

1983 EXCAVATIONS AT 10-VY-31  
RIVER OF NO RETURN WILDERNESS AREA, IDAHO

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INTRODUCTION

Between 16 June and 25 July, 1983, participants in an University of Idaho archaeological field school conducted excavations at 10-VY-31 in the River of No Return Wilderness Area, Idaho. Even though limited, these excavations greatly enhance the scant quantity of excavated archaeological data from the wilderness area. Prior to 1983 the only excavations within the wilderness were tests at Big Creek Cave and Waterfall Village near the mouth of Big Creek conducted in 1981 by a Forest Service team.

Excavation was jointly directed by the authors. The members of the field school were: Debora Welch, Mary Lenahan, Robbin Johnston, and James P. Griffin. Others who assisted for two week periods were Mary Wilson, James Lawyer, and Stan McDonald. All participants rotated between the excavation and a continued survey of the Big Creek drainage. In all, a crew of four people worked at the site for 30 days. The usual "excavation day" was 6 hours long, so the total excavation effort amounted to approximately 720 "people hours." The material recovered was cleaned and partially catalogued after work and on days when the rain was too heavy to work comfortably. An additional 300 hours were devoted to processing and analyzing the data during the 1983-1984 academic year. Funds to conduct the excavation and analysis were provided by a Forest Service purchase order and a grant from the University of Idaho Research Council.

Site 10-VY-31 was first recorded by Dahlstrom during his 1972 survey in the Idaho Primitive Area (Dahlstrom 1973). It was selected for excavation for several very specific reasons. A design for archaeological research in the Wilderness area (Leonhardy and Thomas 1983) postulated a difference between winter and summer settlements. The winter settlements supposedly would be marked by substantial dwellings and features which indicated processing and storing food necessary for winter survival. The critical element is the presence of structures. This site is marked by at least 33 depressions presumed to be the remains of houses. Many sites have these depressions, but at 10-VY-31, two different forms were present on a single site.

Practically all surveys in the Middle Fork country have noted the two differing forms of "housepits" or depressions. One form is typically 3 to 4 m in diameter and shallow, only 5 to 20 cm deep in the center. The other form is somewhat larger, 4 to 5 m in diameter, and 50 or more cm deep. An implied conclusion is that the different forms represent different time periods and, perhaps, different ethnic groups (cf. Hackenberger 1984:119ff). The presence of the two forms at one site provided an opportunity for a controlled comparison to see what the differences, other than size, between the two forms might be. It was a good idea, but, as will be explained later, in this instance the differences are spurious.

The depressions also provided an opportunity to test the simple hypothesis that they do, in fact, represent 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

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 not marked by a depression. Information from the depressions was necessary first to determine that they were, indeed, archaeological features. Granted that, then information about form, artifact content, and chronology sufficient to compare the two forms 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 begin an assessment of assemblage structure and to acquire a sample of faunal remains to begin an evaluation of the resource base.

Because the crew was small and the field season short, these objectives were ambitious, but not overly so. They were largely realized, even though what actually was excavated did not always match initial expectations. Information about houses, about the artifact assemblage, and about resource utilization was recovered. Limited though it may be, it is still a significant contribution to the data base for wilderness prehistory and a good basis for continued research.

#### SITE DESCRIPTION

Archaeological site 10-VY-31 is located at river mile 6 at the tip of a peninsula-like land form created by a bend in the channel of Big Creek (Fig. 1). Just upstream from the site the stream course is diverted 90° and flows south for about 400 m then courses northward to the original channel line. It then swings to resume 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 a gravel core overlain by 0.5 m of finely bedded alluvial sand 1 m above normal high water. On the northeast part of the site the gravel core is at 1 m. It has been stripped of any overlying fine-textured sediment. This part of the terrace might, in fact, be a remnant of an earlier terrace eroded to 1 meter. The second terrace at 3 m is an eroded gravel core. The third terrace is a small remnant of gravel 10 m above normal high water. The position and extent of these three terraces are shown in Fig. 2.

Depressions occur in two places on the 1 m terrace. Area 1 is near the extreme southern tip of the site. Here there are six 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

