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SALVAGE ARCHAEOLOGY IN OKLAHOMA

Volume 1

**PAPERS OF THE
OKLAHOMA ARCHAEOLOGICAL SALVAGE PROJECT, NUMBERS 8-15**

JAMES B. SHAEFFER

Identifications and Morphology

by

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1960

**THE UNIVERSITY OF OKLAHOMA
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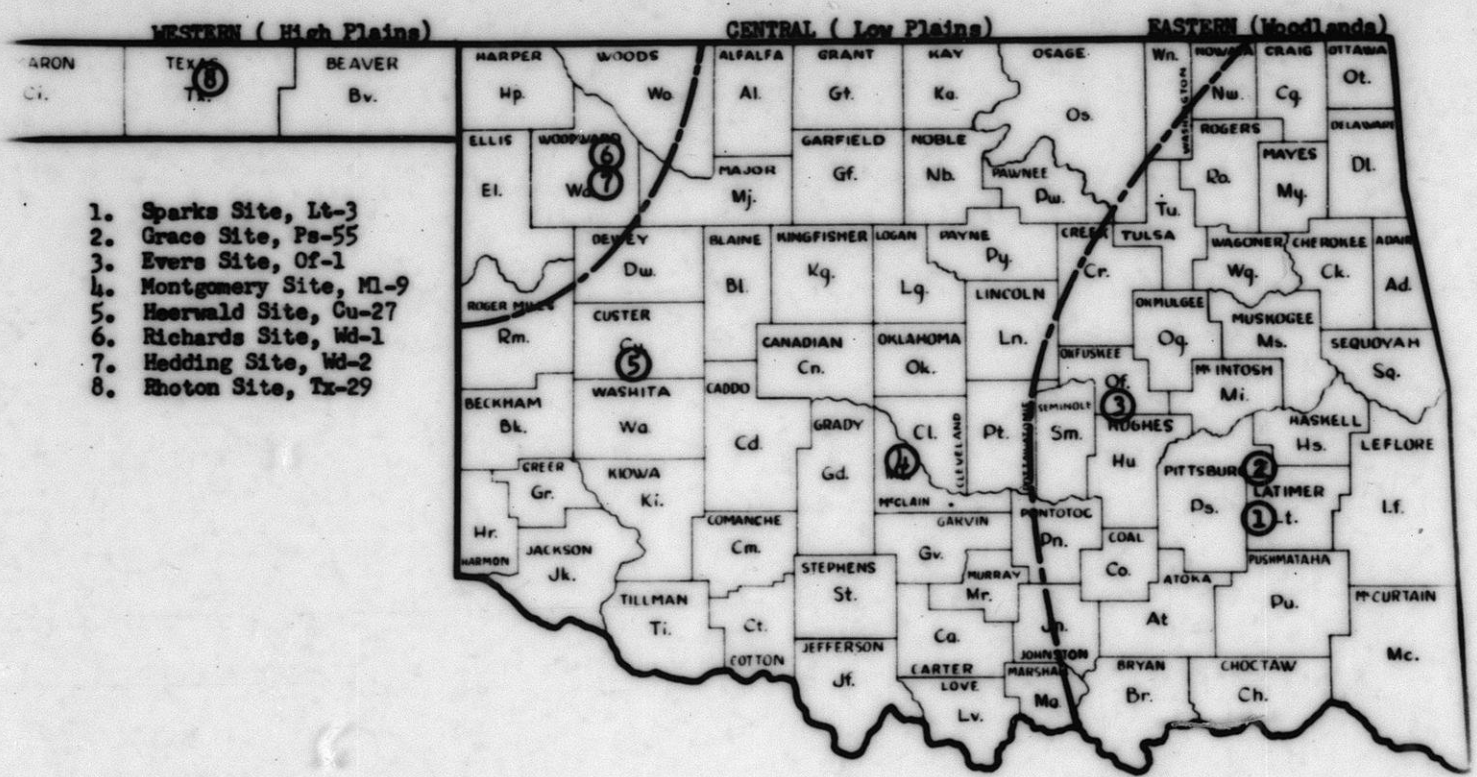
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TOP

ARCHAEOLOGICAL DIVISIONS OF OKLAHOMA



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ACKNOWLEDGEMENTS

The Oklahoma Archaeological Salvage Project is concerned with the salvaging of the prehistoric record of Oklahoma wherever it is threatened with destruction. However the main effort of the project during the period from 1956 to 1958 was the survey and salvage excavation of sites located within the construction right of ways of the state highway system. The site reports contained in this volume represent that period and are devoted exclusively to sites excavated as part of the highway salvage program. (Figure 1).

The Highway salvage program is the result of the joint cooperation of the staffs of three institutions, the U. S. Bureau of Public Roads, the State Highway Department and the University of Oklahoma. This program was initiated by the University in cooperation with the Highway Department and was based upon a Bureau Policy and Procedure Memorandum authorizing participation in the archaeological salvage of prehistoric sites located within the construction limits of roads involving federal funds. In this program the Bureau of Public Roads worked out the initial procedures and has borne the greater part of the cost of excavation. The Highway Department has taken care of the administrative details of working with the contractors, processing the necessary records, and maintaining liaison between the Bureau and the University. The University has borne the cost of the administration of the project and of surveying for sites including those reported in this publication.

In making specific acknowledgements I have tried, in the individual site reports which follow, to mention those highway engineers, inspectors,

contractor's personnel, OAS members, students and others who gave professional or personal assistance in the location and excavation of these sites. There are however a number of individuals whose assistance at the administrative level was invaluable in the establishment, organization and continuance of this highway salvage program. To these persons I also wish to express my thanks.

In the Bureau of Public Roads: to Mr. A. E. Sparks who as division engineer at the Oklahoma City office was the Bureau's representative during the entire excavation period covered by the site reports. Mr. Sparks was very cooperative during the formative stages of the program in helping to set up efficient administrative procedures; to Mr. L. W. Roberts who was acting division engineer for a period and to Mr. E. H. Swick district engineer in 1957, who greatly facilitated the organization of the program by suggesting initial administrative procedures.

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the need for the establishment of a highway salvage program and together with other members of the Anthropology Department was mainly responsible for inaugurating this project; to Dr. William E. Bittle, Chairman of the Department of Anthropology, whose patience with the administrative snarls caused by the newness of the program was exceeded only by his energy in untangling them; to Dr. Stephen H. Borhsygi, former Director of the Stovall Museum of History and Science whose prior experience with highway salvage archaeology laid the groundwork for the program and whose subsequent provision of working space for the project was duly appreciated; to the staff of the Stovall Museum, Assistant Director Ralph Shead, Miss Martha Kobler and Mr. Charles Longacre for the assistance in the day-to-day problems that arise; to Dr. Sherman P. Lawton, President of the Oklahoma Anthropological Society for his preliminary groundwork to establish a highway salvage program and for his frequent cooperation in publicizing by television the results of the project.

On the subject of publicity it would be appropriate to mention the fine press coverage which the project has received and to thank the reporting staffs of the following papers for their excellent and accurate accounts: The Oklahoman and Times, The Daily Oklahoman, The Clinton Eagle, The Elk City News, The Norman Transcript and the Oklahoman Daily.

Finally, and not least, thanks are extended to my wife, Margaret M. W. Shaeffer for work contributed to the salvage project.

OPERATION OF THE HIGHWAY SALVAGE PROGRAM

The need for additional salvage is clear to all professional archaeologists because of the accelerated rate of archaeological destruction. With this in mind the Society for American Archaeology formed a Committee for Highway Salvage Archaeology to sponsor an educational program for the formation of such projects throughout the United States. One outgrowth of the committee's work has been the publication of a booklet (Peckham et al, 1958) which covers the problems of the establishment, organization and operation of highway salvage programs. However, in the case of the Oklahoma program local factors have caused modification of some of the committee's recommended procedures. Time has caused modification of others mentioned in the first report on the Oklahoma project (Shaeffer, 1947b). Therefore a brief description of the current operation is presented for the use of those contemplating setting up a highway salvage program.

LETTING NOTICES

One of the main factors which has caused procedural modification has resulted from the absence of an annual, approved, and scheduled state highway plan. This almost automatically necessitated reliance on the monthly letting notice for planning information. It was found impractical to survey right of ways which were only roughly indicated on which if staked out might be radically changed or never approved. A further complication was the difficulty in estimating the time when a project would be let, since this depended on non-engineering factors.

As a result projects were selected for survey from the monthly notices of contract lettings. These are distributed to interested contractors before bids are let for construction projects. This list is mailed the 2nd or 3rd week of each month and usually contains 25 or 35 projects, all of which usually contain some federal aid funds.

Working from a list of projects abstracted from the letting lists has advantages as well as disadvantages. The fact that the projects are staked out so that if something is located, it can be pinned down accurately on a map is an advantage. Considerable time is saved in keeping surveys within restricted and pertinent areas. If excavation should prove necessary it is not too long before the contractor's labor and machinery are available. The disadvantage, when compared with the possibility of working off an annual or other projected and approved construction list, is that the time between letting and construction is limited and surveys have to be completed within a shorter period. Since it is impossible to estimate which projects will go to construction first, a particular project may occasionally be in the initial stages of construction by the time one gets around to surveying it.

PROJECT PRIORITY

It is from this letting notice that project priority is determined. First, all surfacing jobs, bridge, culvert, and other concrete projects are eliminated. The remaining draining and grading jobs are further reduced by eliminating, except in unusual cases, all projects within urban areas. This leaves two classes of projects (1) relocations of right of ways and (2) extensions of right of ways. Relocation projects

are given first priority and are subdivided into interstate and state primary and secondary roads with the former receiving priority since they involve a 300' right of way as against a 120' or a 65' right of way. A second class priority is given extensions of the right of way. Projects within this group are arranged according to a subjective evaluation as to whether or not the location is apt to produce sites. In this we are guided by previous site locations plotted on the Anthropology Department's site maps. Having listed projects by priority we plot them on a map and a travel itinerary is worked out for the month.

SURVEY PLANNING

Since Norman is centrally located in Oklahoma there is usually an east-west breakdown. Mileage, time and other personal commitments are factors in working out a series of trips designed to cover all the relevant projects within a given month. The system of priorities is of use in giving precedence to certain key projects which might be overlooked if the time runs short and all projects cannot be surveyed. In this case relocations are surveyed but some of the extensions of right of way lower on the list are not visited. Interstate highways are given priority because of their width. Even extensions of interstate highways sometimes result in more undisturbed areas than do portions of relocated secondary roads.

ARCHAEOLOGICAL EVALUATION

After this preliminary monthly evaluation more detailed information about some particular project may be necessary. For instance, it may not

be clear on which side of a road the extension is to be made. Or the exact relocation of a road may be of some importance in evaluating whether a project is worth surveying at all. In these cases a check is made with the Highway Department at Oklahoma City where check maps are publicly available for use of the bidding contractors. If more detailed information is required, it can be obtained from the Plans and Survey Department which always has either a plan and profile or a blueprint of the proposed project.

LIAISON PROCEDURE

Once the trip is underway a check is made...if feasible...at the office of the Resident Engineer within whose jurisdiction a particular project is located. This often saves time in locating initial and final survey stakes and permits the picking up of other pertinent information. An effort is also made to contact highway surveying parties in the area as they are excellent sources of first hand information about the projects. There are six division offices in Oklahoma through which the division engineers operate. These are also visited whenever they are in or near the area which is under scrutiny.

SURVEY PROCEEDURE

On the spot a slow reconnaissance by car is made of the entire project to evaluate the situation. If the location looks fairly promising, then the center line may be walked. Usually, however, one side of the right of way is walked zig-zag with the return made on the opposite side of the road in the case of an extension or on the other half of the right of way in the case of a relocation. Thus the exact survey method depends

upon general evaluation of the worth of the project location. The most time consuming aspect is the determination of the initial and final survey stakes for a project which are frequently hidden in the brush or run into another project. Farmers seem to take particular pleasure in accidentally plowing up stakes in their fields so that contact with highway personnel is sometimes necessary to get things straightened out.

SITE LOCATION

The general paucity of surface indications on sites in Oklahoma presents another local problem which has ramifications at the excavation stage. In the eastern half of the state heavy tall grass obliterates much of the ground in the summer. This is further complicated by areas of thick brush and woods. In fall the ground is covered with carpets of leaves. In the western part of the state the cover problem is less acute but the depth of the sites is greater and the sites themselves are dispersed. Thus surface evidence is often so sparse and widespread in the Plains area that even considerable testing will not reveal the locale of the habitation area. For this reason about half the sites reported in this publication were pinpointed during the course of construction rather than during the course of survey. It is obvious that survey and excavation should take place prior to construction whenever possible in order to avoid delaying construction. However, destruction of all sites not discovered in advance of construction would have eliminated, for example, several sites in this publication. The alternative, a costly crew trenching with pick and shovel would have increased the cost exorbitantly.

To give a concrete example of this problem and then justify the necessity of occasional excavation during construction rather than

preceeding it we will consider the situation at W3-2, the Hedding site. Here the surface evidence consisted of 10 or so small pieces of flint, half a dozen hammerstones fragments, a few pieces of broken sandstones and one piece of burned clay. The latter indicated a burned site and the possibility of dateable charcoal and excellent preservation. The location of the site prior to construction was on the terraced top of a hill in a loop of the old road which was to be straightened by relocating a new right of way approximately 165' across this cultivated area. The questions were (1) was the site worth digging and (2) was it in the right of way? In this instance testing was complicated by several feet of disturbed earth in the terracing. However, considerable time was spent in testing the general area of the surface material but with negative results. To have located the site by hand methods would have taken considerable funds. There were none available for this purpose. More over, it is probable that the site would not have been found had this method been adopted since the surface material was actually from a habitation area higher up. It had been washed down and plowed into its present position. The houses eventually uncovered had no relation to the surface material; in fact the houses were almost devoid of content. In this instance, therefore, all that could be done was to wait on the contractors' equipment and hope that he would lay bare the site during his preliminary grading. This is exactly what happened.

SURVEY REPORTS

At the conclusion of the survey a mimeographed report form is filled out indicating whether any evidence of occupation was found and if so, what

special treatment is desired. It may be that nothing of surface interest is found but that certain terrain looks archaeologically interesting. In that case a notation is made that the Salvage Project wishes to be notified when preliminary grading reaches such and such a survey stake. On the other hand if positive evidence is found, the stake locations of the contemplated excavation area are given. An estimate of the cost and time required for excavation is also appended. On this latter point a check is usually made with the local resident engineer to ascertain the construction schedule of the contractor when the area will normally be threatened by his machinery. Upon the completion of each survey one copy of this report goes to the Division Engineer of the Bureau of Public Roads and one to the Department of Anthropology. If some special treatment, including excavation, is desired the Construction Engineer of the Highway Department and the project Resident Engineer are included in the distribution.

EXCAVATION

The excavation of sites after construction has begun is certainly to be avoided if possible because it might inconvenience the contractor and thereby prejudice the program. On the other hand the local restrictive factors I have mentioned, relatively short project scheduling and difficulties of pinpointing site location with available funds make it inevitable that a certain amount of excavation during construction must take place if a highway salvage program is to operate under such conditions. There are provisions which allow for the reimbursement of a contractor for loss of time due to salvage work. Occasionally it would seem that such

payments might be justified and needed. In general, however, this can be avoided since the project highway inspector who knows the wishes and needs of the constructor can usually work out the temporary by-passing of the small archaeological area at no great inconvenience to the contractor and no loss of removal rate of dirt yardage. Contractors can arrange to work up to and around the archaeological area, then move off to other nearby work, returning upon completion of the dig to the level or grade the archaeological area. This latter process takes from a few minutes to perhaps half an hour. There is so much latitude in dirt moving that rarely will a contractor lose a substantial amount of time. The matter of the relative importance of the contractor's time versus the importance of the historical record is also a matter of local factors. In some regions the record is fairly clear because of extensive work. It follows that in these areas many of the sites encountered in the right of way do not have the same importance for archaeology as they do in less well known regions. While the dollar sign is a safe symbol in most situations it must not be the only standard under all circumstances. It should be emphasized that state employed personnel have a public obligation to preserve historical and less tangible resources of their states.

COST ACCOUNTING

Excavation costs are handled in one of two ways. The most desirable method from the standpoint of the Oklahoma Highway Department is for the contractor to supply the labor and carry the costs on the Force Account. This is a standard exigency fund which covers costs of removal and installation of pasture fences, public utilities and other items not directly part

of the cost of construction. In this case either the contractor supplies the labor from men not at the moment occupied or the project hires labor locally, acts as time keeper, and carries such personnel on the contractor's payroll. This item then becomes part of the project cost. The supervisory labor supplied by the Salvage Project is reimbursed for salary, travel and per diem by submitting a regular claim on the Highway Department via the Resident Engineer. When this amount is received by the project, it goes to the Bursar of the university.

Another method has been devised for small digs of one to three days duration which involve only one or two men. These can be dug at the time of survey and before construction. While it is possible for the Highway Department to assign their own personnel for excavation or to hire temporary employees for this purpose, this is not practical from their standpoint. In the first place, the maintenance personnel is usually busy and often headquartered at considerable distance from the dig. In the second place, the hiring of even temporary state employees involves complicated administrative requirements which it is wise to avoid. Consequently the University has established a small revolving fund for the project out of which labor can be directly hired. Claim for this labor is made at the conclusion of the project in the same manner as an individual claim against the Highway Department. The amount received is then redeposited in the revolving fund which is banked under the project director's signature.

SALVAGE NEED

It seems apparent that the combined federal and state funds now available for various kinds of salvage work would certainly justify and permit the establishment of salvage projects in many more states than are now actively engaged in developing such programs. Much more information on the prehistory of the various states is being destroyed by construction activities of all sorts than is generally realized. In Oklahoma we are by no means abreast of this situation, in spite of our various salvage projects. We are, at best, sampling rather than recovering a high percentage of the total amount destroyed each year. Furthermore, the destruction of sites in Oklahoma is increasing in tempo. As more farmland goes into urban development, as farm machinery becomes larger, heavier and more efficient, as the top soil is gradually removed by wind and water, as more highways are constructed or enlarged, as more industry moves into the state, as more amateurs take to the field, undisturbed sites become fewer and the importance of recovering what remains becomes more urgent. Within the foreseeable future the accessible sites in Oklahoma will be virtually destroyed from the standpoint of scientific recovery.

In view of these facts, it is not only desirable but extremely urgent that state sponsored programs of salvage archaeology be established wherever they are lacking while there is still time to recover that which cannot be conserved and will otherwise be lost. With the available funds such archaeological salvage is certainly within the resources of local institutions in every state.

SITES LOCATED IN THE HIGHWAY SYSTEM

The following site information has been abstracted from the individual reports of survey submitted to the Bureau of Public Roads and the Highway Department after the survey of a project is completed. This compilation previously published (Shaeffer, 1958) is included in this volume since it gives a good picture of the extent of the remains found in the Oklahoma highway system. Where sites were excavated it also provides an interesting cross-check with the site reports inasmuch as it indicates the original surface evidence and the preliminary hypothesis as to the cultural affiliations of the material.

During this period 50 construction projects in 33 of the 77 Oklahoma counties were walked for a distance of 246 miles. The expense of excavating the designated sites amounted to approximately \$5500.00.

SITES LOCATED IN OKLAHOMA HIGHWAY SYSTEM

1957-58

<u>Survey</u> 1958	<u>Site Ref.</u>	<u>Hwy. Project</u>	<u>Recommendation to Hwy. Dept.</u>
Feb. 6	Ck-63	F-344	Excavate; authorize \$200.00
Feb. 5-	Ms.21	U-404 (3)	Notify when construction begins
Feb. 5	Ms-22	U-404 (3)	Notify when construction begins
Feb. 5	My-37	S-181 (5) S	Too thin for excavation
Feb. 5	My-38	S-181 (5) S	Too thin for excavation
Feb. 1	Wa-11	I-205	Excavate; authorize \$2000.00
Jan. 30	Wa-10	I-205	Excavate; authorize \$200.00
Jan. 13	Of-1	SH48	Excavate; authorize \$200.00
1957			
Dec. 12	Tx-27	S-755 (5) C	Notify when grading begins
Nov. 24	Wd-2	S-862 (1) S	Excavate; authorize \$800.00
Sept. 9	Cu-27	FAP-I-205 (4)	Excavate; authorize \$2500.00
Sept. 8	Wd-1	S-862 (1) S	Excavate; authorize \$100.00
Aug. 30	Lt-3	S-30 (2) S	Excavate; authorize \$150.00
Jul. 24	Lf-120	S-717 (1) S	Too disturbed for excavation
Jul. 8	Ml-9	I-380 (10)	Excavate; authorize \$100.00
Jul. 3	Ps-55	F-285 (2)	Excavate; authorize \$200.00
Jun. 21	Tx-20	US 83	Too disturbed for excavation
Jun. 20	Ci-29	S-794 (2) S	Too disturbed for excavation
May 18	Ml-10-13	I-380 (1)	Notify when grading begins

SITE DESCRIPTIONS

CHEROKEE COUNTY

Ck-63

Location: Located on flat ground in generally wooded and rocky terrain between intermittent branches of Fire Creek, tributary to the Arkansas R. 8 mi. SW about 3 mi. west of Talequah south of US 62.

Culture: Occupational material concentrated at both ends of flat just below rising ground and along edges of branches. Scattering of grey flint chips, a few arrow points reported by landowner; also several metates; one of which collected is a large flat stone six inches thick, 17"x19" in dimensions with an oval grinding depression. Material possibly all on surface due to flooding.

