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AN ARCHAEOLOGICAL SURVEY OF GOSHEN VALLEY
UTAH COUNTY, CENTRAL UTAH

A Thesis

Presented to the

Department of Anthropology and Archaeology

Brigham Young University

In Partial Fulfillment

of the Requirements for the Degree of

Master of Arts

by

Leland Gilsen

August 1968

PREFACE

The objectives of this thesis are threefold; (1) to survey and record the archaeological sites in Goshen Valley; (2) evaluate the materials found during the survey; and (3) to discover if there is a dividing line between the Provo Sevier Fremont region as outlined by Ambler (1966). Little has been done archaeologically around Utah Lake, the best ecological setting for ancient peoples along the Wasatch Front, and several hypothesis concerning the breakdown of the Fremont area into subdivisions revolve around Goshen Valley. (Green 1964:80).

The survey was conducted during the last half of the summer of 1966 on a part time basis. Arrangements were made with James Mock, who was excavating Spotten Cave in Genola, so that the survey could be done on a co-operative basis. We would excavate in the cave for three days then survey two days and the following week reverse so that three days were spent surveying and two excavating. In this way, we gained experience in both cave excavation and surface site surveying. We concentrated on the Current Creek and Kimball Creek drainages. Some work was done in the sand dunes around the salt ponds and along the eastern slope of the Tintic Range. We were never able to spend the time needed for a survey of the dunes around the southern end of Utah Lake, our visit to this area confined to the area around 42Ut103.

Appreciation is expressed to Ross T. Christensen, Chairman of the Department of Anthropology and Archaeology, for the use of equipment and laboratory facilities at Brigham Young University.

Special thanks go to Ray T. Matheny for his help and advice and also his time spent in aerial photography in an experiment to test the value of this method of site surveying in the Utah desert.

Special thanks go, also, to James Mock and my wife, Pat, for the long hours spent in walking the many miles in the valley. Also to Earl and Jay Woodard, residents of Goshen, who helped in the excavation of the Woodard Mount. Mr. Woodard spent many hours among the residents of the valley gleaning information on archaeological sites from the residents and then spent many hours in the field guiding our party to these new sites.

Appreciation is also expressed to those students of the Brigham Young University field class of 1966-67 who gave up their Thanksgiving holidays to excavate at the Woodard Mound. They are: Bill Jones, Bruce Louthan, Judy Conner, Beverly Earl, and Elaine Thurber. Thanks also goes to Bryant and Shurman Jones of Payson for their volunteered time and back-hoe at the Woodard Mound excavation.

Acknowledgement is given to Dr. Jesse D. Jennings for coming out to look at 42Ut104 and 42Ut273, for his advice, and for his kindness for allowing James Mock and myself to study the collections of the University of Utah. Also, thanks go to Floyd W. Sharrock, who allowed us to work with the Nephi materials while they were being processed.

All specimens recovered during the survey are now stored at the Museum of Archaeology and Ethnology, Brigham Young University, Provo, Utah.

LG

August 1967

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CHAPTER ONE

INTRODUCTION

THEORETICAL DEVELOPMENTS WITH REGARD TO THE FREMONT CULTURE

The theoretical concept of the Fremont culture has been in a state of modification since the earliest archaeological explorations indicated that a prehistoric farming culture had existed in Utah. Morss (1931) was one of the first to call the material remains excavated by Judd (1919, 1926) and the sites discovered during his survey of the Sevier River, a Northern Peripheral area to the Southwest. The early excavators, such as Judd, were misled into believing that the pit houses found in Utah were kivas because the tunnel entrance to the structures looked like kiva ventilator shafts. Judd and Morss believed that the kiva and the associated farming complex must have been a growth out of the Southwest. The evidence at that time did seem overwhelming.

Wormington (1955) from work at the Turner-Look site, cited evidence for possible northeastern influences in the Fremont area. She examined the evidence that the earliest sites seem to be found in the northeastern section of the state. This was of course inconsistent with the Northern-Peripheral theory. Also Wormington pointed out the Plains-style pictographs present in the Fremont area appeared to be inconsistent with the Northern -Peripheral theory.

As more sites were excavated, the anomaly between Southwest and Fremont became more self-evident. The basic material cultures differed too widely to be accounted for by the Northern Peripheral theory. The

Glen Canyon Project interrupted work on the main body of Fremont sites until the late 1950's when Gunnerson and Taylor did some work. Gunnerson (1956) suggested a Plains-Promontory relationship. Enger and Blair (1947) advanced this idea when they recognized that skeletal materials seemed to have been basically of Plains origin. Armelligos (personal communication) disagrees with the interpretation on the basis of the lack of a statistical framework in the small numbers of skeletons but there does seem to be some evidence that there is a difference between the Southwestern and Fremont physical types.

In the middle 1960's Aikens (1966), Ambler (1966), and Sharrock (1965) did more work in the Fremont area. Their work indicated that there were just too many weaknesses in the Northern Peripheral theory for it to be upheld.

Mulloy's work (1958:222) along with that suggested by Burgh and Scoggin (1948:89) indicated an early date for an intrusion of Plains traits into Utah. The earliest sites seemed to be in the caves of the northeast. For many years it was believed that the Promontory culture indicated a strong Plains influx into the Fremont area, but at a late date. Steward (1937) listed many of the traits that were strongly northern in origin. These included a distinctive moccasin, mittens, sinew-backed bow, dice, end scraper of particular form, paddle and anvil pottery, serrated bison bone metapoidal fleshers. Gunnerson (1956) indicated an association between the Promontory and Dismal River cultures, with Promontory as a late plains thrust (Dismal River parentage).

Emerging evidence indicates that the Promontory is earlier than the Dismal River culture (Aikens 1966a) as a C-14 date has been made of a Fremont moccasin of AD 1100-75 years. Also there have been several

sites in which Promontory and Fremont materials have been found to be contemporaneous. (Steward 1937; Smith 1941; Jameson 1958; Aikens 1966a, 1966c).

Indications are that the Fremont is of northern Plains origin due to the fact that both areas share the following traits: northwestern Plains-style pictographs, recently discovered house forms, projectile point forms, bone and antler artifacts, moccasins, bison hunting, surface manipulated pottery. The absence of kivas, sandals, cotton, turkeys, grooved axes, and peculiar pottery forms common in the Southwest also tend to negate southern influences. Traits such as stone alignments like tipi rings (Taylor 1957; Aikens 1966a, 1966b; Sharrock 1966), hide shields, and a boundary between Fremont and Southwestern area (Euler 1964; Aikens 1965, 1966c) are also Plains-like.

Recent evidence that the Promontory culture was contemporary with the Fremont and is admittedly Plains in origin and nature seems to substantiate the Plains origin for the Fremont. The Promontory culture shares with the Fremont the following traits: surface manipulated ceramics, stone pipes, floor-carved pot-rests, hidden-ball game, cane dice, and inscribed stone slabs. The latter have recently been found in direct association with Fremont pottery in Spotten Cave (Mock, personal communication).

The proto-Fremont peoples (Aiken 1967:204) were probably a group of bison hunters with most of the above-named characteristics who moved into the Utah area around 600 AD. They seemed to have adopted traits from an early Anasazi culture probably along the Virgin River drainage or from Basket Maker indigenes (Aikens 1967:204). These people

adapted quickly to a modified corn horticulture, architecture, and ceramics. The combined traits were synthesized into a mixed hunting-horticulture economy with a continued emphasis on the old nomadic life-way. There are some indications that the tipi rings continued to be built in the extreme north (Sharrock 1966:109-11) and possibly remained as ceremonial structures called "stone allignments". These are found on high localities near house clusters. They have been reported from the Old Woman site (Taylor 1957), Cisco (Wormington 1955), Torrey (Morss 1931), Uinta Basin (Gunnerson 1957, Sharrock 1966a), Garrison (Taylor 1954), Tavaputs Plateau (Gunnerson 1957), Bridger Basin (Day and Dibble 1963), Fremont River (Woodard, personal communication), and in Goshen Valley (42Ut325).

The proto-Fremont peoples adopted the concept of coil-made and surface painting of ceramics from the Anasazi. The people synthesized the pottery complex into a tradition of painted and/or surface manipulated types. Also, they adopted the concept of making figurines from the Anasazi and elaborated them to the point where they became one of the more spectacular traits of the Fremont material culture.

Many structural forms are found in the Fremont area and the time or areal distributions of these forms is still in doubt (Sharrock, personal communications). In general, storage structures are of the following types: (1) unlined cache pits, found in most open sites, bell-shaped, capped with stone or clay; (2) stone lined cache pits, found usually in rock shelters, stone-slab lined, rectangular or square, in single or multi-bin units; (3) coursed adobe surface units, floors and walls of clay, mud and pole roofs, stone roof covers for entrances; (4) masonry units, coursed motarless stone, built on rock floors, mud and pole roofs, stone side or roof entrance covers.

Type 4 granaries are usually found in the Southwestern and Mid-western sites in sheltered areas. Type 3 granaries are more characteristic of the Sevier and Provo regions and open sites. This type of granary was called the "Kanosh House" by Steward (1933) but is now recognized as a granary.

Dwellings are also varied and are of the following general types: (1) coursed adobe walls (coiled), surface or shallow pit floors, rectangular to circular, average fifteen feet to a side, some prepared floors, central firepit that is usually circular and clay lined, roof of mud and poles, four support posts around the firepit, and roof entrance; (2) adobe-brick, built on surface, similar in all other respects to type 1; (3) jacal, surface and shallow pit foundations, pole and mud roof, 12 to 25 feet to a side, central firepit stone or clay lined; (4) surface earthlodge, oval, average 13 feet in diameter, central clay-lined firepit, probably conical with truncated roof, roof or high side entrance; (5) masonry surface structure, mud and pole roof, central stone-lined firepit; (6) pit earthlodge, rectangular to round, up to 30 feet in diameter, 6- to 12-inch pits, central firepit usually clay lined, four support posts around the firepit, some tunnel entrances, some roof entrances, probably truncated pyramid in shape.

Type 1 structures are found at Nephi, Beaver, Marysvale, Ephraim, Tooele, Old Woman, and Nile-Mile Canyon. Type 2 is found in Nine-Mile Canyon. Type 3 is found at Nephi, Garrison, Marysvale, Ephraim, and Old Woman sites. Type 4 is found at Nephi, Willard, and Beaver. Type 5 is found at Nine-Mile Canyon, Poplar Knob, Caldwell, Turner-Look, Fremont River, and Escalante sites. Type 6 is found at Nephi, Beaver, Paragonah, Marysvale, Ephraim, Tooele, Old Woman, and Nine-Mile Canyon sites.

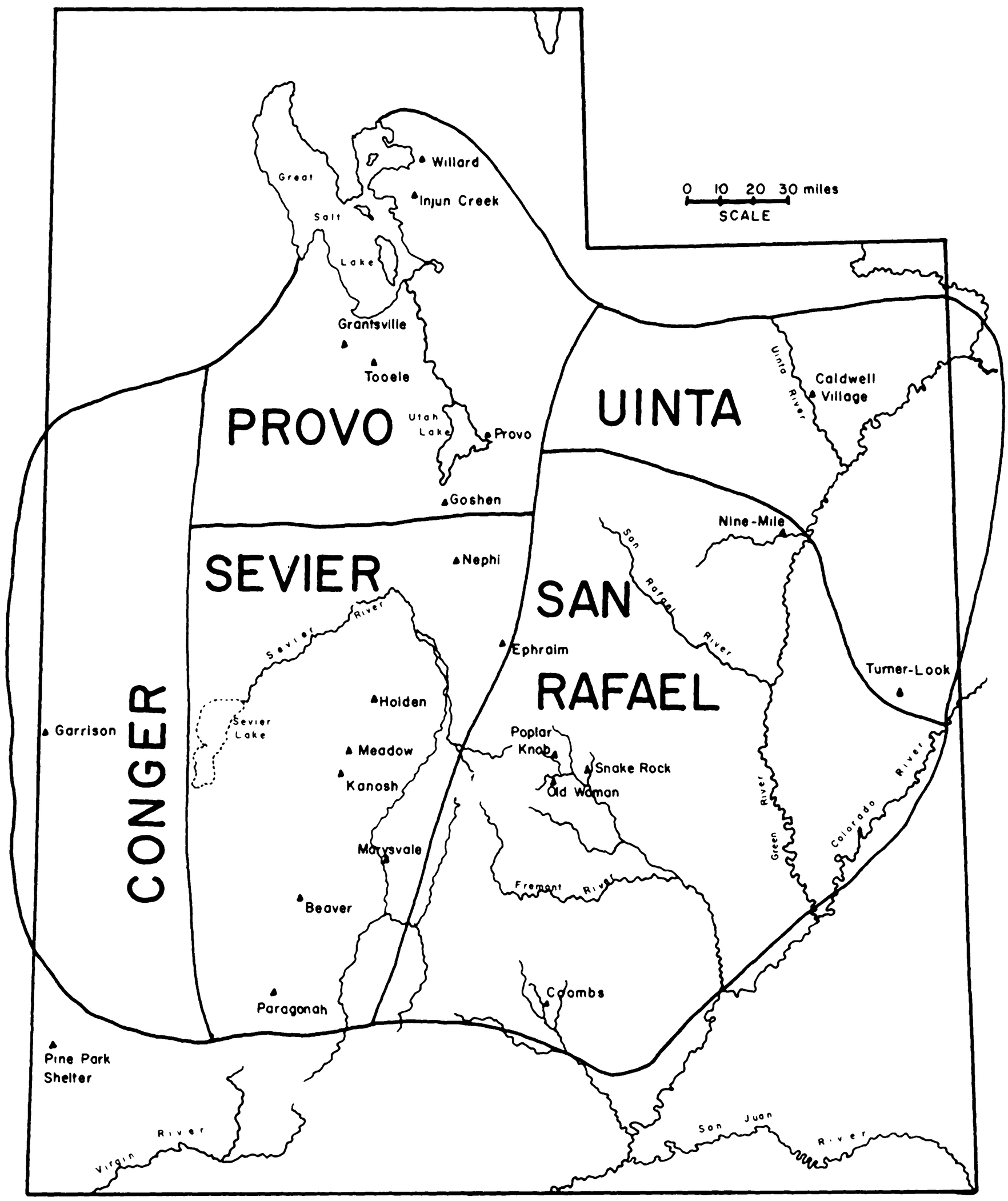


Fig. 1 Map showing the location of the Fremont area, the major areal subdivisions, some of the more important Fremont sites.

Sharrock (personal communication) stated that selected contruction and method and materials seem to be a function of available materials and place of construction rather than locally culturally conditioned preferences I disagree, however, as archaeological data almost invariably demonstrates that structural designs are as culturally determined as are ceramic types, point types, and other learned processes.

It would appear that by around A.D. 900, the mixture of Plains and Southwestern traits were solidified into the Fremont culture with rich traditions and a tenacious ability to hold onto the inhospitable land. There was an established border between the Anasazi and the Fremont peoples (Euler 1964:80; Aikens 1965:7) over which trade goods were exchanged. It would appear that about this time regional differences also began to appear with Plains traits being predominant in the north and Anasazi in the south.

Fremont rock art indicates that there was some emphasis on warfare, and the sophisticated weaponry supports this viewpoint. It has been suggested that the Fremont practiced head hunting and possibly cannibalism (Wormington 1955).

The size of structures and their general clustering into small groups indicate that villages were rare. In most cases the people seemed to have been in an extended family situation which exploited the local area for its animal resources while practicing horticulture. They would visit the same areas around springs and rivers over and over, which had a tendency to build up stratigraphic sequences in some areas. Meighan (1956) stated that Paragonah appeared to be occupied continuously for about 200 years by a group of around 150 to 200 people. There are indications that Nephi and a few other sites were of approximately equal size and lasted a comparable time.

The small size of structures indicates that they were not lived in so much as they were the home base for the family. There are use-areas associated with structures (Sharrock, personal communication) where most of the everyday living went on. Also associated with the use-areas are firepits and cache pits.

Pottery seems to have been locally made in most cases, but there are indications from the Goshen survey that some of the more elaborate painted varieties were made at the long-term sites (see Chapter V). Villages may have developed that traded with the more mobile groups and may have been the stabilizing factor in Fremont ceramics.

By around 1250 (Ambler 1966) to 1600 (Aikens 1967:205) the Fremont began to move out of Utah, possibly because of Shoshonian movements into the basin (Lamb 1958). The Fremont peoples may have become the stimulus to the Dismal River culture of Nebraska, Kansas, Colorado, and Wyoming (Aikens 1966).

GOSHEN VALLEY HISTORY

In 1775 Escalante's party passed along Utah Valley and down through Goshen Valley and Current Creek. Some exerpts from his diary, translated by Bancroft (1964) are as follows:

> Except for the marshes on the lake borders the land is good for agriculture. Of the four rivers which water the valley the southernmost, which they call Aguas Callientes, passes through rich meadows capable of supporting two large towns. Besides these rivers are good springs of water on both plain and mountain-side; pasture lands are abundant, and in parts the fertie soil yields such quanities of flax and hemp that it seems they must have been planted there by man. On the San Buenaventura the Spaniards had been troubled by the cold; but here the climate is so delightful, the air so balmy, that it is a pleasure to breathe it, by day and by night. In the vicinity are other valleys equally delightful.

> Besides the products of the lake the Utas hunt hares, and gather seeds from which they make "stole". They might capture some buffalo in the north-north-west but for the troublesome Comanches. They dwell in huts of Osier, of which, likewise many of their utensils are made; some of them wear clothes, the best of which are of the skins of rabbits and antelope.

The Indians would steal cattle whenever available and they would scare the settlers into giving them food when they caught them alone. They used the west side of the lake to move in a north-south direction as it was much faster than going around West Mountain and across the rivers. The last engagement of the Walker War was fought on the southern shore of Utah Lake and is known as the Goshen Valley Battle (Steele 1960). In 1856 a group of Utes under Tintic moved out of Cedar Valley and stole some cattle, and six people were killed in the resulting skirmishes (Steele 1960).

In 1847 Phineas Cook and a small group decided to settle the area south of Utah Lake and obtained permission from President Brigham Young. They found large natural meadows of bunch grass, bluestem grass, and curley grass on the higher areas and broad-leaf grass, narrow-leaf grass, and wire grass in the lowlands. They established a settlement and dammed up Current Creek (then Little Salt Creek) for irrigation. Sagebrush in the valley was then very rare. The original settlement was Fort Sodom (Steele 1960), about two miles north of the present town of Goshen on the east side of the creek. It was two acres square with double walls of juniper posts filled with sod.

The lowland meadows were so rich for cattle that until the winter of 1879 - 80 the cattle grazed the lake bottoms on their own during the winters. But over 3000 head died during the 1879 winter and now the residents mow the natural grasses for emergency situations (Steele 1960).

Some people say the valley gets its name from its resemblance to the "Land of Goshen" given to Jacob by Pharaoh in Genesis 47:6-11, but others, less romantic, declare that it was named after Phineas Cook's home town of Goshen, Massachusetts (Steele 1960).

In 1858, Johnston's army camped in Cedar Valley just over a low range of hills and traded with the people of Goshen. Trade stimulated settlement and in 1859 the people moved to a new town called Sandtown one mile to the southwest of Goshen to get out of the swamps. But the drifting sand drove them to the townsite of Lower Goshen several miles northwest, and Mechanicsville established only 300 yards southwest of the old fort. In 1860, a ditch was dug from the dam to the meadows near Lower Goshen which is now called Job Creek. Finally the people slowly moved to the present site of Goshen (Steele 1960).

CHAPTER TWO

PHYSIOGRAPHY

Goshen Valley is located in central Utah at the south end of Utah Lake. The valley is surrounded by mountains and drains directly into Utah Lake. On the east is West Mountain, and Long Ridge, with a pass between them located at Santaquin. To the east of Long Ridge is Mount Nebo, a snow covered peak over 12,000 feet above sea level, and 7,550 feet above the valley floor. Current Creek originates on Mount Nebo where the snows provide perennial water. On the south, Goshen Valley is narrowed by the junction of Long Ridge with the East Tintic Range. The Tintic mountains also border the west side of the valley and along the northwest border, the Lake Mountains complete the chain. All ranges are of the typical northsouth tending basin and range variety. Highway 6 passes through the valley in an east-west direction from the pass at Santaquin to the pass through the Tintic mountains. Highway 68 goes down the west side of Utah Lake and joins Highway 6 at Elberta.

GEOLOGY

Most of the valley consists of broad alluvial fans and gravel beds deposited by Lake Bonneville. The surrounding ranges have a short history compared to the Wasatch Front immediately to the east. Mount Nebo is basically an Oquirrah formation upthrust over gray and red shales of Jurrasic age. The total vertical displacement along the Wasatch Front amounts to many thousands of feet. Long Ridge

seems to be a late thrust of Cretaceous and Tertiary formations covered with a cap of volcanic rocks of Tertiary age. The East Tintic Range is of a comparable age. The Tintic mountains were a major source of minerals used by the Indians in the manufacture of stone tools.

HYDROLOGY

The dominant feature of Goshen Valley is Utah Lake. The lake is a fresh-water body which freezes over almost every winter. It is about 22 miles long and 10 miles wide and covers about 95,000 acres. The lake averages only about eight feet in depth. Due to its large surface area, the level fluctuates during long dry or wet spells (Wakefield 1933).

The water sources for the lake are streams, seepages, springs in or near the lake, and precipitation. Most of the water comes from the Provo River and other streams, but there are huge springs feeding the lake along the shore lines. The lake drains about 3,600 square miles, all of the active sources from the Wasatch Front. The Provo River source is in the Uinta Mountains seventy-five miles east of Utah Lake and drains an area of about 600 square miles. Spanish Fork River is the next largest water source with almost as great a drainage. There are ten streams feeding the lake and only one, the Jordan, flowing from it (Wakefield 1933).

Goshen Canyon, in the southeast, cuts through Long Ridge for one and one-half miles. It has a general northwest-southeast trend. The canyon has steep walls no more than 200 feet high, and Current Creek flows through it from Juab Valley and Mount Nebo (Peterson 1953).

The main northeast-northwest trending Goshen Valley ends in the south Kimball Creek Canyon. Kimball Creek is dry in the valley except during heavy melt or rains, but at higher elevations there is a constant flow about one foot wide and several inches deep. It would appear that this is sufficient for horticultural or camping needs, as there are aboriginal house clusters and campsites along the creek.

The Warm Springs are located on the west escarpment of Long Ridge, two miles east of the town of Goshen. The springs are thermal, keeping a constant year-round temperature of 71° F. The springs are located along a mile-long fault and average 6½ second feet with a low head. The output of the springs dropped only 25 per cent, after a two year drought in 1935 and have never been known to dry up (Peterson 1953).

In the center of the valley are a group of salt ponds which freeze over in the winter. They are fed from an unknown source and are on different elevations. Ditches dug from the highest to the lowest produced a rapid flow but in no way altered the level of the ponds. They average about 30 feet in diameter and about 30 feet in measurable depth (Woodard, personal communication). The water is slightly saline but of very low concentration and supports an amazing variety of simple forms of life.

There are a few springs scattered throughout the valley in the most unexpected places but these generally dry up in the summer. These are mud flats covered with growths of reed and bullrush. There are two of these vegetation colonies near the salt ponds.

CLIMATE

The overall climate of Goshen Valley is semi-arid, the annual precipitation being only 13.0 inches. The west side of Utah Lake has a little higher precipitation in summer as storms tend to form over the Tintic Mountains and move across the valley. The wet months are March, April, and May, while the dry months are June, July, August, and September. The valley averages four stormy days a month in summer and ten stormy days a month in spring. There is a yearly average of sixty-two stormy days (Wakefield 1933).

The mean annual temperature of the valley is 47.5° F. with 125 frost-free days in the valley and 150 on the higher benches (Wakefield 1933).

The summer months are characterized by high temperatures, low rainfall, and high evaporation. Because of these conditions the soil moisture used by most plants comes from precipitation occurring during the first five months of the year.

FLORA

Plants observed in the valley during the survey varied with altitude and soil conditions. Around the extensive swamps and bogs of Utah Lake were abundant reeds, bullrushes, and cat-tails. *Scripus validus Vahl* is the most common bullrush in the valley.

In the area around Goshen Bay are about 10,000 acres of alkali land which supports only extreme salt grasses (*Halophytes*) and sage (*Artemisia tridentata*) on the dune areas. Farther out in the valley the main vegetation is sage, rabbitbrush (*Chrysothamnus nauseosus*), greasewood (*Sacolatus vermiculatus*), and juniper (*Juniperus utahensis*) (Wakefield 1933).

The flora recovered from 42Ut104, the cave site excavated by James Mock, was identified by Glenn Moore of the BYU Botany Department and are as follows:

Level III (this is a temporary label as this is the third level from the surface and consists of Fremont materials).

Prunus persica	Peach Seed (intrusive)
Prunus armeniaca	Apricot Seed (intrusive
	Plum Seed (intrusive)
Arctium sp.	Cocklebur
Pinus edulis	Pinon Pine
Prunus melanocarpa	Choke Cherry
Celtis reticulata	Hackberry
Artemesia tridentata	Sage Brush
Sacobatus vermiculatus	Greasewood
Juniperus utahensis	Juniper
Populus angustephoria	Poplar
Phragmites sp.	Rush
Brassica sp.	Tumbling Mustard
Heliathus annus	Sunflower
Sanbucus glanous A	Elderberry
Phisocarpus sp.	Nine Bark
Cowenia stansburyia	Cliff Rose
Salix sp.	Willow
Quercus gambolei	Oak
Rhus trilobata	Skunk Brush
Cirsium sp.	Thistle
Zea mays	Corn
Phaseolus sp.	Bean
Cucurbita sp.	Squash

Fauna. No animal bones have been identified from Goshen Valley as the material from the cave is so great that it has swamped the zoologists. Numerous animals were observed in the area during the survey and a partial list follows:

Odocileus sp.	Deer
Lepus californious	Black-tailed Jackrabbit
Sylilagus sp.	Cottontail Rabbit
Erethizon diosatum	Porcupine
Sitellus sp.	Rock Squirrel
Corvus obsoletus	Common Raven
Salpintus obsoletus	Rock Wren
Zenaidura macrours	Mourning Dove
Lophortyx gambelii	Gambel's Quail
Anas sp.	Teal
Aythya sp.	Duck
Fulica americana	American Coot
Branta canadensis	Canadian Goose

There were many more smaller forms of animal life such as fish, snakes, lizards, miscellaneous birds, and small mammals; but the animals mentioned seem the likeliest food animals and the animal bones recovered appear to have been of these species. Bison was recovered along with what might be mountain sheep from the Fremont level of the cave. A complete list will be published in the Spotten Cave report.

CHAPTER THREE

PROCEDURES

FIELD

The first area to be explored contained those sites found by Carl Hugh Jones (1961) and Jay Woodard (personal communication). The explorations were confined to the sides of the Current Creek drainage, so it was decided that the survey should start at the Utah-Juab county line and work down stream. The explorations of dunes on both sides of the creek were done at intervals of 25 to 50 feet between each person. When any stone flakes were discovered a cry would be given indicating the nature of the material and through the numbers of calls the frequency of calls the surveyers usually determined the areal distribution of the site fairly quickly. At times a single find would keep the group in the area of a drainage for several hours before someone would discover where it came from and locate the site. Special attention was paid to flat areas between the dunes and creek and the top of dunes which seemed to have been a favorite camping ground.

In the dunes around the salt ponds and lake, the ridge and slope of the dunes were walked in search of sites.

Once a site was located we placed it on the map by narrowing the area down to 1/16 of a section. All through the survey a careful tabulation was made of surface features so that the group knew where it was at any moment of time. The site was then measured, usually by pacing, given a site number, and a description made of the site features as well

as a sketch map. All materials were placed in paper bags with the site number on them. Where there was too much material, a sample was obtained by going to various parts of the site and picking up all cultural material.

Six sites were already known and numbered in Goshen Valley and 68 more were added to that number by the survey for a total of 74 sites. The numbers used were 42Ut272 through 42Ut338 and 42Jb73.

LABORATORY

Once the artifacts were brought in from the field they were washed and dried. They were then numbered with the site number and placed in divided storage drawers until an analysis could be made. All debatage was placed in general categories, counted, and thrown away. All worked material was classified and a museum catalogue card made out for each group of artifacts, such as knives or projectile points, from each site.

Classes of artifacts were devised on the basis of the artifact configurations and not on any preconceived system. An attempt was made to keep the system as simple as possible so that each class would not appear too ambiguous or too complex. This also seemed to make more statistical sense as the numbers involved in each class were increased to the point where they approximated a statistical sample. I found the systems that Berge used on his projectile points just too cumbersome to handle (Berge 1964).

Pottery was handled in a new way which will be discussed under ceramics. The old pottery classifications were so confused that the material no longer seemed to fit. The amount of information about the Fremont culture has more than doubled in the last two years.

All sites were recorded on University of Utah standard site survey forms and are on file with the Department of Anthropology there and at Brigham Young University.

CHAPTER FOUR

DESCRIPTION OF SITES

Archaeological sites in Goshen Valley are located in three main areas: (1) along the Current Creek drainage; (2) along the upper Kimball Creek drainage; and (3) around dune areas in the valley proper.

The Current Creek sites are located in the dunes on either side of the creek. The camp sites are usually located in the high dunes overlooking the creek or even on the slope away from the water. On the other hand, the house clusters are along the edge of the creek but high enough to reach out of the reach of floods. The largest site, 42Ut273, is located next to a large flat area where sub-surface irrigation is practiced today. The sites on the lower end of the creek, where the sand dunes no longer produce a valley-like effect, are scattered over the higher ground.

The Kimball Creek sites are found in these areas where springs feed the creek year-round. The larger sites are located next to springs or next to flat areas where sub-surface waters could have aided horticulture techniques. All of the sites are high on the side of the creek, well out of the reach of floods.

The sites in the dunes are scattered throughout the valley. In the area around the salt ponds, Wintering birds probably attracted many hunters as the water is a natural feeding ground and the dunes offer a natural blind. The dunes are also fed in this area by the Warm Springs drainage. The dunes along the Warm Springs area probably were a rich

source of wild life during the winters, but no trace of sites can be found today. The whole area has been leveled, graded, and rebuilt. It also has been used as a cattle grazing area and is torn by their hooves.

The dunes along Highway 68 appear to have been natural camping grounds for Indian groups moving along the west side of the lake. The pioneer accounts report that the Utes used the west side of the lake as their main north-south route.

The southern part of the valley was surveyed to a much greater extent than the north because of the drainage potentials. Current and Kimball Creeks offered the best circumstances for settlement so the main emphasis of the survey was in this area. In the area of dunes around the lake, sites have been reported in mass by the local residents and a quick ride by Tote-Gote indicated the correctness of these observations. There was just no time to investigate this area in any detail as winter snows altered our plans

The following is a brief listing and description of the sites in Goshen Valley:

<u>VILLAGE SITES</u>:

lower Current Creek	upper Current Creek
42Ut102	42Ut273
42Ut338	

<u>HOUSE CLUSTERS</u>:

lower Current Creek	upper Current Creek
42Ut293	42Ut275
42Ut297	42Ut279
42Ut299	42Ut282
42Ut300	42Ut286
42Ut301	Kimball Creek

42Ut307

42Ut309

42Ut336

Genola Reservoir

42Ut104

42Ut306

42Ut325

42Ut327

42Ut328

42Ut333

Elberta Project

42Ut103a

CAMPSITES:

lower Current Creek

42Ut292

42Ut294

42Ut295

42Ut296

42Ut298

42Ut308

salt ponds

42Ut302

42Ut303

42Ut304

42Ut334

42Ut335

Kimball Creek

42Ut320

42Ut321

42Ut322

42Ut323

42Ut324

42Ut326

42Ut329

upper Current Creek

42Ut274

42Ut276

42Ut277

42Ut280

42Ut281

42Ut283

42Ut284

42Ut285

42Ut288

42Ut289

42Ut290

42Ut291

42Ut313

42Ut314

42Ut315

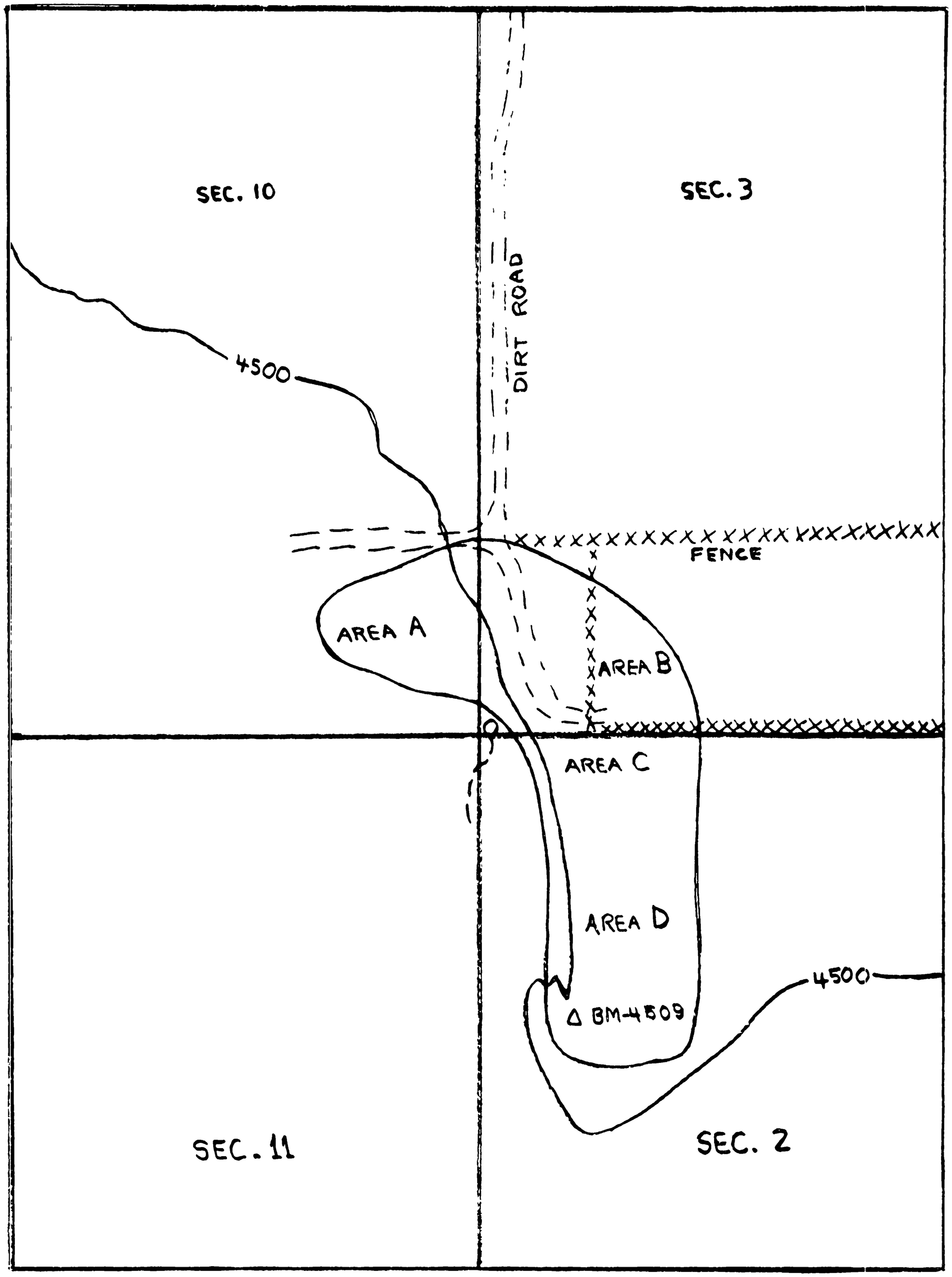
42Ut316

42Ut337

Elberta Project

42Ut103b,c,d

42Ut310



42Ut103
(from BERGE, 1964)
FIGURE 2

CAMPSITES (cont.)

