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Ogden, Utah

Cultural Resource
Report No. 10

Prehistory of Long Valley, Idaho

PREHISTORY OF LONG VALLEY, IDAHO

by

Quentin Mark Arnold

with

An Appendix on the Cabarton Materials by Jerry Wylie

CULTURAL RESOURCE REPORT NO. 10

USDA Forest Service
Intermountain Region
Ogden, Utah

EDITORS NOTE

This report was submitted to the University of Idaho as Arnold's M.A. thesis. The original title was Preliminary Research into the Prehistory of Long Valley, Idaho.

ABSTRACT

This thesis deals with a group of artifact collections gathered by local amateurs from a series of sites along the western shoreline of Cascade Reservoir. This study uses these artifacts as a basis to put together a preliminary view of Long Valley prehistory. Outlines of the basic artifact types are formulated and placed into a chronology based upon typological comparisons and obsidian hydration. Previous archaeological work, the ethnohistory, and local geology of the valley are discussed and related to the sites, used in this study, in order to determine their patterns and characteristics. From these efforts directions for further research and questions concerning the valley's prehistory will be fostered.

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The problem concerning Long Valley prehistory was first brought to my attention by Jerry Wylie, now Region 4 archaeologist for the U.S. Forest Service, who first dealt with this problem and encouraged my research into it. A special thanks to Lee Bennett, archaeologist for the Payette National Forest, whose interest and guidance concerning questions of human culture throughout Long Valley prehistory and the surrounding region aided my research and gave me confidence. To Jeff Fee, social science technician archaeologist for the Payette National Forest, a special note of thanks for the aid he gave in my work on the 10-VY-07 site and his motivating influence to carry on.

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INTRODUCTION

The Problem

This study of Long Valley in west-central Idaho will attempt to characterize the prehistory and develop a preliminary chronology of this valley. My interest in Long Valley was started by the work of Jerry Wylie, then Boise Zone Archaeologist for Region Four of the U.S. Forest Service, who was working with a large quantity of prehistoric lithic artifacts collected from the western margin of Cascade Reservoir by local collectors. Wylie felt these materials to be associated with the late Cascade culture materials found in the Weiser River area referred to as Midvale (Warren, Wilkinson, and Pavesic 1971:39-71). These artifacts collected by a small group of amateurs from Cascade, Idaho came almost entirely from a series of sites located along the western margin of Cascade Reservoir in Long Valley. Every site locality is being eroded back by the yearly fluctuations in reservoir level in response to irrigation needs. Because of this erosion artifacts have been exposed in abundance allowing collectors to easily observe and procure specimens. These two ongoing impacts were reasons Wylie wanted to see research done on the reservoir sites and on the large numbers of artifacts held by the local collectors in Cascade.

These artifacts are a valuable resource to be utilized in any archaeological research undertaken in Long Valley. The

collections show a great variety of styles and materials representing at least 5000 years of prehistory, and cultural influences from both the Columbia River Plateau and the Great Basin. With encouragement from Wylie and Lee Bennett, archaeologist for the Payette National Forest, I proceeded to contact the collectors in Cascade and Boise, Idaho, to gather site information, and to photograph their personal artifact collections taken from the reservoir. Using their site location information I undertook a survey along the western margin of the reservoir locating every site mentioned while at the same time finding additional sites unmentioned by the collectors. I extended this survey to include the North Fork of the Payette River floodplain between McCall and the reservoir.

The basic problem concerning this thesis is to describe these archaeological resources; what are the types of artifacts being found and their characteristics? Secondly, a description of the sites where this information has come from will be undertaken to reveal something of the habitation pattern.

The third part of this problem is to develop a general chronology for Long Valley using the artifacts collected from the reservoir. This exercise should lay the ground work for future studies within the valley to build upon or modify. This, combined with the comparisons of artifact typologies from different cultural regions, will build a framework of the local prehistory and raise testable questions concerning the valley.

Methodology

Photographs of artifacts picked up by collectors will be the basic information used to characterize the prehistory of Long Valley. The artifacts will have their general morphological and material attributes described as a first step in documenting the type of lithic tools used throughout this area.

This description of archaeological resources will not rely heavily upon studies conducted from regions surrounding Long Valley such as the southeast Columbia River Plateau, the northern Great Basin, and Central Idaho. These studies, if used, could bias the artifact descriptions, possibly preventing the characterization of unique lithic artifacts found within the valley. After the descriptions are presented comparisons from surrounding regions will be used to develop a general chronology for the valley. This typological comparison may also reveal certain cultural influences entering into this area from the Great Basin or the Columbia River Plateau.

Descriptions of the geographical setting of the Long Valley sites will be undertaken to further characterize the valley's prehistory. This exercise should reveal something of the environment these aboriginal peoples utilized for their food resources and tool materials. The local geographical setting of the sites will be compared to those described in archaeological work from surrounding regions to gain insights into the activities undertaken at these localities.

The prehistory will be further described using x-ray fluorescence analysis of obsidian artifacts obtained from my own surveying, private collections, and the Payette National Forest. This technique is utilized by Lee Sappington of the University of Idaho to characterize obsidian sources by the varing percentages of ten different elements. The percentages of elements characterizing different obsidian sources are then compared to the element percentages of the obsidian artifacts, analyzed in the same manner as the sources, using a computer programed for a discriminate statistical formula. This program presents the best statistical fit between an obsidian artifact and a particular obsididan source. This procedure will point out the variety of obsidian sources utilized as raw material and should show if any pattern exists for different source use through time.

THE PHYSICAL ENVIRONMENT

Geology

Block faulting created north-south running mountain ranges, from 8000 to 11,000 ft. (2438 to 3523 m) in elevation, and a valley floor varying in elevation from 5000 to 6000 ft. (1524 to 1829 m) in Long Valley. This block-fault structure is a northward extension of the basin and range province found in Nevada and southeast Oregon (Schmidt and Mackin 1970:4). The basins making up Long Valley are asymmetrical with their deepest portion along the valley's west side, this westward deepening suggests the fault blocks are tilted (Kinoshita 1962:7).

The best documented and largest fault is West Mountain, a 3000 ft. (914 m) high escarpment that forms part of the Long Valley fault, extending 100 mi. (161 km) north to Grangeville and 60 mi. (96 km) south to Boise. The total throw of the West Mountain fault was determined in 1962 by Kinoshita using gravity surveying to measure the depth of fill between West Mountain and Donnelly. His study revealed 7000 ft. (2134 m) of sediment at the base of the mountain, which added to the escarpment height gives 10,000 ft. (3048 m) of post-Miocene throw. The latest displacement along the West Mountain scarp probably occurred before the Bull Lake glaciation of the

Wisconsin glacial period (Schmidt and Mackin 1970:4-6).

Long Valley is divided into two approximately equal fault blocks; northern Long Valley bordered by the West Mountain fault and by an eastern fault block two mi. (3 km) east of Donnelly, and the southern section of the valley bordered by the West Mountain fault and the East Cascade fault (Kinoshita 1962:8). Cascade Valley is located just south of the town of Cascade, and it is bordered on the west by the East Cascade fault. The eastward trending fault that formed this natural break in the rock is located near the reservoir spillway in the town of Cascade (Kinoshita 1962:9).

The Idaho Batholith borders the eastern edge of Long Valley consisting of granitic rock intruded sometime during the Cretaceous period. Schmidt (1964) using lead alpha age determination on zircon taken from 16 different rock samples ranging from tonalite to musscovite-quartz-monzonite determined the age to be early to late Cretaceous 108±12mybp years. The batholith also contains andesitic and rhyolitic porphyry dikes of the Boise Basin porphyry belt extending northeast through Bear Valley, and these intruded the batholith during the early Miocene (Schmidt 1964:G-4). This porphyry belt may have extruded obsidian in certain dikes. Evidence for this is the abundance of large obsidian nodules taken from a Pinedale glacial age terminal moraine located near the city limits of McCall, Idaho. This obsidian may have been utilized by aboriginal peoples.

The oldest rocks found in the batholith are metasedimentary consisting of biotite schists and minor associated calcite-silicate granefols that have been correlated with the precambrian Belt series of northwest Montana. These rocks are found within the batholith as roof pendants, which are outcrops located along the tops of ridgelines as peaks (Schmidt 1964:G-2).

The Council Mountain area, forming the western boundary of Long Valley, has a geologic history quite different from the Salmon River Mountains to the east. The oldest rocks here were formed during the Mesozoic Era when regional metamorphism occurred one or more times on ancient sediments forming gneiss, schist, amphibolite, and marble (Palmer 1963:50). These metamorphic rocks were intruded by quartz diorite, pegmatite, and aplite dikes in the vicinity of Boulder Creek creating migmatite during the emplacement of the Idaho Batholith (Palmer 1963:51).

During the Tertiary period sands, gravels, and clays were deposited that were over time lithified to form the Payette Formation. Following this the Miocene age lava flows of the Columbia River basalts began to cover the area. During a pause in this volcanism a lake was formed leaving sediments that were eventually formed into shales and cherts. During this same pause the Payette Formation and the lower basalt units, having a northerly dip, were block faulted. Renewal of vulcanism filled in the lake forming a breccia unit and after this event

further basalt flows covered the entire area (Palmer 1963:52).

The breccia found in this location was formed by lava flowing into the ancient lake and in the process of rapid cooling vitrophyre was formed on the outer layers of the basalt blocks (Palmer 1963:35, 36). The vitrophyre is a variety of obsidian potentially useful as a tool material to prehistoric peoples living in the Weiser River and Long Valley areas, but evidence has not come to light yet proving whether this vitrophyre was used or not.

Another potential lithic source for tools comes from the chert and shale beds laid down long ago in this ancient lake bottom. The material outcrops near Council Mountain and 12 mi. (19 km) south, around the area of King Hill, where a series of prehistoric lithic scatter sites have been found by archaeologists working for the Payette National Forest. On these sites the cryptocrystalline artifacts found show a close resemblance to the naturally outcropping cherts in the same area. It has been inferred from this that the outcropping cherts were utilized by prehistoric peoples in the area as lithic tool material.

The major geologic event shaping the present landforms of west-central Idaho were the alpine glacial advances during the Pleistocene. The originating center for this activity was located 30 miles north of McCall in the Burgdorf area; from here glaciers extended southward into Long Valley (McDonald 1954:33). The present glacial features are of the Wisconsin

glacial age divided up into Bull Lake and Pinedale glaciations. But prior to the Bull Lake glaciation fluvial and lacustrine deposits were laid down, tilted some 20°, underlying the valley floor (Schmidt and Mackin 1970:A-11).

Most of the Bull Lake glacial moraines and outwash depositional surfaces have been smoothed out or destroyed by erosion, whereas most of the Pinedale surface still remains (Schmidt and Mackin 1970:A-13). The remaining Bull Lake terminal moraines are generally further south than those of the Pinedale age. An example of this is the occurrence of morainal loops surrounding Payette Lake; the first moraine enclosing the lake is of Pinedale age, the second one just south of the first is an earlier Bull Lake moraine.

Valleys cut by the Bull Lake outwash were consequently filled in by Pinedale outwash deposits accounting for the formers lack of a depositional surface. During this time short steep glaciers formed on West Mountain, almost reaching the valley floor, creating small cirque basins. Since the time of the Pinedale glaciation trunk streams, like the North Fork of the Payette River, have formed narrow flood plains, whereas the smaller tributary streams in this area have none (Schmidt and Mackin 1970:A-14).

Of major importance to the archaeology of Long Valley is the fact that erosion has been minimal since the Pinedale glaciation ended some 10,000 to 15,000 years ago except along the Payette River. According to Schmidt and Mackin (1970:A-19)

the present landforms are mostly fossil surfaces changed little since the Pleistocene glacial periods ended. This had a direct bearing on the depositional history for the sites along Cascade Reservoir which I will discuss further in the chapter concerning site characteristics.

Flora

The valley has a wide diversity of vegetation zones where Ponderosa pine (Pinus ponderosa) dominates in dry locations and lodgepole pine (Pinus contorta) in moister areas with Douglas fir (Pseudotsuga menziesii), grand fir (Abies grandis), and western larch (Larix occidentalis) (Brockman 1968) dominating in the lower elevations along the valley sides.

Along the North Fork of the Payette River and smaller tributary streams one will find narrow leaf cottonwood (Populus angustifolia), quaking aspen (Populus tremuloides), water birch (Betula occidentalis), white alder (Alnus rhombifolia), and thinleaf alder (Alnus tenuifclia) (Brockman 1968).

The true character of Long Valley prehistoric flora cannot be discerned clearly because of the modification undertaken during the last 100 years by European settlers. But even with the original character altered one can still find plants in the valley aboriginal peoples depended on to help them survive. Some of these food plants are wild onion (Allium cernuum), wild hyacinth (Brodaea douglasii), sego lily (Calochortus nuttallii), camas (Camassia quamash), cous (Lomatium ambiguum), and arrowleaf balsamroot (Balsamorhiza sagitta). Berry shrubs

located along the valley floor and sides are serviceberry (Amelanchier alnifolia), chokecherry (Prunus melanocarpa), huckleberry (Vaccinium ovalifolium), mountain spray (Holodiscus discolor), river hawthorn (Crutaegus rivularis), and strawberry (Fragaria vesca) (Davis 1952; Craighead, Craighead, and Davis 1963).

These plants and others probably grew in great profusion along streams, and in low marshy places, which provided optimum conditions for plants like camas. What helped to reduce the native plant population was the clearing and draining European settlers undertook on these areas for grass, potato, and hop farming (Lee Bennett 1981:personal communciation). Whether the volume of plant food taken from the valley was comparable to the large root gathering areas of Idaho is doubtful, but for small groups the area probably provided a sizeable yearly crop.

Biota

The Long Valley area and the mountain ranges surrounding it have at the present every animal species, except for the grizzly bear (Ursus horribilis) and the timber wolf (Canis lupus), that inhabited the region before European settlement. At this time two other species almost gone from the area are the fisher (Martes pennanti) and the wolverine (Gulo luscus), but reports of sightings of these animals still come in from the Salmon River Wilderness (Lambeth 1977:8). Most of the herbivores have changed from their primeval numbers and distributions, an example of this is the dominance now of elk

(Cervus canadensis), mule deer (Odocoileus hemionus), and the whitetail deer (Odocoileus virginianus) over the dominant species of prehistoric times the bighorn sheep (Ovis canadensis) and the mountain goat (Oreamnos americanus).

Another herbivore now extinct from the Northwest, which may have been taken by peoples living in this area, is the bison (Bison bison). Before European contact bison moving in from the Great Plains through passes in northern Wyoming and southwest Montana and, using the divide west and northwest from the Bear River, entered the Snake River Plain. From this area small numbers may have moved northward up the Weiser River into the vicinity of Long Valley. One reason to infer this comes from the accounts of early hunters and explorers who observed bison using the Snake River Plain as one of their grazing areas (Kingston 1932:165). But the dry arid country of this plain, along with aboriginal hunting pressure, probably kept their numbers low except in the Great Plains. Here the environment was favorable for grazing and could support large numbers of bison even under hunting pressure (Kingston 1932:172).

The marsh habitats that existed in Long Valley according to early accounts of trappers and settlers attracted large numbers of migratory fowl each year (Lee Bennett 1981:personal communication). One can assume during prehistoric times the waterfowl using the valley were utilized by resident peoples during the spring and fall.

Another valuable resource were the native and migratory

fish inhabiting the North Fork of the Payette River and the Payette Lakes. The resident species include rainbow trout (Salmo clarki), and whitefish (Prosopium williamsoni). In the Payette Lakes resides a landlocked form of the blueback salmon called the little redfish (Onchorhynchus nerka) (Craig 1941:2).

Before the construction of dams along the Columbia River system and especially on the Payette River with the Black Canyon dam, the North Fork of the Payette River had sizeable runs of migratory fish such as the steelhead (Salmo gairdnesi), Chinook (Onchorhynchus tschamgtscha) and blueback salmon (O. nerka) (Craig 1941:4).

Estimates done by Craig in 1941, before the construction of Cascade Reservoir, give some idea of the volume of migratory fish available to aboriginal peoples living in Long Valley. Craig estimated a spawning volume on the Payette River to be around 107,000 Chinook redds and 20,000 blueback redds (Craig 1941:8). The river could support a spring run of 776,000 Chinook and about 40,000 blueback, although in his opinion this river could not provide food and living space necessary for 700,000 spring Chinook especially if the young stayed in the stream over a few months or two years (Craig 1941:9).

Whether these estimates by Craig were accurate for the Payette River before white contact is hard to judge, but when compared to Hewes' (1973:137) estimates for fish consumption by the Bannock, Northern Shoshoni, and Northern Paiute the results are interesting. Hewes placed the annual consumption per

individual at 50 pounds a year, spread out amongst the population of 3000 people who made up the three tribes above. This worked out to an annual consumption by these people of 150,000 pounds of fresh fish. When these figures are compared to those given by Craig it can be inferred the Payette River provided a sizeable portion of the migratory fish consumed by peoples living in Long Valley.

ETHNOGRAPHIC HISTORY

The upper drainages of the Little Salmon, the Weiser, and the North Fork of the Payette river have been used from the late prehistoric to early historic times by both Nez Perce and Shoshonean peoples. This situation has presented a problem to northwest archaeologists and ethnographers as to where to place the boundary between the Plateau and the Great Basin cultural areas. Most scientists have drawn this demarcation thrcugh the Seven Devils Mountains and along the Middle Fork of the Salmon River although others have moved this line further south beyond Long Valley.

Long Valley appears to have been a grey area where cultural influences from both the Plateau and the Great Basin affected the peoples living there. This relationship goes back to late prehistoric times as reflected in the cultural makeup of one Indian tribe that made its home in the mountains of west central Idaho, the Tukudeka or the Mountain Sheepeater Shoshoni.

The Tukudeka and other Paiute-Shoshoni groups had their origins in the area of southwest Nevada and southern California. Starting around AD 1000 these peoples started moving northeast and west into the Great Basin reaching southeast Nevada and southwest Utah by AD 1050-1250. and

northern Utah by AD 1200-1300 (Madsen 1975:84). By this time the Paiute-Shoshoni groups had entered every part of the Great Basin from eastern Oregon, Nevada, and Utah, but when the Sheepeater settled in central Idaho is unknown.

Of all the Paiute-Shoshoni groups the Sheepeater held to their way of life the longest in the face of European encroachment. They tended to avoid contact with other tribes and with Europeans; except for a few individuals of mixed French or Scottish descent, there were no foreigners among them (Liljeblad 1972:38). Their language and culture set them apart from other Shoshoni groups. One such difference that amused outside tribes was their slow singsong speech; another difference frowned upon was their practice of cross-cousin marriage (Liljeblad 1978:95).

But even with this the Sheepeater were highly respected, peaceful, and industrious people, noted as excellent big game hunters especially of the Mountain Sheep, master furriers, and makers of outstanding fishing weirs. These abilities were put to good use in an environment providing a rich variety of plant and animal foods, because of this the Sheepeater were more fortunate than most Shoshonean groups such as the northern Paiute (Liljeblad 1972:38).

Much of the Sheepeater culture was derived from the Nez Perce with whom they had frequent contact in spite of their reclusive nature; this gave their society an essentially Plateau rather than a Great Basin culture (Madsen 1980:19).

Evidence of peaceful contact tells of Sheepeater families occasionally wintering with the Nez Perce at the confluence of the Snake and Salmon rivers where good salmon fishing was to be had in summer and winter (Liljeblad 1978:98, 99). They seldom faced any challenge from other Native American groups to their exploitation of the area that now encompasses the Payette, Boise, Challis, Sawtooth, and Beaverhead National Forests.

Allied under the guidance of an old and experienced man, groups of two to three families moved from place to place where the hunting or root plants were best. During the winter these groups would gather at good fishing spots along the rivers to set up a semi-permanent encampments. These camps would vary in population from year to year depending upon where the seasonal round left them at the start of winter (Liljeblad 1978:100). The Sheepeater exploited their range much in the same way as the Nez Perce except the focus was oriented more towards hunting in the high mountain ranges. In this process hunting, in conjunction with root gathering and fishing, would round out the cycle as each small family group prepared for winter.

Long Valley and its vicinity was one focus for the Sheepeater as a summer range where they gathered food and fished. Near present day Smith's Ferry, Idaho, located 16 mi.(26 km) south of Cascade Reservoir, was an old winter campsite for this tribe. This spot, located right along the North Fork of the Payette River where fish could easily be procured, is lower than Long Valley and protected more by

canyon sides providing a comfortable winter camp (Liljeblad 1972:40).

Before the advent of the horse, Shoshoni and Paiute groups other than the Sheepeater probably utilized the valley area and the Weiser River drainage all the way up to Council, Idaho. The relationship between these peoples is not clear, but it does not seem to have been violent. There was a constant overlapping of tribal territories with Paiute moving eastward into Shoshoni lands and the same peoples moving westward into Paiute territory (Ray and others 1938:408).

One Paiute group reportedly living near the Timber Butte-Midvale area, called the People Eaters, may have been of mixed Paiute and Shoshoni ancestry. According to ethnographies done in the 1930s it was not uncommon to have a great deal of intermixture of people from these two related groups (Ray and others 1938:404).

The next group utilizing the valley were the Nez Perce. These people centered their economy mainly upon roots and fish, with big game hunting making up the other 15% to 30% of their food supply (Marshall 1977:64). As with the Sheepeater the Nez Perce would winter in villages, near the confluence of the Salmon and Clearwater rivers, and the area around Riggins or Whitebird Creek (Marshall 1977:135; Chalfant 1974:72).

Come spring, groups would travel into the mountains to forage for roots and hunt, they would also during the warm summer months fish at favorite spots maintained by a specific

band for salmon and steelhead. In the late fall the bands would start to congregate again back down in the canyons to live off the accumulated root and fish stocks throughout the winter months.

The nearest group to Long Valley was the Lamtama band. This group utilized the surrounding mountains to the east and west, and southward into the Long Valley area for hunting and root gathering. They fished the drainages of the Snake and Salmon rivers southward to Payette Lake and the streams east of McCall. In early historic times the Nez Perce, Shoshoni, and Paiute would meet at Payette Lake for trading, fishing, and horse racing (Chalfant 1974:78, 79).

The Nez Perce of the Plateau shared and probably competed with the Shoshoni and Paiute for the Long Valley area. Whether this interaction ever came to violence as early reports indicate is not fully understood, but what is made clear by the evidence is that two different cultural groups came together rather frequently and began to share many of the same traits. What may be occurring in this area is the gradual movement of certain cultural traits and habits back and forth. To say whether one cultural region dominated this area ignores the possiblity of groups assimilating influences from surrounding regions and creating their own cultural identity.

PREVIOUS ARCHAEOLOGICAL RESEARCH

Early research in Long Valley has centered mainly around Cascade Reservoir with the first being done by Drucker (1948:4) who supervised the surveying of the proposed pool area for the Cascade Dam Reservoir. This survey found few traces of human occupancy stating that the valley was only sparsely used and only on a seasonal basis. The only site found of any size was 10-VY-02, which is 2000² yds. (550² m) in area and has a depth of 2 ft., associated with a nearby hot spring.

Near McCall, Idaho, Butler (1967:inside back page) reported a stone figurine, made from dark grey gneiss or granite, along the west side of Payette Lake brought up during well drilling operations from 75 ft. (23 m). He doubted if the artifact came from this depth, but considered it genuine and not a hoax. In style Butler felt the figurine suggested ties to the Southern Plateau.

The next work done was a survey along the west side of Cascade Reservoir by the Boise National Forest in 1979. This survey unofficially recorded eight sites in the area between Duck Creek and Gibson Creek, three more being noted at Rock Creek, Hazard Creek, and Campbell Creek (Wylie 1980:Fig. 2).

Some 20 mi. (32 km) east of the reservoir Boreson, (1979:30) conducted excavatons at 10-VY-165 near Warm Lake

describing artifacts of a late style she correalated with the Midvale Complex dates of 2500 BC to AD 1.

In 1981 Plew reported on excavations at sites 10-VY-95, 10-VY-96, and 10-VY-97 3 mi. (5 km) south of the reservoir near the community of Carbarton, for the Boise National Forest. At this site Plew found artifacts similar to those from the Midvale Complex in the Weiser River area.

During the past eight years the Payette National Forest has conducted cultural resource inventory surveys around the valley, along West Mountain, and the ridgelines leading from Jughandle Mountain on the east side. These efforts have produced a limited number of diagnostic artifacts and aboriginal sites reflecting the late prehistoric.

The only major concentrations of prehistoric sites near Long Valley on the Payette Forest are around the Council Mountain-Potato Knob area and along the South Fork of the Salmon River. The former has produced late types of artifacts similar to Great Basin styles found in association with naturally outcropping cryptocrystalline material. Along the South Fork of the Salmon River several sites have produced a large array of artifact types, but except for survey work no excavations were undertaken on the sites. Preliminary analysis done on the artifacts, by the site recorders, points to a mixed material culture reflecting Plateau and Great Basin influences dating back to around 4000 BP to 2000 BP.

SITE CHARACTERISTICS

The sites found during this study, and those brought to my attention, are situated in two distinct groups. The first is located along the North Fork of the Payette River, between McCall and Cascade Reservoir, the second along the western shoreline of Cascade Reservoir.

Along the portion of the Payette River mentioned above a system of meanders have developed with associated oxbow lakes, backswamp deposits, and small natural levees (Thornbury 1969:163, 167). Sites found along the river floodplain are located on point bars and natural levee deposits set within steep paired terrace bluffs of glacial and glacio-fluviatile till the river has cut down through since the end of the last glacial advance (Thornbury 1969:156). No sites were discovered on top of these paired terraces.

The largest site along the river is the Oxbow Site 10-VY-07 (Fig. 1) located one mile south of McCall on a point bar deposit. These depositional features are also called meander bars; they are found on the convex sides of meanders and grow by individual increments outward into the meander curve (Thornbury 1969:165). The site is situated down in a valley flat protected by bluffs, to the east and west (Fig. 2), providing some measure of freedom from adverse weather. The

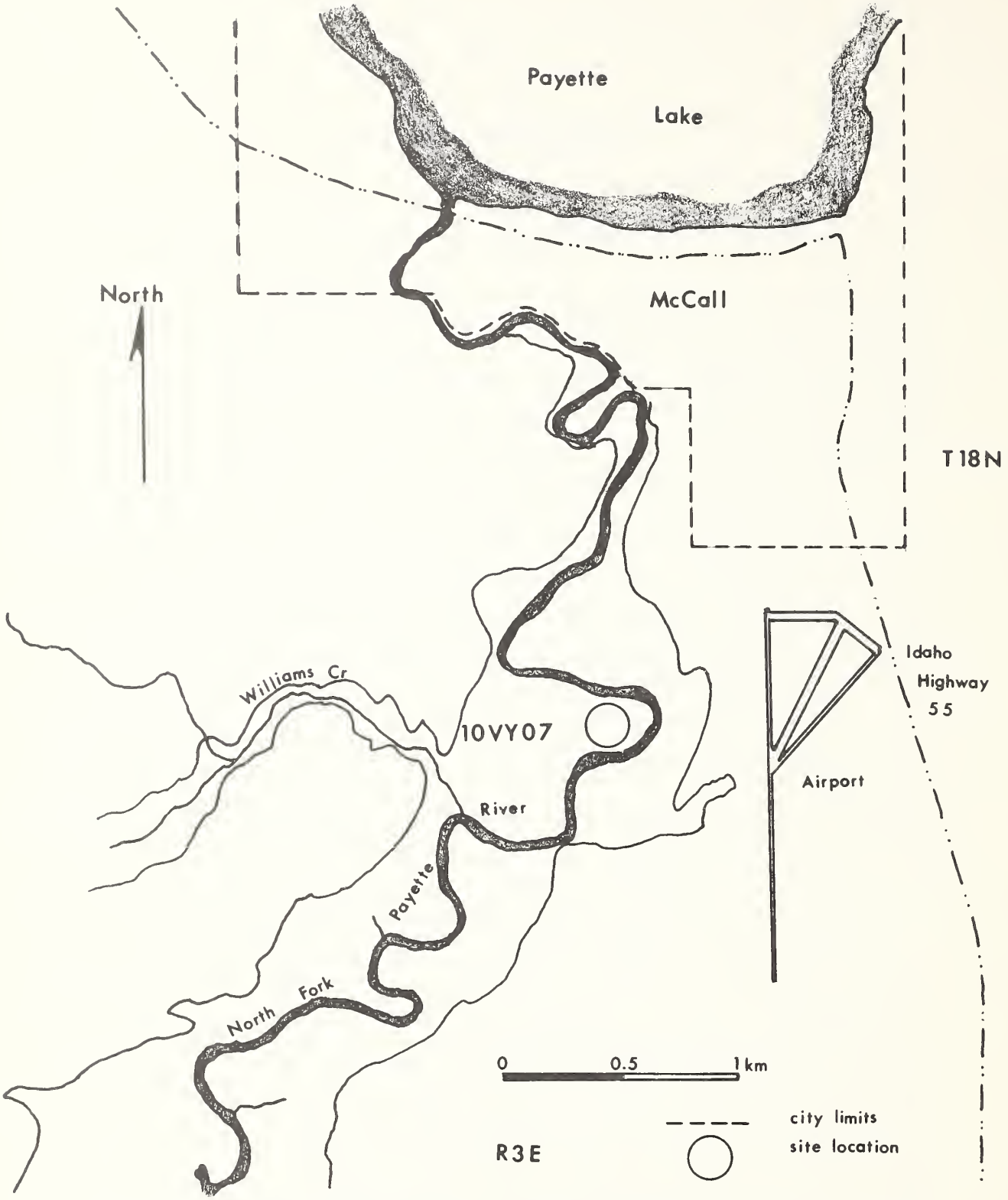

Fig. 1. Map of the McCall area showing the location of 10-VY-07.

Fig. 2. Looking southeast across the main area of 10-VY-07.

soil surface has been kicked up over many years by the congregation of sheep brought to this site awaiting transport on a nearby Union Pacific railhead; further disturbance has come from local motorcyclists and campers. These impacts have had a severe affect upon the sites stratigraphic integrity since soil deposition through time has been minimal, leaving a very shallow profile.