Affiliations: Probably Archaic, i.e. a late non-pottery site.

CIMMARRON COUNTY

Ci-29

Location: Located two miles east of Keyes on county road. Most of site removed by highway borrow operations. Formerly was a strip approximately 100' wide bordering northwest side of a large playa.

Culture: Flint material predominating, intermixed with Amarillo flints; scrapers, end and side types, abundant; small Harrel type points broken ends of quartz pounders. Pottery absent but may occur.

Affiliations: Typical Oklahoma Panhandle culture, late prehistoric; probably related to Optima Focus though not identical.

CUSTER COUNTY

Cu-27

Location: Located 8 miles west of Clinton on south side of US 66. Site extends from Turkey Creek north of road to 200 yards south of road; approximately $\frac{1}{4}$ mile in length and width.

Culture: Fresno and Harrel type points, manos, metates, abundant buffalo bone, mostly in refuse pits; stone pipes, celts, shell, bone hoes, awls, beads; burial pit with woman and 2 children.

Affiliations: Custer County Focus: late prehistoric, possibly 14-1500 A.D.

LATIMER COUNTY

Lt-3

Location: Located 1 mile east of Higgins on north side of SH 63 along Gaines Creek on a ridge paralleling the stream. Large site about $\frac{1}{4}$ mile in length and $\frac{1}{2}$ as wide.

Culture: Site characterized by abundant hearth material scattered over surface; some flint; Gary points, metate and mano fragments. No pottery found.

Affiliations: Apparently Archaic of considerable size for this locality. While on peripheries of Fourche Maline Focus to northeast also shows Grove Focus parallels. Might possibly be early Gibson.

LEFLORE COUNTY

Lf-120

Location: Located along Kiamichi River south of Big Cedar just South of junction of SH 103 with SH 63. Site area used

as borrow area during construction operations.

Culture: Considerable amount of mixed flint and quartzite chips; some Gary points, scattered boulders evidently used as pounders or hammers. Probably a small campsite.

Affiliations: Allied to Fourche Maline Focus but appears to be a peripheral variation. Location on north side of Kiamichi Mountains suggest some connections with McCurtain Focus.

MAYES COUNTY

My-37

Location: Located south of Locust Grove about three miles on west side of SH 82 on second terrace along Spring Creek. Top soil very thin; under stratum is a fractured flint formation. Wooded and hilly terrain.

Culture: Surface evidence, large grey flint blade fragments; base of a small point, possibly Gary and several chips. Possibly a small campsite but shallowness resulted in its being removed during grading.

Affiliations: Undetermined but assume late Archaic peripheral to Grove Focus.

My-38

Location: $\frac{1}{2}$ mile south of My-37 on second terrace of north bank of Spring Creek.

Culture: Carelessly fashioned bi-facially chipped knife of white flint and several smaller flint chips. Sub-soil and general site conditions same as My-37.

Affiliations: Same as My-37.

MCLAIN COUNTY

Ml-9

Location: On relocated portion of SH 74 south of Goldsby about 7 miles. Site on a very steep slope close to present small branch of South Canadian River.

Culture: Three pits uncovered during bulldozing for drainage structure. Pits 1-2 feet deep and 2' x 1½ in plan. Pits empty except for canine skeleton in one and worked bone hoe haft in another. No flint or pottery fragments. On opposite bank animal bones in roots of felled tree and some chips high on bank.

Affiliations: Undetermined. Assumption, based on similar size pits with canine skeletons in Beckham and Custer counties, that site represents diffusion if not migration from western Oklahoma. Possibly late prehistoric; ½ mile from site where skeletal material shows deformation of the Sanders Focus type of NE Texas.

Ml-10-11-12-13

Location: These sites are along and back from small drainages which run northeast into the South Canadian River. They are scattered over a distance of five miles to the northwest of Ml-9.

Culture: Areas show only slight but definite signs of occupation. These consist of a few pieces of worked flint, animal bone or shell fragments. Appear to indicate only that there was some temporary use of these streams for hunting

or other casual campsites. No signs of organized villages.

Affiliations: Probably contemporary with M1-9. The flint chips are small and fairly homogeneous of a type usually associated with late prehistoric or pottery using peoples.

MUSKOGEE COUNTY

Ms-21

Location: Located .6 miles west of Arkansas River bridge on US 62. Possible campsite on a low ridge paralleling river.

Culture: Several worked flint chips, 1 piece of shell. Temporary occupation but locus could not be determined. Possibly site is deep somewhere in vicinity.

Affiliations: Undetermined.

Ms-22

Location: Half mile east of Ms-22 on south side of US 62; also on a ridge line but on a greater rise.

Culture: Four or five flint chips.

Affiliations: Undetermined.

OKFUSKEE COUNTY

Of-1

Location: Located west on Castle on SH 48 South of junction with US 62. On rising ground near small branch, tributary to North Fork of Canadian River 6 miles to

south. Site reported by Mr. J. B. Evers of Bristow at edge of a borrow area used by Highway Department.

Culture: Burned animal bones, hearth material, handstone fragments, scrapers, Gary type points.

Affiliations: Undetermined-probably Archaic but distinct from Grove or Fourche Maline Foci.

PITTSBURG COUNTY

Ps-55

Location: About $2\frac{1}{2}$ miles south of junction of SH 31 with SH 2 and $\frac{1}{4}$ mile to east of SH 2 on Mills Creek east of junction with Sand Creek.

Culture: Small village of 3-5 houses probably; Gary type points, Williams Plain pottery, metate and mano fragments, animal bones, shell.

Affiliations: Early Gibson or late Archaic.

TEXAS COUNTY

Tx-20

Location: 2 miles south of Marshall on west side of US 83 on a branch of a creek tributary to Goff Creek two miles to south. Site slopes from this ridge westward. Area used by Highway department for borrow area for dirt.

Culture: Small pits discernable at clay level; about $1\frac{1}{2}$ ' to 3' diameter filled with charcoal flecked debris which includes animal bones, hearth material, flint chips; Amarillo flint dominant; Harrel and Fresno type points; many broken quartz pounders; some choppers.

Affiliations: Typical late prehistoric flint complex of Oklahoma Panhandle; Sherds not found but probably of Stamper Cordmarked type.

Tx-27

Location: Located $4\frac{1}{2}$ miles north of US 64 in Goodwell; county road; $\frac{1}{2}$ mile north of Goff Creek on west side of road. Occupation area probably to west along branch of Goff Creek draining to south.

Culture: Quartzite boulders of type used to west; a secondary tool material.

Affiliations: Probably related to Oklahoma Panhandle Culture.

WASHITA COUNTY

Wa-10

Location: $\frac{1}{2}$ mile east of Custer Co. line on south side of US 66, Main part of site along Turkey Creek to north $\frac{1}{4}$ mile.

Culture: Mano and metate fragments. Appears to be north edge of a site to south of road.

Affiliations: Late prehistoric. Custer Focus related to Cu-27 $1\frac{1}{4}$ mile east.

Wa-11

Location: Located $1\frac{1}{4}$ mile west of Foss Junction on south side of US 66. Site parallel to Turkey Creek about $\frac{1}{4}$ mile in area.

Culture: Flint and quartzite material; little Amarillo flint; many side and end scrapers; Flint more abundant than at Cu-27 to east though pottery similar.

Affiliations: Seems closer to Optima than Custer Focus in stone complex but late prehistoric.

WOODWARD COUNTY

Wd-1

Location: 12 miles north of Mooreland on west side of SH 50.

Site runs east and west of road for $\frac{1}{4}$ mile along north bank of branch of Long Creek, a tributary of Cimarron River. Material on a steep slope.

Culture: Sandstone metate and T-shaped drill of Amarillo flint may not go with rest of flint material of blue-grey flint, knives, choppers, side scrapers. No points found.

Affiliations: Possibly related to Wd-2 but appears to be a different flint source. Possibly non-pottery and earlier.

Wd-2

Location: Located $1\frac{1}{4}$ mile south of Wd-1 on rise overlooking another branch of Long Creek.

Culture: Burned house plans, pits, charred human remains, animal bone, shell fragments, Fresno point excavated. Surface showed only dozen flint chips, and 1 piece of wattle.

Affiliations: Central Plains Aspect cordmarked type pottery. Probable continuity of Panhandle pithouse tradition with strong northern and some western (Pueblo) influences. Late prehistoric.

SUMMARY

The highway surveys and excavations during the past year have augmented our knowledge of Oklahoma archaeology to the following extent:

- (1) demonstrated that sites are destroyed each year by highway construction and that some of them, not necessarily the largest, are of real archaeological significance.
- (2) brought to light the first recognizable instance of Central Plains Aspect (Kansas and Nebraska) influences in the Oklahoma pottery tradition
- (3) added a new distinctive pit-house type of structure
- (4) added cremation as a new trait for the late prehistoric horizon in Western Oklahoma
- (5) obtained 30 specimens of charcoal from the western part of the state where such finds are rare
- (6) added the first excavated material to the University's collections from Woodward and Okfuskee counties
- (7) added 80 new sites to the Anthropology Department's site maps
- (8) added 7-10,000 specimens to the University's collections
- (9) added to our knowledge of Custer Focus house types
- (10) added to our knowledge of burial and physical type in the Custer Focus.

THE OKLAHOMA AREA

A Regional and Chronological Summary

It might logically be assumed, in a geographical situation where a relatively flat area is bounded on either side by regions having strong and distinctive cultures that the traditions of the intervening area would be a mixture from both sources. Such is the cultural position of Oklahoma with the Mississippi Valley cultures on one side and those of the Southwest on the other. But, strangely enough, the cultural situation between these two centers is not that of a Mississippi Valley - Southwest peripheral hybrid. That this is not the situation is entirely due to (1) the geographical fact that the political boundaries of Oklahoma include the peripheries of three distinctive ecological regions. . . High Plains, Low Plains and Eastern Woodlands, and (2) the historical fact that the earliest occupation of each of these regions apparently began beyond the borders of Oklahoma. In terms of geography and climate, Eastern Oklahoma is a salient of the Mississippi Valley, specifically the Arkansas area, thrust into the prairie country; central Oklahoma is a southern extension of the great central Low Plains which extends from inside Canada down into northern Texas while the Panhandle and adjacent western counties of Oklahoma are part of the High Plains which border the entire eastern slopes of the Rocky Mountains. Thus Oklahoma area is not only geographically but historically peripheral to its adjacent areas.

Cultural Horizons

Proceeding from this brief geographical sketch of Oklahoma to a consideration of its cultural horizons we find that the subject can again be

divided into three major divisions. First, there is an early prehistoric horizon of Paleo-Indian hunters, second, a middle horizon of non-pottery using, semi-nomadic gathering and hunting complexes and third, a late horizon in which pottery-using groups appear in all parts of the state though not necessarily in all counties. The historic horizon, of course, with its survival groups does not concern us here.

Early Prehistoric Horizon

The earliest occupation of Oklahoma probably took place in the western division, i.e., in the Panhandle and far western counties of the state. Our data for this period are extremely meager. Only the Nall Site has been reported on. (Baker, Campbell and Evans, 1957). This Panhandle campsite is located in a sand blowout where stratigraphic control was impossible. The most numerous classes of artifacts were dart points, side scrapers, drills and knives accompanied by lesser numbers of graters and cores with a scattering of manos and hammerstones. Of the classifiable dart points, the Plainview type accounts for about 85% with Reserve, Milnesand and Angostura making up the remaining 15%. Only two Clovis and one Folsom point were found. This assemblage is representative of the Paleo-Indian culture in Oklahoma, especially as regards the dominance of Plainview points and the scarcity of Clovis and Folsom points. This pattern extended sporadically into central Oklahoma, almost to Oklahoma City. Some finds have been reported east of there but these are rare except along the Red River. At several sites in central Oklahoma, specifically in tributaries of the Washita River to the south and the Cimarron River to the north, this type of material appears to be washing out of stream beds 10 to 15 feet below the present surface. There seems to be association with bison bones. In this connection it is significant that while mammoth have been found in almost all counties of the state,

no instances, with the exception of one questionable early case, (Hay, 1928, 1929; Spier, 1928; Evans, 1930; Hay and Cook, 1930), have been reported of their association with human culture. This suggests that this early horizon in Oklahoma is chronologically much later than Paleo-Indian remains in Texas and New Mexico. However, there is at present no stratigraphic or radiocarbon evidence to back this hypothesis.

Middle Prehistoric Period

Criteria for the next, or middle, horizon are mainly negative. That is, virtual absence of Paleo-Indian points, or ceramics, and of house type.... the latter due to poor conditions for preservation. These differing regional complexes which probably represent different time levels, occupy four locations: (1) the Panhandle and western counties of Oklahoma, (2) southwest Oklahoma above the Texas border near Altus Reservoir, (3) south central Oklahoma to the east and west below Oklahoma City, and (4) eastern Oklahoma to the Cross Timber area.

Sites of the Panhandle-Western complex are found in the Panhandle along the edges of playas and the banks of major streams and in the western counties along the smaller streams of the upper Canadian, Washita, and Red Rivers. Accumulations of fractured hearth material is their principal feature. This material is of two kinds: the remains of red-weathered, egg-shaped, quartz boulders showing pounding use and second, worn sandstone river stones with flat surfaces which may have been used for grinding. There is some percussion work in flint and quartzite but it is rather negligible. Scrapers are not abundant. This stone technology is at present undated. Since it continues into the ceramic level, it may possibly be chronologically late even though it appears to be typologically undeveloped.

Material from southwest Oklahoma also features quantities of thermal fractured hearth material, a great variety and quantity of dart points, sub-nosed scrapers, gouges, manos and rubbing stones. Quartsite predominates over flint as a point material.

In central Oklahoma sites of a quartsite industry (Shaeffer, 1957c) are on high ground well back from present stream beds. The material, which somewhat parallels the central Texas Clear Fork Focus, (Kreiger, 1954, p. 106) and the Trinity Aspect of North Texas (Crook and Harris, 1952) often rests on the rebeds of Permian age. The material consisting almost exclusively of tan quartsite tools retains a great deal of outer crust. Especially characteristic are steep-backed planes, choppers and hammerstones. Blades, knives and scrapers also occur. Occasionally, the white flint base of a Plainview point is found on these sites. This, of course, implies contemporaneity or overlap with the earlier Paleo-Indian horizon. Steep-backed planes and choppers are also found in some east central and southeastern Archaic sites. This suggests either (1) a duration of some length for the complex or (2) foreshortening of the Paleo-Indian-Archaic sequence in Oklahoma with the quartsite industry being an intermediate link.

In eastern Oklahoma the Archaic culture is divided by Bell and Baerreis (1951) into a northeastern and east central chronology. I would include a southeastern one as well. The northeastern Archaic first described by Baerreis (1951) and designated as the Grove Focus is said to be related with the Ozark region; the east central Archaic comprises the Arkansas River Valley between the high country to the north and south and appears to be affiliated with the corresponding low country culture in Arkansas; the southeastern Archaic appears to be similar to that of the Ouachita Mountain

region of southwest Arkansas and to that of northeast Texas.

Culturally the northeastern Archaic sites lie along the major streams and show a great abundance of flint material, a profusion of dart points and scrapers as well as axes, drills, mortars, manos and metates. (Hall, 1954). The east central Archaic has much the same inventory but there is a change in the material and in the relative popularity of artifact classes suggesting less dependence on hunting and more on gathering (Shaeffer, 1957a). Tool type and material are also more closely linked with Arkansas types. The southeastern Archaic utilizes quartzite in considerable amounts, has generally smaller dart points, fewer axes, drills, scrapers etc., has a cruder technology, seems less dynamic and is probably not nearly as old as developments in the north. In fact, disregarding the occasional crude plain pottery, this tradition continues into the late Archaic horizon.

Now, in addition to these definable eastern Archaic chronologies, there is a less definable extension of Archaic influence in the Low Plains. Sites of non-pottery flint-using groups are found south of the Canadian River almost to Oklahoma City. Southwest of Oklahoma City there are, for example, alluvium filled rock shelters whose floors are littered with buffalo bone and a few dart points showing some Archaic similarities. In extreme southwestern Oklahoma there are some sites with large Archaic-like dart points.

Late Prehistoric Horizon

This brings us to the third, the ceramic or late prehistoric horizon, which for convenience might be considered in terms of early, middle and late phases. As usual the chronologies are better established for eastern Oklahoma.

Early Phase. In considering the early phase, a Woodland occupation ushers in the earliest ceramics in the eastern area. Bell and Baerreis (1951, p. 27) have suggested that this occupation represents the southern most thrust

of a people who had previously migrated to Missouri and eastern Kansas. The principle criteria are Woodland type pottery, abundance of large dart points and the presence of a distinctive thickened, circular form of scraper together with manos and oval basin metates. No Woodland mounds have been reported from northeast Oklahoma. However, in the summer of 1958, Bell and his party located a series of low cairn-like mounds just northeast of Muskogee on a former ridge line now forming an island in the Gibson Reservoir. Flint tools were found mixed with the rock and soil. Chemical analysis of the dirt indicated a strong PH concentration. Bell believes that these cairns may have been a frontier form of Woodland burial mound... the first instance of this sort in Oklahoma.

Further south in the east central area, the initial pottery phase begins with the introduction of the thick grit-tempered Williams Plain ware which first appears in the Fourche Maline Focus south of Spiro, (Newkumut, 1940; Proctor, 1957). Subsequently, this type of pottery diffused northward and southward, in the latter case being added to the existing Archaic technology. Bell aptly refers to this incipient pottery stage as pre-Gibson.

Apparently this early pottery stage has no counterpart in the central or western districts. At least it is unrecognized. The earliest pottery there seems more closely correlated with the following eastern phase.

Middle Phase. The following or middle phase, better known in the literature as the Gibson Aspect, has three main eastern climaxes. The main climax, the Spiro Focus, centers in east central Oklahoma. A lesser climax took place in southeastern Oklahoma where it is affiliated with general southeastern developments. In northeast Oklahoma the florescence was mild. The Gibson material is, of course, that of the mound complex and the elaborate southern death cult material of effigy pipes, copper covered earpools,

etched conch shell, monolithic axes, engraved pottery and the like, (Hamilton, 1952). Contemporary with this development is a utilitarian series of artifacts from the house areas which are indistinguishable from an inventory of late archaic or early pottery phase sites. This strongly suggests the incorporation or imposition of an exotic theocratic superstructure on a native Archaic base. The Gibson florescence represents the cultural peak as well as the population peak in Oklahoma prehistory.

The Gibson ceremonial complex of east central Oklahoma did not reach out strongly into the Plains though elements of the southeastern manifestation did diffuse up the Red River and from there northward along its major tributaries and so into central Oklahoma, (Brues, 1957; Shaeffer, 1957d). The main tracer elements in this diffusion are the distribution of plain grit-tempered pottery and occasional finds of intrusive Sanders Plain and other northeast Texas wares, (Gallaher, 1951; Schmidt, 1953). The Bryan and Nelson Foci along the Red River in southeast Oklahoma are undoubtedly connecting links in this westward distribution. There is no corresponding Gibson development in the western district. While it seems logical to assume some tenuous influence north of the central area along the upper course of the Arkansas River near the Kansas border, nothing definite is known.

Late Phase. The final phase of the prehistoric is known in eastern Oklahoma as the Fulton Aspect, a period characterized by the introduction of new traits from both northeastern and southeastern Oklahoma which combined with the continuing and underlying Archaic tradition I have previously termed Fultonoid, (Shaeffer, 1958b). In this period settlements were smaller, populations more dispersed, earth mounds absent, flexed burial replaced by extended burial, dart points replaced by arrow points, grit temper, and

red-slipped pottery was absent.

Elements of this new pattern diffused into the Low Plains where they intermingled with elements of a southward and eastward moving pattern from the Central Plains characterized by buffalo hunting, cordmarked pottery and a strong bone technology. Representative of this development are the Custer and Washita River Foci. Contemporary with this eastward drift of Low Plains culture (Duffield, 1953) was a western drift of eastern ceramic techniques, notably an extension of shell tempering and shell substitutes into central and western Oklahoma. This was followed by a final movement of Pueblid influence in architecture and ceramics across the High Plains. During the last stage Pueblo IV trade wares penetrated far into central Oklahoma. Except in the bastions of the underlying Archaic tradition in the northeastern and southeastern parts of the state, there was a drift towards a Plains type of economy and technology. These were the closing features of the prehistoric horizon in Oklahoma.

Summary.

The three main prehistoric horizons in Oklahoma, early, middle, and late are characterized by differing direction and sources of cultural movement. In the early horizon the initial occupation was by groups of Paleo-Indian hunters moving eastward from the High Plains. Subsequently there was a western extension of the Eastern Archaic peoples of the Mississippi Valley to the peripheries of the woodland area.

In the middle horizon hunting-gathering, groups allied to those of north Texas with a culture somewhat resembling that of the Clear Fork and Carrolton complexes interposed themselves in central Oklahoma.

The late or ceramic horizon is divided in eastern Oklahoma into an early Gibson Aspect and a late Fulton Aspect. Possibly contemporary with this

development is a Southern Plains Aspect in central Oklahoma. The Gibson Aspect begins with the first introduction of pottery from the Mississippi Valley. The Spiro area of east central Oklahoma soon became the center of this development which represents the peak of population concentration and cultural attainment, a florescence limited mainly to the drainages of the Arkansas and Red Rivers in eastern Oklahoma. The sudden collapse and disappearance of this pattern from Oklahoma marks the end of this first ceramic phase.

