site was principally a winter settlement and that the depressions represented structures. The excavations were designed to sample different depressions and an area outside a depression. Information from the depressions was necessary to determine that they were, indeed, archaeological features. Granted that, then information about form, artifact content and chronology was necessary. We also hoped for information which would permit determining the season of occupation. The final objectives were to acquire an artifact sample large enough to assess the assemblage structure and to acquire a sample of faunal remains to begin an evaluation of the resource base.

Standard archaeological procedures were used for data recovery. A metric cartesian grid was established and 2 m squares were the basic excavation unit although 1 m units were used within the housepits. Vertical units were either 10 cm levels, feature surfaces, or stratigraphic units. Artifact provenience was recorded by excavation unit and by feature or

scars are present on the dorsal side.

**Secondary Thinning Flake:** platform\* has been prepared; a portion of the bifacial edge is often visible; lipping\* is very pronounced; bulb of percussion is diffuse; numerous flake scars are present on the dorsal side.

**Tertiary Thinning Flake:** platform\* is heavily prepared; lipping\* is very slight; bulb of percussion usually so small it is not noticable; numerous flake scars on the dorsal surface.

**Broken Flake:** flake which has been broken so that type cannot be determined; usually the platform is missing.

**Block Shatter:** cubic to irregular shaped pieces of vitrous material not exhibiting characteristics of a flake (i.e., flake scars, bulb of percussion, etc.); probably the result of misapplied force resulting in the crumbling of material.

**Thermal Shatter:** irregular shaped pieces of vitrous material exhibiting characteristics of over heating (i.e., pot lidding, hackling, crazing, and fire checks).

Table

Distribution of flakes by flake class

Flake class	n	%
Primary decortication	14	0.2
Secondary decortication	16	0.3
Primary thinning	933	16.1
Secondary thinning	2216	38.2
Tertiary thinning	1941	33.4
Broken flake	493	8.5
Block shatter	81	1.4
Thermal shatter	107	1.8

terrace is an eroded gravel core with a surface at 3m. The third terrace is a small remnant of gravel 10 m above normal high water. The position and extent of these three terraces is shown in Fig. -.

Depressions occur in two places on the 1 m terrace. Area 1 is near the extreme southern tip of the site. Here there are 6 depressions associated with the sandy alluvium. One, Pit 5, is distinctive because it is 40 cm deep. The others are less than 20 cm deep. Area 3 of the site is on the more extensive eroded 1 m terrace northeast of Area 1. Here there are at least 27 shallow depressions arranged in 5 loosely defined clusters. One depression is isolated. There are also four small lithic scatters in this area.

Another part of the site, Area 2, is north-northwest of Area 1. This area was marked by fire-cracked rock eroding out of the bank. No depressions were visible on the surface but a filled depression was discovered in excavation.

The vegetation on the site is principally xeric grass and sagebrush. There are Douglas fir at Areas 1 and 2 and willows grow along the stream bank.

#### PROCEEDURES

In 1983 the initial plan was to excavate the large depression (Pit 5) as completely as possible and then excavate one or two of the shallow depressions as completely as possible. The plan was changed for two reasons. First, Pit 5 turned out not to be a large housepit, but rather a shallow one enlarged after occupation through construction of earth ovens. That fact



difference between the terrace surface at Areas 1 and 3. The surface of the gravel core is very different at the two areas, however. At Areas 1 and 2 the core is poorly sorted cobble and boulder gravel which is an extension of the present river bed. It is overlain by 0.8 to 1 m of fine and medium bedded poorly sorted sandy alluvium. This part of the 1 m terrace is cut and filled into the 3 m terrace. At area 3 the gravel core is at or very near the surface, seldom covered with more than a thin veneer of fine textured sediments.

The terrace at Area 3 is an erosional surface whereas that at Areas 1 and 2 is depositional. The gravel at area 3 must be older than the sandy alluvium at Area 1 because the alluvium fills a cut in the gravel. Closely comparable projectile points recovered from the alluvium at Area 1 and Strata B and C at Area 3 indicate that the thin sandy sediments overlying the gravel at Area 3 are probably contemporaneous with the sandy alluvium at Area 1.

A tentative correlation of the Middle Fork terrace sequence suggested that the 1 meter terrace dated from sometime within the past 2000 years (Leonhardy 1983). A charcoal sample from the sandy alluvium in Area 1 dated 2450+/-75 radiocarbon years BP (WSU-3114). Although this date intuitively seems too old, there is no rational reason for rejecting it. Therefore, the onset of T1 formation at Areas 1 and 2 was approximately 2,500 years BP or earlier. Deposition of this terrace deposit ceased sometime before 385+/-65 radiocarbon years BP. That date is from the housepit at Area 2 which was excavated into the alluvial deposits.

both Elko series projectile points and Rosegate series projectile points. The uppermost part of the Alluvium at Area 2 contained a similar association. If the association is a valid one--if the Rosegate and Elko points are truly contemporary, then the date of the deposit would be about 1200 years BP by correlation with Big Creek Cave where such an association was dated 1100+/-60 and 1230+/-70 radiocarbon years BP (Wylie, Scott, and Gallagher 1981). The assemblage from Stratum C contains only Elko series projectile points, so the projectile point typology is consistent with the stratigraphic position. The absolute age of Stratum C cannot yet be determined, but a good estimate would be 2,000 to 2,500 years BP.

This information about the geochronology of the site is minimal. As geologic and archaeological studies in the area continue it will be possible to refine the chronology of natural stratigraphy.

#### DESCRIPTION OF THE 1983 EXCAVATIONS

The 1983 excavations were reported in a University of Idaho Laboratory of Anthropology Letter Report to the US Forest Service (Leonhardy and Thomas 1984). All the data recovered in 1983 has been incorporated into this report. Relevant text also has been incorporated on a sometimes wholesale basis.

##### Area 1

House Pit 5 is a prominent depression about 4.40 m in diameter and 40 cm deep at the center. A grid of 1 m squares oriented north-south and east-west was established over the pit for horizontal control. Here, as at the other two areas,

in the accumulation of rock in the center of the depression. The depth of the pit and the form of the "floor" were a product of post occupation modification.

As reconstructed the house was 4.4 m in diameter built over an excavated pit about 30 cm deep. This is closely comparable to the pit dimensions recorded in Area 3. The floor would have been relatively level to a point about 40 to 60 cm from the edge where it curved upward to ground level.

The major contribution of the excavation of Pit 5 is the knowledge that its present form was the result of post occupation modification. In all likelihood, it originally was not different from other housepits on the site. That settled the question about two different housepit types at 10-VY-31.

The test pit excavated through the rim of Pit 5 produced a few bone fragments, some artifacts, and a small hearth included in sandy alluvium 50 cm below the surface. The charcoal was submitted to obtain a date relevant to the deposition of the alluvium. The date, 2450+/-75 (WSU-3114) indicates that the alluvium was being deposited sometime before ca. 2,500 years BP and that people were occupying the site at least by that date.

## Area 2

The Area 2 excavation was on the 1 meter terrace about 30 meters north northeast of Pit 1 at Area 1. Fire-cracked rock was found eroding from the stream bank here, so a 1 x 2 m test pit was excavated 40 cm deep. Fire-cracked rock, a small hearth, bone fragments, flakes and two projectile points were found in the upper 20 cm. A 2 x 10 m trench was established using an

close by, removed from the fire and placed where they were found. No evidence of large fires was found in the excavation, but there were at least 4 small areas of oxidized sand which indicate burning. This particular part of the site was used and reused extensively for food preparation.

The stratum not only produced abundant fire-cracked rock, it produced the largest single data sample acquired during the 1983 season. Seventy eight implements, including 27 projectile points and 20 grinding stone fragments, were recovered. There are also 1095 pieces of debitage and 2532 bone fragments in the sample recovered from the stratum. Twenty nine bone fragments were identified as sheep (MNI=1) and 2 fragments were identified as deer (MNI=1). Two specimens are probably wolf, and one specimen represents salmon. The fragmentary nature of the bone indicates that it was processed for bone grease.

#### The Housepit

A small housepit was found beneath Stratum 2. The rim was associated with the Stratum 2-Stratum 3 boundary and the depression was largely filled with fire-cracked rock of Stratum 2. The cultural debris from within the depression is from the same stratigraphic position as the material from Stratum 2 but is separated since it is from a distinct archaeological provenience.