Long time residents of McCall remember Nez Perce and Shoshoni using this site as an encampment where they came each summer to trade between each other and the local white community and to fish for salmon along this stretch of the river. This use of 10-VY-07 by Native Americans extended back into time as long as the local informants could remember (Jeff

Fee 1980:personal communication).

This long term use is reflected in the volume of artifactual material taken off the site by local collectors. These collections contain a wide range of lithic tools in a variety of materials and in styles reflecting aboriginal culture extending back into late prehistoric times. One group of artifacts reflecting this long term use is a collection of 42 ceramic sherds of Shoshonean style which have, as yet, no other counterpart in Long Valley. No features were observed on this site such as house pit depressions or fire hearths.

The second group of sites along the river (Fig. 3) have not been reported by local informants as localities used by Native Americans in recent historic times. The size of these sites does not compare to 10-VY-07. Their area is smaller and the artifact volume is less; as on 10-VY-07 no features were found at any of these localities. But the artifacts collected from these sites suggest, by their style, a fairly close relationship in time to 10-VY-07. The variety of lithic materials are mainly obsidian and fine grained basalt, cnly at 10-VY-328 is cryptocrystalline material present. Firecracked rock is found only on 10-VY-328 and 10-VY-329 so far.

The two sites mentioned above and 10-VY-331 are located on very small natural levees located within a few meters of the stream course (Figs. 4 and 5). These depositional features are low ridges paralleling the stream; they are highest near the river and taper off gradually away from it. Their greater

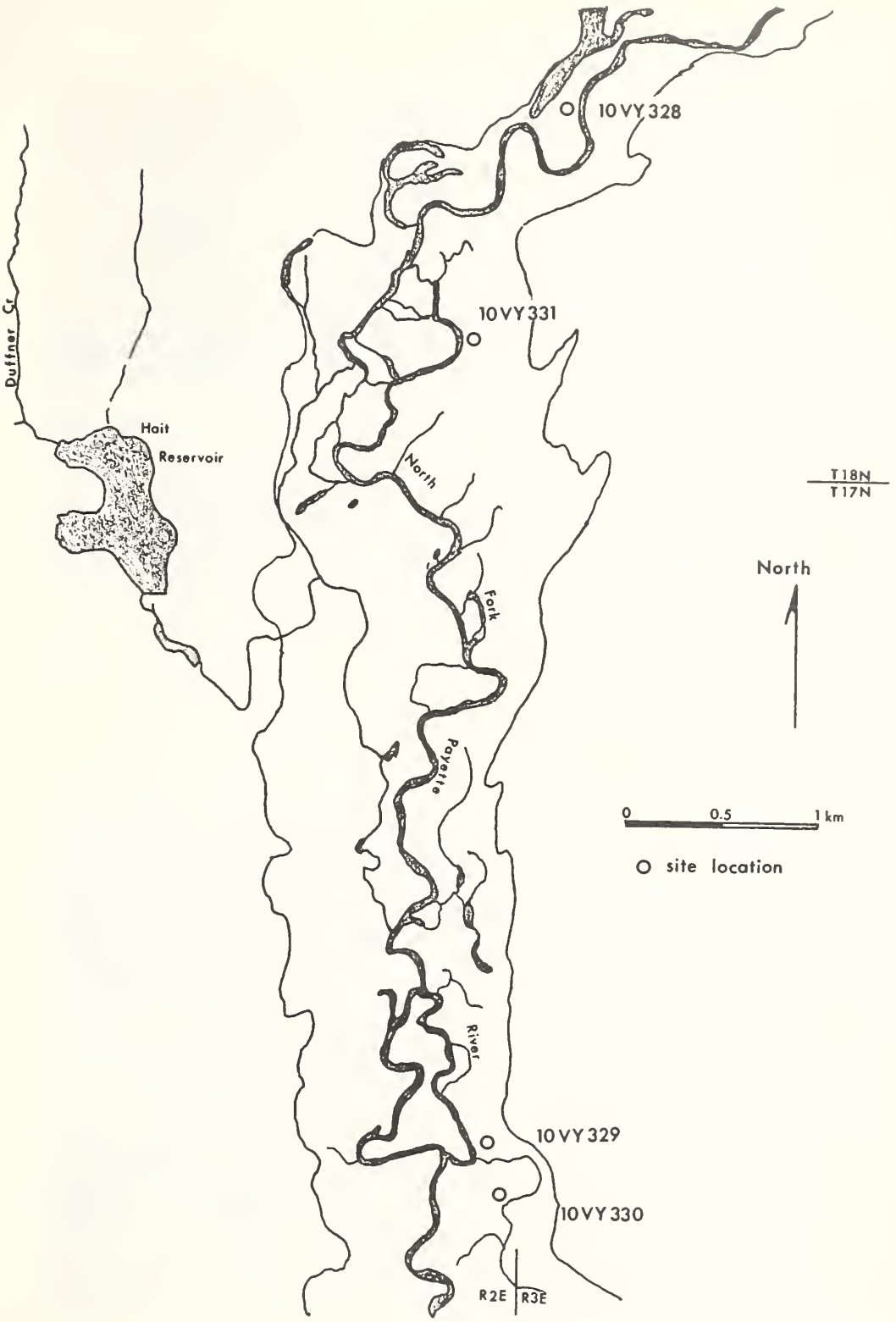

Fig. 3. Map of the North Fork Payette River showing site locations between McCall and Cascade Reservoir.

Fig. 4 Looking north at the main area of 10-VY-328.

Fig. 5. Looking north at 10-VY-329, showing the ongoing use of this site for cattle grazing.

height near the river is due to the sudden loss in transporting force when the river overflows its banks (Thornberry 1969:166). The site 10-VY-330 is situated on an old point bar deposit.

The depth of the cultural deposits on all of these sites, as in 10-VY-07, is shallow, no more than 12 in. (30 cm) in depth. One reason for this is the volume of material transported down the Payette River does not appear to be very great, since Payette Lake tends to receive any excessive sediment load coming from the river's upper drainage. For these reasons deposition along the river between the lake and the reservoir is minimal; only the process of stream meandering, cutting into old glacial and alluvial deposits, would provide material load sufficient to bury cultural materials during periods of high water.

On each of these sites cattle and sheep grazing have removed vegetation and trampled the surface. Further disturbance on 10-VY-329 and 10-VY-331 was brought about by farm vehicle traffic.

The next group of sites (Fig. 6) is found along the western shoreline of Cascade Reservoir. They have yielded large quantities of diagnostic artifacts reflecting some 5000 years of prehistory. The majority of these sites are situated at the base of the West Mountain escarpment slightly elevated over the valley floor now covered by the reservoir.

These sites are situated on fairly level sloping surfaces. The exposure for 10-VY-335, 10-VY-336, 10-VY-337,

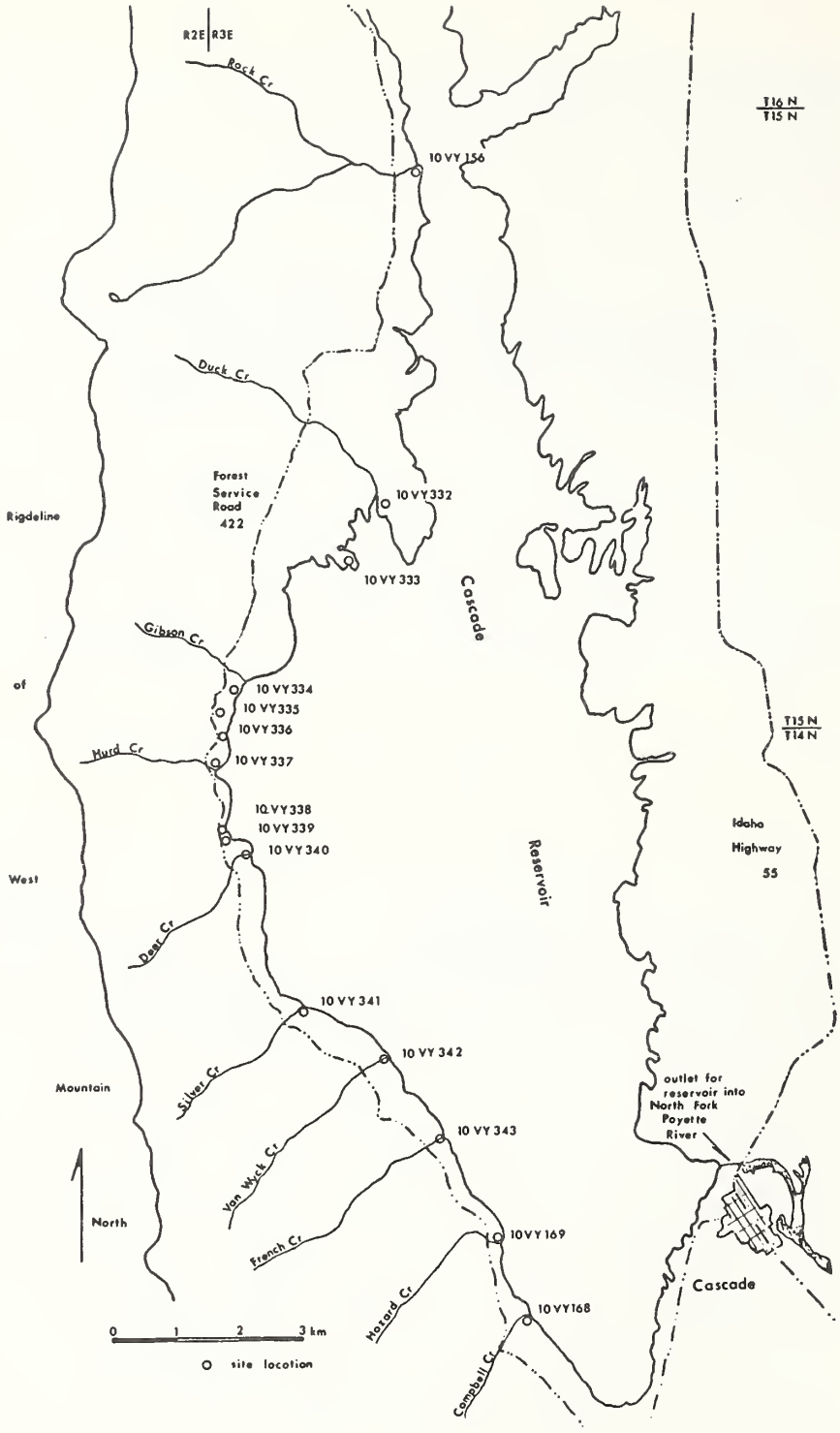

Fig. 6. Map of Cascade Reservoir showing site locations.

10-VY-338, and 10-VY-339 are to the east with the West Mountain slope protecting their west sides (Fig. 7). The remainder are situated out in the open unprotected from sun and wind (Fig. 8). Every site is located near or beside small streams coming off West Mountain. These streams have formed small alluvial fans where they emerge from the mountain slope (Fig. 9) upon which all of these sites except three are located. Previous to the raising of the reservoir, Duck Creek received these streams as it flowed southward to meet the Payette River just west of Cascade.

Sediments, especially monazite bearing gravel deposits, found at the base of West Mountain were deposited by westwardly flowing streams before the West Mountain fault scrap was raised. These rocks were not derived from the basalts or the metamorphic rocks of West Mountain nor from the south flowing Payette River (Schmidt and Mackin 1970:A-6-A-8). Upon these the streams have formed small alluvial fans especially those which had during the Pinedale Glacial period short steep glaciers at their heads (Schmidt and Mackin 1970:A-14). Since this time Post Pinedale erosion has been minimal leaving the landforms much as they were during the Pleistocene. Little deposition has taken place since then, giving the reservoir sites a very shallow stratigraphic sequence (Schmidt and Mackin 1970:A-19).

The average site depth is nc more than 12 to 16 in. (30 to 40 cm) as judged from the wave cut banks and stream

Fig. 7. Looking north at 10-VY-337 showing the close proximity of West Mountain.

Fig. 8. Looking north at 10-VY-342 showing the open exposure.

Fig. 9. Looking east at 10-VY-335 note the slight elevation of the site overlooking the reservoir.

channel erosion surface. This is important because the yearly reservoir level fluctuations have caused extensive erosion (Figs. 10 and 11) down to 3 ft. (1 m) or more in certain places. The continued eroding of these sites each year, with their shallow depth of cultural material, is taking away what little stratigraphy, if any, exists.

Located as they are in close proximity of both the mountains and the valley floor, aboriginal peoples living there were close at hand to utilize a variety of resources. The valley floor provided root crops during the early summer months, fish runs up the Payette River in the spring

Fig. 10. Looking north at 10-VY-336 showing the depth of erosion caused by the reservoir.

Fig. 11. Looking north at 10-VY-168 showing further the effects of the reservoirs erosion.

and fall months, and migratory water fowl using the marsh lands along the river. To the west the mountains provided root and berry crops throughout the summer season and into fall. The Little Weiser River located within this area also provided fish resources, but in what abundance is unknown. Hunting was possible throughout the year with the major game animal taken being bighorn sheep and in the valley probably moose.

The Stanley Basin of south central Idaho provides the nearest comparsion to Long Valley geographically and environmentally. A review of Gallagher's 1979 report on the Sheepeater Battleground and Redfish Overhang excavations shows overall site locations to be dissimilar to those found in Long Valley. These sites tend to cluster along its edges and along the Payette River, but sites found so far in Stanley Basin are located along the Salmon River and not up against the hillsides.

Long Valley is a block fault feature having a marked break between mountain slope and valley floor especially along the edge of West Mountain (Palmer 1963:52). The advantages of locating a campsite near the break afforded easier access to valley and mountain environments. Furthermore the placing of sites along the valley edge would have given aboriginal peoples access to fresh water coming off West Mountain before it flowed out upon the valley floor where it could become stagnant.

The Stanley Basin, however, was formed much earlier than Long Valley, also by faulting, but through time erosion and

Pleistocene glaciation has broken down the sharp break between mountain slope and valley floor. Site location here may be less restricted by the subdued terrain creating less differentiation between separate environmental zones.

The Long Valley sites resemble a settlement model put forward by Gallagher (1979:65) for the Stanley Basin. In this model certain sites have a limited function such as hunting. A second group have a more diverse set of roles being undertaken from their location such as hunting, fishing, and root gathering. Both groups of sites would be seasonal, but with the second group showing evidence of longer habitation. The latter should have a greater diversity in artifact assemblages and features, denoting ceremonial or group activities. In his work Gallagher considers the Sheepeater Battleground site to have a diverse exploitation pattern compared to Redfish Overhang used only for hunting.

The sites along Cascade Reservoir and 10-VY-07 come closest to meeting the criteria for the diversified sites. Artifact assemblages from these sites exhibit a large diversity of tool types ranging from projectile points and large bifacial choppers, to pestles, but with no clear features visible on the surface to tell whether ceremonial or community activities were going on.

Sites 10-VY-328 through 10-VY-331 along the Payette River resemble camps used for a limited activity. Their artifact assemblages are small and less diversified, with no features

observed on the surface to indicate a more settled use.

Archaeological surveys undertaken on the Payette National Forest have shown a similar pattern. In the mountains and just off the tops of ridgelines one finds small prehistoric sites with a limited range of tool styles corresponding to Gallagher's first type of site complex. Seldom does one find on these sites evidence of early archaic cultures with projectile point styles resembling the Columbia River Plateau Cascade or South Central Idaho Bitterroot phases. Along the South Fork of the Salmon River one will find the second type having a diversified tool inventory and features suggesting semi-subterreanean structures.

The Cascade Reservoir sites display both early and late prehistoric components whereas the river sites, including 10-VY-07, show no evidence of the former. Earlier components along the river may have been eroded out by shifting meanders. The evidence presented here suggests a pattern of early prehistoric aboriginal use of the rivers and valleys and a limited utilization of the mountainous areas, shifting in later times to a more balanced exploitation pattern utilizing both environments.

LITHIC ARTIFACTS

This chapter is intended as a basic outline of the styles of artifacts observed from the private collections of Dr. Marge Moser, Lola Fuqua, Joyce Jacobson, and Betty Nowland and those gathered during the surveying of the sites these assemblages came from along Cascade Reservoir and the North Fork of the Payette River (Table 1). The division of these collections into categories and types is not intended as an exhaustive study into their technological characteristics. The purpose here is to outline the cultural material in an effort to lay a groundwork for further research concerning the prehistory of Long Valley.

Category I Lanceolate Projectile Points

Type 1.1 Lanceolate Projectile Point

Description: These points have convex bases and edges, some serrated edges, with certain examples displaying a dorsal ridge pointing to a construction using prismatic blades. The quality of craftmanship is quite good except for a few specimens made from basalt (Fig. 12). These points are lenticular to plano convex in cross section.

Remarks: Leonhardy and Rice (1970:Fig. 4 b, d) describe lanceolate points as one of the distinguishing artifacts of the Cascade phase. Pavesic

Table 1

Combined total of artifacts used in this study.

Category I	Basalt	Obsidian	Cryptocrystalline	Total
Type 1.1	33	25	21	79
Type 1.2	18	32	12	62
Type 1.3	5	5	2	12
Type 1.4	5	1	2	8
Type 1.5	2	11	2	15
Type 1.6	2	0	0	2
Type 1.7	7	1	2	10
Type 1.8	3	5	3	11
Type 1.9	0	1	0	1
Type 1.10	1	1	1	3
Type 1.11	3	4	0	7
Type 1.12	2	1	1	4
Type 1.13	5	3	0	8
Type 1.14	2	0	0	1
Total	88	90	46	224
% of Total	39%	40%	21%	

TABLE 1 CONTINUED

Category II	Basalt	Obsidian	Cryptocrystalline	Total
Type 2.1	28	50	18	96
Type 2.2	2	10	2	14
Type 2.3	24	53	17	94
Type 2.4	22	9	9	40
Type 2.5	9	10	4	23
Type 2.6	0	13	1	14
Total	85	145	51	281
% of Total	30%	52%	18%	

TABLE 1 CONTINUED

Category III	Basalt	Obsidian	Cryptocrystalline	Total
Type 3.1	10	36	12	58
Type 3.2	3	17	0	20
Type 3.3	1	13	3	17
Type 3.4	11	78	6	95
Type 3.5	7	96	4	107
Type 3.6	5	28	5	38
Type 3.7	0	11	0	11
Type 3.8	1	8	3	12
Type 3.9	0	10	1	11
Type 3.10	0	12	2	14
Type 3.11	1	4	0	5
Total	39	313	36	388
% of Total	10%	80%	9%	

TABLE 1 CONTINUED

Category IV	Basalt	Obsidian	Cryptocrystalline	Total
Total	1	9	1	11
% of Total	9%	82%	9%	

Category V	Basalt	Obsidian	Cryptocrystalline	Total
Type 5.1	26	2	5	33
Type 5.2	10	20	17	47
Type 5.3	2	2	5	9
Type 5.4	1	0	1	2
Type 5.5	1	0	0	1
Type 5.6	3	0	0	3
Total	37	24	27	88
% of Total	42%	27%	31%	

TABLE 1 CONTINUED

Category VI	Basalt	Obsidian	Cryptocrystalline	Total
Type 6.1	4	0	3	7
Type 6.2	31	11	10	52
Type 6.3	5	0	3	8
Type 6.4	7	4	5	16
Type 6.5	7	0	0	7
Total	54	15	21	90
% of Total	66%	13%	21%	

Category VII	Basalt	Obsidian	Cryptocrystalline	Total
Total	2			2

Category VIII	Basalt	Obsidian	Cryptocrystalline	Total
Type 8.1	3	7	10	20
Type 8.2	1	2	5	8
Type 8.3	1	0	1	2
Total	5	9	16	30
% of Total	18%	32%	50%	

TABLE 1 CONTINUED

Category IX	Basalt	Obsidian	Cryptocrystalline	Total
Total	8	0	1	9

Category X	Basalt	Obsidian	Cryptocrystalline	Total
Total	0	1	1	2

Category XI	Basalt	Obsidian	Cryptocrystalline	Total
Total	2	0	1	3

Category XII	Basalt	Obsidian	Cryptocrystalline	Total
Total	0	1	1	2

Category XIII	Basalt	Obsidian	Cryptocrystalline	Total
Type 13.1	23	3	4	30
Type 13.2	15	7	2	24
Total	38	10	6	54
% of Total	70%	19%	11%	

TABLE 1 CONTINUED

Category XIV,	Basalt	Obsidian	Cryptocrystalline	Total
Total	3	5	19	27

Category XV		Basalt	Obsidian	Cryptocrystalline	Total
Type	15.1	6	0	1	7
Type	15.2	4	0	0	4
Total		10	0	1	11

Category XVI	Basalt	Obsidian	Cryptocrystalline	Total
Total	19	47	17	83
% of Total	23%	57%	20%	

Category XVII	Granite	Total
Total	1	1

Total Lithic Artifacts	Basalt	Obsidian	Cryptocry-	Granite	Total
	395	666	241	1	1302
% of Total	30%	51%	18%		

(1971:Fig. 15 a-h) found similar points at the Hells Canyon Creek Rock Shelter. Swanson (1972:Fig. 48 h-p) in the Birch Creek Valley describes a point style called the Birch Creek B that resembles Type 1.1. In south central Idaho along the Lochsa River Benson (1979:Fig. 6 b) found at the Boulder Creek excavations one specimen matching closely Type 1.1. From the Stockoff Quarry site Womack (1977:Fig. 8 e-g) describes projectile points resembling Type 1.1 that are, in his opinion, morphologically and technologically equivalent to Cascade lanceolate points. Nearer to Long Valley Warren, Wilkinson, and Pavesic (1971:Fig. 6 q-s) describe from the Midvale Complex a Type IV knife and Ruebelmann (1973:Fig. 13 h-k) at the Mesa Hill Site lanceolate style artifact similar to Type 1.1.

Type 1.2 Lanceolate Projectile Point

Description: These points have square to slighty concave bases and strait to outward curving edges. On some specimens the bases are more rounded and less sharp, but are still strait or slightly concave (Fig. 13). The points are lenticular in cross section.

Remarks: Projectile points of this style have been found by Gallagher (1979:Fig. 15 k-m) from the Sheepeater Battleground excavations in the Stanley Basin called a square or concave base lanceolate points. Two similar artifacts are described by Warren, Wilkinson, and Pavesic (1971:Fig. 7 k, l) from the Midvale Complex as Type I knives and Ruebelmann (1973:Fig. 13 p-q) recovered a kindred artifact referred to as

the straight base leaf shape point he feels could be used either as a knife or projectile point. Swanson (1972:Fig. 48 a-g) found specimens he calls the Birch Creek A broad flat base points with an extended corner tang similar to Type 1.2. Sappington (1981:Fig. 46 c) found also a similar point in the lower component of the Lydle Gulch site. Knudson and others(1982:Fig. 46 h) recovered a Type 1.2 style point during a survey of the Middle Fork of the Salmon river.

Type 1.3 Lanceolate Projectile Point

Description: A leaf shaped point having a straight base, a contracting stem, and an outward curving edge (Fig. 14). Cross section is lenticular to plano convex.

Remarks: Gallagher (1979:Fig. 15 b-f) found a similar style at the Sheepeater Battleground site he refers to as a narrow base lanceolate point Type 1. Type 1.3 shares a likeness to Swanson's (1972:Fig. 48 q-w) Birch Creek C points subvarieties 1 and 2 found in Birch Creek Valley. Sappington (1981:Fig. 25 e, Fig. 29 a-c) found also in both the lower and upper components of the Lydle Gulch site lanceolate projectile points resembling Type 1.3.

Type 1.4 Lanceolate Projectile Point

Description: Projectile points having a pointed base, convex edges and a lenticular cross section (Fig. 15).

Remarks: Similar styles have been found by Leonhardy and Rice (1970:Fig. 2 a, Fig. 4 a) in the Windust and the Cascade phases. Swanson's (1972:Fig. 48 k, m) Birch Creek B Points

correspond somewhat in style, but lack the greater outward curving of this type's edges. At the Lydle Gulch site Sappington (1981:Fig. 29 d) unearthed a similar specimen from the sites upper component.

Type 1.5 Lanceolate Projectile Point

Description: A projectile point having outward curving edges and a small basal notch, it is lenticular in cross section (Fig. 16).

Remarks: Artifacts resembling this type were found by Leonhardy and Rice (1970:Fig. 2 c, Fig. 14 i) in the Windust phase and are described further by Rice (1972:Fig. 10 a-g) who places them within his Category 1-6 for the Windust phase. From the Great Basin certain varieties of the Humboldt series shares a close likeness to Type 1.5 (Heizer and Hester 1973:Fig. 6.2). Swanson (1972:Fig. 49 a, b) found a similar style in the Birch Creek Valley he refers to as the Plainview McKean variety A. Other basal notched points were found by Gallagher (1979:Fig. 15 r, s) from the Sheepeater Battleground site he calls the concave base Type 2. Sappington (1981:Fig. 25 a, b) recovered two other examples of a Type 1.5 point from the lower component of the Lydle Gulch site.

Type 1.6 Lanceolate Projectile Point

Description: A projectile point or knife having broad side notches and a concave base (Fig. 17). Edges are strait to outward curving and the cross section is lenticular.

Remarks: This style corresponds closely to Type IV side

indented points found at the Midvale Complex of sites (Warren, Wilkinson, and Pavesic 1971:Fig. 5 j-m).

Type 1.7 Lanceolate Projectile Point

Description: A projectile point having a convex base with side notches (Fig. 18). The edges are outward curving and the cross section is lenticular.

Remarks: Warren, Wilkinson, and Pavesic (1971:Fig 6 f) found from the Midvale Complex artifacts similar to Type 1.7 called the Type VIIB side notched leaf shaped. Ruebelmann (1973:Fig. 13 m) found also at the Mesa Hill sites a Type 1.7 style point. Pavesic (1971:Fig. 16 e, f) at Hells Canyon Creek Rockshelter describes a Type 1.7 point.

Type 1.8 Lanceolate Projectile Points

Description: These are oval shaped points, with convex to slightly strait bases, having a lenticular cross section (Fig. 19).

Remarks: Swanson (1972:Fig. 50 s-ff) describes Type 1.8 style points from Birch Creek Valley called Beaverhead A points. From the Midvale Complex Warren, Wilkinson, and Pavesic (1971:Fig. 6 g, h) describe a Type VIIA straight base leaf shaped point lacking the close similarity of the Beaverhead A points to Type 1.8.

Type 1.9 Lanceolate Projectile Point

Description: A long projectile point or knife with crude somewhat irregular flaking. One edge is strait and the other outward curving (Fig. 20). Cross section is plano convex, with

one tip of the artifact appearing to have been reworked.

Remarks: This single specimen has a vague resemblance to the Haskett style found in southern Idaho. But with this example the flaking is rougher compared to the type specimens, so a judgement on its similarities to Haskett is very tentative until more specimens can be found in Long Valley (Butler 1978:Fig. 33 d, i).

Type 1.10 Lanceolate Projectile Point

Description: A projectile point having small square shoulders forming a stem with a slightly convex base (Fig. 21). Edges are outward curving to strait and the points cross section is lenticular.

Remarks: This type resembles an artifact placed by Leonhardy and Rice (1970:Fig. 2 c, Fig. 14 e) within the Windust phase and with other examples found in the Hatwai I Windust assemblage (Ames, Green, and Pfoertner 1981:Fig. 14). Rice (1972:Fig. 5 a-e) describes similar examples placed within his Category 1-2 for the Windust phase. Warren, Wilkinson, and Pavesic (1971:Fig. 5 q, r) describe a similar style called the Type VI straight shouldered point resembling Type 1.10.

Type 1.11 Lanceolate Projectile Point

Description: A projectile point with rounded shoulders forming a stem with a concave base. Edges are convex and the cross section is lenticular (Fig. 22). Flaking is not well controlled.

Remarks: Leonhardy and Rice (1970:Fig. 2 d) describe a

similar style from the Windust phase as does Ames, Green, and Pfoertner (1981:Fig. 14) from the Hatwai Windust phase. From the Birch Creek Valley, Swanson (1972:Fig. 53 k-p) describes points reminiscent of Type 1.11 called stemmed indented base points. Rice (1972:Fig. 6 a, c) describes similar examples from the Windust phase of the Lower Snake River region which he placed within his Category 1-3.

Type 1.12 Lanceolate Projectile Point

Description: A projectile point with square shoulders forming a fairly narrow stem that is about half the length of the point with a convex base (Fig. 23). Edges are outward curving and the points cross section is lenticular.

Remarks: Rice (1972:Fig. 14 c, d) describes artifacts resembling Type 1.12, he refers to as Category 1-11 points with elongated stems from the Windust phase. Leonhardy and Rice (1970:Fig. 2 f, 3 a-b, Fig. 14 a-c) illustrate Windust style points similar to Type 1.12 and to the east along the Clearwater River; Ames, Green, and Pfoertner (1981:Fig. 14) at the Hatwai site brought to light Type 1.12 style points from its Windust phase.

Type 1.13 Lanceolate Projectile Point

Description: A projectile point or knife having square shoulders forming a stem, less than one-eighth of the points length, with a concave base (Fig. 24). Edges are slightly convex and the points cross section is lenticular.

Remarks: Sappington (1981:Fig. 29 e) found in the Lydle

Gulch site an artifact from the sites upper component, having a close likeness to Type 1.13. This type corresponds also to a style found in the Pinto series from the Great Basin (Heizer and Hester 1973:Fig. 6.3).

Type 1.14 Lanceolate Projectile Point

Description: A projectile point having a contracting stem forming a convex or pointed base with a very slight shoulder. Edges are outward curving and the cross section is lenticular (Fig. 25).

Remarks: Sappington (1981:Fig. 31 a) found one example somewhat similar to this type from the upper component of the Lydle Gulch site, but Leonhardy and Rice (1970:Fig. 14 d) describe a point from the Windust phase that shares the closest likeness.

Category II Side notched Projectile Points

Type 2.1 Triangular Side notch

Description: A projectile point style having a straight to slightly concave base, a lenticular cross section, and strait to slightly convex edges (Fig. 26).