The following period in eastern Oklahoma, the Fulton, found settlements smaller and more dispersed and lacking the mounds and the rich ceremonial paraphanelia of the preceding period. In this horizon four movements are discernible; the first, from northeast Oklahoma introduced new ceramic techniques; the second, coming by way of northeast Texas up the Red River and its tributaries into central Oklahoma introduced extended burials, head deformation, small rectangular houses and Texas trade-wares; a third pattern, Southern Plains characterized by buffalo hunting, a thick-poorly fired cord-marked pottery and a strong bone technology moved into western and central Oklahoma from southern Kansas; a fourth movement extending from New Mexico brought Pueblo influences in pottery, architecture and stone technology into western and central Oklahoma. The trend in this final stage of the prehistoric horizon was a general drift of culture eastward until the Plains groups impinged on those in east central Oklahoma. Only in the rugged country of northeastern and southeastern Oklahoma did the older pattern continue.

It is assumed that the principal factor in the ebb and flow of culture across the Oklahoma boundary during its long prehistory was climatic change,

principally of precipitation and underground water. The Oklahoma environment was evidently alternately accessible and inaccessible to migration and desirable and undesirable as a place of habitation. One may picture Oklahoma as a land with three shifting ecological habitats, Woodlands, Low Plains and High Plains and a northern-southern climatic division. Depending upon the water cycle the boundaries of these areas shifted east or west and upon the temperature cycle north or south carrying with them backwards or forwards at each major shift the majority of the floral, faunal and human flotsam adjusted to the previous ecological conditions. In general when Plains culture was dominant and conditions favorable culture moved eastward; to a lesser degree it moved southward (or possibly northward, a point not yet established) during the middle horizon, and southward during the ceramic horizon. Mississippi Valley culture, conversely, moved westward under favorable conditions; to a lesser degree it moved southward during the early Archaic and northward during the Fulton times.

THE SPARKS SITE, Lt - 3*

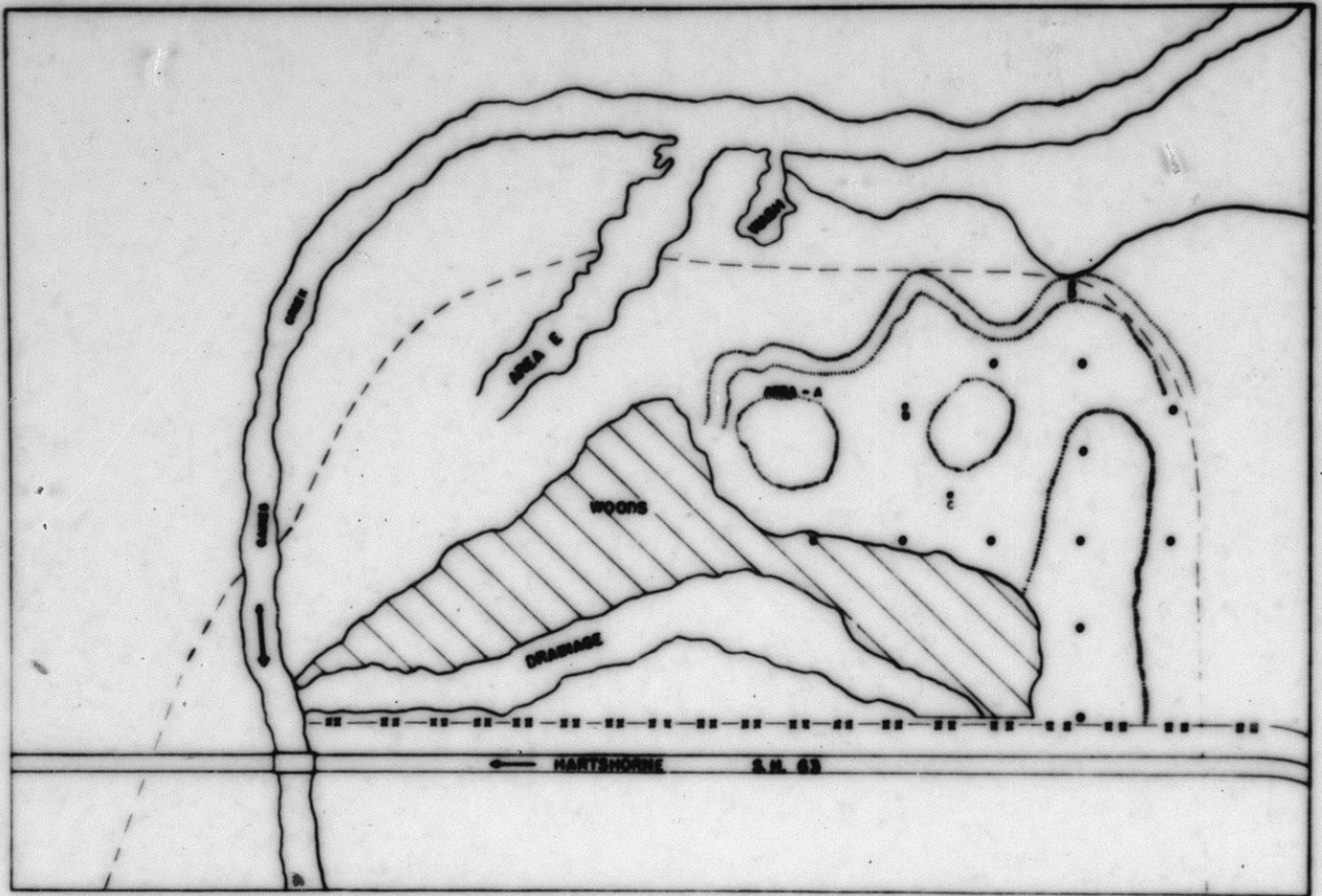
Location (Figure 2)

The Sparks site is located in Latimer County in southeast Oklahoma, about six miles east of Hartshorne on State Highway 63. This site lies on both sides of the highway one mile east of the community of Higgins, and along the south bank of Gaines Creek.

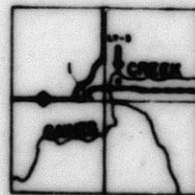
Discovery

The site was found during a routine check of the right of way of an approved project which involved the widening and paving of State Highway 63. The original road had cut through the southern half of the village and the occupational debris had been incorporated in the fill of the bridge approach over Gaines Creek. The remaining part of the site was in a large 10 acre field north of the road. Since this field was not involved at the time in the construction area, a request for funds with which to conduct excavations was made to the Faculty Research Committee of the University of Oklahoma. It was subsequently learned that the entire field had been leased as a source of selected dirt for a road project to the north. Unfortunately, a request to conduct salvage operation had to be disapproved by the United States Bureau of Public Roads on the grounds that private property was involved. Since this ruling coincided with the exhaustion of

*Named for Mr. A. E. Sparks, Division Engineer of the Bureau of Public Roads under whose administration the Oklahoma Highway Salvage program was operated during the period covered by the site reports in this volume.



SPARKS SITE (Lt-3)



LATIMER COUNTY

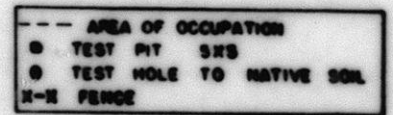


FIGURE 2

project funds at the end of the fiscal year, excavations were temporarily terminated. An additional grant from the Oklahoma University Faculty Research Committee permitted the excavations in Area A to be completed. Appreciation is extended to the Committee both for its financial support and for the dispatch with which the requests were handled.

Stratigraphy (See Figure 4)

Test pits over the site (as indicated in the site plan) established that the stratigraphy throughout the entire occupation was uniform, varying only in the depth at which it occurred. This stratigraphy consisted of an overburden of brown plow-disturbed soil over a darker occupational fill containing charcoal flecks, some occasional hearth material where undisturbed structural features remained, and various artifacts. Beneath this occupational stratum was a thinner layer of lighter color which graded rapidly into a yellowish sandy clay.

At the east end of this site the occupational stratum was close to the surface. There was a dark line within 10 inches of the surface with occupational material churned up from the layer beneath to the surface. Several hundred feet to the west in the area designated as Area A the overburden had evidently been deeper so that only the top portion of the occupational layer was turned over by the plow. This left three or four inches of undisturbed fill resting on the original occupational ground level. This was sufficient to preserve hearths, postmolds, and cache pits. It was from this type of situation that most of our information was obtained.

Farther to the west the overburden again thinned out. This area was cut by washes. The major area designated as Area E contained a great abundance of hearth material, flint chips, and artifacts which had settled

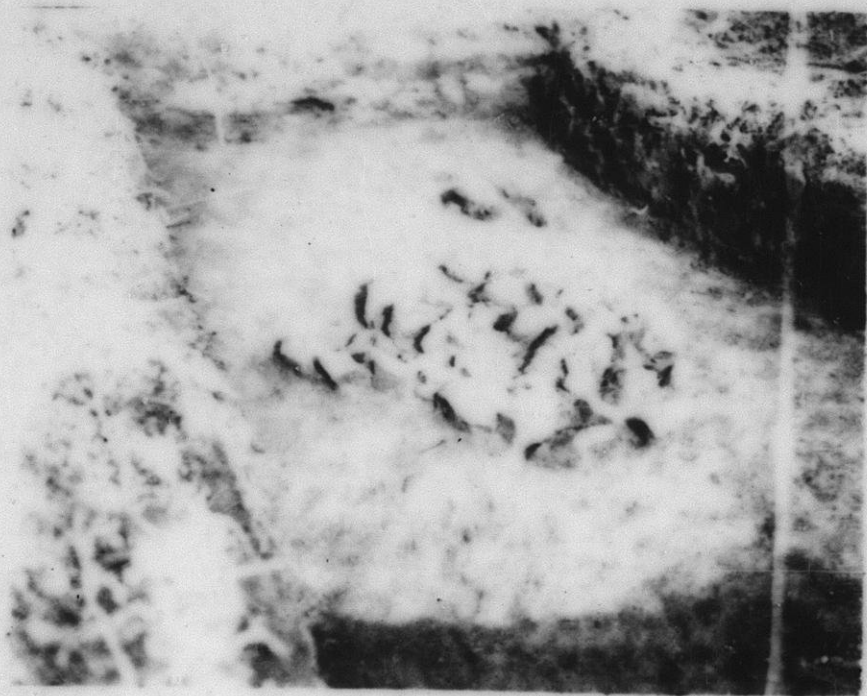


Fig. 3 Initial area of excavation. Post base, south side of House 1. Deteriorated skull in center background. Sparks Site, Lt-3.

down as the result of the erosion. The dark occupational soil was not in evidence here. The material was also different from that on the east. From these two facts it appeared that this area formed a separate time component at the site.

Excavation

Excavation was conducted over four one week periods. Each time the writer was assisted by Paul Nichter and his boy, Sonny, residents of Higgins, whose assistance and cooperation is greatly appreciated.

During the first period, excavation consisted of test pitting and exploring the deeper occupational fill of Area A. At this time two stone hearths, a nearby cache pit, and a human skull were the main finds together with an assortment of stone artifacts. Surface collections were also made in Area D during this first week. During the second and third weeks excavation uncovered the western half of a house floor. The fourth week's work consisted of widening exploratory trenches which established the extent of the eastern half of the structure.

House (Figure 6)

As previously indicated most of the excavation time was spent uncovering a house floor. This area, as the plan shows, was not completely excavated but sufficient was revealed to indicate the outline of a large rectangle containing two large main posts and a number of secondary supports. The two main supports averaged 15 to 18 inches in diameter at floor level. They consisted of well charred stumps slightly below the level of rock which covered the ground around them. The smaller posts 6 to 8 inches in diameter were not as deeply set. In addition it was suspected that a great number of posts were set on rocks or on the ground and were not dug in. It is even

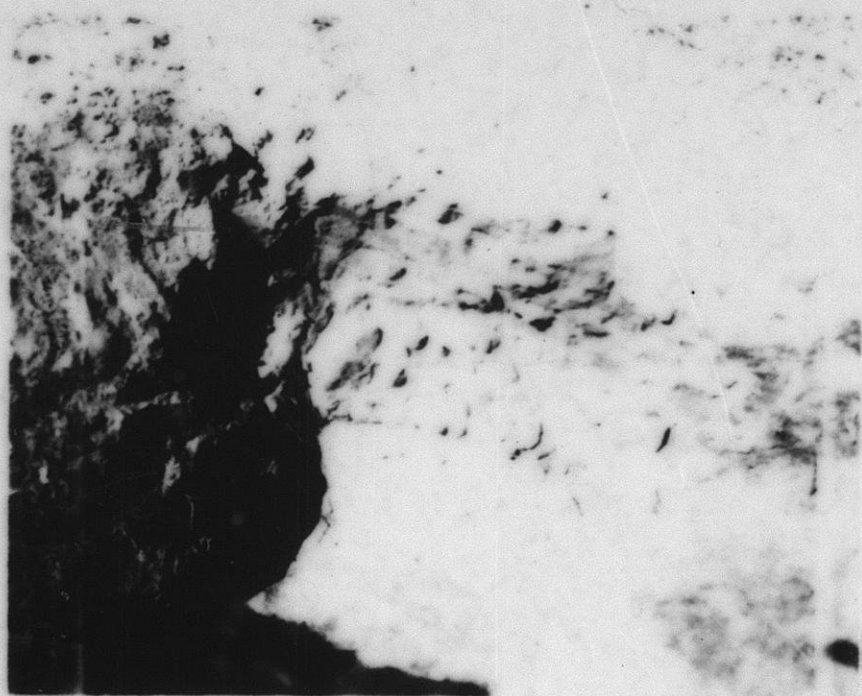


Fig. 4 Stratigraphic section in Area A. (1) Light topsoil. (2) Darker fill. (3) Hearth and structural stones. (4) Light sandy clay. (5) Yellow sandy clay. Sparks Site, Lt-3.

probable that some of the larger posts were set on rocks or stone bases and were not dug in. These latter are represented by the circular stone concentrations along the south side of the house. It is probable that most of the secondary posts were also placed on ground level and only key ones dug in. This would account for the scattered pattern of post holes and post molds which were found.

The floor area consisted of an irregular carpet of small stones generally in a horizontal position but very unevenly placed. The stones averaged 6 to 8 inches long and 3 to 5 inches wide. Some areas were less well covered and tended to have only a scattering of small stones. Stones appeared to be well concentrated around areas where posts were found, especially toward the better preserved center of the house. It is therefore wondered whether the main function of the stones was not as post bases for major supports. Possibly subsequent weathering had scattered them from their original positions.

Two large pits were found. The one toward the center of the house could originally have held a center post though no evidence of this was found, the fill being soft and containing some flint chips and a few points. The pit believed to be outside the southwest wall also contained a minimum of artifacts. The walls of neither of the pits were plastered or in any way finished.

In general, the irregular secondary post pattern, the occasional circular rock concentrations, the scattered carpet of rock over the floor and the finding of all artifacts within this outline were all strongly reminiscent of Houses A and B at the McCarter Site near Muskogee (Shaeffer, 1957, pp. 248 - 249). A log from this site was subsequently dated by the Humble Oil Co. using the Carbon - 14 method as being between 700 and 900 A.D. (i.e. 1160

BP plus or minus 100 years). On the basis of the typological development of the associated artifacts, the Sparks house should be later. Both houses were quite large. The McCarter House B measured 30 x 21 feet while the Sparks site was approximately 34 x 27. No definite hearth was located within the structure at the Sparks site. It is supposed in both the Sparks and the McCarter sites that the circular concentrations of stone represent bases for major roof supports.

Inventory

The inventory and description of artifacts listed in Figure 5 consists mainly of material recovered during the course of tracing the rock strewn area which delineated the floor level of House 1.

INVENTORY OF ARTIFACTS BY LOCATION

THE SPARKS SITE, Lt-3

Artifact Types	Totals	Area A House 1-Block Numbers										
		Gen	1	2	3	4	5	6	7	8	9	10
CHIPPED STONE												
Axe, double-bitted	2				1			1				
Blades, Type 1	24	1	1	3	1	1	1	1				1
Blades, Type 2	30		3	7		2	2	3				3
Blades, Type 3	8		2		1	1	1					
Choppers	4			2				1				
Cores	10			1	1							3
Drill	1											
Knife	1											
Planes	6			2			1					2
Points, Untyped	4				1				1			
Type 11, Var.1	22	1			5	3			6			
Type 1, Var.2	8			1				1	1			1
Type 1, Var.3	8				2			1	2			2
Type 1, Var.4	16		4		2		1		5			1
Type 2	10		1		1		1	1	3			
Type 3	17		1	1	4		1		4			
Type 4	6		2	1	1							
Type 5	2		1						1			
Type 6	5				1			1	1			1
Type 7, Var.1	2											
Type 7, Var.2	2							1				
Type 7, Var.3	1											
Scrapers	37	1	5	1	8		1	8	1			2
GROUND STONE												
Beatstone	1											
Hammerstone	4											1
Mano, Type 1	17			1				3				10
Mano, Type 2	14				1			1				7
Mano, Type 3	3							1				2
Metates	2						1					1
Pestles	2		2									
Smooth Stones	8				1	1		1	1			2
BONE												
Animal	3		1	1								1
Human	1		1									
FOSSILS												
Crinoids	1						1					
TOTALS	282	3	24	11	39	8	10	24	30			40

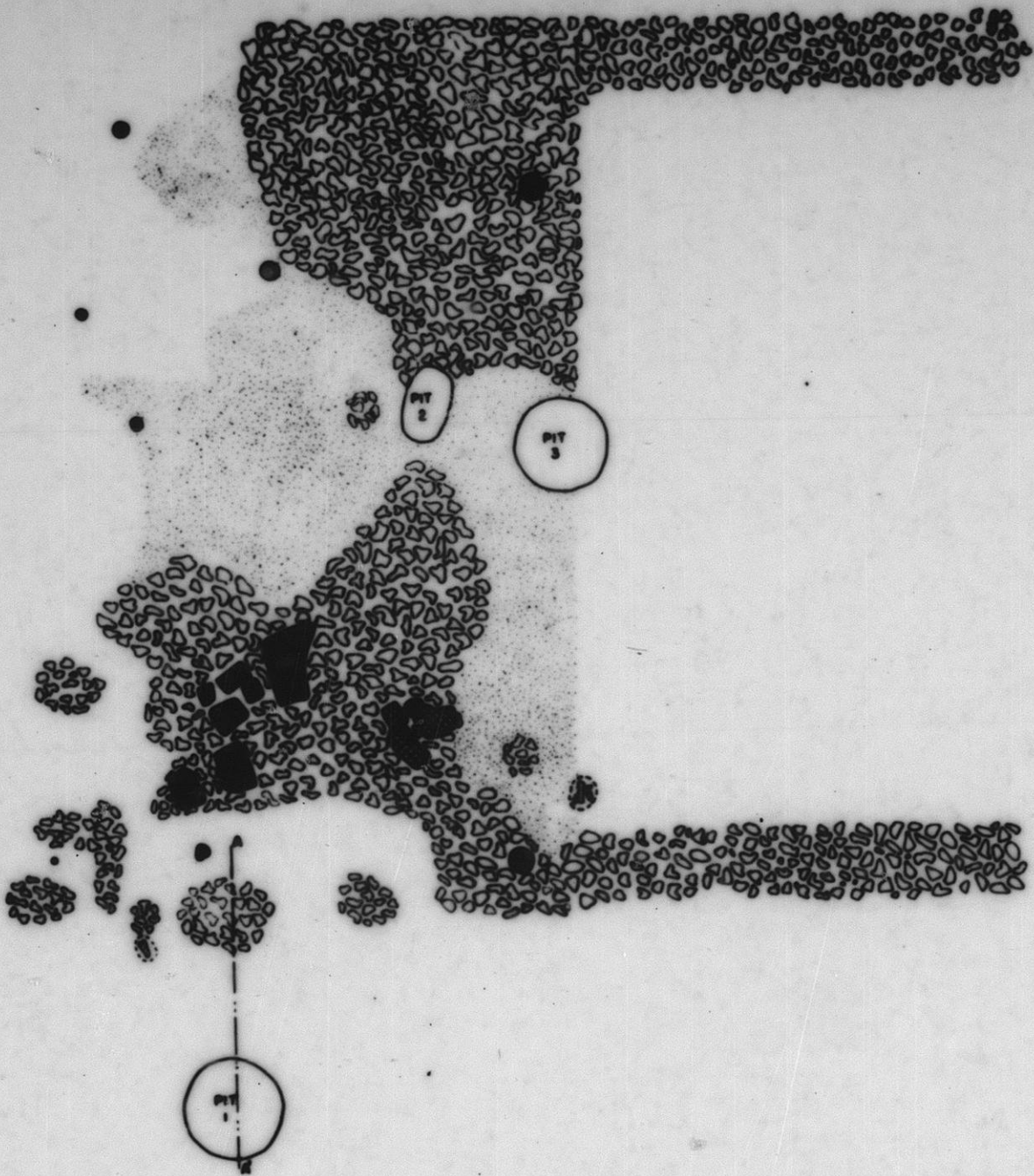
Fig. 5

INVENTORY OF ARTIFACTS BY LOCATION

THE SPARKS SITE, Lt-3

Artifact Types	Stratigraphic Levels										Area D	Area E
	Area A-Blocks 1 & 2											
	3	5	6	1	2	3	4	7	Pit			
CHIPPED STONE												
Axe, double-bitted												
Blades, Type 1		1			7				1			5
Blades, Type 2			1	2	1	1			1		2	2
Blades, Type 3				1				1		1		
Choppers					1							
Cores				1	4							
Drill				1								
Knife				1								
Planes												1
Points, Untyped					1				1			
Type 11, Var.1				3	2	1						1
Type 1, Var.2				3	1							
Type 1, Var.3			1									
Type 1, Var.4				2		1						
Type 2				1	1	1						
Type 3				1		2	3					
Type 4			1			1						
Type 5												
Type 6					1							
Type 7, Var.1				1	1							
Type 7, Var.2				1								
Type 7, Var.3				1								
Scrapers	2	1	1		2	1					1	
GROUND STONE												
Beatstone					1							
Hammerstone							3					
Mano, Type 1					3							
Mano, Type 2				1	3				1			
Mano, Type 3												
Metates												
Pestles												
Smooth Stones					2							
BONE												
Animal												
Human												
FOSSILS												
Grinoids												
TOTALS	2	2	4	20	31	11	4	2	3		3	11