42Ut330	42Ut311
42Ut331	42Ut312
42Ut332	42Ut317
dune ½ distance between	42Ut319
Goshen and Warm Springs	
42Ut305	

42Ut102 rw¼ of SW¼ of Sec.2 T10S R1W-House Cluster

This site is about one mile northwest of the town of Goshen on the Bend Road. It is on the east side of the road and in the field across from the White farm; it was excavated to an extent and is reported in chapter five.

42Ut103 SW¼ of SW¼ of Sec.2 T4S R1W-campsite and House Cluster

This site is on the Elberta Project farm and is about one-half mile long and consists of multiple occupations. It is on a low bench along an old shore line. Near the sourhwestern end is a spring which fluctuates with the lake levels. The bench is covered with shifting sands due to the nature of the local dunes. The northeastern end has been leveled and placed under cultivation.

I have divided the site up into four areas (see figure 2) somewhat equivalent to those assigned by Jones (1961). Area A is a house cluster next to the spring; area B is a group of campsites that have been partially destroyed by the road; area C is another group of possible houses but in a very eroded condition; area D is perhaps twenty-five small campsites that are scattered in the dunes. All of these sites have been lumped together because they overlap. Also all areas have some Fremont pottery in association with campfires; area D does seem to be predominantly non-Fremont.

CULTURAL MATERIAL (area A):

29 Provo Gray
4 Salt Lake Gray
14 Sevier Gray
1 scraper fragment
4 hammerstones
2 mano fragments

Debatage:
65 agate
34 quartzite
81 chert
69 jasper
3 obsidian

CULTURAL AFFILIATION: Fremont

CULTURAL MATERIAL (area B):

2 Provo Gray
1 Sevier Gray
2 scraper fragments

Debatage:
57 agate
5 quartzite
38 chert
34 jasper
1 andesite

CULTURAL AFFILIATION: Fremont

CULTURAL MATERIAL (area C):

15 Provo Gray
8 Salt Lake Gray
2 Sevier Gray
1 hammerstone
1 flat mono; discoidal
1 tubular shell bead

Debatage:
36 agate
8 quartzite
16 chert
21 jasper
1 obsidian

CULTURAL AFFILIATION: Fremont

CULTURAL MATERIAL (area D):

4 Provo Gray
1 Shoshoni Sherd
10 projectile points:
  1 type H
  1 type L
  1 type N
  7 fragments
1 type B knife
3 drills:
  1 type A
  2 type B

Debatage:
79 agate
34 quartzite
54 chert
45 jasper
2 obsidian

6 scraper fragments
2 hammerstones

CULTURAL AFFILIATION: Unknown, possibly late Ute.

42Ut104 SE¼ of NW¼ of Sec. 4 T9S R1W-Cave Site

This site is just south of Highway 6 where it passes over Long Ridge from Santaquin. The site is southwest of the reservoir and in a rocky outcrop of the ridge. The cave opens to the southwest and is thirty feet deep. It is more of a rock shelter than a cave, as it is almost as wide as deep. The cave was excavated over the period of 1964 to 1967. It contained seven feet of fill in the front and five in the rear. After excavation it was thirty-six feet long, twenty-one feet wide, and seventeen feet deep. There were five main stratigraphic sequences in the cave, of which the Fremont was the largest. The strata were from top to bottom (temporary labels): (Level 1) White Contact Period; (Level 11) Late Hunters and Gatherers; (Level 111) Fremont; (Level IV and V) Desert Culture. The bottom of level 1 was sealed off from the rest of the cave by a layer of sheep dung ranging from 4 to 12 inches in depth. This material was so consolidated as to be very much like cement. Rodent action in the cave after this time seems to have been confined to the sides of the cave where the dung did not extend. Each level had many living floors as evidenced by compacted soils and an abundance of artifacts. All levels had fire-lenses and C-14 samples were taken from almost all of them but are not available for evaluation at the present time. The Fremont level contained corn, beans, and squash. It also contained a sleeping platform, mud wall across the entrance of the cave, and an Angostura point that was obviously out of context. Promontory inscribed slabs were found in all levels but were obviously from the Fremont level. They were not in association with the typical Promontory assemblege and this seems to bear out the hypothesis that Fremont and Promontory were contemporaneous.

Great Salt Lake Gray	178	60.07%
Snake Valley Gray	64	21.61%
Knolls Gray	38	12.82%
Sevier Gray	16	5.49%
	296	99.99%

42Ut 153 Sec. 36 T10S R1W-Pictograph - SANTAQUIN QUAD

This site is located in upper Current Creek Canyon near the old flume. It is done in red paint.

CULTURAL AFFILIATION: Fremont

NE¼ NE¼ SW¼

42Ut154 SW¼ of SW¼ of Sec. 36 T10S R1W-Pictograph SANTAQUIN QUAD

This site is located in Current Creek Canyon about 100 yards north of the bridge and dam across the creek. It is on the east side of the road and high up under an overhang. There is a line beneath the main spiral, which has been repainted with red spray paint.

CULTURAL AFFILIATION: Fremont

42Ut155 Sec. 26 T10S R1W-Pictograph

I was not able to find this pictograph either. It is in Current Creek Canyon about ¼ mile northwest of the flume. It is of two men, both in ceremonial costume and is done in red paint. This site was also reported by Reagan (1935).

CULTURAL AFFILIATION: Fremont

NW¼ NE¼ SE¼

42Ut272 NE¼ of SE¼ of Sec. 26 T10S R1W-Pictograph

This group is located in the limestone cliff on the hill which sits in the mouth of Current Creek Canyon. The hill is to the west of the Creek and to the south of the Wolf Farm. The pictographs are high up in an overhang and are hard to see. They are of an animal, several zig-zag lines, and a triangular man with upraised arms. These are also done in red paint.

CULTURAL AFFILIATION: Fremont

42Ut273 NE¼ of NE¼ of Sec. 26 T10S R1W-Village

This site is located on the Wolf Farm, on the sand hill west of their house. It is on the west side of Current Creek where the creek swings around the hill. The site is located on the hillside and the top of the hill. Thirteen structures were visible from concentrations of artifacts and decaying clay walls. The site covers the area from the top of the hill to the cultivated ground to the west and south and extended to an old abandoned shack about 600 feet to the west.

CULTURAL MATERIAL:

556 Provo Gray
15 Provo Black-on-Gray
1 Provo Black-on-Gray/ Corrugated Exterior
4 Provo Applique
14 Provo Fingernail Impressed
2 Provo Red-on-Gray
1 Provo Incised
109 Salt Lake Gray
4 Salt Lake Fingernail Impressed
285 Sevier Gray
1 Sevier Applique
2 Sevier Black-on-Gray
6 Sevier Red-on-Gray
5 Unknown
10 projectile points:
- 2 type A
- 1 type E
- 1 type G
- 1 type I
- 5 fragments

1 shaft smoother
1 hammerstone
1 pecked stone ball

Debatage:
34 agate
3 quartzite
16 chert
100 jasper
2 obsidian
1 andesite

1 type B drill
3 knives:
- 1 type B
- 1 type E
- 1 fragment

5 scrapers:
- 1 type E
- 4 fragments

2 mano fragments
2 metate fragments (deep trough)
3 type A pottery gaming pieces

CULTURAL AFFILIATION: Fremont

42Ut274 NW¼ of SW¼ of Sec. 24 T10S R1W-campsite

This site is on the dunes immediately north of the Wolf Farm and Current Creek. It is just south of a farm road and fence crossing the dunes and is on a spur of the sand ridge. The area of occupation is about 75 feet in diameter.

CULTURAL MATERIALS:

1 type A drill	Debatage:
2 scrapers:	14 agate
1 type B	5 jasper
1 fragment	1 flint

CULTURAL AFFILIATION: Unknown

42Ut275 NE¼ of SE¼ of Sec. 23 T10S S1W-House Cluster

This site is just west of 42Ut274 and is on a spur projecting down across the farm road and fence. The major part of the materials came from north of the road. No structural materials were recovered but three depressions indicate the possibility of structures of some kind. The area is about 150 feet square and overlooks the same flat area that 42Ut273 does, and which has natural sub-surface irrigation.

CULTURAL MATERIAL:

31 Provo Gray	Debatage:
2 Salt Lake Gray	76 agate
4 Sevier Gray	63 quartzite
2 projectile point fragments	23 chert
1 type B drill	9 jasper
1 scraper fragment	3 obsidian
1 chopper	
2 hammerstones	1 mano fragment

CULTURAL AFFILIATION: Fremont

42Ut276 NE¼ of SE¼ of Sec. 23 T10S R1W-Campsite

This site is on the north side of Current Creek and west of 42Ut275. It is 75 feet from the fence line which cuts the two Wolf farms in half. It is on the dune and among the juniper trees. To the west the sand hill swings north to widen the "valley" of Current Creek. This site is only about 20 feet in diameter and may have been a single teepee as an irregular ring of stones outlines the site. All of the materials were found within the ring of stones.

CULTURAL MATERIAL:

Debatage:
16 agate
7 quartzite
8 chert
1 jasper
1 obsidian

CULTURAL AFFILIATION: Unknown

42Ut277 NE¼ of NE¼ of Sec. 26 T10S R1W-Lookout and Campsite

This site is on the south side of upper Current Creek, just west of 42Ut273. It is on the highest point of the sand hill about ½ mile west of the Wolf Farm. The hill overlooks the exit to Current Creek Canyon, the valley between the sand hills, as well as the surrounding terrane. Most of the materials were found on the north and west sides of the summit. Material was scattered over an area of about 200 by 800 feet but very thinly and with the main concentration around the summit.

CULTURAL MATERIAL:

10 Provo Gray
2 Salt Lake Gray
4 Sevier Gray
1 type A projectile point
2 scrapers
1 type C
1 fragment

Debatage:
258 agate
11 quartzite
24 chert
15 jasper
4 obsidian

1 flat mano, discoidal

CULTURAL AFFILIATION: Fremont

42Ut278 SE¼ of SW¼ of Sec. 23 T10S R1W-Kill Site

This site is located on the south side of upper Current Creek on the top of a spur. The site is above the western Wolf Farm and next to a sand and gravel pit on the farm. Much of the site is windblown and sloughing into the gravel pit. It is confined to an area of about 25 by 10 feet with a firepit in the center. The sand is covered with split bones and stone chips. It appears that about seven animals the size of large deer were killed and eaten on the spot. (Possible horse bones) The firepit was three feet in diameter and about four inches deep.

CULTURAL MATERIAL:

1 projectile point fragment
1 metate fragment, flat
25 representative large mammal bones (unidentified)

Debatage:
7 agate
54 quartzite
2 chert
48 jasper
3 obsidian

CULTURAL AFFILIATION: Unknown

42Ut279 NW¼ of SW¼ of Sec. 23 T10S R1W-House Cluster

This site is on the Finch Farm west of the main road to Goshen. It is on a large flat area on top of the sand hills and west of a commercial sand gravel pit. This site is well above the creek and very dry, but some areas have recently been plowed for what looks like dry-farming. There are no visible house remains but in two places stone alignments appear to have been destroyed by plowing and a road. The cultural material was spread out over an area of 300 by 100 feet but most was concentrated in the center of the site.

CULTURAL MATERIAL:

5 Provo Gray
12 Salt Lake Gray
8 Sevier Gray
9 projectile points
- 1 type A
- 1 type E
- 1 type F
- 1 type G
- 4 fragments

Debatage:
72 agate
40 quartzite
9 jasper
6 obsidian
150 chert
3 andasite
1 calcite

3 manos:
- 2 flat, discoidal
- 1 loaf shaped

CULTURAL AFFILIATION: Fremont

42Ut280 NE¼ of NE¼ of Sec. 22 T10S R1W-Campsite

This site is on the north side of upper Current Creek on the bend west of the Finch farm house. The site is slightly west of the old pond and cement dams. It is at the foot of the sand hill with

the creek less than 100 feet away. The material was thinly scattered over an area of about 100 by 100 feet.

CULTURAL MATERIAL:

	Debatage:
1 Provo Gray	26 agate
2 knife fragments	10 chert

CULTURAL AFFILIATION: Fremont

42Ut281 SW¼ of NE¼ of Sec. 22 T10S R1W-Campsite

This site is south of upper Current Creek on a projecting spur. The site overlooks the farm road along the edge of the dune and is west of a row of trees planted by the early settlers. A field onlet road is just below the site and an old road used to cross the creek to the north. The material was found on the tip of the spur and was spread out by the erosion to a circle of about 50 feet

CULTURAL MATERIAL:

	Debatage:
1 Provo Black-on-Gray	6 agate
2 loaf shaped manos	2 chert
	1 obsidian

CULTURAL AFFILIATION: Fremont

42Ut282 NE¼ of NE¼ of Sec. 22 T10S R1W-House Cluster

This site is located on the north side of upper Current Creek on the east end of a flat area where the creek swings a little south before turning towards the pond. The site is at the foot of the sand hill and overlooks a marsh-like area of the creek bottoms which is overgrown with reeds and cat-tails. There is evidence from concentrations of materials of at least three and possibly five structures. Clay from the structures is abundant. The whole area is overgrown with sage.

CULTURAL MATERIAL:

71 Provo Gray
5 Provo Black-on-Gray
7 Salt Lake Gray
50 Sevier Gray
1 Sevier Red-on-Gray
1 Sevier Black-on-Gray
1 Temperless sherd
1 type B drill
1 "vertical" mano

Debatage:
20 agate
25 quartzite
14 chert
1 andasite

5 projectile points:
1 type A
1 type C
3 fragments

CULTURAL AFFILIATION: Fremont

42Ut283 SE¼ of NW¼ of Sec. 22 T10S R1W-Campsite

This site is south of upper Current Creek on the second spur east of the power lines. It is on the end of the spur among sand blowouts and juniper trees. The area is a circle about 50 feet in diameter. This site overlooks an abandoned house of which only the foundations remain.

CULTURAL MATERIAL:

Debatage:
52 agate
13 quartzite
14 chert

CULTURAL AFFILIATION: Unknown

42Ut284 NE¼ of NW¼ of Sec. 22 T10S R1W-Campsite

This site is on the north side of upper Current Creek where the creek bends northward to go to the pond. It is on the westernmost spur around which the creek swings. The pond supports a large duck population, and this spur is the only way to approach the pond without being seen. This site is large, covering an area of about 500 by 200 feet and, probably represents a seasonal camp used for hunting and fishing.

CULTURAL MATERIAL:

7 Provo Gray
6 Sevier Gray
1 projectile point fragment
2 knives:
  1 type B
  1 fragment

Debatage:
123 agate
20 quartzite
66 chert
40 jasper

1 pecked stone ball
1 metate, trough type, open end

CULTURAL AFFILIATION: Fremont

42Ut285 NW¼ of SW¼ of Sec. 22 T10S R1W-Campsite

This site is on the south side of upper Current Creek on the dune overlooking 42Ut286. This site is almost due south of the bend in the creek where it swings toward the pond. The power lines across the dunes just northeast of the site. It is spread out over an area of about 200 square feet.

CULTURAL MATERIAL:

1 Provo Gray

Debatage:
84 agate
4 quartzite
12 jasper
3 chert
1 obsidian

CULTURAL AFFILIATION: Fremont

42Ut286 NW¼ of NW¼ of Sec. 22 T10S R1W-House Cluster

This site is located in the small dunes and flat area south of the bend leading to the pond on upper Current Creek. The area was recently leveled and structural clay was in evidence. This site is located next to another flat area similar to the one next to 42Ut273 and could be subsurface irrigated. The creek bottom in this area is covered with lush growths of reed and cat-tails. It is very hard to cross the creek on foot as the mud is several feet deep and much like quick sand.

CULTURAL MATERIAL:

17 Provo Gray
6 Salt Lake Gray
7 Sevier Gray
1 hammerstone
1 metate fragment

Debatage:
16 agate
25 quartzite
9 chert
64 jasper
6 obsidian

CULTURAL AFFILIATION: Fremont

42Ut287 NW¼ of NW¼ of Sec. 22 T10S R1W-Campsite

This site is on the sand hill south west of the pond. There is a small cleared field east of the dune and next to the creek. The site is at the midpoint of the field in relation to the dune. The power lines across the northeast corner of the site. It covers an area about 200 feet in diameter. Most of the materials was found in surface blowouts.

CULTURAL MATERIAL:

1 projectile point fragment
3 scraper fragments

Degatage:
50 agate
10 quartzite
41 chert
17 jasper
2 obsidian

CULTURAL AFFILIATION: Unknown

42Ut288 SW¼ of SW¼ of Sec. 15 T10S R1W-Campsite

This site is in the small dune northwest of the junction of Current and Kimball Creeks. This site overlooks the junction and a large pond just to the east. The materials were found in blow-outs around the sagebrush. The area involved is 100 by 50 feet along the ridge of the dune.

CULTURAL MATERIAL:

8 Provo Gray
1 type A knife
1 chopper

Debatage:
19 agate
3 quartzite
20 chert
9 jasper
2 obsidian

CULTURAL AFFILIATION: Fremont

42Ut289 NW¼ of NW¼ of Sec. 21 T10S R1W-Campsite

This site is on the highest part of the sand hill northwest of the junction of Current and Kimball Creeks. The site is on the ridge, the most southern point which a fence line passes to divide the Finch property from that of an unknown party. An old farm road passes over the dune just north of the site. The site is approximately 100 feet in diameter.

CULTURAL MATERIAL:

3 knife fragments
1 hammerstone

Debatage:
106 agate
18 quartzite
70 chert

CULTURAL AFFILIATION: Unknown

42Ut290 SW¼ of SW¼ of Sec. 15 T10S R1W-Campsite

This site is on the southwest extremity of the sand ridge north of the pond and on the east side of upper Current Creek. An old meander passes along the south edge of the dune and swings east. (It shows up in the aerial photographs quite well). This site overlooks the pond and is situated under a group of juniper trees. The site is about 200 feet in diameter.

CULTURAL MATERIAL:

1 flat metate

Debatage:
160 agate
29 quartzite
37 chert
5 obsidian

CULTURAL AFFILIATION: Unknown

42Ut291 NW¼ of NE¼ of Sec. 16 T10S R1W-Campsite

This site is next to Highway 6 and west of Goshen Reservoir. There is an abandoned house just east and over the edge of the dune. A road to the pond area is east of the site and house. This site is on three spurs of the sand dune and seems to have been a single encampment. Each area is about 50 feet in diameter.

CULTURAL MATERIAL:

1 flat metate

Debatage:
33 agate
24 quartzite
9 chert
11 jasper
1 obsidian

CULTURAL AFFILIATION: Unknown

42Ut292 NW¼ of SE¼ of Sec. 17 T10S R1W-Campsite

This site is in the town of Goshen on the central road that circles north past the Cattle Association pens north of town. The site is west and a little south of the pens in the greasewood and sagebrush that extends across the road to lower Current Creek (the old drainage). The site is only 100 by 50 feet.

CULTURAL MATERIAL:

1 projectile point fragment

Debatage:
28 agate
1 quartzite
3 chert
3 jasper
1 sandstone

CULTURAL AFFILIATION: Unknown

42Ut293 NW¼ of NW¼ of Sec. 12 T10S R1W-House Cluster

This site is on the east side of lower Current Creek north of Goshen. It is next to the first wooden gate on the west side of the main

road after one passes over the Denver and Rio Grande Western railroad tracks. There is a pit cut through most of the site as the dirt was used to resurface roads at the turn of the century. The site is seen as a luxuriant growth of sagebrush and extends on both sides of the road. It is about 200 by 200 feet square.

CULTURAL MATERIAL:

	Debatage:
12 Provo Gray	35 agate
3 Salt Lake Gray	9 quartzite
7 Sevier Gray	12 chert
1 projectile point fragment	3 obsidian
1 bone knife	1 jasper

CULTURAL AFFILIATION: Fremont

42Ut294 ~~SE¼~~ of SE¼ of Sec. 3 T10S R1W-Campsite

This site is on the White farm on the bend. The area involved is located along the first east-west fence line south of the White approach road. It is about 300 feet west of the main road. There appears to have been a very old drainage north of the site but the evidence is sparse. The number of sites in this area might not mean that there was a drainage as the pioneers record that Current Creek used to flood-plain irrigate the entire area.

CULTURAL MATERIAL:

	Debatage:
7 Provo Gray	1 agate
3 Salt Lake Gray	1 quartzite
18 Sevier Gray	3 chert
2 hammerstones	5 jasper
1 loaf shaped mano	1 pumice

CULTURAL AFFILIATION: Fremont

42Ut295 SE¼ of SE¼ of Sec. 3 T10S R1W-Campsite

This site is on the White farm and surrounds the house and barns. The whole group of structures is on a low group of dunes. The White family remember plowing up concentrations of stone mixed with artifacts.

They think they may have been structures but there are none left today. This site is very large, extending 300 or more feet in every direction from the houses. Not one sherd of pottery has been found by the owners who have potted the site for years. The garden of Mrs. White is lined with manos and metates.

CULTURAL MATERIAL:

5 knives
- 1 type D
- 4 fragments

2 scrapers:
- 1 type A
- 1 type E

10 manos:
- 5 flat, discoidal
- 1 loaf shaped
- 4 fragments

Debatage:
- 89 agate
- 20 quartzite
- 14 chert
- 3 obsidian

9 hammerstones

4 metates:
- 2 shallow trough fragments
- 2 flat fragments

← 4 sinkers

CULTURAL AFFILIATION: Unknown

42Ut296 SE¼ of NE¼ of Sec. 2 T10S R1W-Campsite

This site is on the east side of lower Current Creek on the dune between the main north road and the creek. It is next to the first turn north of the junction of the North Road with the Bend Road. The site is about 50 feet in diameter.

CULTURAL MATERIAL:

7 Provo Gray
1 Sevier Gray

Debatage:
- 9 agate
- 12 quartzite
- 8 chert
- 10 jasper

CULTURAL AFFILIATION: Fremont

42Ut 297 NW¼ of NE¼ of Sec. 2 T10S R1W-House Cluster

This site is just north of 42UT296 between the lower Current Creek drainage and the North Road. It is just south of a hay storage area and a group of trees is across the creek from the site. The area involved is about 75 feet in diameter.

CULTURAL MATERIAL:

3 Provo Gray
1 Provo Black-on-Gray
2 Salt Lake Gray
5 Sevier Gray
2 projectile point fragments

Debatage:
42 agate
20 quartzite
8 chert
8 jasper
5 obsidian

CULTURAL AFFILIATION: Fremont

42Ut298 NW¼ of NW¼ of Sec. 2 T10S R1W-Campsite

This site is between the lower Current Creek drainage and North Road. It is north of site 42Ut298. There is a small jog in the road east of the site and another hay storage area east of the road. There is a ditch through the western side of the site. This site is diffuse in that material was found over an area of about 100 by 50 feet.

MATERIAL CULTURE:

6 Provo Gray: plain var.
1 Sevier Gray: plain var.
1 type I projectile
1 hammerstone

Debatage:
30 agate
11 quartzite
10 chert

CULTURAL AFFILIATION: Fremont

42Ut299 NW¼ of NE¼ of Sec. 2 T10S R1W-House Cluster

This site is on the dune between the lower Current Creek drainage and North Road. The dune gives out just north of the site and the road makes a jog to the west. There is a ditch cut through the western side of the site where a piece of charred corn was recovered two feet below the surface.

CULTURAL MATERIAL:

14 Provo Gray
2 Sevier Gray
3 projectile points:
  1 type F
  1 type H
  1 fragment
1 flat metate fragment

Debatage:
83 agate
26 quartzite
14 chert
1 obsidian

1 hammerstone
1 stone disk

CULTURAL AFFILIATION: Fremont

42Ut300 NE¼ of SW¼ of Sec. 35 T9S R1W-House Cluster

This site is between the lower Current Creek drainage and North Road. To the east across the road is a grove of trees and north is an old abandoned house. There is a ditch through the western side of the site. It covers an area of about 100 by 100 feet. Across the road is 42Ut338.

CULTURAL MATERIAL:

53 Provo Gray
9 Salt Lake Gray
7 Sevier Gray
1 Temperless
1 knife fragment
1 type A drill

Debatage:
12 agate
11 quartzite
6 chert
16 jasper
2 flat mano fragments

CULTURAL AFFILIATION: Fremont

42Ut301 SE½ of NW¼ of Sec. 35 T10S R1W-House Cluster

This site is about 500 feet south of the old abandoned house and between the lower Current Creek drainage and the North Road. It is also just north of a cattle pen. The material came from three concentrations in a line from the southeast corner of the pen towards the northwest. They are in 30 foot diameter clusters.

CULTURAL MATERIAL:

50 Provo Gray
3 Salt Lake Gray
7 Sevier Gray
2 scrapers:
1 type C
1 fragment
1 hammerstone

Debatage:
18 agate
13 quartzite
26 chert
5 obsidian
1 jasper

CULTURAL AFFILIATION: Fremont

42Ut302 SW¼ of SE¼ of Sec. 26 T9S R1W-Campsite

This site is on and around the hay storage area and corral of the Woodard property west of the salt ponds. The North Road more or less ends just northeast of the site. The site is on a low mound of sand and could afford a lookout for a hunting camp. Migrating birds use these ponds during the winter.

CULTURAL MATERIAL:

3 projectile points:
1 type C
1 type L
1 type I
1 loaf shaped mano fragment

Debatage:
122 agate
14 quartzite
145 jasper
110 chert
8 obsidian

CULTURAL AFFILIATION: Unknown

42Ut303 SW¼ of SE¼ of Sec. 26 T9S R1W-Campsite

This site is half way between the site on the Woodard corral (42Ut302) and the northernmost salt pond. The site is on a slight rise in ground and was of very short duration, perhaps only one or two days. The material was found on the rise of ground.

CULTURAL MATERIAL:

Debatage:
23 agate
2 quartzite
48 chert
14 jasper

CULTURAL AFFILIATION: Unknown

42Ut304 NW¼ of NW¼ of Sec. 35 T9S R1W-Campsite

This site is southeast of the salt ponds and east of the temporary pond. The dune is low and surrounded by salt-pans and more dunes. A high dune to the west hides the salt ponds from view. This site is perfect for water-fowl hunting as it is hidden. It is about 100 feet in diameter.

CULTURAL MATERIAL:

3 projectile point fragments
1 loaf shaped mano fragment

Debatage:
122 agate
71 quartzite
140 chert
50 jasper
10 obsidian

CULTURAL AFFILIATION: Unknown

42Ut305 SE¼ of SE¼ of Sec. 12 T10S R1W-Campsite

This site is east of Goshen and the large intermittent pond which is fed by the warm springs overflow. The warm springs ditch swings around

the west side of the pond. The area around the pond is one of low sand dunes. The site is about 50 feet in diameter.

CULTURAL MATERIAL:

1 type C knife

Debatage:
5 quartzite
1 jasper

CULTURAL AFFILIATION: Unknown

42Ut306 NE¼ of SE¼ of Sec. 33 T9S R1W-House Cluster ?

This site is in Genola, northwest of the Genola reservoir and northeast of 42Ut104. This site is located on an old Santiquin Canyon drainage which the dump and reservoir now fill. The site is about 200 feet in diameter.

CULTURAL MATERIAL:

34 Provo Gray
33 Salt Lake Gray
15 Sevier Gray
2 projectile point fragments
1 type B drill
1 stone square

Debatage:
2 agate
23 quartzite
1 chert
67 jasper

1 chopper

CULTURAL AFFILIATION: Fremont

42Ut307 SE¼ of NE¼ of Sec. 11 T10S R1W-House Cluster

This site is in the town of Goshen and just north of 42Ut292. The material came from an area of about 50 feet in diameter and to a depth of one foot below surface.

CULTURAL MATERIAL:

74 Provo Gray
3 Provo Black on Gray
15 Salt Lake Gray
16 Sevier Gray
5 Ivie Creek-Black-on-White
2 projectile points:
1 type E
1 type I

Debatage:
48 agate
51 quartzite
36 chert
8 jasper

1 scraper fragment
1 hammerstone

CULTURAL AFFILIATION: Fremont

42Ut308 NW¼ of SE¼ of Sec. 10 T10S R1W-Campsite

This site is northeast of the Goshen Reservoir in the dunes on the north side of Highway 6 and on the east side of the old Current Creek drainage where it turned east through the dunes. The site is about 100 feet in diameter and is on the top of a sand dune.

CULTURAL MATERIAL:

1 type B drill
2 scraper fragments

Debatage:
365 agate
72 quartzite
58 chert
10 obsidian
1 jasper
2 andasite

CULTURAL AFFILIATION: Unknown

42Ut309 NW¼ of SW¼ of Sec. 11 T10S R1W-House Cluster

This site is in a field next to an old abandoned house near the junction of the "Bend" Road with a lane which extends to the west. The lane is the first road west when one is going north on the "Bend" Road from Highway 6. The site is about 100 by 50 feet and has been plowed and leveled.

CULTURAL MATERIAL:

5 Provo Gray
2 Sevier Gray

Debatage:
9 agate
1 quartzite
3 chert

CULTURAL AFFILIATION: Fremont

42Ut310 NW¼ of NE¼ of Sec. 32 T9S R1W-Campsite

This site is on a group of dunes west of Highway 68 and approximately 1½ miles north of the Elberta Project offices. A road extends to an old gravel and sand pit in the dunes. The site is north of the gravel pit, on the second eastward spur of the dune north of the road. The area involved is about 50 by 50 feet. Three rock clusters are visible but with no associated charcoal.

CULTURAL MATERIAL:

1 type A projectile point
2 scrapers:
  1 type E
  1 fragment
3 hammerstones

Debatage:
98 agate
12 quartzite
10 chert
134 jasper
1 obsidian

CULTURAL AFFILIATION: Unknown

42Ut311 NW¼ of SE¼ of Sec. 29 T9S R1W-Campsite

This site is north of 42Ut310, on the third and final spur of the sand hill. The site is on the northeastern tip of the spur. There was a campfire within a cluster of rocks and waste materials. The area of occupation was about 50 feet in diameter. The depth of fill was six inches in the area of the fire.

CULTURAL MATERIAL:

1 projectile point fragment
2 mano fragments:
  1 flat discoidal
  1 loaf shaped

Debatage:
58 agate
12 chert
1 obsidian

CULTURAL AFFILIATION: Unknown

42Ut312 NW¼ of NW¼ of Sec. 32 T9S R1W-Campsite

This site is just northeast of 42Ut310 and southeast of 42Ut311. The material is clustered around a group of rocks on the north side of the same spur that 42Ut310 is on. It is about 20 feet in diameter.

CULTURAL MATERIAL:

Debatage:
2 agate
4 quartzite
5 chert
32 jasper

CULTURAL AFFILIATION: Unknown

42Ut 313 NW¼ of SW¼ of Sec. 15 T10S R1W-Campsite

This site is southeast of Goshen Reservoir, and east of upper Current Creek and the farm road which swings around the lower edge of the dune. The site is on the dune and is about 50 feet in diameter.

CULTURAL MATERIAL:

1 type D scraper

Debatage:
12 agate
11 quartzite
22 chert
78 jasper
5 andasite

CULTURAL AFFILIATION: Unknown

42Ut314 NW¼ of SW¼ of Sec. 15 T10S R1W-Campsite

This site is south of 42Ut313 and northeast of 42Ut290. The site is on the edge of the dune where it sloped towards the road and creek below. Part of the site has fallen onto the road. The site is only about 10 feet in diameter and has a fire lens about 6 inches thick.

CULTURAL MATERIALS:

Debatage:
12 agate
5 quartzite
4 chert

CULTURAL AFFILIATION: Unknown

42Ut315 SE¼ of NW¼ of Sec. 15 T10S R1W-Campsite

This site is just east of the southern end of the Goshen Reservoir and is on the same dune with a cattle pen. The site is northwest of the pen and is about 100 feet in diameter.