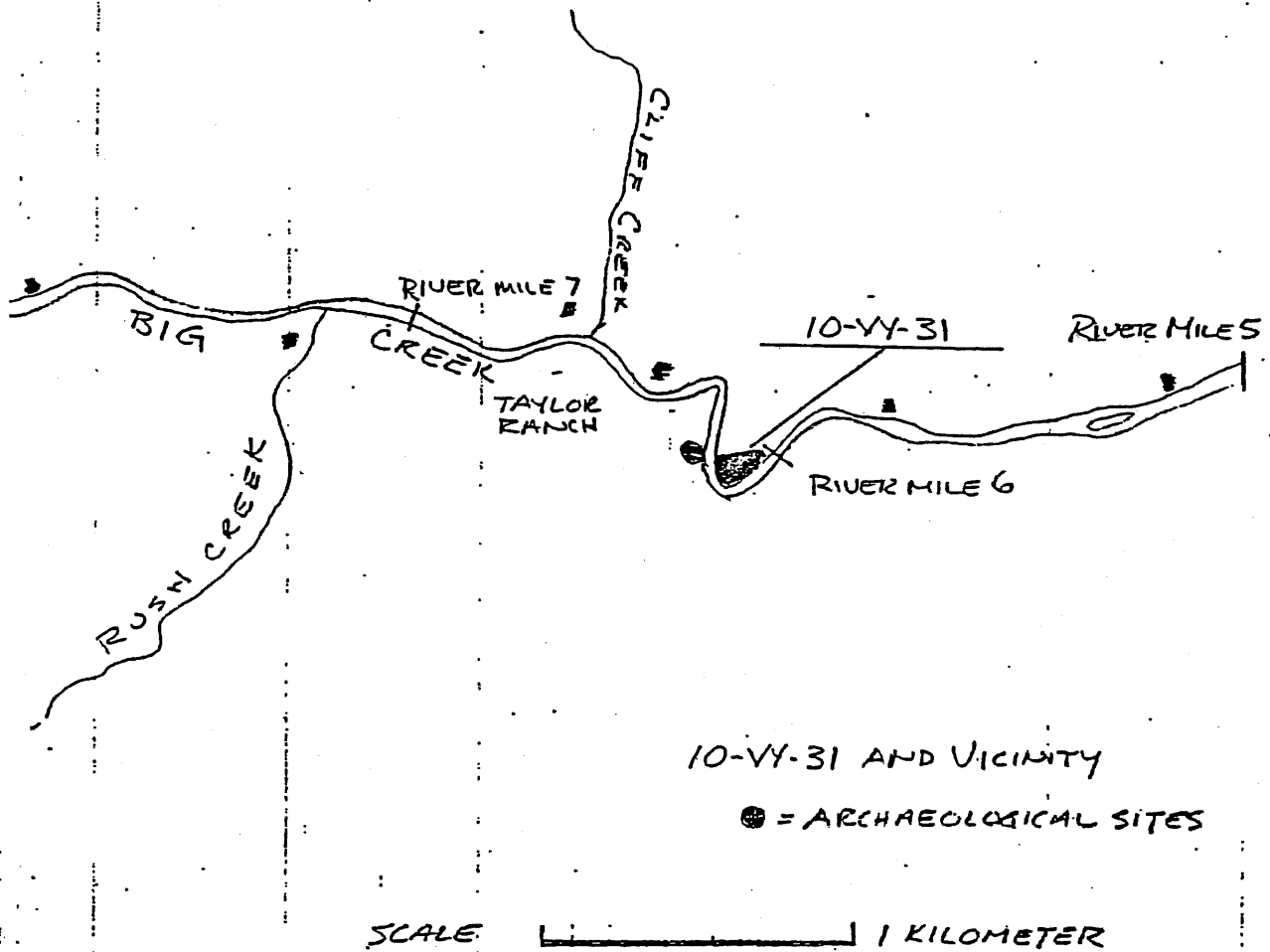


Fig. 1.

LEGEND:

○ DEPRESSION

▨ LITHIC SCATTER

▣ EXCAVATED UNIT

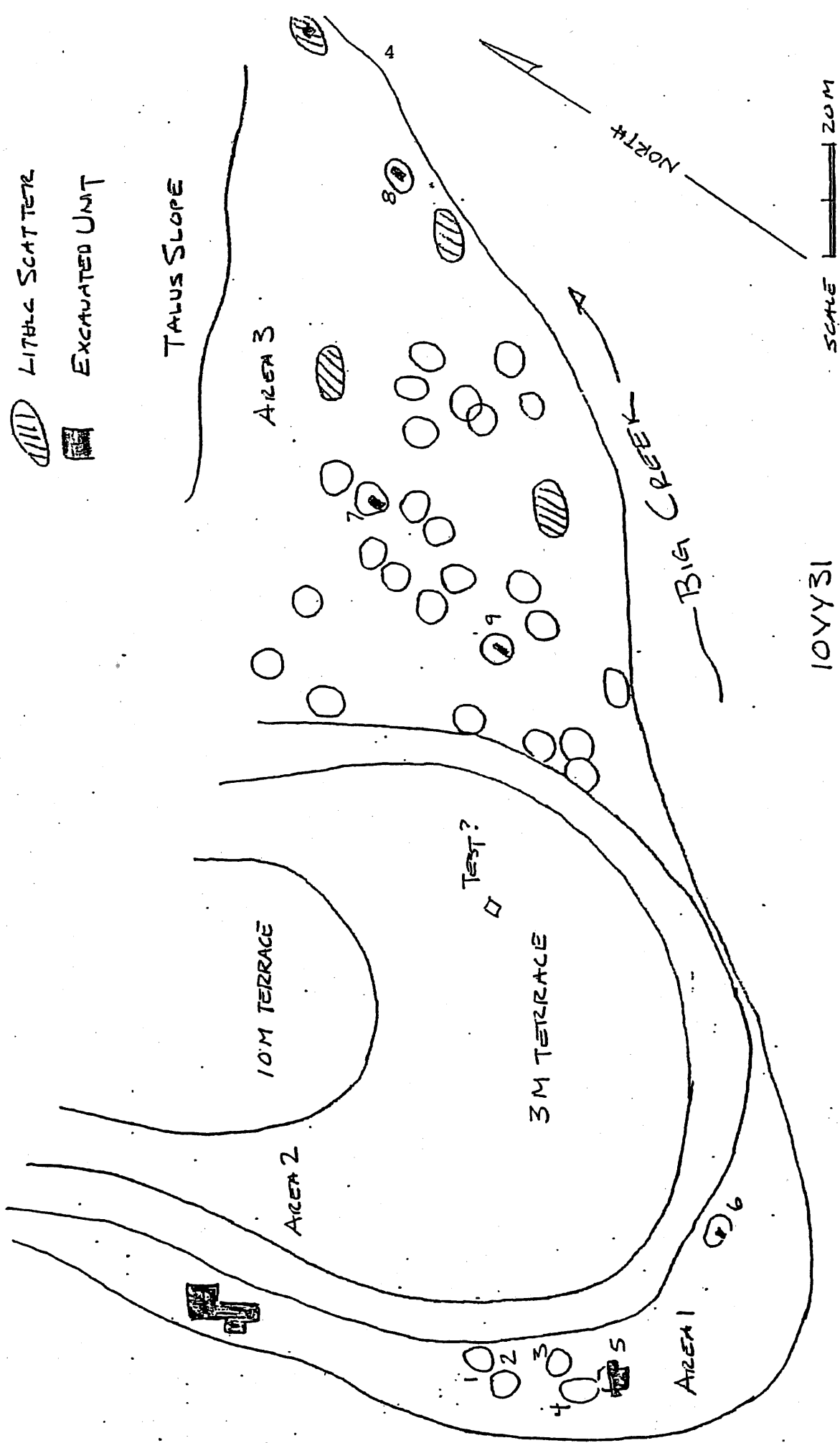


Fig. 2.

is on the more extensive eroded 1 m terrace northeast of Area 1. Here there are 26 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 by excavation.

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

#### PROCEDURE

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 to be not a large housepit, but rather a shallow one enlarged after occupation through construction of earth ovens. That fact took two weeks to learn and little else was learned from the effort. Second, a test in Area 2 suggested that this area would be very productive so excavation was started there. It was productive indeed, but the excavation of Stratum 2, a pavement of fire-cracked rock, by inexperienced excavators took more time than anticipated. Consequently, only test pits were excavated in Area 3 to determine if the depressions were archaeological features. One lithic scatter was also tested. These tests were all positive: all contain artifacts and occupational features. The only negative test in the site was Pit 6 at Area 1. This very small, very shallow depression contained no archaeological information.

So, as is usual, the initial excavation strategy was modified to meet actual field conditions. The modified procedure maximized the information recovered and represents a good utilization of time and effort available.