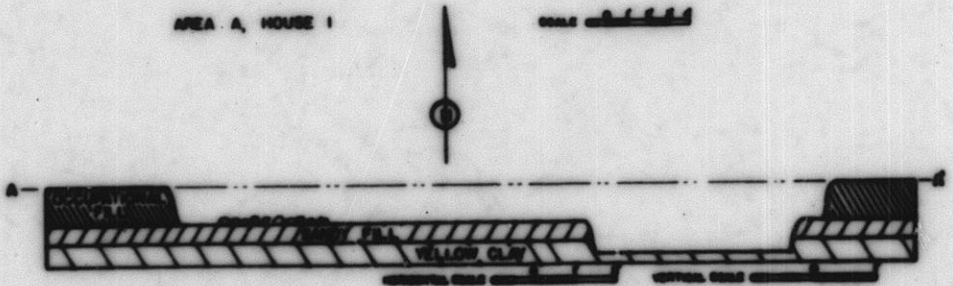
Fig. 5



AREA A, HOUSE I

SCALE

- HUMAN CRANIUM
- POST HOLES
- METATE
- SANDSTONE GLASS
- ROCK CONCENTRATION
- SCATTERED ROCKS
- DEER BONES



THE SPARKS SITE LT-3

FIGURE 6

ARTIFACT TYPOLOGY

CHIPPED STONE

Axes (2)

Small double bitted axes; the smaller of flint, the larger of sandstone. All-over percussion on one side only. Unfinished central area both specimens. Secondary percussion for entire outline. Length 8.1 cm - 9.4 cm; Maximum blade width 5.7 cm - 6.2 cm; Thickness, 2.2 cm - 2.4 cm. Illustrated, Figure 11

Blades (62)Type 1: (24)

Leaf-shaped flint or dark quartzite. Tend to be slightly asymmetrical at point with one side fairly straight from center to point. This would make for better grip if unhafted. Gives a curved knife like appearance to opposite or cutting edge. Not very uniform in size. Only 4 completed specimens. Percussion bifacially; secondary chipping bifacially along blade edges. Length, 5.2 cm - 10.2 cm. Maximum width, 3.0 cm - 4.3 cm. Thickness, .7 cm - 1.6 cm. Illustrated, Figure 7

Type 2: (30)

Probably unfinished specimens of Type 1 blades. Same general leaf shape but thicker and keeled on one side prior to thinning. Some show secondary use-chipping on edge as if used as a tool in unfinished state. Size range same as for Type 1 but thickness about twice that of similar sizes of Type 1. Illustrated, Figure 7



Fig. 7 (1) Blade, type 2. (2) Flake scraper. (3) Knife blade, type 1. (4) Blade, type 3. Sparks Site, Lt-3.

Type 3: (8)

Only bases found but differs from Type 1 and 2 in that sides and bases are straight. Blade must be either parallel sided or slightly tapering to form a large triangular point. Width at base, 2.3 cm - 3.8 cm. Thickness .6 cm - .8 cm. Illustrated, Figure 7 (4).

Choppers (4)Type 1: (3)

Triangular shaped rock of flint or dense quartzite or sandstone. Back and sides have natural round shape; thin edge percussion chipped. Base appear to be unifacially chipped originally with bifacial chipping resulting from use. Length, 9.2 cm - 12.5 cm. Width 3.0 cm - 10.3 cm. Thickness, at top, 4.0 cm - 4.7 cm. Illustrated, Figure 8 (2).

Type 2: (1)

Thin, rounded spatula-shaped tool, percussion chipped bit at a very sloping angle; bifacially chipped. Could have been used as a scraper, chopper, or plane. Looks like end of a stone hoe but is a natural shape and does not appear to have been broken. Length, 13.0 cm; Maximum width, 10.8 cm; Thickness, 2.2 cm - 3.3 cm. Illustrated, Figure 8 (1).

Cores (10)

Chunks of flint (1 piece of quartzite) with flaked grooves. Some with flat surfaces and use-chipping along edge showing temporary use as scrapers or saws. Length, 6.0 cm - 9.0 cm; Width, 3.5 cm - 6.0 cm; Thickness, 2.2 cm - 5.0 cm. Illustrated, Figure 10.

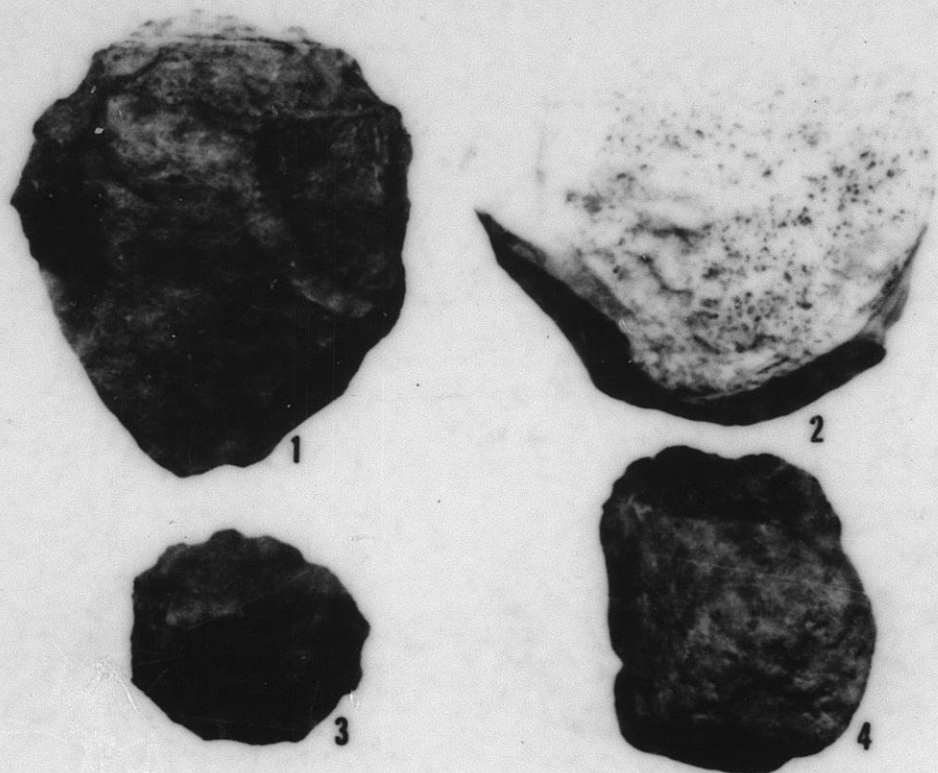


Fig. 8 (1) Chopper, type 2. (2) Chopper, type 1.
(3) (4) Planes. Sparks Site, Lt-3.

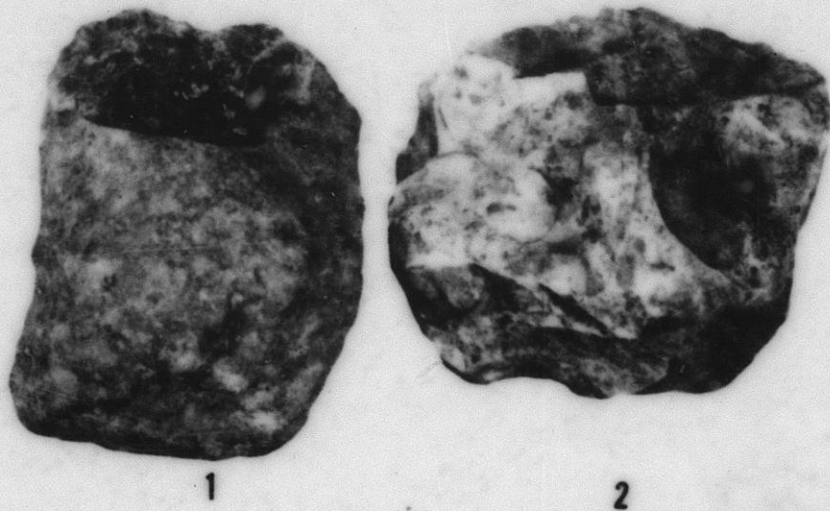


Fig. 9 (1) Quartzite Plane. (2) Flint Plane.
Sparks Site, Lt-3.

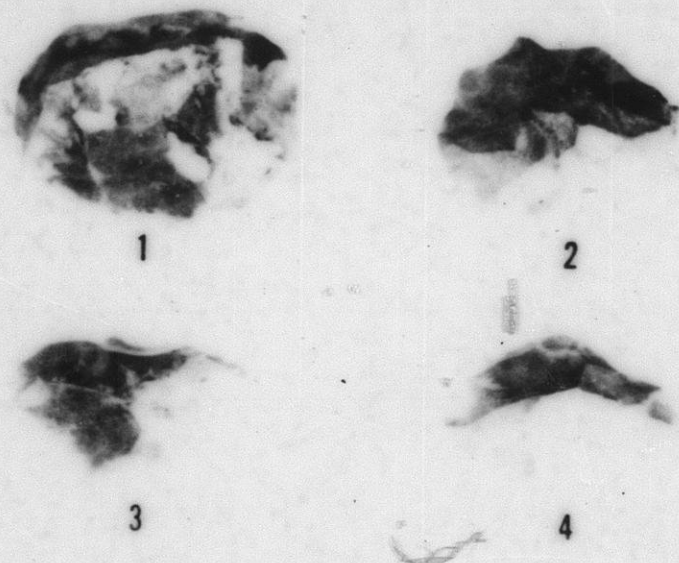


Fig. 10 (1)-(4) Flint cores. Sparks Site, Lt-3.

Drill (1)

An all purpose flint tool with a drill point having an expanding base on one end. One side of the base extends to a sharp plane which could have been used for scraping or cutting. Awl blade shows all-over secondary flaking. Length of base, 5.0 cm; Width of base 2.3 cm. Length of broken point 1.4 cm. Thickness 1.1 cm. Illustrated, Figure 11 (7).

Knife (1)

Fragment of stony flint with one end missing. Remarkable for width. All over percussion chipping on one side with center crust on other; all edges bifacially chipped; indented base; sides not parallel. Length of fragment, 10.0 cm. Width 7.2 cm. Thickness 1.5 cm. Illustrated, Figure 11 (6).

Planes (6)

Characteristically height exceeds diameter. Bases are flat; sides steep to perpendicular. Four specimens are of quartzite and two are of flint. Height 2.2 cm - 7.3 cm. Diameter 6.4 cm - 9.0 cm. Use probably for scraping. Illustrated, Figure 8 (4).

Points (98)Type 1 (54)

Overlapping variations of a general style generically termed Gary. Characterized by a contracting stem, rounded to pointed base and prominent to absent shoulders and in size from large dart to small arrow points. Length, 5.5 cm - 6.5 cm. Width, 3.0 - 3.3 cm. Thickness, 1.6 cm - 1.0 cm.

Var. 1: (22) Prominent to recurved shoulders, stem pointed. Typical Gary style but smaller than Grove Focus types. Illustrated, Figure 12 (1 - 5).

Var. 2: (8) Shoulder rounded, stem wider, rounder, less contracting. An amorphous shape, probably a less skillfully made type. Illustrated, Figure 12 (6-10).

Var. 3: (8) Small size (4.5 cm - 5.5 cm. long) and narrow (2.0 cm. - 2.5 cm. wide). Somewhat resembles Wells point. Often associated in Eastern Oklahoma with Quartzite industry. Illustrated, Figure 12 (11 - 15).

Var. 4: (16) Leaf-shape to diamond form; shoulders almost absent; stem same angle as blade about 1/4 to 1/3 way from bottom. Perhaps a thinner better finished Type 2 blade. Akin to Amalgre point recognized by Kreiger as possibly an unfinished Gary type. Illustrated, Figure 12 (12 - 16).

Type 2 (10)

Shoulder barbed by diagonal notching (.8 cm. - 1.1 cm. deep); expanded stem; base flat or rounded; small dart size. Somewhat like Marcos point but latter confined to south central and coastal Texas. Length 4.0 cm. - ?. Width, 2.7 cm. - 3.3 cm. Thickness .5 cm. - .7 cm. Illustrated, Figure 13 (1 - 5).

Type 3 (17)

Stem straight to slightly expanded; shoulder almost at right angle to stem; base flat to round; size small dart to large arrow. Like Bulverde point which extends from Archaic to early Gibson. Differs in that base is shorter. Length 5.0 cm. - 6.0 cm; Maximum width 2.6 cm. - 2.8 cm. Thickness, .7 cm. -.9 cm. Illustrated, Figure 13 (6 - 15).

Type 4 (6)

Triangular shape of flint and sandstone. May be similar to Type 3. Blade in an unfinished state. Could be used also as either a knife

or a scraper. Several triangular Texas types but rarely in East Texas. Oklahoma types lack beveling of edge. Length 4.2 cm - 7.0 cm. Illustrated, Figure 13 (14 - 17).

Type 5 (5)

Diagnostic is indented base with stem expanded as wide as shoulders; diagonal side notching. Arrow point size. Looks related to or a prototype of later Morris point. Width 3.4 cm - 3.5 cm. Thickness .7 - 1.2. Illustrated, Figure 13 (18 - 21).

Type 6 (4)

Small arrow point with prominent shoulders; base expanded to slightly expanded. Like Type H of Phase A & B, Grove Focus but smaller in size. Length 2.3 cm - 3.2 cm. Width 1.1 cm - 1.9 cm. Illustrated, Figure 13 (22 - 24).

Type 7 (1)

Like Scallorn arrow point type. Possibly represents some of the scanty Fulton Aspect material on this site. Illustrated, Figure 13 (7).

Scrapers (37)

Irregularly shaped pieces of flint; occasional specimens of quartzite or sandstone which show use-chipping along edge. Some pieces show definite shaping. These are long thin flakes of medium thickness (2.5 cm - 3.5 cm). Length, 6.0 cm - 7.0 cm. Width, 4.0 cm - 5.0 cm. Illustrated, Figure 7 (2).

GROUND STONE

Boatstone (1)

A small (2.3 cm x 2.1 cm) highly polished flint (?) fragment with a rounded side. Possible a natural formation. Might be a fragment of a boatstone.

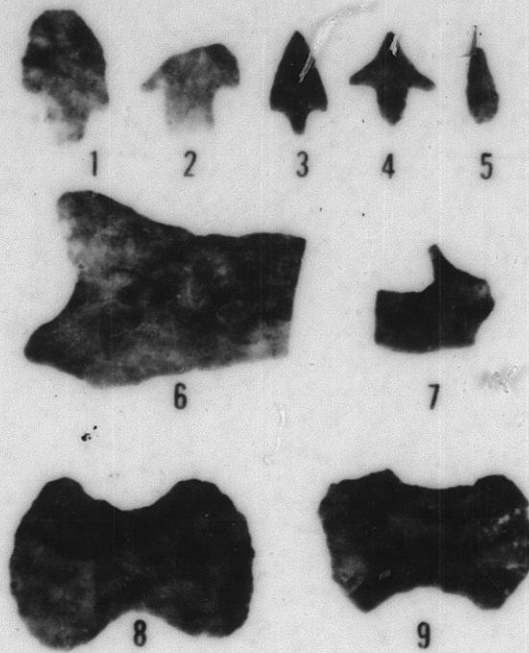


Fig. 11 (1)-(5) Untyped intrusive points with possible southern affiliations. (6) Flint knife fragment (7) Combination tool (8) (9) Small double bitted flint axes. Sparks Site, Lt-3.

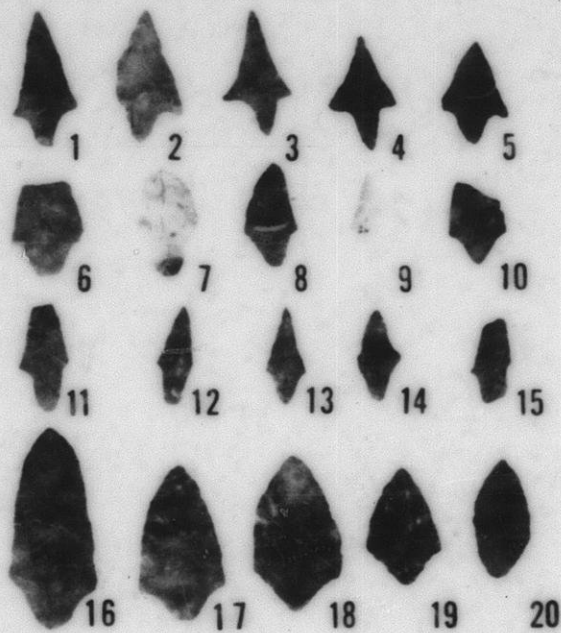


Fig. 12 (1) (5) Projectile Points, Type 1, Var. 1.
(6) (10) Points, Type 1, Var. 2. (11) (15) Points,
Type 1, Var. 3. (12) (16) Points, Type 1, Var. 4.
Sparks Site, Lt-3.

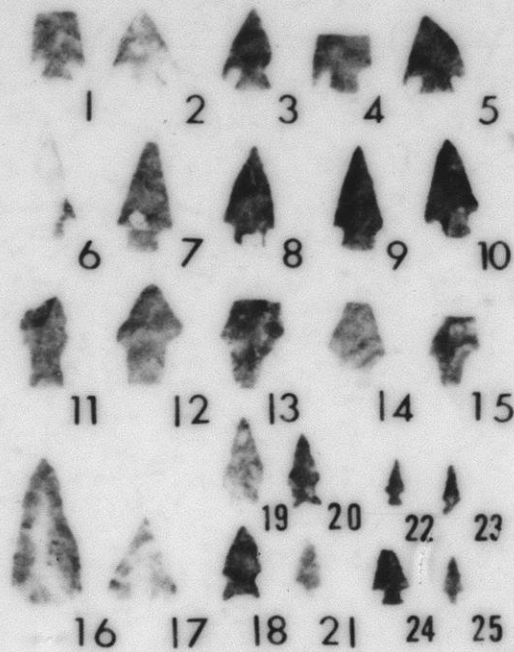


Fig. 13 (1)-(5) Projectile Points, type 2. (6)-(10), Points, type 3 with short stems. (11)-(15) Points, Type 3 with long stems. (16)-(17) Points, Type 4, (18)-(21) Points, Type 5. (22)-(24) Points, Type 6, (25) Points, Type 7.

Hammerstones (4)

Roundish, dense heavy stones showing signs of battering on prominent edges. A variety of material, quartzite, sandstone and flint. Diameter 7.0 cm - 10.0 cm.

Manos (34)Type 1 (17)

Single handed, sandstone milling stones; ovoid to oblong in shape; ends and sides pecked on one or both grinding planes; occasional center depression; medium thick in proportion to size. Length, 9.5 cm - 12.0 cm. Width 8.0 cm - 10.0 cm. Thickness 3.5 cm - 6.5 cm. Illustrated, Figure 14 (4)

Type 2 (14)

Single handed, unfinished rocks with grinding surfaces on one side; no pecked surfaces. Size same as Type 1. Illustrated, Figure 14 (1).

Type 3 (3)

Like Type 1 in material and size range but more rectangular in shape. Illustrated, Figure 14 (2).

Metates (2)

Large irregular slabs of sandstone showing slight depression in pecked central area. Length 50 cm - 60.0 cm; Width 35.0 - 40.0 cm. Thickness 5.0 - 7.0 cm. Illustrated, Figure 15.

Pestles (2)

Oblong, squarish pieces of dense sandstone. Ends show pounding use. Smaller specimen has definite red stains at one end. Length 7.0 cm - 9.0 cm. Width 6.2 cm - 5.4 cm. Thickness 4.5 cm - 5.0 cm.



Fig. 14 (1) Mano, type 2. (2) Mano, type 3. (3) Mano, type 1. Sparks Site, Lt.- 3.

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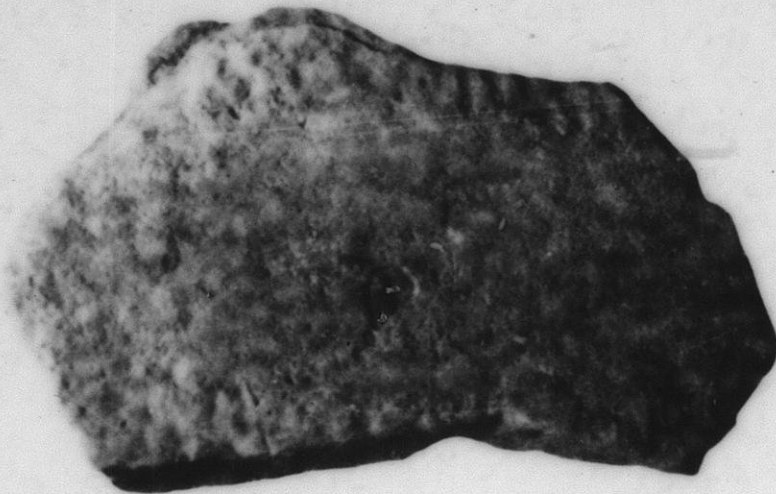


Fig. 15 Sandstone slab metate. Sparks Site, Lt-3.