Remarks: The projectile point style having the closest similarity to Type 2.1 is the Northern Side notch found in the Great Basin (Heizer and Hester 1973:Fig. 6.14). Gallagher (1979:Fig. 12 m-q) found at the Sheepeater Battleground a Type 2.1 style point he refers to as the Type 1 side notch. In the Midvale Complex Warren, Wilkinson, and Pavesic (1971:Fig. 5 a-c, g) describe a Type IIIA and IIIB point as does Ruebelmann

Fig. 12. Type 1.1 lanceolate points. Scale 1:1.

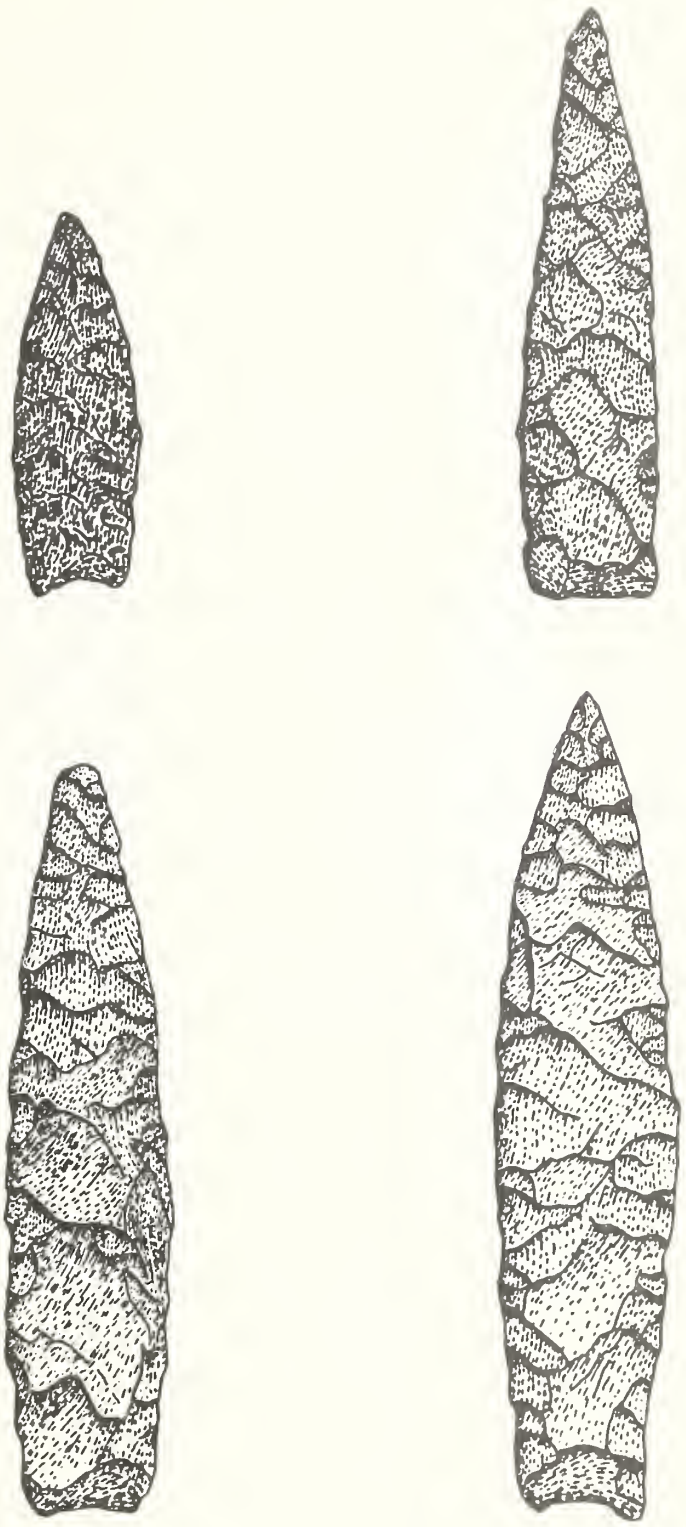

Fig. 13. Type 1.2 lanceolate points. Scale 1:1.

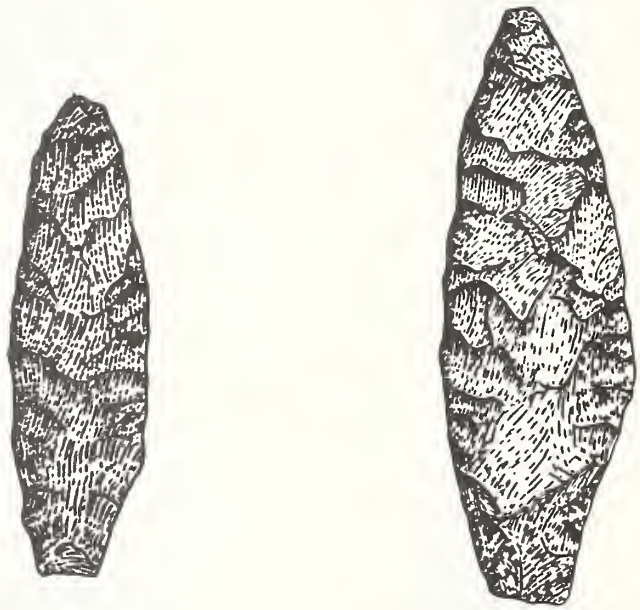

Fig. 14. Type 1.3 lanceolate points. Scale 1:1.

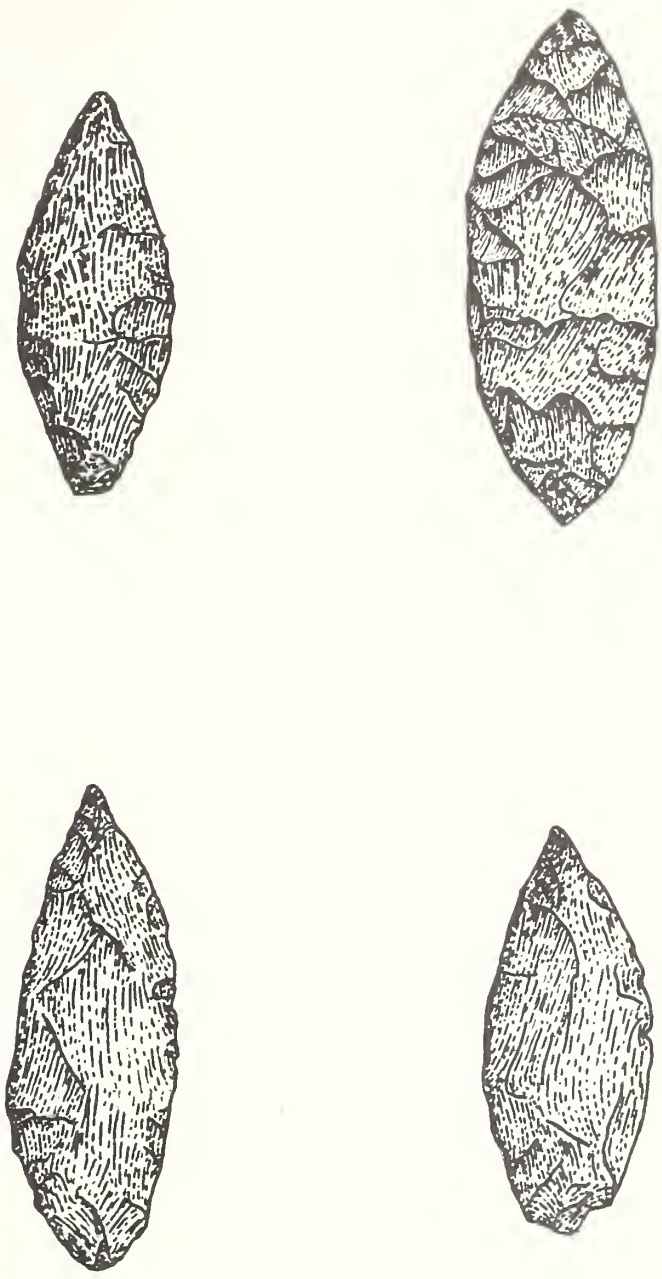

Fig. 15. Type 1.4 lanceolate points. Scale 1:1.

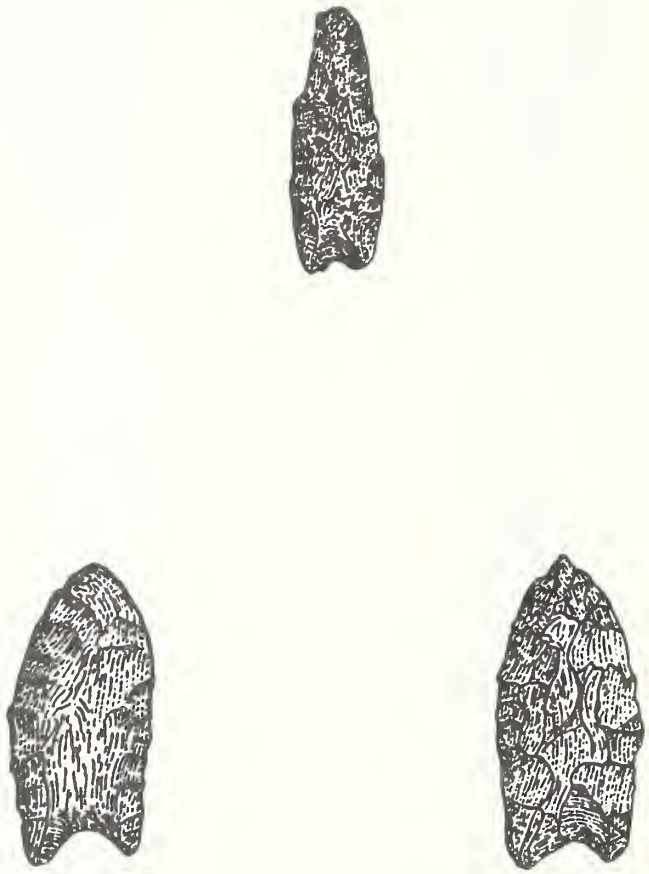

Fig. 16. Type 1.5 lanceolate points. Scale 1:1.

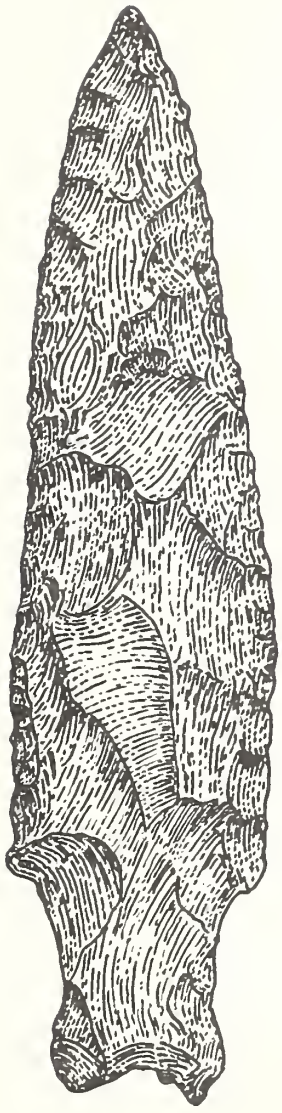

Fig. 17. Type 1.6 lanceolate points. Scale 1:1.

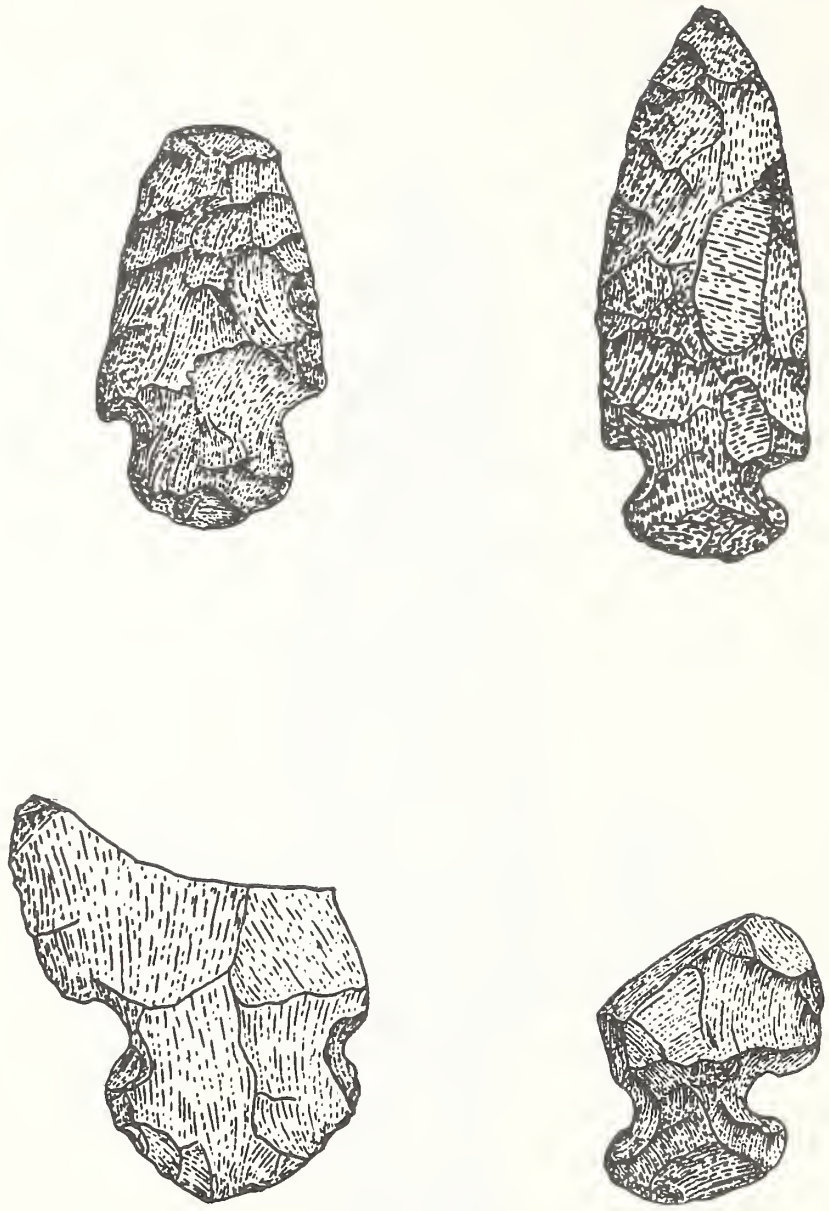

Fig. 18. Type 1.7 lanceolate points. Scale 1:1.

Fig. 19. Type 1.8 lanceolate points. Scale 1:1.

Fig. 20. Type 1.9 lanceolate points. Scale 1:1.

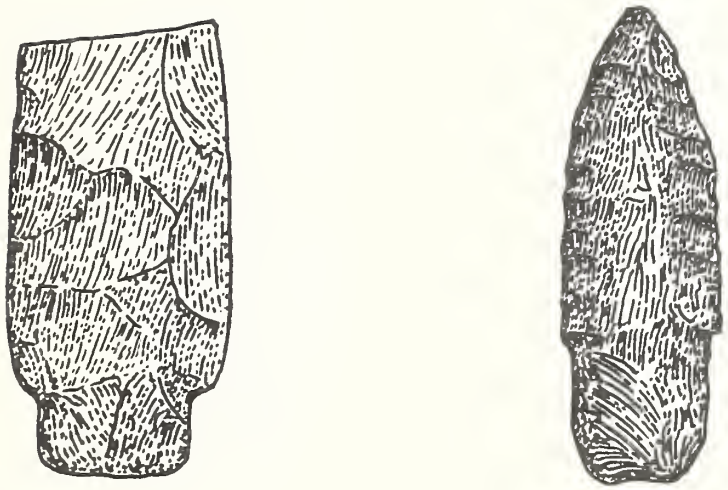

Fig. 21. Type 1.10 lanceolate points. Scale 1:1.

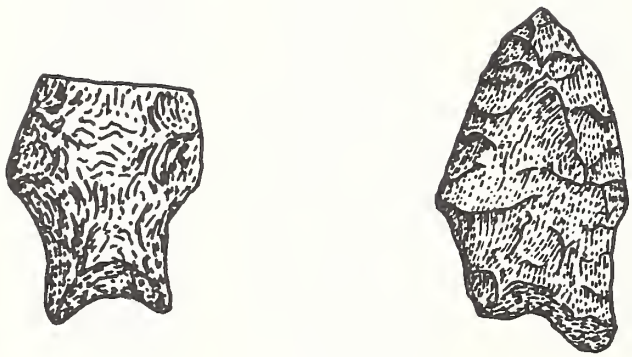

Fig. 22. Type 1.11 lanceolate points. Scale 1:1.

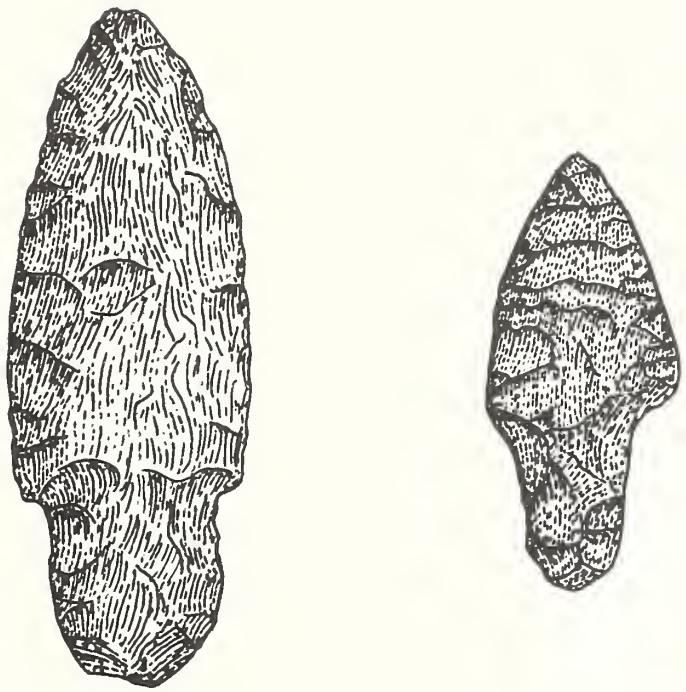

Fig. 23. Type 1.12 lanceolate points. Scale 1:1.

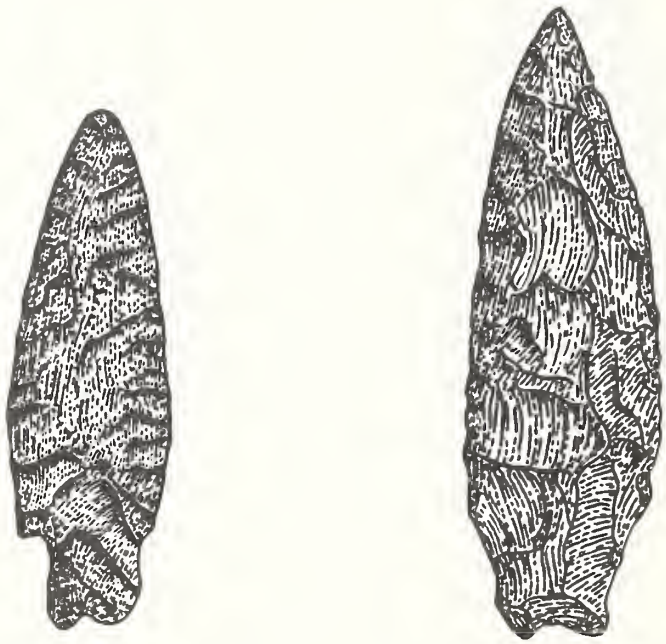

Fig. 24. Type 1.13 lanceolate points. Scale 1:1.

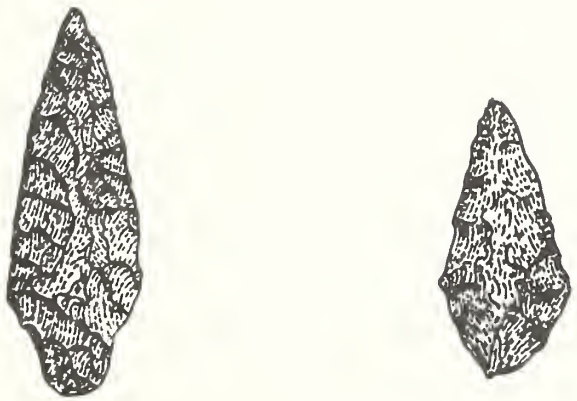

Fig. 25. Type 1.14 lanceolate points. Scale 1:1.

(1973:Fig. 13 g) at the Mesa Hill site where he found one specimen similar to Type 2.1. South of Long Valley Sappington's (1981:Fig. 28 f, h) work at the Lydle Gulch site brought to light two specimens in the upper component sharing a close similarity to Type 2.1. Ames also (1982:Fig. 2 b) describes, one Type 2.1 specimen found during test excavations along the lower Payette River drainage.

In the Plateau region Leonhardy and Rice (1970:Fig. 4 e, f) describe side notch points that resemble Type 2.1. At the Stockoff Quarry site Womack (1977:Fig. 9 g-i) finds side notch points similar to Type 2.1 he feels are associated closely with the late Cascade phase. Though Type 2.1 is similar to Cascade style side notch points it tends to have a more concave base.

Type 2.2 Triangular Side notch

Description: A point similar in style to Type 2.1 except it has a very noticeable convex base, the cross section and edge characteristics are the same (Fig. 27).

Remarks: Warren, Wilkinson, and Pavesic (1971:Fig. 5 g-i) found similar specimens they call Type IIIC projectile points.

Type 2.3 Triangular Side notch

Description: A side notch point similar in style to Type 2.1 except it has a distinctive concave base, the cross section and edge shape are similar as well (Fig. 28).

Remarks: This variety of side notch point is similar in overall size and shape to the Northern Side notch point found throughout the Great Basin and south central Idaho (Heizer and

Hester 1973:Fig. 6.14). Nearer to Long Valley similar points have been found by Ruebelmann (1973:Fig. 13 e, f) at the Mesa Hill site and by Warren, Wilkinson, and Pavesic (1971:Fig. 5 d-f) referred to as Type IIIC points. Gallagher (1979:Fig. 12 a-e) has found side notch points resembling Type 2.3 at the Sheepeater Battleground site and Pavesic (1971:Fig. 15 a-d) a corresponding style at Hells Canyon Creek Rockshelter. Examples from the Boise River area similar to Type 2.3 were found by Sappington (1981:Fig. 24 a-c, 28 a) in the lower and the upper components of the Lydle Gulch site.

Northeast of Long Valley along the Middle Fork of the Salmon River Knudson (1982:Fig. 44 a-d) found Type 2.3 point during surveying activities.

Type 2.4 Blade Style Side notch

Description: A style similar to the previous three types, except it exhibits a prominent blade well over two thirds of the projectile points length (Fig. 29). Edges are outward curving and the cross section is lenticular.

Remarks: Swanson (1972:Fig. 51 v) has described longer specimens of the Bitterroot Side notch similar to this type in the Birch Creek Valley. Benson (1979:Fig. 6 a) found one example matching closely Type 2.4 during the Wilderness Gateway project along the Lochsa River of Central Idaho.

Type 2.5 Side notch Narrow Base

Description: This type has a base width smaller than the blade width as measured just above and below the side notches

(Fig. 30). Edges are generally convex and the cross section is lenticular.

Remarks: Leonhardy and Rice (1970:Fig. 7 f, g) describe from the Tucannon Phase of the Lower Snake River area projectile points resembling closely Type 2.5 as does Pavesic (1971:Fig. t, x) who found two specimens from the Hells Canyon Creek Rockshelter. Womack (1977:Fig. 9 f) found at the Stockoff Quarry a Type 2.5 point which he feels is associated with the Cascade phase. From ancther Plateau site, Hatwai, along the Clearwater River Ames, Green, and Pfortner (1981:73) found another example resembling Type 2.5.

Nearer to Long Valley Warren, Wilkinson, and Pavesic (1971:Fig. 5 u-v) describe a Type II point and from the Sheepeater Battleground site Gallagher (1979:Fig. 13-1) found one example resembling Type 2.5.

Type 2.6 Small Triangular Side notch

Description: A small triangular projectile point having small side notches and a distinctive basal notch (Fig. 31). Edges can be straight to slightly convex, the cross section is lenticular.

Remarks: This style compares closely with the Desert Side notch series from the Great Basin (Heizer and Hester 1973:Fig. 6.7). Similar examples have been found by Swanson (1972:Fig. 52 a-l) in the Bitterroot Valley and by Gallagher (1979:Fig. 14 f, g) at the Redfish Overhang site where he refers to it as the type 2 side notch point. South of Long Valley Ames (1982:Fig.

2 a) brought to light a similar point during test excavations along the Payette River. One example was found also by Sappington (1981:Fig. 28 c) in the upper component of the Lydle Gulch Site.

Northeast of Long Valley Knudson and others (1982:Fig. 44 h-j) found Type 2.6 points along the Middle Fork of the Salmon River.

Category III Corner Notched Projectile Points

Type 3.1 Stemmed Corner Notch

Description: A straight base stemmed point having round to pointed shoulders, a lenticular cross section, and straight edges (Fig. 32).

Remarks: This style resembles the Rose Spring series of projectile points found throughout the Great Basin with some specimens similar also to the Eastgate series of central and western Nevada (Heizer and Hester 1973:Figs. 6.5, 6.6). Gallagher (1979:Fig. 14 i, k) has found at the Red Fish Overhang site similar examples referred to as Type 1 corner notch points. Sappington (1981:Fig. 24 h, 27 j-n) describes from the lower component and upper component of the Lydle Gulch site Type 3.1 style points. North of Lydle Gulch Ames (1982:Fig. 2 c-d, 3 d) found this style during test excavations along the Payette River. North of Long Valley along the Clearwater River at the East Kamiah site Waldbauer (1981:Fig. 5 j) noted a corner notch style resembling Type 3.1. Northeast of the reservoir During a survey along the Middle Fork of the

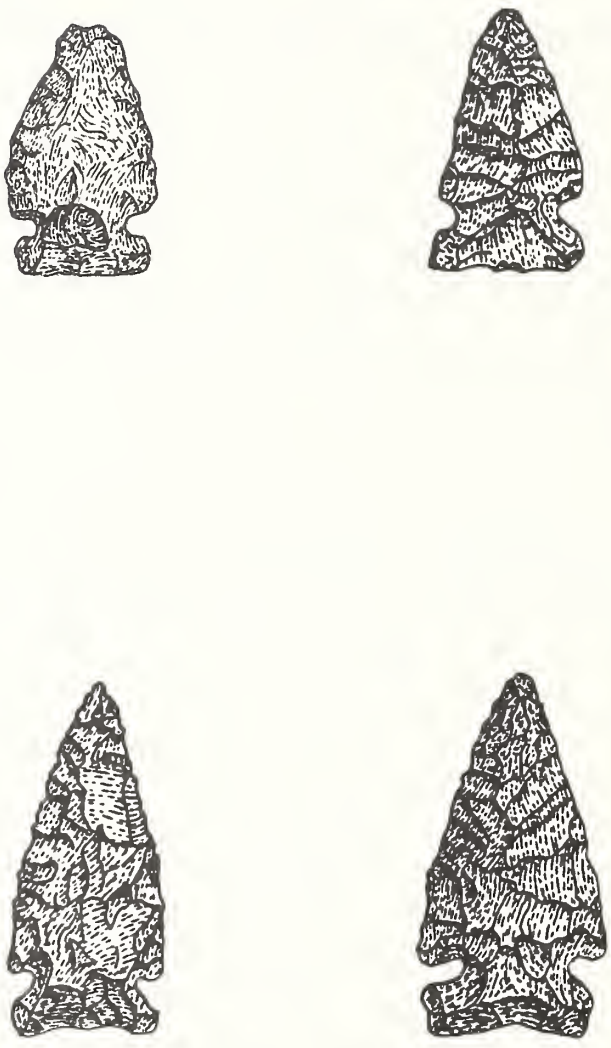

Fig. 26. Type 2.1 triangular side notch points. Scale 1:1.

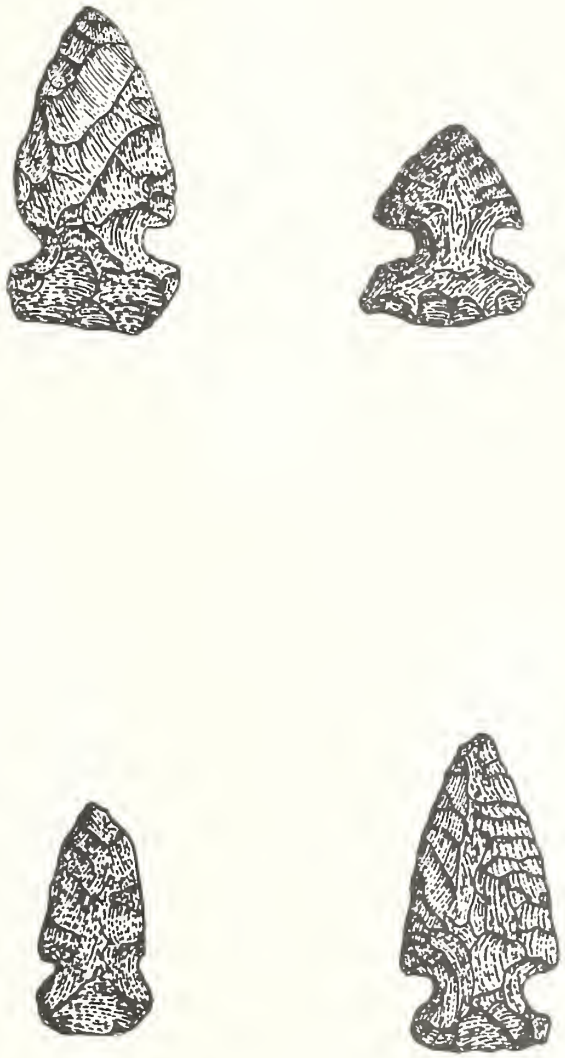

Fig. 27. Type 2.2 triangular side notch points. Scale 1:1.