CULTURAL MATERIAL:

1 hammerstone
2 manos:
1 flat, discoidal
1 loaf shaped
2 metate fragments

Debatage:
73 agate
17 quartzite
79 chert
46 jasper
3 obsidian

CULTURAL AFFILIATION: Unknown

42Ut316 NE¼ of NW¼ of Sec. 15 T10S R1W-Campsite

This site is north of 42Ut315, on the dune east of the central part of the reservoir. The site is on the southwest slope and several rock clusters are present but there is no evidence of charcoal. The site is about 100 feet in diameter.

CULTURAL MATERIAL:

1 hammerstone
1 loaf shaped mano
1 metate fragment

Debatage:
38 agate
23 quartzite
44 chert
24 jasper
10 obsidian

CULTURAL AFFILIATION: Unknown

42Ut317 SW¼ of NE¼ of Sec. 32 T9S R1W- Campsite

This site is in the sand dunes west of Highway 68 and is part of the 42Ut310-312 group. This site is south of the gravel pit road and on the first western extending spur. Rock clusters are present in the 100 by 200 foot area where the material was found but no charcoal was found. The wind could easily blow most of the charcoal away.

CULTURAL MATERIAL:

1 scraper fragment

Debatage:
59 agate
5 quartzite
7 chert

CULTURAL AFFILIATION: Unknown

42Ut318 SW¼ of NE¼ of Sec. 32 T9S R1W-Campsite

This site is south of 42Ut317 and on the second east-west spur of the dune system. It is in the saddle of the dune. There are rock clusters present but no charcoal. The site is about 100 feet in diameter.

CULTURAL MATERIAL:

1 projectile point fragment
2 scraper fragments
1 shallow trough metate fragment

Debatage:
71 agate
6 quartzite
13 chert
71 jasper

CULTURAL AFFILIATION: Unknown

42Ut319 NW¼ of SE¼ of Sec. 32 T9S R1W-Campsite

This site is south of 42Ut318 on the third east-west spur and almost centrally located. The site is about 200 feet in diameter and two campfires in rock clusters are present. The fires are about 20 inches in diameter and four inches deep.

CULTURAL MATERIAL:

2 type A scrapers
2 mano fragments"
1 flat, discoidal
1 loaf shaped
1 shallow trough metate fragment

Debatage:
42 agate
3 quartzite
14 chert
44 jasper
3 obsidian

CULTURAL AFFILIATION: Unknown

42Ut320 NW¼ of NE¼ of Sec. 35 T11S R2W-Campsite

This site is in Kimball Creek Canyon above its junction with the Dry Ridge system. The site is on the west side of Kimball Creek just south of where the road dips down off of the side of the canyon and crosses the stream. A cabin is above the site to the southwest and to the northeast across the creek is a small cliff with a karst-like appearance. The site is 100 feet by 20 feet and follows the creek. It is very eroded and overgrown with junipers and boulders.

CULTURAL MATERIAL:

2 projectile points:
1 type G
1 fragment

Debatage:
12 agate
5 quartzite
18 chert
4 jasper
3 andasite

CULTURAL AFFILIATION: Unknown

42Ut321 SW¼ of SE¼ of Sec. 26 T11S R1W-Campsite

This site is on the road in Kimball Creek, just north of 42Ut320. The road in this area is on the side of the canyon. Just south of the site, 50 feet or so, the road drops down into the canyon to cross the creek. The site is on both sides of the road, but its main area is east of the road in the boulders and juniper. It is about 100 by 50 feet in size.

CULTURAL MATERIAL:

1 projectile point fragment
1 knife fragment
2 scrapers:
1 type B
1 fragment

Debatage:
20 agate
1 quartzite
17 chert
12 andasite

CULTURAL AFFILIATION: Unknown

42Ut322 SE¼ of NE¼ of Sec. 26 T11S R2W-Campsite

This site is in the mouth of Kimball Creek Canyon about two miles south of the Hancock ranch. The site is west of Kimball Creek, but east of the canyon road. Just south of the site is a new fence line and fire trail which extends in a east-west direction. This site is about 50 feet in diameter and is in juniper and boulders.

CULTURAL MATERIAL:

Debatage:
90 agate
7 chert
5 jasper

CULTURAL AFFILIATION: Unknown

42Ut323 SE¼ of NE¼ of Sec. 26 T11S R2W-Campsite

This site is south of 42Ut322 and on the other side of the fence line. The site is about 900 feet south of the fence. It is on the west side of the creek and a ditch runs through the west side of the site which feeds a water tank at the Hancock Ranch. The area involved is about 100 by 50 feet.

CULTURAL MATERIAL:

1 type A knife
3 scrapers:
1 type B
2 fragments

Debatage:
2 agate
3 quartzite
5 chert
4 jasper
6 andasite

CULTURAL AFFILIATION: Unknown

42Ut324 SE¼ of NE¼ of Sec. 26 T11S R2W-Campsite

This site is on the west side of the creek and ditch but east of the road. The hills close in just north of the site to form the steep sided canyon more characteristic of the upper sections of Kimball Creek. The site is about 100 by 50 feet in area.

CULTURAL MATERIAL:

1 scraper fragment

Debatage:
52 agate
5 quartzite
9 chert
7 jasper
15 andasite
1 opalite

CULTURAL AFFILIATION: Unknown

42Ut325 SE¼ of SE¼ of Sec. 26 T11S R2W-House Site

This site is on the crest of a hill west of Kimball Creek and north of the junctions of Kimball and Dry Ridge Canyons. There is a spring at the junction which is aided by spring runoff from both canyons. The site consists of a single round stone structure 36 feet in diameter. The visible walls, consisting of rounded basaltic boulders, averages six feet in width, most of which is probably due to the wall's collapse. The area is overgrown with juniper.

CULTURAL MATERIAL:

59 Provo Gray
159 Sevier Gray
7 Sevier Red-on-Gray
9 projectile points:
- 1 type D
- 1 type G
- 1 type I
- 6 fragments

3 scrapers:
- 1 type A
- 2 fragments

Debatage:
90 agate
12 quartzite
142 chert
48 jasper
78 andasite
15 basalt
2 obsidian

3 hammerstones
1 triangular mano

CULTURAL AFFILIATION: Fremont

42Ut326 NE¼ of SE¼ of Sec. 21 T11S R2W-Campsite

This site is in the angle of the junction of Kimball and Dry Ridge Canyons. The road goes up to the side of the canyon at this point and the site is west of the road in the boulders and juniper. The site is only 50 by 20 feet in area and very eroded.

CULTURAL MATERIAL:

1 thin discoidal shell bead

Debatage:
26 agate
7 chert
2 jasper
9 andasite

CULTURAL AFFILIATION: Unknown

42Ut327 NW¼ of NE¼ of Sec. 35 T11S R2W-House Cluster

This site is on the west side of Kimball Creek and about half way between the junctions of Dry Ridge with Kimball Creek and the junction of Garbett Gulch with Kimball Creek. The site is east of the ditch. A gully separates the site from the rest of the mountain. The area involved is 100 feet in diameter in a clearing.

CULTURAL MATERIAL:

11 Provo Gray
19 Sevier Gray
4 projectile points:
- 1 type G
- 2 type I
- 1 fragment

3 knives:
- 1 type A
- 1 type B
- 1 fragment

Debatage:
72 agate
15 quartzite
31 chert
4 jasper
17 andasite
1 opalite

4 scraper fragments
1 deep trough metate fragment

CULTURAL AFFILIATION: Fremont

42Ut328 SW¼ of NE¼ of Sec. 35 T11S R2W-House Cluster

This site is north of 42Ut327 and overlooks the junction of Kimball and Garbett Gulch Canyons. The site is on the west side of the creek and north side of the junction. The site is on a ridge which protrudes out into the canyon. It slopes both into Kimball Creek and Garbett Gulch. The site is in the heavy sage, but is clear of junipers. There are two stone foundation to structures, both of which are square and about 14 feet to a side. The whole complex is about 75 feet in diameter. There was one large metate left at the site.

CULTURAL MATERIAL:

72 Provo Gray
104 Sevier Gray
1 Sevier Surface Manipulated
1 Ivie Creek Black-on-White
6 projectile points:
  2 type C
  2 type E
  1 type G
  1 type I
2 knives:
  1 type B
  1 fragment

Debatage:
83 agate
7 quartzite
20 chert
4 jasper
4 obsidian
15 andasite
3 opalite

1 type A drill

CULTURAL AFFILIATION: Fremont

42Ut329 SW¼ of NE¼ of Sec. 35 T11S R2W-Campsite

This site is northeast of the junction of Kimball Creek and Garbett Gulch and on the opposite side of the creek from 42Ut328. It covers an area of about 50 by 50 feet. The road crosses the site before dropping down to cross the creek for the second time.

CULTURAL MATERIAL:

3 Provo Gray
3 Sevier Gray
3 projectile point fragments
1 long flat mano

Debatage:
10 agate
5 chert
8 jasper

CULTURAL AFFILIATION: Fremont

LEFT OUT SECTION

42Ut330 NW¼ of NE¼ of Sec. T11S R2W-Campsite

This site is on the opposite side of the creek from 42Ut327. The area involved is great as a gully cuts through the site, and has washed the materials down to the creek. The original site probably was small and in the upper one-fourth of the gully.

CULTURAL MATERIAL:

2 projectile points:
  1 type I
  1 fragment

Debatage:
10 agate
27 quartzite
12 andasite
10 chert

CULTURAL AFFILIATION: Unknown

2Ut331 SW¼ of [illegible]¼ of Sec. 35 T11S [illegible]W-Campsite

Th[illegible] site is in th[illegible] angle between the junctions of Kimball Creek and [illegible]rbett Gulch. [illegible]e road swings across Kimball Creek and then west [illegible]wards a hunti[illegible] cabin on the west side of the creek. The site[illegible] about 100 b[illegible] feet.

[illegible]LTURAL MATERIA[illegible]:

1 type C dri[illegible]

Debitage:
36 agate
[illegible] quartzite
11 chert
5 andasite

[illegible]ULTURAL AFFI[illegible]: Unknown

42Ut332 [illegible] SW¼ of Sec. 35 T11S [illegible]-Campsite

This site is [illegible] west side [illegible] Kimball [illegible]eek on the so[illegible]hern slope [illegible] the hill wh[illegible] cabin is [illegible]ated. The site overlooks the la[illegible] flat where the [illegible]og Canyons junc[illegible]re. The site is southwest of th[illegible] [illegible]bin and cover[illegible] an area of about 100 feet by 50 feet.

CULTURAL [illegible]:

1 knif[illegible] [illegible]

Debitage:
[illegible]9 quartzite
12 chert
3 jasper

CULTURAL A[illegible]ILLATION: Unk[illegible]n

42U[illegible] 3 SW[illegible] SW¼ of [illegible]ec. 35 T11S R[illegible]W-House Cl[illegible]er

[illegible] site [illegible] on [illegible] west [illegible] of the junc[illegible]n of Lit[illegible] Dog [illegible] Dog Can[illegible] and [illegible] the s[illegible] of the hill southwest of the [illegible]rv[illegible] on the [illegible]lat. The site is cut on the west side by the ditch [illegible] a[illegible] 200 b[illegible]00 feet in siz[illegible]. The fill is at least one foot thick [illegible]. The a[illegible] pa[illegible] ben[illegible] the site as it [illegible]ings [illegible]ittle Dog [illegible]yon.

CULTURAL MATERIAL:

16 Provo Gray
13 Sevier Gray
1 Unknown Sherd
5 projectile points:
4 type A
1 fragment
4 scraper fragments

Debatage:
79 agate
29 quartzite
26 chert
2 jasper
25 andasite

CULTURAL AFFILIATION: Fremont

42Ut334 SE¼ of SW¼ of Sec. 25 T9S R1W-Campsite

This site is east of the northernmost salt pond, but well into the dunes. There is a large salt pan between the site and the ponds. The site is in the junction of two dunes and is on the southeastern slope. It is also on the eastern tip of the dune which flanks the southern side of the salt pan.

CULTURAL MATERIAL:

Debatage:
8 agate
17 quartzite
5 chert
50 jasper
4 obsidian

CULTURAL AFFILIATION: Unknown

42Ut335 SE¼ of SW¼ of Sec. 25 T9S R1W-Campsite

This site is 500 feet west of 42Ut335 on the same dune which borders the salt pan. This dune curves back around to the south and east like a boomerang. The area involved is about 75 by 50 feet. The site would make a good hunting camp.

CULTURAL MATERIAL:

Debatage:
72 agate
16 quartzite
30 chert
1 jasper

CULTURAL AFFILIATION: Unknown

42Ut336 NW¼ of SW¼ of Sec. 2 T10S R1W-House Cluster

This site is just north of 42Ut102 near the bend in the road. The site is in the field south of the road and was discovered when an irrigation trench was cut. The area involved is 100 by 100 feet. An abandoned house is north of the site and across the road.

CULTURAL MATERIAL:

8 Provo Gray
1 Provo Black-on-Gray
13 Sevier Gray
1 Sevier Red-on-Gray
3 Salt Lake Gray
1 type A pottery gaming piece

Debatage:
3 quartzite

CULTURAL AFFILIATION: Fremont

42Ut337 SE¼ of SE¼ of Sec. 15 T10S R1W-Campsite

This site is on the north side of upper Current Creek. 42Ut280 is 500 feet to the southeast and 42Ut282 is about 1000 feet to the southwest. The site is first under the crest of the dune and next to U.S.B.R. marker G-U-11. The area involved is about 50 by 75 feet.

CULTURAL MATERIAL:

4 Provo Gray
1 Salt Lake Gray
1 corn cob fragment
1 type B knife
1 mano fragment

Debatage:
25 agate
27 quartzite
14 chert

CULTURAL AFFILIATION: Fremont

42Ut338 NW¼ of SE¼ of Sec. 5 T9S R1W-Village

This site is on the east side of lower Current Creek and northeast of 42Ut300. The site is on the east side of the north road where a irrigation ditch has just been cut. The trench cut through several structures, and there were materials recovered from 150 yards of trench. Materials were in evidence as much as two feet below surface. The area involved is about 450 long and at least 50 feet wide.

CULTURAL MATERIAL:

87 Provo Gray
6 Provo Surface Manipulated
10 Sevier Gray
3 Ivie Creek Black-on-White
3 Unknown
1 type projectile point
1 type D hafted knife
1 shaft smoother

Debatage:
11 agate
8 quartzite
9 chert

CULTURAL AFFILIATION: Fremont

42Jb73 NE¼ of NW¼ of Sec. 1 T11S R1W-Source Area

This site is located on the east side of upper Current Creek in Juab County. It is south of the bridge and irrigation dams. A dirt road goes around the dam and past the edge of the site. The site is on the third spur through which the road cuts. The top of the knoll is the site and on both sides of the canyons are agate nodules, some of which range up to several pounds in weight. A large yellow brown jasper boulder was also found on the west side of the road.

CULTURAL MATERIAL:

3 projectile points:
1 type C
1 type E
1 fragment

Debatage:
58 agate
19 jasper
9 chert
MANY AGATE NODULES

CULTURAL AFFILIATION: Unknown

CHAPTER FIVE

EXCAVATION OF SITE 42Ut102 - "WOODARD MOUND"

This site was named after the Woodard family of Goshen who have protected the mound on their property from pot-hunters and cultivation for many years. Farm roads were cut through the northern tip and western side of the mound but otherwise it is in good shape. Jay Woodard and Carl Hugh Jones surface collected and tested the mound in 1961. They reported a large number of Knolls Gray sherds.

The mound is 1½ miles northwest of the town of Goshen, out on the "Bend" Road. It is located in the SW¼ of SW¼ of Sec. 2, T10S, R1W, of the Santaquin 15 minute quadrangle.

Prior to excavation, the mound was covered with a high growth of ragweed which hid all of the surface features and made exploration almost impossible. The mound is about 100 feet long and 50 feet wide, the axis being oriented in a north-south direction. It is about five feet above the surrounding surface at its highest point. The desire to excavate this site grew out of its excellent state of preservation.

Normal stratigraphic section of the site first revealed a layer of late trash and dung of variable depth. Below this, and to a depth of about 1½ feet is a sandy soil with a comparatively high percentage of artifacts. This soil showed little charcoal or decayed organic material. A second layer, averaging 14 inches in depth, was filled with refuse, charcoal, and red ochre. The line between these layers was somewhat hazy

in most areas. At a depth of 2½ to 3 feet was a layer of sterile sand that was probed to a depth of five feet in one place in the back-hoe trench. There was no indication of cultural remains below the sand.

Before excavation was begun, the site was laid out with a control grid of two meter squares. Since it was later decided that measurements were to be made in inches, the squares were converted to six foot size with six inch balks for stratigraphic control. A datum was established by placing a large spike in a log once part of an old barn and hay storage area. The spike was six inches above surface and all measurements of vertical displacement were measured from this point with the use of line levels.

The initial test pit (#1) was placed eighteen inches east of the dutum as surface collections indicated a concentration and associated feature of some kind. Charcoal was encountered at 22 inches that seemed to be part of a very thin roof of some kind. At three feet, sterile sand was encountered in the northern part of the square. An area of soil color indicated an ancient disturbance of some nature in the southern end. This was excavated and revealed two cache-pits in a shallow pit-like area (only six inches deep but irregular). A shallow trench, six inches wide paralled the southwestern side of the pit-like area. Three post holes were also found (see figure 2). The excavated area had the appearance of a use-area.

Another test pit to the south (#2) was sunk to the same depth to test the size of the pit-like area. The use-area was encountered in the north and east in highly irregular form and confirmed my opinion that it was a use-area. Another cache pit was encountered and three more post molds. The use-area ended two feet into the square with two irregular protrusions to the east and south.

Arrangements were made to have the B.Y.U., 1966 field class go out to the site during Thanksgiving vacations. A third test pit was dug to the south (#3) and eleven post holes were encountered that indicated a structure, very possibly a surface earthlodge of deviant type, was being uncovered. Another test pit (#4) was expanded to the west, and six more post holes were found which tended to support the original hypothesis. In total, eight feet of a north wall and six feet of a west wall of a structure were uncovered. In the west side of square four a large cache-pit was also uncovered. During the excavation of squares three and four, Bryant and Shurman Jones stopped by to test soil dampness for excavating a ditch for one of the local residents. The ground was too damp, so they offered the use of their back-hoe for the afternoon. They dug two trenches just west of square four. One extended to the west 27½ feet and the other to the south for 32 feet. In the western trench was encountered a large cache-pit four feet west of square four. This cache-pit was covered with a crib of logs placed six inches below the lip of the pit. All of the logs were charred. The bottom three were aligned in a north-south direction and above these were two aligned with a east-west orientation. This effectively sealed the pit which contained much decayed materials but nothing recognizable.

The southern trench contained two features. The first, a shallow trench 1½ feet deep and 1½ feet wide. It cut across the trench at a 30 degree angle. Sixteen feet south was a large pit structure of undetermined size. A test pit placed within the trench at the lip of the structure unearthed a large post hole one foot in diameter and 2½ feet deep. It looked very similar to the king posts found in Middle Missouri earth lodges of

Thomas Riggs derivation (this does not preclude any relationship). The trenches were cleaned up and profiled while the features were being excavated.

THE STRUCTURE

Only the northwestern corner of one structure was excavated at the site. This one was rectangular without clear-cut walls.

FEATURE 11 (figure 3)

SHAPE: Appears to be rectangular.

DIMENSIONS: Excavated portion of north wall 8 feet; west wall 6 feet.

FOUNDATION: Surface sand artificially leveled.

FLOOR: Packed and leveled sand.

ROOF SUPPORTS: Appears to be a line of posts down the center line of the structure.

ENTRANCE: Unknown but possibly the shallow trench in trench B is a tunnel entrance to the structure.

FIREPIT: None found in excavated section.

FLOOR PITS: None found in excavated section.

ASSOCIATIONS: Two large cache-pits to the west and one shallow trench that might be part of a ventilator shaft or entrance tunnel.

COMMENTS: It appears that this structure was collapsing and the walls reinforced in and out and finally, torn down due probably to the unstable nature of the sand.

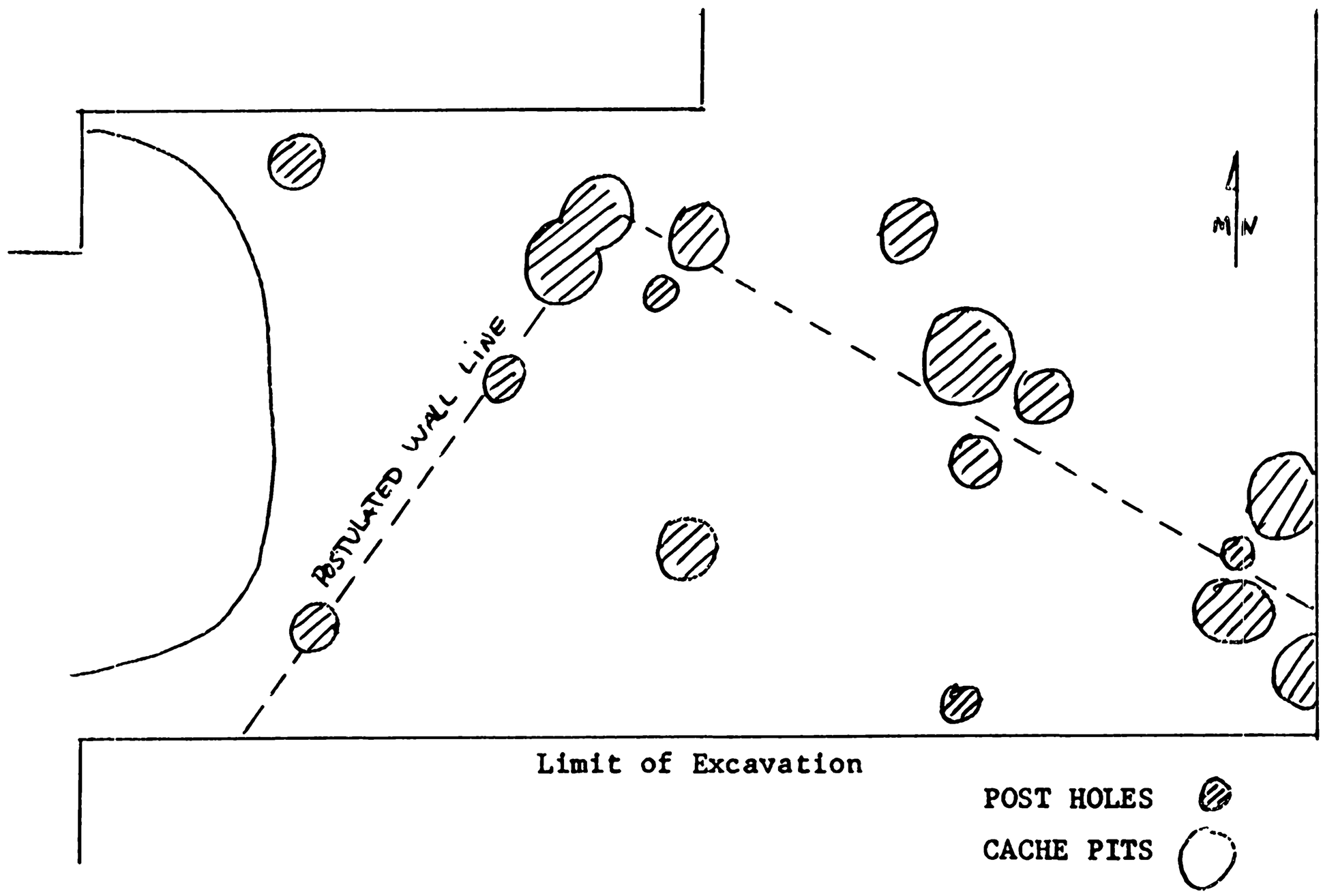


Figure 3 - Feature 11, Woodard Mound

This structure appears to be of the surface earthlodge type as found at Nephi, Willard, and Beaver. This structure differs, however, in that it is rectangular rather than oval and incorporates what appears to be features of jacal structures in that the side walls are set into the ground instead of just leaner posts.

USE AREA

There was only one use area excavated at the site. It is defined by a highly irregular shallow pit and associated cache-pits. This area was only eight feet from the house but not next to any visible entrance.

FEATURE 3 (figure 4)

SHAPE: Irregular shallow pit.

DIMENSIONS: 5 by 5 feet in the excavated area; six inches deep.

PIT WALLS: Unfaced native sand.

FLOOR: Irregular compacted sand.

ROOF: Possible ramada arrangement; evidence of burning.

FIREPIT: None found in excavated area.

FLOOR PITS: Two cache-pits in the northeast, two cache-pits just outside the southwest side; trench just outside the northwest side.

ASSOCIATIONS: None

COMMENTS: None

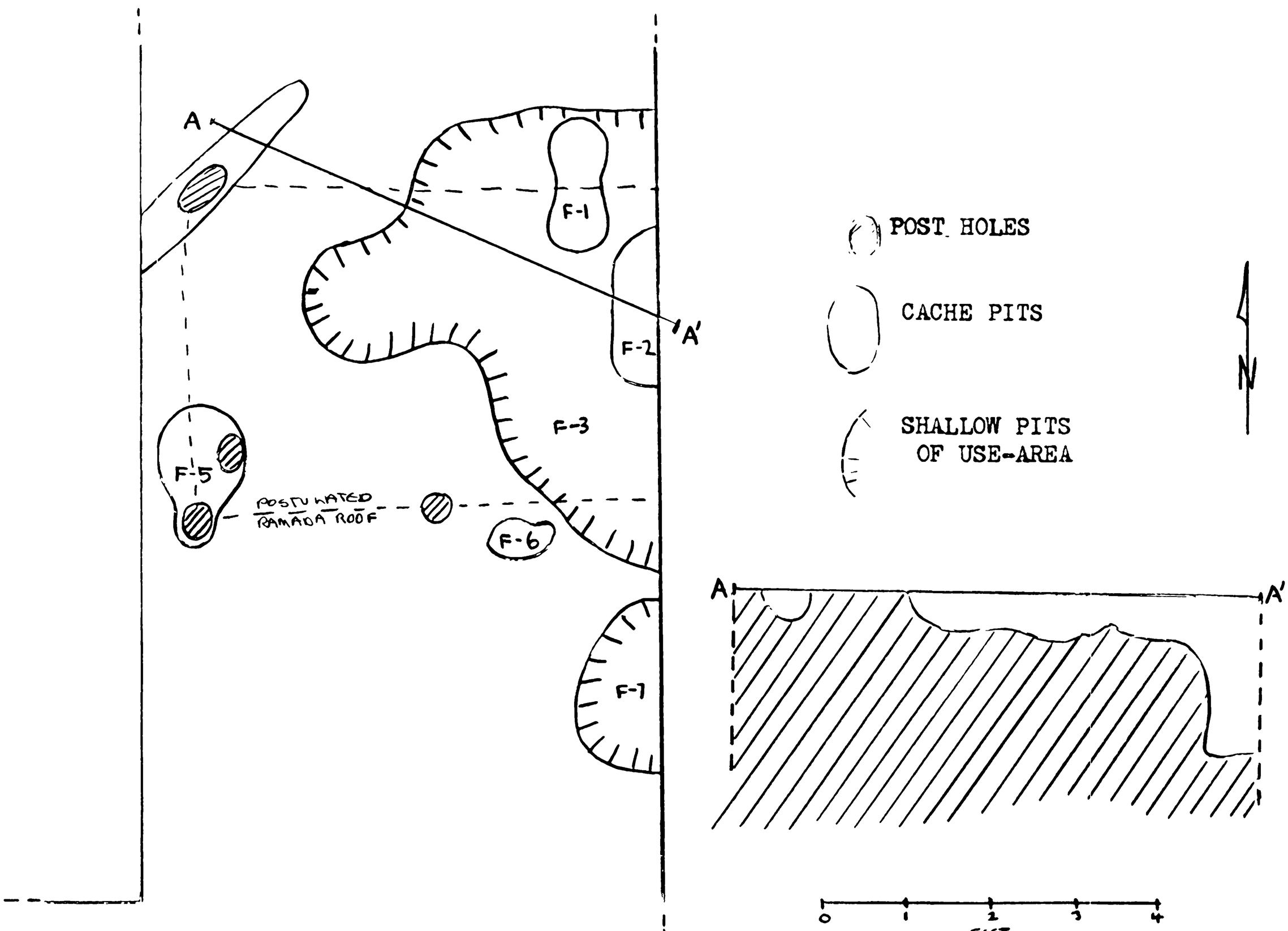


Figure 4 - Feature 1-7, Woodard Mound

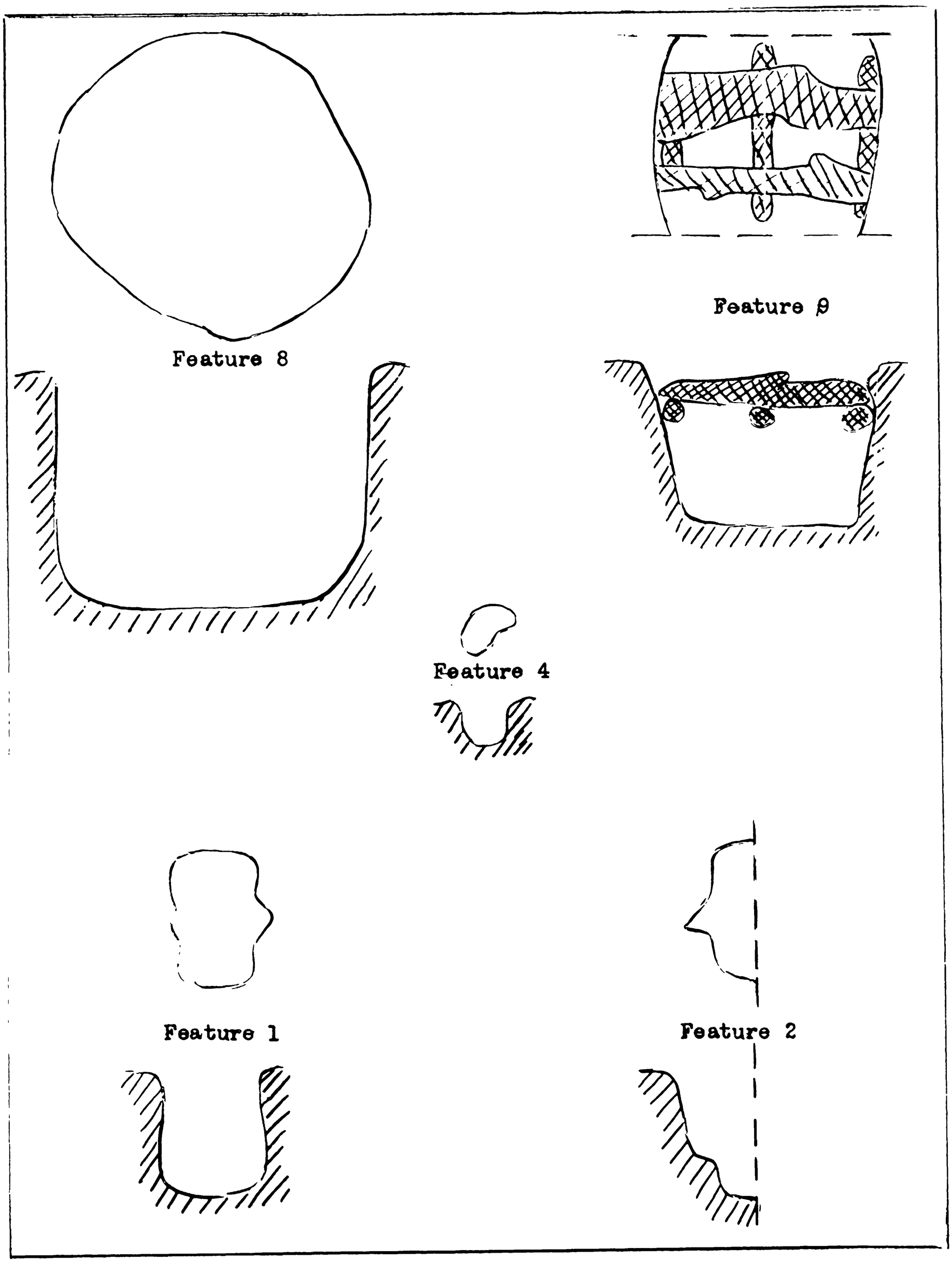


Figure 5 - Cache Pits of the Woodard Mound

CACHE-PITS

A total of 5 pits which presumably had been used for storage purposes were excavated at the Woodard Mount (figure 5). Three of them were away from houses, but next or part of the use-area; two of them were next to the house. All of these features appear to have been contemporaneous as all lips appeared on the edge of the sterile sand.

All of the pits fall into the same class: straight sided cache-pits with rounded bottoms. They all had either a very short neck or else no neck at all and a diminishing body which reached its smallest diameter at the bottom. Depths ranged from six inches to three feet, maximum diameters from two and one half feet to six inches. The pits ranged from circular, through oval, to irregular in outline. It is possible that the smallest pit is a post hole of irregular shape. One unusual cache-pit has already been described which had a covering of logs.