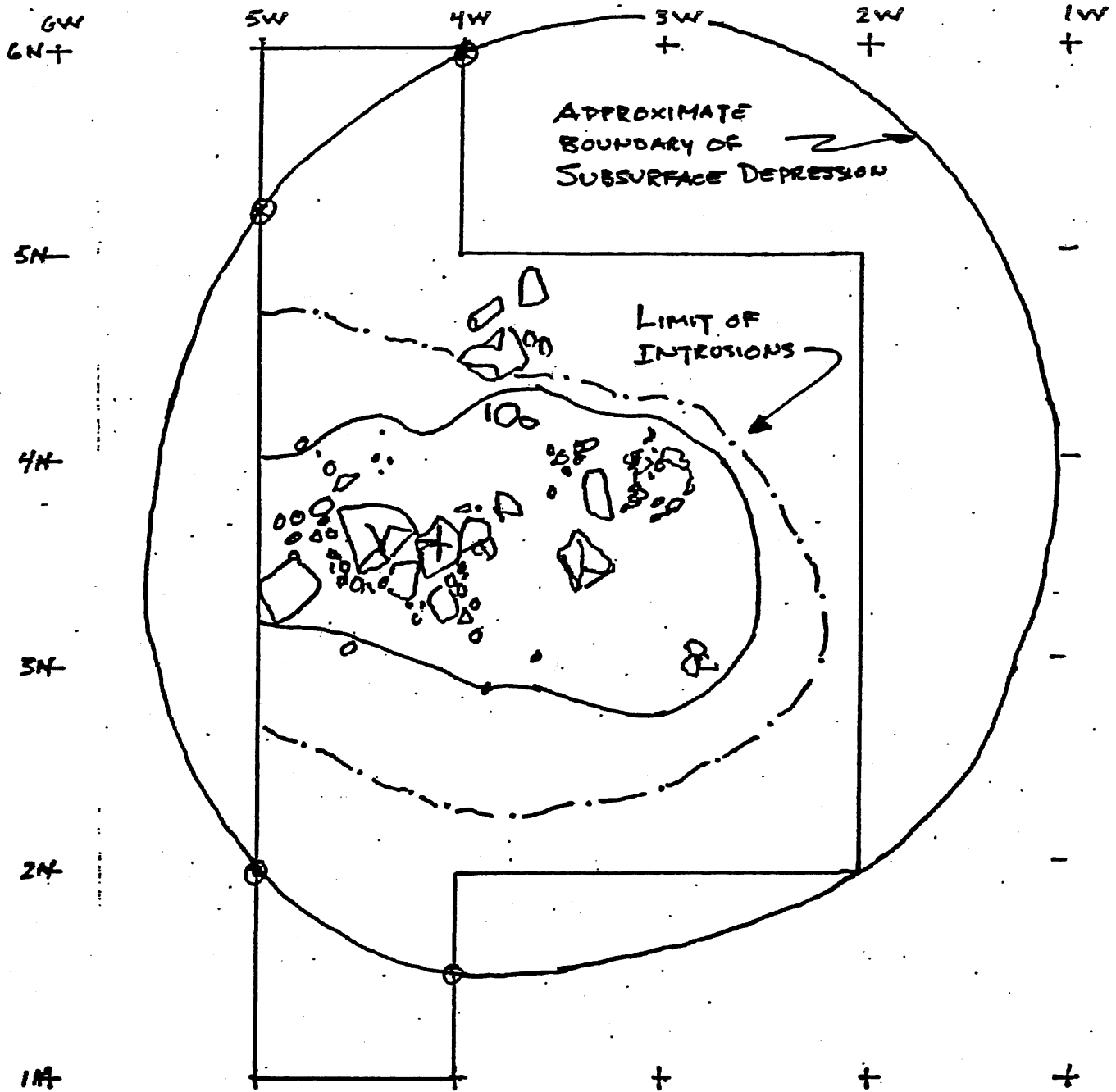
#### DESCRIPTION OF EXCAVATION

##### Area 1

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 (Fig. 3). Vertical control was maintained by measuring from an arbitrary 100 m datum.

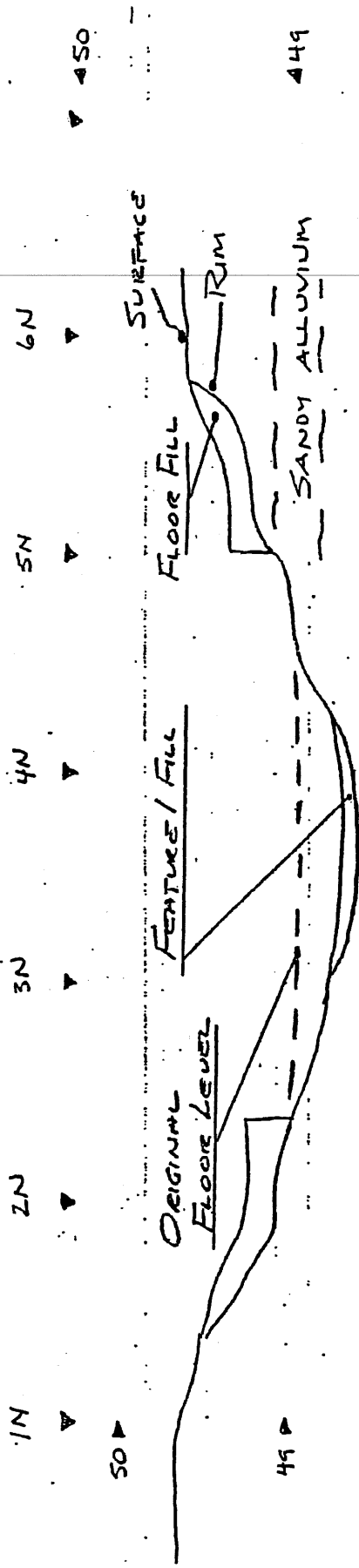
A 1 x 3 m unit (0-3N/4-SW) was excavated in arbitrary 10 cm levels so that the rim and floor could be found in the profile. Because these were not readily apparent, the test was expanded northward to 6N so that a 1 m trench cut across the depression 1 m off center (Fig. 3). In the deepest part of the depression only the sod was removed.

When found, the floor varied from 5 to 10 cm below the surface and, although frequently confusing, seemed to follow the contour of the surface. The rim was found where the floor intersected the surface (Fig. 4). With

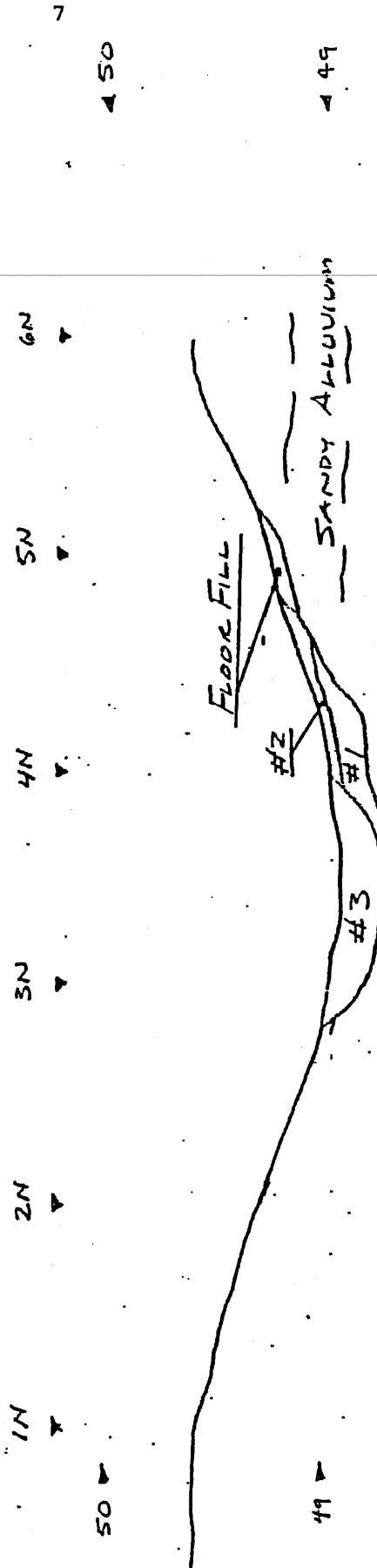


10-YY-31, AREA 1, PITS, EXCAVATION PLAT

Fig. 3.