Fig. 28. Type 2.3 triangular side notch points. Scale 1:1.

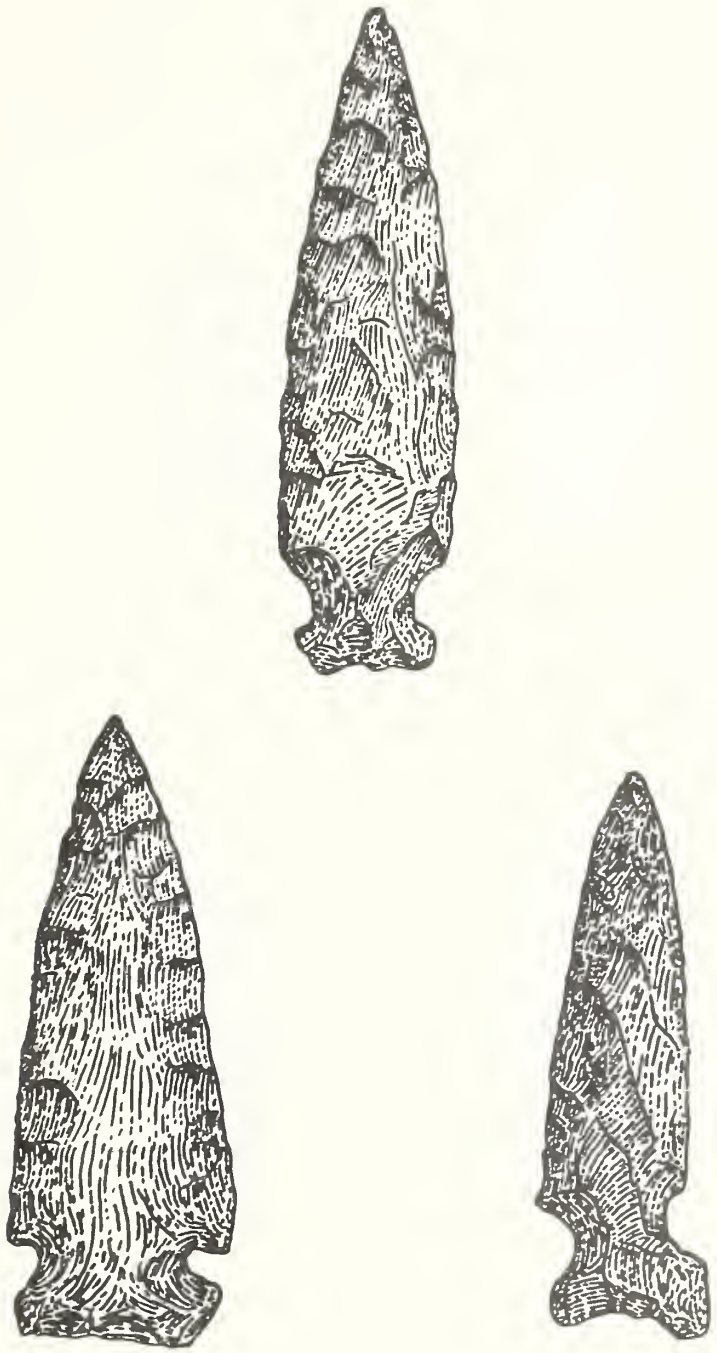

Fig. 29. Type 2.4 blade style side notch points. Scale 1:1.

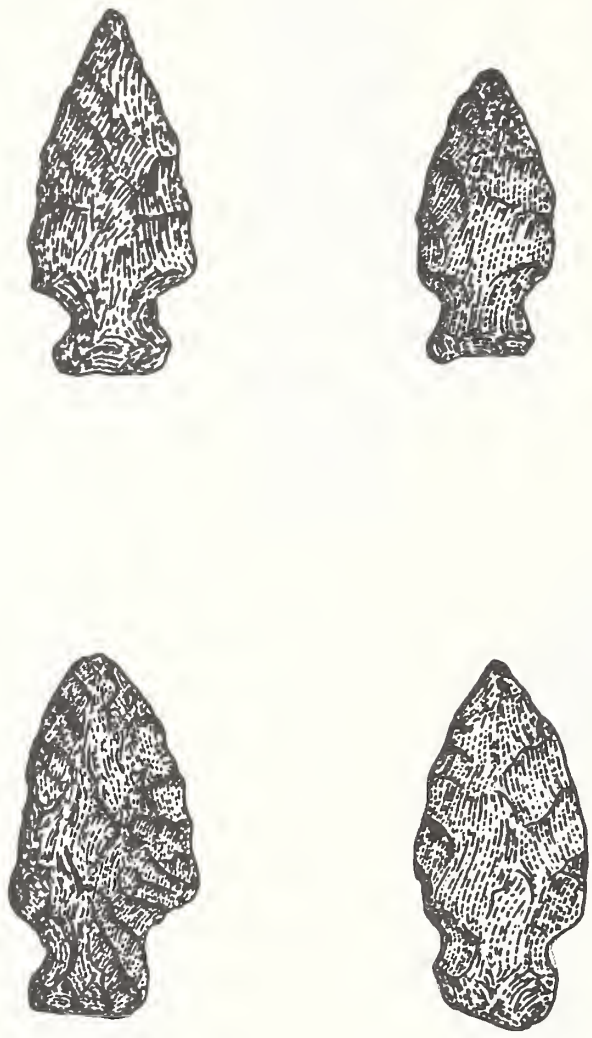

Fig. 30. Type 2.5 side notch narrow base points. Scale 1:1.

Fig. 31. Type 2.6 small triangular side notch points. Scale 1:1.

Salmon River, Knudson and others(1982:Fig. 45 e) found a Type 3.1 point. Mention should be made of the Eastgate and Rose Spring series from the Great Basin felt to have evolved from the Elko series and because of their smaller size and weight are equated with the introduction of the bow and arrow (Heizer and Hester 1976:163).

Type 3.2 Stemmed Corner Notch

Description: A concave base stemmed point having round to pointed shoulders (Fig. 33). The remaining characteristics are the same as on Type 3.1.

Remarks: This point again is similar to the Rose Spring and Eastgate series from the Great Basin. A similar example was found by Sappington (1981:Fig. 27 a) from the upper component of the Lydle Gulch site.

Type 3.3 Stemmed Corner Notch

Description: This is a narrow convex base stemmed point with round to pointed shoulders, edge and cross section are the same as on Type 3.1 and 3.2 (Fig. 34).

Remarks: This type shares the closest similarities, as does Type 3.1 and 3.2, with varieties of the Rose Spring and Eastgate series.

Type 3.4 Wide Base Corner Notch

Description: Compared to the first three types in this category these projectile points are distinguished by having a wide base, straight to slightly concave, with pointed shoulders (Fig. 35). The cross section is lenticular, the edges straight

or convex.

Remarks: This type is similar to what Swanson (1972:Fig. 54 l-m, bb-dd) describes as broad corner notched points from the Bitterroot Valley. Gallagher (1979:Fig. 12 y-z, 13 a-i) found artifacts resembling Type 3.4 from the Sheepeater Battleground site he calls Type 1 and 2 points. South of Long Valley along the Payette River Ames (1982:Fig. 2 f, g) found two specimens during test excavations sharing a likeness to Type 3.4. Near Boise similar examples have been found by Sappington (1981:Fig. 24 k, 26 f-h) from the lower component and the upper component of the Lydle Gulch site. Along the Clearwater River at the Hatwai site Ames, Green, and Pfoertner (1981:Fig. 7 e) depict one specimen that also shares a likeness to Type 3.4. Northeast of Long Valley along the Middle Fork of the Salmon River Knudson and others (1982:Fig. 43 a-c) found three Type 3.4 points.

From the Great Basin certain varities of the Elko series have a resemblance to this type, but tend towards a slightly more concave base (Heizer and Hester 1973:Fig. 6.4).

Type 3.5 Wide Base Corner Notch

Description: Very similar to Type 3.4 with the distinguishing characteristic being a pronounced concave base (Fig. 36). The cross section and edge shape are the same as on Type 3.4.

Remarks: Artifacts within this type resemble closely certain varieties of the Pinto series found in the Great Basin

(Heizer and Hester 1973:Fig. 6.3). Along the Payette River south of Long Valley, Ames (1982:Fig. 3 a) found one specimen during test excavations sharing a similarity to Type 3.5. Knudson and others (1982:Fig. 42 c) found one Type 3.5 point during a survey of the Middle Fork of the Salmon River. Similar examples were found also by Sappington (1981:Fig. 24 i, 26 j) from the lower component and the upper component of the Lydle Gulch site.

Type 3.6 Straight Shouldered Corner Notch

Description: This corner notch style is characterized by a prominent stemmed straight base with the points shoulders forming right angles to the stem (Fig. 37). The cross section is lenticular, the edges straight to convex.

Remarks: As with Type 3.5 certain examples of this style resemble varieties of the Pinto series. Swanson (1972:Fig. 53 k) describes a group of points called stemmed indented base of which one example resembles Type 3.6. Gallagher (1979:Fig. 14 j) found also a similar style at the Red Fish Overhang site he calls the Type 3 corner notch point. Ames (1982:Fig. 3 c) found during test excavations south of Long Valley along the Payette River a point resembling Type 3.6.

Type 3.7 Straight Shouldered Corner Notch

Description: This types unique characteristic is its concave base with edges and cross section the same as Type 3.6 (Fig. 38).

Remarks: This type has a close stylistic resemblance to

certain examples of the Pinto series as described by Heizer and Hester (1973:Fig. 6.3). Knudson and others (1982:Fig. 43 d) brought to light one specimen similar to Type 3.7 during a survey of the Middle Fork of the Salmon River.

Type 3.8 Rounded Shouldered Corner Notch

Description: In this type the stem has a straight base and the points shoulders extend out at right angles to the base, but are rounded rather than straight (Fig. 39). Edges are convex and the cross section lenticular.

Remarks: Swanson's (1972:Fig. 53 l, m) stemmed indented base point resembles Type 3.8.

Type 3.9 Rounded Shouldered Corner Notch

Description: Very similar to Type 3.8 with the difference being this style has a pronounced basal notch with shoulders even more rounded then mentioned above. Edges are convex and the cross section lenticular (Fig. 40).

Remarks: This type shares the closest stylistic similarity to certain examples of the Pinto series (Heizer and Hester 1973:Fig. 6.3).

Type 3.10 Rounded Shouldered Corner Notch

Description: The base style is similar to Type 3.5, but rather than having barbed shoulders they are round (Fig. 41). Edges are convex and the cross section lenticular.

Remarks: Ames, Green, and Pfortner (1981:Fig. 6 c) describe from the Hatwai site one specimen, similar to Type 3.10, placed within their side to corner notch projectile

points. This style of artifact, referred to also as the "Hatwai Eared" variety, shows effinities to the Elko series. The presence of this type in the upper reaches of the Lower Snake River and on the Clearwater River is felt by Brauner (1975, 1976) to represent Elko stylistic influences from the Great Basin.

Type 3.11 Rounded Shouldered Corner Notch

Description: This form is similar to Type 3. with the difference being it has round shoulders rather than pointed (Fig. 42). Cross section is lenticular and the edges are convex.

Remarks: This type is kindred to varieties of the Elko and Pinto series showing in some examples a slighter shoulder than would be found in the Great Basin types (Heizer and Hester 1973).

Category IV Triangular Preforms or Projectile Points

Description: These artifacts are triangular in shape with no notching, except for one specimen with a small basal notch, possibly a preform for Type 2.6 (Fig. 43). Edges are straight, the cross section is lenticular.

Remarks: This projectile pcint type is very similar to the Cottonwood series from the Great Basin (Heizer and Hester 1973:Fig. 6.8). Closer to Long Valley Ruebelmann (1973:Fig. 13 c) describes, a triangular point at the Mesa Hill site and Gallagher (1979:Fig. 14 l-m) illustrates points having a likeness to this category. Sappington (1981:Fig. 28 m, n)

Fig. 32. Type 3.1 stemmed corner notch points. Scale 1:1.

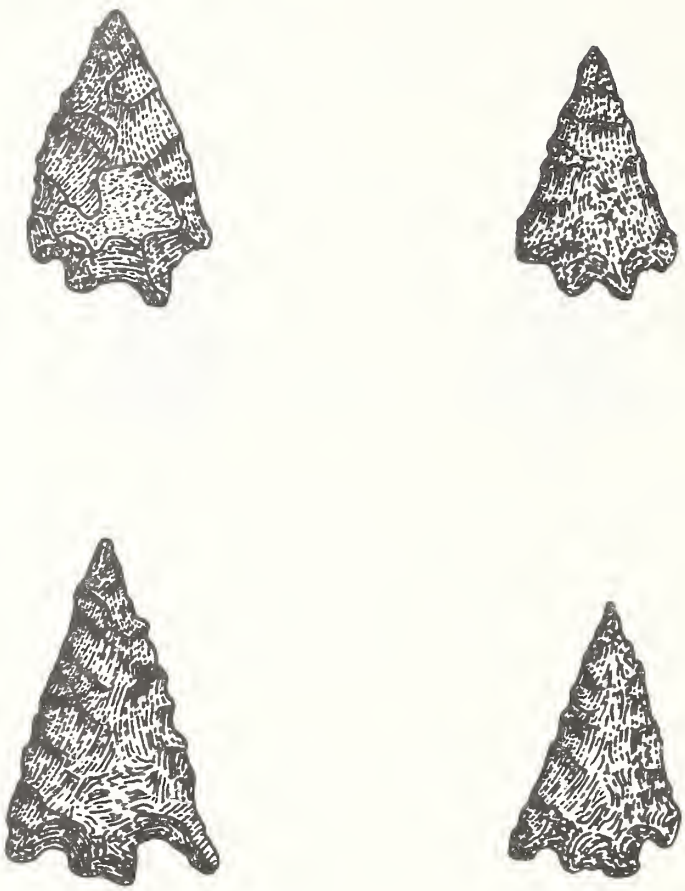

Fig. 33. Type 3.2 stemmed corner notch points. Scale 1:1.

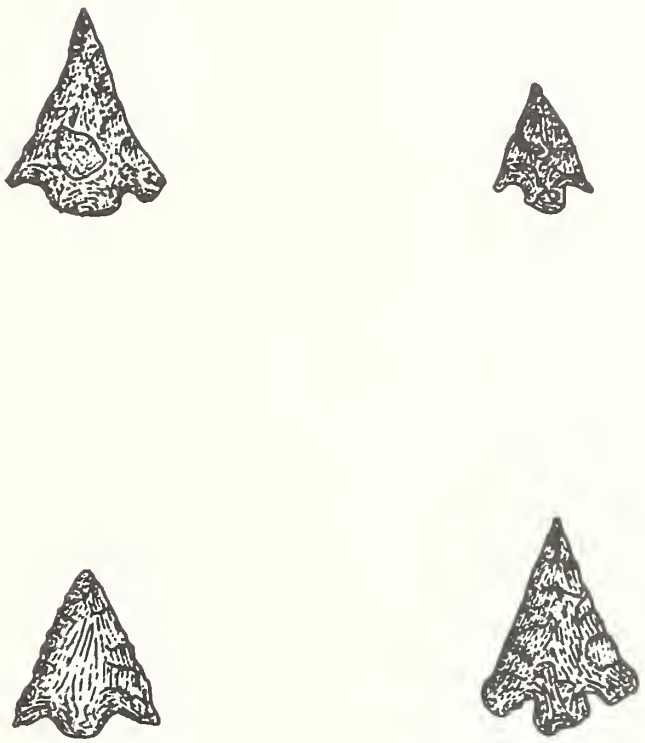

Fig. 34. Type 3.3 stemmed corner notch points. Scale 1:1.

Fig. 35. Type 3.4 wide base corner notch points. Scale 1:1.

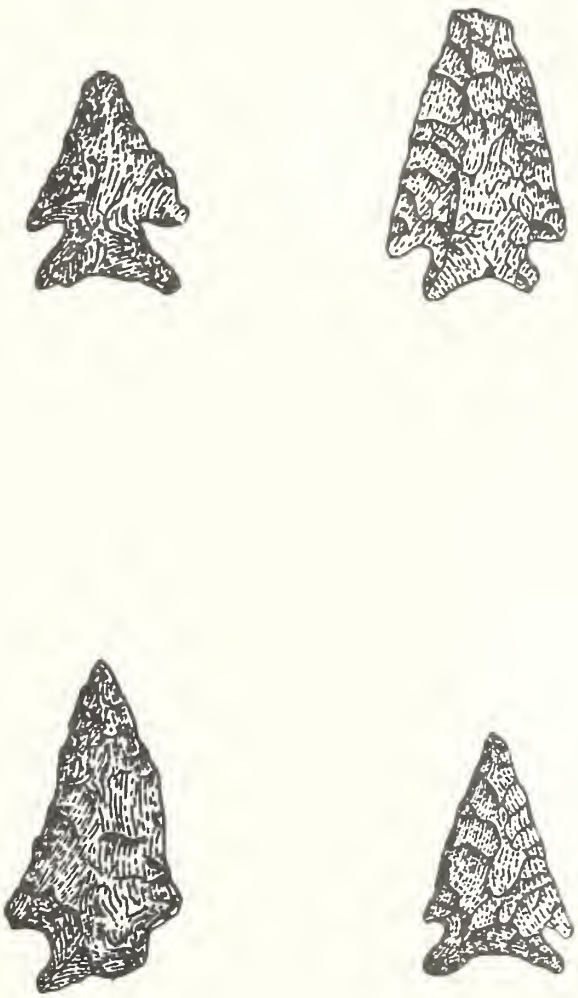

Fig. 36. Type 3.5 wide base corner notch points. Scale 1:1.

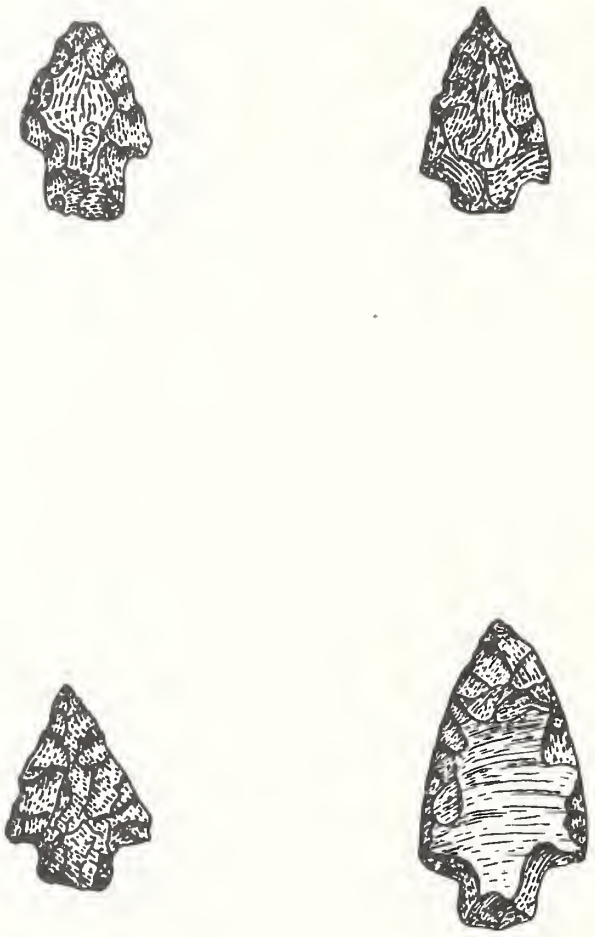

Fig. 37. Type 3.6 straight shouldered corner notch points. Scale 1:1.

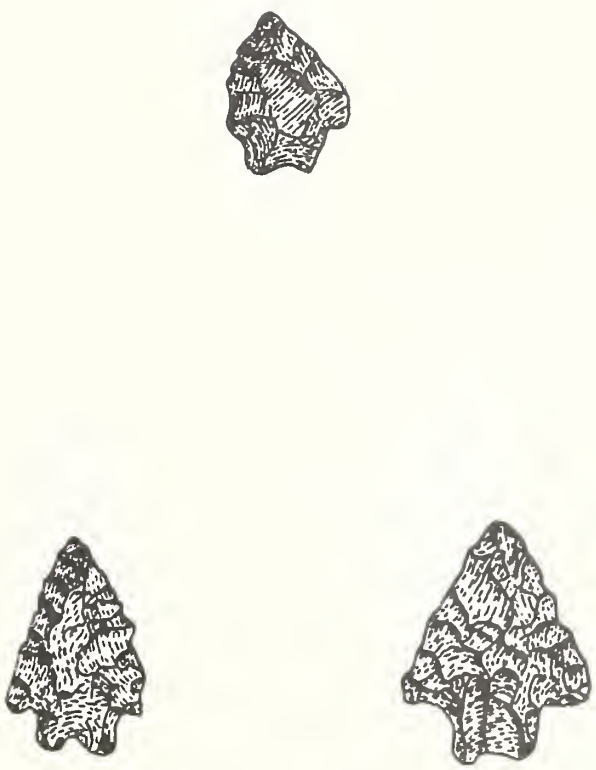

Fig. 38. Type 3.7 straight shouldered corner notch points. Scale 1:1.

Fig. 39. Type 3.8 rounded shouldered corner notch points. Scale 1:1.

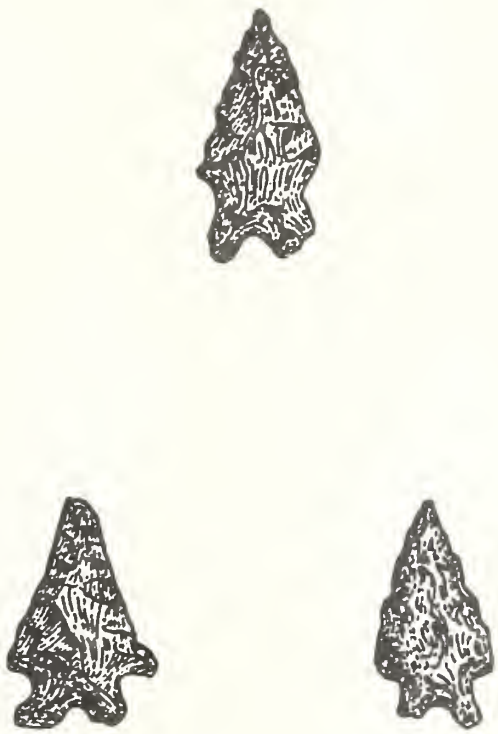

Fig. 40. Type 3.9 rounded shouldered corner notch points. Scale 1:1.

Fig. 41. Type 3.10 rounded shouldered corner notch points. Scale 1:1.

Fig. 42. Type 3.11 rounded shouldered corner notch points. Scale 1:1.

found also two similar specimens from the upper component of the Lydle Gulch site. Category V Knives

Type 5.1 Lanceolate Knives

Description: These artifacts are large lanceolate knives or preforms having pointed to convex bases. They are lenticular in cross section with outward curving edges (Fig. 44).

Remarks: Knives of this type have been found by Ruebelmann (1973:Fig. 19 a, b) from the Mesa Hill site Warren, Wilkinson, and Pavesic (1971:Fig. 7 g, h) who refer to them as Type 3 knives and by Gallagher (1979:Fig. 19 b-d) at the Sheepeater Battleground site. Leonhardy and Rice (1970:Fig. 4-l, m) describe also from the Cascade phase knives of this sort though the illustrated examples tend to be more oval. Concerning the Stockoff Quarry Womack (1977:Fig. 23) considers the lanceolate knives are technologically and morphologically equivalent to Cascade phase knives.

Type 5.2 Oval Knives or Preforms

Description: These knives are oval in shape with a lenticular cross section and outward curving edges (Fig. 45).

Remarks: From the Midvale Complex Warren, Wilkinson, and Pavesic (1971:Fig. 8 j, l) describe a knife with a strong likeness to Type 5.2 they call Type 6. Ruebelmann (1973:Fig. 19 c, d) found another knife style similar to Type 5.2. Leonhardy and Rice (1970:Fig. 4 k) found also a knife with a similarity to Type 5.2.

Type 5.3 Blade Knives

Description: Artifacts having a blade with one edge convex the other straight with both ends rounded or straight (Fig. 46). The cross section is lenticular.

Remarks: This style has similar examples from the Midvale Sites referred to as Type 6 knives (Warren, Wilkinson, and Pavesic 1971:Fig. 8 m, n).

Type 5.4 Side Notch Knife

Description: A large knife or projectile point having side notches with a concave to straight base, the cross section is lenticular and the edges are either convex or straight (Fig. 47).

Remarks: A similar artifact was found at the Sheepeater Battleground by Gallagher (1979:Fig. 19 a).

Type 5.5 Stemmed Knife

Description: A contracting stemmed knife having one straight and one convex edge with a lenticular cross section (Fig. 48).

Remarks: I have not been able to find a similar specimen in any of the surrounding areas.

Type 5.6 Stemmed Knife

Description: A stemmed knife having one convex and one slightly concave edge, cross section is plano convex. The base is straight with the shoulders rounded (Fig. 49).

Remarks: The specimen is similar in form to the Type 10 scrapers found at the Midvale Complex (Warren, Wilkinson, and

Pavesic 1971:Fig. 8 d-f).

Category VI Scrapers

Type 6.1 Stemmed Scraper

Description: A plano convex scraper or knife having a rounded stemmed base and shoulders (Fig. 50). Edges are outward curving with one side in some specimens being straight.

Remarks: Warren, Wilkinson, and Pavesic (1971:Fig. 8 a-f) describe a type 9 and 10 scraper resembling closely Type 6.1 as does Ruebelmann (1973:Fig. 22 i, j) from the Mesa Hill site.

Type 6.2 Oval Shaped Scraper

Description: These artifacts are shaped into an oval, but their flaking is cruder then would be evident in an oval knife. This maybe an invalid distinction, artifacts of either type could do double duty as a scraper or knife. The cross section is either plano convex or lenticular (Fig. 51).

Remarks: This form of artifact has a close similarity to preforms or scrapers found at the Red Fish Overhang site (Gallagher 1979:Fig. 16).

Type 6.3 End Scraper

Description: This is usually an elongated artifact having one of the ends shaped to work as a scraper. Edges are straight to convex at the scraper end with the artifacts cross section being lenticular or plano convex (Fig. 52).

Remarks: The steep end scrapers found by Swanson (1972:Fig. 45 ff-hh) in the Bitterroot Valley and by Warren, Wilkinson, and Pavesic (1971:Fig. 12 h, i) in the Midvale

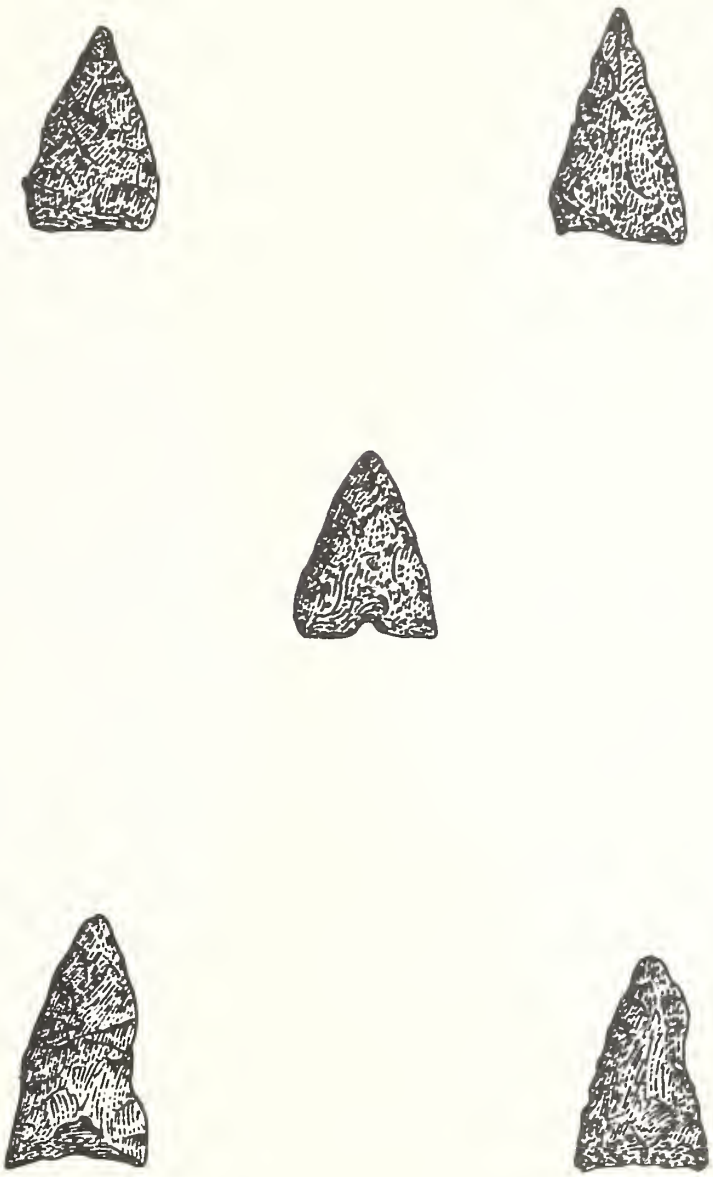

Fig. 43. Category IV triangular preforms or projectile points. Scale 1:1.