Only part of the depression was excavated, but this provided enough information to estimate size and form. As estimated, the depression was oval with a long axis of 3.5 m and a short axis of 2.8 m. It was 16 cm deep with a relatively level floor; the walls sloped down to the floor at an angle of about 60 degrees.

pieces of debitage and 2879 bone fragments. At least 2 sheep and 1 deer are represented by the faunal remains.

### THE 1984 EXCAVATIONS AT AREA 3

Three of the 27 depressions identified at Area 3 were tested in 1983 to determine whether or not they contained evidence of human habitation. One of the four small lithic scatters was also tested. The three depressions were selected to represent the different kinds of depressions found in Area 3. One (No. 7) was a large prominent depression about 4 meters in diameter and 20 cm deep; one (No. 9) was a large shallow depression about 4 m in diameter, but only 5 to 10 deep; the third (No. 8) was a small depression about 2 m in diameter and 10 cm deep. A 1 x 2 m test pit was excavated in each, and in each evidence of human habitation was found. The evidence included burned earth, fire-cracked rock, debitage, and, in the instance of Pit 7, implements and bone fragments.

A 1 x 1 m test was excavated at one of the four places where flakes were found on the surface. Nothing other than the flakes on the surface were found.

The objectives for the 1984 season were to excavate several of the depressions and to excavate interdepression areas. The depressions were to be excavated as completely as possible to maximize information about size, structure, and artifact distribution. The interdepression areas were to be excavated to search for evidence of activities which took place outside the house.

A metric cartesian grid oriented magnetic north-south and

the underlying gravel. However, there was no discernable hearth or fire pit.

The pit was excavated from the surface of Stratum B, through Strata B and C into the underlying gravel. It was filled with 2 units of sand, each about 10 cm thick. After the pit had been abandoned and filled several lenses of gravel and fire-cracked rock were deposited along the southeastern part of the rim. The entire depression was covered with Stratum A.

Thirty one implements were found associated with the floor (Table --). There were 3 identifiable projectile points and 2 projectile point fragments. There were also scrapers, utilized flakes, a drill, and several fragments. There were also 452 pieces of debitage and 35 unidentifiable bone fragments.

#### Housepit 14 (Feature 2)

House pit 14 was circular, 4.4 m in diameter and 30 cm deep (Figs. ). The house built over this pit had burned and the periphery of the pit was marked by charcoal which could be seen after the sod had been removed. The rim of the pit was at the top of Stratum B, less than 5 cm below the modern surface. This discovery of a burned house was particularly exciting because it indicated that information about superstructure and, perhaps, covering would be found as well as the material which was in the house when it burned.

The fill was removed from around the burned structural elements which sloped inward and downward from the rim to the center. The poles used to form the house were not laying in a symmetrical radial pattern. This could well be a function of the

this and other housepits.

A concentration of rock which contained fragments of grinding stones was located in the southeast quadrant of the pit. This overlay the floor and is a post abandonment feature, another example of trash disposal at the edge of an abandoned depression.

There was a layer of fire-cracked rock adjacent to the pit on the north and east. It extended from one to two meters from the edge of Pit 14 and extended into Pit 16. The outer boundaries were variable and indistinct. The inner margin was adjacent to the rim of Pit 14. It did not extend into Pit 14. The housepit may have been cut through a deposit of fire-cracked rock, or at least some of the rock could have been deposited while the structure was standing. Two implements and 42 flakes were associated with this deposit.

The floor itself was not distinctive. If it were not for all the burned structural members lying on in it would have been as hard to discern as the floors in the other pits.

Nine artifacts, 42 flakes, and 45 bone fragments were found in the fill around and over the burned poles. The artifacts are mostly fragments from a post abandonment occupation. Forty two implements, 192 pieces of debitage, and 61 bone fragments were found on the floor. There was also a small strip of tightly rolled red alder bark. The artifacts recovered are presented in Table -. This seems a surprisingly small assemblage considering it represents all the imperishable material which was in the house when it burned--unless everything had been removed before the house burned and the material recovered represents only that which was lost during the course of occupation. All the material

that floor was relatively easy to find. Floors AB and AB-1 were usually difficult (sometimes impossible) to isolate. The pit was not completely excavated, and the original floor, Floor C, was exposed only in a 1 x 2 m test.

On the surface housepit 3 was apparent as an indistinct oval depression adjacent to the bank of the 3 m terrace (Fig. ). When the vegetation was cleared and the sod stripped, the surface of the depression was marked by an grey ashy fill designated Floor A. The eastern edge was covered with two piles of densely packed fire-cracked rock. A third pile of fire-cracked rock covered the southwestern part of the floor.

Excavation then began in a 4 x 6 m unit on the southern half of the depression. Fragments of charred wood were found which proved to be remains of beams. As these were being exposed, part of the fire-cracked rock was removed to expose the rim. On the basis of experience in Housepit 14, we assumed that there would be but a single floor in the pit and that the structural elements would be lying on or near the floor. After the beams were exposed and part of Floor B beneath them was uncovered the excavation was expanded northward and eastward to expose more of the house. These excavations, which cut through the largest pile of fire-cracked rock produced additional complications (Fig. ). First, there was good evidence of a floor between Floors A and B (designated Floor AB). Then, there was some evidence of yet another floor (designated Floor AB-1) between Floors AB and B! Excavation of the pile of fire-cracked rock clearly showed that it had been cut to create a rim for both Floor A and Floor AB. On the next to last day of excavation a 1



The stratigraphy of Pit 30 also differed from that in the other excavations. The surface deposit was a thin layer of friable, poorly sorted sand which probably correlates with Stratum A in the other excavations. The original housepit was excavated into the gravel, and was filled in the center with horizontally bedded deposits of fine sandy loam. Separation of these units was very difficult in the center of the depression which had been repeatedly burned, apparently mixed with ash, and discolored by oxidation. At the margins of the depression, separation was generally easy when the fill was moist. In all, 6 units of fill between the sod and Floor B could be distinguished. There is at least 1 more unit between Floor B and Floor C.

#### Features associated with Housepit 30

##### Sod

The sod over Pit 30 may represent a small habitation floor overlying Floor A. If there was a structure associated with the surface, it was built within the depression as we mapped it, without modification to the piles of trash which accumulated around the rim over the many years the pit was used. The surface of the depression was roughly oval with a long axis 4.55 m north-south and a short axis 4.25 m east west. Eight implements, including a small metal projectile point, and 49 flakes were found in the sod over the center of the depression (Table -). These were above, not on, Floor A.

##### Fill to Floor A

Most of the fill over floor A was slump from the trash piles on the eastern edge and fire-cracked rock near the edges of the

by a rim excavated through the trash pile. Based on the 125N profile, the house would have been approximately 4.2 m in diameter. Twelve implements, including 3 projectile points were associated with the floor. In addition 158 flakes and 405 bone fragments were found.

#### Floor AB-1

Although called a floor, AB-1 might well be just a stratigraphic boundary marked by cultural debris. It is not marked by a distinct rim through the eastern trash pile as are floors A and AB. The surface was not noted until profiling the 125N wall where it was found underlying Floor AB. It directly underlay Floor AB in the center of the depression but was separated by only 5 cm of fill at the edges. If there was a structure associated with this feature, it would have been approximately 4.5 m in diameter. Five implements were associated with this feature. There were also 175 flakes and 43 fragments of bone. Because most of the bone and flakes were found at the edges of the pit, they probably represent trash rather than house occupation.

#### Fill to Floor B

The fill overlying Floor B in the center of the pit was sandy loam surrounding the burned beams. At the edges of the depression there were accumulations of trash above the beams. These trash piles were recorded in a number of features, principally Features 27, 28, and 29 which are described below.

#### Floor B

Over 3/4 of Floor B was excavated (Fig. ). The floor was contained within the original pit. In plan view the floor was

The beams associated with Floor B were left in place and covered with plastic before the excavation was backfilled. The excavation can be completed sometime in the future.

Two radiocarbon samples were from Pit 30 were dated. A sample from Floor AB dated 860+/-50 (WSU-3112) and a sample from Feature 21, a small pit in the trash pile overlain by the fill between floor AB and B, dated 935+/-65 (WSU-3111). These two dates overlap at one sigma standard deviation and so can be considered statistically identical. The sample from feature 21 consisted of burned herbaceous plant stems, so the association of the date with the house should be fairly accurate. It would be nice to think the dates represent the span between the occupation of Floor AB and Floor B, but such an assertion can only be tentative. The best assertion is that the pit was excavated prior to 935+/-65 radiocarbon years BP and that the pit was reoccupied at least 3 and possibly 5 times thereafter. In the periods between house occupations, trash was dumped on the edge of the depression. The trash piles and their included accumulations of fire-cracked rock, bone fragments, and artifacts do not relate directly to the occupation of Pit 30 but, rather to occupations in other houses on the site. Unfortunately, there is presently no known way to correlate the trash with the house it originated from.