PROFILE ALONG 4 WEST



#1, 2, 3 = INTRUSIONS

PROFILE ALONG 5 WEST

10-VY-31 AREA 1 PIT 5

Fig. 4.



the stratigraphic profile for control, a 2 x 3 m area (2-5N/2-4W) was stripped to the floor. The low part of the depression in the test trench was also stripped to what appeared to be "floor."

The excavation presented several curiosities. First, there was a nearly complete lack of artifacts, debitage, or bone. The floor was marked only by an occasional fragment of fire-cracked rock. Second, the cross-section of the floor was a deep "dish shape" which did not seem likely for a habitation. Third, the center of the "floor" contained a feature of boulder-size rocks and numerous fire-cracked rock in a matrix of charcoal stained fill. Except for the boulders this, at least, seemed appropriate.

On at least three separate occasions the bottom of the depression had been dug out to construct earth ovens (Fig. 3, 4). The most recent intrusion resulted 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 what may have been an excavated pit about 30 cm deep. 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. Whether the pit was, actually excavated or is a product of habitation is indeterminate. The form and depth strongly suggest a shallow excavated pit. This is corroborated by the pit in Area 2 which does appear to have been excavated.

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, originally it was not different from other depressions on the site. That settles the question about two different house pit types on this site. The cultural material found in the excavation is described in a later section. The test at the edge of Pit 5 revealed a small hearth and bone fragments stratigraphically lower than the house. This indicates occupation while the alluvium was being deposited but little else.

## 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. A 2 x 10 m trench was established using an independent metric grid aligned north-south and east-west. The trench extended from 50 to 60 m north and 48 to 50 m east. The vertical datum was the same used at Area 1. This trench 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 appeared 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

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, about 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 are probably earth ovens. The absence of charcoal indicates that the rocks were not heated in place. Rather, they were heated in a fire 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 extensively used and reused 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 of 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 fragments are identified as sheep (MNI = 1), two fragments are 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 being processed for bone grease.

#### Stratum 3 and Structure

Stratum 3. The fill below Stratum 2 was fine sandy alluvium which contained cultural material at the Stratum 2-Stratum 3 boundary. The remains of a house depression were found at the southern end of the trench. The rim of the depression was associated with the Stratum 2-Stratum 3 boundary, and the depression was largely filled with fire-cracked rock. The depression is in the same stratigraphic position as the cultural debris recovered from from Stratum 3, but the cultural debris from the depression is separated since it is archaeologically distinct.

Excavation extended only 5 to 10 cm into Stratum 3 except in the test pit. The only cultural material found more than 2 or 3 cm below the boundary was obviously in krotovena--root casts or rodent holes.

Stratum 3 produced 37 implements, 773 pieces of debitage and 2879 bone fragments. Identified fragments represent at least 2 deer and 2 sheep. Like most other bone recovered, these are mostly unidentifiable fragments.

*The Structure.* Only part of the house 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 long and a short axis of 2.8 m. The depression was 16 cm deep with a relatively level floor; the walls sloped down to the floor at an angle of about 60° (Fig 5). This pit appears to have been excavated.

The interior of the depression produced 23 implements, including 5 of the 7 bone tools recovered from the site. There were also 282 pieces of debitage and 1,898 bone fragments. Only 48 of the bone fragments were identifiable. These represent 2 sheep and 1 deer.

After it had been abandoned and perhaps partially filled with sand, the pit became a refuse pit and was nearly filled with fire-cracked rock. Consequently, there was no surface depression to mark its presence.

### Area 3

Three of the 27 depressions identified at Area 3 were tested 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 cm 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 includes hearths, fire-cracked rock and, in the instance Pit 7, implements, debitage, and bone fragments.

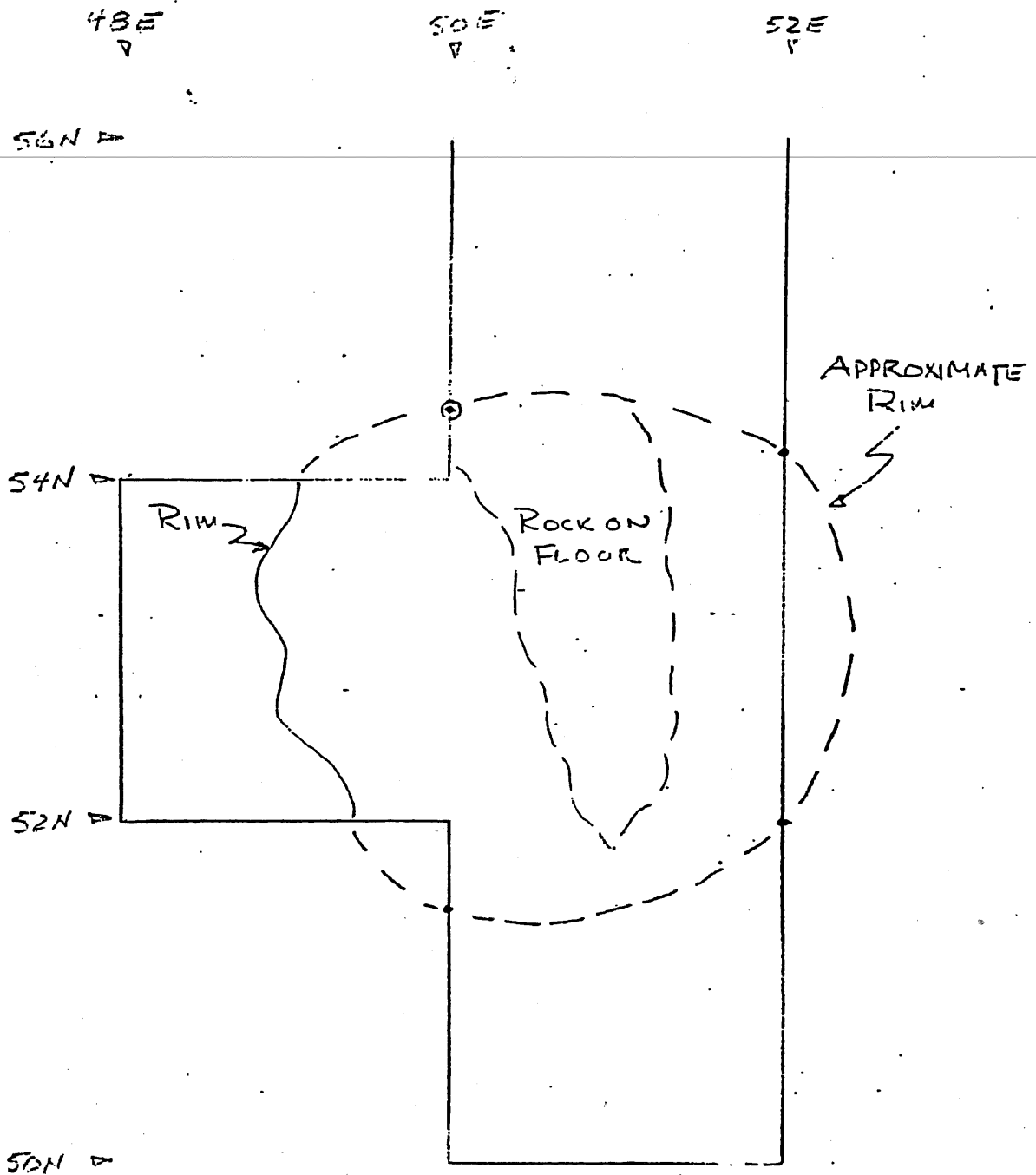
A 1 x 1 m test was excavated at one of the four places where flakes were found on the surface. Nothing other than the flakes on the surface was found.