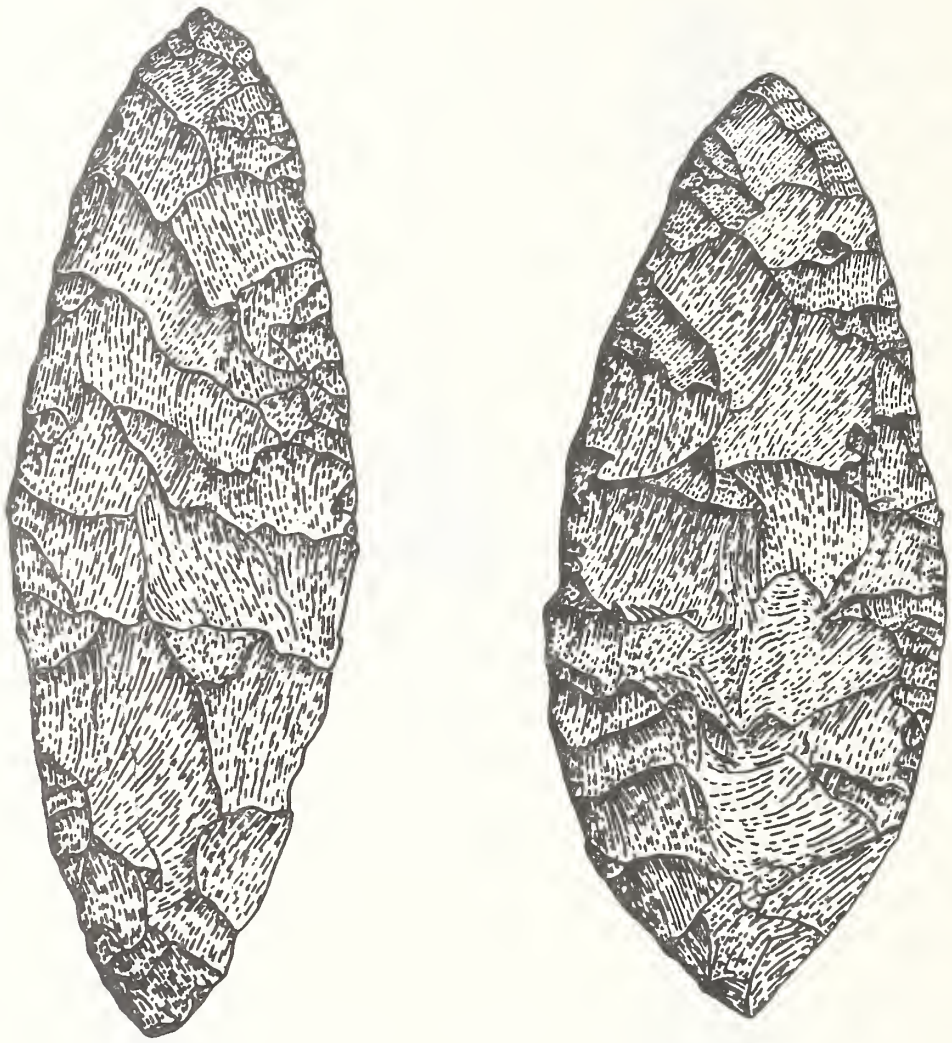

Fig. 44. Type 5.1 lanceolate knives. Scale 1:1.

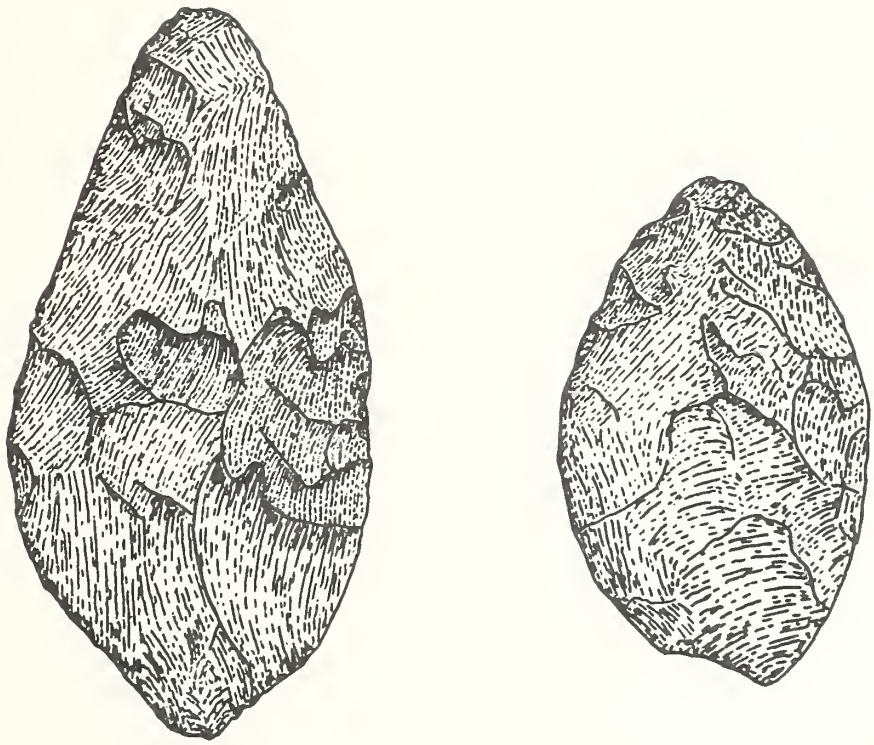

Fig. 45. Type 5.2 oval knives or preforms. Scale 1:1.

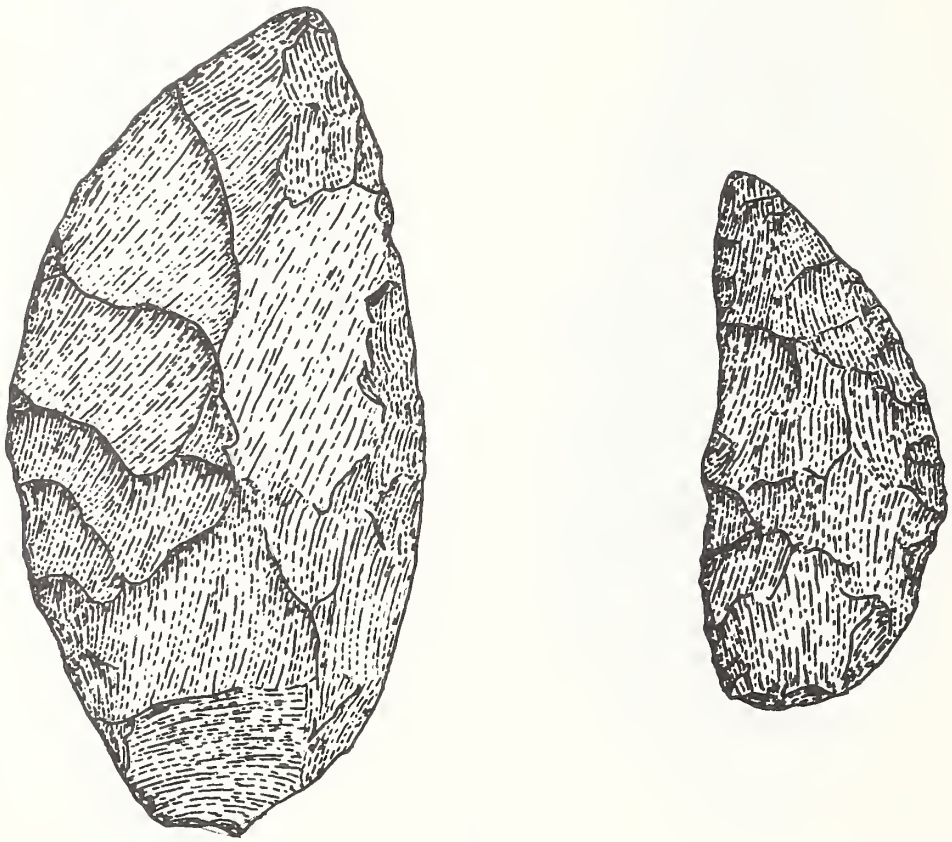

Fig. 46. Type 5.3 blade knives. Scale 1:1.

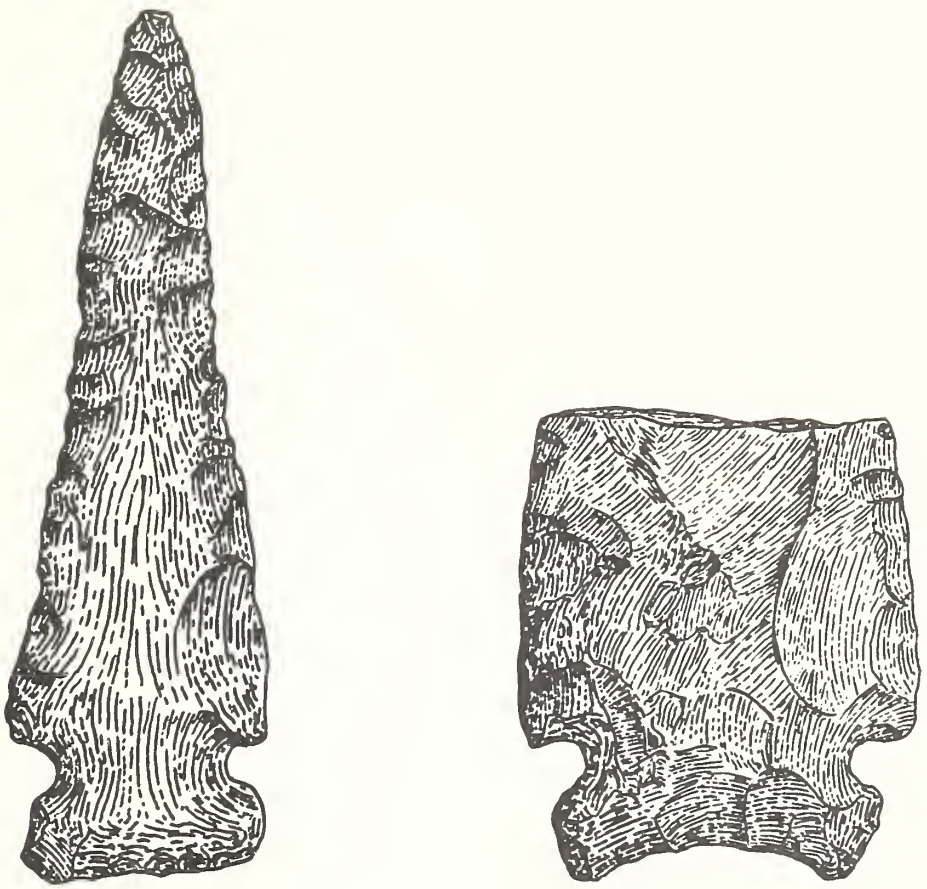

Fig. 47. Type 5.4 side notch knives. Scale 1:1.

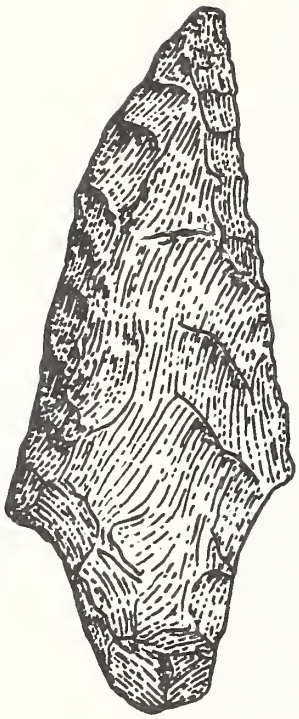

Fig. 48. Type 5.5 stemmed knives. Scale 1:1.

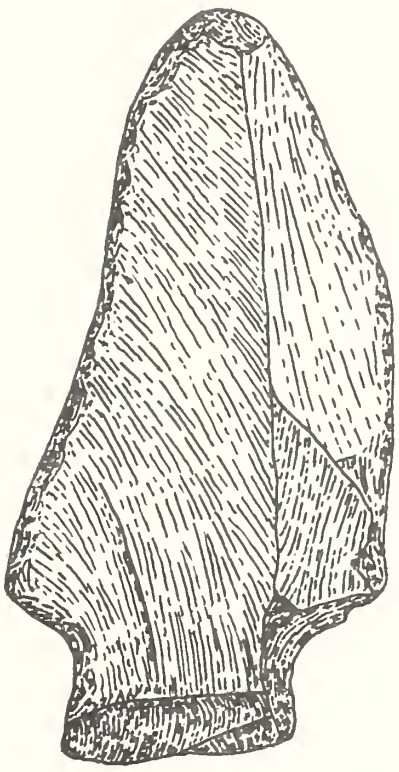

Fig. 49. Type 5.6 stemmed knives. Scale 1:1.

Complex, share a likeness to Type 6.3. This same type of artifact has been found by Leonhardy and Rice (1970:Fig. 4 g-j) in the Cascade phase and from the Sheepeater Battleground site by Gallagher (1979:Fig. 18). The Hatwai excavations have produced keeled or steep end scrapers that bear a resemblance also to those found in Long Valley (Ames, Green, and Pfoertner 1981:Fig. 9).

Type 6.4 Blade Side Scraper

Description: An artifact shaped into a blade and used as a scraper or knife. Again as in Type 6.2 the distinction here is a less refined flaking versus a finer form used on knives. This difference maybe spurious since either type of artifact could be used as a knife or scraper (Fig. 53).

Remarks: Specimens similar to this type have been found at the Midvale Complex called blade side scrapers (Warren, Wilkinson, and Pavesic 1971:Fig. 12 k-m).

Type 6.5 Choppers

Description: These are large tools having a plano convex cross section, oval to rectangular in shape, and generally worked unifacially (Fig. 54). Secondary flaking is seldom seen except where retouching has taken place along the edges.

Remarks: These large artifacts have a close affiliation to the large basalt tools found by Ruebelmann (1973:16-22) at the Mesa Hill Site.

Category VII Knife with a Bulbous Base

Description: This tool has a large bulbous base that

tapers to a blade or point at the top. The base has a round to oval cross section. The blade is lenticular and the edges convex (Fig. 55).

Remarks: I have found no comparable type of artifact to this knife in any of the archaeological reports from adjacent areas.

Category VIII Drills

Type 8.1 Blade Drills

Description: A drill tool made from a lanceolate style projectile point, the cross section is lenticular (Fig. 56).

Remarks: This type of drill has been found at the Midvale Sites (Warren, Wilkinson, and Pavesic 1971:Fig. 12).

Type 8.2 Side Notch Drill

Description: A drill tool made from a side notch style projectile point with a lenticular cross section (Fig. 57).

Remarks: This type of drill is found also at the Midvale Complex sites (Warren, Wilkinson, and Pavesic 1971:Fig. 12 w).

Type 8.3 Corner Notch Drill

Description: A drill tool made from a corner notch projectile point with a lenticular cross section (Fig. 58).

Remarks: Sappington (1981:Fig. 29 h, j-l) found this type of drill in the upper component of the Lydle Gulch site.

Category IX Elongates

Description: These tools have an unknown function, but could be preforms for large blade tools or scrapers (Fig. 59). The cross section is lenticular or plano convex, edges straight

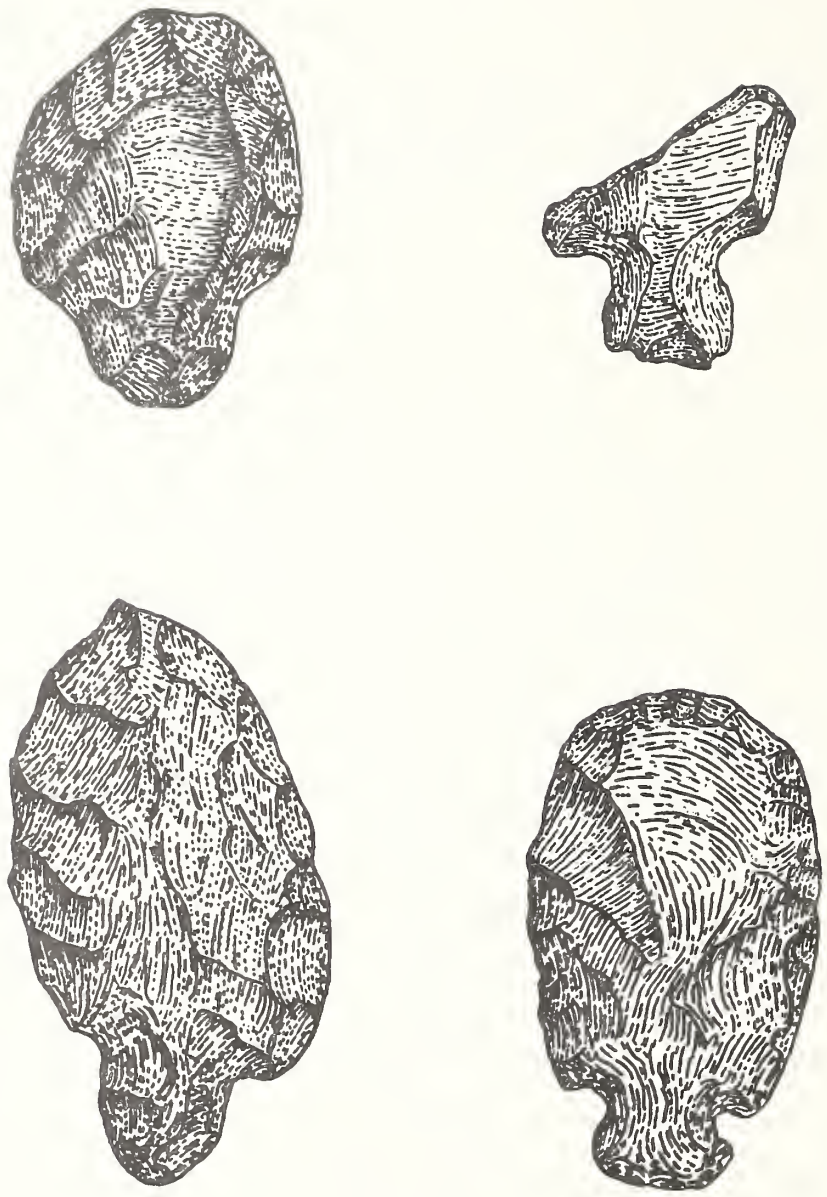

Fig. 50. Type 6.1 stemmed scrapers. Scale 1:1.

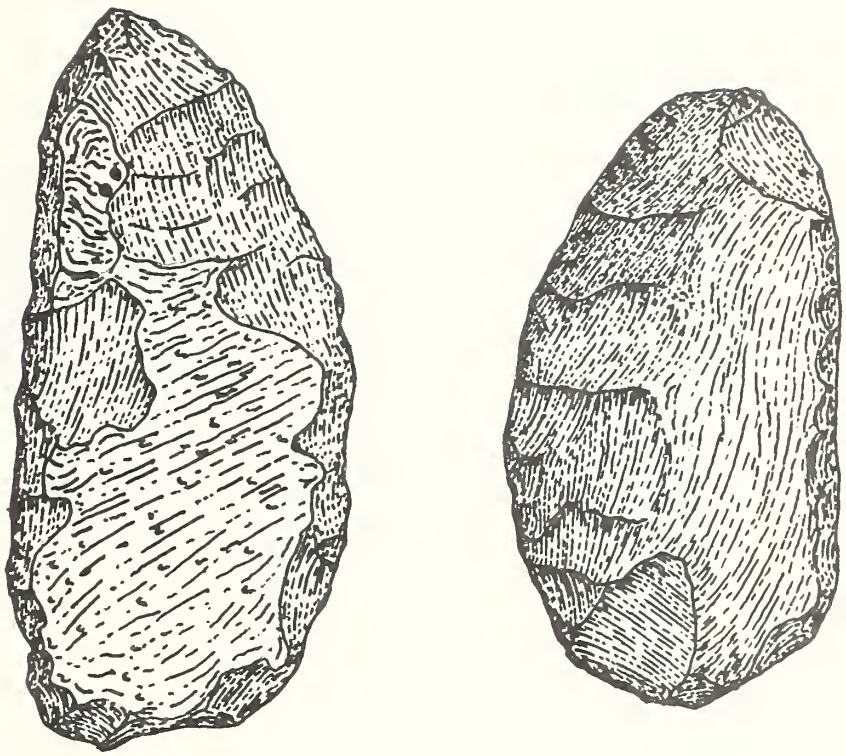

Fig. 51. Type 6.2 oval shaped scrapers. Scale 1:1.

Fig. 52. Type 6.3 end scrapers. Scale 1:1.

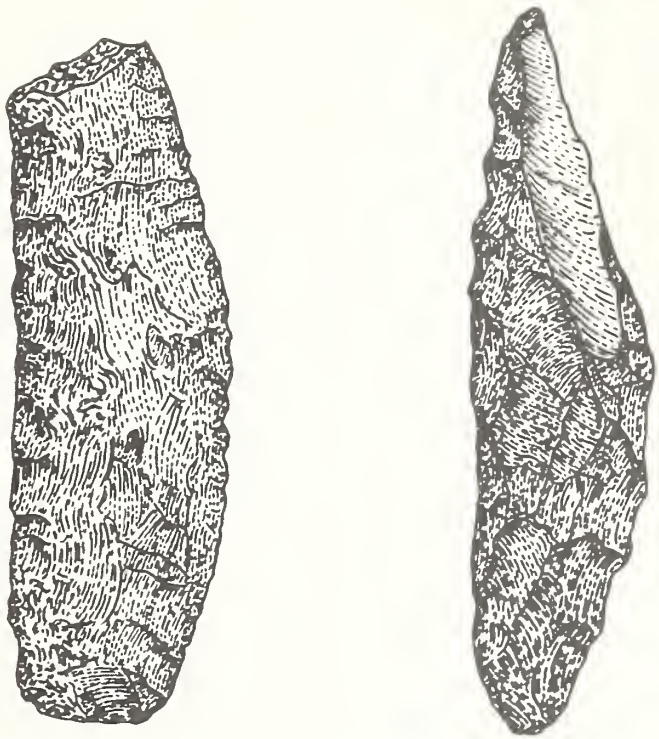

Fig. 53. Type 6.4 blade side scrapers. Scale 1:1.

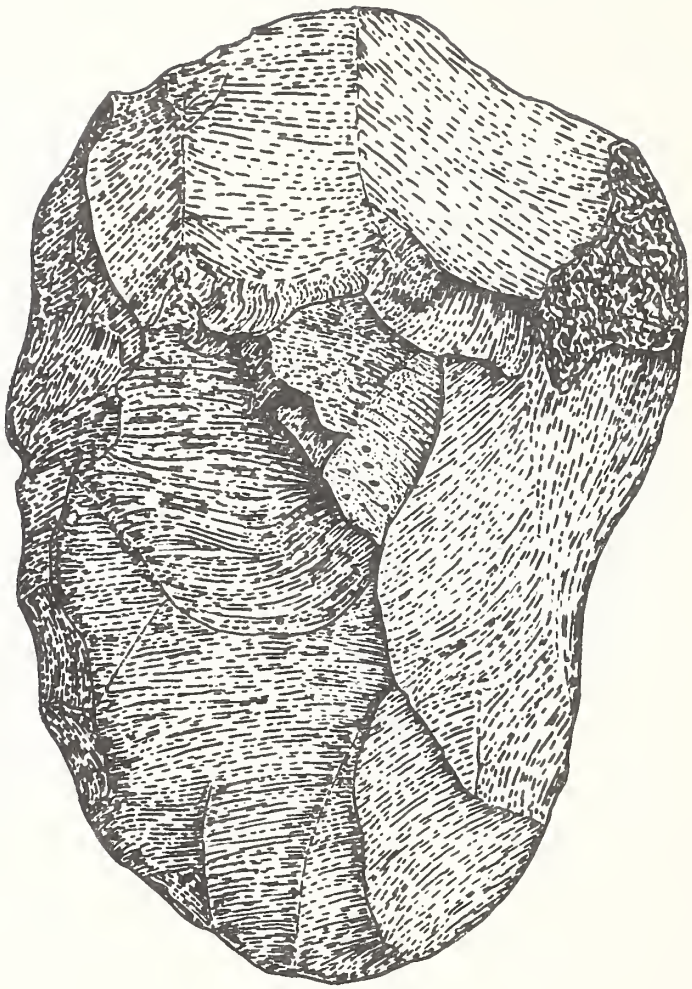

Fig. 54. Type 6.5 choppers. Scale 1:1.

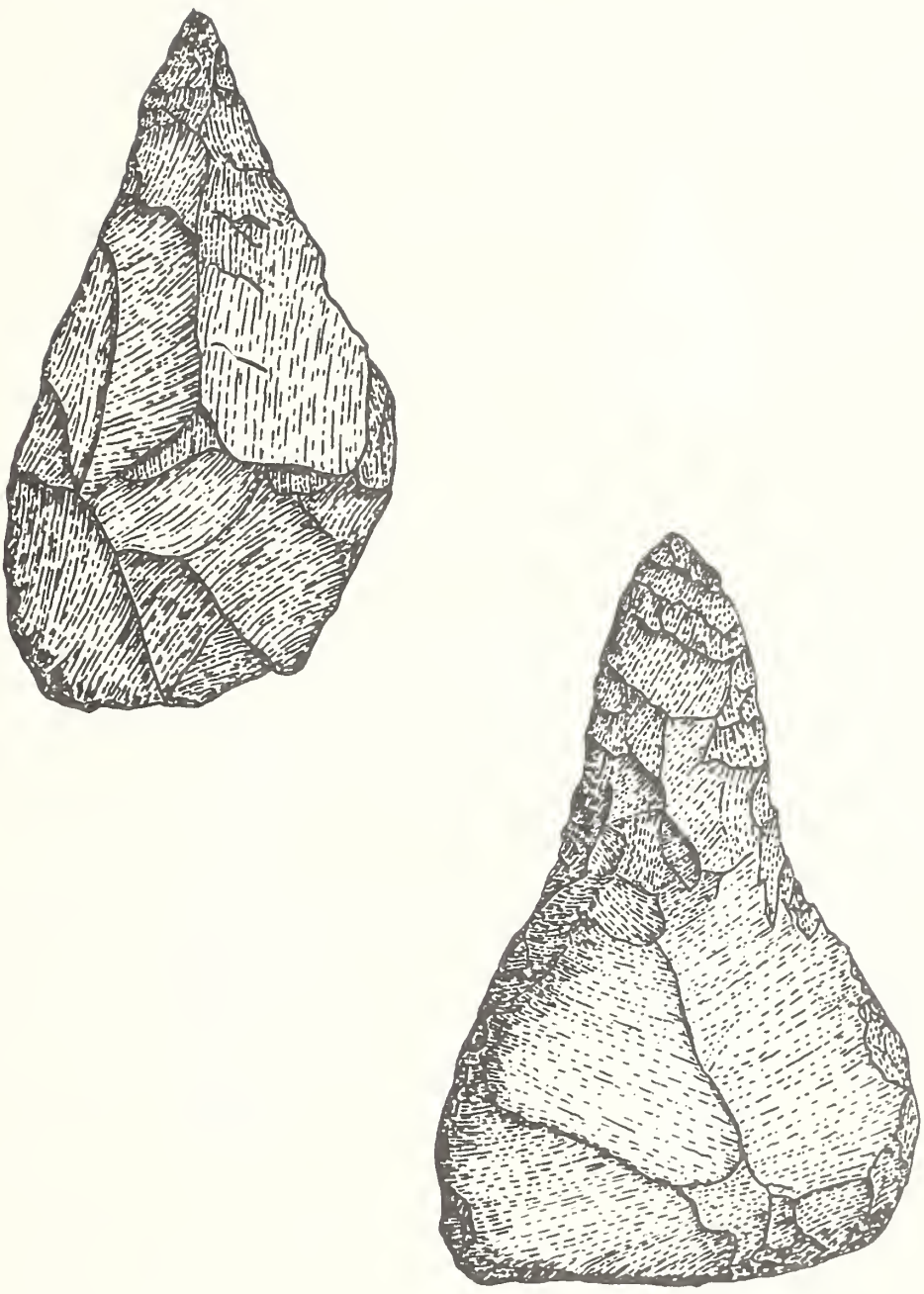

Fig. 55. Category VII Knife with a bulbous base. Scale 1:1.

or convex.

Remarks: Warren, Wilkinson, and Pavesic (1971:Fig. 9 b, k, e-g) found this type of artifact referred to as Midvale elongates, Ruebelmann (1973:Fig. 23 e, f) describes a similar set of artifacts at the Mesa Hill sites, as does Gallagher (1979:Fig. 18 d, k) from the Sheepeater Battleground site.

Category X Needle

Description: A slender linear tool worked to a point at one end with a triangular cross section (Fig. 60).

Remarks: No disernable similarity could be found with needles or perforators in surrounding areas.

Category XI Picks

Description: An elongated bi-pointed tool with large crude flaking possibly used as a digging tool or similar function. Cross section is plano convex and the edges are outward curving (Fig. 61).

Remarks: In the Midvale Complex sites a bi-pointed pick, triangular in cross section, is found, which from the description appears to be quite similar to Category XI artifacts (Warren, Wilkinson, and Pavesic 1971:45).

Category XII Graver

Description: A tool having a small point worked down at one end of a flat, lenticular in cross section, blade like base (Fig. 60).

Remarks: This tool is found in all of the surrounding areas addressed in this study.

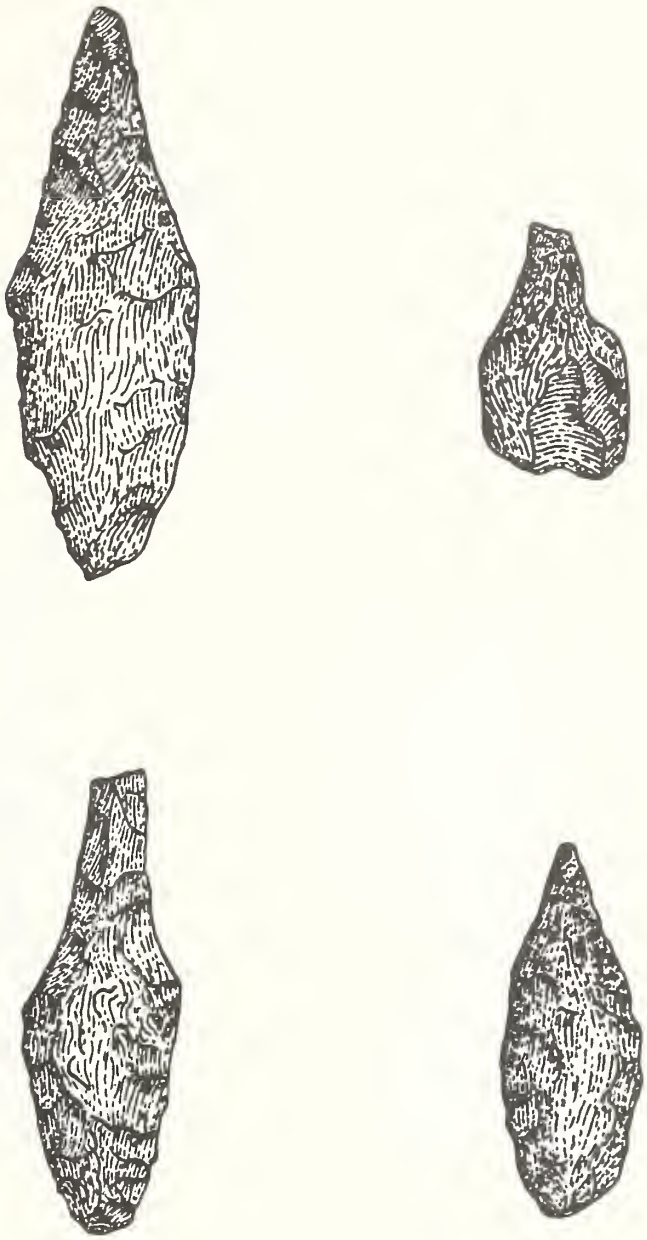

Fig. 56. Type 8.1 blade drills. Scale 1:1.