Features associated with Housepit 30.

#### Feature 21

Feature 21 was a small circular pit 27 cm in diameter and 12 cm deep filled with charred herbaceous plant stems. The pit was

excavated into a trash pile from a surface associated with fill overlying Floor B. A sample of the plant stems dated 935+/-65 BP (WSU-3111).

#### Feature 25

Feature 25 was an intrusion which cut through Floor B. Its surface of origin was at or above Floor AB. The fill contained 2 projectile points, 94 flakes and 192 pieces of bone. The form of the intrusion was not determined since it was not completely excavated. The east-west dimension was 50 cm; the north-south dimension was not determined.

#### Feature 26

Feature 26 was a concentration of bone and fire-cracked rock lying on the AB-1 surface. It could not be determined whether this was contemporary with the surface or a later trash deposit. It contained 114 pieces of bone.

#### Feature 27

Feature 27 consisted of large piles of refuse dumped into pit 30 on the eastern margin. The feature overlay Floor B and underlay Floor A. Its relationship to Floors AB and AB-1 was not determined. Fire-cracked rock was the primary matrix. It was composed of two layers separated by an indistinct layer of sterile sand. Level 1 contained 11 implements, 214 flakes, and 516 bone fragments; Level 2 contained 37 implements, 191 flakes, and 1,748 bone fragments.

#### Feature 28

Feature 28 was a deposit of fire-cracked rock and other debris in the western portion of Pit 30 which overlay Floor A.

slightly oval with an east-west axis of 4.5 m and a north-south axis of approximately 4.5 m. The structure associated with this floor had burned and many structural elements were well preserved. Most poles were between 5 and 10 cm in diameter. They originally had been placed around the periphery at intervals of 20 to 30 cm. When the structure collapsed, the poles on the eastern side fell along the radii of the pit. Two large poles found in the northwestern part of the excavation were not so aligned. Whether this represents the vagaries of a collapsing structure or the remains of a supporting framework for the smaller poles could not be determined.

Artifacts found on the floor were distributed around the outer half of the circular floor. The center was generally barren. Twelve implements were associated with the floor. In addition, 171 flakes and 139 bone fragments were also found. As in other cases, many of the flakes and bones could well be the result of post occupation trash deposition.

### Floor C

The original floor of the house was exposed only in a 1 x 2 m test excavated below floor B. The original pit was approximately oval, 5 x 4.5 m, excavated 35 to 40 cm deep into gravel.

### Discussion

Housepit 30 could not be completely excavated in the time available. Approximately 3/4 of the depression was excavated down to Floor B and four square meters of Floors AB and AB-1 were excavated. All of Floor A and the surface was excavated.

floor. This fill was 5 to 10 cm thick at the outside of the depression and thinned toward the center. The central part of the floor was exposed beneath the sod. Five implements, 67 flakes, and 24 bone fragments were associated. These are listed in Tables --.

#### Floor A

Floor A was nearly circular, 4.5 m in diameter. It was generally within the original depression. A distinct rim was found in square 126-127N/96-97E where a trash pile had been cut away. The floor was a brown silty sand with a large orange stain in the approximate center. It was marked by fire-cracked rock and occupational debris. Ten implements, including 3 projectile points, 194 flakes and 96 bone fragments were recovered. Four fragments were identifiable as mountain sheep.

#### Fill over Floor AB

The fill between Floor A and Floor AB was less than 5 cm thick in the center of the depression. It thickened to 10 cm on the east where it filled the rim cut into the trash pile. To the west it became quite thin and lensed out. Five implements, including a gaming piece made of rib, 154 flakes and 99 bone fragments were recovered. Three fragments are sheep bones and 2 are rabbit bones. Most of the material recovered was from the trash deposited on the eastern edge of the floor.

#### Floor AB

Floor AB was not recognized until drawing the 125N profile. It was isolated and excavated only between 125-126N/96-97E. In square 125-126N/96-97E the eastern edge of the floor was marked

x 2 m test excavated below Floor B revealed that there was yet another floor--the one associated with the original pit.

In all, there is good evidence for 4 occupations in House Pit 30 and there could have been as many as 6 occupations. After the original house (Floor C) was abandoned, the pit accumulated about 10 cm of fill. Then another structure was erected, apparently with no modification to the pit. This structure burned and collapsed onto Floor B. Trash, including fire-cracked rock, smashed bones, implements and debitage was deposited on the rim.

During this period, another structure may have been built. A stratigraphic distinction found in the profile correlated with a surface found between Floor AB and Floor B which had rock fragments and artifacts lying on it. If there was a structure associated with this surface, designated Floor AB-1, it was built without modifying the rim of the depression or removing any accumulated fill. More fill was deposited in the depression and along the rim. Part of this accumulation was cut away to create a rim for the structure associated with floor AB. This structure was abandoned, more trash was deposited and then cut away for a second time to create a rim for the structure associated with Floor A. This, in turn, was abandoned and more trash was deposited.

Finally, the depression may have been occupied a final time, an occupation which left a metal projectile point, some fragmentary implements, and waste flakes on the surface, incorporated in the sod.

recovered was from around the outer half of the floor, principally in the northwest and northeast quadrants. The center of the floor was barren.

#### Housepit 16 (Feature 2)

Housepit 16 was oval shaped, 4.7 m east-west and 3.9 m north-south; it was -- cm deep (Figs. ) The floor was very hard to differentiate from the fill, especially by color. The pit was excavated into Stratum B which was more compact than the pit fill and which also contained some fine gravel. This textural distinction and the orientation of occasional flakes or rock fragments were the basis for separating fill from floor.

No implements or bone fragments were found in the fill but 84 flakes were recovered. Eighteen implements, 104 flakes and 12 unidentifiable bone fragments were associated with the floor. These are listed in Table -.

Little can be said about this housepit other than that its size is consistent with the others excavated. Like Pit 7, it contained very few artifacts and the floor was very difficult to distinguish. This seems a common characteristic.

#### Housepit 30

Pit 30 was delightfully complex. First, it is the only pit excavated which had multiple floors. Further, trash had been dumped in the depression after each occupation, and part of the trash piles were cut away to reestablish a rim. Not all the different floors were within the same rim, which added to the complexity. A burned structure was associated with Floor B so



way they fell, but two large stains oriented east-west in the center of the pit suggest there may have been a short ridge pole against which the other poles were placed. A large number of poles were used in the construction of the house. They appear to have been placed around the periphery of the pit at intervals of 30 to 50 cm. The poles generally were about 10 cm diameter at the butt. In one small area there were several burned branches about 1 cm in diameter. These were parallel with one another and were lying parallel to one of the poles. Although minimal, this suggests that the covering of the house was brush or bundles of small branches. In all, the structure is reminiscent of the tule bundle covered houses used in the Great Basin. The entrance to the house was probably on the east side. First, the poles around the rest of the periphery were too closely spaced to provide a comfortable entrance. Second, the wall of the pit in this area was poorly defined in contrast to the wall of the remainder and the floor sloped less steeply to the rim than elsewhere. Short of actually finding hinges and a door knob, this seems sufficient evidence for the position of the entrance.

There is no evidence to suggest that earth was banked around the base of the structure or that it was in any way even partially earth covered. This would have shown in the stratigraphy over the beams as a thickened fill. Instead, the fill over the beams actually thinned toward the periphery of the pit. The fill removed from the excavation of the pit apparently was dispersed around the structure. Gravel found overlying Stratum B is probably redeposited gravel from the excavation of

east-west was established for the area. The O/O point was independent of the other areas, but the vertical datum was the same. Copper pipes embedded in concrete were placed at two points, 100N/100E and 150N/100E, to provide a permanent reference for the grid.

The total excavation area was 154 square meters in two contiguous areas. The area encompassing Pits 7, 14, and 16 was 115 square meters and the area encompassing Pit 30 was 39 square meters (Figs. ). The excavations were quite shallow, ranging from 10 to 30 cm. The estimated volume of fill excavated is 31 cubic meters.