## ARTIFACTS

### *Implements*

The assemblage recovered from 10-VY-31 presently consists of 183 implements. Of these, 176 are made of stone and 7 are made of bone. The artifact analysis consisted of sorting the implements into classes based on formal and technological attributes. Some specimens are illustrated in Fig. 6. Artifact distribution is presented in Table 1.

- Class 1: small, unnotched, thin triangular projectile points referred to the Cottonwood Triangular type (Thomas 1981:16). N = 3. Material: chalcedony (2); welded tuff (1).
- Class 2: small triangular projectile points with notches perpendicular to long axis referred to the Desert Side-notched type (Thomas 1981:18). N = 7. Material: chalcedony (3); welded tuff (3); obsidian (1).
- Class 3: small corner-notched projectile points with slightly expanding stem and edges which range from slightly concave to convex referred to the Rosegate Series (Thomas 1981:19). N = 14. Material: chalcedony (2); welded tuff (6); chert (6).



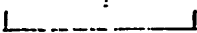
10-VY-31, AREA I - INFERRED FORM OF HOUSEHOLD  
SCALE  1 METER

Fig. 5.

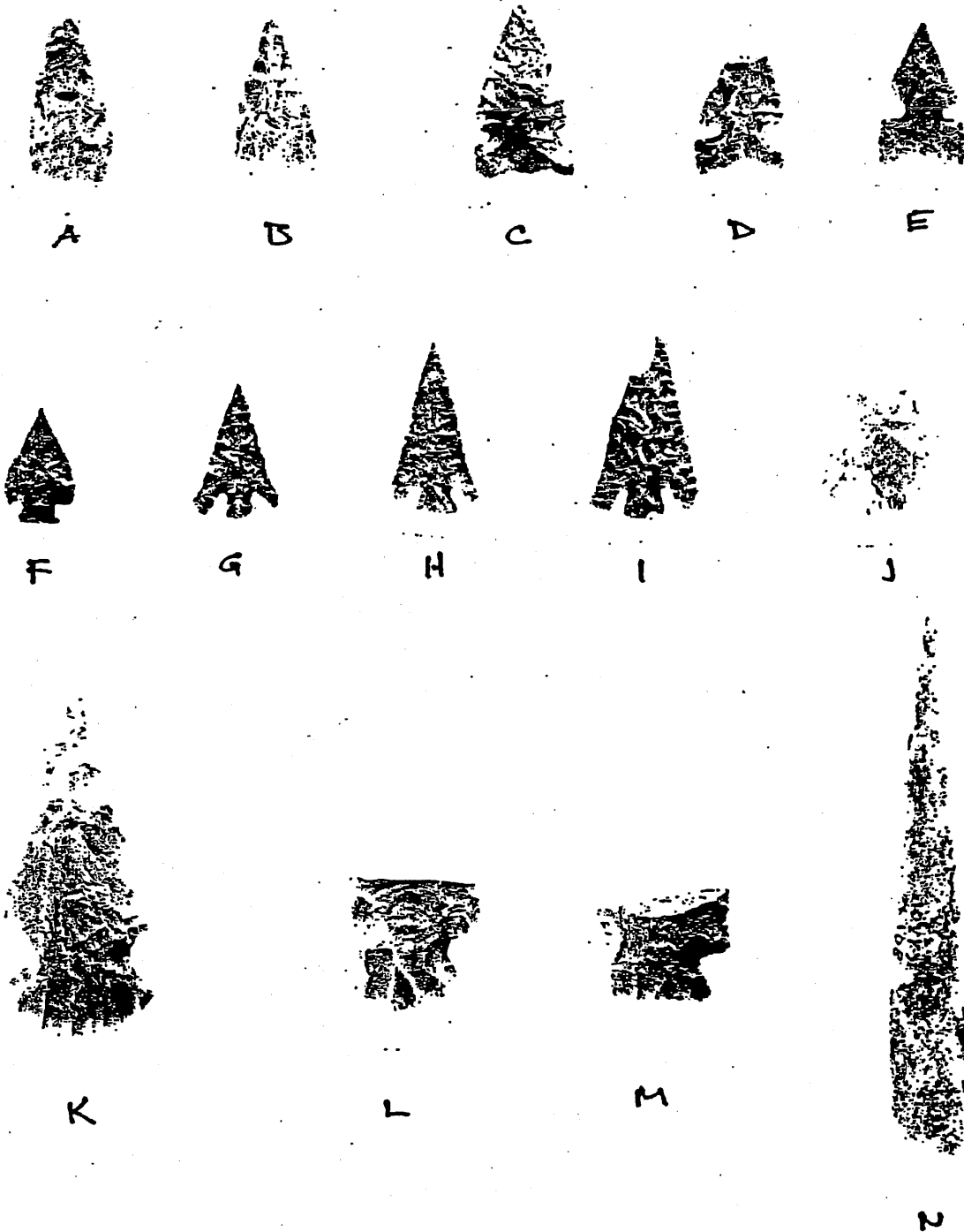


Fig. 6. Artifacts from 10-VY-31; A, B, cottonwood triangular; C-E, Desert Side-notched; F-J, Rosegate Series; K-M, Large Side-notched; N, Bone awl. All specimens natural size.