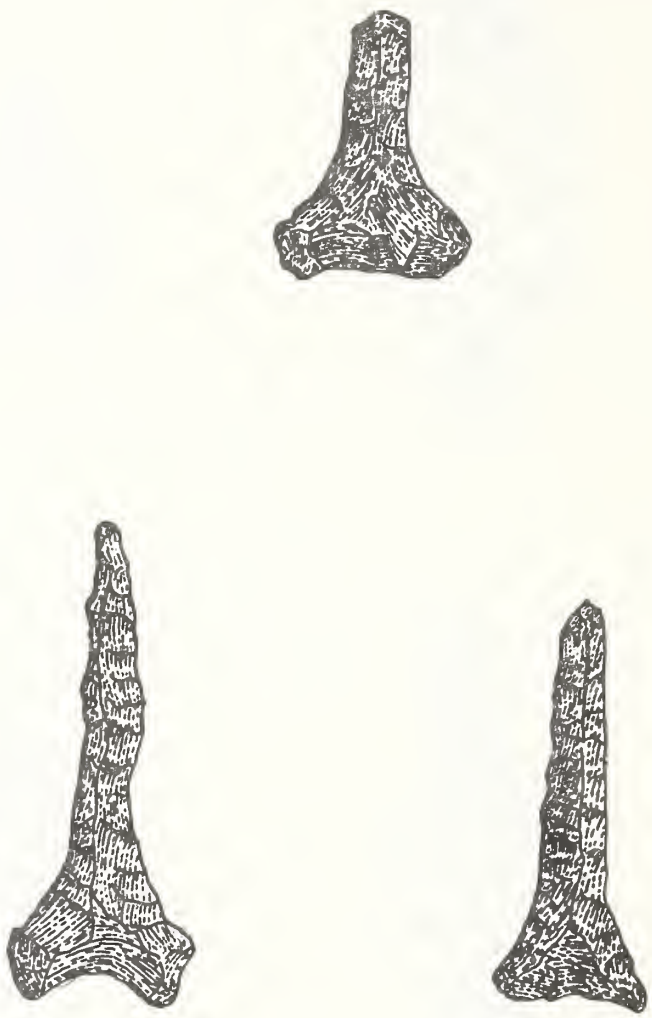

Fig. 57. Type 8.2 side notch drills. Scale 1:1.

Fig. 58. Type 8.3 corner notch drills. Scale 1:1.

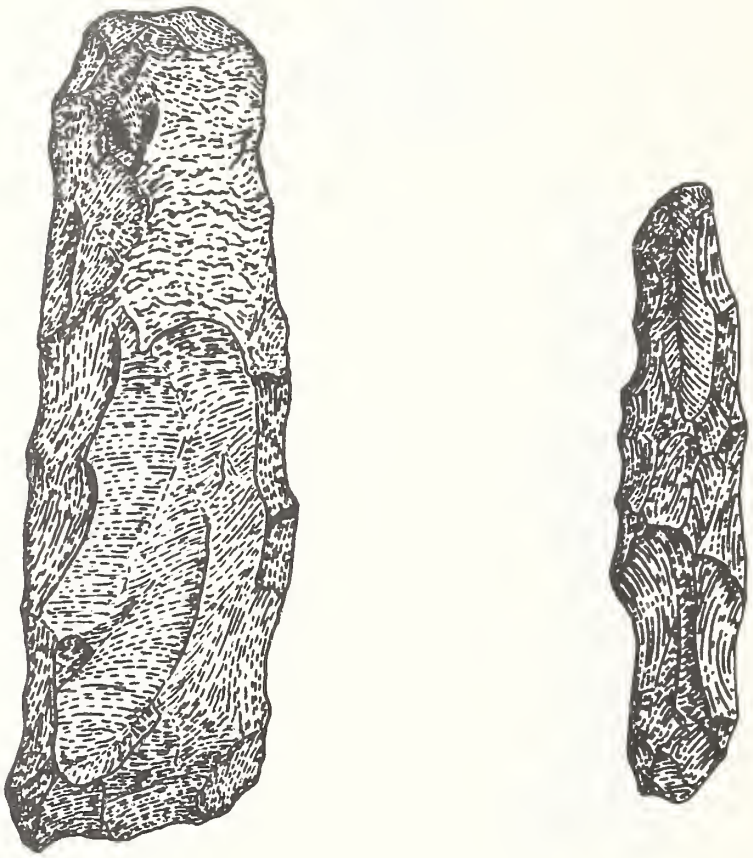

Fig. 59. Category IX elongates. Scale 1:1.

Category XIII Preforms

Type 13.1 Unifacial Preforms

Description: An artifact worked down to a preform stage preparatory to further reduction into a more refined or specialized tool. These artifacts were possibly used also as choppers or scrapers. The cross section of these artifacts is plano convex and they are usually oval in shape (Fig. 62).

Remarks: Warren, Wilkinson, and Pavesic (1971:Fig. 12 e, f) found similar artifacts as did Ruebelmann (1973:Fig. 15 a-c) at the Mesa Hill site.

Type 13.2 Bifacial Preforms

Description: Same function as described in Type 13.1, but these preforms are bifacial with a lenticular cross section and an oval shape (Fig. 63).

Remarks: Ruebelmann (1973:Fig. 18, 19) found preforms of this type as did Warren, Wilkinson, and Pavesic (1971:Fig. 12 d) from the Midvale Complex.

Category XIV Worked Flakes

Description: A bifacially to unifacially worked secondary flake having a plano convex to lenticular cross section with straight to outward curving edges.

Remarks: For the purposes of this study I have considered these artifacts as undiagnostic.

Category XV Cores

Type 15.1 Polyhedral Core

Description: This artifact has had flakes or blades

struck off the core vertically around the edge, the striking platform is located along the top. The cross section is plano convex and the shape oval (Fig. 64).

Remarks: These artifacts resemble cores found at the Mesa Hill Site (Ruebelmann 1973:Fig. 28 a-d).

Type 15.2 Levallois Core

Description: A type of core prepared to allow a large flake or blade to be struck off horizontally along the top of the core, a prepared striking platform is situated at one end (Fig. 65). The cross section is plano convex and the shape oval.

Remarks: Womack (1977:Fig. 26 a-c) found this type of core he feels is associated with the Cascade phase at the Stockoff Quarry. Levallois cores found by Ruebelmann (1973:Fig. 28 g) at the Mesa Hill site resemble Type 15.2 from Long Valley.

Category XVI Projectile Point Fragments

Description: Fragments of projectile points not complete enough adequately place within a category.

Category XVII Pestle

Description: A linear rectangular grinding artifact, with rounded edges, being roughly square in cross section. One end is slightly pointed the other flattened (Fig. 66).

Remarks: Warren, Wilkinson, and Pavesic (1971:Fig. 13 b, c) have found pestles, from the Midvale Complex as does Pavesic (1971:Fig. 19 s, y) from the Hells Canyon Creek Rockshelter.

South of Long Valley Sappington (1981:Fig. 35 a-c) found this type of artifact from the Lydle Gulch site.

Fig. 60. Category X needle and category XII graver. Scale 1:1.

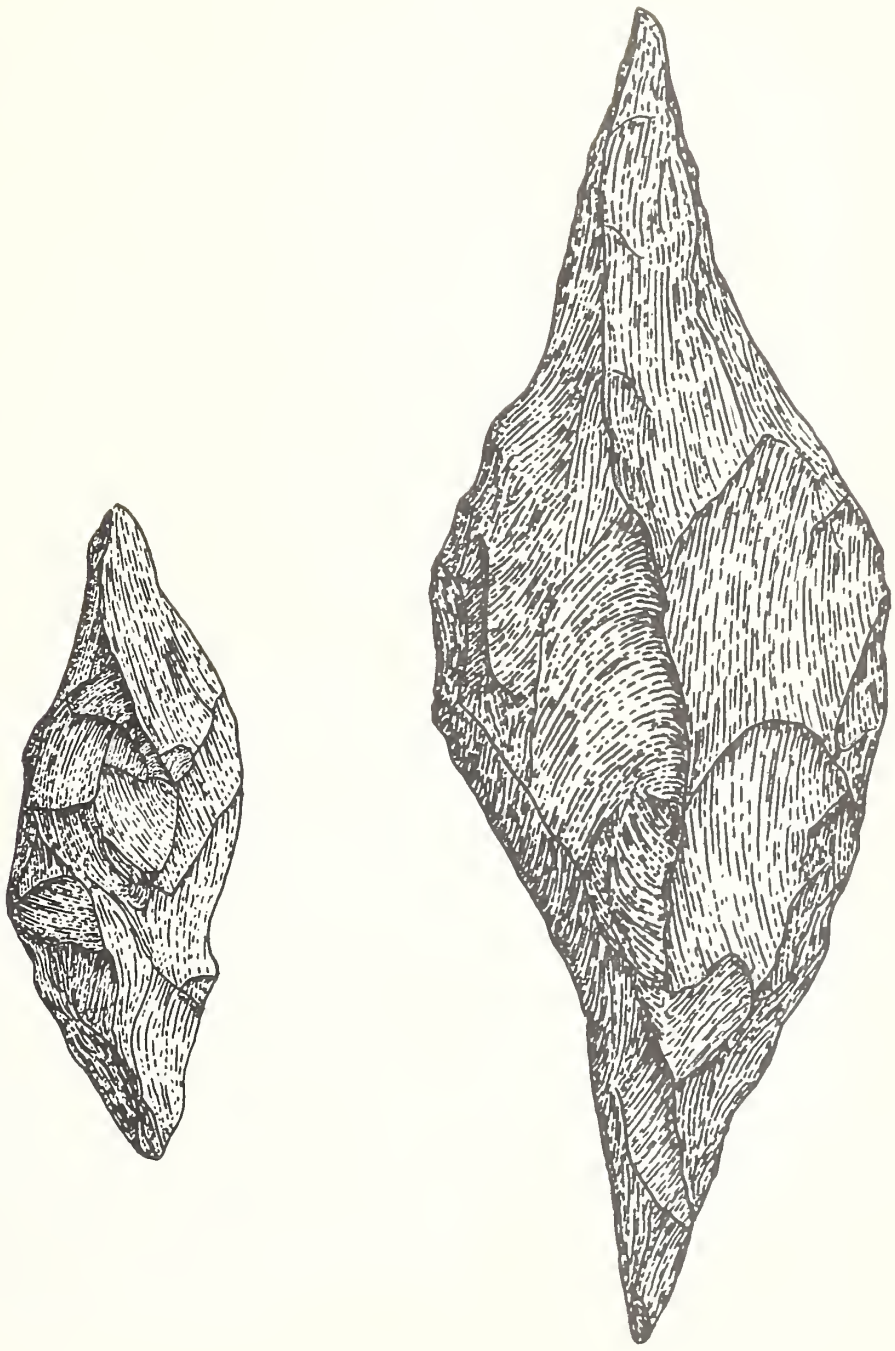

Fig. 61. Category XI picks. Scale 1:1.

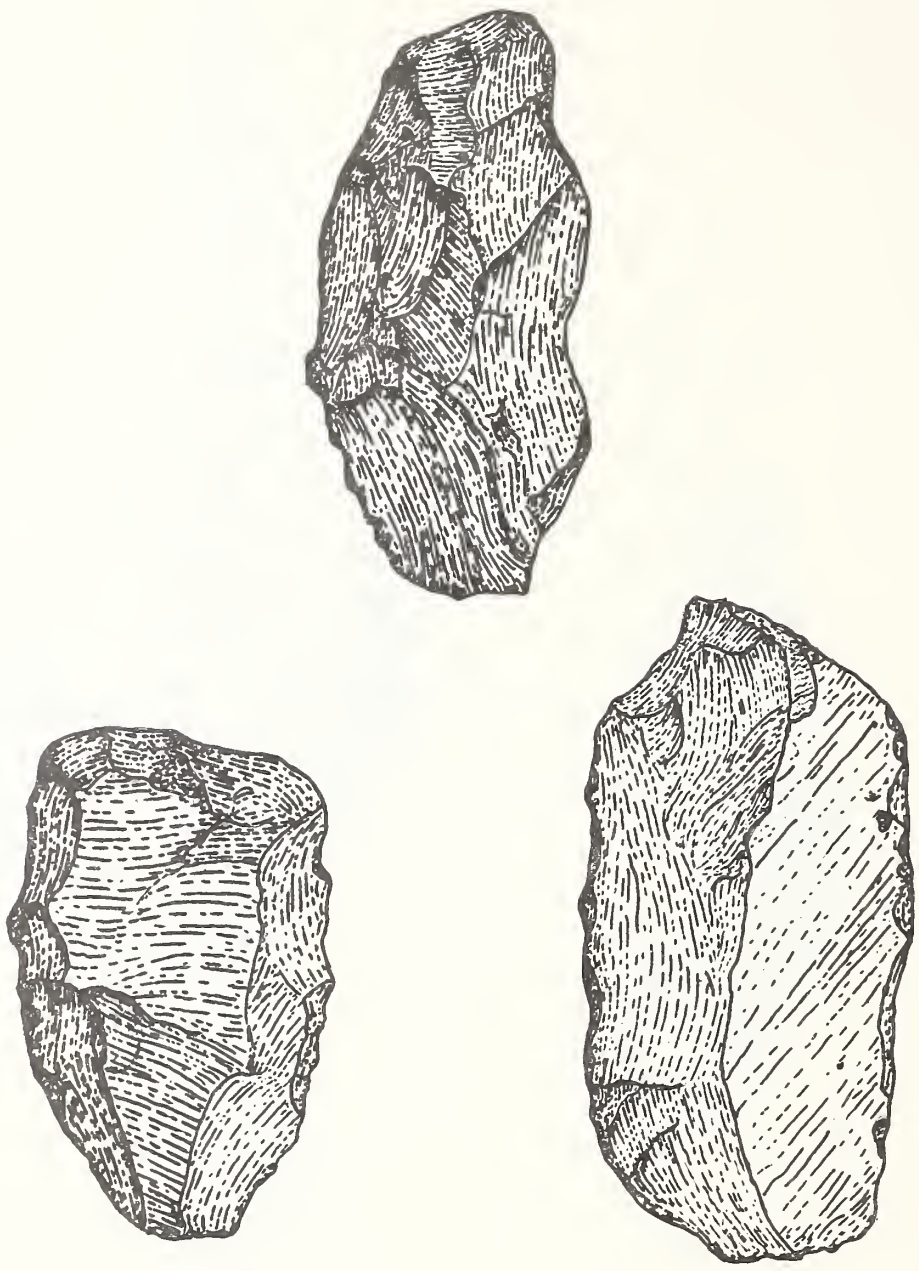

Fig. 62. Type 13.1 unifacial preforms. Scale 1:1.

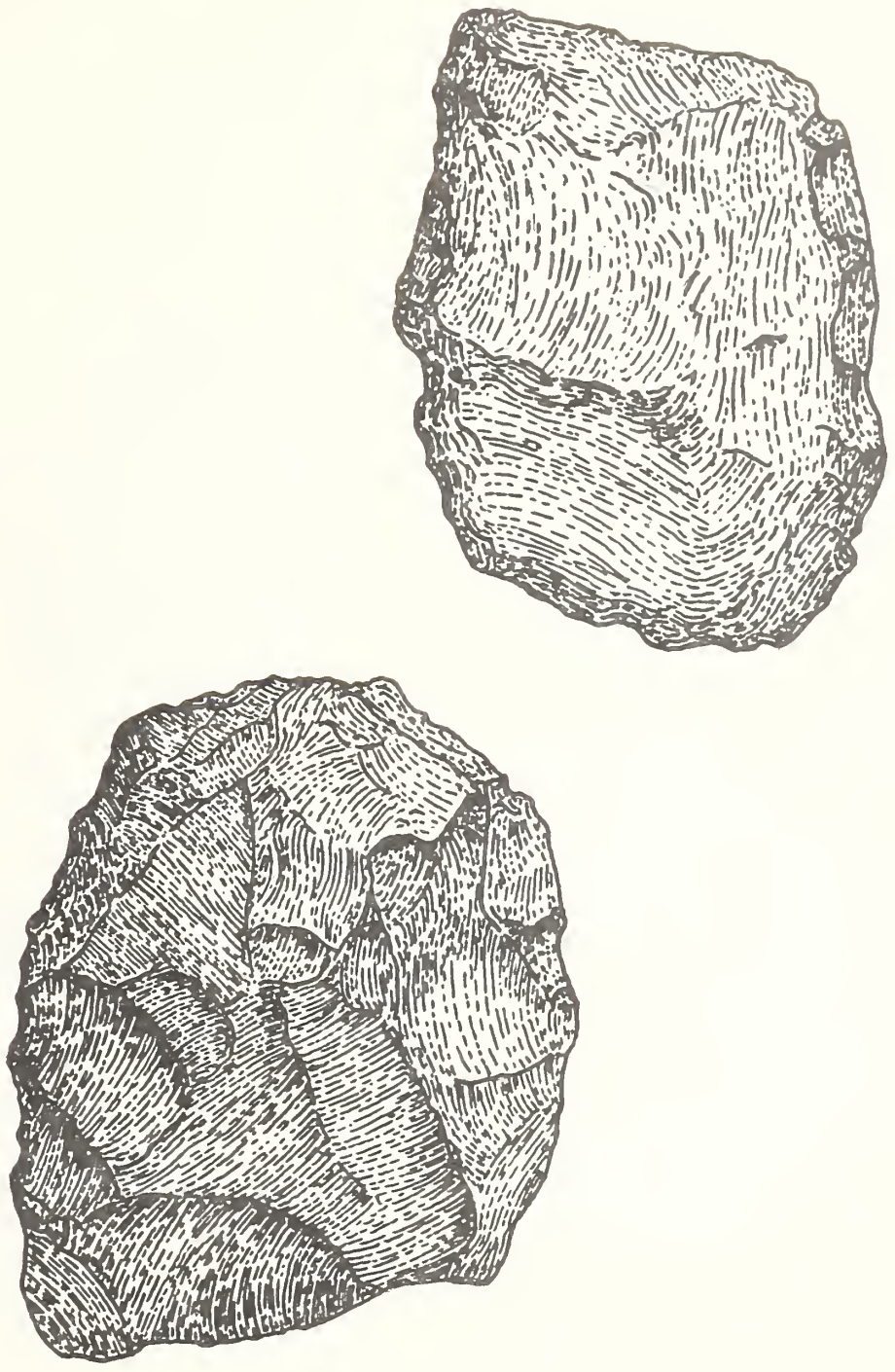

Fig. 63. Type 13.2 bifacial preforms. Scale 1:1.

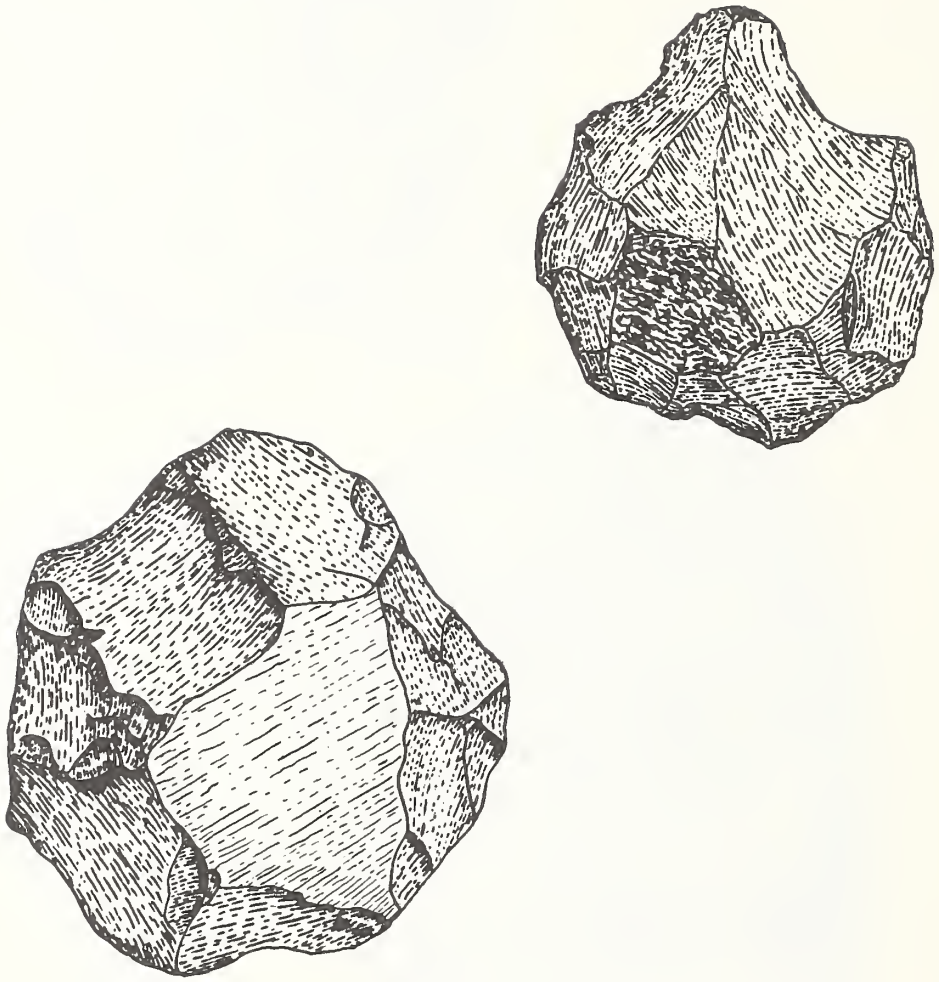

Fig. 64. Type 15.1 polyhedral core. Scale 1:1.

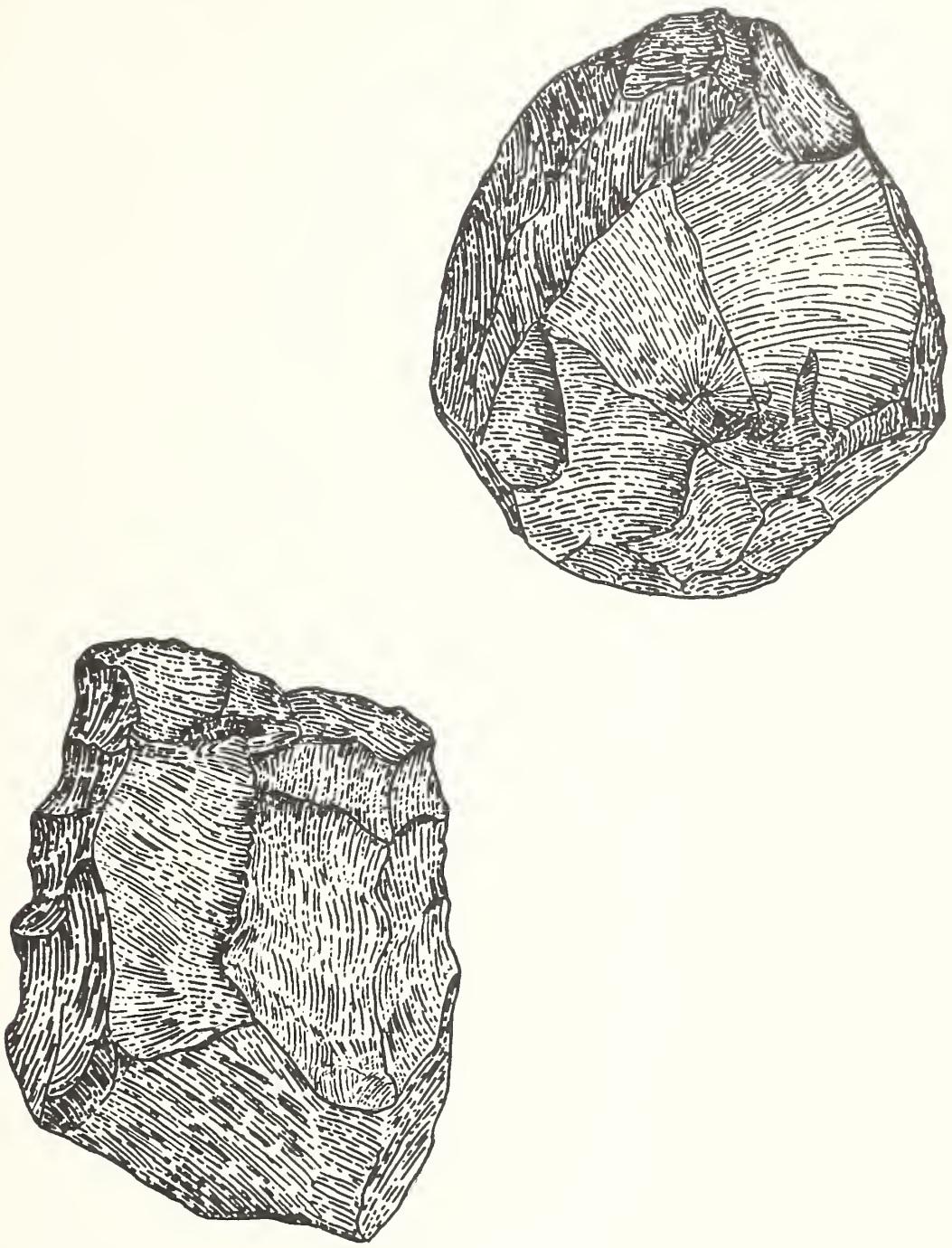

Fig. 65. Type 15.2 Levallois core. Scale 1:1.

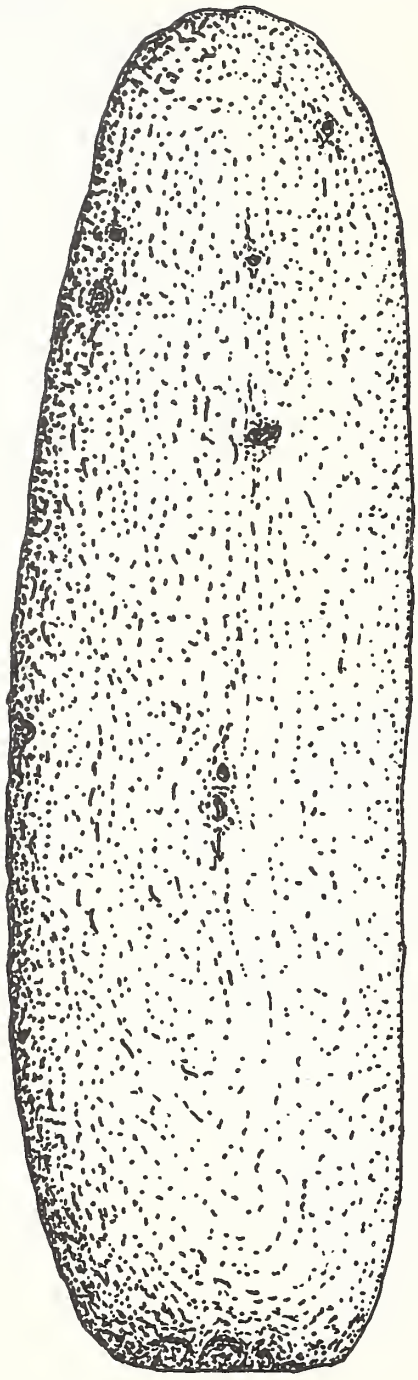

Fig. 66. Category XVII pestle. Scale, 26% reduction from 1:1.

10-VY-07 CERAMICS

At the Oxbow Site, 10-VY-07, pottery sherds have been recovered ranging in color from brown, 10 YR 5/4 to 10 YR 7/4, to a dark greyish brown, 10 YR 3/1 to 10 YR 4/1(Munsell Color Company 1966), and having a coarse quartz tempered paste. The sherds have an undulating surface finished with a scraping tool while leather hard. The firing appears to have been in an oxidizing environment. Many sherds are blackened from either cooking or carbonized organic matter (Fig. 67) not fully burned out during firing. Within this collection are 42 pieces, 37 are body fragments and 5 are rim fragments (Fig. 68) having a straight lip with no outward flare. Average sherd thickness is 6.80 mm.