Smooth Stones (8)

Hard smooth river stones 8.0 cm to 10.0 cm in length; oval to ovoid in shape. Occasionally show rubbing planes.

BONE

Animal

Animal bone found was in a very deteriorated condition in three separate locations. All identifiable fragments appear to be that of deer.

Human

A single human crania without manible was found propped upright on several small rocks. Close to a post base in the southwest portion of House 1. The skull did not appear to be the disturbed remains of a burial though it appears to have been intentionally placed. No other evidence of human bone was found during the excavation. The location of the crania was on the surface at the time of abandonment or slightly sub floor. The condition was extremely fragile. At first sutures could not be recognized. Subsequently laboratory identification was made by Dr. Alice Brues of the University of Oklahoma Medical Center.

FOSSILS

Four oval section of a crinoid were found. Possibly this fossil was picked up for "medicine" because of its perpendicular striations and clear horizontal laminations.

Conclusions:

The material from the Sparks site has relationship with two of the Archaic sequences of Eastern Oklahoma, the Grove Focus of the northeastern part of the state (Baerreis, 1951) and the Fourche Maline Focus of the east central area (Bell & Baerreis, 1951, pp 19 - 27). However the Sparks material

differs in a number of respects from both.

Grove Focus parallels are seen in the presence of choppers. In the Grove Focus these are strongest in the middle or B phase. They occur less frequently in the final or C phase...a situation closely paralleled at the Sparks site. Choppers occur very rarely in the following Gibson period, only one being reported, for instance, at the Brackett site (Baeris, 1955). Choppers are therefore indicative of the Archaic rather than the Gibson horizon. There is some occurrence of the double bitted axe in the final phase of the Grove Focus. At the Sparks site such axes are considerably smaller than their northern counterparts. The inference is therefore that they are later. Actually this type of axe appears more commonly in later Gibson sites such as the Brackett site and in the Neosho and Nelson focii of northeastern Oklahoma (Bell & Baerreis, 1951, pp 48 - 53; 71 - 75). One suspects from this equivalence in time to the Gibson period. Elliptical shaped, pecked manos likewise seen more closely related to Gibson types of the Brackett and Morris sites (Bell & Dale, 1953) on the basis of quantitative occurrence. While this mano type occurs as early as the Middle Grove focus it was apparently not abundant. This probably indicates greater emphasis on gathering activities to the south. The predominant point style, the Gary, at the Sparks site occurs with great variation but is considerably smaller than in the Grove focus. Again the inference is of a southward distribution later in time.

On the other hand, on the basis of geographical propinquity one would assume a much closer relationship of the Sparks material with that of the Fourche Maline area than appears (Newkumet, 1940; Proctor, 1957). For instance in comparing the inventory with the Scott site (Bell, 1952, 1953) projectile points are smaller and of a darker type of quartzite. Absent

also are black flint points. From the absence of pottery, larger and differing projectile points one is inclined to infer an earlier position for the Sparks material. While the dearth of bone material might be attributable to less favorable conditions of preservation the absence of mussel shell suggests a time interval when the streams were unfavorable as a shell fish habitat.

From the above considerations it has been concluded that the material from the Sparks site is intermediate typologically between the Grove and Fouche Maline foci. This might account for some of the similarities with the Grove Focus which are lacking in Fourche Maline material. On the other hand, the quartzite material and tool type found at the Sparks site equate with those found in a series of sites found in the mountain areas of southeast Oklahoma south of the Canadian river in Pittsburg, Latimer, Pushmataha and parts of Leflore and McCurtain counties (Shaeffer, 1957a, p 259). These sites are similar enough to each other to warrant separation from the Grove material and quite probably form a separate regional sequence or sub-tradition of the Oklahoma Archaic. The typical Fourche Maline material middens of abundant mussel shell and bone fragments, William Plainware, and dark colored quartzite material seem more restricted to an area to the east centering in LeFlore County around Poteau. While the relationship between the Scott type of site and the Sparks type of site is unclear now several lines of interpretation are suggested. One obvious inference might be that the southeastern Oklahoma Archaic is a single developmental sequence with the mountainous areas peripheral and later to developments in a Fouche Maline center. Another possibility is that these site series represent separate archaic thrusts into Oklahoma from its eastern and southeastern borders

at different time levels. Finally since there is some evidence of attenuated Grove focus parallels in the tool form together with similar quantitative occurrences and diminution in size this suggests possible refugee survival. It might be that the Archaic way of life continued into the Gibson period or even later in the mountain long after it had disappeared from the Fourche Maline area to the east.

THE GRACE SITE, Ps - 55

Location

The Grace site was located three miles southeast of Quinton, Oklahoma in Pittsburg County, southeastern Oklahoma.

Area

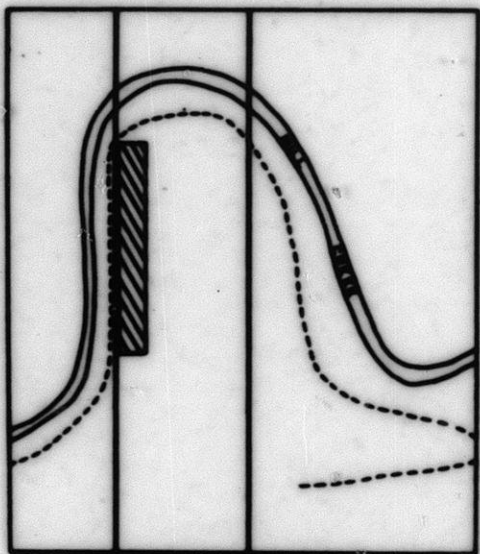
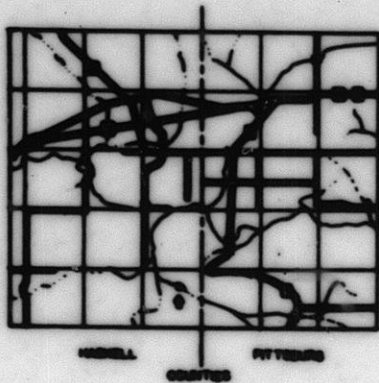
The immediate area of the site is flat, heavily wooded, and crossed by a network of small streams and branches. It lies at the northern base of the Sansbois Mountains, and at present much of the area is in pasture and under cultivation.

Site (Figure 16)

The site itself is just on the edge of an abrupt change of elevation with the foothills of the Sansbois Mountains rising sharply behind it to the south. The village occupied a small bend of Mills Creek, a tributary of the Sansbois River, which empties into the South Canadian River thirty miles or so to the north. The area of the stream bend covered about a quarter of a square mile, but apparently the occupation which consisted of no more than four or five houses was confined to a strip parallel to Mills Creek on the west and to the mountains on the south.

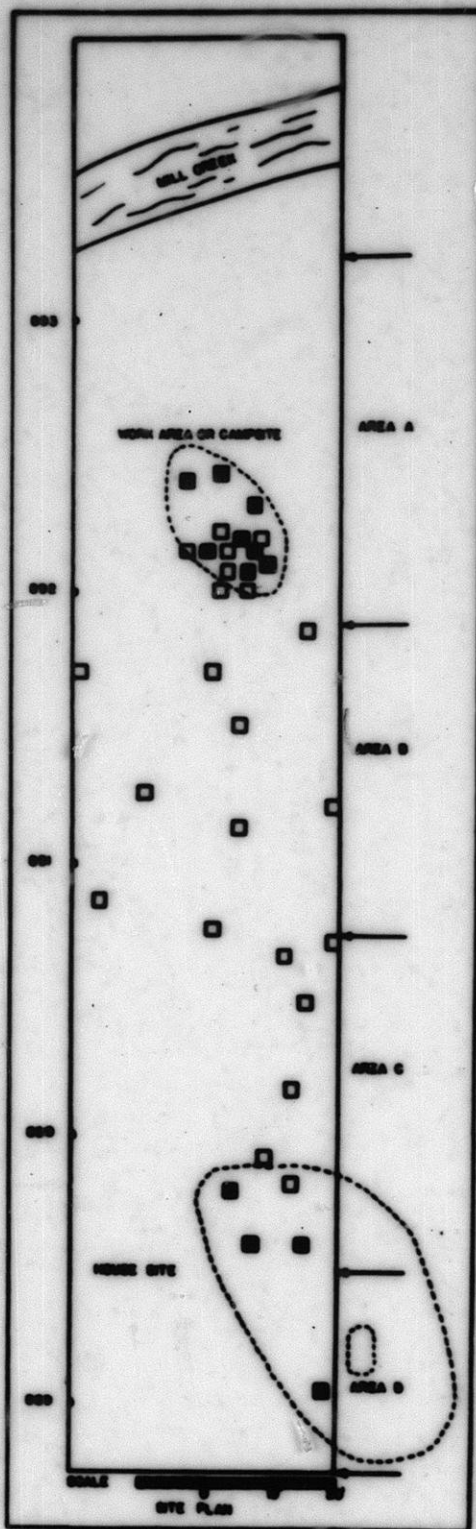
Discovery

The site was brought to the attention of the writer by members of a State Highway Department survey party under the direction of Party Chief Jan Wade. Members of the party informed the writer that they had picked up arrowheads during the noon hour at a point a mile or so away where construction was then under way. It was found that drainage ditches were being cut across what was formerly the southern part of a site, and that



DETAILED SKETCH OF GRACE SITE - PG-88

- Hatched right of way
- AREA OF PROBABLE OCCUPATION
- AREA TEST PITTED



- OVERHOLE FOR TEST PIT D
 - PRODUCTIVE OF MATERIAL CULTURE
 - NOT PRODUCTIVE OF MATERIAL CULTURE
- TEST PITS ARE C & D

GRACE SITE
PG-88
FIGURE 16

a fill was also being made across Mills Creek by removing dirt from what was formerly the village area.

Excavation

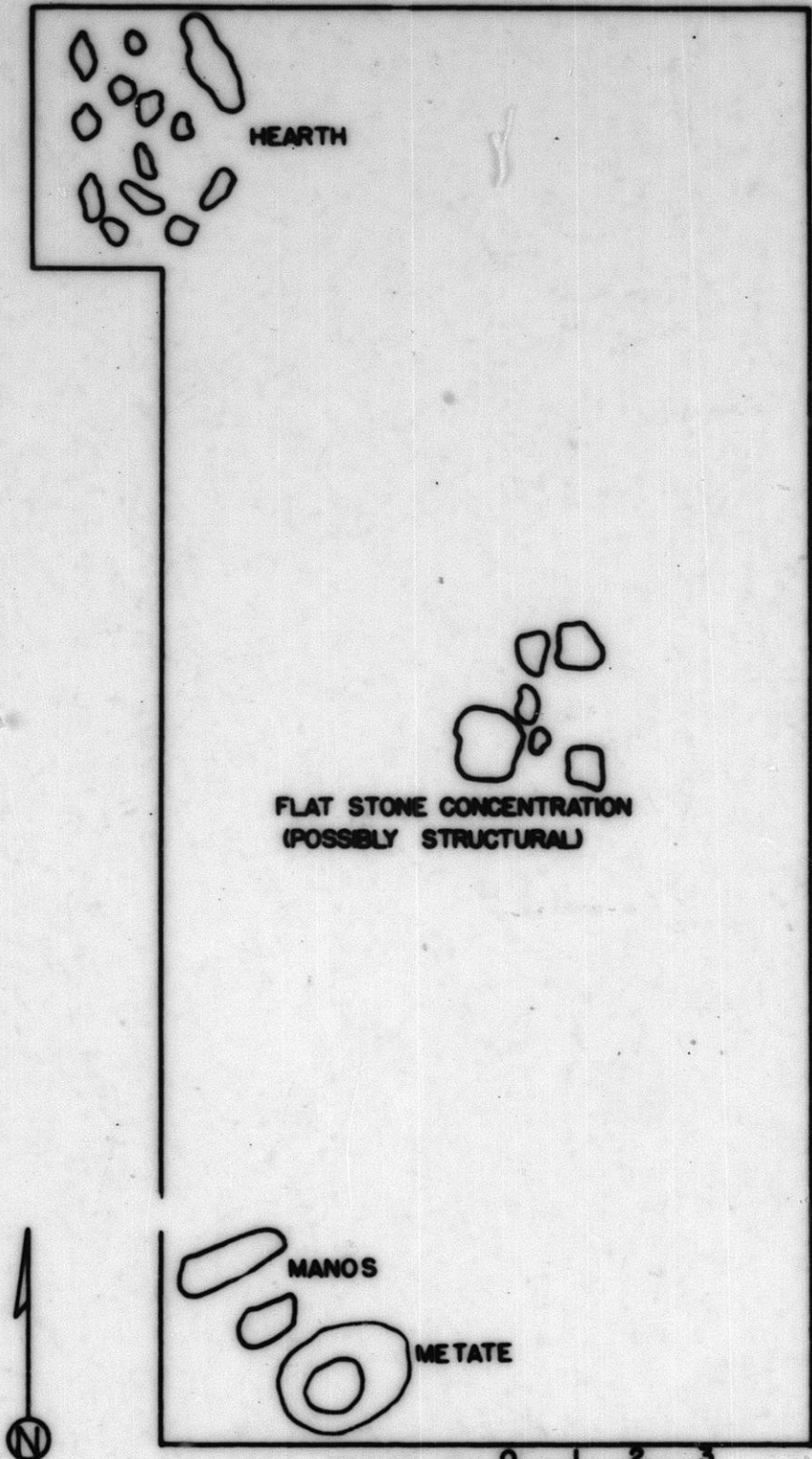
Through the intervention of the Resident Engineer, Mr. Roy Grace, of McAlester, arrangements were made by highway inspector A. C. McDonald to supply labor, through the contractor. In order for testing to be done the earth moving equipment was rerouted across the flat as digging progressed. Lumber and other supplies had fortunately been piled at a location which required that the construction machinery by-pass this area on both sides in a wide arc. This formed a long protected island for some of the pre-historic occupation area. It was in this undisturbed section that excavations were mainly conducted. Surveying of the ground to the west convinced the writer that this area of excavation was also the center of the prehistoric occupation.

Living Area (Figure 17)

Two living areas were found though the type of dwelling could not be determined. On the site plan, Area C with its stone concentrations, hearths, and manos and metates evidently formed one such area. The other was Area D which was also the provenience of the single sherd of Williams Plain. Here there was also considerable but equivocal evidence of a rectangular house, possibly about 20 feet long, which had burned leaving chunks of brightly oxidized earth and some wattle. Unfortunately, this location had been so churned up by the heavy construction machinery that all details were totally obliterated.

Stratigraphy

There was practically no depth to the site. The fireplace and all



HEARTH

FLAT STONE CONCENTRATION
(POSSIBLY STRUCTURAL)

MANOS

METATE



SCALE 0 1 2 3

WORK AREA OR CAMPSITE

GRACE SITE

PS-55

FIGURE 17

artifacts were recovered from within one foot of the present surface.

Stone Sources

One hundred and seventy nine stone chips were examined by Dr. Oren F. Evans, Professor Emeritus of Geology at the University of Oklahoma, who made a breakdown as follows: 58% local flints of unknown source, 23% unidentifiable flints, 15% Boone chert, 3% Frisco flint, and 1 chip of Amarillo flint.

Of the local flint Dr. Evans has this to say. "These flints are mostly dark brown. A few tend to gray or pinkish gray. They probably come from a local quarry. They may be Pennsylvanian in age, as this is a Pennsylvanian area, and they have some spicules which resemble those of the Mississippian. Forty-two of the total number of chips are quartzite.

With regard to the whole points which were found, Dr. Evans states, "There are 10 points and one dart (or knife) point. Four of the arrowpoints are quartzite and six are of flint. Of these latter, three resemble the dark chips of the local flint material and the remainder are somewhat lighter in color. The large dart of flint may be foreign to the site."

TYOLOGY

GROUND STONE

Boatstone

A semi-circular fragment of polished hematite which has a flat base tapering to a rounded grooved top. The encircling groove follows the curved circumference of the boatstone. Estimated length 6.5 cm.; width 2.2 cm.; thickness at base 1.2 cm. Illustrated, Figure 20 (2).

Hammerstone

A quartzite mass probably from granite. Battered on edges into a

ARTIFACT INVENTORY, Ps-55

Typology	Area A				Area C					Surf	Totals	
	1	6	8	10	1	2	3	5	D			
<u>Ground Stone</u>												
Boatstone							1					1
Hammerstone								5				5
Hoe					1				2			3
Milling Stone			1									1
Mano			2	1	2				2	1		8
Nutstone					1			1				2
Worked Fragment	1	3		1								5
<u>Chipped Stone</u>												
Knife										1		1
Points, dart						4				4		8
Scraper						1						1
<u>Pottery</u>												
Williams Plain									1			1

Fig. 18

spheroid shape. Length 9.1 cm.; thickness 7.2 cm.

Hoe

Expanding oval shaped quartzite, percussion chipped on both faces along edge only. Central portion concave side shows use polish; one bit polished on both sides. One complete hoe and two bit fragments. Average dimensions, length 17.5 cm.; width 8.2 - 5.5 cm.; thickness 1.5 - 2.2 cm. Illustrated, Figure 21 (1 - 3).

Milling Slab

An irregularly shaped flat sandstone slab. One side smoothed and some areas pecked. No restricted milling area; opposite side unfinished. Length 23.5 cm.; width 21.1 cm.; thickness 4.5 cm.

Mano

Two types found. (1) is an oval sandstone with flat grinding planes on both sides. Length is quite variable. There is a small depression or nut grinding cavity on three specimens. Length 11.2 - 14.2 cm.; width 7.2 - 9.1; thickness 2.9 - 5.2 cm. (2) is a rectangular to squarish block of hard homogeneous sandstone showing some use on all faces but mostly the larger areas. Length 10.0 cm.; width 7.1 - 8.8 cm.; thickness, 3.6 - 4.2 cm.

Nutstones

Rectangular thick blocks of sandstone showing only very secondary grinding surfaces; distinct depression in the center; the reverse surfaces unmodified. Estimated length 11 cm.; width 6.2 - 5.9 cm.; thickness 4.1 - 4.2 cm. Illustrated, Figure 2 .

Worked Stones

Worked natural shaped sandstone blocks showing occasional use as grinders and pounders.

CHIPPED STONEKnife

A large triangular shaped blade with barbs and a heavy rounded stem. Surfaces show all over percussion chipping with all edges worked. Made of a gray flint with pink mottling. Differs from other flints on site. Might have been a dart point, but seems too wide for that classification. Length 10.4 cm.; width at base 6.2 cm.; width 1.3 - 1.4 cm. Illustrated, Figure 20 (3).

Points

An asymmetrically shaped contracting stem type with one barb heavier than the other. Surface is percussion chipped and crude secondary is limited to edges and appears only in some specimens. Materials, quartzite and flint. Length 4.7 - 5.2 cm.; width 2.9 - 2.8 cm.; thickness 0.6 - 1.4 cm. Illustrated, Figure 19.

Scraper, End

A reworked point of the type previously described, with the broken blade rechipped into a straight edge leaving the rounded stem and shoulders. Probably hafted.

POTTERYWilliams Plain

One sherd was found which probably came from the house floor in Area D. It is thick (7.0 cm.) clay tempered with traces of bone and has a smudged unpolished black interior and the standard early Williams Plain tan exterior, lacking any suggestion of polish. Illustrated, Figure 20 (1).

Conclusions

While not a great deal of material was recovered from the Grace site,

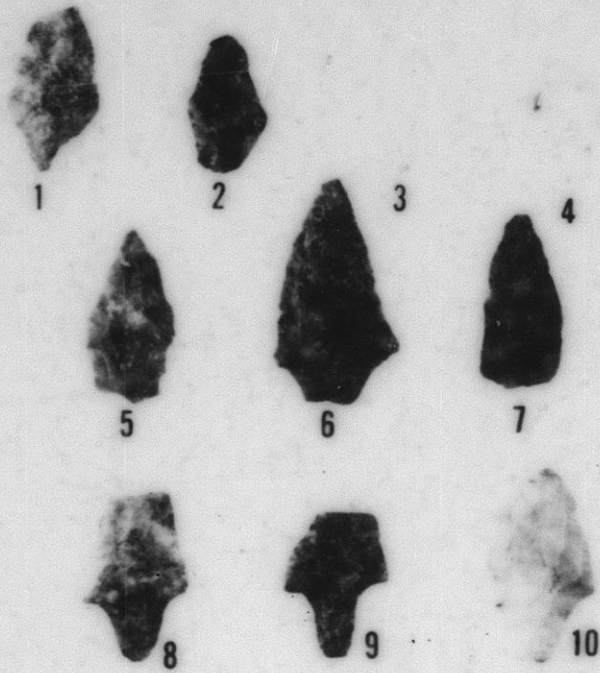


Fig. 19 Contracting Projectile Points, Grace Site, Ps-55.