#### Housepits and Features

The four housepits which were excavated and the features which were recorded are described in this section. Summaries of artifacts, debitage, and faunal remains are included here. Detailed descriptions and distributions are presented in later sections.

#### Housepit 7 (Feature 2)

Housepit 7 was oval shaped with axes measuring approximately 5 x 4 m; it was between 25 and 30 cm deep (Figs. ). The rim was easily discernable on the south side of the pit but nearly impossible to discern on the north side. The north rim was estimated by extrapolating from known points. The floor was also difficult to discern during excavation. It was marked principally by a slight change in color and texture, but the best evidence consisted of artifacts or rock fragments. In the center there was a very dark charcoal stain which extended downward into

independent metric grid aligned north-south and east-west. The trench extended from 50 to 60 m north and 48 to 50 m east and was later expanded to include squares 56-60N/50-52E and 52-54N/46-48E.

### Stratum 1

The uppermost stratum consisted of less than 5 cm of friable fine sand underlying the duff and overlying a pavement of fire-cracked rock. It was excavated as a single unit to expose the underlying fire-cracked rock feature. This stratum contained no discernable features other than burned roots (which always seemed to be fallen posts when first uncovered!). Twelve implements, 161 pieces of debitage, and 27 pieces of bone were recovered. These bones, which represent at least 1 sheep and 1 deer are somewhat unusual: they were only broken for marrow, not smashed into fingernail size pieces.

### Stratum 2 and Housepit

#### Stratum 2

The upper boundary of Stratum 2 was the surface of the fire-cracked rock which formed perhaps as much as 60% or 70% of the volume of fill in what was aptly called the "fire-cracked rock layer." This unit was recorded as a single archaeological feature. Its thickness was variable, from the depth of a single stone, perhaps 5 cm, to as much as 20 cm.

Most of the rock is debris from earth ovens, but five or six tightly packed clusters in the feature might have been small earth ovens. The absence of charcoal indicates that the rocks were not heated in place. Rather, they were heated in a fire

Three strata overlying the gravel could be discerned at Area 3. The lowermost, Stratum C, was a discontinuous layer of coarse alluvial sand directly overlying the gravel core. Thickness of the stratum was variable, ranging from 1 or 2 cm to 15 cm. Very little cultural material was found within this stratum. Stratum B overlay Stratum C and was continuously distributed in the excavations north of 147N. The stratum consisted of poorly sorted sand which contained pebbles and sometimes lenses of fine gravel. The stratum may be composed of multiple lenses of alluvial sand. Thickness was generally uniform, varying only between 10 and 15 cm. Occasional subdivisions could be made where the deposit was relatively thick. Cultural material was found included within the stratum, sometimes lying on the surface of Stratum C. House pits 7, 14, and 16 were all excavated from the Stratum B surface into underlying deposits. Stratum A was a thin (generally 5 cm or less) deposit of friable, platy, poorly sorted sand which overlay the entire excavated area. Some cultural material was found within it. The radiocarbon chronology indicates that all the houses date from within the

Table 1

Radiocarbon dates from 10-VY-31

<u>Sample Number</u>	<u>Provenience</u>	<u>C age, years BP</u>
WSU-3111	Feature 21	935+/-65
WSU-3112	Floor AB, Pit 30	860+/-50
WSU-3113	Housepit, Area 2	385+/-65
WSU-3114	Alluvium, Area 1	2450+/-75

past 1,000 years (Table ), so Stratum B is older than ca. 1,000 years BP. Stratum B contained an artifact assemblage which had

stratigraphic unit where appropriate. Because most fill was removed with trowels, close control of artifact provenience was maintained. In 1983 all fill was screened through 1/8 inch mesh screen and selected samples were water screened through 1 mm mesh nylon screen. In 1984 the fill was screened through 1/4 inch mesh screen and selected samples were water screened through 1 mm mesh screen to check data recovery. The 1/4 inch screen was easier to use with no apparent reduction in data recovery.

Features were recorded through verbal descriptions, scale drawings, and photographs. Artifacts, faunal remains, and preserved botanical specimens were analyzed in the Laboratory of Anthropology at the University of Idaho.

#### SITE DESCRIPTION

Archaeological site 10-VY-31 is located on the tip of a peninsula-like land form created by a bend in the channel of Big Creek at river mile 6 (Fig. ). Just upstream from the site the stream course is diverted 90° and flows south for about 400 meters. It then courses northward to the original channel line where it resumes its generally eastward course. The resulting penninsular structure is 350 m long north-to-south and about 300 m wide at the base.

At the tip (the southern end) are three alluvial terraces. The lowest is composed of a basal gravel core overlain by 1 m of fine to medium bedded alluvial sand. The surface is 1 m above normal high water. On the northeast part of the site the gravel core is at 1 m. This part of the terrace is probably the eroded remnant of an earlier terrace eroded to 1 meter. The second

It also consisted of two layers separated by a thin, sterile fill. Level 1 contained but a single utilized flake, 18 waste flakes, and 70 bone fragments. Level 2 contained 3 implements, 13 waste flakes, and 449 bone fragments.

#### Feature 29

Feature 29 was a pile of fire-cracked rock and refuse on the eastern rim of Pit 30, north of Feature 27. It overlay Floor A and was composed of two levels separated by a thin sterile layer. Level 1 contained 12 implements, including 4 projectile points, 94 flakes, and 329 bone fragments. Level 2 contained 9 implements, including a single projectile point fragment, 79 flakes, and 349 bone fragments.

#### Feature 30

Feature 30 was a concentration of bone in a 1 x 1 m area of Floor B. It is not certain if this is associated with the occupation of Floor B or post occupation trash. There were 269 bone fragments in the feature.

#### Summary

In general, the houses at the site are remarkably similar. All are constructed over a shallow pit about 4.5 m in diameter and 30 to 40 cm deep. The structure was a framework of poles probably covered with bundles of brush or, perhaps, bark. Skins may have been used but it would have taken a very large number of them if so. Fires were built inside the houses but there are no prepared hearths or fire pits. Interior activities were around the periphery and the center of the floor used for the fire.

Two factors suggest the houses were occupied for very short periods of time, probably no more than a single season. First,

and between 110-120E although it not continuously distributed. Thirteen implements and 87 flakes were found in this stratum. Two Elko series projectile points and an unidentifiable projectile point base are included in the assemblage. Scattered occupational debris was found in the area around Pit 14.

#### Feature 3

Feature 3 was an oval pit 160 x 140 cm, 40 cm deep, excavated from the surface of Stratum B into the underlying gravel. The pit contained several boulder size fire-cracked rocks. Other than the rock, the fill contained only flecks of charcoal and a single bone fragment.

#### Feature 4

Feature 4 was a second pit full of fire-cracked rock. This pit was nearly circular, 110 cm diameter, 30 cm deep. Approximately 80% of the fill was rock. The fill contained abundant charcoal and three bone fragments. The surface of origin for the pit is uncertain. It may have originated from the surface of the fire-cracked rock layer which overlay Stratum B where the pit was found. The pit clearly was intrusive through Stratum B into the underlying gravel.

#### Feature 5

Feature 5 was an oval depression 57 x 60 cm, 15 cm deep filled with fire-cracked rock associated with rock-strewn surface at the Stratum B-Stratum C boundary designated Feature 8.

#### Feature 6

Feature 6 was a small oval depression 40 x 55 cm, 14+ cm. deep, filled with fire-cracked rock. It was adjacent to Pit 16.

#### Feature 11

Feature 11 was an oval pit 135 x 90 cm, depth unknown, which was filled with fire-cracked rock. It was located in the vicinity of Features 3 and 9.

#### Feature 13

Feature 13 was a rock strewn surface of stratum B associated with Features 3, 9, 9A, and 11 in 154-160N/118-120E. Two utilized flakes were associated.

#### Feature 14

Feature 14 was a small oval pit, 40 x 30 cm, 16 cm deep filled with fire-cracked rock. It was situated with a scattering of cobbles on the Stratum B-Stratum C surface.

#### Feature 15

Feature 15 was a rock strewn surface in Stratum B in 156-160N/118-120E. Five implements, including a projectile point, and 34 flakes were associated.

#### Feature 18

Feature 18 was a rock strewn surface in Stratum B, 149-153N/118-120E. Two implements and 33 flakes were associated.