CULTURAL MATERIAL:

SURFACE:

19 Provo Gray	Debatage:
2 Provo Black-on-Gray	81 agate
10 Sevier Gray	20 quartzite
1 Uinta Gray	29 chert
4 Salt Lake Gray	1 jasper
1 type I projectile point	1 obsidian
1 glass bead	
1 loaf shaped mano	1 shaft smoother

SQUARE 1, LEVEL 1:

49 Provo Gray	Debatage:
1 Provo Surface Manipulated	111 agate
21 Sevier Gray	28 quartzite
2 Sevier Surface Manipulated	28 chert
1 Sevier Red-on-Gray	8 jasper
11 Salt Lake Gray	8 obsidian
6 Uinta Gray	
30 Ivie Creek Black-on-White	5 projectile point fragments
3 Temperless	
7 Misc. nails, cartridges, leather	1 knife fragment
1 type B drill	1 tubular bone bead

SQUARE 1, LEVEL 2:

89 Provo Gray
2 Provo Surface Manipulated
3 Provo Red-on-Gray
2 Provo Black-on-Gray
35 Sevier Gray
3 Sevier Gray Surface Manipulated
3 Sevier Red-on-Gray
30 Salt Lake Gray
3 Knolls Gray
6 Uinta Gray
5 Ivie Creek Black-on-White
4 Temperless
1 Unknown Sherd
1 type A drill
3 scrappers:
  1 type A
  2 fragments
2 bone awls, round
4 bone flakers
  2 type A
  2 type B
1 "washer" bone bead
1 pottery pipe fragment
1 figurine fragment

Debatage:
228 agate
39 quartzite
65 chert
9 obsidian

45 projectile points:
  10 type A
  2 type B
  2 type C
  1 type D
  2 type E
  1 type K
4 knives:
  2 type A
  2 fragments
2 shaft smoothers
1 flat metate fragment
3 bone gaming pieces:
  2 type A
  1 type B
1 type A pottery gaming piece

SQUARE 1, USE-AREA:

12 Provo Gray
2 Sevier Gray
1 Sevier Red-on-Gray
3 Salt Lake Gray
1 knife fragment
1 figurine fragment

Debatage:
17 agate
1 quartzite
9 chert

SQUARE 2, LEVEL 1:

44 Provo Gray
2 Provo Black-on-Gray
2 Provo Surface Manipulated
18 Sevier Gray
1 Sevier Red-on-Gray
10 Salt Lake Gray
1 Salt Lake Surface Manipulated
4 Knolls Gray
3 knives:
  2 type B
  1 fragment
1 type C bone gaming piece
1 type A pottery gaming piece
1 figurine fragment

Debatage:
15 agate
5 quartzite
9 chert

6 projectile points:
  2 type A
  1 type C
  1 type I
  2 fragments
1 type A flaker
1 "washer" shell bead
1 slate figurine

SQUARE 2, LEVEL 2:

48 Provo Gray
9 Sevier Gray
17 Salt Lake Gray
1 Knolls Gray
1 Uinta Gray
2 Ivie Creek Black-on-White
3 Temperless
1 type E scraper
2 hammerstones
1 shaft smoother
1 bone punch
1 figurine head
1 type B pottery gaming piece, Black-on-White

Debatage:
23 agate
10 quartzite
12 chert

5 projectile points:
1 type A
2 type C
3 fragments

3 knives:
1 type A
2 type B

SQUARE 2, USE-AREA:

13 Provo Gray
1 Sevier Gray
4 Salt Lake Gray
4 Ivie Creek Black-on-White
1 stone percussion flaker
1 harpoon head, bone
2 figurine fragments

Debatage:
none
1 type G projectile point
1 type A drill
1 type A pottery gaming piece, Black on White

SQUARE 3, LEVEL 1:

27 Provo Gray
2 Provo Black-on-Gray
6 Sevier Gray
14 Salt Lake Gray
1 Uinta Gray
3 Temperless
1 type A drill
1 hammerstone
1 round awl

Debatage:
12 agate
13 quartzite
1 chert

3 projectile points:
2 type G
1 fragment

SQUARE 3, LEVEL 2:

46 Provo Gray
1 Provo Surface Manipulated
10 Sevier Gray
1 Sevier Surface Manipulated
5 Salt Lake Gray
4 knife fragments
2 drills:
1 type B
1 type C
1 rocker type mano

Debatage:
3 agate
1 quartzite

6 projectile points:
2 type A
1 type B
1 type C
1 type E
1 fragment

SQUARE 4, LEVEL 1:

69 Provo Gray
28 Sevier Gray
5 Sevier Surface Manipulated
1 Sevier Red-on-Gray
5 Salt Lake Gray
1 Ivie Creek Black-on-White
1 knife fragment
1 "washer" bone bead
4 pottery gaming pieces:
  3 type A
  1 type C
5 bone gaming pieces:
  4 type B
  1 type C

Debatage:
7 agate
2 quartzite
2 chert
1 jasper

11 projectile points:
  1 type A
  1 type C
  2 type D
  1 type I
  2 type J
  4 fragments
3 misc. metal and leather

SQUARE 4, LEVEL 2:

40 Provo Gray
7 Sevier Gray
4 Salt Lake Gray
1 Knolls Gray
1 type B drill
1 loaf shaped mano
2 round awls
1 figurine fragment
1 clay object

Debatage:
28 agate
10 quartzite
13 chert

4 projectile points:
  1 type A
  1 type C
  1 type G

SQUARE 5, LEVEL 1:

26 Provo Gray
2 Provo Black-on-Gray
17 Sevier Gray
2 Sevier Black-on-Gray
4 Salt Lake Gray
1 Uinta Gray
1 Temperless
1 unknown
3 Ivie Creek Black-on-White
1 flat awl
2 intrusive buttons

Debatage:
16 agate
4 quartzite
1 chert

3 projectile points;
  1 type C
  1 type I
  1 fragment
1 "washer" bone bead

FEATURE 8, CACHE-PIT:

3 projectile points:
  1 type C
  2 fragments

Debatage:
none
1 tubular bone bead

BACK-HOE TRENCH:

- 3 projectile points
  - 1 type A
  - 1 type C
  - 1 fragment
- 1 shaft smoother
- 4 manos
  - 2 loaf shaped
  - 1 faceted
  - 1 flat, discoidal
- 1 tubular bone bead
- 2 figurine fragments
- 1 flat awl
- 1 type B bone gaming piece

Debatage:

- none

- 3 knives:
  - 1 type C
  - 1 fragment
- 2 scrapers:
  - 1 type E
  - 1 fragment
- 1 deep trough metate fragment

	PROVO GRAY	PROVO SURFACE MANIPULATED	PROVO RED-ON-GRAY	PROVO BLACK-ON-GRAY	SEVIER GRAY	SEVIER SURFACE MANIPULATED	SEVIER RED-ON-GRAY	SEVIER BLACK-ON-GRAY	SALT LAKE GRAY	SALT LAKE SURFACE MANIPULATED	KNOBBS GRAY	UINTA GRAY	IVIE CREEK BLACK-ON-WHITE	TEMPERLESS	UNKNOWN
Square I Level I	x	x			x	x	x		x			x	x	x	
Square I Level II	x	x	x	x	x	x	x		x		x	x	x	x	x
Square II Level I	x	x		x	x		x		x	x	x	x		x	x
Square II Level II	x				x				x		x	x	x	x	
Square III Level I	x			x	x				x			x		x	
Square III Level II	x	x			x	x			x						
Square IV Level I	x				x	x	x		x				x		
Square IV Level II	x				x				x		x	x			
Square V Level I	x			x	x			x	x				x	x	x

x = present
blank = absent

COMPARATIVE DATA ON POTTERY TYPES OF THE WOODARD MOUND

Figure 6a

	PROVO GRAY	SEVIER GRAY	SALT LAKE GRAY	UINTA GRAY	TEMPER VESS	PROVO SURFACE MANIPULATED	SEVIER RED-ON-GRAY	IVIE CREEK BLACK-ON-WHITE	SEVIER SURFACE MANIPULATED	PROVO BLACK-ON-GRAY	UNKNOWN	KNOLLS GRAY	PROVO-RED-ON-GRAY	SALT LAKE SURFACE MAN.	SEVIER BLACK-ON-GRAY
Square I Level I	x	x	x	x	x	x	x	x	x						
Square I Level II	x	x	x	x	x	x	x	x	x	x	x	x	x		
Square II Level I	x	x	x	x	x	x	x			x	x	x		x	
Square II Level II	x	x	x	x	x			x		x		x			
Square III Level I	x	x	x	x	x										
Square III Level II	x	x	x			x			x						
Square IV Level I	x	x	x				x	x	x						
Square IV Level II	x	x	x									x			
Square V Level I	x	x	x	x	x			x		x	x				x

SAME DATA WITH CERAMICS CLUSTERED

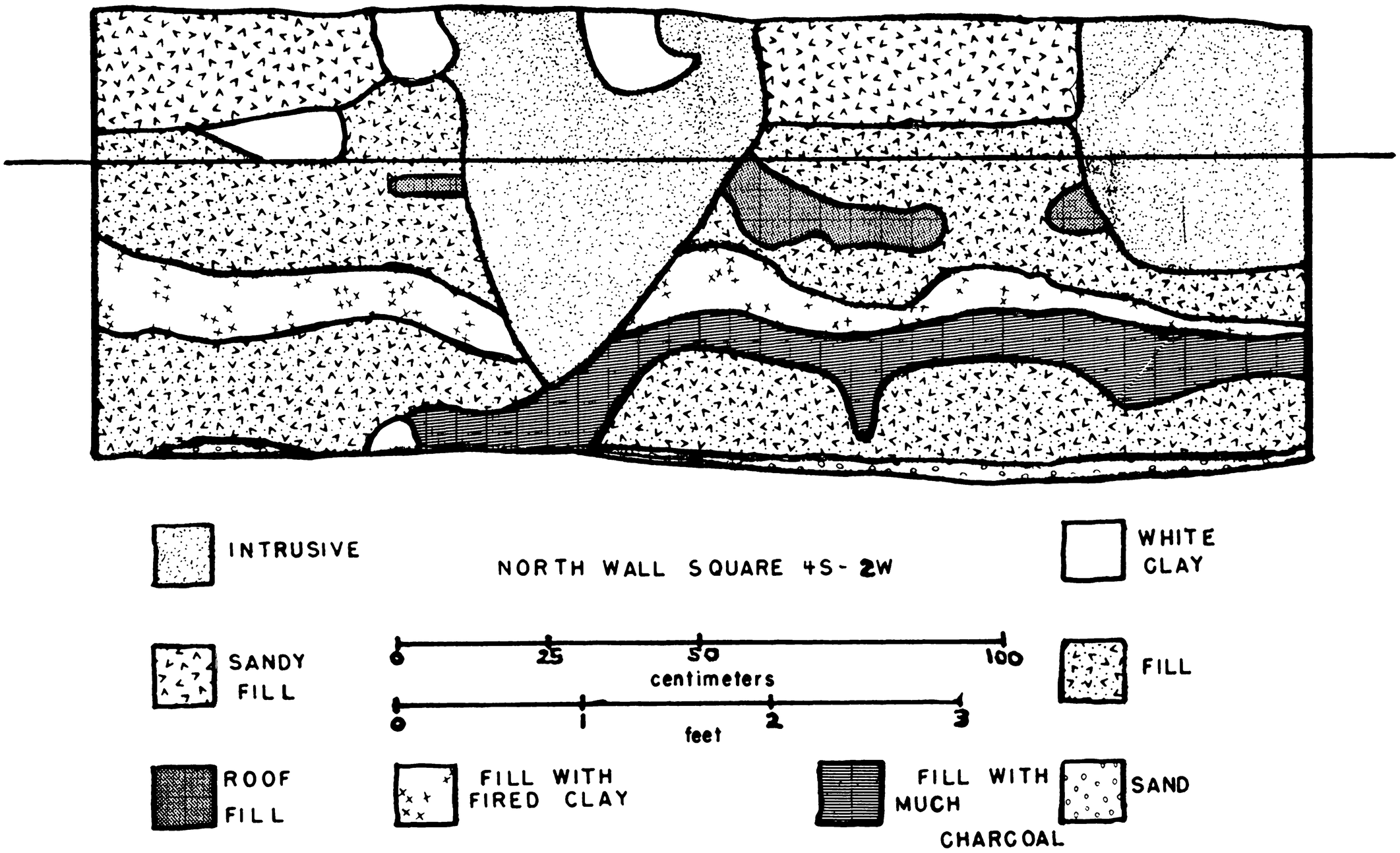
Figure 6b

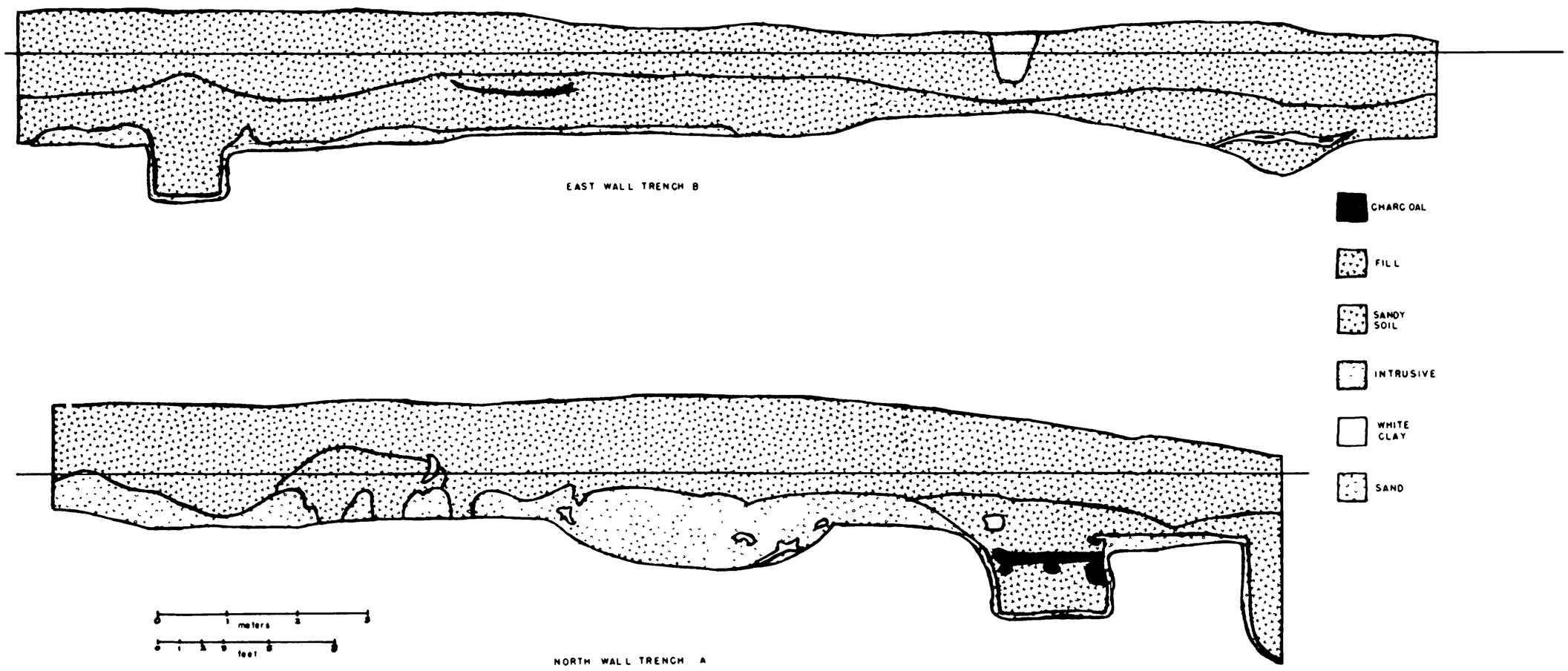
		PROVO GRAY	SEVIER GRAY	SALT LAKE GRAY	UINTA GRAY	TEMPERLESS	PROVO SURFACE MAN.	SEVIER RED-ON-GRAY	IVIE CREEK BLK.-ON-WHITE	SEVIER SURFACE MAN.	PROVO BLK.-ON-GRAY	UNKNOWN	KNOLLS GRAY	PROVO RED-ON-GRAY	SALT LAKE SURFACE MAN.	SEVIER BLK.-ON-GRAY
USE AREA	Square I Level II	x	x	x	x	x	x	x	x	x	x	x	x	x		
	Square II Level I	x	x	x	x	x	x	x			x	x	x		x	
	Square I Level I	x	x	x	x	x	x	x	x	x						
	Square II Level II	x	x	x	x	x			x		x		x			
HOUSE AREA	Square V Level I	x	x	x	x	x			x		x	x				x
	Square III Level I	x	x	x	x	x										
	Square IV Level I	x	x	x				x	x	x						
	Square III Level II	x	x	x			x			x						
	Square IV Level II	x	x	x									x			

SAME DATA WITH SQUARES CLUSTERED

Indicates there is only one major group of pottery present with four major groups of traits. It also indicates a difference between the groups of pottery used at the use-area versus that used at the house. It would appear that the concentration in the use-area indicates that most of the living did go on in this area.

Figure 6c


INTRUSIVE
NORTH WALL SQUARE 4S-2W
WHITE CLAY
SANDY FILL
0
25
50
100
centimeters
FILL
0
1
2
3
feet
ROOF FILL
FILL WITH FIRED CLAY
FILL WITH MUCH CHARCOAL
SAND


EAST WALL TRENCH B
CHARCOAL
FILL
SANDY SOIL
INTRUSIVE
WHITE CLAY
SAND
meters
feet
NORTH WALL TRENCH A

An analysis of the two arbitrary levels of 42Ut102 was accomplished by lumping the top level of square I through V with the surface collection and comparing this with the lower levels of squares I through IV, along with the use-area sherds from squares I and II. The original levels were arbitrary but did divide the normal stratigraphic section in half.

UPPER COMPONENT			LOWER COMPONENT		
245	Provo Gray	52.5751%	256	Provo Gray	60.6635%
112	Sevier Gray	24.0343%	72	Sevier Gray	17.0616%
49	Salt Lake Gray	10.6150%	63	Salt Lake Gray	14.9289%
11	Uinta Gray	2.3605%	7	Uinta Gray	1.6588%
34	Ivie Creek Black-on-White	7.2961%	11	Ivie Creek Black-on-White	2.6588%
8	Temperless	1.7167%	7	Temperless	1.6588%
4	Knolls Gray	.8584%	5	Knolls Gray	1.1848%
3	Unknown	.6437%	1	Unknown	.2370%
466		99.9998%	422		99.9987%

With minor variations, the proportion of type to type is about equivalent and both groups follow the same frequency pattern to such an extent that it could be safely said that both layers should be considered a statistical unity and the mound a single occupation site of either static material culture or short duration with a rapid accumulation of material. The equality in number of sherds tends to support the latter hypothesis. But further analysis showed up something curious. A treatment of the use-area against the house or structure turned up quite a different result. The use-area was defined as squares I and II with the associated features (3) as determined with the cluster diagram (figure 5c). The house (feature 11) was associated with squares III to V.

USE-AREA COMPONENT			HOUSE COMPONENT		
267	Provo Gray	51.5444%	213	Provo Gray	63.7724%
97	Sevier Gray	18.7259%	77	Sevier Gray	23.0539%
76	Salt Lake Gray	14.6718%	32	Salt Lake Gray	9.5808%
15	Uinta Gray	2.8957%	2	Uinta Gray	.5988%
41	Ivie Creek Black-on-White	7.9151%	4	Ivie Creek Black-on-White	1.1976%
11	Temperless	2.1235%	4	Temperless	1.1976%
8	Knolls Gray	1.5440%	1	Knolls Gray	.2994%
3	Unknown	.5792%	1	Unknown	.2994%
518		99.999[illegible]%	334		99.9996%

The use-area had 21.59% (184 sherds) more pottery associated with it than the house and had a much broader frequency range of types associated with it. The house seemed to be strictly utilitarian in ceramics (96.9939%), while the use-area contained only 87.8378% of the utilitarian types. The term utilitarian here means the surface manipulated and painted varieties of Provo, Sevier, Salt Lake, and Uinta Grays. The Ivie Creek Black-on-White bowls never show any evidence of cooking or storage marks; the Temperless and Knolls Gray are too fragile for any known use beyond decoration. It is for this reason that Knolls Gray is separated from the Salt Lake type for this analysis.

The two analyses of components taken together indicate that the site is laterally differentiated by use but vertically stable through time. This had a bearing on the interpretation of surface surveys and chronological comparisons between sites. It would appear that only complete excavation can yield sufficient data for inter-site comparisons beyond the widest of geographical areas such as outlined by Ambler (1966).

CHAPTER SIX

CERAMICS

Sampling method. Of the seventy-four sites in Goshen Valley, thirty-three yielded pottery during the course of the survey. At all the campsites, an attempt was made to collect all artifacts, but at some of the larger sites such as the village sites, only a statistical sample could be taken.

Types and Varities. The criteria for the analysis of pottery from Goshen Valley was, like in most Utah ceramics, by temper and surface finish. The initial identification was based mainly on Rudy (1953) and DeBloois (1967), but their criteria later had to be abandoned. In the process of analysis of the pottery from the Brigham Young University 1966-67 field class at the Hinckley farm, sherd samples were submitted to Dr. Myron C. Best of the Brigham Yound University Geology Department for petrographic analysis. The sherds were a representative sample of the then tentative system as outlined by DeBloois (1967:45-51). The sherds were identified as Sevier Gray, Snake Valley Gray, Great Salt Lake Gray, and Turner Gray: Cisco variety. Before and during the process of identification, the writer discussed with Dr. Best the criteria for the identification of the tempering agents. He identified the temper on the basis of non-residual properties of the clay. Each fragment of temper was found to be freshly broken and angular with no trace of decomposition to indicate that they may have been residual particles of the

clay. None of the feldspar identified was of a transitional nature. The grain size and relative abundance (between 9 and 16%) of total constituents and occurance of particles not common to clay were also used in the criteria for the identification of the temper. Dr. Best was as surprised as myself to find not one tempering agent in many of the sherds, but as many as three types. He expressed the opinion that the particles did not come from a single source although a crushed mica granite could be the tempering agent in Salt Lake Gray. Granite also could have been used in Provo Gray. Dr. Best's results are as follows in order of highest percentage temper to the lowest. Where biotite occurs in the paste, it is included in the percentage relationship. This is relative as heavily micaseous paste might not be included if the temper is of a correspondingly high percentage. Some of the results appear to be weighted from this built-in bias. Dr. Best did not know the type of sherds he was working with beyond the fact that they were Fremont. This was done to insure against bias in looking for established criteria.

sherd 126a-a	calcite, feldspar, biotite
sherd 126a-b	welded tuff, feldspar, biotite
sherd 126a-c	feldspar, biotite, quartz
sherd 126a-d	obsidian (?), basaltic glass
sherd 118a-a	quartz, biotite, feldspar
sherd 118a-b	obsidian, quartz, feldspar
sherd 118a-c	obsidian, feldspar, quartz, biotite
sherd 118a-d	welded tuff, quartz, feldspar
sherd 121a	obsidian, feldspar, biotite
sherd 122a-a	obsidian, feldspar, biotite
sherd 122a-b	quartz, biotite, feldspar

sherd 117a	quartz, biotite, feldspar
sherd 112a	feldspar, biotite, basaltic glass

Sorting sherds according to the original sherd analysis (made by crushing part of each sherd under a binocular microscope) revealed the following information (the differentiation between crushed obsidian, feldspar, and quartz is impossible under the binocular microscope).:

Sevier Gray (Former vesicular basalt or basaltic glass-tempered Sevier Gray) represented in this sample by sherds 126a-b, 126a-d, 118a-d, and 112a. The tempering agent associated with these sherds is welded tuff and basaltic glass often with feldspar and quartz and some mica.

Provo Gray (Former obsidian-tempered Sevier Gray) represented by sherds 126a-c, 118a-d, 118a-b, 121a, 122a-b, and 117a. The tempering agent associated with these sherds is feldspar and quartz with obsidian often present and biotite common in the paste.

Salt Lake Gray (Former obsidian and quartz-tempered Great Salt Lake Gray) represented in the sample by sherd 118a-c and 122a-b. The tempering agents are the same as Provo Gray but with mica added to the paste or surface to create a decorative effect. These sherds are considered to be a separate type but this may be invalid as some sherds thought to be Salt Lake Gray were discovered to fit onto a jar of Provo Gray. This happens often.

Unita Gray (Former calcite-tempered Turner Gray: Cisco variety) This type is represented in the sample by only one sherd, 126a-a. The tempering agent in this sherd was calcite with

an equal amount of feldspar. Acid tests revealed that feldspar residues are common in the other sherds classified as Uinta Gray.

The new taxonomic designations were felt to be necessary as the old names have so many different descriptions of the same potter type. Also the new evidence for sub-divisions within the Fremont have created a tool for this classification. Sevier Gray has been defined as being tempered with (1) basalt, lava, mica, and obsidian (Malouf, 1940); (2) obsidian with small amounts of quartz, feldspar, and mica (Rudy, 1953); (3) obsidian and basalt (Taylor, 1954); (4) vesicular basaltic glass, quartz, with mica present (Taylor, 1957); and (5) the same as Turner Gray: Emery variety (Sharrock, 1965; DeBloois, 1967). Emery variety has been described as (1) angular fragments of light gray rock, possibly the Mancos siltstones (Wormington, 1955); (2) crushed igneous rock (Gunnerson, 1956); (3) light gray rock ultimately of igneous origin with feldspar and quartz in the matrix (Taylor, 1957); and (4) porphyritic rock (Lister, 1960). Taylor (1957) differentiates between Turner Gray: Emery variety and Sevier Gray on the basis of temper. Basaltic glass is the criterion for Sevier Gray while crushed igneous porphories are left for the Turner type. However, DeBloois could find no significant difference between the sherds he examined at the University of Utah and he showed me one pot where all of the inner surfaces of the sherds were labeled Sevier Gray by one person and the outer surfaces labeled Turner Gray by another.

I was able to identify a few sherds as having identical tempers as Ivie Creek Black on White which were different from the Sevier Gray sherds with Basaltic glass or welded tuff.

The term Provo Gray is an outgrowth of Ambler's (1966) sub-division of the Fremont into five areas. The Provo area gives the pottery a distinctive name and leaves the Sevier area with a parallel name for its main pottery type.

The term Salt Lake Gray has been adopted because the old Great Salt Lake Gray has been defined as (1) quartz-and-mica-tempered (Enger, 1940); (2) obsidian and quartz with mica added to the paste (Rudy, 1954); (3) obsidian and quartz in micaseous paste (Taylor, 1954); and (4) possibly sand-tempered (Ambler, 1966). The term "Great" was dropped as being superfluous and to differentiate between my criteria and the older ones.

Knolls Gray has been kept but as an extreme variant of the Salt Lake variety. It appears to be a non-functional decorative variety, as the mica is present in such quantities that the walls of the sherd can be crumbled in the hands and will fall apart when wet.

Snake Valley Gray was not submitted in the sample because no sherds were found in the survey and excavations which fit the definition of being sand-tempered. Meighan (1956), Rudy (1953), and Taylor 1954) to name a few, all state that Snake Valley Gray is <u>sand</u>-tempered. The particles identified as temper in Provo and Salt Lake Gray were all freshly broken, sharp edged (no wearing) fragments. They do not fit the definition of sand by Kuenen (1960). The term sand as geologists use it, means an accumulation of sedimentary particles having a diameter between .05 and 2 millimeters. Large grains are called gravel while smaller ones a are silts or clay. Sands come from limestone, feldspar, or quartz. In fact, quartz is so much more abundant that in refering to sand, the term usually means a quartz sand. Sand particles always have some edge rounding from wind movement or show water polish.

Other factors which require emphasis were outlined by DeBloois in his analysis of surface manipulated sherds from the Wasatch Front area (1967:45-52). He pointed out that many forms of surface manipulation occur on the same sherds although these are used as criteria for setting up varities of pottery such as those from Pargonah (Meighan, 1956). The only valid method of decorative analysis would appear to be through whole vessel analysis. The suggested taxonomic system presented here could tie in with DeBloois if the difference between Provo and Snake Valley Gray could be reconciled. There are hints in the literature that much of the Snake Valley Gray is tempered with crushed quartz rather than quartz sand and if this is true, as DeBloois indicates, then the Conger and Provo areas may be brought into a much closer relationship.

I have listed the pottery types according to a rather inclusive system as all plain undecorated sherds are lumped together under a Plain variety; all coffee-bean applique', punched, incised, applique' noded, incision, etc., are Surface Manipulated varities; all painted sherds are classified by slip and by color.

The result of this taxonomic system is somewhat simpler to handle than DeBloois (1967: 50-51) and is outlined below:

FREMONT TYPES AND VARITIES

TYPE: SEVIER GRAY — Tempered with welded tuff and basaltic glass glass with varying amounts of feldspar, quartz and mica. The mica is usually sparse. Includes pottery formerly classified as Sevier Gray and Turner Gray: Emery variety.

Varities:

Sevier Gray: Surface Manipulated Variety

Sevier Gray: Red-on-Gray Variety

Sevier Gray: Black-on-Gray Variety

TYPE: PROVO GRAY — Tempered with feldspar, quart, and mica (possibly crushed mica granite) with some obsidian added to a majority of the sherds. Includes pottery formerly classified as Sevier Gray.

Varieties:

Provo Gray: Plain Variety

Provo Gray: Red-on-Gray Variety

Provo Gray: Black-on-Gray Variety

Provo Gray: Black-on-Gray, Exterior Corrugated Variety

TYPE: SALT LAKE GRAY — Tempered with feldspar, quartz, and obsidian. Mica added to the paste and surface for decorative effect. Formerly Great Salt Lake Gray.

Varieties:

Salt Lake Gray: Plain Variety

Salt Lake Gray: Surface Manipulated Variety

Salt Lake Gray: Knolls Variety

TYPE: TURNER GRAY — Tempered with crushed porphyretic rock ultimately of igneous origin. Includes pottery formerly classified as Sevier Gray and Turner Gray: Emery Variety.

Varieties:

Turner Gray: Plain Variety

Turner Gray: Surface Manipulated Variety

Turner Gray: Black-on-Gray Variety

Turner Gray: Ivie Creek Black-on-White Variety

TYPE: UINTA GRAY — Tempered with crushed calcite and feldspar with some mica in varying amounts. Former Turner Gray: Cisco Variety and Promontory Ware.

Varieties:

Uinta Gray: Plain Variety

Uinta Gray: Surface Manipulated Variety

Uinta Gray: Coarse Variety

TYPE/VARIETY	42UT102		42UT103		42UT273		42UT275		42UT277		42UT279		42UT280		42UT281		42UT282	
PROVO																		
PLAIN	482	54.20%	50	61.73%	556	55.32%	31	83.78%	10	62.50%	5	20.00%	1	100%	1	100%	11	52.21%
SURFACE MANIP.	6	.67	—		19	1.89	—		—		—		—		—		—	
RED/GR	3	.34	—		2	.20	—		—		—		—		—		—	
BL/GR	10	1.11	—		15	1.49	—		—		—		—		—		5	3.67
BL/GR CORR.	—		—		1	.09	—		—		—		—		—		—	
SEVIER																		
PLAIN	164	18.47	18	22.22	285	28.35	4	10.81	4	25.00	8	32.00	—		—		50	36.76
SURFACE MANIP.	11	1.30	—		1	.10	—		—		—		—		—		—	
RED/GR	7	.79	—		6	.59	—		—		—		—		—		1	.73
BL/GR	2	.22	—		2	.19	—		—		—		—		—		1	.73
SALT LAKE																		
PLAIN	111	12.50	12	14.81	109	10.84	2	5.40	2	12.50	12	48.00	—		—		7	5.15
SURFACE MANIP.	1	.11	—		4	.39	—		—		—		—		—		—	
KNOLLS	9	1.01	—		—		—		—		—		—		—		—	
TURNER																		
IVIE CREEK	45	5.07	—		—		—		—		—		—		—		—	
VINTA																		
PLAIN	18	2.02	—		—		—		—		—		—		—		—	
TEMPERIFESS																		
PLAIN	15	1.69	—		—		—		—		—		—		—		1	.73
UNKNOWN	4	.45	—		5	.41	—		—		—		—		—		—	
SHOSHONE																		
PLAIN	—		1	1.23	—		—		—		—		—		—		—	
TOTAL SHERDS	888		81		1005		37		16		25		1		1		136	
% TOTAL	99.98		97.99		99.94		100.00		100.00		100.00		100.00		100.00		100.00	

FIGURE 9.1

TYPE/VARIETY	42UT284	42UT285	42UT286	42UT288	42UT293	42UT294	42UT296	42UT297	42UT298
PROVO									
PLAIN	7 53.84	1 100.00	17 56.67	8 100.00	12 54.54	7 25.00	7 87.50	3 27.27	6 85.71
SURFACE MANIP.	—	—	—	—	—	—	—	—	—
RED/GR	—	—	—	—	—	—	—	—	—
BLK/GR	—	—	—	—	—	—	—	1 9.09	—
BLK/GR CORR.	—	—	—	—	—	—	—	—	—
SEVIER									
PLAIN	6 46.15	—	7 23.33	—	7 31.82	18 72.00	1 12.50	5 45.45	1 14.28
SURFACE MANIP.	—	—	—	—	—	—	—	—	—
RED/GR	—	—	—	—	—	—	—	—	—
BLK/GR	—	—	—	—	—	—	—	—	—
SALT LAKE									
PLAIN	—	—	6 20.00	—	3 13.63	3 12.00	—	2 18.18	—
SURFACE MANIP.	—	—	—	—	—	—	—	—	—
KAOLIN	—	—	—	—	—	—	—	—	—
TURNER IVIE CREEK	—	—	—	—	—	—	—	—	—
UINTA PLAIN	—	—	—	—	—	—	—	—	—
TEMPERED	—	—	—	—	—	—	—	—	—
UNKNOWN	—	—	—	—	—	—	—	—	—
SHOSHONI	—	—	—	—	—	—	—	—	—
TOTAL SHERDS	13	1	30	8	22	28	8	11	7
% TOTAL	99.99	100.00	100.00	100.00	100.00	100.00	100.00	99.99	99.99

FIGURE 78

TYPE/VARIETY	42UT299	42UT300	42UT301	42UT306	42UT307	42UT309	42UT325	42UT327	42UT328
PROVO									
PLAIN	14 87.50	53 75.71	50 83.33	34 46.46	74 65.48	5 71.42	59 26.92	11 36.66	72 40.45
SURFACE MANIP.	—	—	—	—	—	—	—	—	—
RED/GR	—	—	—	—	—	—	—	—	—
BLIGR	—	—	—	—	3 2.65	—	—	—	—
BLIGR CORR.	—	—	—	—	—	—	—	—	—
SEVIER									
PLAIN	9 12.86	3 5.00	33 40.24	15 13.27	—	—	—	—	—
SURFACE MANIP.	—	—	—	—	—	—	—	—	—
RED/GR	—	—	—	—	—	—	—	—	—
BLIGR	—	—	—	—	—	—	—	—	—
SALT LAKE									
PLAIN	—	9 12.85	3 5.00	33 40.25	15 13.27	—	—	—	—
SURFACE MANIP.	—	—	—	—	—	—	—	—	—
KNOLL	—	—	—	—	—	—	—	—	—
TURNER									
IVIE CREEK	—	—	—	—	5 4.42	—	—	—	—
UINTA									
PLAIN	—	—	—	—	—	—	—	—	—
TEMPERLESS	—	1 1.42	—	—	—	—	—	—	—
UNKNOWN	—	—	—	—	—	—	—	—	—
SHOSHONI	—	—	—	—	—	—	—	—	—
TOTAL SHERDS	16	70	60	82	113	7	225	30	178
% TOTAL	100.00	99.99	100.00	99.98	100.00	100.00	100.00	100.00	99.99

FIGURE 9C

TYPE/VARIETY	42UT329	42UT333	42UT336	42UT337	42UT338	SUBTOTAL	TOTAL	VARIETY %	TYPE %
PROVO PLAIN	3 50.00	16 53.33	8 30.76	4 80.00	57 79.82	1765	1837	53.89	56.09
SURFACE MANIP.	—	—	—	—	6 5.50	31		.94	
RED/GR	—	—	—	—	—	5		.15	
BL/GR	1 3.84	—	—	—	—	35		1.06	
BL/GR CORR	—	—	—	—	—	1		.03	
SEVIER PLAIN	3 50.00	13 43.33	13 50.00	—	10 9.17	948	988	28.94	30.17
SURFACE MANIP	—	—	—	—	—	13		.39	
RED/GR	1 3.84	—	—	—	—	22		.67	
BL/GR	—	—	—	—	—	5		.15	
SALT LAKE PLAIN	—	—	3 11.53	1 20.00	—	333	347	10.16	10.59
SURFACE MANIP.	—	—	—	—	—	5		.15	
KNOLLS	—	—	—	—	—	9		.27	
TURNER MILLCREEK	—	—	—	—	3 2.75	54	54	1.64	1.64
UINTA PLAIN	—	—	—	—	—	18	18	.55	.55
TEMPERESO	—	—	—	—	—	17	17	.52	.52
UNKNOWN	—	1 3.33	—	—	3 2.75	13	13	.39	.39
SHOSHONI	—	—	—	—	—	1	1	.03	.03
TOTAL SHERDS	6	30	26	5	109	3275	3275		
% TOTAL	100.00	100.00	94.44	100.00	100.00			99.99	99.99

FIGURE 90

Sherd Analysis: The most numerous type of sherd collected in the process of survey and excavation was Provo Gray (56.0916%). This type is represented at most of the pottery-bearing sites as defined as a feldspar-quartz-obsidian tempered type. This pottery is common throughout the Provo area and is also found to be present in the Sevier area.