TABLE 1

Distribution of Artifacts by Category and Provenience

Category	AREA 1, PIT 5										AREA 2										PIT 7		BANK	
	FILL		FLOOR		UNIT 1		UNIT 2		UNIT 3		STRUCTURE		PIT 7		BANK									
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%								
1	3	1.64			1	.55	1	.55			1	.55	1	.55										
2	7	3.83			3	1.64	2	1.09																
3	14	7.65			7	3.83	7	3.83																
4	3	1.64	1	.55	1	.55	1	.55																
5	3	1.64			1	.55	2	1.09																
6	2	1.09			1	.55																		
7	3	1.64			2	1.09	1	.55			1	.55												
8	21	11.48	(1)	(.55)	(4)	(2.19)	(27)	(14.75)	(17)	(9.29)	(3)	(1.64)	(4)	(2.19)										
SUBTOTAL	(56)	(30.60)	3	1.64	11	6.01	4	2.19	1	.55	2	1.09	2	1.09										
9	1	.55			1	.55																		
10	3	1.64			3	1.64																		
11	4	2.19			1	.55	1	.55																
12	4	2.19			3	1.64																		
13	7	3.83			1	.55	2	1.09			3	1.64												
14	14	7.65			7	3.83	3	1.64			2	1.09	1	.55										
15	2	1.09			1	.55																		
16	5	2.73			2	1.09	1	.55			1	.55	1	.55										
17	4	2.19			1	.55	1	.55																
18	9	4.91			3	1.64	2	1.09			2	1.09	2	1.09										
19	8	4.37	1	.55	1	.55	1	.55			3	1.64	1	.55										
20	11	6.01			3	1.64	5	2.73	2	1.09	1	.55												
21	5	2.73			2	1.09	2	1.09																
22	41	22.40	13	7.10	20	10.92	7	3.83																
23	2	1.09	1	.55																				
24	7	3.83			1	.55																		
TOTALS	183	100	20	10.93	0	0	12	6.56	78	42.62	37	20.21	23	12.59	11	6.01	2	1.09						

- Class 4: large side-notched projectile points tentatively referred to the Northern Side-Notched type. Two fragments have straight bases, but the single complete specimen has a marked convex base rather than the straight to concave base usually associated with the Northern Side-Notched type. N = 3. Material: chalcedony (2); chert (1).
- Class 5: large corner-notched projectile points referred to the Elko Series (Thomas 1981:20-21). One specimen has "ears"; the other two do not. N = 3. Material: chalcedony (3).
- Class 6: large stemmed projectile points not referable to any named type. One specimen has a straight stem with sloping shoulders and a slightly convex base; the blade has one straight side and one convex side. The second, a fragment, has a slightly expanding stem and pronounced shoulders. N = 2. Material: chalcedony (1); quartzite (1).
- Class 7: flakes crudely shaped into projectile point form. They all retain elements of flake morphology such as platform or bulb of percussion. These are not referable to any named class. N = 3. Material: welded tuff (3).
- Class 8: projectile point fragments too incomplete to classify further. N = 21. The sample consists of tip fragments (15), medial section (1), base or barb sections (2), and stem fragments (3). Material: chalcedony (4); obsidian (5); quartzite (1); welded tuff (5); and chert (6).
- Class 9: a large ovate preform. Length is indeterminate, 44 mm wide and 7 mm thick. The specimen was found in eight pieces. N = 1. Material: welded tuff (1).
- Class 10: ovate bifaces averaging 35 mm long considered to be knives. N = 3. Material: chalcedony (1); welded tuff (1); chert (1).
- Class 11: Triangular bifaces averaging 30 mm long considered to be knives. N = 4. Material: chalcedony (1); welded tuff (2); basalt (1).
- Class 12: leaf-shaped bifaces about 50 mm long considered to be knives. N = 4. Material: welded tuff (3); chert (1).
- Class 13: fragments of bifaces within the size range of bifaces considered to be knives. N = 7. Material: chalcedony (2); welded tuff (4); chert (1).
- Class 14: circular, oval, or triangular implements with a steep edge used for scrapers. N = 14. Material: chalcedony (3); welded tuff (4); chert (4); obsidian (3).
- Class 15: implements with attributes of both scrapers and knives. These are bifaces with finely flaked edges and a unifacially steepened base. The form is generally lanceolate. N = 2. Material: chalcedony (2)
- Class 16: implements thick tips used as drills or perforators. N = 5 (1 complete). Material: chalcedony (1); welded tuff (4).
- Class 17: flakes or bifaces with a small manufactured triangular tip considered (graver)s. N = 4. Material: welded tuff (3); quartz (1).

- Class 18: fragments of bifacially flaked implements otherwise unclassifiable. N = 9. Material: chalcedony (1); welded tuff (3); chert (1); quartz (2); obsidian (2).
- Class 19: flakes with one or more edges retouched through use or manufacture. N = 8. Material: chalcedony (1); welded tuff (4); chert (2); obsidian (1).
- Class 20: cobble spalls with a utilized edge. N = 11. Material: basalt (3); quartzite (4); quartz (1); undetermined igneous rock (3)
- Class 21: cobbles with edges unifacially or bifacially flaked to form an ax-like chopping edge. N = 5. Material: undetermined igneous rock (5)
- Class 22: cobbles or cobble fragments with abraded surfaces indicating grinding. No mono-metate distinctions have been made. N = 41. Material: not identified.
- Class 23: cobbles or fragments of cobbles with mashed surfaces (hammerstones). N = 2. Material: not identified.
- Class 24: splinters of bone sharpened to form awls. N = 7. Material: mammal long bone (7).

The assemblage contains no surprises. It is dominated by projectile points (56 = 30.60%) and grinding stone fragments (41 = 22.40%). The other implements are predominantly cutting, scraping, or perforating tools. In all, the assemblage is remarkably utilitarian, consisting principally of tools associated with the food quest. The other implements are kinds used for working wood, bone, or fiber:

Stylistically, the projectile points are remarkably uniform. Most are small barbed arrow points. A few larger forms would be suitable for darts or spears. The implication is that different implements for different hunting strategies were used, but that the bow and arrow predominated.