#### Feature 31

Feature 31 was a small concentration of bone just outside the northern rim of Pit 14. The bone was within a small area, 20 x 30 cm, and there was very little bone in the surrounding area.

#### Feature 32

Feature 32 was a dump of fire-cracked rock, bone fragments and artifacts in the southeast quadrant of Pit 14. It was difficult to differentiate from the floor and fill of the house.



make a direct association between any of the excavated houses and any of the excavated cooking pits. The fire-cracked rock filled pits and concentrations of fire-cracked rock found within Stratum B, associated with the pre house assemblages were all quite small whereas most of those associated with the later surface were quite large. The significance of this disparity is not immediately apparent.

### THE ARTIFACT INVENTORY

#### Implements

The entire tool inventory recovered from 10-VY-31 consists of 493 implements. Of these, 478 are made of stone and 15 are made of bone. The analysis consisted of sorting the implements into classes based on formal and technological attributes. The total inventory from the site is divided into 4 assemblages on the basis of stratigraphy, radiocarbon date and projectile point styles. A description of the assemblages is given after the artifact description. The artifact distribution by assemblage and provenience unit is presented in Table -.

Class 1: small, side-notched projectile points. Some of these projectile points are similar to the Desert Side-notched type (Thomas 1981:18), but many have a marked convex base and notches which are morphologically different from the type form. These are similar to the small side-notched points found at Corn Creek (Jeff Ross, personal communication). N=19

#### Metric Attributes

Thickness	3	37 mm	3-5 mm
Length	3	24.3 mm	20-28 mm
Maximum width	3	12.7 mm	12-13 mm
Base width	3	12.7 mm	12-13 mm

Class 4: large side-notched projectile point. The single specimen recovered weighs 1.9 gm; is 39 mm long; 15 mm wide; and is 4 mm thick. The base is subconcave. The specimen is tentatively referred to the Northern side-notched type ( ).

Class 5: large corner-notched projectile points referable to the Elko corner-notched type (Thomas 1981:20).

N=13

#### Metric Attributes

	n	mean	range
Weight	5	3.62 g	.8-10.4 g
Thickness	12	5.6 mm	4-7 mm
Length	6	33.2 mm	19-56 mm
Blade length	6	23 mm	10-39 mm
Maximum width	11	22 mm	12-29 mm
Width B/S junction	11	21.9 mm	12-29 mm
Base width	13	15.5 mm	11-25 mm
Neck width	13	12.2 mm	8-18 mm
Notch width	12	6.5 mm	5-10 mm
Notch depth	12	3.4 mm	1.5-6 mm
Notch height	13	8.1 mm	5-18 mm
Notch opening angle	13	65.62	15 -117
Notch orientation angle	13	61.77	40 -89
Distal stem angle	13	184.54	138 -240
Proximal stem angle	13	117.31	102 -140

Class 6: large projectile point bases with concave stems that appear referable to the Elko eared type (Thomas 1981: ). The reference to this type is not certain because the specimens are too incomplete to determine the basal indentation ratio. N=7

Distal stem angle	2	183.5	174 -193
Proximal stem angle	2	77.0	74 -80

Class 9: projectile point bases too fragmentary to classify further. N=9

Class 10: projectile point tips too fragmentary to classify further. N=34

Class 11: circular, oval, or triangular implements with a steepened edge used for scraping. N=50

Class 12: bifacially flaked implements with a pronounced narrowed tip on their distal end; somewhat parallel blade edges; expand abruptly at proximal ends; used as drills. N=13

Class 13: oval cobble spall with a steepened edge; used as scraper. N=1

Class 14: implements similar to drills; projections are shorter and thicker than specimens assigned to Class 12. N=4

Class 15: (N=1)

Class 16: flakes or bifaces with small manufactured triangular tips; used as graters. N=10

Class 17: implement with attributes of both scrapers and graters; distal edge unifacially steepened; proximal end has manufactured triangular tip. N=1

Class 18: implement with a unifacially worked notch on one edge. N=1

Class 19: (N=1)

Class 20: generally oval-shaped; finely shaped and thinned; ends usually regular and tapered; probably

surface is the interior of the bone. N=6

Class 34: splinters of large mammal long bone sharpened to form awls. N=8

Class 35: fragment of polished bone. N=1

In general, the tool inventory from the site presents no surprises. It is dominated by projectile points (112 = 22.72%) There are also comparatively large numbers of scrapers (50 = 10.14%), utilized flakes (82 = 16.63%) and grinding stones and grinding stone fragments (58 = 11.76%). In all, the inventory is remarkably utilitarian, consisting principally of tools associated with the food quest. Most other implements are kinds used for working wood, bone, or fiber.

#### Debitage

More than 5800 pieces of lithic debris, the by-products of stone tool manufacture, were recovered. The flakes were analyzed in terms of their position in a lithic reduction sequence from raw material to finished product. The distribution of the different flake classes are presented in Table .

The definitions of flake classes are:

Primary Decortication Flake: large, natural platform;

dorsal\* side is covered with 50% or more cortex.

Secondary Decortication Flake: large natural platform;

cortex\* present on dorsal side but covers less than 50% of the dorsal surface.

Primary Thinning Flake: platform\* is generally flat, often prepared, no lipping; a large bulb of percussion is present, often with erailure; only a few (1-3) flake

TOTAL

5801 100.0

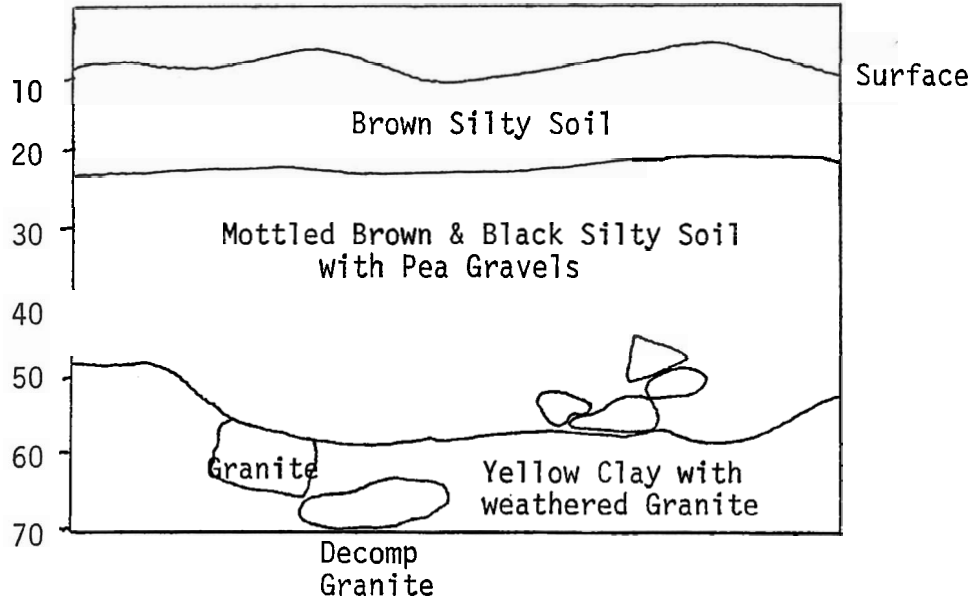
The analysis of debitage (Table ) clearly indicates that stone tool manufacture and maintenance on the site consisted of thinning processes. There is absolutely minimal representation of decortication, the initial process of working raw material. Because most implements are made from flakes, this is of no great consequence. Several cores found in the site indicate that at least some reduction was done on the site.

The materials from which tools are made are principally chalcedony, welded tuff, and chert. Welded tuff is the single most common stone both in the debitage and artifact samples. Chalcedony and chert occur (in nearly equal frequencies?) Obsidian is rare: It constitutes 11.6% of the debitage sample and % of the stone artifact sample (Tables and ).