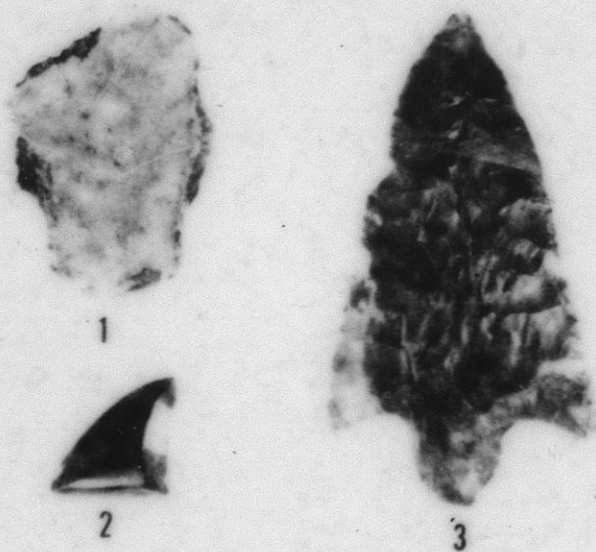


Fig. 20 Grace Site, ps-55. (1) Williams Plain Sherd.
(2) Hematite Boatstone Fragment. (3) Flint Knife.



Fig. 21 Grace Site, Ps-55. (1) Quartzite Hoe
(2) Hoe Fragment. (3) Hoe Fragment.

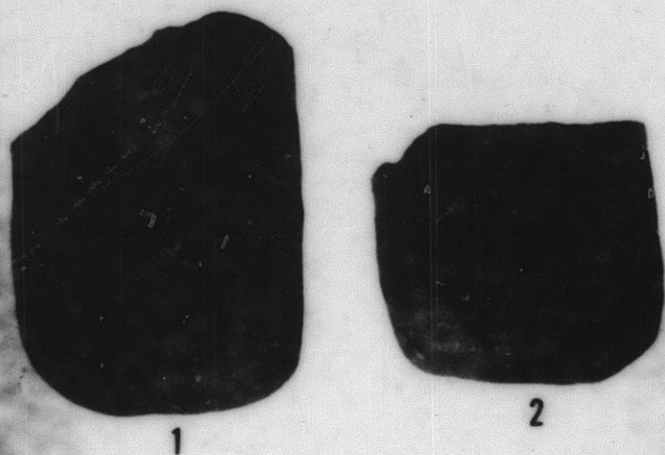


Fig. 22 Grace Site, Ps-55. Nutstones.

some of the traits are sufficiently diagnostic to permit an estimate of the time of occupancy and cultural affiliations.

The boatstone in particular is helpful since it is a distinctive feature of the Fourche Maline and Spiro focii, though occasional finds, possibly intrusive or from another source, have been reported from northwestern Oklahoma. However, the type found at the Grace site with a flat base and a semi-circular keel with an encircling groove appears to be possibly a late development from an earlier prototype. Boatstones have been found in the Spiro area in sites from the Archaic to the early Fulton horizon. The cupstone is also possibly a late specialization of the mano with depressed center occurring sometime during the late Gibson period. The flat slab metate lacking a basin or restricted grinding area is found only in east central Oklahoma and though probably originating in the Archaic, continues late. The small Gary type dart point is found mostly in eastern and central Oklahoma. It appears no earlier than Gibson and continues into the early Fulton horizon. The Williams Plain pottery appears first in east central Oklahoma beginning in Gibson and extending into the Fulton horizon.

From the summary of key traits as to locus and distribution it is apparent that the artifact typology at the Grace site had no direct affiliation with northeastern Oklahoma. The main cultural connections were with the local Fourche Maline and Spiro sequences, probably during early or middle Gibson Aspect. Actually the diagnostic traits mentioned in the previous paragraphs, except for the small dart points, would well be representative of the utilitarian aspect of either the Fourche Maline or the Spiro complex. However the Grace site lacks some major features of the Fourche Maline sites, notably, thick midden deposits of mussel shells and animal bone, the

distinctive black flint and the type of quartzite as well as the abundant occurrence of chipped scrapers and knives.

In terms of geography the linkage was likely from the Spiro region up the Arkansas River a short way and then southeast down the Sansbois Creek, a water course all the way. Direct connection with the Fourche Maline River which lies to the south on the other side of the rugged Sansbois Mountains would have been partly an overland connection. Perhaps this geographical situation accounts for the lack of specific similarities with the nearby Fourche Maline culture, despite some general parallels. On the other hand it may be that the Grace site occupied an intermediate temporal as well as a geographical position. The data are really so meager for this region and horizon that it is impossible to account for such regional similarities and differences at the present time.

THE EVERS SITE, Of - 1

Location

The Evers site is located in east central Oklahoma in Okfuskee County, one and one half miles south of Castle on the west side of State Highway 46.

Area

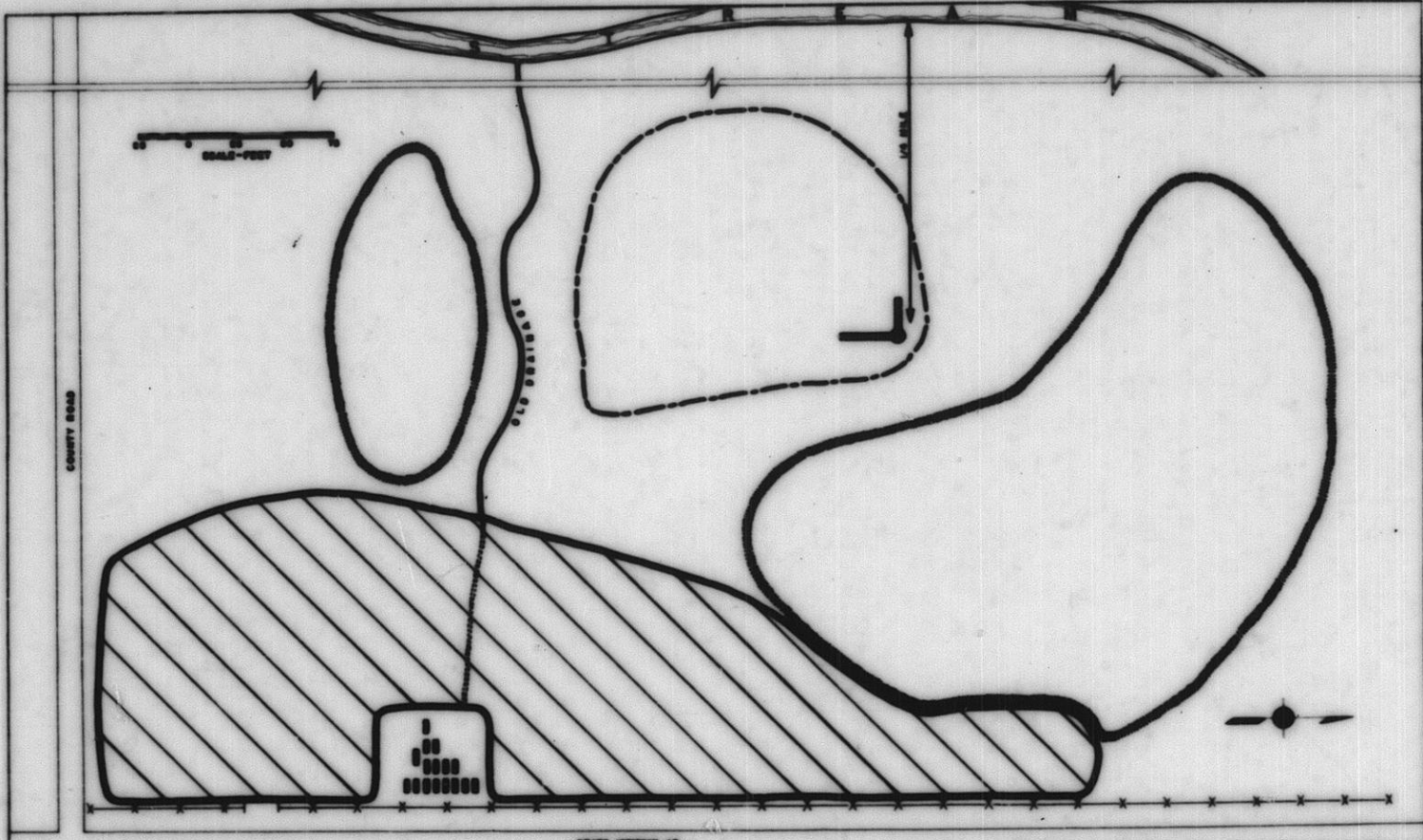
The country is typical of the North Canadian drainage with deeply cut stream beds, a sandy soil and occasional rocky outcrops. Prehistorically this was probably wooded terrain but is now mostly cultivated fields and pasture with the wooded areas confined to the stream valleys.

Site (Figure 23)

The site was located on a hill overlooking a southeasterly flowing branch of the North Canadian River. The site for the most part was barely a foot above sandstone bedrock which sloped off toward the west. The highest point on this hill is now dominated by a Creek Indian graveyard dating back to the turn of the last century. Around this graveyard the road contractor had dug an extensive materials pit.

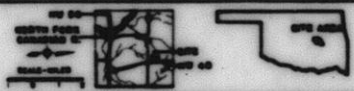
Discovery

This site was located by Mr. and Mrs. J. B. Evers of Bristow, who in surveying for surface material around the modern grave area discovered a large concentration of charcoal some of which had been brought to the surface by rodents. A preliminary test pit established a considerable amount of charcoal beneath the surface plus associated flint points (Gary dart points) and animal bone fragments.



STATE HIGHWAY 40

EVERS SITE OF-1
FIGURE 23



LEGEND

OCCUPATION AREA	CREEK CHANNEL	TOP OF HILL
FENCE	CULMINATION	GRAVEY AREA

Excavation

Excavation was begun at the location established by the charcoal. Here two right angle trenches five feet wide were dug down to bedrock. The south trench was extended for 20 feet and the west trench for 10 feet. During the course of this digging no artifacts, chips, sherds, or occupational debris of any kind was encountered. However, occasional rocks were found at a depth of from three to six inches below the surface. These appeared to be the scattered remains of hearths.

Firepit (Illustrated, Figure 24)

After digging down to bedrock at the point where the charcoal was originally found by the Evers, it was determined that the charcoal had formed a mound or was concentrated in a pit about three feet in diameter which extended down to the bedrock. The bedrock was scorched and blackened over the diameter of the pit. No artifacts or any animal bone fragments were encountered.

Artifacts

The artifacts described hereafter were all (with the exception of the Gary point previously mentioned) found on the surface, most of them by Evers, in the neighborhood of the Creek grave area. It does not necessarily follow, however, that they are Creek Indian materials out of the grave area. It rather demonstrates the fact that the Creeks also choose as their burial area the highest point in the immediate vicinity. This area had likewise been chosen by the prehistoric occupants for their village for the same reasons - drainage, and a commanding view.

Flint Sources

Of the 97 stone chips recovered by surface collection and examined

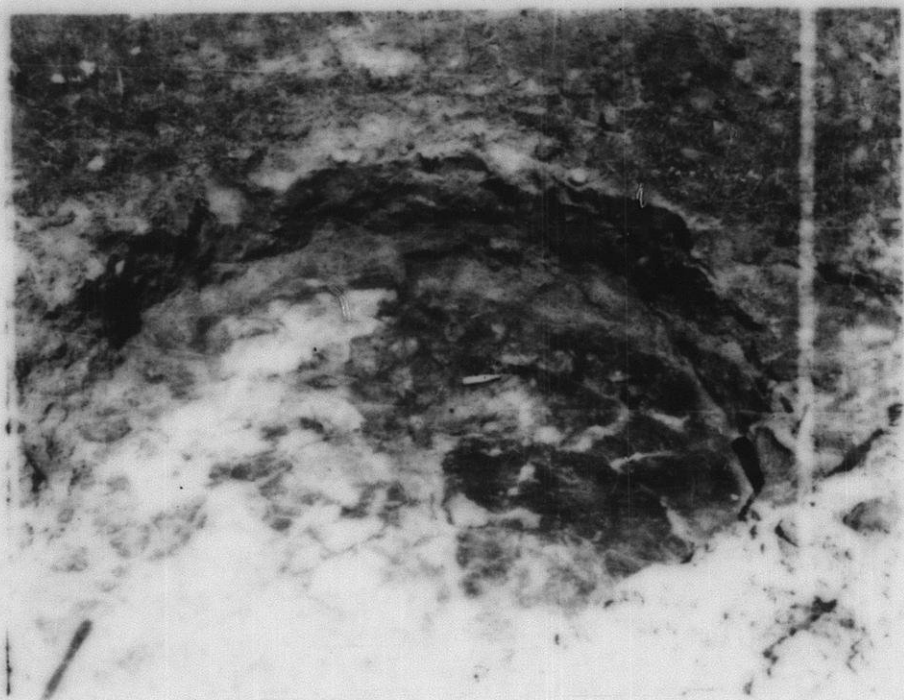


Fig. 24 Circular Burned Hearth Area on Bedrock.
Evers Site, Of-1.

by Dr. Oren F. Evans, 84% were flints of unknown source; 11% were quartzites; 3% were from the Frisco quarries south of Ada in central Oklahoma, and 2% were from Kay County northwest on the Kansas-Oklahoma line.

TYOLOGY

GROUND STONE

Abrader

An irregular block of friable sandstone having a groove on one side and a flat planed surface on the other side. Apparently also used as an abrasive.

Handstone

A rectangular but natural shaped river rock with one or more surfaces smoothed from abrasion; not coarse enough for seed milling; one specimen has a depression on its surface of the "nutstone" variety; may have been used as an anvil.

Mano

A brick shaped sandstone (12.7 cm x 6.6 cm) used for a combination of functions; the end for a hammer, the side for milling, the opposite side as a "nutstone" anvil.

Quartz Crystal

A natural shape quartz crystal; possibly for ceremonial use; not worked. Illustrated, Figure 25 (7).

CHIPPED STONE

Blade

A thick bladed fragment of quartzite with crude percussion on both sides. Long flakes removed leaving diagonal ridging. Some crust left. Illustrated, Figure 25 (8).

Points, dart

Three types of flint. (1) A bifurcated base with slight shoulder. 3 - 4 cm long; 1.6 - 2.0 cm. wide at shoulders; 1.5 - 1.7 cm. wide on stem below shoulders; 0.6 cm. thick; (2) is similar to above but without basal indentation. This may be an unfinished type, one specimen; (3) is a diamond shaped point with rounded base, 5.0 cm. long; 4.2 cm. maximum width; 0.6 cm. thick. Illustrated, Figure 25 (1 - 5).

Planes

Small high squarish shaped rock with percussion chipping to form a steep, almost perpendicular plane. Made of fine sandstone. Length 4.5 - 4.9 cm.; width 4.0 - 4.2 cm.; thickness 3.1 - 3.3 cm.

SHELLMussel shell

Food remains; only slight occurrence.

POTTERY SHERDSMcIntosh Roughened

Red oxidized Creek brush marked pottery as described by Wenner, 1948, pp. 45 - 48. Illustrated, Figure 7 (6).

Conclusions

The rather slight occupational evidence at the Evers site was further complicated by the dual occupation of both historic and prehistoric groups. Nevertheless the nutstones, handstones, mano, and dart points appear obviously Archaic. The abrader if early is more common in the west. The percussion chipped planes and blade are similar to types which characterize the quartzite industry of central Oklahoma. However the smallness of both the

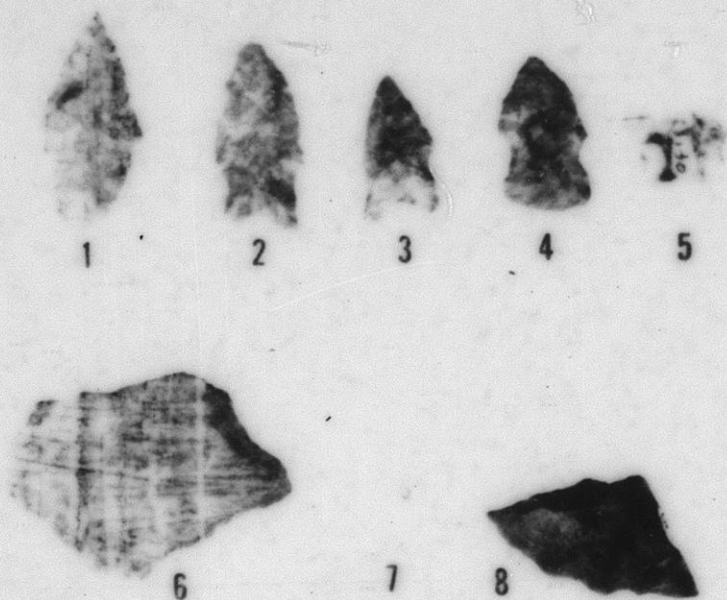


Fig. 25 (1) Point, Type 3. (2) Point, Type 1. (3) Point, Type 1. (4) Point, Type 2. (5) Point, Type 2. (6) McIntosh Roughened Sherd. (7) Crystal Fragment. (8) Quartzite Blade Fragment. Evers Site, Of-1.

planes and the dart points suggest late survival from both the eastern and central cultures of Oklahoma. It might be added that the general location of the site partially on bedrock and back from the present stream bed on high ground is similar to early site locations in central Oklahoma. In the chipped stonework no influence is detectable of the Archaic Grove sequence of northeastern Oklahoma.

Based on the smallness of the darts, the fact that the Frisco quarries were in use until the pottery horizon, as is also true of the Kay County quarries, it is conjectured that the Evers site is contemporary with early Gibson sites or is of a period just prior to this time. Archaic sites in eastern Oklahoma showing considerable relationship with the earlier quartzite industry of central Oklahoma are found in a number of sites on the eastern edge of the late Archaic area 40-60 miles west of the Arkansas River from Muskogee southward.

THE MONTGOMERY SITE, MI-9*

Location

The site is located in McLain County four miles southeast of Goldsby, Oklahoma, on State Highway 24. This site lies on the south bank of a small branch of an un-named tributary of the South Canadian River which it joins about a mile to the east.

Area

The area parallel to the South Canadian River is generally low rolling country. Prehistorically it was probably covered with woods which are now cleared except along the streams. The soil is often sandy and the streams now cut deeply into the soil. Characteristic of this area are occasional isolated springs which are the source of many of the small streams. These springs were utilized into historic times as temporary camp sites on trading expeditions to the east.

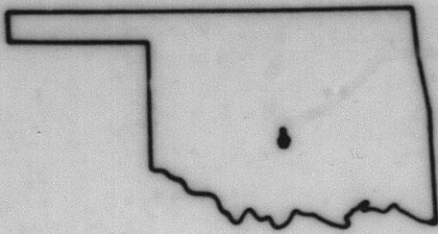
Site (Fig. 26)

This site was located on a rather steep gradient along the stream bank. It was back from the present bank a distance of only twenty or thirty feet. The sole structural evidence consisted of three pits. No other evidence of occupation was noted except for some scattered shell and bone fragments on the north side of the stream. No sherds or flint chips were found.

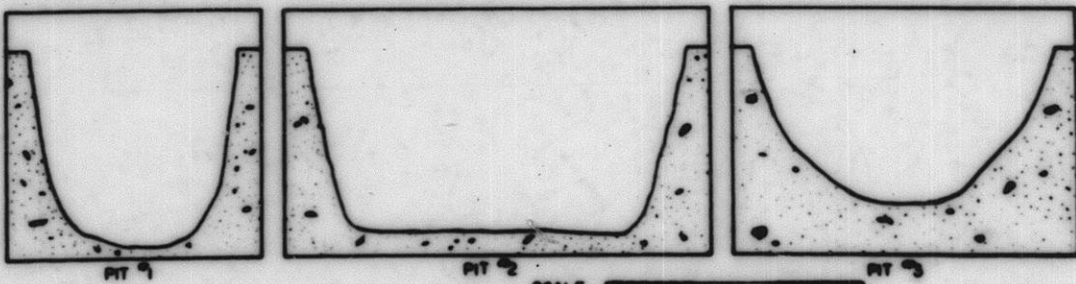
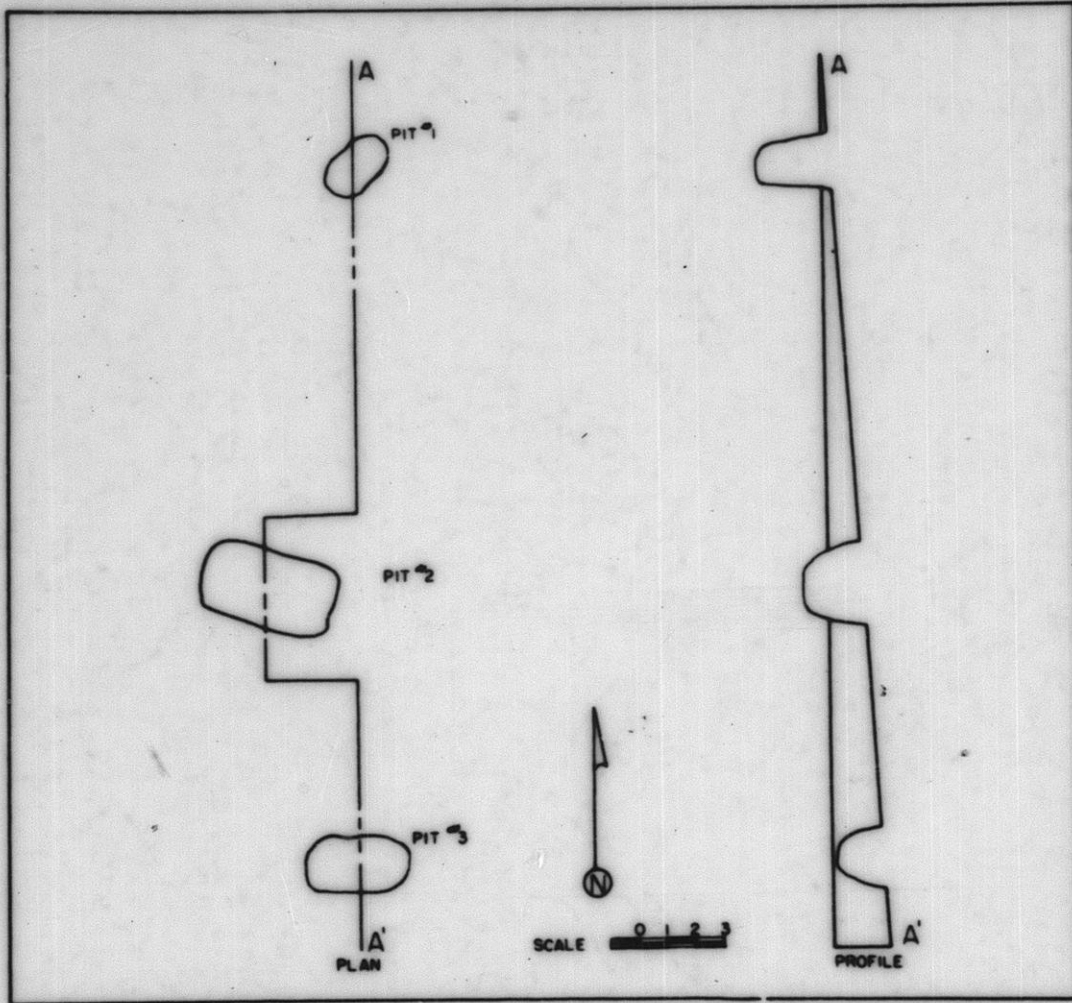
Discovery

As the result of a routine survey of this road section the possibility of occupation being uncovered by scheduled bulldozing operations was brought

*Named for Albertis Montgomery, Resident Engineer of the Oklahoma State Highway Department through whose cooperation the site was excavated.