These ceramics resemble Shoshoni pottery, which is a thick ware, having a high proportion of a coarse rock temper, strongly undulating surfaces, and an often highly striated or "brushed" surface finish. The sherd samples were examined by B. Robert Butler and compared with known examples of Shoshoni pottery. In his opinion these sherds from 10-VY-07 resemble the Intermountain Ware associated with the Northern Shoshoni (Butler 1979:3). He cautioned that within what is called Shoshoni ware there is a great deal of variation in form and

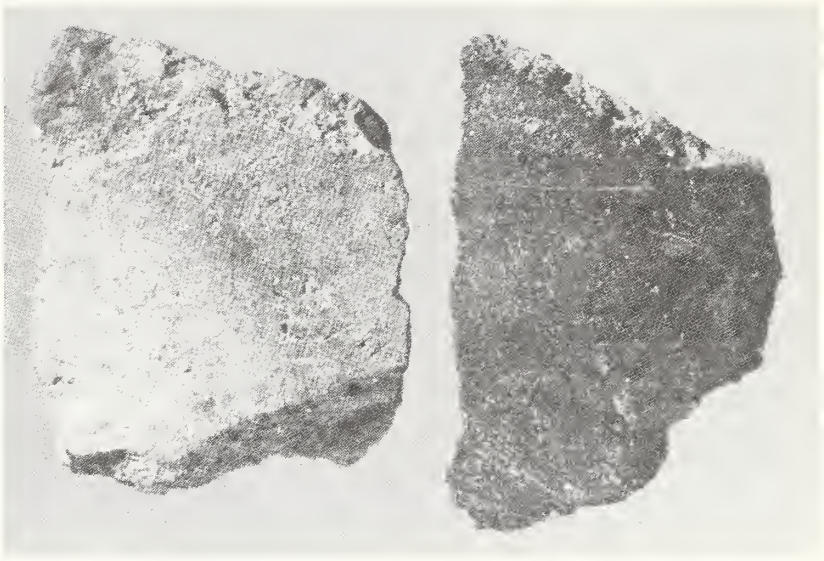

Fig. 67. Two of the body fragments found at 10-VY-07, the upper specimen shows coloration characteristic of a vessels outer surface and the lower sherd the blackened inner surface.

Fig. 68. Two rim fragments that fit together found at 10-VY-07, the scale is in centimeters.

decoration. There could be many varieties of Shoshonean pottery which have not been accurately defined as yet (B. Robert Butler 1982:personal communication).

What makes this problem more difficult to resolve is the size of the sample being studied, at this time there are not enough pottery sherds to form statistically large enough sample to effectively define any sub-types within the Shoshoni tradition (B. Robert Butler 1982:personal communication; Mark Plew 1982:personal communication).

Three examples of this Shoshoni style pottery have been found on the Middle Fork Salmon River, they are grit-tempered and show evidence of smoothing (Knudson and others 1982:131). My own examination confirms this similarity especially the temper of a granitic quartz sand.

A survey conducted by Bowers (1967:54) in Washington County, Idaho collected a sizeable sample falling into one general class resembling in its characteristics those from Long Valley. The Washington County pottery has a coarse grit-tempering of sands and gravels, well smoothed exteriors often showing evidence of paddling, rough interiors, a tendency to crumble on the interior (which is not like the 10-VY-07 specimens) general absence of decoration, darker interiors than exteriors, and colors ranging from dull brown to grey-buff. Bowers dates the most recent manufacture of pottery in this county to be around AD 1800 as suggested by bones of a small modern horse found at 10-WN-30. He supports this date further

by the absence of European trade goods which he feels would be extensive after AD 1811 (Bowers 1967:55).

Along the South Fork of the Payette River, Ames (1982:40) found two sherds of what he calls Shoshoni ware. They are 12 mm thick and show evidence of being incompletely fired. The temper is of crushed basalt and granitic sand having a high mica content. Surfaces are scraped and pressed, creating an undulating surface similar to sherds found at 10-VY-07.

Another locality having this type of pottery is the Lydle Gulch Site (10-AA-72). Here three small body sherds were recovered with two similar to the Oxbow Site ceramics; the third corresponds to the Southern Idaho Plain Ware attributed by some to the Fremont people that occupied the Eastern Great Basin before the Shoshonean expansion into this area around AD 1000. The first two have a sand or grit temper, show signs of being brushed, and have a thickness varing between 9 to 10 mm. Except for one difference, the presence of fingernail impressions on one specimen, personal examination confirms a close similarity (Sappington 1981:153-154).

A similar sample of ceramics comes from the Sheepeater Battleground site where 59 pieces, taken from levels 1 and 2, of what Gallagher (1979:52-54) calls a plain brown ware attributed to the Shoshonean tradition. According to him, these ceramics are comparable to Griffin's Dietrich phase and Swanson's Lemhi phase giving a time range of AD 1200 to AD 1850. The pottery at the Oxbow Site is probably no earlier and

can be placed within this time range.

This Shoshoni style pottery provides, at this time, a small amount of information toward understanding Long Valley prehistory. Of the sites mentioned in this work the Oxbow Site is the only locality having ceramic artifacts within the valley. This is not to say that sites now known or those to be found will not have pottery. But at this time one site containing such material could be a reflection of trade or the use of pottery by a single group.

THE PREHISTORIC CHRONOLOGY

The age range encompassing the artifacts found in Long Valley reaches back to some of the earliest technologies and styles of projectile points found in the Northwest or the Great Basin.

The subvarieties corresponding to one of the earliest phases are within Category I types 1.4, 1.5, 1.10, 1.11, and 1.12 closely resemble artifacts from the Windust phase of the Lower Snake River Region dating at around 8000 BC to 7000 BC (Leonhardy and Rice 1970:6). Type 1.5 also has a resemblance to the Humboldt series that has an age range of around 3920 BC to 1100 BC (Heizer and Hester 1973:156, Table 6.1).

But the earliest style most clearly represented is Type 1.1, which dominates the lanceolate projectile point subvarieties in overall numbers followed by Type 1.2. This type bears a very close similarity to those artifacts attributed to the Cascade phase culture of the Lower Snake River Region dating from around 6000 BC to 3000 BC (Leonhardy and Rice 1970:9). Type 1.14 also corresponds closely in style to examples found in the Cascade phase.

The second major subvariety is Type 1.2. This style has similar artifacts dated from around 7500 BC to 6000 BC from the Wasden site and Wilson Butte Cave (Butler 1968:11; Gruhn

1961:118).

Type 1.7 is associated with the Type VIIB points from the Midvale Sites giving an age range by Warren, Wilkerson, and Pavesic (1971:52) based on the Bitterroot Side notch points from Birch Creek Valley at around 2500 BC to 500 BC. Type 1.8 is associated with the Bitterroot Side notch points having an age range given by Swanson (1972) of between 5000 BC to 1000 BC. Type 1.13 holds a resemblance to the Pinto series having an age range of 3000 BC to 700 BC (Heizer and Hester 1973:158).

Though we have examples of artifacts that may correspond in age to the Plateau Windust phase, the overall numbers of this category are dominated by Type 1.1 and 1.2. Because of this, the earliest date for prehistoric occupancy in Long Valley can be set at around 6000 BC with the possiblity of this time line extending back or forward some 1000 to 2000 years.

Category II artifacts are dominated in numbers by Types 2.1, 2.2, and 2.3 corresponding in style to the widespread Bitterroot or Northern Side notch projectile points. These artifact styles have antecedents ranging all through the Northern Great Basin, Central Idaho, and into the Columbia River Plateau.

Swanson's work (1972) in Birch Creek Valley dates this style of artifact at around 5000 BC corresponding to the earliest dates given for the Northern Side notch, styles extending upward in time to around 1000 BC. The age range for large side notch points appearing in the Cascade phase dates

from around 6000 BC to 3000 BC. A similar age range is purposed for this style of artifact found at the Sheepeater Battlegound site (Leonhardy and Rice 1970:9-11; Gallagher 1979:50). The Bitterroot Side notch point style is used by Warren, Wilkinson, and Pavesic (1971:52) to date the Midvale Complex between 2500 BC and AD 1.

The last type in this catagory figures closely with the Desert Side notch projectile point from the Great Basin having an age range of AD 1100 to AD 1200 up to historic times (Heizer and Hester 1973:164).

The corner notch variety of projectile point represented by Category III bear a close stylistic similarity to point styles found in the Great Basin. Type 3.1 is comparable to the Rose Spring series dating from AD 600-700 with certain examples found up into historic times. Type 3.3 corresponds to the Eastgate series dating from AD 700-1100, certain examples of this type are also found up into historic times (Heizer and Hester 1976:162). Type 3.4 using the dates for the Elko series can be given an age range of 2000 BC to AD 1080. Type 3.5, 7, 9, 10, and 11 can be compared to the Pinto series dates of around 3000 BC to 700 BC (Heizer and Hester 1973:158-159). Earlier dates have been tentatively assigned by Gallagher (1979:50) at the Sheepeater Battleground site of around 7000 BC based upon the large side notch points found in association with them.

Category 4.0 artifacts most closely resemble the

Cottonwood series from the Great Basin and are quite common in late prehistoric and historic times; this point is found also in association with the Desert Side notch point. The Cottonwood point has a time range of AD 1300 up to historic times (Heizer and Hester 1976:165-166).

In Category V the age range begins with the early Windust and Cascade phases. Evidence of stylistic similarity to the Sheepeater Battleground level 6 artifacts placed at 7000 BP by Gallagher (1979:50) adds further support to the placement of this category within the Plateau age range.

The cultural affiliation of Category VI artifacts again show a close relationship to examples found at Midvale and Mesa Hill except for Type 6.2 which resemble scrapers found at Red Fish Overhang dating no earlier than 840 BP (Gallagher 1979:55). Type 6.3 scrapers vary somewhat in that they have antecedents in Birch Creek Valley occurring throughout the history of the Bison and Veratic Rockshelters. The same style is also found in the Weiser River and Columbia River Plateau cultures. The most important association here though is with the Weiser River cultures that have a stylistic and technological affiliation with the Cascade Phase.

Category IX, XII, and XIV artifacts closely resemble examples found in the Weiser River cultures; again, the time frame inferred is from around 7000 BC to 3000 BC. Examples of artifacts similar to Category IX have been found at the Sheepeater Battleground by Gallagher (1979:53), who dates the

level they were found in at 4500 BP to 4000 BP.

The remaining artifact categories either had no corresponding types found in adjacent areas, by which to date them, were of the undiagnostic variety, or were worked utilized flakes, that occur throughout the prehistoric record.

A series of dates were obtained by using obsidian hydration dates were obtained from diagnostic obsidian artifacts collected from the Van Wyck Creek site, 10-VY-342. These artifacts were sent to MOHLAB, located at State College, Pennsylvania, where Joseph W. Michels the Consulting Archaeometrist produced a series of dates (Table 2) using air temperature data from Cascade, Idaho and assuming Timber-Squaw Butte source affinity for the applicable hydration rate of 1.26 u^2 /1000 years. The range of dates does fit the chronology, but on the late end of the time ranges as determined from known artifact series.

In summation the evidence drawn from these artifact collections points to the earliest period of human occupancy in Long Valley to be around 6000 BC to 3000 BC with a middle period extending from 3000 BC up to AD 1000 confirmed by the obsidian hydration dating. The late period extends up to historic times, but the numbers of artifacts corresponding to this time are few.

Table 2

Hydration dates for Cascade Reservoir obsidian artifacts

Artifact Type	Cat. No.	Hydration rate	Hydration dates
1.5	1	1.57u +/-0.06u	26 AD +/-153 yrs
5.6	10	1.52u +/-0.05u	148 AD +/-122 yrs
3.1	40	1.34u +/-0.02u	557 AD +/- 43 yrs
1.2	7A	1.60u +/-0.06u	50 BC +/-155 yrs
1.1	4	1.56u +/-0.06u	51 AD +/-129 yrs
2.4	52	1.56u +/-0.05u	51 AD +/-126 yrs
3.5	37	1.71u +/-0.03u	339 BC +/- 82 yrs
3.4	46	1.39u +/-0.06u	449 AD +/-136 yrs
3.6	27	1.56u +/-0.05u	51 AD +/-126 yrs
1.3	60A	1.52u +/-0.05u	148 AD +/-122 yrs
2.6	35	1.33u +/-0.05u	578 AD +/-107 yrs
3.6	28	1.59u +/-0.04u	24 BC +/-103 yrs
3.5	55	1.55u +/-0.05u	75 AD +/-125 yrs
2.1	30	1.50u +/-0.06u	196 AD +/-145 yrs
3.6	26A	1.59u +/-0.06u	24 BC +/-155 yrs
3.4	48	1.66u +/-0.04u	205 BC +/-107 yrs
1.6	58	1.52u +/-0.03u	148 AD +/- 73 yrs
3.4	47	1.55u +/-0.05u	75 AD +/-125 yrs

OBSIDIAN SOURCE RESULTS

X-ray fluorescence analysis was performed on 360 obsidian artifacts from Long Valley to determine the relative percentages of ten different trace elements iron, rubidium, stronitum, yttrium, zirconium, niobium, tin, barium, lanthanum, and cerium for each artifact. Because of their igneous origin, every obsidian source has a characteristic trace element "fingerprint" that is distinct from all other sources. By comparing obsidian artifacts to known sources it is possible to determine their original source areas (Sappington 1981:134, 135).

A statistical technique called discriminant analysis was used to compare 241 of the Long Valley obsidian artifacts with 28 known sources (Fig. 69). Of the 241 artifacts analyzed, 95% originated at Timber Butte; the remaining 5% was distributed between seven different sources Ebell-Rogers, Camus Prairie B, Johns Butte, Obsidian Cliff, Owyhee A, Gregory Creek, and Chesterfield. Excellent matches were obtained for seven artifacts with six obsidian sources except for five artifacts matched to the Chesterfield source. This source is problematic, because there are other sources in Oregon, not used in the comparisions that chemically similar. Until these other Oregon sources are used the five artifacts correlated

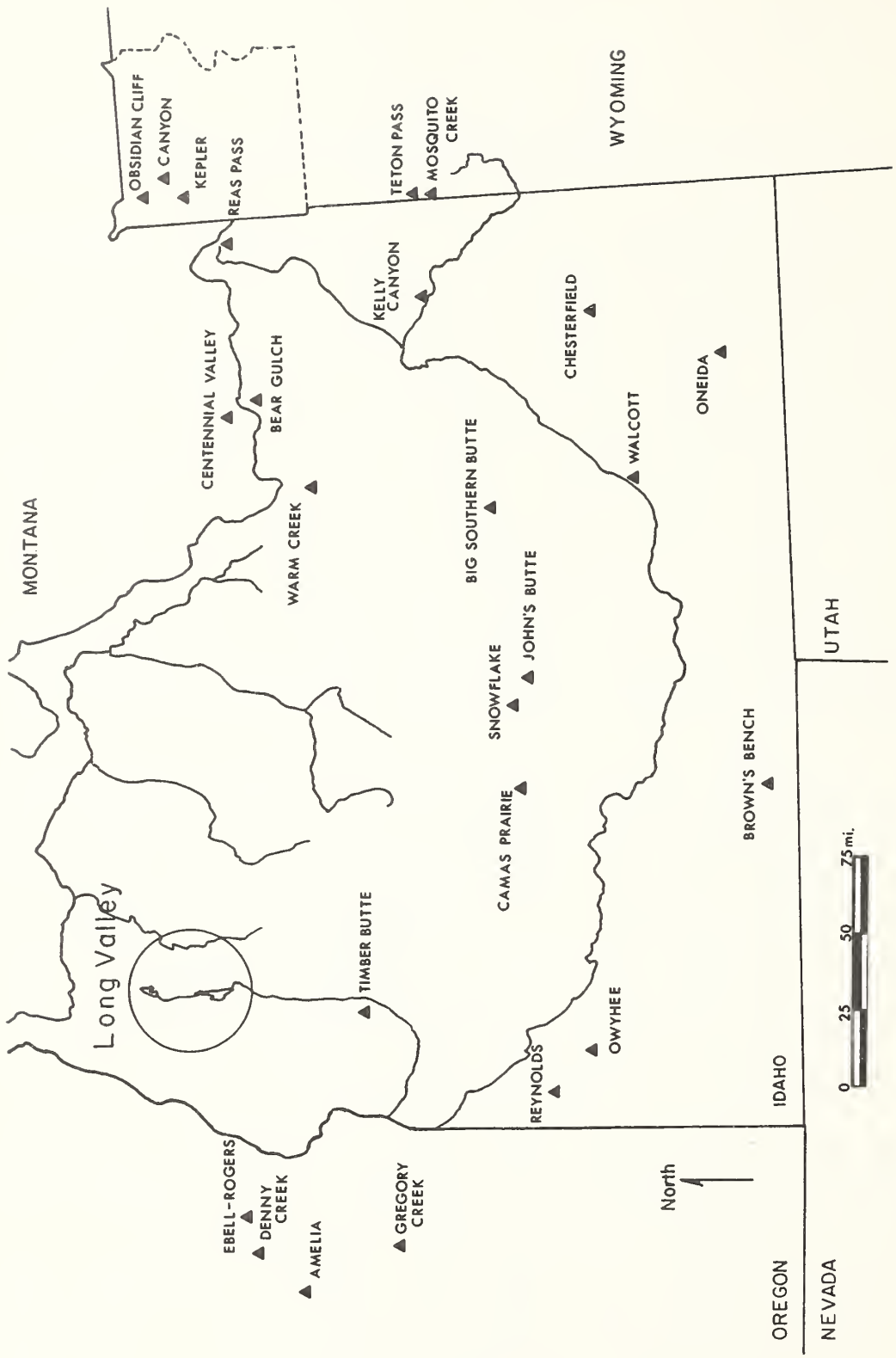

Fig. 69. Obsidian sources utilized by prehistoric peoples in Long Valley.

with Chesterfield must remain questionable.

The remaining 108 artifacts were not run through the computer due to time considerations, but the printouts from the x-ray fluorescence analysis, showing each artifacts element percentage breakdown, were examined by Lee Sappington (personal communication 1983). Of the 108 artifacts he felt 94% were definitely from the Timber Butte source. The remaining six were from different sources that could only be identified through the discriminant analysis program.

If peoples using Long Valley were receiving trade from or traveling into other areas such as the northern Great Basin or eastern Oregon we would expect to see more variety in the obsidian sources used than just Timber Butte. However the results from the discriminate analysis program suggest a more confined range. With a plentiful source of obsidian nearby, along with a cryptocrystalline source in the Council Mountain area, and a basalt source at the Midvale Complex prehistoric peoples utilizing Long Valley or the Weiser River area had little reason to travel far afield for lithic material.

CONCLUSIONS

What does the information presented here tell us about the prehistory of Long Valley? From the artifacts alone we see a gradual shifting from an early mixed Plateau and Great Basin affiliation to, in later times, a predominately Great Basin orientation in the artifact record.

The artifacts representing the earliest occupation are dominated by lanceolate and large side notch styles closely approximating the Windust, Cascade, and Bitterroot phases. In overall numbers the styles reminiscent of the Plateau are more dominant than the Great Basin. This assumes an influence of Plateau artifact assemblages extending south of the Salmon River into the upper reaches of the North Fork of the Payette River and the Weiser River.

The dominance of Cascade style points gives an early date of around 6000 BP for human occupation for the valley, but the presence of Windust style points suggest an earlier occupation. But because their numbers are small, relative to other projectile point styles, we must hold to a conservative interpretation. Until more examples are found or placed in a stratigraphic context indicating substantial antiquity I would hesitate to place human occupation in the valley beyond 6000 BP.

Somewhere around 4000 to 3000 BP the artifact record starts changing to resemble Great Basin material culture evidenced by projectile points resembling the Pinto and Elko series. This observation is reinforced further by the presence of Intermountain Ware ceramics, associated with the Northern Shoshoni, and projectile point styles resembling Desert Side notch, Cottonwood Triangular, Rose Spring, and Eastgate traditions.

The relationship of Long Valley to the Midvale Complex of the Weiser River area is very close in many comparisons of artifact types found in these localities. One must conclude that the peoples of the Weiser River area came into Long Valley on a regular basis during the time period corresponding to the Middle to late Cascade phase around 5000 to 4000 BP.

Certain artifacts found in the Midvale Complex and in Long Valley are unique or have antecedents to artifact traditions of the Great Basin, namely Type 1.2, 2.1, and 2.2 projectile points. Those artifacts unique to the Long Valley area suggest the possibility of tool types being developed independently of either the Great Basin or the Plateau. When one looks at the artifacts one sees styles of tools characteristic of their time, which have spread over a large geographical area, reflecting widely shared generalized activities such as big game hunting. Although a people may borrow from nearby groups certain artifact styles, they remain separate shaping raw materials to fulfill their own judgement

of practical function, need, and world view.

The x-ray fluorescence analysis done on a portion of the obsidian artifacts supports the idea of unique tool types developing in Long Valley. If peoples were moving into the valley from the southern Plateau or the northern Great Basin on a regular basis we should see more diversity in the obsidian sources used. Instead, Timber Butte is the main source suggesting that the people utilizing Long Valley seldom journeyed outside of west central Idaho. If this remained the case for many generations cultural traits could develop unique to this area. The artifact assemblages from Long Valley have a variability suggesting such a fact.

In the area of speculation the best site locations, providing the optimum conditions to utilize both the valley floor and mountain environment, would be located along the edges of Long Valley. Such a location provides access to fresh water coming off the mountain slopes before it flows out onto the valley floor. Locating sites along the valleys edge would also avoid the marshy and wet interior that existed before European settlers drained it.

Sites found along the valleys edge, such as the reservoir sites, would have a more generalized function where many activities took place such as the preparation of food for winter use, tool manufacture, and as a center for group and family activities. Small sites found out in the valley would be more specialized focusing on a specific set of resources

associated with it. An example would be the sites found along the Payette River where fish or waterfowl could be procured.

With the evidence for long term use of the valley we can assume family groups rather than small hunting parties of men used this area. It behooved aboriginal peoples to bring every able-bodied person to take advantage of the variety of resources available.

One assumes that spring through late fall was the time of year prehistoric peoples most likely occuppied Long Valley, but one must assume also that winter use of the valley occurred. For people to live in this valley through the winter some sort of shelter would be required to ward off the worst storms and cold. Thus one should find housepits or other evidence of structures in sites along the valleys edge.

In the past winter habitation may have occurred regularly especially during the dry altithermal period which lasted from 7000 to 4000 years ago. During this time high altitude valleys may have provided an environment more favorable for the food plants and wildlife people depended on than in the drier lowlands. During this period occupation may have lasted throughout the year.

Questions for further research should attempt to clarify the relationship between Long Valley and the prehistoric phases found in the Great Basin and the Plateau. Research should also attempt to establish whether or not year round residence in the valley occurred and if it was continual, periodic, or limited

to one phase of the valleys prehistory. This question relates directly as to whether the altithermal period brought about year round use of the valley or was it of no consequence?

Finally further research must delve deeper into the characteristics of the Long Valley artifact assemblage using technological, replicative, and edge wear analysis and study more closely the cultural ecology of the valley and the surrounding mountainous areas.

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APPENDIX

ARTIFACTS FROM THE CABARTON SITES: 10-VY-95 and 10-VY-96

ARTIFACTS FROM THE CABARTON SITES: 10-VY-95 and 10-VY-96

Jerry Wylie

Limited test excavations and surface collections were made at two small sites in July 1977, as a part of the Boise National Forest Cabarton land exchange. Initial testing was accomplished by Mark Plew (Plew 1977) and subsequent testing was conducted by a Forest Service crew under the direction of Jerry Wylie. In consultation with the Idaho SHPO, both sites were determined to be not significant. A description of this work and the recovered artifacts are summarized here. These data are closely related geographically and typologically to the sites and materials reported by Mark Arnold immediately to the north (Figure 1).

LOCATION AND SETTING

The immediate area is very similar to the western edge of Cascade Reservoir. (This probably represents the pre-inundation landscape.) The higher slopes to the west are steep and heavily timbered, leading down to broad, grassy-covered knolls and ridges at the edge of the floodplain. The sites are situated on hills overlooking a large meander of the North Fork Payette River a mile to the east. The elevation in 4800 feet.

METHODS

Plew excavated three 1x2 meter test pits, one in 10-VY-95, and two in 10-VY-96. He also collected surface materials in a 10x10 meter area and counted flake density along a 5-meter wide transect at both sites. All diagnostic surface artifacts were collected.

Wylie dug intersecting posthole transects at site 10-VY-96, and a single posthole transect through 10-VY-95 to further define the site boundaries. A total of 25 postholes were excavated at both sites. Six 1x2 meter pits were then excavated in site 10-VY-96 in the area of the highest artifact density.

No pits were excavated at site 10-VY-95. Stratigraphic trenches were dug through both sites with a backhoe. The backdirt from these trenches was systematically screened every 5 meters and the walls of the trenches were scraped and examined for buried features.

RESULTS

Surface collections yeilded up to 3 flakes per 10x10 meter unit. Most units examined along 5 meter transects for surface artifacts were sterile. Plew's 10-VY-95 test pit yielded 21 chipped stone artifacts (flakes and tools). The two pits at 10-VY-96 yielded 87 specimens, about equally distributed vertically from 0-50 cm.

Wylie's testing at 10-VY-96 produced a total of 315 specimens, almost all from 0-60cm levels. The postholing yielded 13 flakes at 10-VY-96 and none from 10-VY-95. Screening the trench backdirt yielded 59 flakes and 3 tools at 10-VY-96 and 3 flakes at 10-VY-95. No buried features were discovered in the stratigraphic trenches at either site, although the 'A' soil horizon was noted to be 20-70cm deep at 10-VY-96, and only 8-12cm thick at 10-VY-95.

Basalt was clearly the favored lithic type at both sites (48-49%), followed by obsidian (18-29%), and cryptocrystalline quartz (17-19%). Almost all of the large tools were made of basalt, and most of the small bifaces (knives/points) were made of obsidian.

Eleven of the 19 tool specimens examined microscopically exhibited some kind of use-wear, although only 5 of these were diagnostic. Hide scraping, wood sawing, and chopping are the inferred tool functions (Figures 9 and 10).

Two unmodified and unworn river cobbles were found on the surface of site 10-VY-95. The material is not native to the site and the function of the stones is uncertain (Figure 8).

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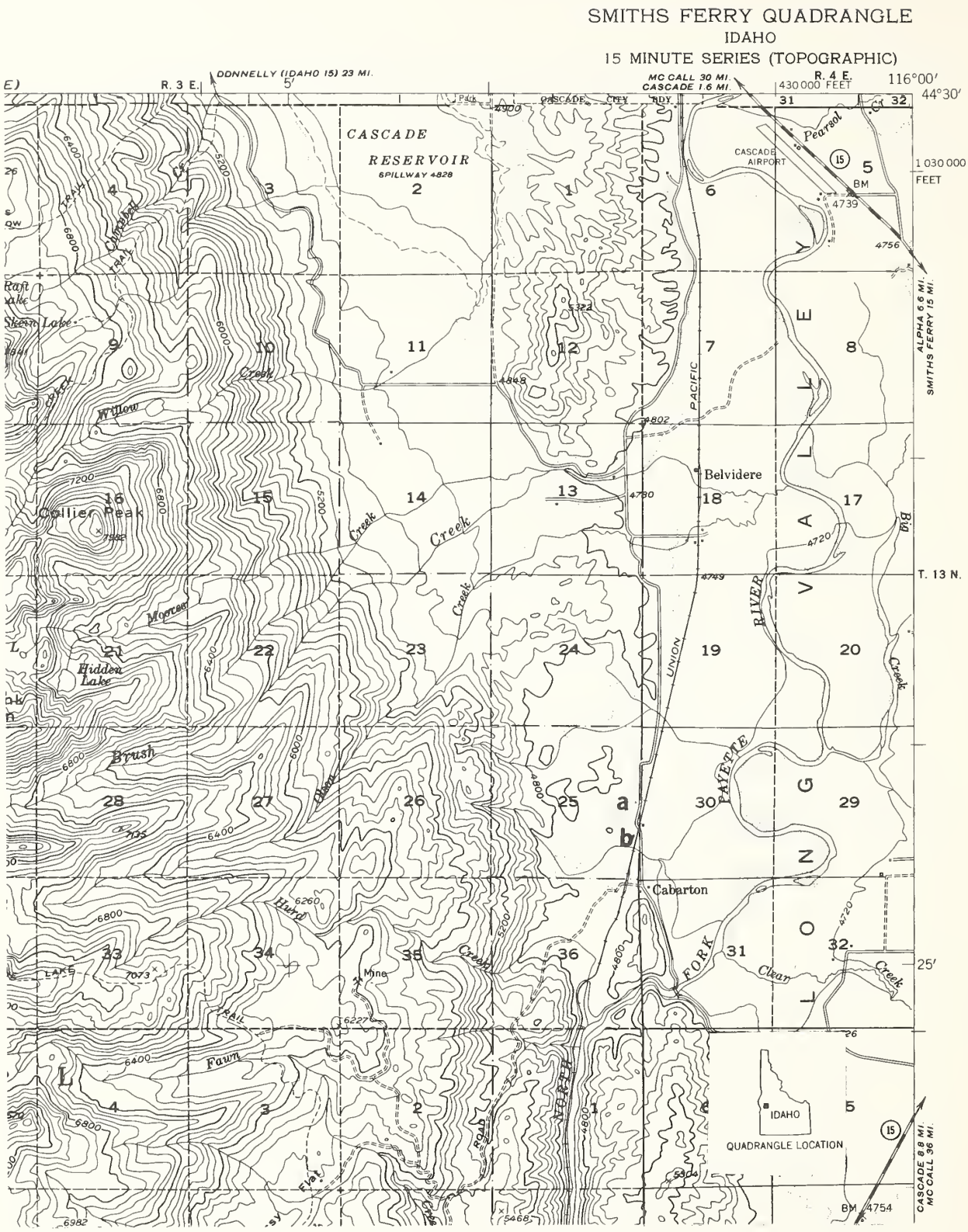


Fig. 1. Location of sites 10-VY-95 (a), and 10-VY-96 (b).