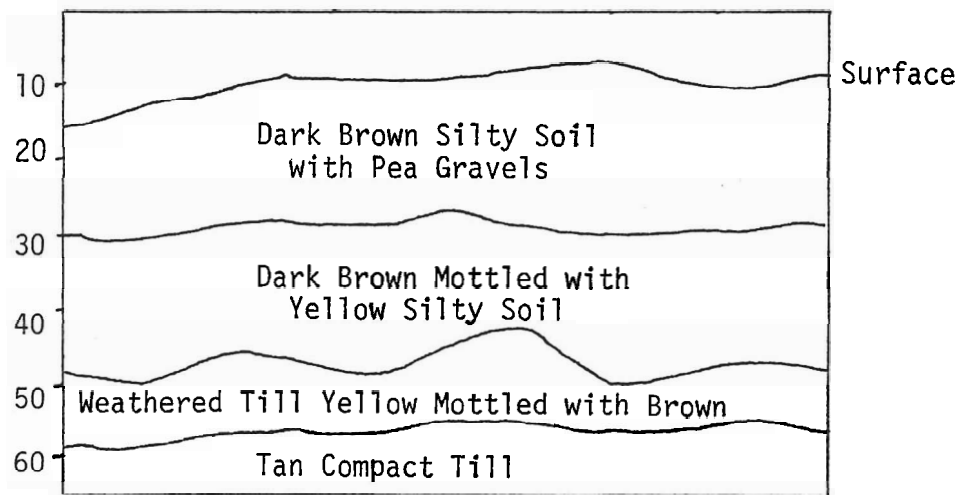
Knudson and others (1982:13) proposed a "general model of reliance on non-local bed rock sources" for tool stone. Because so few decortication flakes were found in their survey and because no quarry or workshop sites have been found, they concluded that most, if not all, tool stone was imported. They thought the lack of such sites remarkable for so vast an area. The assumption seemed to be that lithic procurement sites necessarily would be on the Middle Fork where their survey was done.

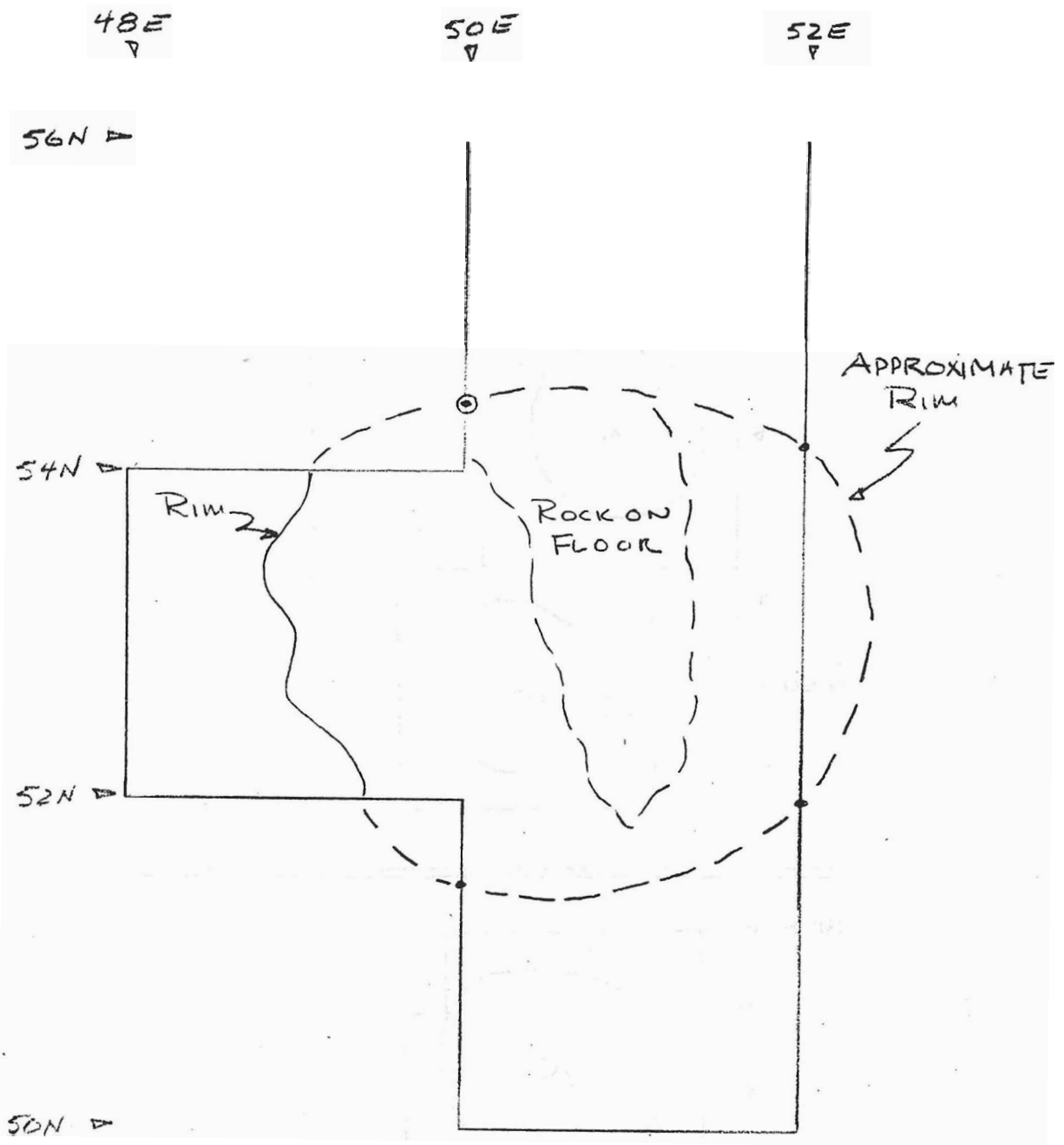
That which we identify as welded tuff and chalcedony is local stone and that which we have identified as chert also is probably local stone. Silicified rocks occur in the Salmon River Mountains. Chalcedony is common (Gentry and others 1972:89)