Writing about the artifacts from Big Creek Cave, Wylie, Scott, and Gallagher (1981:4) state emphatically: "Typologically, the assemblage appears to be more Great Basin than Plateau." We state equally emphatically that, typologically, the assemblage from 10-VY-31 appears to be more Plateau than Great Basin. Both statements are essentially meaningless. They are intuitive judgements by people with experience in different culture-environmental areas. On the basis of artifact style alone, the assemblage would not be foreign to any late site in the western United States, including most of the Great Plains, but excluding central and southern California. It is a generic late prehistoric assemblage. The lack of food pounding tools (mortar and pestle) and the abundance of food grinding tools (mano and metate) might have some "culture area" significance, but we are loath to make any assignment on the basis of such minimal criteria. The houses, as they exist in the archaeological record, are equally generic. Neither houses nor implements say whether their makers spoke Shoshoni (=Great Basin) or Nimipu (=Plateau).



## Debitage

More than 2581 pieces of lithic debris, the by-products of stone tool manufacture, were recovered. Because 1/8 in. (3 mm) mesh screen was used to process all fill, the debitage recovery was very good. The flakes were analyzed in terms of their position in a lithic reduction sequence from raw material finished product.

The definition 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 Errillure; only a few (1-3) flake 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; side, 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.

Broken Flake: Flake which has been broken so that type can not be determined (usually 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 piece of vitrous material exhibiting characteristics of over heating, (i.e., pot lidding, hackling, crazing, and fire checks).

The analysis of debitage (Table 2) clearly indicates that stone tool manufacture and maintenance 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. The production of flakes for reduction to tools is not represented at the site, however.

The materials from which artifacts 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 5.24% of the debitage sample and 6.81% of the stone artifact sample (Tables 3 and 4).

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\* Most important characteristics.

TABLE 2  
Distribution of Debitage Type by Provenience

Provenience	Primary Decortication		Secondary Decortication		Primary Thinning		Secondary Thinning		Tertiary Thinning		Broken Flake		Bluck Shatter		Thermal Shatter	
	N	M	N	M	N	M	N	M	N	M	N	M	N	M	N	M
Area 1, Pit 5			4	5.6	6	2.4							2	2.6	3	3.5
Area 2, Stratum 1			39	42.8	66	15.6	37	1.2	11	3.5	2	4.5	5	10.4		
Area 2, Stratum 2	2	127.5	4	5.7	191	210.3	381	50.0	435	14.2	36	7.5	24	37.4	22	27.6
Area 2, Stratum 3			98	199.8	313	39.6	304	10.7	37	12.0	14	19.7	5	3.3		
Area 2, Structure	1	0.7	3	0.5	62	41.0	116	13.1	71	2.5	7	1.5	11	16.7	11	8.7
Area 3, Pit 7	2	7.0	1	0.2	20	7.6	47	5.8	25	1.2	21	6.1	1	2.1	3	3.2
	5	263.4	11	16.2	414	507.1	929	126.5	872	29.8	112	30.6	54	83.0	49	56.7
	0.20		0.45		16.93		37.99	35.65		4.58			2.21		2.00	
M/N	52.68		1.47		1.22		0.135	.034		.273			1.54		1.16	

TABLE 3

Distribution of Artifact Class by Lithic Material Type

Class	Chalcedony		Welded Tuff		Chert		Obsidian		Basalt		Quartzite		Indet.		Sum	%
	N	%	N	%	N	%	N	%	N	%	N	%	N	%		
1	2	1.14	1	0.57											3	1.70
2	3	1.70	3	1.70			1	0.57							7	3.98
3	2	1.14	6	3.41		3.41									14	7.95
4	2	1.14	1	0.57		0.57									3	1.70
5	3	1.70													3	1.70
6	1	0.57								1	0.57				2	1.14
7			3	1.70											3	1.70
8	4	2.27	5	2.84	6	3.41	5	2.84			1	0.57			21	11.93
9			1	0.57											1	0.57
10	1	0.57	1	0.57	1	0.57									3	1.70
11	1	0.57	2	1.14					1	0.57					4	2.27
12			3	1.70	1	0.57									4	2.27
13	2	1.14	4	2.27	1	0.57									7	3.98
14	3	1.70	4	2.27	4	2.27	3	1.70							14	7.95
15	2	1.14													2	1.14
16	1	0.57	4	2.27											5	2.84
17			3	1.70							1	0.57			4	2.27
18	1	0.57	3	1.70	1	0.57	2	1.14			2	1.14			9	5.11
19	1	0.57	4	2.27	2	1.14	1	0.57							8	4.55
20									3	1.70	5	2.84			11	6.25
21															5	2.84
22															41	23.30
23															2	1.14
Totals	29	16.47	47	26.70	23	13.07	12	6.81	4	2.27	10	2.84	51	28.98	176	100

TABLE 4

## Distribution of flake type by material type

Flake Type	Chalcedony		Welded Tuff		Chert		Obsidian		Basalt		Quartzite		Indet		Sums				
	N	%	N	%	N	%	N	%	N	%	N	%	N	%	N	%			
Primary																			
Decortication	1	.04	2	.08	1	.04	1	.04	1	.04	5	.20	1	0.04	412	16.78	5	0.20	
Secondary																			
Decortication	2	.08	4	0.16	2	.08	2	.08	1	.04	11	0.45							
Primary																			
Thinning	85	3.46	150	6.11	63	2.57	20	0.81	88	3.52	5	0.20	1	0.04	412	16.78			
Secondary																			
Thinning	210	8.55	363	14.77	266	10.84	54	2.20	29	1.16	7	0.29			929	37.84			
Tertiary																			
Thinning	272	11.07	295	12.02	242	9.86	62	2.53	6	0.24	4	0.16	1	0.04	882	35.93			
Broken Flake	45	1.83	46	1.87	10	0.41	6	0.24	2	0.08	2	0.08	1	0.04	112	4.56			
Block Shatter	19	0.77	20	0.81	12	0.48	1	0.04			1	0.04			53	2.16			
Thermal																			
Shatter	20	0.81	28	1.14	3	0.12									51	2.08			
Sums	654	26.63	906	36.90	600	24.44	145	5.91	127	5.12	20	0.81	3	0.12	2455	100			

Knudson and others (1982:13) propose 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.

The welded tuff and chalcedony are 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 (Cater and others 1978:28) and 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). Exposures of this "chert-like" tuff 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 is from the canyon source in northwestern Wyoming.

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

#### Faunal Remains

The assemblage of faunal remains recovered consists of 7776 bone fragments. This would be an impressive number except that most fragments are fingernail size and not much use for faunal identification. Virtually all are from sheep or deer size animals.

Only 181 fragments could be identified to some taxonomic level below order (Table 5). Of these, 148 could be identified to the species level. The fauna list includes *Ovis canadensis* (MNI = 9), *Odocoileus* sp. (MNI = 4), *Marmota* sp. (MNI = 2), *Canis* cf. *lupis* (MNI = 1), *Salmonidae* (MNI = 4), and *Margaritefera* sp. (MNI = 1). The salmonid remains represent three salmon or steelhead size fish and one trout size fish. An additional 74 fragments could be identified to the particular bone represented and another 42 fragments are potentially identifiable to taxon (Table 6).