Provo Gray is generally medium gray in color, but ranges from very light gray to black. Predominantly fine textured, this pottery is often smoothed on the exterior and sometimes polished. Often the temper is visable on the exterior and interior where it appears micaceous as the sharp edges catch the light and reflect it. The interiors of the jars show striations.

Several varieties of Provo Gray are represented as outlined above, the most common being the Plain variety. The sample of pottery from the survey indicates a low number of surface manipulated types but a surprising number of painted varieties.

Provo Gray: Plain Variety (53.8931%) is an undecorated, well made, medium-gray pottery found in the shapes of large, wide mouth globular jars and a few bowls. In general, this variety is harder, better polished, and better made than the closely related Salt Lake type.

Provo Gray: Surface Manipulated Variety (.9466%) is the most common decorated variety. All of the sherds collected by the author seem to have come from globular jars and all were exterior decorations. The decorative techniques ran from fingernail incision on the body, coffee-bean appliqué in single rows, appliqué nodes, appliqué bands that are punched or incised, and punctate sherds. Incision is limited to parallel bands around the neck of the jars or else angular lines across bands of appliqued clay.

Provo Gray: Red-on-Gray Variety (.1527%) was found at several sites and in all cases seems to have come from large globular jars. All of the painting is done in crude brushed strokes with considerable edge smudging. Decorative elements appear to be very wide lines in hollow triangles or diagonal lines from the lip to the body of the pot.

Provo Gray: Black-on-Gray Variety (1.0681%) is the most common painted variety and all the sherds appear to have come from interior painted bowls. These are always well smoothed on the interior and occasionally well polished on the exterior. The designs tend to be linear with many solid triangles which are hooked to lines to produce a sawtooth effect. Lines range from 1/16 to 1/4 inch and occur in different kinds of patterns and panels. Occasionally the base of the bowl will have a spiral with a central design. Step design elements are also important.

Provo Gray: Black-on-Gray, Corrugated Variety (.0305%) is very rare and is represented by a single sherd from Goshen. It had the typical single line beneath the lip and linear decorations. The exterior was finely corrugated and very well made.

Sevier Gray was the second most numerous type of sherd collected during the survey (50.1679%). This type, tempered with basaltic glass and welded tuff is easily recognized by the darkness of the particles. The basaltic glass is vesicular and quite distinctive. Often particles are very large and show through on the surface. The sherds are generally gray to buff with many that are fire blackened. Some of the sherds were quite orange with the appearance of having been refired but they also show firing clouds. The forms seem to be wide mouth jars and narrow mouth jars with lip to body handles. There are some bowls known.

Most of the Sevier Gray pottery is undecorated and classified as a Plain Variety (28.9466%). The surfaces are smoothed and sometimes polished, the interiors remaining striated. The bowls have well smoothed interiors and polished exteriors which sometimes have a coating of red ochre.

Sevier Gray: Surface Manipulated Variety (.3969%) is restricted to four different kinds of treatment in Goshen Valley. A noded appliqué treatment is the most common with an equal amount of fingernail incision. The number of surface manipulated sherds is much less than the number found farther south (DeBloois, 1967).

Sevier Gray: Red-on-Gray Variety (.6717%) is much more numerous than the Provo variety. These sherds are the typical unslipped type with a much wider range of painted designs. They all appear to be jars with exterior painting. The most popular design element is a thin line and open triangle, but examples of squared, double lines, and solid triangles are common. Often the lines have faded or have turned very dark and are much cruder than any of the black-on-grays. This type is reported from Nephi, Gooseberry Creek, and Fountain Green by DeBloois (1967).

Sevier Gray: Black-on-Gray Variety (.1527%) is rare in Goshen Valley in comparison to sites farther south. The only design elements represented in the valley are single lines beneath the lip of the sherd and lines across body sherds at all angles. DeBloois mentions interlocking scrolls, dots, fine line, sawtooth line, barbed line, circle, negative circles, square, triangle, stepped line, and parallel lines (DeBloois 1967:56-57).

Salt Lake Gray is the next largest group of sherds represented (16.5954%). This type is rather hard to judge as only the percentage of

mica and darkness of the paste separate them from the Provo type. There appear to be a valid regional differentiation of these sherds so the type remains in the system. Jars and globular pots seem to be the dominant forms with some bowls and water bottles. This type is tempered with feld-spar, quartz and obsidian.

Again the most common variety is the plain variety (10.1679%) which is very dark with conspicuous surface mica. The sherds are not well smoothed and usually pitted. Some of the sherds have a paddle and anvil appearance with no sign of interior striation but rather undulating surface.

Salt Lake Gray: Surface Manipulated Variety (.1527%) is restricted to fingernail incision and then only rarely. This seems odd because just north at the Hinckley site, a majority of the decorated sherds are Salt Lake Gray.

Only eight Salt Lake Gray: Knolls Variety (.2748%) were recovered and these only from the Woodard Mound. They were almost 30% mica and very delicate. Several sherds were destroyed in screening as they would crumble when pressed against the screen.

Turner Gray is represented by one variety which is porphyratic rock-tempered. There are a few of the Ivie Creek Black-on-White sherds (1.6489%) scattered throughout the surveyed sites but most of them were found in the Woodard Mount. This variety is white-slipped on the interior surfaces with the outer lip often slipped also. It would appear that it is rare farther northward and is known from Nephi and Hinckley. This variety is very common in the San Rafael area where it reflects southwestern traits and design elements (Lister, 1960). The design elements are similar to those found on the other painted sherds but with an even

greater variety. The Goshen sherds included open triangles usually filled with dots, solid black triangles, squares, sawtooth lines, barbed lines, fine lines, multiple lines, and stepped lines. Various kinds of circular lines and designs are also present. All the sherds are highly polished on the exterior and all have red ochre applied to the exterior. A few rare sherds have a fine line around the outer lip of the bowl.

Uinta Gray (.5491%) is represented by plain sherds only. They are calcite and feldspar-tempered and light gray in color. This type is rare in the valley but the sherds are well made and smoothed. No polished sherds were found. The forms seem to be restricted to wide mouth globular jars.

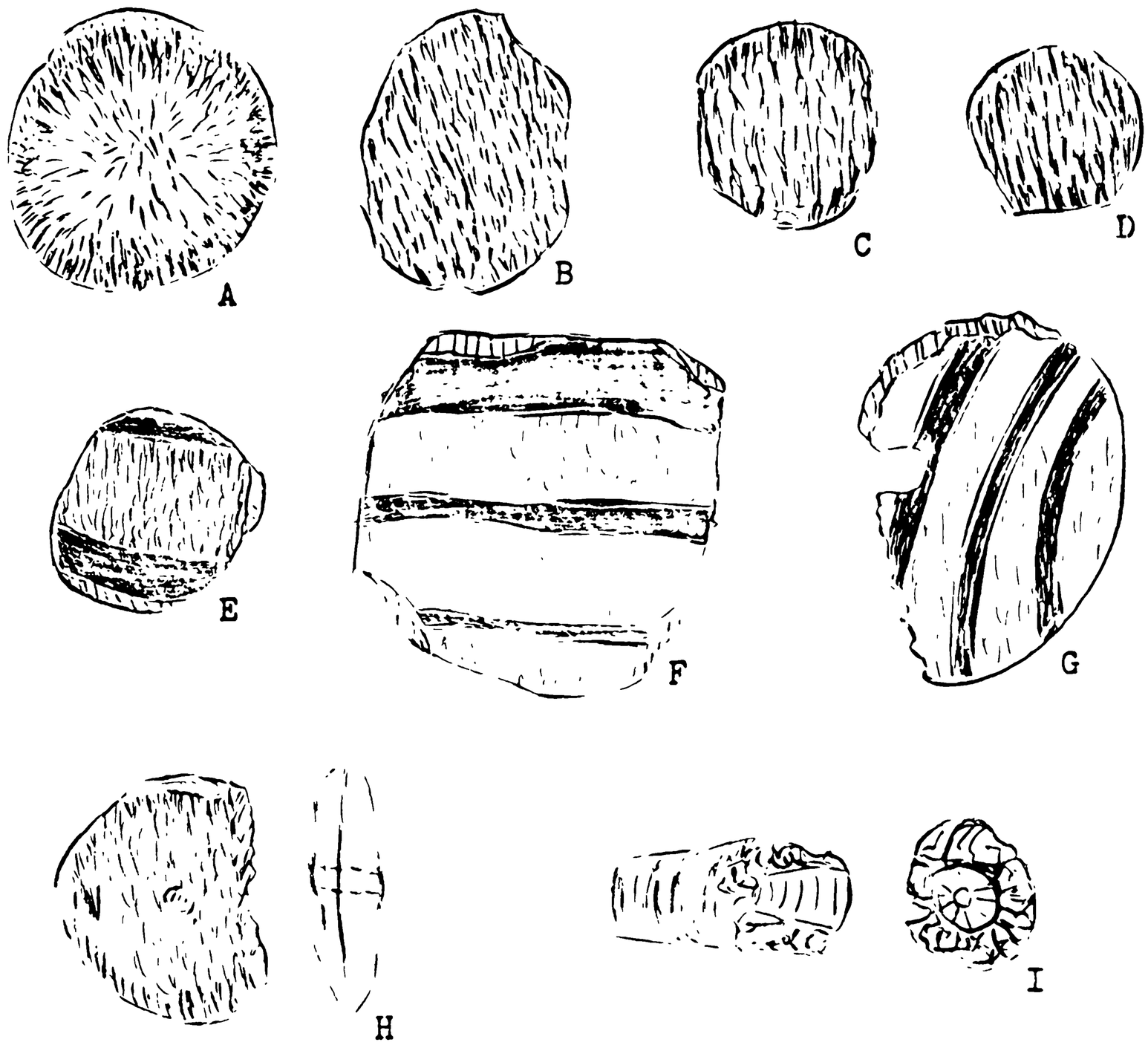
A few sherds of what has been identified as Shoshoni ware (.0305%) were found. They are sand-and-crushed-rock-tempered and very crude in appearance. The sherds are reddish-brown with large fragments of temper protruding from the surface. The surfaces are poorly smoothed and very pitted. One sherd had crude fingernail incision.

Several temperless sherds (.5.9.%) were found that appear to be from miniature vessels in imitation of tempered Provo varieties. It has been suggested that these were childrens playthings or practice vessels.

Reworked Sherds. These are somewhat common objects in the Fremont area, but are most common in the Provo, Uinta, Central Sevier, and Northern San Rafael areas. These artifacts are represented by three main groups.

GROUP A (figure 10): 6 specimens

This group is represented by worked circular sherds with no holes drilled in them. Two specimens are striped with black and one identified as a Provo Black-on-Gray sherd, and the other one an Ivie Creek Black-on-White.



REWORKED SHERDS

A - F TYPE A

G TYPE B

H TYPE C

PIPE

I Single Broken Pipe

REWORKED SHERDS AND PIPE FRAGMENT

Figure 10

Diameter: mean 1 13/32 Inches, range 2 to 7/8 inch.

GROUP B (figure 10): 1 specimen

This is a worked circular sherd with a central drilled hole. The sherd is Ivie Creek Black-on-White.

Diameter: 1 1/2 inches.

GROUP C (figure 10): 1 specimen

This is what appears to be a specially made sherd of discoidal shape so that the edges are pointed and the cross-section is triangular. The center is drilled.

Diameter: 1 1/4 inches.

The above are considered to be gaming pieces in this paper. The holes are to hold a thong or cord of some kind. Bone gaming pieces which complete the set often are drilled either in the center or on one end for stringing. These pieces are described by Culin (1907:44-49) as being part of a dice game and for turning the dice while in a basket or bowl in which they are being mixed. Often these turners also act as dice in the game and, therefore, the use of painted sherds in making these gaming pieces.

Pipe. One fragment of a straight pipe was recovered from square one, level two at the Woodard Mount. The fragment is the narrow end with the bowl broken off. The remaining section is 1 1/4 inches long and 9/16 inch in diameter where broken and 1/4 inch at the narrow end. It is pierced with a hole down the long axis 1/16 inch in diameter.

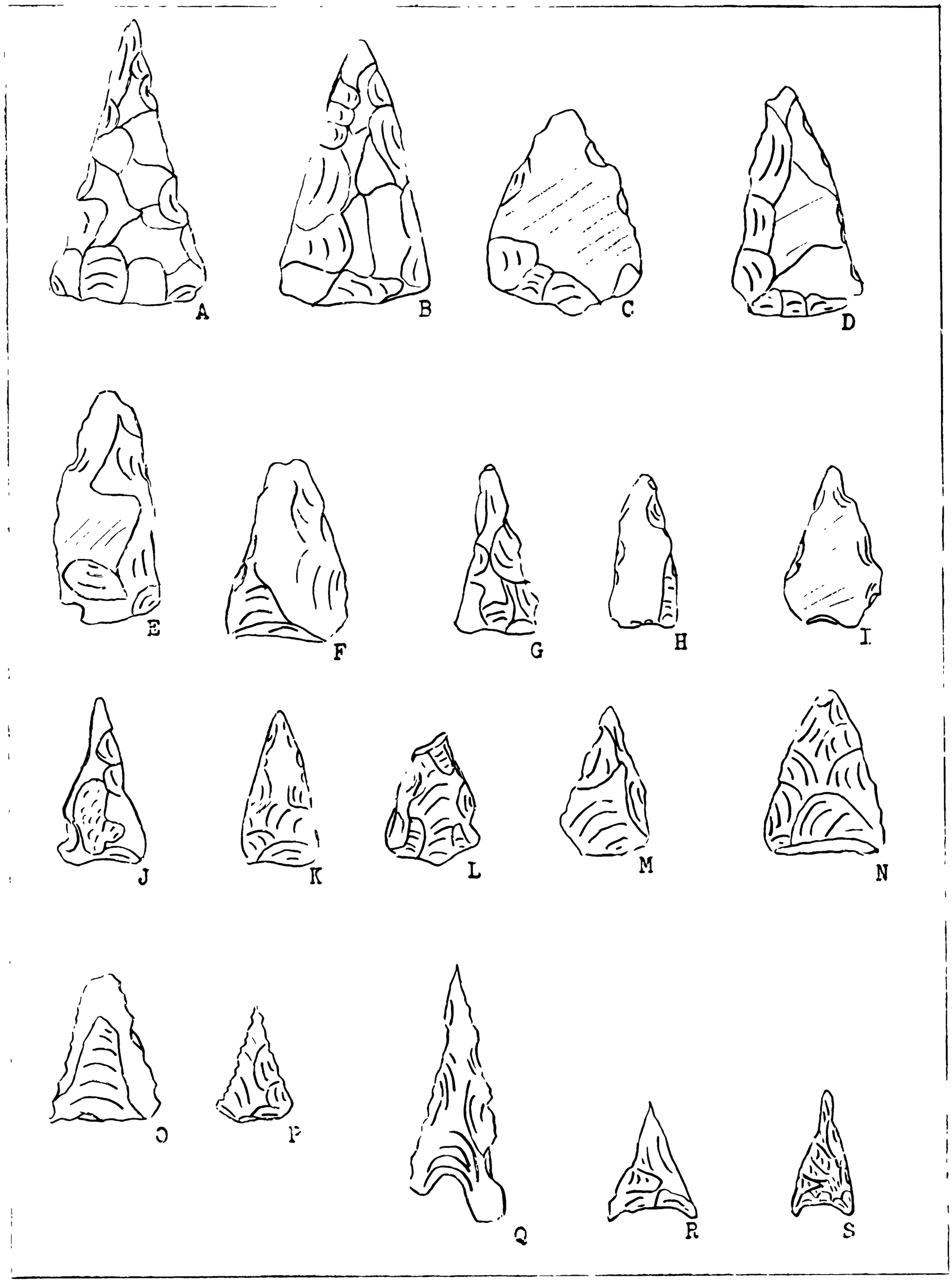
CHAPTER SEVEN

NON-CERAMIC SPECIMENS

Chipped-Stone. A fairly large sample of complete chipped-stone specimens were recovered during the course of the survey. A variety of different kinds of stone was used as the raw material for the manufacture of the worked stone. All of the varieties of lithic materials are common to the vicinity of Goshen Valley, except for the obsidian which must be imported from southwest of the Tintic Mountains.

Projectile Points. (189 specimens) The small, light, pressure-flaked projectile points from the survey were definatly designed for arrows. A majority of the specimens are from the excavation of the Woodard Mound. There was no attempt to place the projectile points into typologies as envolved by Rudy (1953), Taylor (1957), Wormington (1955), Berge (1964), and DeBloois (1967) because the requirements change with the needs of the survey. An attempt was made to seperate the points into large comprehensive categories which still differentiated enough attributes so that comparative studies could be made. Berge's (1964) modification of a point classification system as advanced by Haury (1950) is too cumbersome to use as the points are separated by non-significant attributes.

A drawing of each point was laid out on a table. Drawings were clustered as to fundamental blade shape, notching, and base curvature. The recording system is somewhat close to that used by Lehmer (1954) in the River Basin Survey Papers.



PROJECTILE POINTS

A - P TYPE A

Q - S TYPE B

Figure 11

GROUP A (figure 11) 31 specimens

Triangular with slightly convex bases, stemless, maximum width at base, edges straight or slightly convex.

Length: mean 1 1/16 inch, range 1 3/4 to 7/8 inch.

Width: mean 19/32 inch, range 1 to 7/16 inch.

GROUP B (figure 11) 4 specimens

Triangular with slightly concave bases, stemless, maximum width at base, edges slightly convex to straight.

Length: mean 31/32 inch, range 1 7/16 to 11/16 inch.

Width: mean 7/16 inch, range 5/8 to 5/16 inch.

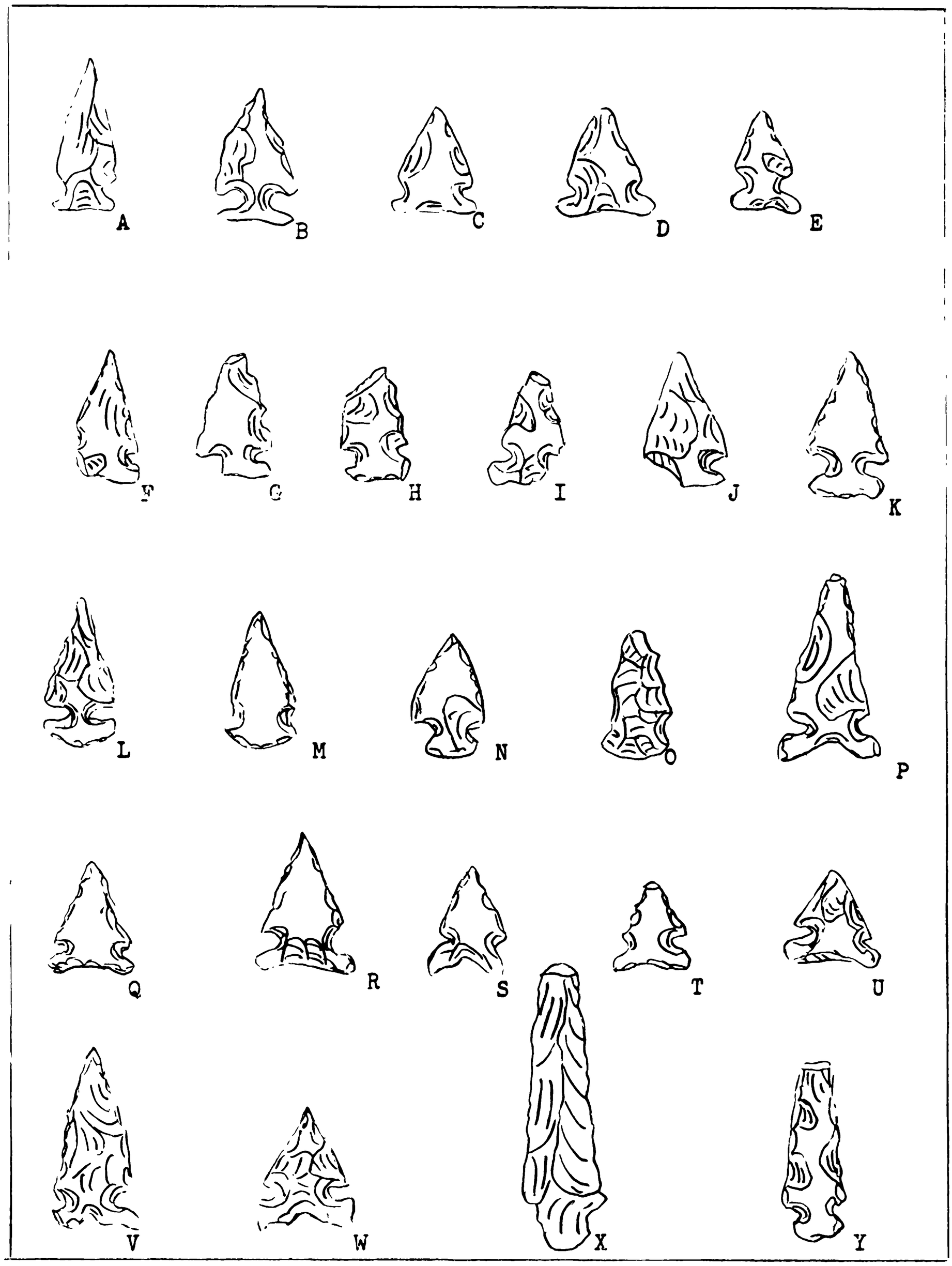
These points (group A and B) are common in the Provo and Sevier sub-divisions and have been found at Hinckley, Nephi, Spotten Cave, Grantsville, Meadow, and Kanosh. But these points are more characheristic of the Uinta and San Rafael sub-divisions where they are very abundant, especially in the Uinta Basin (Caldwell Village, Big Rock, Boundry Village, and Marigold Cave areas) and Dirty Devil areas (Emery, Poplar Knob, Old Woman, etc.).

GROUP C (figure 12) 15 specimens

Triangular with straight to slightly convex edge, straight base, side-notched on lower one third of blade, maximum width at base.

Length: mean 9/16 inch, range 15/16 to 19/32 inch.

Width: mean 7/16 inch, range 1/2 to 13/32 inch.



PROJECTILE POINTS

A - J	TYPE C	P - U	TYPE E	X & Y	TYPE J
K - O	TYPE D	V & W	TYPE F		

Figure 12

GROUP D (figure 12) 6 specimens

Triangular with straight to slightly convex edge, convex base, side-notched on lower one third of blade, maximum width at base.

Length: mean 7/16 inch, range 7/8 to 21/32 inch.

Width: mean 15/32 inch, range 5/8 to 7/16 inch.

GROUP E (figure 12) 10 specimens

Triangular with straight to slightly convex edge, concave base, side-notched on lower one-third of blade, maximum width at blade.

Length: mean 3/4 inch, range 1 3/16 to 9/16 inch.

Width: mean 15/32 inch, range 1/2 to 5/16 inch.

GROUP F (figure 12) 3 specimens

Triangular with straight to convex edges, notched base, side-notched on lower one-third of blade, maximum width at base.

Length: mean 29/32 inch, range 1 1/8 to 11/16 inch.

Width: mean 25/32 inch, range 1/2 to 19/32 inch.

These groups (C, D, E, and F) are on the border between being common and abundant. They are found commonly in sites in the Uinta, Provo, and northeastern San Rafael sub-divisions. They have been found at Hinckley, West Canyon, Grantsville, Spotten Cave, Turner-Look, and Caldwell Village. They are present in the Sevier, Conger, and southwestern San Rafael region but never in any number. It has been suggested by Mock (personal communication) that this type was re-emphasized with the Fremont intrusion into Utah, but was fairly common in the center Desert Culture sites.

GROUP G (figure 13) 14 specimens.

Triangular with straight to convex edges, corner-notched, expanded base much smaller than blade, maximum width at notch.

Length: mean 21/32 inch, range 1 1/4 to 11/16 inch.

Width: mean 17/32 inch, range 13/16 to 7/16 inch.

GROUP H (figure 13) 2 specimens

Triangular with straight to convex edges, corner-notched, expanding base just smaller than blade, maximum width at notch.

Length: no complete specimens

Width: no complete specimens.

These groups (Group G and H) are common along the Wasatch Front of the Provo Fremont area as well as the Uinta area. They have been found at Hinckley, Spotten Cave, the Ivie Creek area, and in the Uinta Basin. They are much more abundant in the Western Provo, Sevier, and southern San Rafael areas where they appear to have been introduced by the Anasazi.

GROUP I (figure 13) 12 specimens

Triangular with straight to convex edges, parallel-notched, square base, maximum width at notch.

Length: mean 7/8 inch, range 5/8 to 5/32 inch.

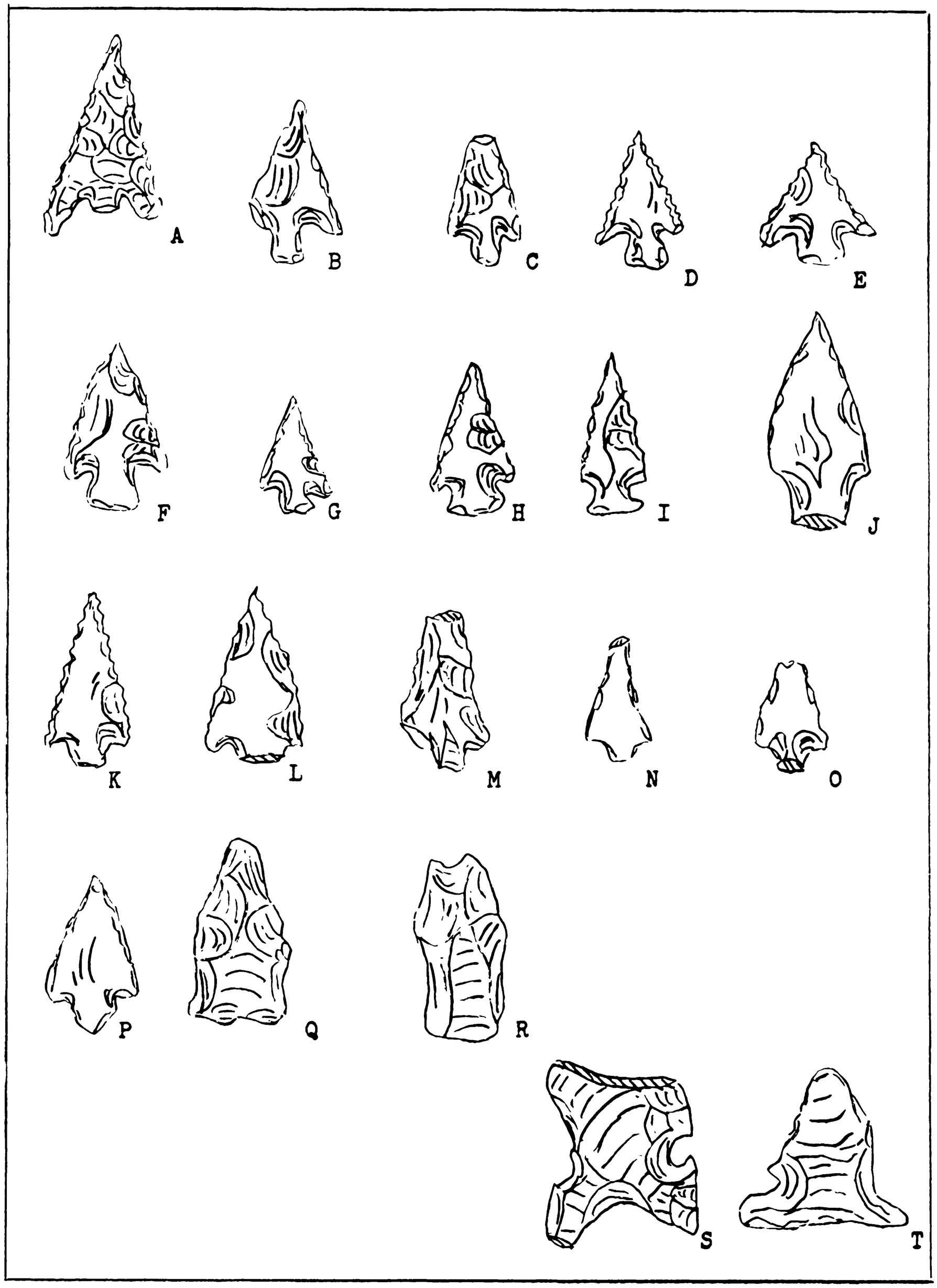
Width: mean 9/16 inch, range 7/8 to 3/8 inch.

GROUP J (figure 12) 2 specimens

Triangular with straight to convex edges, parallel-notched, rounded base, maximum width at notch.

Length: mean 1 13/32 inch, range 1 3/4 to 1 1/16 inch.

Width: mean 15/32 inch, range 9/16 to 6/16 inch.



PROJECTILE POINTS

A - I	TYPE G	P	TYPE K	S	TYPE M
J - O	TYPE I	Q - R	TYPE L	T	TYPE N

Figure 13

GROUP K (figure 13) 1 specimen

Triangular with straight edge, parallel-notched, triangular base, maximum width at notch.

Length: 3/4 inch

Width: 1/2 inch

These groups (Group I, J, and K) are rare in the Fremont and are generally not diagnostic of the sites. They are present in the Provo and Sevier sub-divisions but always in a minority. They are definitely associated with Fremont sites, but appear more often in hunting camps than house-clusters.

GROUP L (figure 13) 2 specimens

Ovate with very convex edges, slight concave depressions in lower one-third of blade, convex base, maximum width about one-half way up the blade.

Length: mean 1 inch, range same.

Width: mean 9/16 inch, range same.

GROUP M (figure 13) 1 specimen

Triangular with straight edge, side-notched with large deep concave notch in base, maximum width at base.

Length: no complete specimens.

Width: 9/16 inch.

GROUP N (figure 13) 1 specimen

Triangular, irregular edge, expanding triangular base, maximum width at base, straight base.

Length: 9/16 inch.

Width: 9/16 inch.