EAST PROFILE  
99-100S, 109-110E



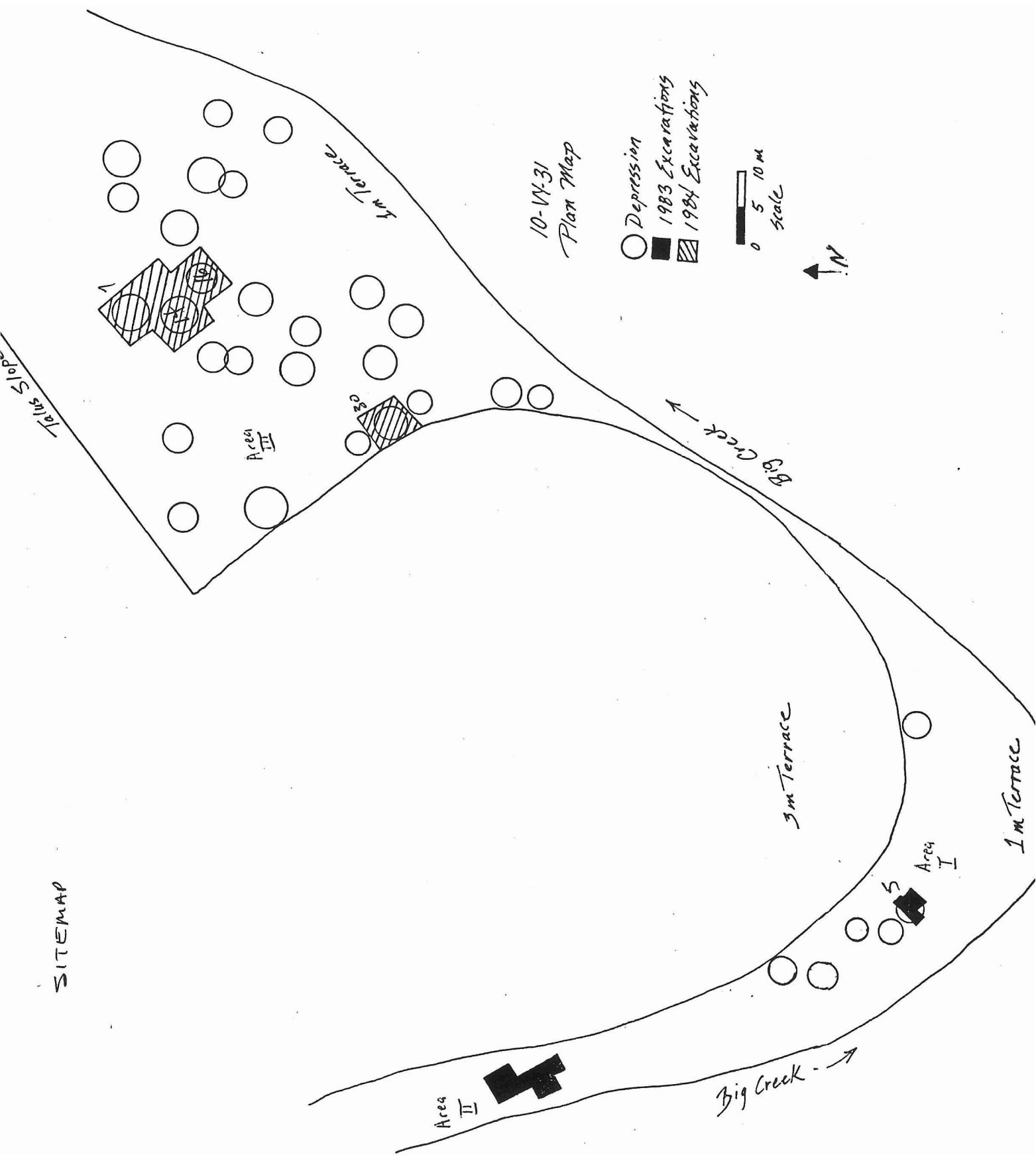
NORTH PROFILE  
100-101S, 129-130E





10-VY-31, AREA 1 - INFERRED FORM OF HOUSE PIT  
 SCALE  1 METER

SITEMAP





1984 1983 excavations at 10-VY-31, River of No Return  
Wilderness Area, Idaho. Letter report 84-25,  
Laboratory of Anthropology, University of Idaho,  
Moscow.

Spiess, Arthur E.

1979 Reindeer and Caribou Hunters: an archaeological  
study. Academic Press.

Thomas, David H.

1981 How to classify the projectile points from Monitor  
Valley, Nevada. Journal of California and Great  
Basin Archaeology, Vol. 3, No. 1.

Wildesen, Leslie E.

1982 The farthest frontier of all: a cultural resource  
overview of the River of No Return Wilderness, Idaho.  
Cultural Resource Report No. 8. Ogden: USDA Forest  
Service, Intermountain Region.

Wylie, Jerry, Tom Scott, and Joe Gallagher

1981 Test excavations in the River of No Return  
Wilderness: preliminary report on Waterfall Village  
and Big Creek Cave. MS, USDA Forest Service, Ogden.

Zierhut 1967

years.

The assemblage as a whole is dominated by projectile points (17=17.8%) and utilized flakes (26=35.6%). This assemblage is quite limited when compared to that from 10-VY-31. And, there are comparatively more utilized flakes and comparatively fewer projectile points. This, and the lack of any evidence for houses suggests a more limited range of activities at Coyote Springs.

Just what the site may have been used for is uncertain. The projectile points would indicate hunting, but there are no faunal remains to indicate what may have been hunted. Because snow covers the site until mid July and begins to accumulate again in September or October, occupation was likely in the late summer or early fall. A possibility to consider, even though there is no direct evidence, is that the site could have been used to exploit white bark pine (Pinus albicaulis) for nuts since it is within white bark pine habitat. Beyond this, little can be said at the moment. If the site should ever be excavated perhaps direct evidence of economic activity will be found.

- to the Rosegate series (Thomas 1981:19). N=1
- Class 5 large corner-notched projectile points referable to the Elko corner-notched type (Thomas 1981:20). N=1  
large corner-notched projectile point referable only to the Elko series. N=1
- Class 10 projectile point blades too fragmentary to classify further. N=4
- Class X large side notched projectile points; edges convex; base concave; notch edges parallel and curve proximally toward the median line; referable to the Bitterroot side-notched type. N=2
- Class Y Base of lanceolate projectile point; sides convex narrowing toward the base; base concave; resembles the McKean or Humboldt type. N=1
- Class 11 circular, oval, or triangular implements with a steepened edge used for scraping. N=3
- Class 22 bifacially worked, oval shaped implements; possibly used as cutting tools. N=6
- Class Z small bifacially worked pieces of stone; bifacially flaked overall but appear unfinished. N=15
- Class \* large flakes extensively shaped by unifacial flaking. N=4
- Class 26 flakes with one or more edges retouched through use or manufacture. N=26
- Class 30 cores. N=5
- Class 31 cobble with abraded surface indicating grinding.  
N=1

A parenthetical note on the cobble used for a grinding

recorded in the research area. The assumption was that this site would best represent settlement and economic activities which took place in the high country and would provide an assemblage sufficient for comparison.

The site area was mapped with a plane table and alidade and a cartesian grid with north-south, east-west axes was established. Six east-west transects were established at 91S, 96S, 101S, 106S, 111S and 121S (Fig. ). The controlled surface collection was made by 2 having two people, one on each side of the transect line, carefully inspect the ground out to one meter either side of the line. The lengths of the transects varied from 30 m to 66 m. In all, 584 square meters were inspected and collected.

Debitage was collected by two meter intervals, that is, in 2 x 2 m squares. Implements were flagged and their exact grid provenience recorded. This permitted plotting thedebitage by density distribution and plotting the implements by type distribution. What was done, in effect, was to excavate the surface without moving any dirt. The collection recovered consists of 56 implements, 9 of them projectile points, and 258 pieces ofdebitage.

Five 1 x 1 m test pits were excavated to determine the depth of the site. Each was excavated into the weathered till which underlay the site. The fill in the tests was 50 to 70 cm deep. It consisted of pebbly loam or pebbly clay loam sometimes including cobble or boulder size rocks. The deposits seem to be principally slope wash. Five strata could be discerned in two pits, four strata were discerned in two others. The stratigraphy

economic decisions in the seasonal hunting-gathering seasonal round were strongly conditioned by the structure of the sheep resource base.

These conclusions are minimal, but they provide a basis for continued research and interpretation. The excavations at 10-VY-31 represent an initial effort. There is still much to be learned from the site and the biggest part of the site remains for future excavation. There are many more sites in the sample area which will expand the data base and provide comparable or contrastive information should funds ever become available for continued research.

the central Idaho mountains. Also, sheep are common in the canyon near 10-VY-31 in the winter and spring. Sheep availability reaches its peak in this area from January through March (Akenson and Akenson 1983). The marmot bones must represent a summer or fall occupation because these animals hibernate. Of course, one might consider digging out their burrows in the winter. If the large salmonids were consumed when caught, they, too, would indicate a summer or fall occupation. From this information, then, the principal seasons of occupation at 10-VY-31 were winter and early spring. There is indication of some use during the summer or fall.

## FAUNAL REMAINS

The assemblage of faunal remains recovered consists of 13,101 bone fragments. This would be an impressive number except that most fragments are fingernail size pieces of long bone shaft and not much use for faunal identification.

Only 1775 fragments (13.55%) could be identified to some taxonomic level below order. Of these, 1364 (10.41%), were placed in a category "large artiodactyl"--sheep or deer size animals. Only 411 fragments (3.14%) could be identified to the genus or species level. The fauna list includes Ovis canadensis (MNI = 32), Odocoileus spp. (MNI = 10), Marmota cf flaviventris (MNI = 2), canis cf lupis (MNI = 1), Ursus sp. (MNI = 1), Sylvilagus sp. (MNI = 10), Salmonidae (MNI = 5), and Margaritifer sp. (MNI = 2). The salmonid remains are all vertebra centrum and represent 4 salmon or steelhead size fish and 1 trout size fish.

Mountain sheep (Ovis canadensis) is by far the most common species. In terms of NISP sheep is eleven times more frequent than the next most common species, deer. Mountain sheep presently winter on the canyon walls above the site and would have been an attractive winter resource.

Among the large mammal remains mandibles are the most common identifiable element recovered (9) closely followed by radii and tibias. The principal elements not represented are thoracic and lumbar vertebrae and ribs. This could indicate that animals were quartered at the kill site and the chest area left behind. Considering the extensive processing for fat, however, this seems a curious waste. Also notable for their absence are horn cores and skull fragments. Again, the skulls could feasibly have been

different types: 9 are referable to the Elko series and 8 are referable to the Rosegate series. There are also 3 flake points, a single small side-notched point and 6 unclassifiable fragments. The association of Elko and Rosesprings projectile points was found at Big Creek Cave in a level which dated 1100 +/-60 and 1230+/-70 radiocarbon years BP. Stratum B at Area 3 predates the houses and so is older than about 1000 years BP. On the basis of this chronologic information the age of Assemblage 2 is estimated to be between 1000 and 1300 years BP.

Although small, Assemblage 2 is from well controlled contexts. Even granting that some of the material could be intrusive (the small side-notched point is particularly suspect), the assemblage compares well with that from Level 2 of Big Creek Cave and is probably representative of material dating between 1000 and 1500 or more years ago.