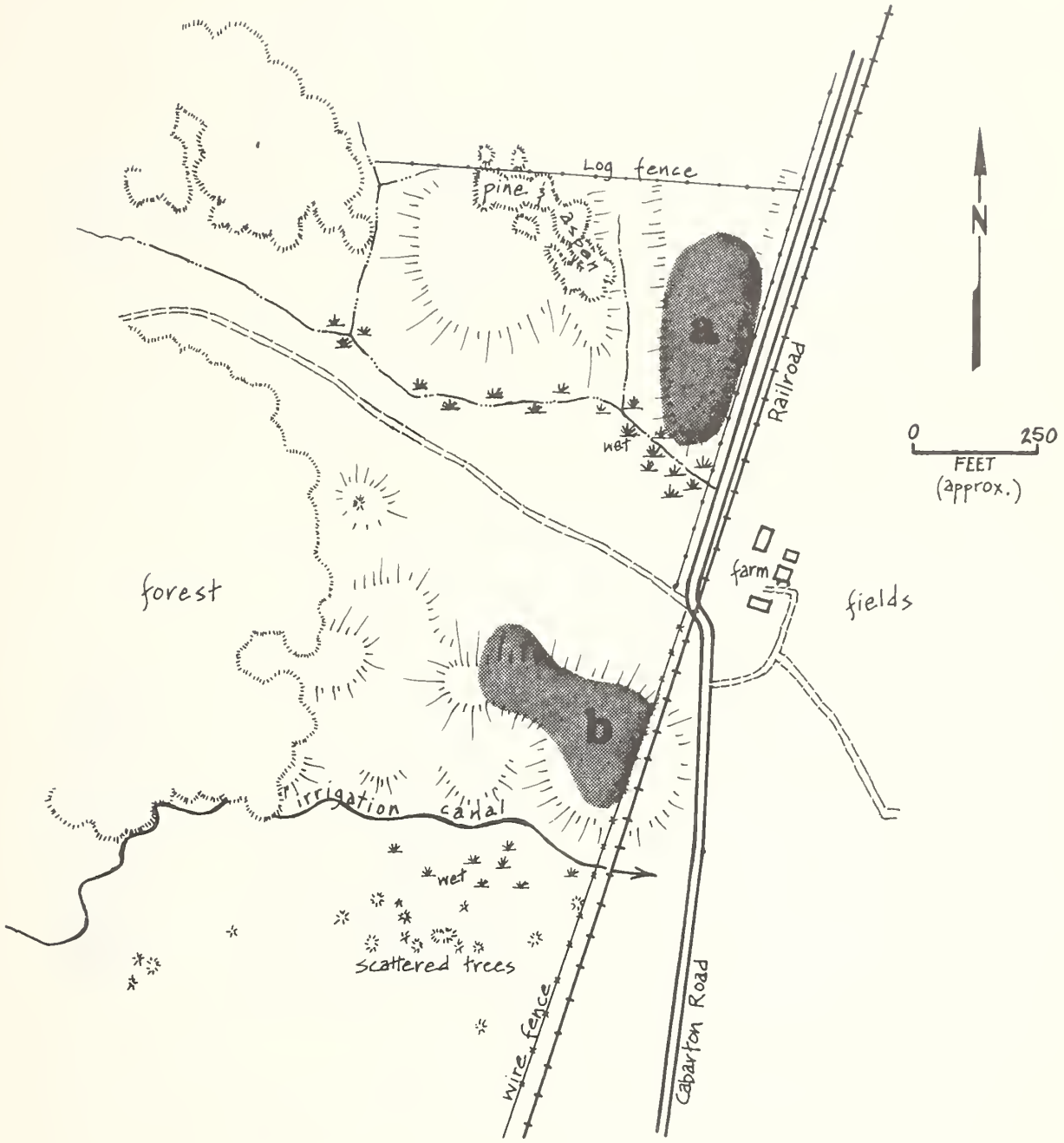


Fig. 2. Cabarton sites: a, 10-VY-95; b, 10-VY-96.

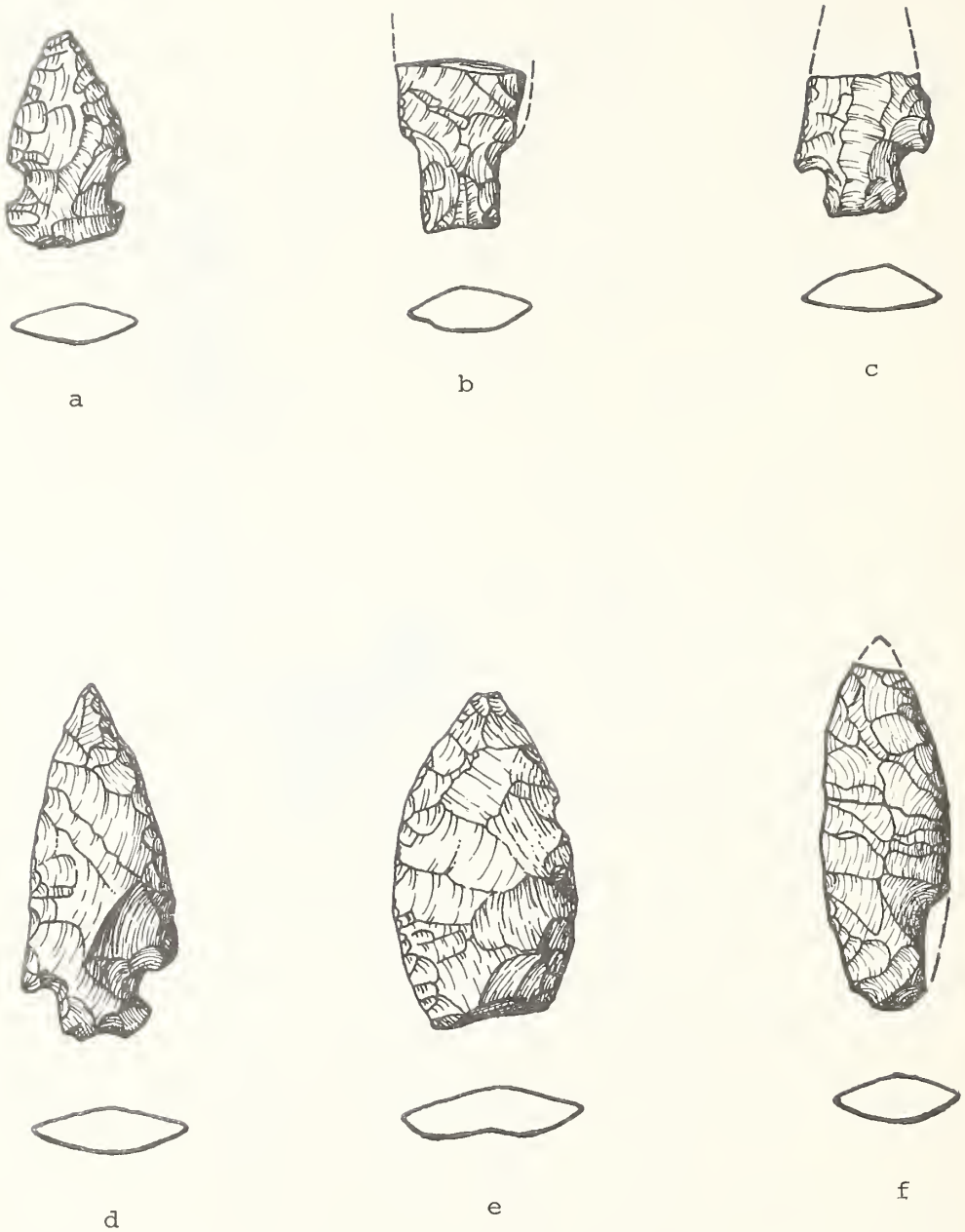


Fig. 3. Chipped stone artifacts. Chert (a,e), obsidian (b,d,f), and ignimbrite (c) are represented. Actual size.

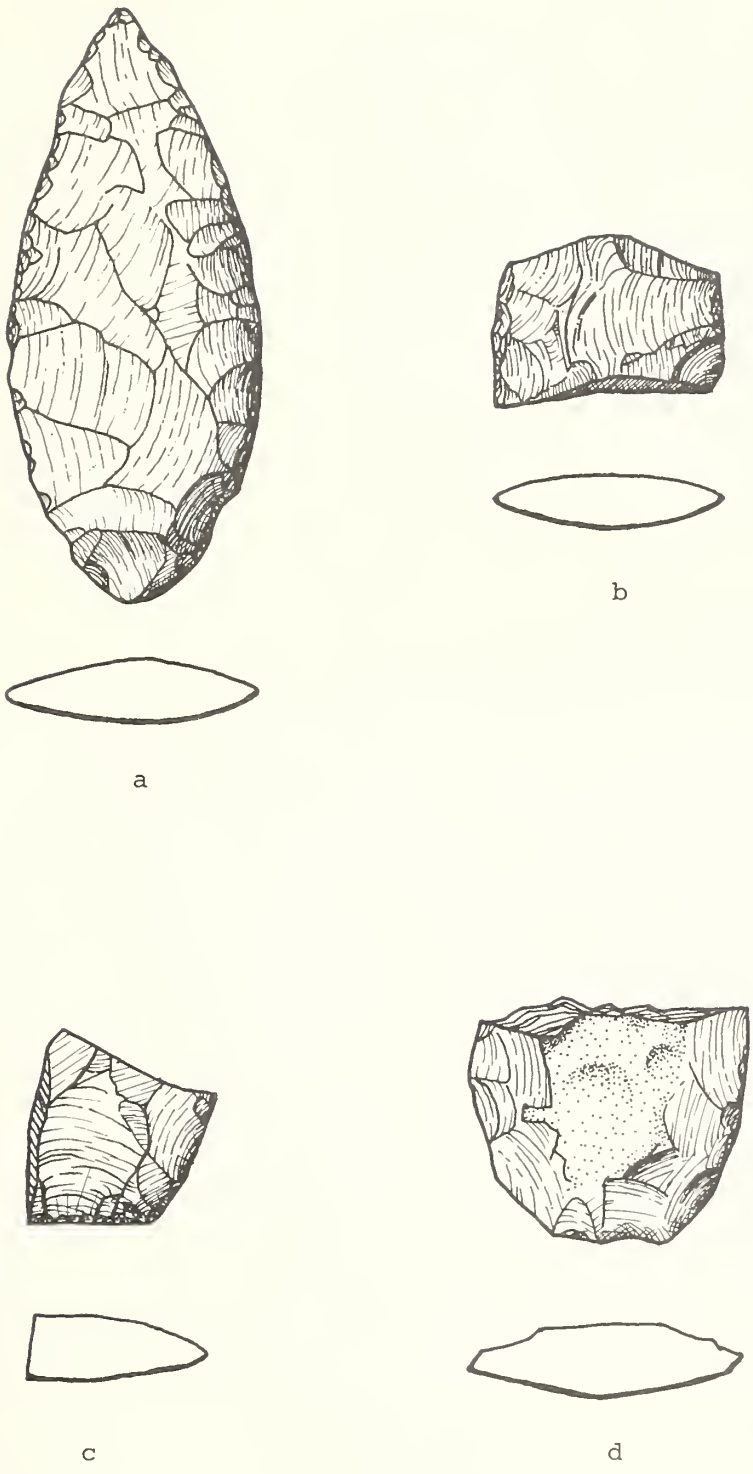


Fig. 4. Chipped stone artifacts. Obsidian knife (a), and biface fragments of obsidian (b, c) and chert (d). Actual size.

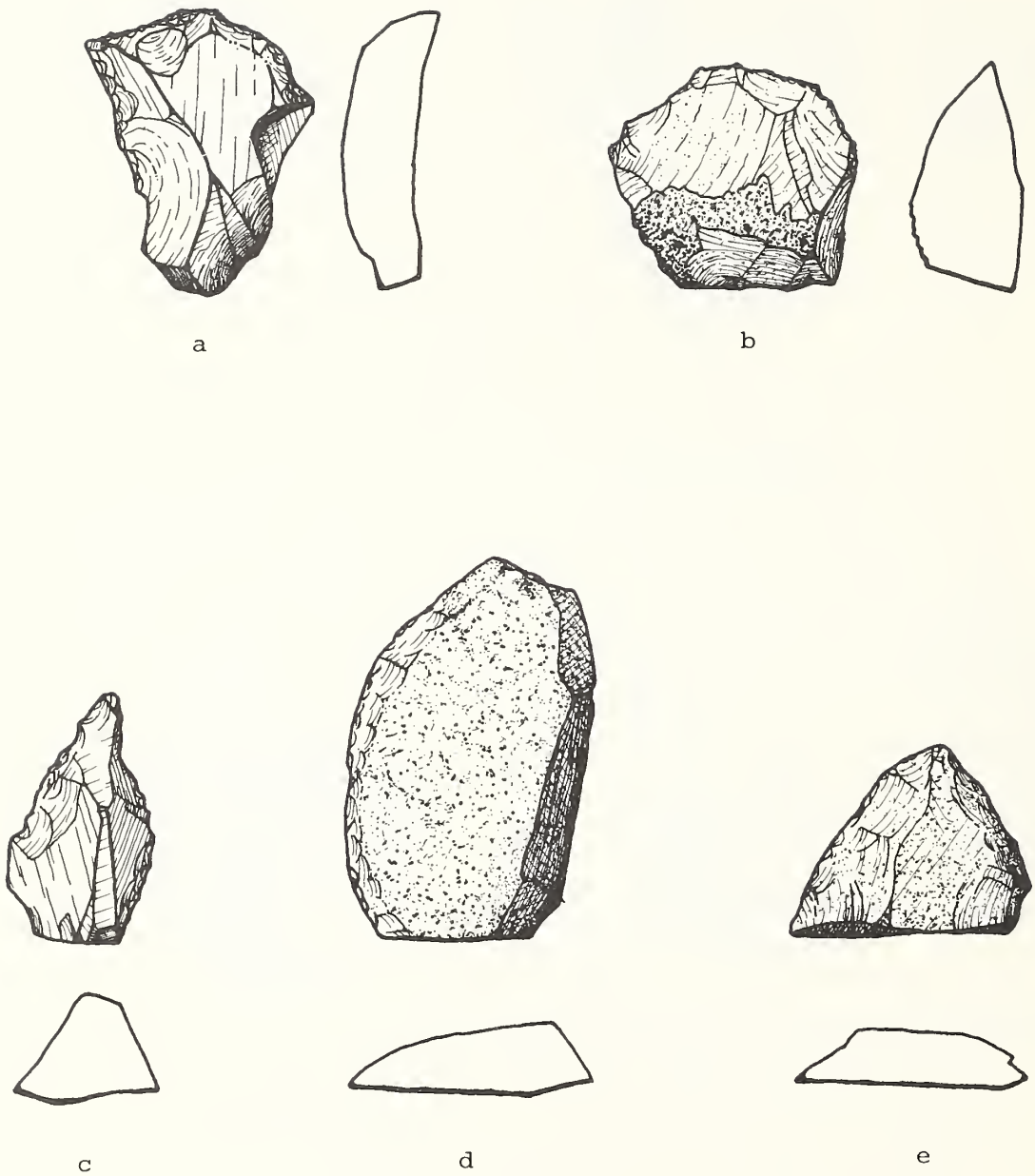
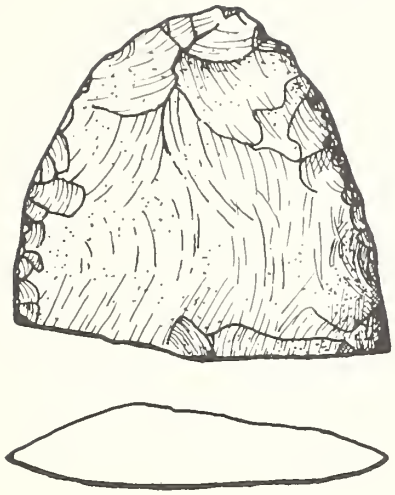
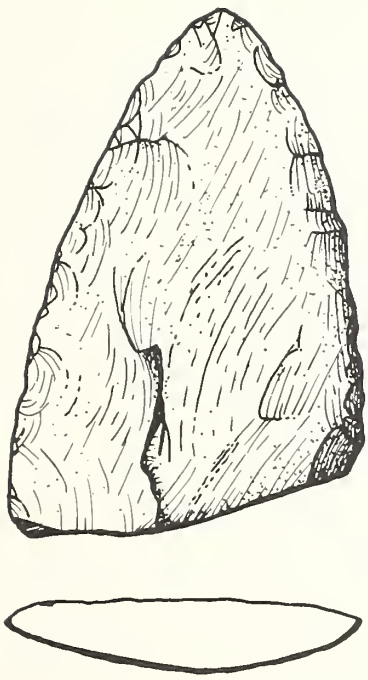


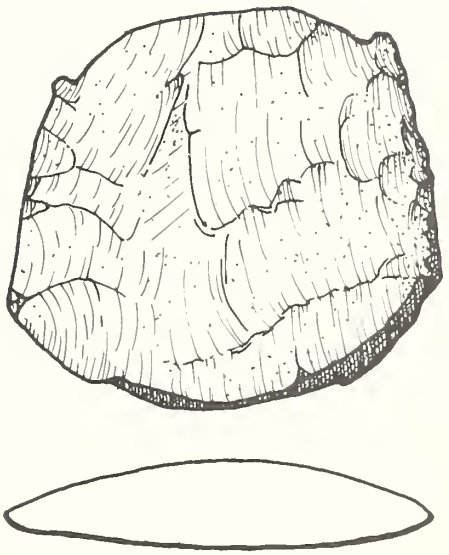
Fig. 5. Chipped stone artifacts. Unifacial scrapers of chert (a, c), and basalt (b, d, e). Actual size.



a

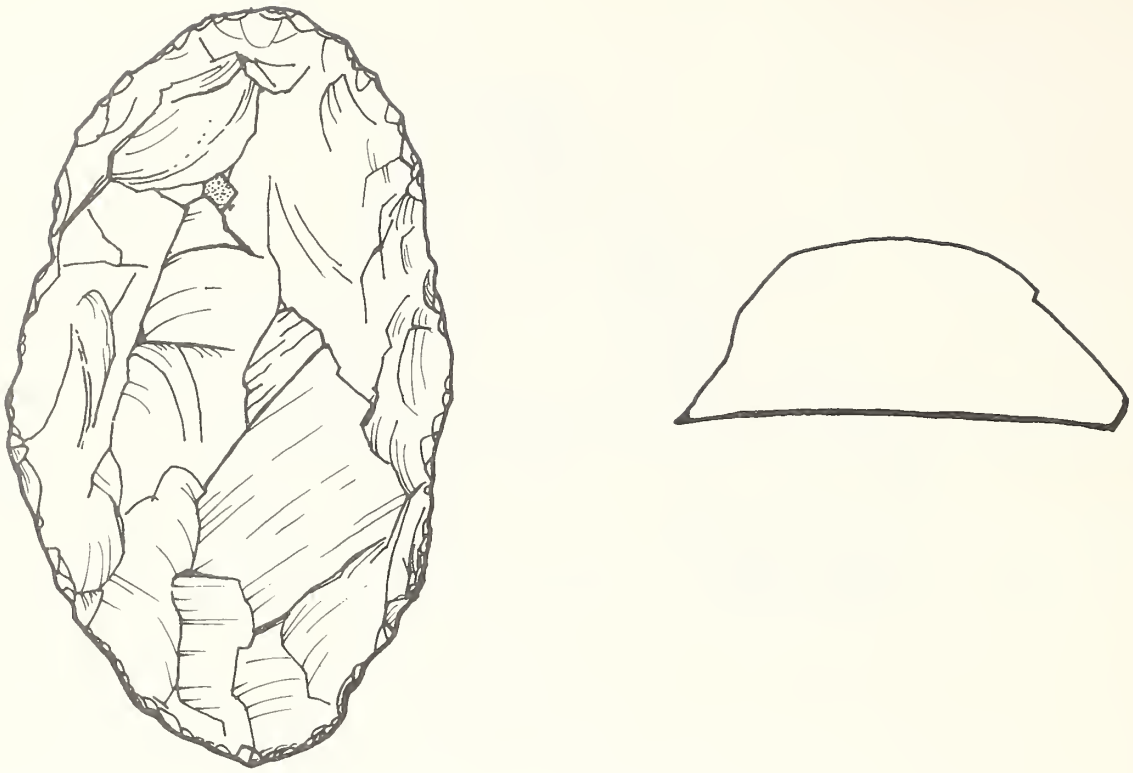


b

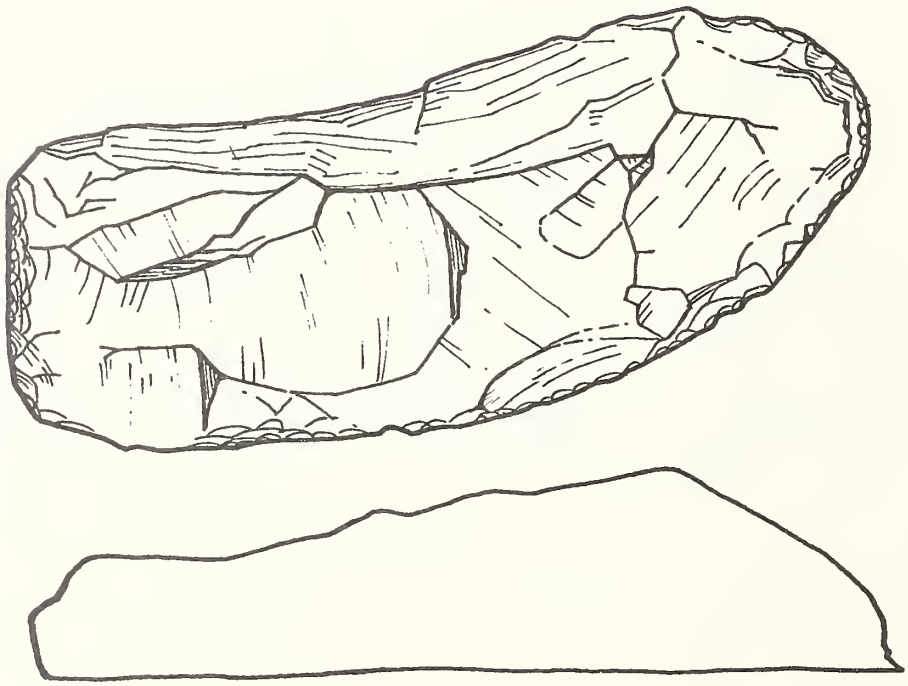


c

Fig. 6. Chipped stone artifacts. Large basalt bifaces. Actual size.



a



b

Fig. 7. Large unifacial scrapers of basalt.

Fig. 8. Cobbles of uncertain from the surface of site 10-VY-95.

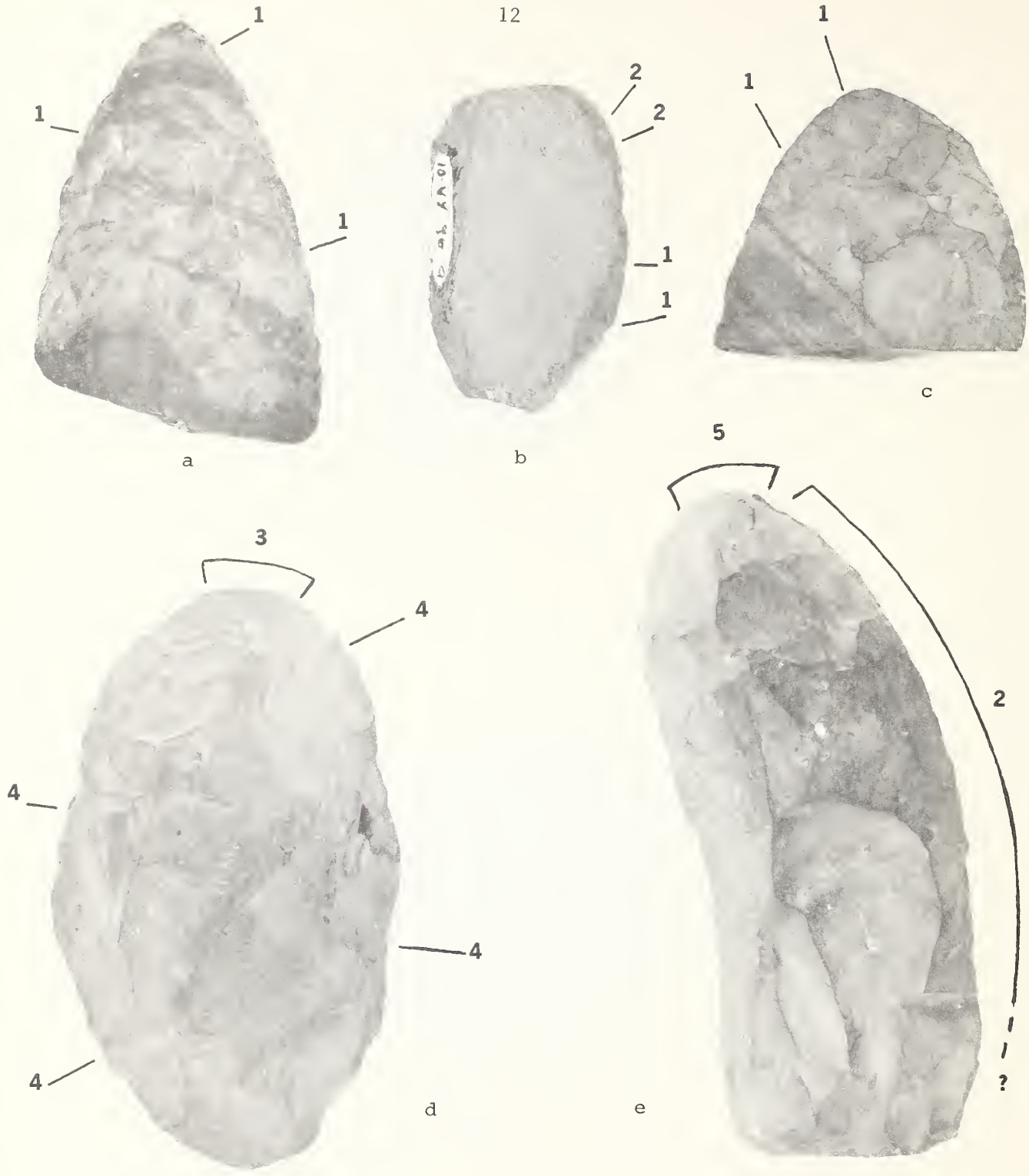


Fig. 9. Selected use-wear. 1, light to moderate edge polish (sawing); 2, light dorsal edge abrasion (hide-scraping); 3, battering (chopping/adzing); 4, light ventral polish up to 9.5mm from edge (?); 5, heavy edge abrasion and faint edge-perpendicular striations (hide-scraping). All specimens actual size, basalt.

a

b

Fig. 10. Hide-scraping use-wear on basalt uniface from site 10-VY-96. Specimen Fig. 9e. Field of view (a) 12mm; (b) 2.5mm.

Fig. 11. View south. Site 10-VY-95 (foreground) and site 10-VY-96 (distance).

Fig. 12. View north. Site 10-VY-96 (foreground) and site 10-VY-95 (distance).

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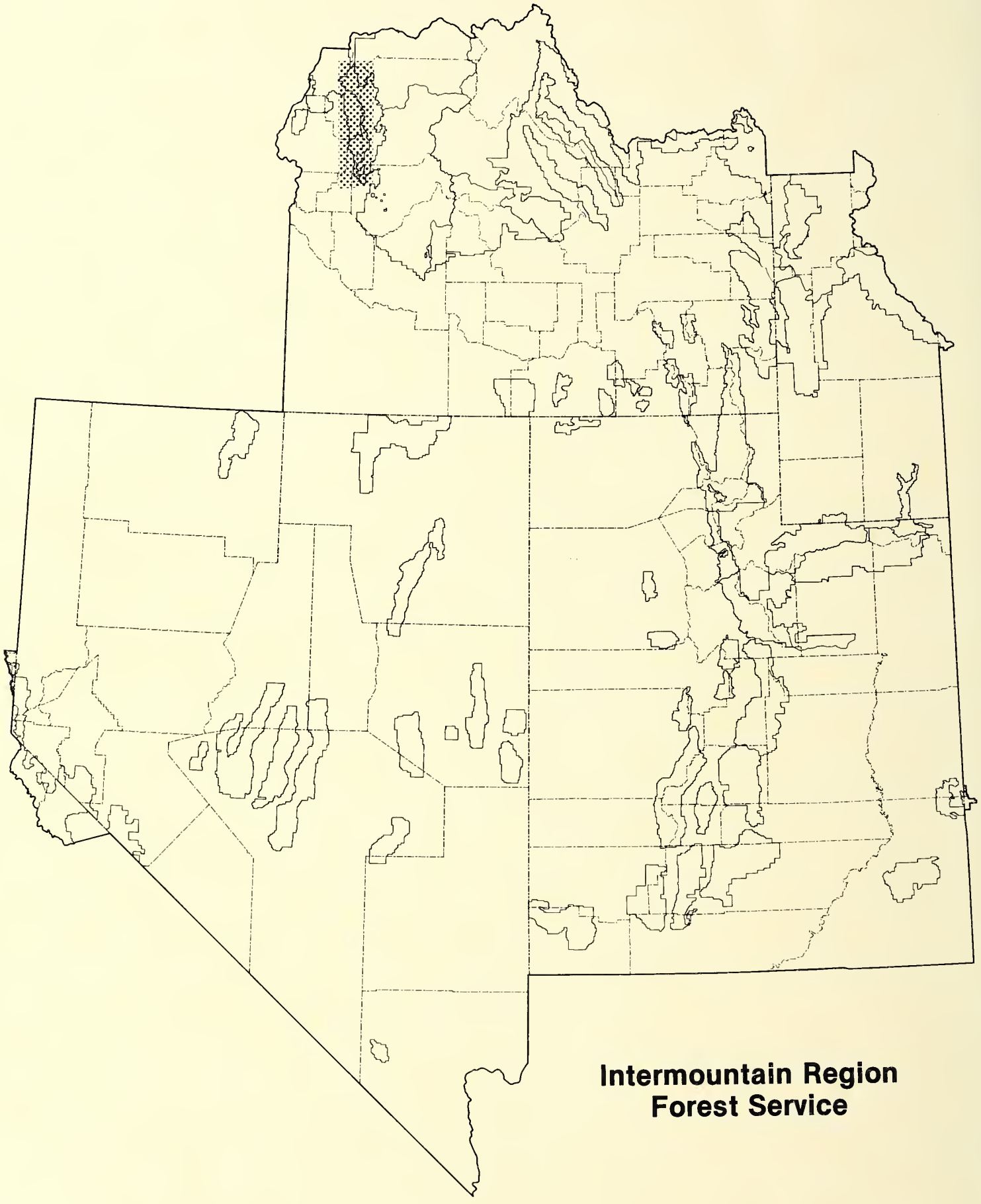

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