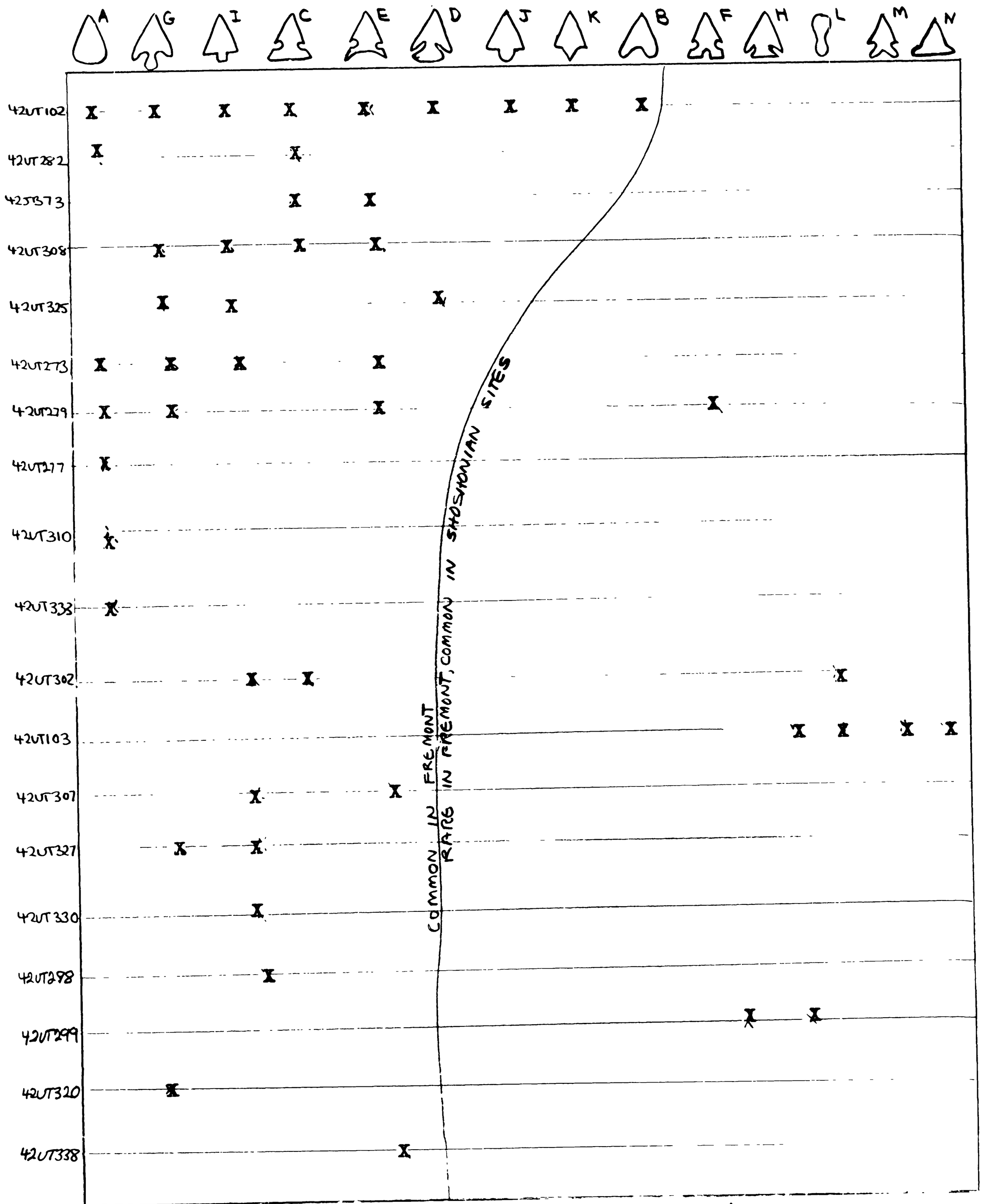
These Groups (Group L, M and N) are very rare and in fact could be called unique in the area. Other points similar to type L were recovered by the author in sites in the House Range near White Valley which seemed to be associated with Piute or Ute sites. This type was also found in White Valley by Berge (1964). It would appear that these points are late hunter and gathering types. They are typically made of obsidian.

There are some weaknesses in this system, as some points intergrade and others deviate from the ideal. But there is some basis for comparison, and one does not need to keep in mind hundreds of variables while studying the typologies. A computer analysis should be made of all recorded point attributes and their statistical significance noted. The Fremont areas need a non-arbitrary system of significances so that further site records could be systemitized.

There were several hundred fragments that could not be classified. Most of the points were made of chert and agate with some jasper and a few quartzite and obsidian. All of these materials are readily available in many areas along Current Creek, Kimball Creek, and the Tintic Mountains.

As things now stand, projectile points do not seem to be a criterion for cultural affiliation beyond the largest categories. Some new data prepared by Ambler (1966) and the Spotten Cave analysis of the stratified site does indicate that there are some affiliations. The cave did have points associated with the lower and upper levels, with a majority of them in the Fremont level.

Of all the projectile points recovered (186 specimens) ninety-six of them came from the excavations at the Woodard Mound (42Ut102). Sixty-two of the points came from squares one and two in association with the use-area. Only thirty came from the squares associated with the structure.



DISTRIBUTION OF PROJECTILE POINTS (Figure 14)

Three of the points came from the back-hoe trench and one from the surface. The distribution of points supports the hypothesis that Fremont sites are laterally differentiated to a greater degree than they are vertically. The use-area is clearly differentiated from the structure in function as already shown by the ceramics. It would appear that many of the weapons were hafted in the use-area, nothing else would explain the great numbers of finished and unbroken points.

Scrapers. (62 specimens) This group of chipped tools has been classified by their lack on specialized characteristics. They are rather arbitrary in function and could have been used for multiple purposes. Some of them could have been knives or choppers or just about anything else. A few of the flake thumbnail sized scrapers are small enough to have been projectile points. They do have too much curvature and could have been modified for hafting so easily that this seems very unlikely. There are five categories of scrapers. These should not be considered rigid classes but as clusters around a mode or ideal type and many intergrade. Many of these are fragments and are not classifiable.

GROUP A (figure 15) 6 specimens

Elliptical side scrapers, irregular in outline, both surfaces fully flaked, retouched sides (14 possible specimens).

LENGTH: 1 15/16 inch, range 2 1/4 to 1 1/4 inch.

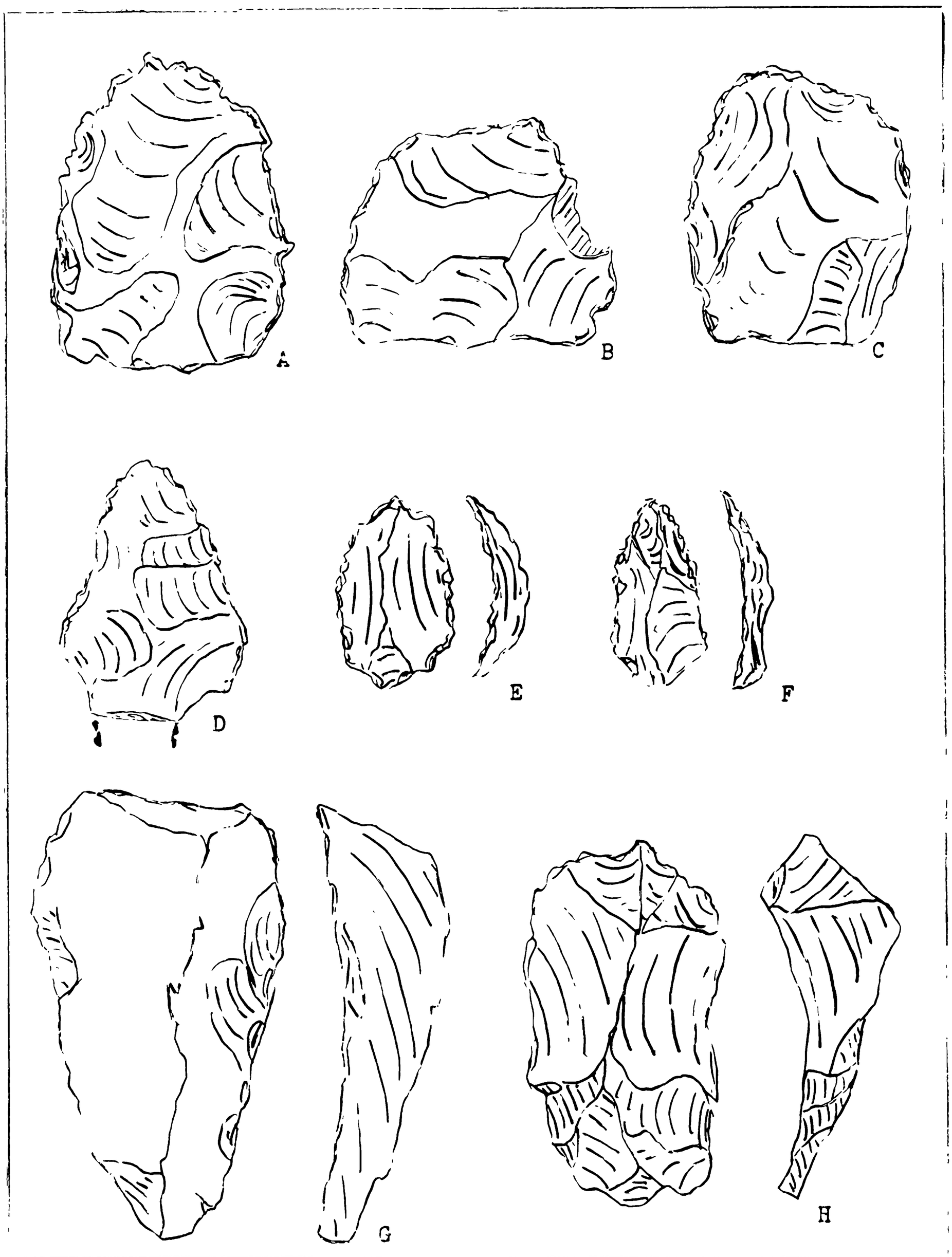
WIDTH: 1 1/8 inch, range 1 1/4 to 7/8 inch.

GROUP B (figure 15) 3 specimens

Discoidal side scrapers, irregular outline, both surfaces fully flaked, pressure retouching common (three possible specimens).

LENGTH: mean 1 1/2 inch, range 1 1/4 to 1 3/4 inch.

WIDTH: mean 1 1/4 inch, range 1 to 1 1/2 inch.



SCRAPERS

A, B, C	TYPE B	E, F	TYPE C
D	TYPE D	G, H	TYPE E

Figure 15

SCRAPER TYPES

UTAH COUNTY SITE NUMBERS	A	E	D	C	B
359	x				
325	x				
295	x	x			
102	x	x			
273		x			
310		x			
313			x		
301				x	
277				x	
323					x
321					x
274					x

DISTRIBUTION OF SCRAPERS

Figure 16
The overlap and cofiguration is for ease of drawing.

GROUP C (figure 15) 2 specimens

Elliptical side scrapers made from flakes, plano-convex, single flake scar (sixteen possible specimens).

Length: mean 1 3/16 inch, range 1 1/4 to 1 1/8 inch.

Width: mean 7/16 inch, range 3/4 to 1/2 inch.

GROUP D (figure 15) 1 specimen

Single flake with small extension at one end similar to the Group I projectile points. Pressure flaked edges.

Length: 1 7/8 inch

Width: 1 1/8 inch

GROUP E (figure 15) 3 specimens

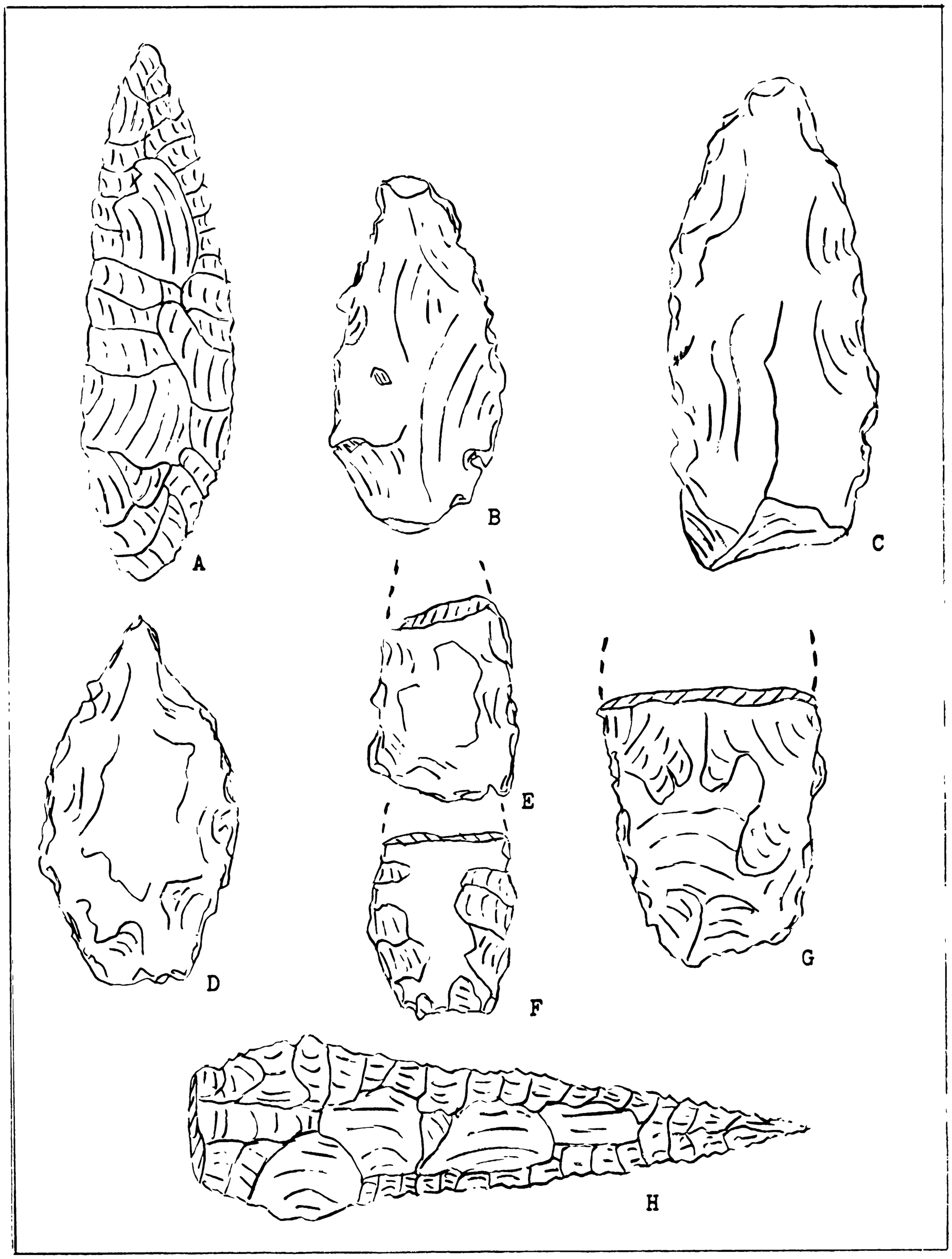
End scrapers of plano-convex type, comparatively large, irregular outline, triangular cross section, front cutting edge pressure flaked.

Length: Mean 2 1/4 inch, range 2 7/8 to 1 1/2 inch.

Width: mean 1 5/32 inch, range 1 1/2 to 3/4 inch.

There are not enough of these artifacts to be able to make a valid statistical comparison, but they do cluster into two large groups. These are A and E; and B, C, and D. The clustering includes both known Fremont sites and unknown campsites so there is no basis for differentiation in that respect.

Knives. (51 specimens). These artifacts are very similar to many of the projectile points as they have hafting shapes similar to notched points but all are much too heavy for arrows, and spears never seem to have been a popular weapon. Many are similar to hafted knives from the southwest and in the miscellaneous collections of the Brigham Young University Museum of Ethnology and Archaeology.



KNIVES

A - C TYPE A

D - G TYPE B

H TYPE E

Figure 17

GROUP A (figure 17) 5 specimens

Long lanceolate forms with rounded bases, edges very sharp, knives from the southwest are basaly hafted (twenty possible specimens).

Length: mean 2 11/16 inch, range 3 3/8 to 2 1/4 inch.

Width: mean 1 7/32 inch, range 1 3/4 to 7/8 inch.

GROUP B (figure 17) 5 specimens

Long lanceolate with square bases, pressure flaked surfaces, sharp edges, appear to be basaly hafted (four possible specimens).

Length: no unbroken specimens

Width: mean 1 3/32 inch, range 1 3/16 to 15/16 inch.

GROUP C (figure 18) 2 specimens

Triangular parallel notched knives, usually percussion flaked, irregular edges, fairly crude and made of quartzite or andasite.

Length: no unbroken specimens.

Width: mean 1 1/8 inch, range 1 1/4 to 1 inch.

GROUP D (figure 18) 1 specimen

Triangular, side-notched with pressure flaked surfaces, similar to type H projectile point, very thin.

Length: 3 13/16 inch.

Width: 1 3/16 inch.

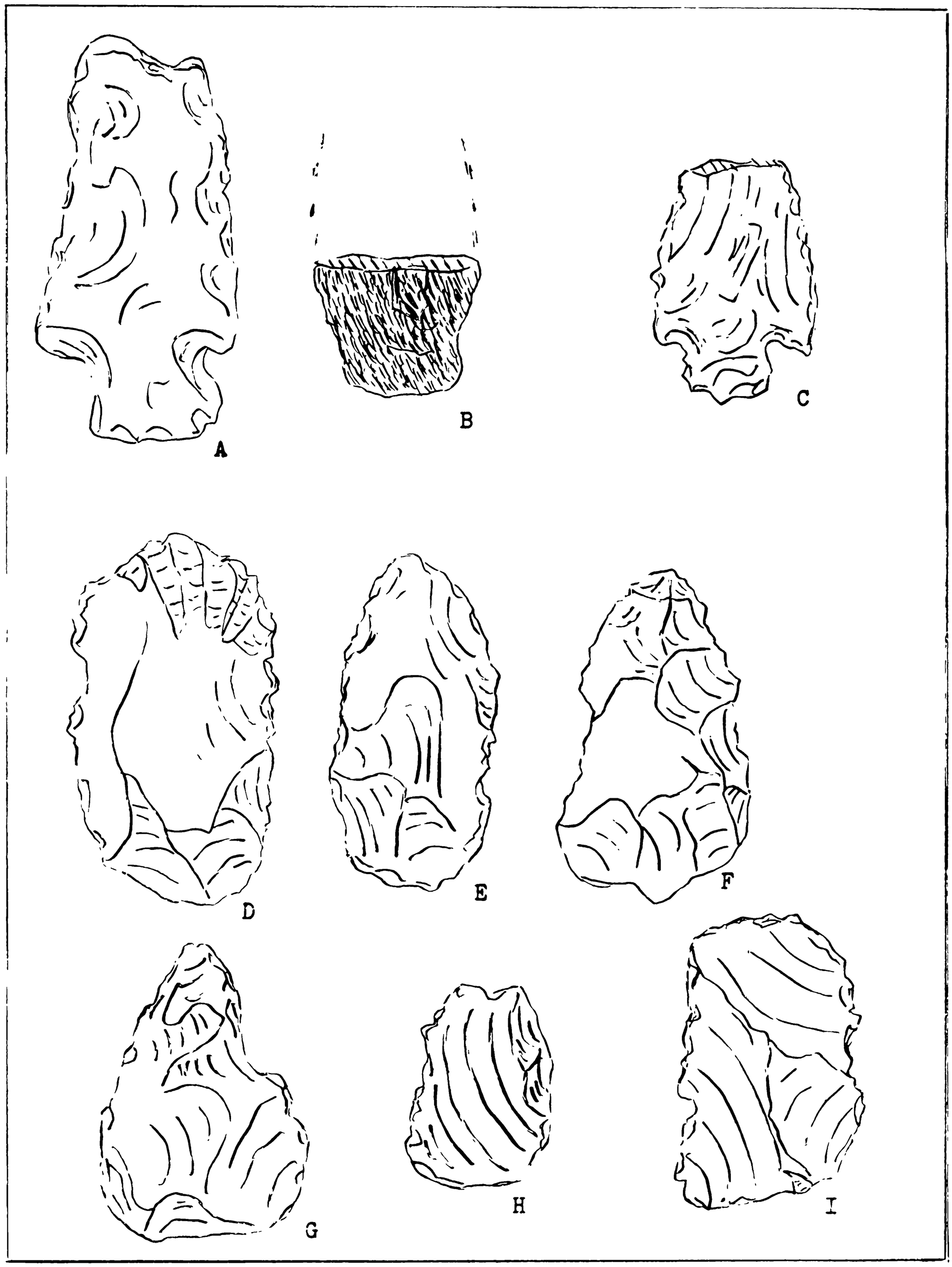
GROUP E (figure 17) 1 specimen

Triangular with opposing triangular base, similar to type K projectile point, base broken.

Length: 3 13/16 to break.

Width: 1 3/16 inch.

Again, the statistical sample is too small to be of any use in a distributional study.



KNIVES

A, B TYPE C

C TYPE D

D - I TYPE A SCRAPERS

Figure 18

UTAH COUNTY SITE NUMBERS	TYPE B	TYPE A	TYPE C	TYPE E	TYPE D
339					x
273	x			x	
284	x				
328	x				
337	x				
103	x				
327	x	x			
102	x	x	x		
323					
288					
277		x	x		
295		x	x		
305		x	x		

DISTRIBUTION OF KNIVES

Figure 19

Drills. (19 specimens) The drills were confined to three main types which fit also the categories outlined by Ambler (1966). They are all made for cutting or drilling of holes and many are highly specialized tools. Group A are very well made and could have had only this one function.

GROUP A (figure 20) 7 specimens

These are straight, very round drills which have the appearance of needles, no bases evident.

Length: mean 1 13/64 inch, range 1 1/2 to 7/8 inch.

Width: mean 3/8 inch, range 1 1/4 to 1/4 inch.

This type is common in the southern Provo, Uinta, San Rafael, and Sevier regions but few have been found in the Provo Lake area. They are known from Hinckley. Many sites in the Provo area have been badly reported, so this may be in error.

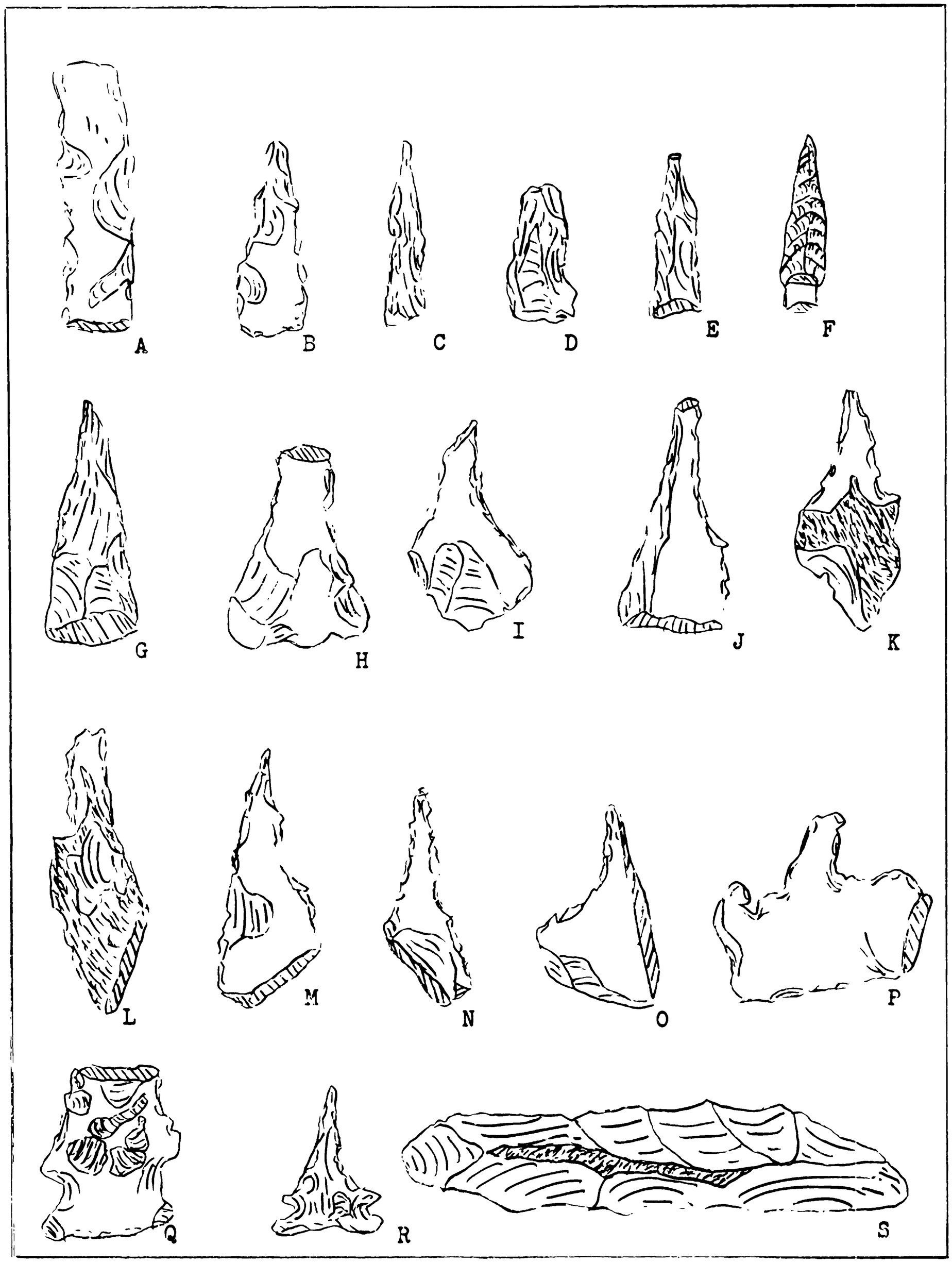
GROUP B (figure 20) 10 specimens

Poorly shaped or well shaped expanding base drills, often flat and little retouched flakes with one end sharpened into the drill.

Length: mean 1 3/8 inch, range 1 3/4 to 1 inch.

Width: mean 13/16 inch, range 1 1/4 to 10/16 inch.

This type is present in the Sevier, and Uinta regions but are much more common in the extreme east of the Colorado Plateau. They are known from intermediate sites in the Dirty Devil River area also. It is rare in the Provo area.



DRILLS

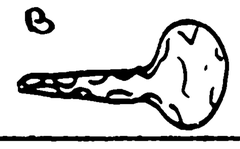
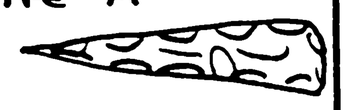
A - G TYPE A

H - P TYPE B

Q - R TYPE C

FLAKER STONE S

Figure 20

UTAH COUNTY SITE NUMBERS	TYPE B 	TYPE A 	TYPE C
270	x		
275	x		
282	x		
306	x		
308	x		
100	x	x	
102	x	x	x
274		x	
300		x	
328		x	
332			x

DISTRIBUTION OF DRILLS

Figure 21

GROUP C (figure 20) 2 specimens

This type appears to be modified projectile points with side notching, expanded base, thick and thin.

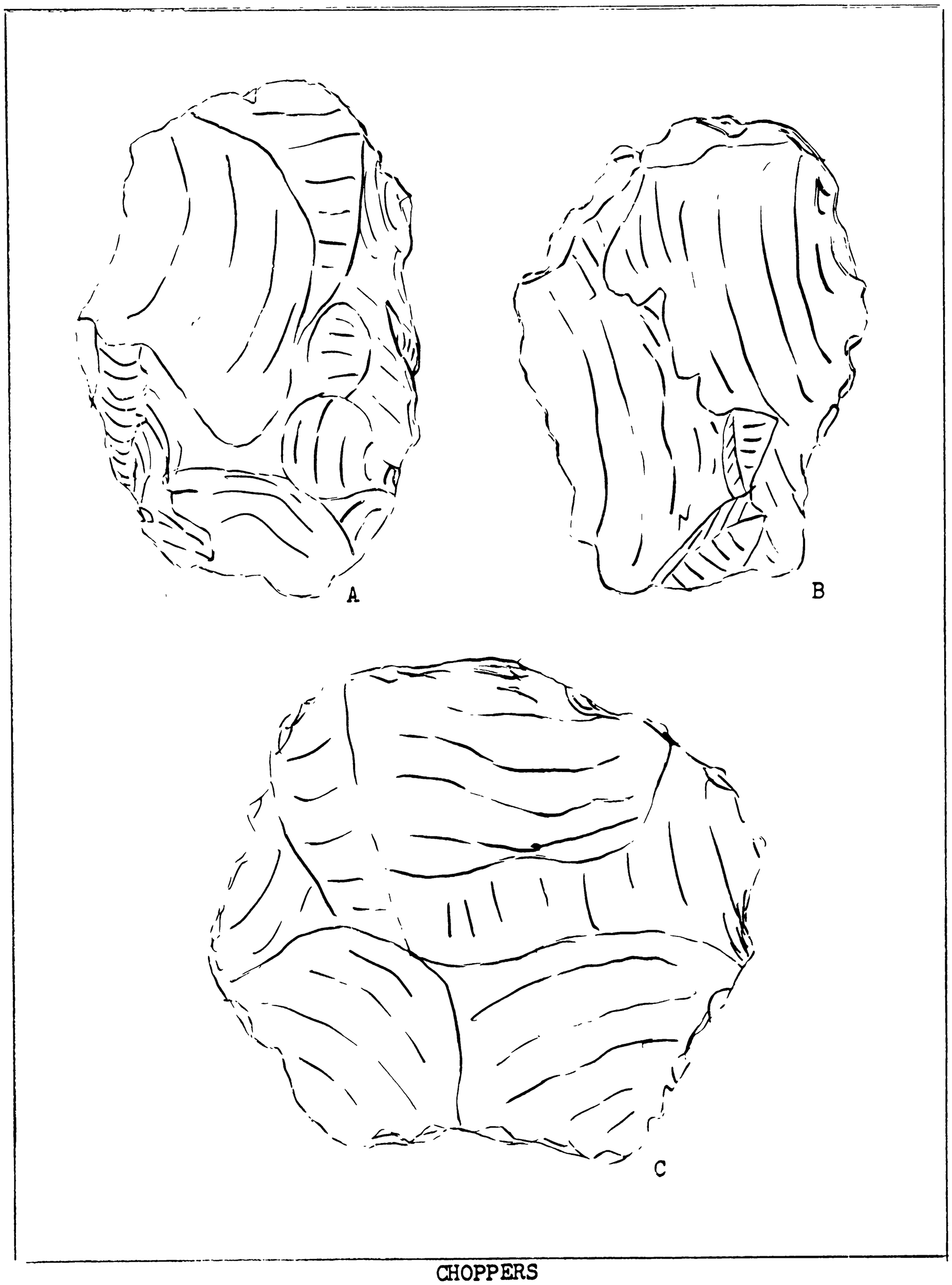
Length: mean 1 7/16 inch, range 2 to 7/8 inch.

Width: mean 23/32 inch, range 7/8 to 9/16 inch.

This group is reported from the Sevier and San Rafael areas but only at six sites. They are (from west to east) Deep Creek, Beaver, Poplar Knob, 42Em5, Harris Wash, and Turner-Look (Ambler, 1966). This type is rare in the whole Fremont area.

Choppers. (3 specimens) These are classified under choppers due to their large size and crude appearance. Materials analyzed from Nephi indicates smooth ground stone axes were popular and these were hafted. The choppers on the other hand are all percussion flaked and very irregular in outline. All appear to be retouched cores. There was one discoidal chopper from 42Ut275 which is made of quartzite and is approximately three inches in diameter. The other two choppers are elliptical in shape and are (42Ut288) 3 1/4 inches long by 2 1/8 inches wide; (42Ut306) 3 1/2 inches long and 3 1/4 inches wide. They are both made of agate.

Hammerstones. (38 specimens) These appear to be specially made tools as hammerstones of similar type were recovered by DeBloois (personal communication), James Mock from Spotten Cave, and from the Hinckley Farm site. Also many similar stones are found in the Brigham Young University collections. They are generally made of quartzite or agate that has been chipped into a roughly cubical or flattened polygonal shape. Many could



CHOPPERS

A 42Ut306

B 42Ut288

C 42Ut275

Figure 22

be called discoidal. All show one edge which has been fractured internally from repeated blows on something very hard. These hammerstones have a very consistent size, averaging 3 1/16 inches across the largest diameter and 1 7/8 across the smallest. The largest stone was 3 3/4 inches by 2 1/2 inches and the smallest 2 inches by 1 inch. They all appear to be designed for the palm of the hand.

Ground Stone. Under this category are all pecked and ground stone artifacts such as manos, metates, stone balls, and sinkers. Most of these artifacts are broken into very small fragments so that identification of types is literally impossible.

Metates. These fragments were found at only fourteen sites and at only six of these were manos found in association with them. Only two recognizable types were recovered during the course of the survey and excavation and no complete specimens were found at all. One large Utah type was found at 42Ut328 as part of the foundation wall but it was too large to haul away. A photograph was taken of this particular artifact, as it weighed about 60 pounds. The Utah type is typically found in the Provo and Sevier regions and is present in the Conger and San Rafael region. This is the open end type with the flat grinding surface on the upper end. Another metate of the open end type was recovered from 42Ut284, this type is more characteristic of the Uinta region but is common throughout the Fremont area.

Five sites yielded fragments of flat metates which are more characteristic of the Desert Culture than the Fremont. All but two of the sites were campsites of unknown cultural affiliation but the other sites were definite Fremont House Clusters (42Ut299). The campsites where the flat

metate fragments were found are (42Ut102, 42Ut291, and 42Ut295). All of these sites are on Current Creek.

At three sites (42Ut295, 42Ut318, and 42Ut319), shallow trough fragments were recovered which could have been either open end or Utah type metates. These fragments are very fragmentary and very broadly categorized. Most of the fragments had been pre-shaped with pecking and smoothing so that the finished product would weigh less. The borders averaged about one inch in thickness and about a half an inch deep.

At three other sites (42Ut102, 42Ut273, and 42Ut327), deep trough fragments were found which may have been parts of open-end or double open-end metates. These also have been carefully shaped for use. These have a border thickness about 3/4 inch thick but with troughs as deep as two inches. All of the fragments seem to have come from metates that would have been about one foot wide and two feet long.