### Assemblage 3

Assemblage 3 is the principal assemblage at the site. It consists of 295 implements, 64 of them projectile points. All classes of projectile points occur in the assemblage, but the small side-notched and small corner-notched forms predominate. All of the house floors excavated are part of this assemblage as are most of the features recorded at the site. The various features associated with Assemblage 3 are listed in the distribution table (Table ). The assemblage dates from about 1000 to about 300 years BP. The radiocarbon dates which presently apply are 935+/-65 which is a minimum initial date and 385+/-65 which is a minimum terminal date. It is not very likely



welded tuff is a principle component of the Challis Volcanics. "Some (welded tuffs) are almost chert-like in appearance" (Cater and others 1978:22-23). One exposure of this "chert-like" welded tuff was found near Cave Creek, about 7 miles upstream from the site and other exposures are said to occur on Monumental Creek, a tributary to Big Creek. The only demonstrably imported material is obsidian. Fourteen obsidian flakes were submitted to the Laboratory of Anthropology, University of Idaho for source identification. Five were collected at 10-VY-31; the others were collected at sites elsewhere in the immediate vicinity. Thirteen specimens, including the five from 10-VY-31, are from the Timber Butte source in west-central Idaho. One specimen could be from the Canyon source in northwestern Wyoming.

We must counter Knudson and others' assessment. We propose that the inhabitants of this region relied on local lithic resources. The quarries and workshops, if they exist, remain to be found.

#### The Assemblages

Thus far the entire collection, implements and debitage alike, has been treated as a single unit for purposes of description. There are, in fact, distinctions within the collection which are of chronologic and cultural importance. Stratigraphy, radiocarbon dates, and projectile point styles permit dividing the collection into four assemblages, each representing a different period of occupation.

Each assemblage could represent a distinctive component. However, because of the present paucity of archaeological

preforms. N=2

- Class 21: sandstone block with a groove worn into it; used as an abrader (shaft smoother). N=1
- Class 22: bifacially worked, oval shaped implements; possibly used as a cutting tools. N=4
- Class 23: bifacially worked, triangular shaped implements; possibly used as a cutting tools. N=15
- Class 24: bifacially worked, lanceolate shaped implements; possibly used as a cutting implements or projectile points. N=10
- Class 25: fragments of bifacially flaked implements; otherwise unclassifiable. N=74
- Class 26: flakes with one or more edges retouched through use or manufacture. N=82
- Class 27: cobble spalls with a utilized edge. N=14
- Class 28: elongated cobbles with circular cross section; wear on the ends from mashing; pestles. (N=3)
- Class 29: cobbles with edges unifacially or bifacially flaked to form an ax-like edge. N=9
- Class 30: N=10
- Class 31: cobbles or cobble fragments with abraded surfaces indicating grinding; mano-metate distinctions have not been made. N=58
- Class 32: cobbles or cobble fragments with mashed surfaces; hammerstones. N=2
- Class 33: small, subrectangular pieces of polished mammal rib; pieces formed from one surface of the rib; dorsal surface is exterior of the bone; ventral

Metric Attributes

	n	mean	range
Weight	0		
Thickness	3	6 mm	5-8 mm
Length	0		
Blade length	0		
Maximum width	0		
Width B/S junction	0		
Base width	4	17 mm	14-20 mm
Neck width	3	15.7 mm	13-19 mm
Notch width	0		
Notch depth	0		
Notch height	2	13.5 mm	13-14 mm
Notch opening angle	1	105	
Notch orientation angle	1	59	
Distal stem angle	1	215	
Proximal stem angle	1	110	

Class 7: complete or nearly complete projectile points which do not fit into any of the established types (out of key). This class includes the single metal projectile point found.

Class 8: flakes crudely shaped into projectile point form. These retain many elements of flake morphology such as platform or bulb of percussion. They are not referable to any named class. N=3

Metric Attributes

	n	mean	range
Weight	2	.35 g	.3-.4 g
Thickness	3	2.7 mm	2-3 mm
Length	2	15 mm	13-17 mm
Blade length	1	14 mm	
Maximum width	3	9.7 mm	8-12 mm
Width B/S junction	2	10.5 mm	9-12 mm
Base width	3	5.3 mm	4-6 mm
Neck width	2	5.0 mm	4-6 mm
Notch width	2	3.5 mm	3-4 mm
Notch depth	2	1.0 mm	
Notch height	2	3.5 mm	3-4 mm
Notch opening angle	2	106	99 -113
Notch orientation angle	2	39.5	34 -45

Because the typical trash disposal pattern is in abandoned pits, this feature is considered intrusive. Six implements, four of them grinding stone fragments, 25 flakes, 18 bone fragments, and a mussel shell were included in the feature.

#### Discussion

Other than house floors or trash piles, the features generally fall into two distinct classes: rock strewn occupation surfaces and pits filled with fire-cracked rock. Two rock strewn surfaces were recognized, one within Stratum B and the other below it on the Stratum B-Stratum C boundary. Separation between the two was seldom clear. The rocks were cobble and boulder size river gravel. They were frequently broken. In addition, there were small quantities of fire-cracked rock. The size of the stones indicates they were transported to where they were found. They are far too large to have been deposited in this context naturally.

The fire-cracked rock filled pits ranged greatly in size, from 30 or 40 cm in diameter to 1.5 m in diameter. The rocks which they contained were sometime huge. In all instances the rocks were not heated in the pits--there is no evidence of burning, nor is there any great accumulation of charcoal. The charcoal was often most noticeable for its absence. The cooking process apparently involved heating rocks in an open fire, then placing them in a pit. Pits apparently were reused and the rock periodically discarded to form the piles of fire-cracked rock found adjacent to and in the housepits. Most of these cooking pits were associated with the Stratum B surface, the same surface the housepits were dug from. It was not possible, however, to

The surface of origin was not determined.

#### Feature 8

Feature 8 was a surface marked by scattered rocks and cultural debris on the Stratum B-Stratum C boundary. It was exposed in the excavation in 147-160N/110-116E. Most of the assemblage from Stratum B was found in the fill around this feature. Some of the rocks were large flat cobbles which may have been grinding stones. There may have been two layers in the feature but these could not be separated with any certainty.

#### Feature 9

Feature 9 was a complex feature of charcoal stained fill, fire-cracked rock, and cobbles isolated in 154-156N/118-120E. It extended into adjacent unexcavated squares. The lower part of the feature was a 5 cm thick layer of charcoal stained fill on or in the top of Stratum B (designated 9B). It was overlain by a lens of gravel and fire-cracked rock with a charcoal-stained matrix (designated 9A). Large broken rock were in and adjacent to the feature in a Stratum B matrix. The overlying lens of rock was apparently on the Stratum A-Stratum B boundary, overlain by Stratum A. The underlying charcoal stained fill and the associated rocks are probably part of Stratum B. Five implements and 7 flakes were associated with the feature. They were found in the Stratum B matrix.

#### Feature 10

Feature 10 was a small, circular pit marked by dark fill located on the edge of Feature 7 (Housepit 16). The dimensions were 40 x 35 cm, 25 cm deep. The feature is intrusive into Feature 7. No artifacts were associated.

the floors are extraordinarily vague and difficult to find. The accumulation of trash, ash, charcoal, and such debris which usually marks long occupations is lacking. Second, there is very little cultural material of any kind in the houses. Even those which had burned contained very few artifacts. Nothing indicates long term occupation. The likely conclusion is that the houses were built and used for a single season or, perhaps, two. If so, this would indicate that the site was used for short periods of time, abandoned, and then reused some time later.

### Other Features at Area 3

#### Stratum A

Stratum A was recognized throughout the excavations around Pits 7, 14 and 16. Most cultural material associated with the stratum occurred at the Stratum A-Stratum B boundary. A utilized flake and 13 waste flakes were found within the stratum.

#### Stratum B

Stratum B was recognized in the excavations between 147-166N/110-120E. Housepits 7, 14, and 16 were excavated from the surface of the stratum. Cultural materials and features occurred within Stratum B and on the Stratum B-Stratum C boundary. An occupation within the stratum was designated Feature 8. The assemblage recovered from Stratum B which is not recorded with included features consists of 34 implements, including 6 projectile points, 4 of which are referable to the Elko series. There were also 457 flakes and 61 bone fragments.

#### Stratum C

Stratum C was found throughout the excavations north of 147N