LOCATION OF SITE



MONTGOMERY SITE MI-9

FIGURE 26

to the attention of the Resident Engineer of the Oklahoma State Highway Department, Mr. Albertis Montgomery. Through the cooperation of Mr. Montgomery the writer was notified when grading was begun. Upon examination of the area two of the pits were readily discernible as dark areas in the bright red clay.

One day was spent in the excavation of these pits and several other visits were made to the site to test adjacent areas which yielded negative results. The writer was assisted in these excavations by Mr. Charles John Bareis of the University of Chicago and Mr. Wyatt Stephens of the University of Oklahoma.

Pits (Fig. 23)

Pit 1 proved to be sterile. Pit 2 contained the skeleton of a canine which was identified by Dr. David B. Kitts, paleontologist at the University of Oklahoma, as that of a dog. The animal was found lying on its back with its head twisted to one side. This did not appear to be a burial. In pit 3 was found the perforated haft of a bison femur digging stick which had been broken in use. (Illustrated, Figure 27)

Conclusions

Since so little which was diagnostic was found this site cannot be placed accurately as to time. But it is evident from what was found--the cache pits, bison femur, digging stick haft, and dog skeleton--that these are all features characteristic of the Southern Plains culture. Therefore, the site is in all respects typical of the central Oklahoma region. The general location near a spring and back from the river suggests, as do nearby sites, temporary or short occupancy.

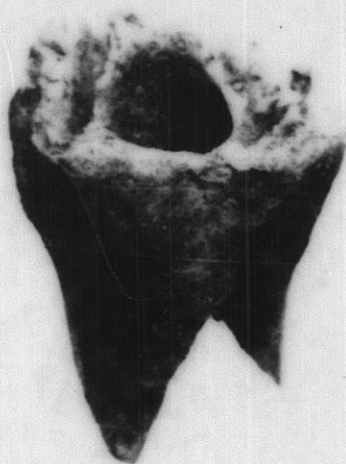


Fig. 27. Bison Bone Digging Stick Shaft.
Montgomery Site, M1-9.

THE HEERWALD SITE, Cu-27*

Location

The site is located in Custer County, west central Oklahoma about nine miles southwest of Clinton along both sides of United States Highway 66.

Area

The countryside is typically Southern Plains, largely flat terrain. It is cut by a network of erosion drainages feeding branches of the deeply cut streams which in this area flow into the Washita River. The Washita parallels the South Canadian River through much of central Oklahoma and ultimately enters the Red River at Lake Texhoma near the Texas border, several hundred miles to the southeast. Vegetation in this section of the plains is concentrated along the few perpetual streams. Even in rather late historical times, in the 1900's, the stream valleys are reported to have been covered with woods and to have contained considerable game. The high points in the landscape are low, eroded, sandstone hills sloping into valleys which are now for the most part under cultivation.

Site (Fig. 28)

The site is located along the south bank of Turkey Creek, a tributary of the Washita River, which it enters about five miles to the northeast. The village lies on gently sloping ground on the lee side of a low range of sandstone hills. These hills offer observation for a number of miles to the east, west, and north. However, the view is obstructed by other ranges

*Named for W. J. Heerwald, Inspector of the Oklahoma State Highway Department who located the site.

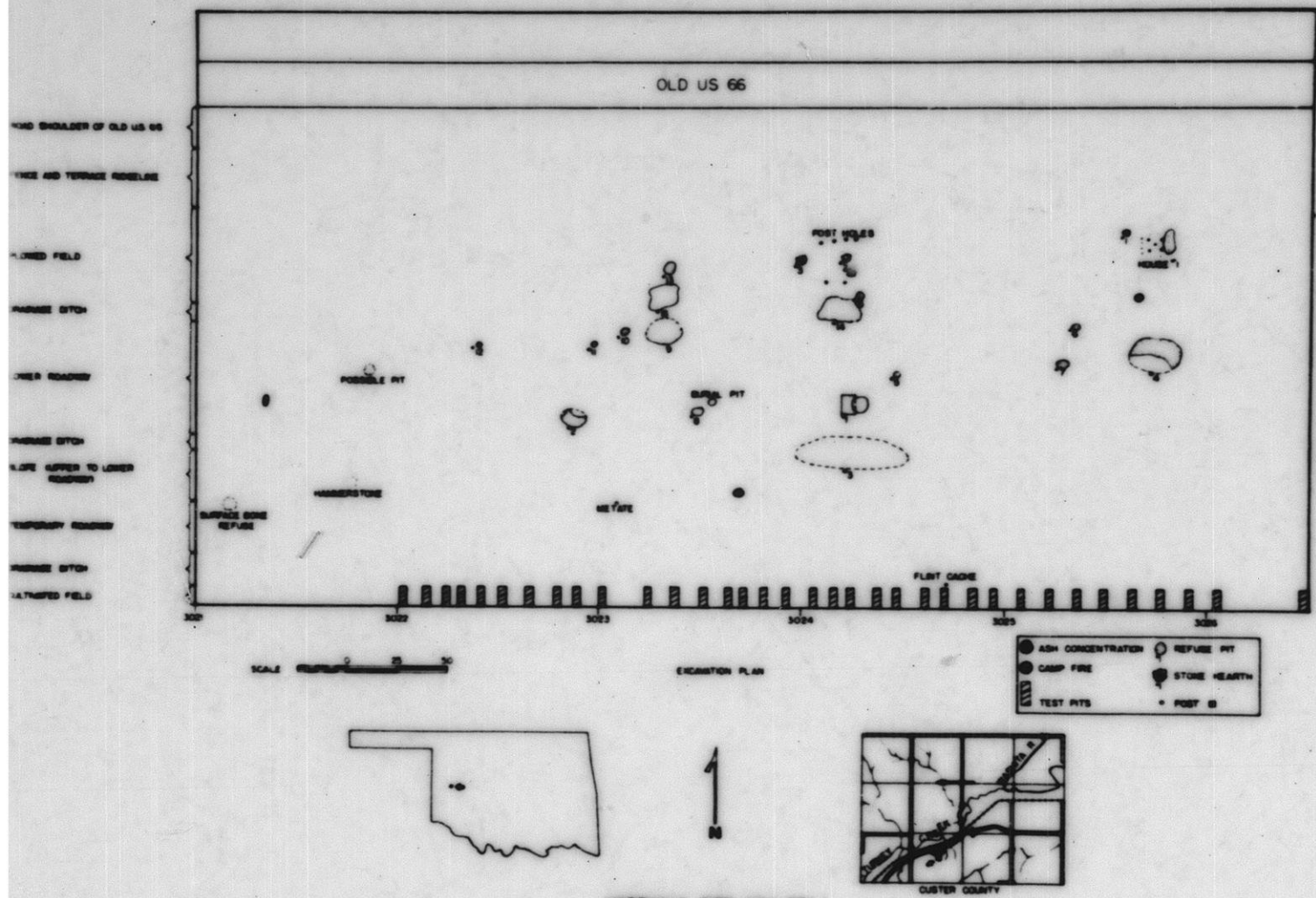


FIGURE 28

of low hills to the south. At one time the site extended from the creek bank south for perhaps a third of a mile, and east and west for almost a quarter of a mile. Most of this area is or was under cultivation. Despite the fact that the site has now been cut east and west by a railroad and two highways, a considerable portion still remains to the north under the surface of the cultivated fields.

Discovery

The site was brought to the attention of the salvage project through the efforts of Mr. W. J. Heerwald, Highway Inspector for the Oklahoma State Highway Department, who, while walking a section of the preliminary, found some bone protruding from the roadbed of the newly graded roadway. He correctly identified the bone as human and began looking for other evidence of occupation. He soon discovered numerous fragments of animal bone, flint, pottery sherds, and shell as well as artifacts such as arrow points and scrapers. Mr. Heerwald thereupon notified the Resident Engineer, Mr. Howard Bunch, who in turn notified the salvage project.

Excavation

The dig was carried out between September and December of 1957. Rain and other surveying commitments interrupted excavation several times so that the total number of digging days was 50.

The following men who assisted in the dig were carried on the payroll of the Ben Haskins Construction Company of Cordell, the construction contractor for the highway project: Donald D. Duncan, Pete Porter Birdchief, Byron Chody and James Lee Humphrey, all of Clinton, and Jay T. Bailey, Jr., of Cordell, a graduate of the University of Oklahoma. The careful work of these men, especially in screening, was the main source of arrow points

and other small objects which were recovered.

Procedure

Since the initial work had been completed on this section of the roadway, the excavators did not have to contend with a changing situation as in many other highway excavations. Instead, this dig was handled as a conventional archaeological operation. The center of the occupation, as evidenced by surface material, was staked off in 25 foot grid squares extending from the southern edge of the right of way to the edge of old Highway 66.

Work was begun where bone protruded from the ground surface. It was shortly found that trenching was unnecessary in the roadway proper since the removal of the top soil had left occupational soil only in the cache pits, which could easily be found by soil discoloration and changes in soil texture. Thus, all of the pits in the southern half of the site were located by direct observation. The northern part was under an old cultivated terrace, and was somewhat similar in that plowing had disturbed the top soil which contained most of the occupational fill. When this topsoil was removed, by a road patrol, no occupational debris remained between the pits, which were then fairly easy to locate.

While all the material was sacked and marked in reference to the grid stakes, this method of field designation has been eliminated in the presentation of the data. In the interest of clarity the excavated areas as well as the material is referred to in terms of structures such as pits, hearths, and houses.

Pits

Because of the location of the site on a sloping hillside through which the modern roadbed had been cut the pits varied considerably in size and

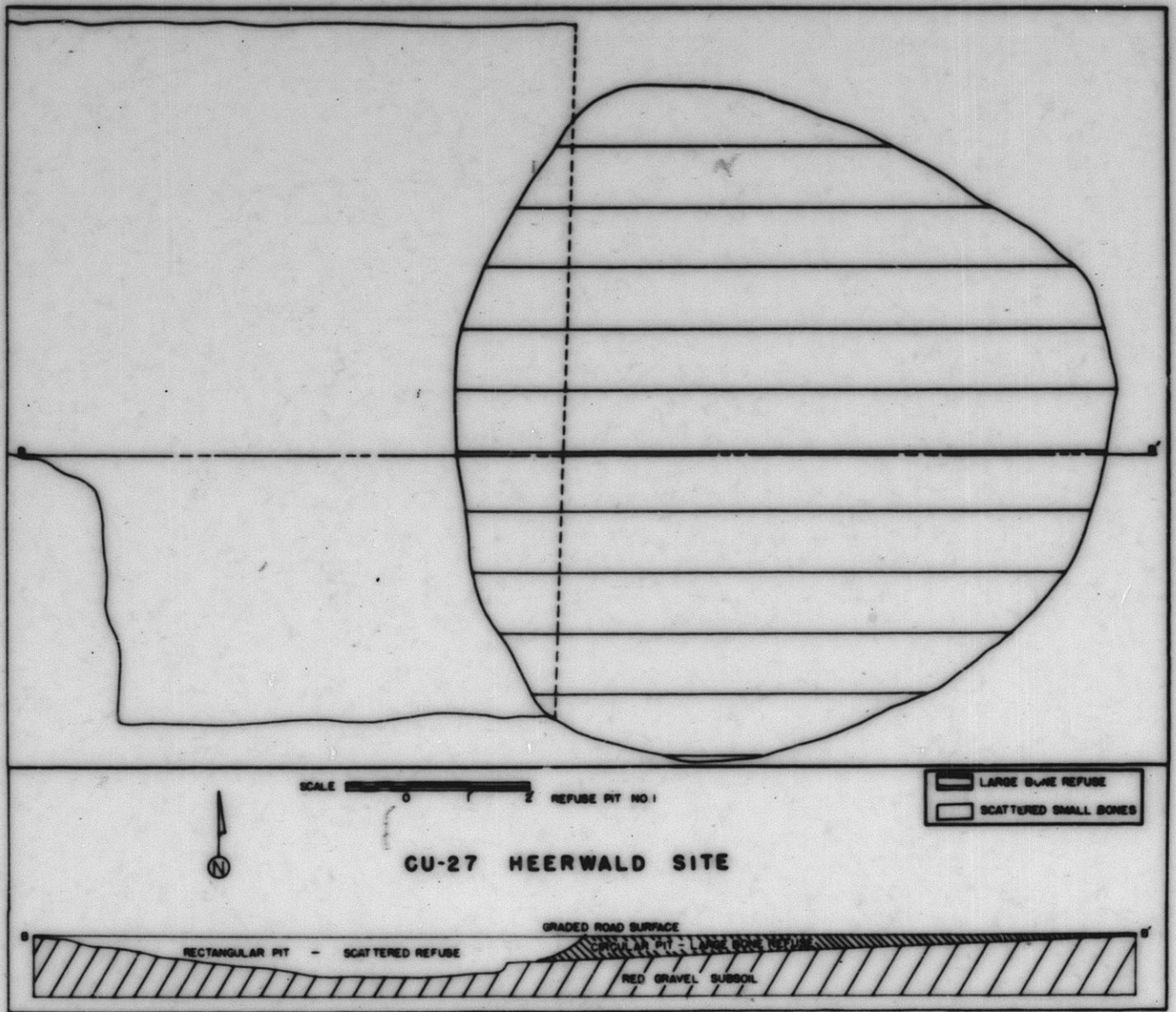


FIGURE 29

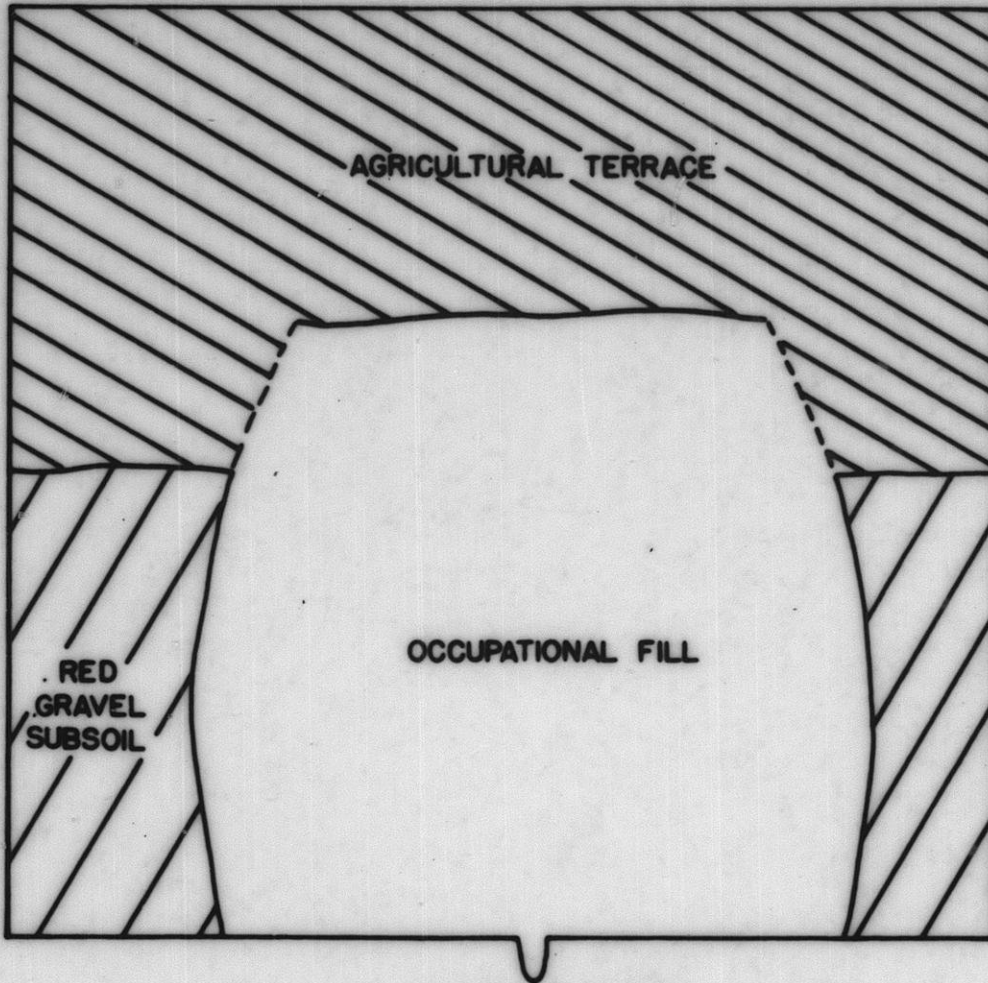
depth. It is assumed that pits #1-12 in the southern part of the site represented only the bottoms of pits, the upper sections having been removed by construction work. The pits to the north in the plowed field (13-16) as well as House 1 and stone hearths 1-3 were approximately their original depth minus some few inches removed by subsequent cultivation leveling.

The pits were of two main types: circular well made pits, and carelessly dug pits; the latter were the most common. Burial pit #1 and Pits 1 and 13 (Fig. 29; Fig. 30) were of the first type. They were circular, had straight sides and level floors. Pit #13 was undisturbed, about 3 feet in diameter, and was 4 feet deep. A central depression about 2 inches in diameter was found, as well as several other small holes, on the floor near the edge of the pit. A somewhat similar situation was noted in one large pit, at the Hubbard Site, Bk-4 in Beckham County south of Elk City. (unpublished mss.) It is surmised that the central holes were formed by a pole supporting a conical cover over the storage pit.

Natural depressions in the ground had been utilized for refuse areas in the case of pits #3, 14, and 16. The remainder of the pits were poorly formed and ranged in shape from roundish to ovoid.

Camp Fires

The two areas located in the site plan under this designation were located in the western part of the site. These consisted simply of mounds of burned, cracked animal bone. This bone was almost cemented together and either thoroughly charred or burned to a white color by intense heat. The purpose of these piles which did not appear to have been in pits is uncertain. No artifacts were found in or near these bone concentrations.



REFUSE PIT NO.13

CU - 27 HEERWALD)
FIGURE 30

Stone Hearths

Three stone hearths were located in the northern part of the site as indicated on the site plan. In all cases they were close to post holes or occupation areas. The impression was that these stone hearths were exterior rather than interior fireplaces. At any rate, their relationship to living areas was clearly established.

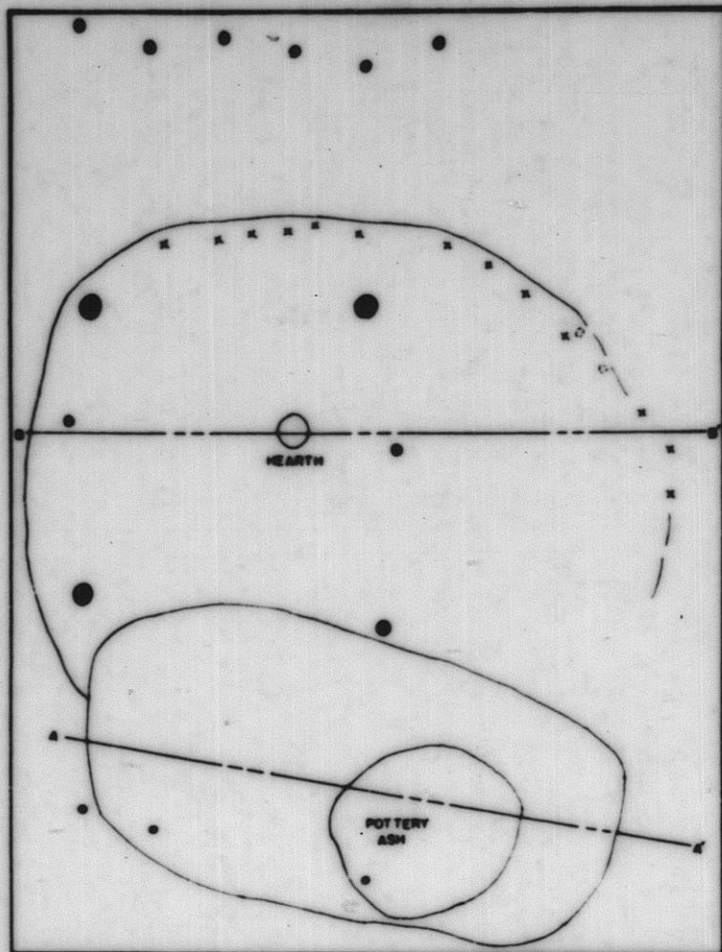
These hearths consisted of large thermal fractured rock rather loosely compacted in a generally circular form. Scattered among the rocks were fragments of manos and metates. These concentrations were quite distinct from the surrounding debris which rarely contained large rocks of any sort.