At three sites (42Ut286, 42Ut315, and 42Ut316), the fragments were so small as to be unidentifiable or else the depth of the trough could not be determined. Most of these fragments do, however, appear to have come from deep-trough metates rather than the shallow type.

Almost all of the fragments were made from local igneous porphories, basaltic glasses, and sandstones. There were many metates collected by the White family from 42Ut295, and most of these were either of the Utah type or else were flat. Mrs. White's garden was lined with artifacts and a more complete discussion of her collection is under miscellaneous specimens at the end of the report.

Manos. Twenty of the surveyed sites yielded manos of one form or another. These have been classified into several types by shape and size. Most of the manos are fragments like the metates and could not be measured for statistical comparisons. The main type found was the loaf-shaped mano which is fairly common in the Provo, Sevier, and San Rafael areas. This type is represented by sixteen specimens from twelve sites. There were only four unbroken specimens, two of these came from the Woodard Mound and were 4 1/2 inches long, 2 1/2 inches wide; 2 inches high and 4 3/4 inches long; 1 1/2 inches wide, 2 inches high respectively. Both of these manos fall well under the 6.30 inch length established by DeBloois for his rocker-bottom type of one hand manos as an average length (DeBloois, 1967:81-82). It would appear that these are also of the one hand type as they fit the hand with a little overlap.

Flat discoidal manos were as numerous as the loaf-shaped ones, but came from only ten sites. There were seven of this type represented and all fall within the same size range with a variation averaging less than one-fourth of an inch.

MEASUREMENT AND DISTRIBUTION OF DISCOIDAL MANOS

Site where found	length	width	thickness
42Ut102	4.75	3.50	1.50
42Ut295	4.25	3.25	1.25
	5.00	3.75	1.75
	4.75	4.75	1.50
	5.375	3.00	2.00
42Ur279	5.50	3.75	1.25
42Ut332	5.00	3.50	1.75
Size Variation	.335	.25	.20
Average Size	5.028	3.69	1.55

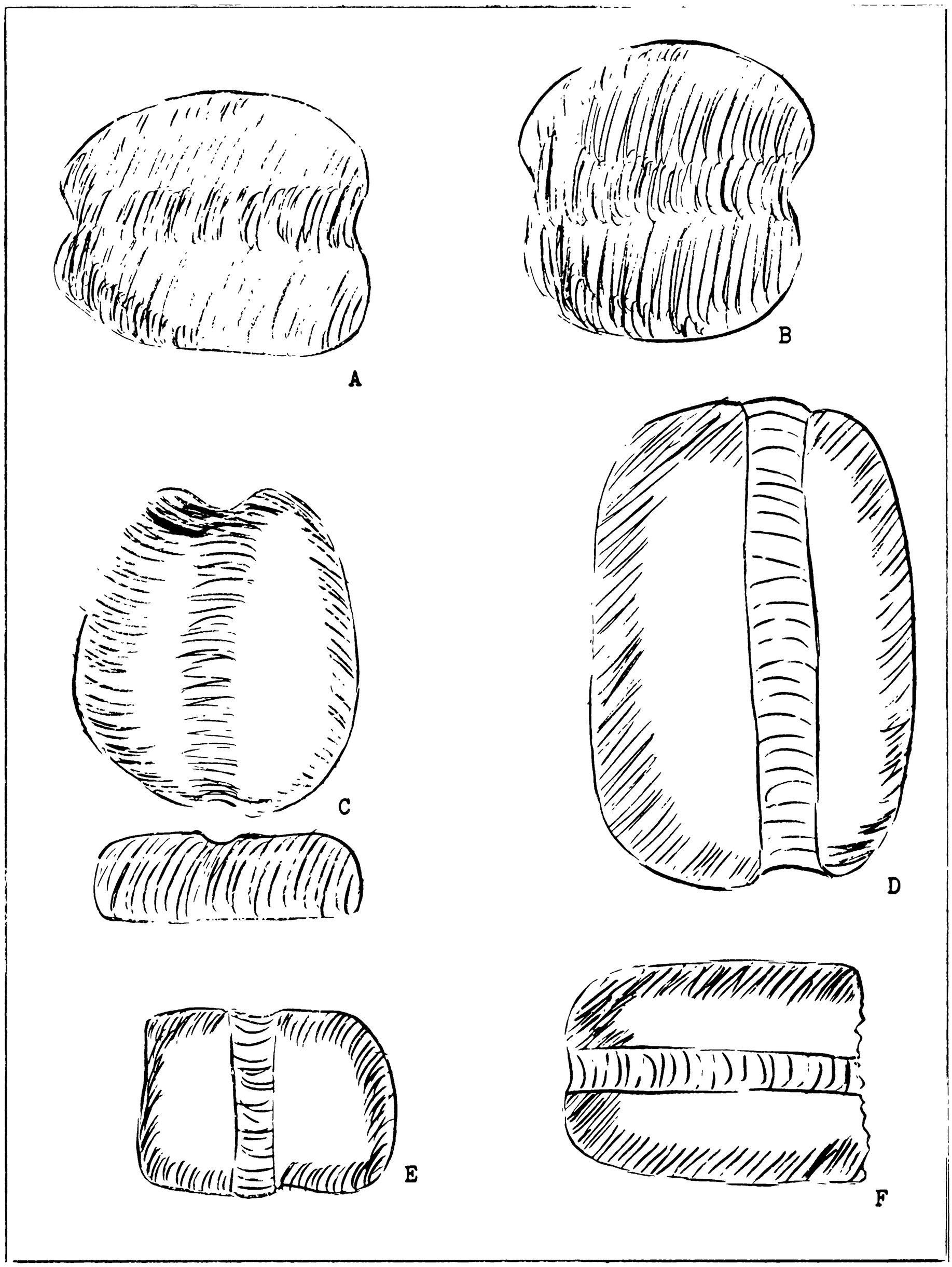
Figure 23

The range falls slightly under the one handed type as illustrated by DeBloois and would appear to be of a one handed type also, but with a much smaller range of variation.

Two other types are represented, one at 42Ut325 is a triangular mano somewhat similar to an isosceles triangle on its side. This mano measured 6 1/4 inches long, 2 1/4 inches wide, and 1 1/2 inches high. A vertical mano was found at 42Ut282 which was 6 1/8 inches long, 1 1/2 inches wide, and 2 1/4 inches high. This specimen has a rectangular cross section. Both of these manos still fall within the range of being one handed manos

All of the rest of the manos are fragments that could be identified as to class but whose measurements could not be taken due to their fragmentary nature. It would be of interest to make an etnographic study of a people who use stone grinding tools and discover what the cause of the great degree of breakage as many of the manos were made of very hard stone which has been broken into fairly small fragments. It does not appear to have been accidental.

Stone Balls. These were recovered from two sites (42Ut299 and 42Ut273) and are fairly common throughout the Fremont area. They have been reported by Gunnerson (1957), Wormington (1955), Taylor (1957), Sharrock (1965), Ambler (1966), and DeBloois (1967). These have been described as being juggling balls or as part of the hidden ball game. The hidden ball game is described by Cullin (1907:335-339) as a game where one hides a ball in one of several places, usually four, the opponent guessing where it is hidden. The impliments employed are (1) cane or wooden tubes or (2) moccasins. The ball is hidden in the tubes or moccasins and bets are placed



A, B, & C SINKERS D, E, & F SHAFT SMOOTHERS

SINKERS AND SHAFT SMOOTHERS

Figure 24

on how quickly the opponent can guess the place. Besides stone balls, sticks, beans, or pebbles can be used for the gaming piece. Count is kept with sticks or beans and is a game often found where the social system is divided into dual organizations. The moccasin version is commonly found among Algonquian tribes where the players point at their choice by pointing with a rod.

The juggling stones are usually in groups of three and are often water worn pebbles or stuffed leather balls. They average a diameter of one inch but range up to three inches. These are also part of a betting game where much is wagered (Cullin, 1907:713-714). Seven water worn pebbles were recovered from the use-area at the Woodard Mound. The balls recovered averaged 2 inches in diameter with a range of 2 1/2 inches to 1 1/2 inches.

Grooved stone balls or sinkers were recovered from 42Ut295 (White Farm) where they were quite common. The two whole ones were both 2 inches in diameter and have full diameter grooves. These artifacts were presumably used as fishing sinkers although it has been suggested that they were bola stones as they have been found at other sites in groups of three. This is not diagnostic as bolas often have variable numbers of stones and very often they are placed in leather sacks rather than grooved as they tear loose easily and the time involved in grooving is lost when the stones are lost. The great preponderance of fish bones also argues for fishing nets and sinkers.

Shaft Smoothers. Seven partial or complete objects classified as shaft smoothers were also recovered. At 42Ut273 one shaft smoother of sandstone measuring 1 1/4 inch wide, and 1/4 inch high was found on the surface. The end was broken off the specimen, and it had a single groove down the long axis. Another surface find was at 42Ut338 which measured 2 3/4 inches long, 1 3/4 inches wide, and 1 inch high. This smoother was made of what appears

	HAMMERSTONES	CHOPPERS	MANOS	METATES	STONE BALLS SINKERS	BONE GAMING PIECES	POTTERY GAMING PIECES	FLAKERS	AWLS	BEADS	FIGURINES	SHAFT SMOOTHERS
42UT102	X		X	X		X	X	X	X	X	X	X
42UT103	X		X							X		
42UT273	X		X	X	X		X	X				X
42UT275	X	X	X									
42UT277			X									
42UT278			X									
42UT279			X									
42UT281			X									
42UT282												
42UT284				X	X							
42UT286	X			X								
42UT288		X										
42UT289	X											
42UT290				X								
42UT291				X								
42UT294	X		X									
42UT295	X		X	X	X							
42UT298	X											
42UT299	X			X	X							
42UT300			X									
42UT301	X											
42UT302			X									
42UT304			X									
42UT306		X			X							
42UT307	X											
42UT310	X											
42UT311			X									
42UT315	X		X	X								
42UT316	X		X	X								
42UT318				X								
42UT319			X	X								
42UT325	X		X									
42UT326										X		
42UT327				X								
42UT329			X									
42UT336							X					
42UT337			X									
42UT338												X

FIGURE 25

to be an ore of copper. It also had a single groove down the long axis but was much more finished than the rest of the shaft smoothers recovered. The other five smoothers came from the Woodard mound. One of these came from the surface and had the end broken off but measured 1 1/4 inches wide and 1/2 inch high. Three of the smoothers came from close association with the use-area and all were broken. Two of them were 1 1/2 inches wide and 1 inch to 3/4 inch high respectively. The second shaft smoother had two grooves, one on each side. The other smoother from the use-area measured 1 3/4 inches wide and 1 inch high. This specimen had two grooves also, one on each side and down the long axis. All of the specimens from the use-area were made of cinder. The last smoother was found in the back-hoe trench and measured 1 1/2 inches long, 3/4 inch wide, and 3/4 inch high and was made of cinder also. The association with the use-area supports the differentiation by use within the site.

Worked Bone. The most common worked bone artifacts are awls. All of the bone, except for the bone knife recovered from 42Ut293 came from the excavation at the Woodard Mound. The bone, therefore, will be analyzed in terms of the use-area and structure in a manner very similar to that used on the ceramics. The preponderance of bone tools that suggest much work with animal skins also suggests the dependence on wild game as well as agriculture and that the Fremont economy was very much a subsistence situation, but subsistence in the sense that the agents of production and consumption were most probably the same individual.

Awls. These are the most common bone impliments and are of three general classes. The 1966-67 Brigham Yound University field class recovered many bone awls from the Hinckley site (42Ut110) which fit these same three categories. The first category has the joint of articulation for a handle; the second has the joint split and ground to make a handle; and the third are splinters that have been broken from long bones. These classes are similar to the types set up by Gunnerson (1957) and De Bloois (1967). None of the awls recovered from the Woodard Mound were whole so the categories established here are a little broader.

GROUP A (figure 26) 5 specimens

These are long, rounded, and highly polished tips of what appear to be deer or antelope metapoidals. None of them appear to be splinters as they are very thick with very little cancellous tissue.

Length: all broken, range 3 1/2 to 1 inch.

Width: all broken, range 1/2 to 1/4 inch.

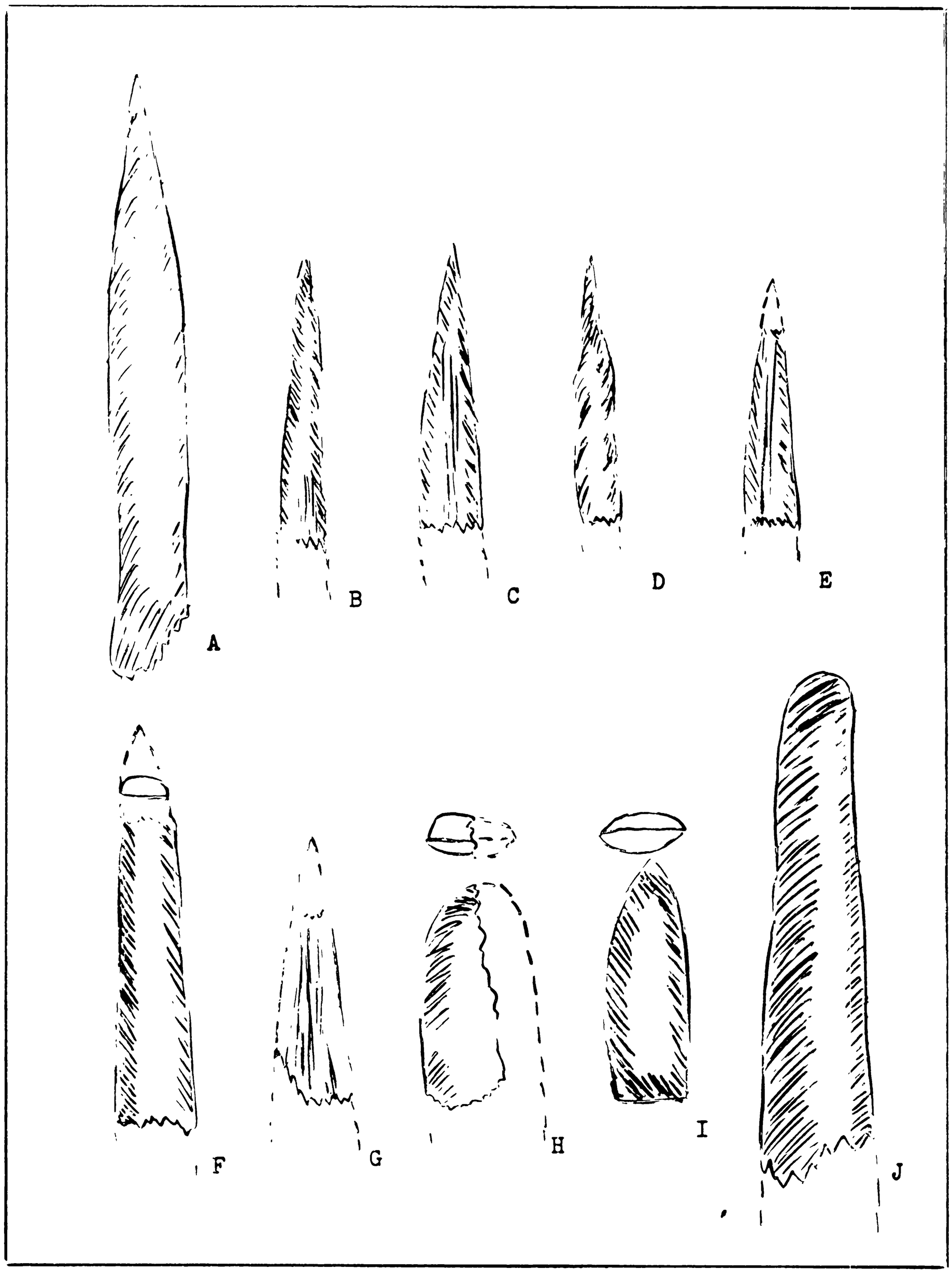
GROUP B (figure 26) 2 specimens.

These are short flat fragments that are not well polished. They appear to be tips of bison or deer long bones as they show much cancellous tissue and have slightly curved cross section. They may have been made from bison ribs.

Length: all broken, range 1 1/2 to 1 3/4 inches.

Width: all broken, range 3/8 inch maximum.

Two type A were associated with the use-area and they both came from the lower level just above the floor of the depression in square one. The other three awls (type A) were associated with the structure, two of them found just above the floor of the house.



BONE AWLS AND FLAKERS

AWLS		FLAKERS	
A - E	TYPE A	H - I	TYPE A
F - G	TYPE B	J	TYPE B

Figure 26

One flat awl was found in the upper level of square five and the other one came from the back-hoe trench. Most of the awls then were associated with the structure.

Flakers. This type of artifact is represented by two types. They do not appear to be punches as the tips are too broad and are heavily scarred from use.

GROUP A (figure 27) 3 specimens

This type is chisel-like in configuration and appears to have been quite short. It is very heavy and wide.

Length: 1 5/8 inches, two broken specimens are 1 3/8 and 1 1/2 inches.

Width: 5/8 inch, two broken specimens are 9/16 and 1/2 inch wide.

GROUP B (figure 26) 3 specimens

This type is rounded and fairly heavy. It appears to have been made from heavy bison bone fragments.

Length: all broken, range 3 1/2 to 1 1/8 inches.

Width: all broken, range 5/8 to 1/4 inch.

All of the flakers come from the use-area and all but one were in close association with the floor of the depression. The odd one came from level one of square one. The evidence seems to indicate that the awls were used within the structure while the flakers were used in the use-area. This indicates that the skins were handled inside while the stone tools were manufactured outside. The numbers of projectile points would seem to support this hypothesis.

Bone and Shell Beads. (10 specimens) Seven of the prehistoric beads and one historic glass bead came from the Woodard Mound. One Olivella sp. bead came from 42Ut326 in Kimball Creek Canyon and was of the mussel shell type.

GROUP A (figure 27) 3 specimens

Long tubular bone beads made from bird bones, highly polished, ends rounded by grinding.

Length: mean 27/32 inch, range 1 9/16 to 7/16 inch.

Width: mean 3/16 inch, range 1/4 to 5/32 inch.

GROUP B (figure 27) 3 specimens

Small washer-like beads made from bird bone, discoidal, smoothed edges, often rounded edges.

Length: mean 1/8 inch, range 5/32 to 1/8 inch.

Width: mean 3/16 inch, range 1/4 to 5/16 inch.

GROUP C (figure 27) 1 specimen

Olivella bead of unknown species, top removed for stringing, slight bluish tinge but bleached, rare in Fremont.

Length: 1/2 inch.

Width: 1/4 inch.

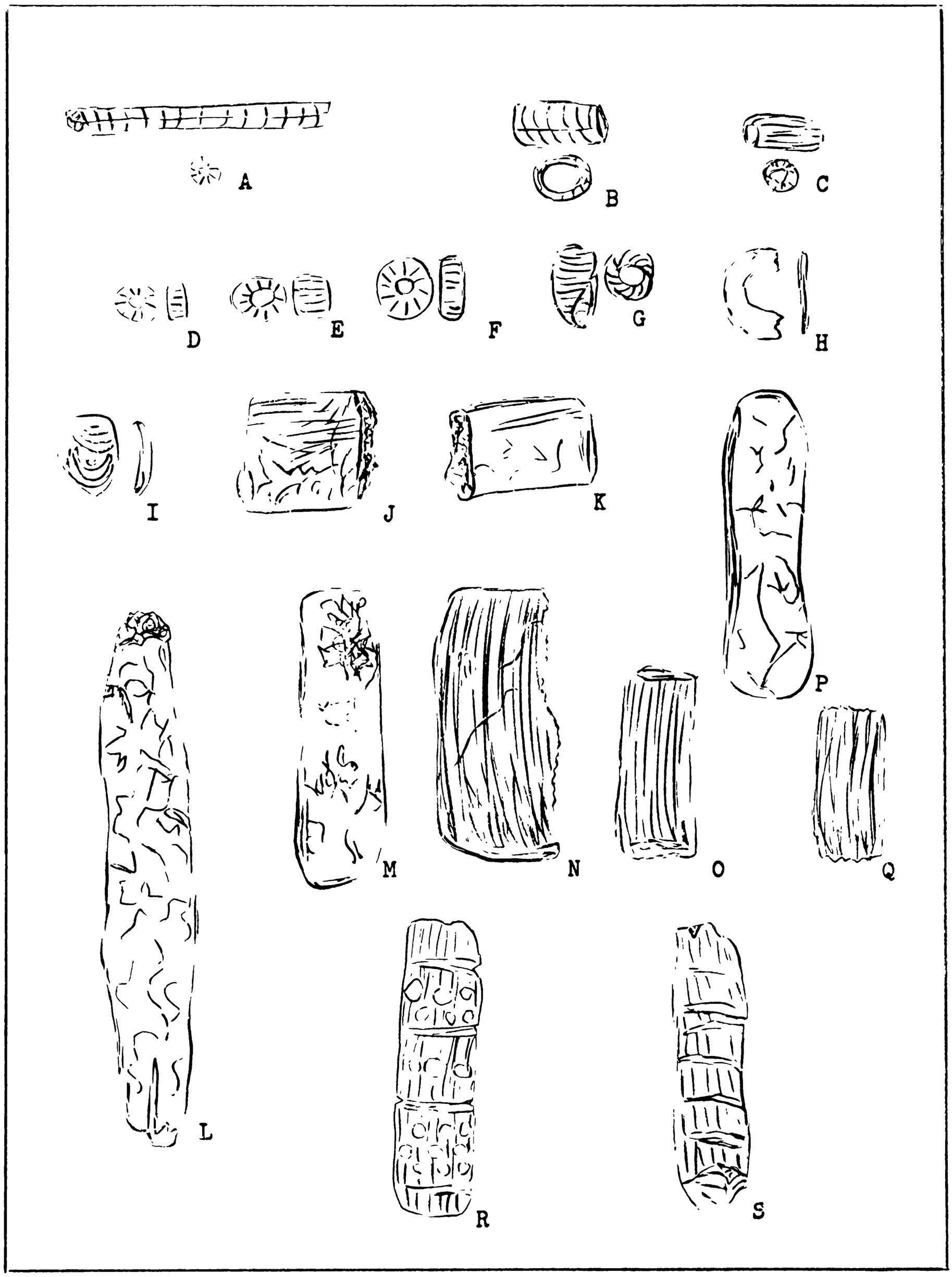
GROUP D (figure 27) 2 specimens

Perforated shell disks, very thin, one very curved surface, the other slightly curved.

Outside diameter: mean 7/16 inch, range 3/8 to 1/2 inch.

Inside diameter: mean 5/32 inch, range 7/32 to 1/16 inch.

The beads were divided evenly between structure and use-area, three being found in each area. None of the beads had any decorations which are common farther north at the Hinckley site. The glass bead is discussed under miscellaneous artifacts.



BEADS AND GAMING PIECES

BEADS		GAMING PIECES	
A, B, C,	TYPE A	J, K	TYPE A
D, E, G,	TYPE B	L, M, N, O, P, Q	TYPE B
G	TYPE C	R, S	TYPE C
H	TYPE D		
I	TYPE E		

Figure 27

Bone Gaming Pieces. These are somewhat common objects in the Provo area but are much more common in the southwestern Sevier and Uinta regions. There are four characteristic types outlined by Ambler (1966) and his system was followed somewhat.

GROUP A (figure 27) 2 specimens

These are square bone gaming pieces which are fairly thick, undecorated, bone scars on bottom side.

Length: mean 1 inch, range same

Width: mean 11/16 inch, range 3/4 to 5/8 inch.

GROUP B (figure 27) 6 specimens

Rectangular bone pieces, thin, undecorated, show bone scars on lower side.

Length: mean 2 1/16 inch, range 3 1/2 to 1 1/4 inch.

Width: mean 15/32 inch, range 9/16 to 3/8 inch.

GROUP C (figure 27) 2 specimens

Rectangular decorated gaming pieces, incising and punctuate in designs similar to dominos.

Length: mean 1 5/8 inch, range 1 3/4 to 1/12 inch.

Width: mean 3/8 inch, range same.

These gaming pieces are for a gamling game in which number is determined by throwing of dice. Such games are found among 130 tribes of 30 linguistic stocks. There are two essentials, the dice and counters for the game. The dice have two faces, distinguished by color or markings (some of the plain dice have traces of red ochre on the bottom side). They are either thrown by hand or in bowls or baskets. There are many varities in counting but the idea is to gain all the counters, thus ending the game. In general, such games are communal affairs on a dual organization basis. (Culin, 1907).

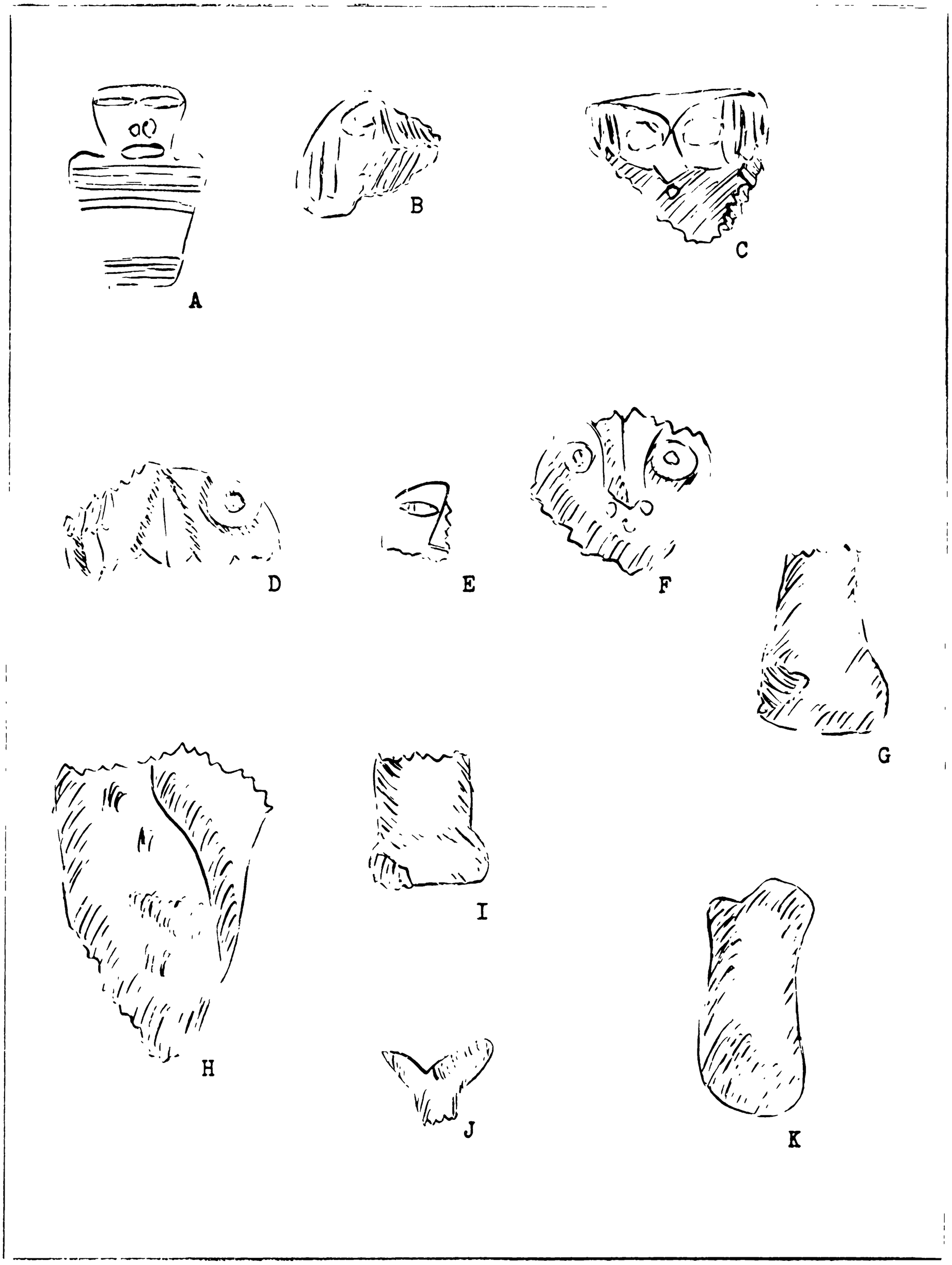
Unfired Clay Objects. The only objects recovered in this class are figurines and one fragment of what appears to be a clay coil. All of these objects came from the Woodard Mound.

Figurine A. A slate figurine which has the appearance of an arrowhead when observed from the rear. This figurine is carved and incised slate and, therefore, is very unusual. It is included here due to its pertinence to the rest of the figurines. It has two incised horizontally incised lines across the lower body and three across the shoulders. Two upward projections, like tangs, appear to be nubbin arms. The mouth and eyes are incised and the nose holes are drilled. The overall shape is the basic triangular figure seen on Fremont rock-art. This figurine was found in square two, level I (use-area association).

Figurine B. Partial head with coffee bean appliqué eye that has a central punctate. Hair is carved on the side of the head and the nose is of the pinched bridge type, no nostril holes are in evidence.

Figurine C. Head only of figurine and is triangular in shape. The nose is of the pinched bridge type without nostrils. The mouth is punctate and it also has carved hair, but on both sides. There appears to have been appliqué eyes at one time but they were broken off.

Figurine D. Top of head with only the right eye remaining which is an appliqué pellet with a central punctate. The nose is pinched without nostril holes.



FIGURINES

ALL LETTERS CORRESPOND TO TEXT

Figure 28

Figurine E. Upper one-fourth of a head with a slash eye shich shows small inner seriations where the stick was pushed rather than drawn. The nose is slightly pinched.

Figurine F. Basically triangular shaped head with a pinched nose. There are nostril holes with a punctuate mouth. The eyes are punctate, otherwise the head is undecorated.

Figurine G. Flaring base of a figurine, with no decoration or elaboration of form. Typical flattened cylinder.

Figurine H. Central portion of a badly eroded and broken figurine which appears to have had the right shoulder twisted about 10 degrees towards the front. It is very flat with no evidence of decoration.

Figurine I. Central portion of body of what appears to be a seated figurine. Nubbin legs protrude from the base at right angles to the figure which is very cylindrical. There is no decoration on the body.

Figurine J. Strange Y-shaped piece of clay which looks like deer antlers for a zoormorphic figurine. This object is 5/8 inch high and at its widest point is 7/8 inch. Several small straight objects very similar to this were accidentally destroyed during the excavation.

Fragment K. Undecorated, long piece of clay which has no distinguishing features. It does not seem to be a figurine fragment but may rather be a piece of rolled clay from the coil-pottery making process.

The only complete figurine (A) had the typical shoulders found on Provo figurines at the Hinckley farm. It should be mentioned that the

SEVIER (LOCAL)		PROVO (LOCAL)	AREA / TRAITS	
14	↔	6	NONE	SHOULDERS
2	↔	7	PRESENT	
0		1	FLAIR	
4		4	ELABORATE	BASE
4		3	PLAIN	
4	✕	2	HIGH	DECORATION
2		4	LOW	
4	↔	8	PINCHED	
11	↔	7	PUNCTATE	NOSE
0		0	SLASH	
15	↔	7	APPLIQUÉ	
0		0	PUNCTATE	EYE
0	↔	9	SLASH	
15		14	PUNCTATE	MOUTH
0		1	SLASH	
13	↔	8	BREASTS	
1		1	ARMS	
1		2	EARS	
2		4	CHIN	
0		2	HAIR	
0		1	NAVEL	
0		1	ANIMAL	

FIGURE 29

DISTRIBUTION OF FIGURINES
(↔) Note contrast in numbers

recent 1966-67 field class at the Hinckley Mound (42Ut110) recovered 14 more fragments of figurines which increases the known number from that site to 34. With the additional information on the Sevier figurines provided by De Bloois (1967:71-77) who analyzed the Foote collection from Nephi, a statistical comparison could be made to place the Goshen figurines within the Provo sub-area. The Goshen figurines have a tendency towards shoulders, applique' and slash eyes, pinched noses, elaborate or plain bases, punctate mouths, and presence of hair.

From the data on the trait distributions chart of the Provo/Sevier areas, one can see at a glance that the Provo figurines are characteristically shouldered, with decoration found on the low area of the body, have pinched noses, have slash and applique' eyes, and have very few breasts. The Sevier figurines, on the other hand, are predominantly non-shouldered with high area body decoration, have more body punctate noses, applique' eyes, and breasts than the Provo figurines.