We hesitate to draw certain conclusions about dependence or lack of dependence on specific kinds of animals at this time. Sheep are the most numerous of the identified species. A minimum of nine individuals are represented by 148 identifiable fragments. Four deer are represented by only 14 identified fragments. This suggests, at least, that sheep were economically important. The lack of fish remains does not necessarily mean that fishing was not important. The small number of identified deer bones is curious.

All skeletal elements of sheep and deer are represented in the assemblage. This is interpreted to mean that kills were made near the site and the animal carried to the site for butchering and processing.

TABLE 5

## Distribution of identified fauna

	AREA 1		AREA 2		AREA 2		AREA 2		AREA 1		Totals	
	MNI	NISP <sup>2</sup>	MNI	NISP	MNI	NISP	MNI	NISP	MNI	NISP	MNI	NISP
<i>Ovis Canadensis</i>	1	2	1	2	2	65	1	29	2	46	2	9
<i>Otocoleus</i> , sp.			1	7	1	3	1	2	1	2	1	4
<i>Marmota</i> sp.			2	2								2
<i>Canis</i> cf. <i>lupis</i>							1	2				1
Salmonidae (large)	1	1	1	12	1	1	1	1				3
Salmonidae (small)					1	1						1
<i>Margaritefera</i> sp.			1	1	1	1						1
												1

<sup>1</sup>Minimum number of individuals<sup>2</sup>Number of identified specimens

TABLE 6

## Distribution of Faunal Remains

	Fragments		Identified to bone		Identified to taxon		Potentially identifiable	
	N	%	N	%	N	%	N	%
Area 1 Pit 5	41	0.53			3	0.04	1	0.01
Area 1 Test	27	0.35	4	0.05	4	0.05		
Area 2 51	399	5.13	17	0.22	9	0.12	7	0.09
Area 2 52	2532	32.56	16	0.12	84	1.08	22	0.28
Area 2 53	2879	37.02	18	0.23	33	0.42	9	0.12
Area 2 Structure	1898	24.41	19	0.24	49	0.63	3	0.04
Totals	7776	100	74	0.95	182	2.34	42	0.54

The faunal remains provide a clue to the seasonality of the site. Virtually all elements except those from Stratum 1 at Area 2 were broken to process for bone grease. Spiess (1979:172) says that processing bone for grease is important in the winter and early spring when food is in short supply or none immediately expected. His generalization is for arctic and subarctic caribou hunters, but it seems very appropriate for the central Idaho mountains. From this, then, the principle seasons of occupation at 10-VY-31 were winter and early spring.

Sheep teeth can be analyzed to determine the season of kill, but the teeth in the assemblage are not suitable for such analysis (R. Lee Lyman: personal communication). The marmot bones must represent a summer or fall occupation because these animals hibernate. If the fish remains were consumed when caught, they, too, would indicate a summer or fall occupation.

#### CHRONOLOGY

Precise dates are not yet available for the site so only approximations can be made. The projectile point assemblage provides the best basis for estimating chronology: all are forms which date from the past 1000 years.

The Great Basin projectile point chronology is used as a guide. It does not differ significantly from that in the adjacent Plateau, but the Plateau lacks a formalized system to refer to so, the Basin system will be used. The 10-VY-31 assemblage is dominated by small projectile points referred to the Cottonwood Triangular type, the Desert Side-Notched type, and the Rosegate Series. Three of the larger specimens resemble the Northern Side-Notched type and three are referred to the Elko Series. Thomas (1981:16-18) argues that the Cottonwood and Desert Side-Notched types post date AD 1300 (i.e., >700 years BP) and that the Rosegate Series date between AD 700 and AD 1300 (i.e. >700 years but <1200 years). Heizer and Hester (1978:162) suggest that Rosegate forms were made up to historic times. Southern Plateau sequences conform to the Heizer-Hester interpretation. Rosegate-like projectile points are found in contexts dating as late as the mid-1800s (cf. Adams 1972). The remaining dated forms found at 10-VY-31 are the THREE specimens assigned to the Elko series. Thomas (1981:20-21) argues for a date range of 1350 BC to AD 700 (>1200 years but <3300 years) for this series, but Holmer (1978:52) suggests they may have been made up to historic times.

There is no reason to suspect any great age distinctions within the 10-VY-31 assemblage. Indeed, all the forms from the site were found in one single stratigraphic context, Stratum 2 at Area 2, and the typologically latest type (Cottonwood) was found in the structure at Area 2, the stratigraphically earliest context. Given the chronologic assignments above and the premise that the entire assemblage can be no older than its youngest element, the assemblage dates later than 700 BP, the initial date for the Cottonwood Triangular type. If the reference of two specimens to that type is erroneous, then the next lower limit is the date of the Rosegate series, 1200 BP. The entire assemblage is consistent with a date of less than 1200 BP and with the possible exception of the Elko series, it is consistent with a date of less than 700 BP.



These estimated dates are reasonably consistent with the radiocarbon dated sequence from nearby Big Creek Cave. A comparable assemblage lacking the Elko series was recovered from the uppermost 10 cm unit dated at  $580 \pm 70$  and  $1050 \pm 80$  radiocarbon years BP. The 10-20 cm level did contain projectile points referable to the Elko series and was dated  $1100 \pm 60$  and  $1230 \pm 70$  radiocarbon years BP. (Wylie, Scott, and Tallogher 1981)

All these dates are consistent with the maximum age estimate of 1200 years BP for the 10-VY-31 assemblage. They are only partially consistent with the later 700 year BP maximum age estimate. On the basis of present evidence, we state that the excavated features and the artifact assemblage from 10-VY-31 certainly date from within the past 1200 years and probably date from within the past 700 years. The intuitive judgement is that the site is about 500 years old and, perhaps, even less.

#### CONCLUSION

The initial objectives for the field work were largely realized. There is now a small sample of data about houses, information about seasonality, and there is a small, tightly controlled artifact assemblage. In addition, the debitage and faunal remains provide information about the resource base and technology.

Present evidence indicates that houses were constructed over circular depressions or pits 4 m in diameter, excavated 20 to 30 cm below ground surface. There are no data about the nature of the super structure. Contrary to initial assumptions, only a single house pit form is documented at the site. Processing bone for bone grease indicates principal occupation in the winter and early spring. The artifact assemblage is dominated by implements related to subsistence economy--hunting and gathering. Sheep remains were the most common identified bones, with deer a distant second. Marmot, salmon, trout, and mussel are represented. The probable occurrence of wolf is significant, because it does not occur in the area today. The lithics recovered indicate a dependence on local resources rather than imported materials.

Excavation at 10-VY-31 will continue during the 1984 season. We intend to excavate four or five of the depressions at Area 3 and test some inter depression areas. Given the results of the 1983 season, the 1984 season should be very fruitful indeed.

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