The Goshen figurines seem to have more of the Sevier characteristics than the Hinckley ones, but this is only natural as Nephi, which is predominately Sevier oriented, is connected with Goshen Valley by Current Creek. The Goshen figurines do, however, seem to be basically the Provo type. This, in turn, indicates that the boundry between the Provo and Sevier areas lies along Long Ridge and is of a substantial nature as sites only a few miles apart are statistically quite different. This may also indicate a substantial time difference between the floresceence of the two sub-divisions. It may also indicate territorial

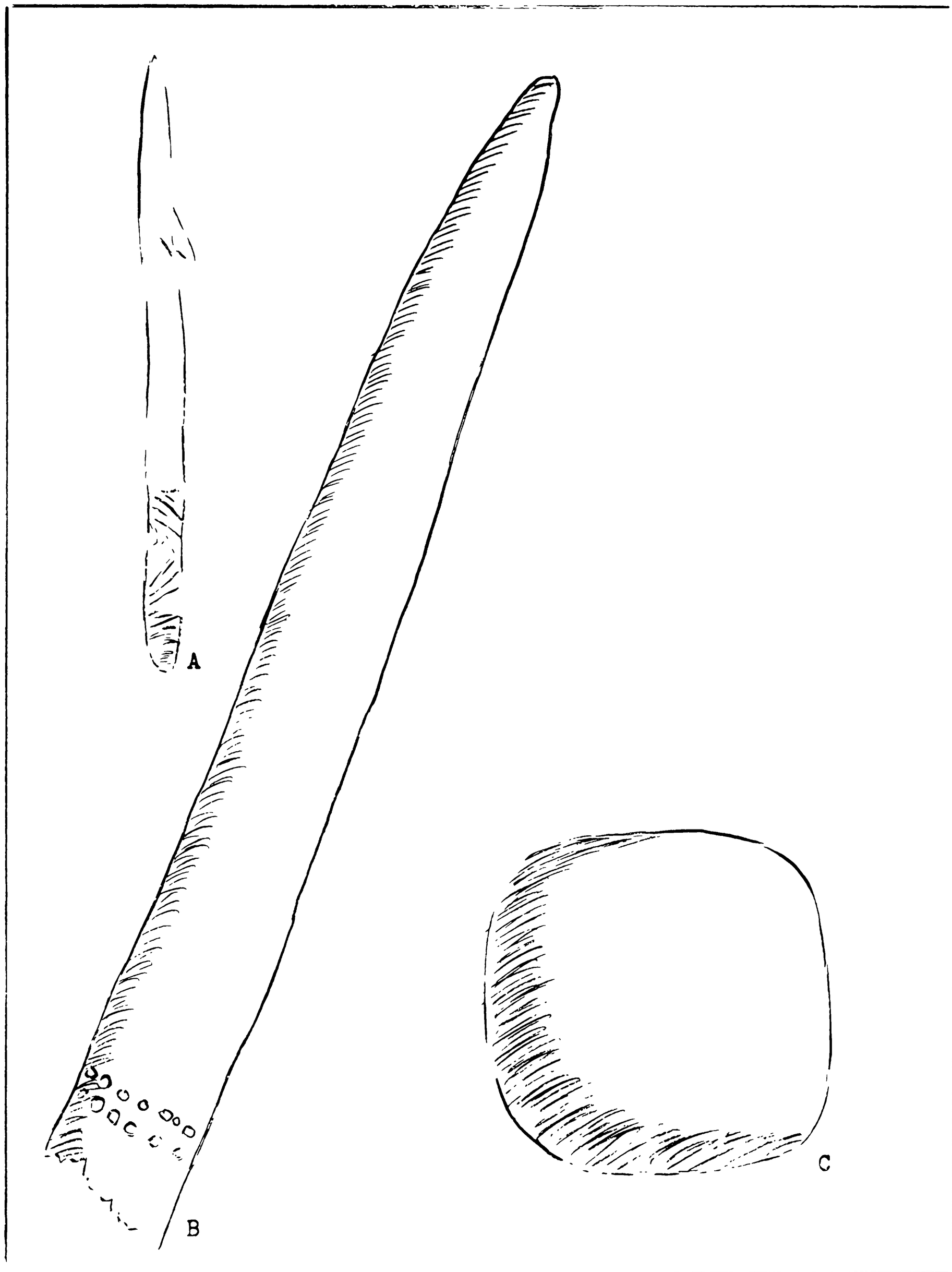
differences of a singe people such as occurs in segmentary lineage systems. This does not pre-suppose that the Fremont were of a segmentary lineage character.

In a general way, the figurines do show universal characteristics throughout the Fremont area, but there are regional variations. The function of the figurines is still in doubt as they, in a few cases, appear to have been dolls rather than of a religious significance.

It is known that animal shapes were made as a zoomorphic figurine was found by the 1966-67 field class, that some figurines from the Hinckley site were placed on clay plugs (Matheny, personal communication), and that some of the figurines are made of stone which is a tedious process. The associations have not been with any kind of specialized ceremonial structures, nor have the figurines shown any high degree of special care beyond being collected and placed together in cache-pits. These same cache-pits were filled with decayed garbage, usually fish from Utah Lake. The associations seem paradoxical.

Miscellaneous Specimens. One bone harpoon point came from the use area in square two of the Woodard Mound (see figure 30). The harpoon has a single barb one-third the way down the shaft. The shaft is 3 7/8 inches long and 1/4 inch in diameter. It tapers to a point in the rear where there are considerable signs of wear from hafting inside a hollow tube. The barb sticks out at a 30 degree angle and is 3/16 of an inch long. Objects of a similar type have been reported from the Fremont, but they are very rare.

One bone knife-like object came from 42Ut293. It appears to be a bison rib which has been worked down to a fine point. It is broken



MISCELLANEOUS SPECIMENS

A HARPOON

B KNIFE

C STONE SQUARE

Figure 30

but has a double row of punctate-like drilled holes just above the break. It is eight inches long to the break and 7/8 inch wide. The surface is ground but not poliched. (See figure 30).

Historic artifacts were excavated in the upper levels of the Woodard Mound in the process of digging the test pits. These objects were confined to square nails, bits of leather, cartridges, and glass. None of the materials seem to be pre-historic materials except for a glass bead which is similar to glass trade beads of the plains and mountain areas. The bead is 1/16 inch in diameter and is bright red. The mound could have been used by pre-historic or historic Utes with white trade items.

Photographs were taken of two collections from Goshen. The most pertinent collection was that of Mrs. G. T. White, who collected from 42Ut245. Her collection contained about 200 projectile points of all types, fifteen knives, seven sinkers, twenty or so manos, several metates, one stone axe, several pendants, and three stone disks with centrally drilled holes. The most interesting part of the collection were five points with long parallel flaking Angostura-like forms. These points are very long and well made. One smaller one looks similar to a Folsom type.

The other collection was that of Ned Okelburry who collects from around the lake as well as the valley. The collection contained approximately 400 points, 100 knives, and about 15 drills. All of the materials appear to be Fremont or later. His collection was not typed nor was any provenience maintained.

One square stone 2 inches by 2 1/4 inches by 2 inches was found at 42Ut306, (a house cluster at Genola) and of unknown function. This artifact is very similar to one reported by DeBloois (1967:84). He speculated a relationship with the stone balls, but this seems doubtful.

One stone disk was found at 42Ut299, (a hunting camp on upper Current Creek) 6 inches along the long axis, 4 3/4 inches along the short axis, and 1/2 inch thick. This may have been a palette for grinding pigments. The edges are percussion flaked and slightly rounded by grinding. Its function is unknown.

CHAPTER EIGHT

DISCUSSION

Settlement Pattern. It could be said that the majority of the sites are close association with a source of running water. All of the Fremont house clusters are along creek drainages, next to constant springs, or next to flood plains of creeks. This indicates a rather rigid choice of residence which is dependent upon a good water source as it is required for horticulture. This stress also indicates that structures were only built where water was available. There are many Fremont campsites (23.9%) in comparison to the sites of unknown affiliations (76.1%), and this indicates the emphasis on hunting or else the transitory nature of camps while moving to new locations.

The village sites were all located in area where sub-surface irrigation occurs naturally, and there is no evidence for canals or other irrigation techniques which are found farther south. Site 42Ut293 on the Wolf Farm has large flat area across the creek which could be used with sub-surface irrigation and which appears to be used in this manner today. The Mollard Mound and 42Ut338 are both on the flood plain of Current Creek, which was recorded as being bog like in the winter and spring by the early pioneers.

The campsites of unknown affiliation are found wherever the hunting is good or else where the dunes offer natural protection to campsites.

As mentioned before, the size of structures and the clustering of structures into units of three to five houses to a site indicate that village situations were rare. They appear to have exploited the land for all of its animal resources, more especially the lake

fish, while practicing limited horticulture. As pointed out by Green (1964:79-80), Utah Lake appears to have been the center for the population of the Provo sub-area, and that sites along Great Salt Lake are peripheral to Utah Lake. This survey increased the known sites in Utah County to 338, of which a great number are of Fremont affiliation. The settlement intensity alone would tend to support this conclusion. Other considerations are the ecological setting of Utah Lake in the area west of the Wasatch Front. It is the only major body of fresh water and has perineal streams feeding it. The lake abounded with trout and suckers in aboriginal times, not to mention the abundance of game birds and deer. The Wasatch Front, just a few miles away, has abundant game and wild fruits and berries. Goshen Valley and Tintic Mountains are a major source of agate, chert, etc., available for tools. Cedar Valley, west of the lake and near Goshen, has abundant pinon trees which could be harvested every few years.

So far only a very small portion of the better house and campsite areas have been surveyed in Utah County. There are still vast areas along the Spanish Fork River, Hobble Creek, Santaquin Canyon, Jordan River, and lake flats that are untouched. No survey has been made of the peripheral areas of the lake bottoms which has indications of yielding vaste numbers of sites; most of them are probably late Ute, but there should be many Fremont sites there too. Cedar Valley is untouched and should contain much historic Ute material.

It would appear that the large sites in Goshen Valley are late in that all of them contain some foreign trade wares which appear to be of Anasazi derivation. I would place these sites around 1050 to 1150 AD, due to their ceramic indicators alone.

Ceramic Indicators. Of the sites surveyed, thirty-three contained pottery. Three of these were village sites (102, 279, and 338); eighteen were house clusters (275, 279, 282, 286, 293, 297, 299, 300, 301, 306, 307, 309, 325, 327, 328, 333, and 336); one was a cave site (104); and eleven were camps (277, 280, 281, 284, 285, 288, 294, 296, 298, 329, and 337). The cave site is not included in the comparisons as different criteria were used in the ceramic analysis (Mock, personal communication).

Breaking the data down into four main areas within Goshen Valley gives the following information:

KIMBALL CREEK

161	Provo	34.32%
306	Sevier	65.24%
1	Ivie Creek	.21%
1	Unknown	.21%
468		99.98%

LOWER CURRENT CREEK

837	Provo	61.47%
274	Sevier	20.12%
159	Salt Lake	11.67%
18	Uinta	1.32%
53	Ivie Creek	3.89%
16	Temperless	1.17%
7	Unknown	.51%
1362		100.14%

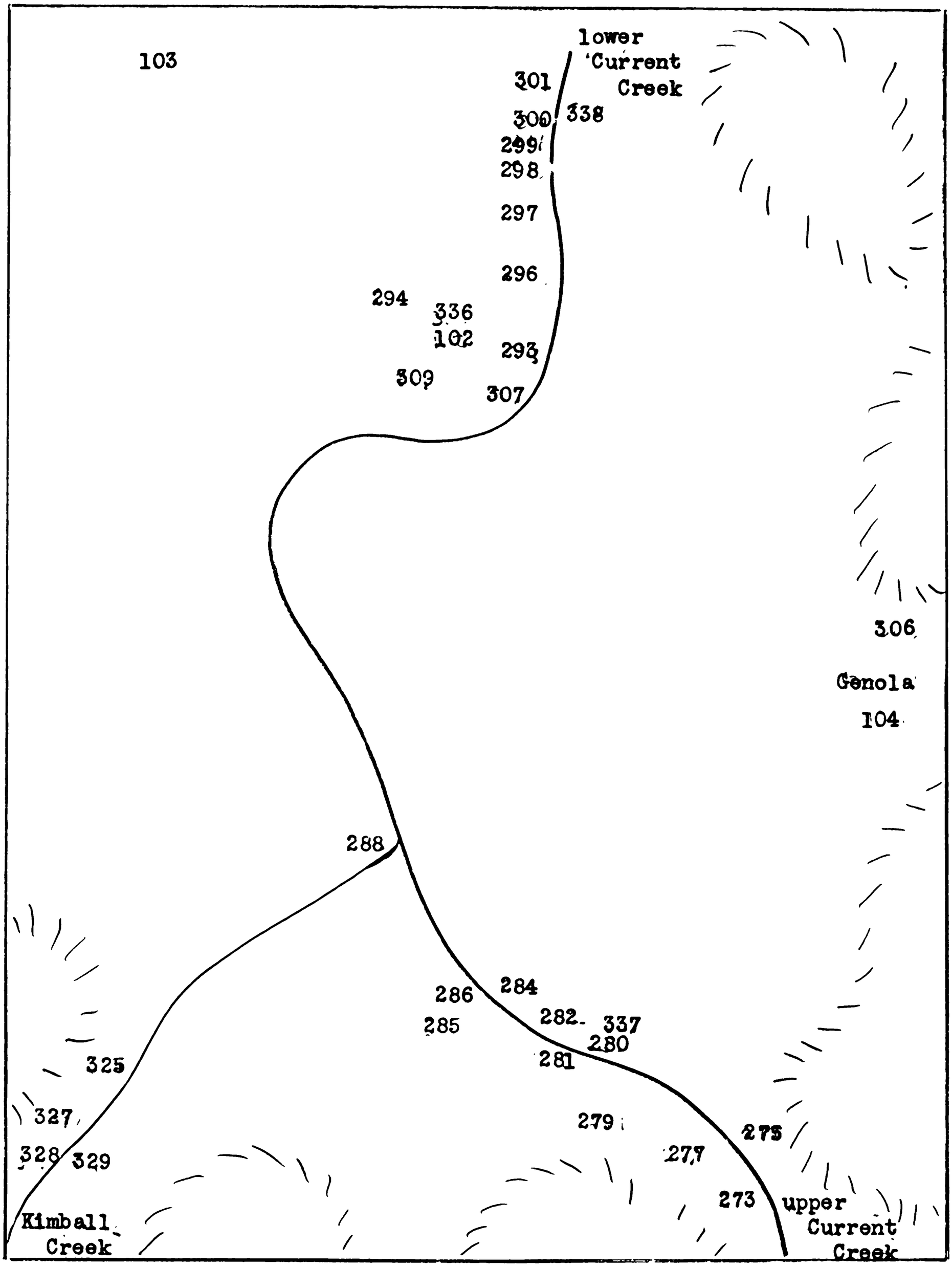
UPPER CURRENT CREEK

750	Provo	58.87%
376	Sevier	29.51%
142	Salt Lake	11.15%
1	Temperless	.08%
5	Unknown	.39%
1274		100.00%

GENOLA

98	Provo	26.95%
31	Sevier	8.20%
249	Salt Lake	65.87%
378		99.92%

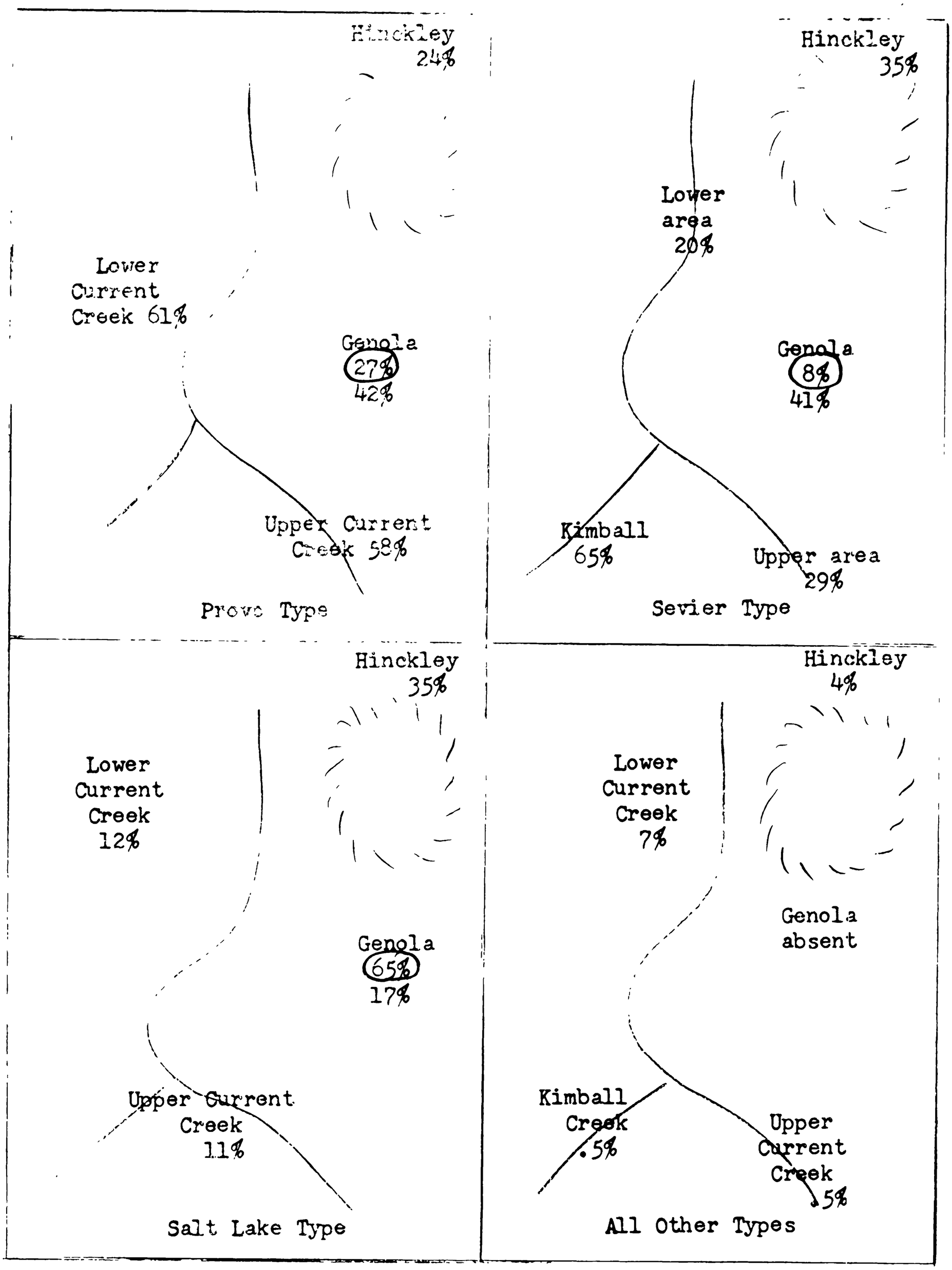
As would be expected, Salt Lake Gray is more common in the Genola area where the Santaquin pass joins Utah Valley. The very high percentage of Salt Lake is due primarily to the analysis done by Mock on the pottery from Spotten Cave, and his criteria are different. The single site I classified from Genola showed the following: 42% Provo; 41% Sevier; and 17% Salt Lake. This indicates that there is a much greater percentage of Salt Lake Gray in this region, but also a much greater percentage of Sevier Gray than in the bottom lands. The percentage circled on figure 32 are the figures including



CERAMIC BEARING SITES IN THE VALLEY

Scales exagerated

Figure 31



CERAMIC DISTRIBUTIONS WITHIN THE VALLEY (by types)

Figure 32

the Mock analysis, modified slightly to fit my criteria. At the Hinckley site in Provo, the percentage is up to 35% (Gilsen, 1967:9).

The Sevier ceramics are heavily weighted towards Kimball Creek, which is a pass directly into the Sevier River region. As could be expected, Nephi influenced upper Current Creek less than did the Sevier River on Kimball Creek, but the influence from Nephi is noticable in that there is a 9% increase in upper Current Creek over lower Current Creek. The Sevier type is more common in Genola and at Hinckley (35%) as the Nephi influence seems to have channeled down through Santaquin and into Utah Valley easier than into Goshen.

Provo Gray has its greatest distribution along the Current Creek drainage and, I believe, its greatest distribution within the Provo area. It would appear that this type is native to the Goshen Valley region and spread towards the city of Provo through Santaquin pass, towards Nephi through Current Creek and Santaquin, and into the Sevier River region through Kimball Creek Canyon.

The analysis of ceramics from the Woodard Mound indicated that there was a strong lateral differentiation within the site by use, but that it was vertically stable through time. This has a bearing on chronological interpretations of the surveyed sites, as it is for this reason that I have placed a personal interpretation on dating the house clusters and campsites. The projectile points were just as expected from the trait distributions outlined by Ambler. The points also showed the same lateral differentiation but with greater vertical differences. It is interesting to note that Goshen has a very high percentage of flat metates and discoidal manos, and this trait should be analysed as Ambler did in his dissertation. It may be that Goshen Valley is not only the center of Provo Gray but is the distribution point for the flat metate trait.

Relationships Ambler (1966) divided the Fremont up into five main sub-areas on the basis of trait distributions which centered on the following areas: Uinta Basis, San Rafael Swell, Sevier River, Conger Range, and the Provo-Salt Lake region. These, he named respectively the Uinta, San Rafael, Sevier, Conger, and Provo areas. The basis for this was an analysis by frequency distributions of 114 traits. The Provo/Sevier seperation was tentative as they shared numerous traits and there seemed to be little to differentiate them. The Provo was suggested by Jones (1961) and elaborated by Green (1964) on the basis of traits, figurine styles, and the unique environmental setting of the valleys. Much of the differentiation used to lie in the Promontory influence; but recent evidence indicates that even without the late Promontory thrust, the Provo is still differentiated from the Sevier and is centered on Utah Valley. The Goshen survey indicates a closer affiliation of Utah Valley with the Sevier region than does Goshen but that Goshen and Utah Valley are more closely affiliated than either are to the Sevier region. The boundry between the Provo and Sevier regions seems to lie along Long Ridge, from Santaquin to the East Range of the Tintic Mountains. How this border swings to the west has yet to be established. The Provo region appears to have a fairly concrete territoriality as sites seperated by only a few miles show sudden trait changes which fit their respective areas rather than blend.

The ceramic taxanomic system has been modified somewhat by DeBloois and in order that new ideas could be checked and evaluated in the context of survey work. We each had slightly different criteria, and our final analysis differed because of this.

The experience at the Woodard Mound created the need for careful reporting of excavated materials. It would appear that dating Fremont sites on the basis of trait distributions is a complex and possibly impossible job. Radio-carbon dates are needed in much larger numbers than now available so that relationships can be solidified.

In a general way, the importance of Goshen Valley to the understanding of the role of the Provo area has been demonstrated in this paper. The survey has also pointed out the need for exploration of the surrounding areas, so that a comprehensive interpretation of the data could be made. The area between the city of Provo and Santaquin Canyon should be surveyed for ceramic indicators. The Kimball Creek region should be followed up with a survey through the canyon to the Sevier River, so that a line of sites could be established and ceramics studied. In this way, the link between Goshen and the borders of the Provo/Sevier regions could be established. There are many more sites in Goshen, as Jay Woodard saw me after I had cut the survey off, and described several more, including a village complex. These sites should be recorded and their relationships to what has been discussed evaluated to test if the data from the valley is consistent.

BIBLIOGRAPHY

Aikens, C. Melvin

1965 Excavations in Southwest Utah. University of Utah Anthropological Papers. No. 76. Salt Lake City.

1966a Plains Relationships of the Fremont Culture. Paper presented at the Annual Meeting of the Society for American Archaeology. Reno, Nevada.

1966b Excavations at Snake Rock, Central Utah. MS, Department of Anthropology, University of Utah, Salt Lake City.

1967 Plains Relationships of the Fremont Culture: A Hypothesis American Antiquity. Vol. 32, No. 2.

Ambler, J. Richard

1966a Caldwell Village and Fremont Prehistory. MS doctoral dissertation, University of Colorado. Boulder.

Anderson, Keith M.

1963 Ceramic Clues to Pueblo-Puebloid Relationships. American Antiquity, Vol. 28, No. 3, pp. 303-307. Salt Lake City.

Baldwin, Gordon C.

1950 The Pottery of the Southern Paiute. American Antiquity, Vol. 16, No. 1, pp. 50-56. Salt Lake City.

Berge, Dale

1964 An Archaeological Survey of White Valley, Millard County, Utah. M.A. thesis, Brigham Young University, Provo.

Blair, William C.

1949 Additional Data on Crania from the Warren Mounds, Utah. American Antiquity, Vol. 14, No. 3, pp. 224-5.

Burgh, Robert F. and Charles R. Scoggin

1948 The Archaeology of Castle Park, Dinosaur National Monument. University of Colorado Studies, Series in Anthropology, No. 2. Boulder.

Champe, J. L.

1949 White Cat Village. American Antiquity, Vol. 14, No. 4, pp. 285-92.

Christensen, Ross T.
1947 A Preliminary Report of Archaeological Investigations near Utah. MA Thesis, Brigham Young University, Provo.

Culin, Stewart
1907 Games of the North American Indians in the 24th Anval Report of the Bureau of American Ethnology, 1902-1903, Washington.

Cutler, Hugh C.
1966 Corn, Curcurbits and Cotton from Glen Canyon. Anthropological Papers of the University of Utah, No. 80. Salt Lake City.

DeBloois, Evan I.
1967 Archaeological Studies in Central Utah. Unpublished preliminary M.A. report. Brigham Young University.

Enger, Walter D.
1942 Archaeology of Black Rock and Cave, Utah. Reprinted in 1950 in University of Utah Anthropological Papers, No. 7. Salt Lake City.

Enger, Walter D. and William C. Blair
1947 Crania from the Warren Mounds and Their Possible Significance to Northern Periphery Archaeology. American Antiquity, Vol. 12, No. 2, pp. 142-46.

Euler, Robert C.
1964 Southern Paiute Archaeology. American Antiquity, Vol. 29, No. 3, pp. 379-81. Salt Lake City.

Frison, George C.
1965 Spring Creek Cave, Wyoming. American Antiquity, Vol. 31, No. 1, pp. 81-94. Salt Lake City.

Gebhard, David
1966 The Shield Motif in Plains Rock Art. American Antiquity, Vol. 31, No. 8, Part I, pp. 721-732. Salt Lake City.

Gillin, John
1938 Archaeological Investigations in Nine Mile Canyon, Utah. Reprinted 1955 in University of Utah Anthropological Papers, No. 21. Salt Lake City.

Gillin, John P.
1941 Archaeological Investigations in Central Utah. Peabody Museum Papers, Vol. 17, No. 2. Cambridge, Massachusetts.

Gilsen, Leland
1967 Archaeological Investigations at the Hinckley Site, 42Ut110, 1966-67 Field Class. Unpublished M.S., Department of Anthropology and Archaeology, Brigham Young University.

Green, Dee F.
1961 Archaeological Investigations at the G. M. Hinckley Site, Utah County, Utah. 1959-1960. M.A. thesis, Brigham Young University.

1964 The Hinckley Figurines as Indicators of the Position of Utah Valley in the Sevier Culture. American Antiquity, Vol. 30, No. 1, pp. 74-80. Salt Lake City.

Gunnerson, James H.
1956 Plains-Promontory Relationships. American Antiquity, Vol. 22, No. 1, pp. 69-72. Salt Lake City.

1957 An Archaeological Survey of the Fremont Area. University of Utah Anthropological Papers, No. 28. Salt Lake City.

1960a An Introduction to Plain Apache Archaeology, The Dismal River Aspect. Bureau of American Ethnology, Bulletin 173, pp. 131-260. Washington.

1960b The Fremont Culture. Internal Dimensions and External Relationships. American Antiquity, Vol. 25, No. 3, pp. 373-380. Salt Lake City.

Jameson, Sidney J. S.
1958 Archaeological Notes on Stansbury Island. University of Utah Anthropological Papers, No. 34. Salt Lake City.

Jones, Carl Hugh
1958 A Puebloid Site in Utah Valley. Utah Archaeology, Vol. 4, No. 2, pp. 7-13. Salt Lake City.

1961 An Archaeological Survey of Utah County, Utah. MA thesis. Brigham Young University.

Judd, Neil M.
1917 Evidence of Circular Kivas in Western Utah Ruins. American Anthropologist, Vol. 19, No. 1. Menasha.

1926 Archaeological Observations North of the Rio Colorado. Bureau of American Ethnology, Bulletin No. 82, Washington.

Kehoe, Thomas F.
1960 Stone Tipi Rings in North-Central Montana and the Adjacent Portion of Alberta, Canada; Their Historical, Ethrological, and Archaeological Aspects. Anthropological Papers, No. 62 Bureau of American Ethnology Bulletin No. 173, pp. 417-74. Washington.

1966 The Small Side-Notched Point System of the Northern Plains. American Antiquity, Vol. 31, No. 6, pp. 827-841. Salt Lake City.

Kehoe, Thomas F. and Bruce A. McCorgeodale
1961 The Avonlea Point - Horizon Marker for the Northwestern Plains. Plains Anthropologist, Vol. 6, No. 13, pp. 179-188. Norman

Kramen, Ph. H.
1960 Sand. Reprint from Scientific American, W. H. Freeman and Company, San Francisco.

Lamb, Sydney M.
1958 Linguistic Prehistory in the Great Basin. International Journal of American Lingvistics, Vol. 24, No. 2, pp. 95-100. Baltimore.

Lister, Robert H.
1959 The Coombs Site. University of Colorado, Anthropological Papers, No. 41, Glen Canyon Series, No. 8. Salt Lake City.

Lister, Robert H., J. Richard Ambler and Florence C. Lister
1961 The Coombs Site, University of Utah, Anthropological Papers, No. 41, Glen Canyon Series, No. 8, Part II. Salt Lake City.

Lister, Robert H. and Florence C. Lister
1961 The Coombs Site. University of Utah Anthropological Papers, No. 41, Glen Canyon Series, No. 8, Part III. Salt Lake City.

Malouf, Carling
1939 Thoughts on Utah Archaeology. American Antiquity, Vol. 5, No. 3, pp. 311-328.

1956 Prehistoric Exchange in Utah, University of Utah Anthropological Papers, No. 1, pp. 2-6. Salt Lake City.

1956 The Archaeology of Sites Along Fifteen Mile Creek, University of Utah Anthropological Papers, No. 5, pp. 50-63. Salt Lake City.

1961 The Tipi Rings of the High Plains. American Antiquity, Vol. 26, No. 3, Part I, pp. 381-9. Salt Lake City.

Meighan, Clement W.
1956 Excavations at Paragonah: S Summary from Archaeological Excavations in Iron County, Utah on University of Utah Anthropological Papers, No. 20. Salt Lake City.

Morss, Noel
1931 The Ancient Culture of the Fremont River in Utah. Papers of the Peabody Museum of American Archaeology, Vol. 12, No. 3. Cambridge.

Mulloy, William
1958 A Preliminary Historical Outline for the Northwestern Plains, University of Wyoming Publications, Vol. 22, No. 1. Laramie.

Petersen, Herbert N.
1953 Structure and Pelargonic Stratigraphy of the Current Creek Area near Goshen, Utah. Unpublished MS, Brigham Young University.

Reagan, Albert B.
1935 Archaeological Report of Field Work Done in Utah in 1934-35. Utah Academy of Sciences, Arts and Letters, Vol. 12, pp. 50-88. Salt Lake City.

Reed, Erik K.
1955 Human Skeletal Remains from the Turner-Look Site. In "A Reappraisal or the Fremont Culture" by H. M. Wormington. Proceedings Denver Museum of Natural History, No.1 Denver.

Rudy, Jack R.
1953 Archaeological Survey of Western Utah. University of Utah Anthropological Papers, No. 12. Salt Lake City.

Rudy, Jack R. and Earl Stoddard
1954 Site on Fremont Island in Great Salt Lake. American Antiquity, Vol. 19, No. 8, pp. 285-90. Salt Lake City.

Sirrine, Keith
1953 Geology of Warm Springs Mountain, Goshen, Utah. Unpublished MS. Brigham Young University.

Sharrock, Floyd W.
1965 Preliminary Report on Excavations at the Nephi Site, Nephi, Utah. Special unpublished report prepared for the National Science Foundation. Salt Lake City.

1966 Prehistoric Occupation Patterns in Southwest Wyoming and Cultural Relationships with the Great Basin and Plains Cultural Areas. University of Utah Anthropological Papers, No. 77. Salt Lake City.

Shepard, Anna O.
1961 Ceramics for the Archaeologist. Carnegie Institute of Washington, D. C.

Smith, Elmer R.
1941 The Archaeology of Deadman Cave, Utah. Reprinted 1952 in University of Utah Anthropological Papers, No. 10. Salt Lake City.

Steele, Raymond Duane
1960 Goshen Valley History Bookcraft, Salt Lake City.

Steward, Julian H.
1933 Early Inhabitants of Western Utah, University of Utah Bulletin, Vol. 23, No. 7. Salt Lake City.

1936 Pueblo Material Culture in Western Utah. University of New Mexico Bulletin, Vol. 287, Anthropology Series, Vol. 1, No. 3. Albuquerque.

1937 Ancient Caves of the Great Salt Lake Regions. Bureau of American Ethnology, Bulletin No. 116. Washington

Taylor, Dee C.
1957 Two Fremont Sites and their Position in Southwestern Prehistory. University of Utah Anthropological Papers, No. 29. Salt Lake City.

Wakefield, John
1933 A Study of the Plant Ecology of Salt Lake and Utah Valleys before the Mormon Immigration. Unpublished MS, Brigham Young University.

Wedel, Waldo R.
1959 An Introduction to Kansas Archaeology. Bureau of American Ethnology, Bulletin No. 174. Washington

Wormington, H. M.
1955 A Reappraisal of the Fremont Culture. Denver Museum of Natural History, No. 1. Denver.

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ABSTRACT

This thesis is a field report on the archaeological sites surveyed by the author in Goshen Valley, Utah County, Utah. The survey has the threefold objectives of: (1) surveying and recording of sites in Goshen Valley; (2) providing information on the material culture of the ancient inhabitants of the valley; and (3) discovering whether there was a dividing line during the Fremont occupation between the Provo and Sevier regions as outlined by Jones (1961), Green (1964), and Ambler (1966).

To this end, seventy-four sites are described along with the related material culture with an analysis of the material culture in the appropriate sections of the thesis. Cultural material has been catagorized into three main affiliations: Fremont, Shoshoni, and Unknown. A cultural sequence of food collecting followed by farming followed by food collecting was in evidence in the material remains of the valley.

The remainder of the thesis deals with theoretical developments and the relationships of the Fremont farming sites in the valley to the over-all Fremont Culture. The information obtained from the survey and analysis of the material culture of the Fremont sites lends support to the Jones-Green-Ambler hypothesis that there was a divison between the Provo and the Sevier sub-areas on the basis of trait distributions.

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