Dwellings

As is evident from the house plan (Figure 31), little that is definite can be determined from the Heerwald site regarding the house type. It employed a post type of wall construction, was possibly rectangular in shape, had a four post type of central roof support and was approximately 22 feet between walls in one direction.

Actually there was no positive evidence of floor at the upper level where the east-west row of post molds appeared as soil discolorations after trowelling. Subsequent excavation showed that the east row of posts was apparently dug into a former pit. However, further evidence of a former floor level was the finding of the smashed fragments of a large pointed bottom olla (Figure 58) in the northwestern quadrant of the structure.

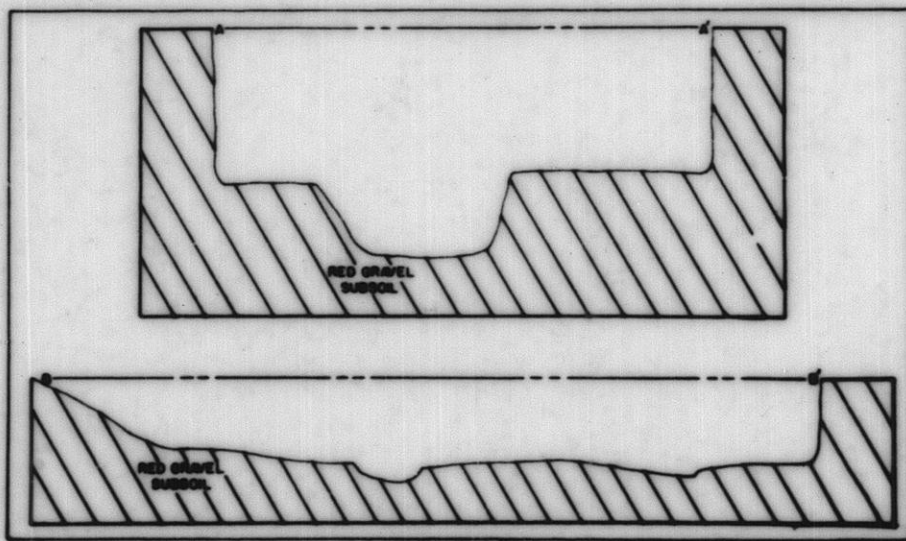
In digging below this floor level it was found that the central portion went down gradually to native soil forming a rather steep sloped



SCALE 0 2 4

HOUSE #1

- POST HOLES
- POST HOLES
- x HOLES, POSSIBLY STRUCTURAL



CROSS SECTIONS

CJ-27 (HEERWOLD) HOUSE 1
FIGURE 31

depression. There was just a trace of a narrow 3-5 inch ledge along the north and west sides of this pit. Whether it was man-made or whether this resulted from open exposure of a pit could not be determined. If the former situation existed, this feature was part of a semi-subterranean structure or at any rate a pit over which the later house was eventually constructed. In the center of this pit were a number of fractured and blackened rocks assumed to be a hearth, though no ash was found. It is also possible that these rocks might have served as a rest for a central post, although it is uncertain with which structure this might have been associated.

Since the whole house complex is so tenuous, any comparisons with other structures in the state would be fruitless, especially since there are no plans for other houses in the central part of the state. In western Oklahoma the only house plans are those for the Optima houses in the Panhandle. (Watson, 1950) Excavated houses in Oklahoma are few and those reported are for sites in the eastern part of the state. Squarish, rectangular, and circular houses occur but the paucity of houses makes satisfactory inferences impossible. The circular type appears late in east Oklahoma as it does in north central Texas and in the northern Plains. Squarish types appear to be more common, and widespread than rectangular types which are not reported so far from the southeast part of the state. Four center posts appear to be associated with the squarish and short rectangular types, while two center posts are associated with the true rectangular. In general the Heerwald house would seem to conform more closely to the eastern Oklahoma types than to the rectangular rooms of the Texas and Oklahoma Panhandles.

Settlement Plan

The general settlement pattern at the Heerwald site appears to be that of a habitation group comprised of a house and several pits spaced about 30-50 feet from an adjacent group. On this basis it is possible to hypothesize six such groupings: (1) House 1, Stone Hearth 1, (2) Pits 4, 6 and 7, (3) Stone Hearths 2, 3, Pits 14, 15 (4) Pits 1, 3, 5 (5) Pits 1, 2, 8 (6) Pits 10, 11, 13, 16. It is likely that these groupings are the minimum rather than the maximum habitation groupings.

Considering the extent of the surface material the excavated portion of the site represents a fifth or sixth of the original settlement plan. By this rough computation the village would have comprised 30-40 habitation groups if all were occupied contemporaneously. Since the houses were rather small we might expect them to be occupied by an extended family of perhaps 5-10 persons or a total population of between 200-400 persons for the community.

Skeletal Remains: (Illustrated, Fig. 32, 33)

The location of the single burial uncovered is indicated on the site plan. The morphological descriptions of the individuals comprising this burial is to be found in the article which follows this site report.

The burial consisted on an adult woman, an adolescent child and a developed foetus. The woman had been placed in the bottom of a small circular pit approximately 3 feet in diameter. The close-flexed position of the skeleton was additionally contorted by the neck being turned so that the face was down while the hips were twisted in the opposite direction and faced up. Across the back and side of the woman was the extended skeleton

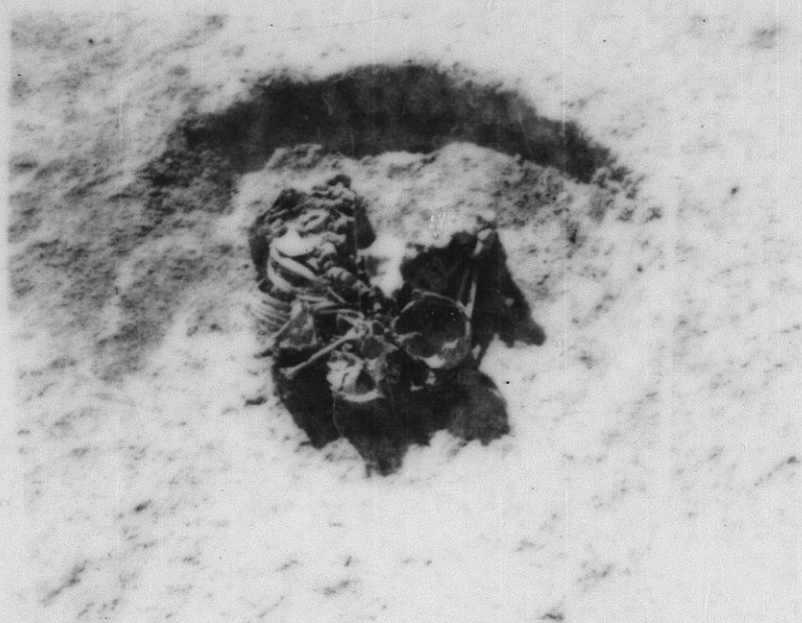


Fig. 32 Burial 1. An extended adolescent male skeleton crossing a flexed female adult. Adolescent skull vault and vertebrae in foreground. Pelvis, ribs, and arms are those of the adult. Heerwald Site, Cu-27.

of an adolescent child with its head resting on the open right hand of the adult so that the two heads were side by side. Underneath the adult pelvis, but not in the prenatal position, were found the well-preserved bones of the foetus.

In the grave pit within 12 inches of the adult feet, but seemingly not placed there, was found a small shell button having a flat bottom and a concave upper surface. In the center of the latter was a small drilled hole. Several similar buttons of the same general type were found elsewhere on the site. In addition the grave fill contained several flint flakes, a partially worked side scraper, and a single Lindsay Plain sherd. All these items appears to be accidental occurrences in the fill rather than grave goods. (Illustrated, Figure 34)

Excavation of the skeletal remains revealed a large well-made Harrel type point located between the ribs opposite the first lumbar vertebra. Imbedded in the latter up to its side notches was another smaller basal notched point. Since both arrow points could be duplicated in size and outline from specimens obtained elsewhere on the site the question of intra-village or inter-village violence could not be ascertained. The location of the points, their angle and depth of penetration suggested that the pregnant woman had been shot down and then shot again at close range as she lay on her back on the ground.

It might be noted that burials within villages are rare in central and western Oklahoma. In the two instances that the writer has observed at the Heerwald site and the Hubbard Site, Bk-4 (unpublished, mss.) either child burials or unusual grave positions of adults have occurred.



Fig. 33 Burial 1. Adult skeleton with vault of adolescent skull resting in left hand of adult. Heerwald Site, Cu-27.



Fig. 34 (1) Shell button associated with Burial 1
(2) Arrowpoint associated with Burial 1. (3) First
lumbar vertebra showing penetration of arrowpoint.
Heerwald Site, Cu-27.

At the Hubbard site there was one child burial, one adult skeleton face down; another with arms extended above its head. The general absence of burials and the unusual features of those that do occur suggest that burial within villages were only of those individuals who died a violent, premature, unexpected, or otherwise bizzare death. Demise under such circumstances might have precluded conducting the traditional rituals in the approved manner. In these circumstances, one may conjecture, such individuals were buried as rapidly and with as little ceremony as possible.

ARTIFACT INVENTORY

Location

Typology	1	2	3	4	5	6	7	8	9	10	11	12
<u>STONE, GROUND</u>												
Abrader, grooved	12			21	1	4	2					
Abrader, ungrooved				1								
Ball				3		1						
Celt												
Disc, perforated				1								
Flesher				1								
Gypsum crystals			1									
Hammerstone	9	2		10			4		1			
Mano	1			1								
Metate	1	2										
Mortar, boulder												
Nutstones				1								
Pipe	1			1								
Polishing stone	3	1	3	4								
<u>STONE, CHIPPED</u>												
Arrowpoint, Fresno				15		3						
Arrowpoint, Harrel				25		2						
Awl	1			3								
Scraper, side chipt				1								
Scraper, use chipt	3	1		8		1	2		1	1		
Scraper, end				5								

KEY: 1-12=pits; pt. = point

Fig. 35a

ARTIFACT INVENTORY

Typology	Location								Totals for 35a-35b	
	13	14	15	16	H1	SH2	SH3	Bl		Sf
<u>STONE, GROUND</u>										
Abrader, grooved	1	5	1	19	26		2		6	100
Abrader, ungrooved	1			1	3	1	1		1	9
Ball					2					6
Celt					1				1	2
Disc, perforated					5					6
Flesher										1
Gypsum crystals										1
Hammerstone	1	1		3					4	35
Mano		1			8	1				12
Metate				2	1	1			3	10
Mortar, boulder									1	1
Nutstones				1			1			3
Pipe							1		1	4
Polishing stone	1			2	8		1		4	26
<u>STONE, CHIPPED</u>										
Arrowpoint, Fresno	4			4	10				2	38
Arrowpoint, Harrel	4			5	8			2	2	48
Awl	1			1	2				1	9
Scraper, side chipt	1			2	2				2	8
Scraper, use chipt	1	1		1	7	1		1	2	33
Scraper, end				3	1			1		10

KEY: 13-16 pits; H1=Housel; SH2,3=Stone Hearths; Bl=Burial pit;
Sf=Surface

Fig. 35b

ARTIFACT INVENTORY

Location

Typology	1	2	3	4	5	6	7	8	9	10	11	12
<u>BONE</u>												
Awl	1	1		2					1			
Bead	1			3		1						
Digging stick pt.	4	1				1						
Flaker, horn pt.				1	1				1			
Flaker, deer ole- cranon	1											
Handle, horn												
Hoe, scapula	8	1		2		1	1					
Ladle, horn												
Ornament, frag.												
Pin		1				1						
Wrench												
<u>SHELL</u>												
Bead				1								
Button				1								
Fossil	1			8			1					
Inlay				1								
<u>CERAMICS</u>												
Disc		2										
Figurines												
Holder	2	2										
Pipe				1								
Plug (or anvil)												
Sherd, Lindsay Pl.	166	14	12	150		16	2			2	3	
Sherd, Lindsay Cm.	128	8		106		34	55					
Sher, intrusive												
Wattle	2	2										

KEY: 1-12=pits; Pl.=Plain; Cm.=cordmarked; pt.=point.

Fig. 35c

ARTIFACT INVENTORY

Location

Typology	13	14	15	16	H1	SH2	SH3	B1	Sf	Totals
<u>BONE</u>										35a 35d
Awl				1	6					12
Bead				4	5					13
Digging stick pt.				1						7
Flaker, horn pt.										3
Flaker, deer ole- cranon										1
Handle, horn				1						1
Hoe, scapula		2		7	8				1	31
Ladle, horn		1								1
Ornament, frag.				4	5					9
Pin										2
Wrench					1					1
<u>SHELL</u>										
Bead										1
Button	1							1		3
Fossil	3			2	3	1				19
Inlay	1									2
<u>CERAMICS</u>										
Disc	1				1					4
Figurines	3									3
Holder	2				38			2		46
Pipe					1					2
Plug (or anvil)					1					1
Sherd, Lindsay Pl.	57	27	1	28	166	1	1		46	712
Sherd, Lindsay Cm.	58	20		29	171	2			21	632
Sher, intrusive										
Wattle				35						39

KEY: 13-16=pits; H1=Housel; SH2,3=Stone Hearths; B1=Burial pit 1;
Sf=Surface; Pl.=Plain; Cm.=cordmarked; pt.=point.

Fig. 35d

TYPOLOGY

GROUND STONEAbraders, grooved

Abraders can be divided into four general shapes although, due to the softness of the sandstone material it is unlikely that there is functional significance to these forms. (1) Rectangular shape with a single groove running longitudinally on the narrow side, the grooving deeper at some points than others and often sides are not parallel, suggesting sharpening of points. 40% of those found were of this type. (2) Grooving on the flattened surface rather than the side; 45% of this type. (3) Amorphous shape with three or more grooves not necessarily parallel and often at different levels. 14% of this shape. (4) Small sandstone blocks with shallow grooving compose 1%. Since the sandstone is extremely friable and turns to dust when used as an abrasive, the function of these tools was evidently similar to that of sandpaper. It works very effeciently in this manner on dry bone and wood in smoothing and planing surfaces. Average dimensions are: 2.7-8.0 cm. length; 1.5-4.2 cm. width; 1.5-4.0 cm. thickness. Illustrated, Figure 36.

Abraders, ungrooved

As above but lacking grooving; used for working flat surfaces, some shapes are circular. 2.5-2.7 cm. in diameter.

Balls

Small unpolished carefully worked sandstone balls 2.0-2.3 in diameter. Some specimens show striations as though occasionally used as small hammerstones. (Illustrated, Figure 37--1-3).

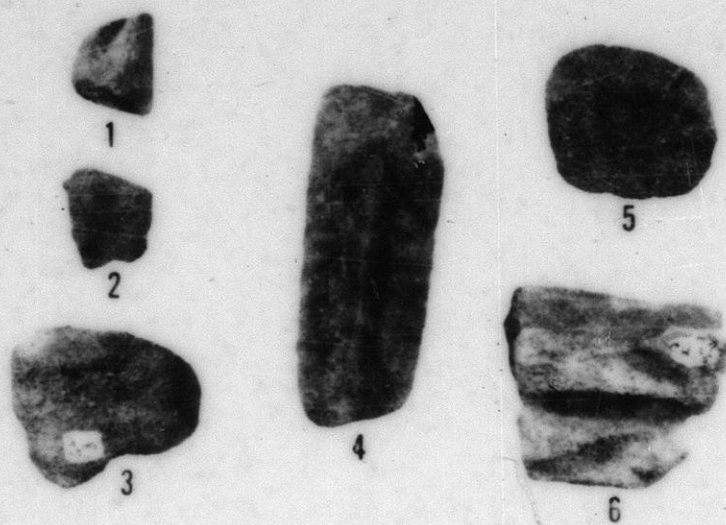


Fig. 36 Grooved sandstone abraders. Heerwald Site, Cu-27.

Celts

Well made polished celt of a dense black stone not native to western Oklahoma. The rounded poll expands to a rounded bit. This fragment was a surface find but another fragment was found in the debris of House 1. Measurements of the complete specimen are: 21.0 cm. length; 5.4 cm. width above bits; 4.5 cm. maximum thickness. Illustrated, Figure 38

Disc, perforated

This sandstone discs ranging from 2.5 to 7.0 cm. in diameter. They are perforated with a central hole around which others are added in concentric circles. It is uncertain whether this was done for decorative effect or was a functional technique to reduce the size of discs. They are fairly uniform in thickness ranging from 0.6 to 0.8 cm. Illustrated, Figure 37 (4-7)

Flesher

An oval river boulder bifacially worked at the wider end so that a steep plane resulted, the edge of which is use chipped. This tool could have been used as a pulper or flesher. It is probably not a traditional tool type but an individual adaptation of a boulder for a fleshing function. Illustrated, Figure 39

Gypsum Crystal

A small piece of translucent crystal 1.7 cm. long and 0.5 cm. maximum diameter tapered at both ends to an approximate tear shape. There are three flat planes at the smaller end. Illustrated, Figure 53 (1)

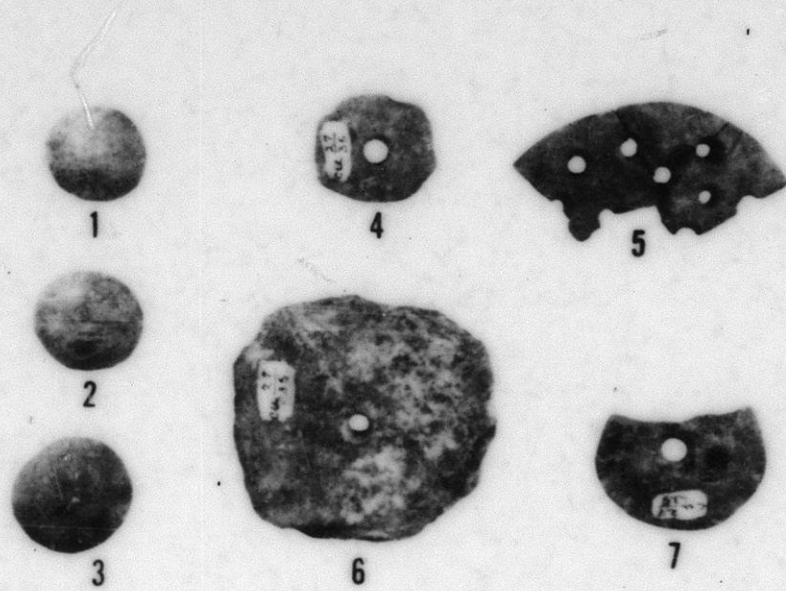


Fig. 37 (1-3) Sandstone balls (4-7) Perforated sandstone discs. Heerwald Site, Cu-27.

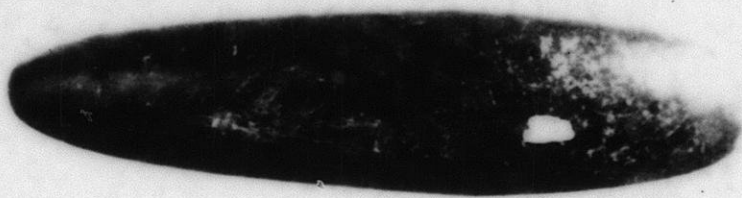


Fig. 38 Stone celt, Heerwald Site, Cu-27.

Hammerstones

Battered river boulders, usually of quartzite and roughly spherical in shape varying from small sizes 2-3 cm. in diameter to a more usual 5-9 cm. Illustrated, Figure 40.

Mano

Two types: (1) an oval egg-shaped boulder of quartzite with a convex grinding surface. This type was found associated with a Type 1 metate. Illustrated, Figure 41, (3-4) (2) a thinner sandstone type with a high unfinished back and a flat grinding surface on the opposite side. When complete probably elongated in shape with parallel sides and rounded ends. Average length 13.0-15.0 cm.; width 8.9-9.4 cm.; thickness 5.3-6.3 cm. Illustrated, Figure 41 (1)

Metate

Three types: (1) a deep milling basin elongated and oval in shape. The metate is narrower at the top or shelf end. Made of a compacted sandstone showing pecking marks on all surfaces; three fragments of a thicker type (7-9 cm.) with poorly defined basins 0.5 cm. in depth. (3) a slab type metate 4.5-5.5 cm. thick with one or both sides worked flat.

Mortar Boulder

A large boulder (19.7 x 17.1 x 14.1 cm.) roughed into a circular shape with the underside worn flat. The circular depression on the top is 9 cm. in diameter and 0.5 cm. deep. Illustrated, Figure 43

Nutstones

Squarish blocks of sandstone with depressions on one or both faces.

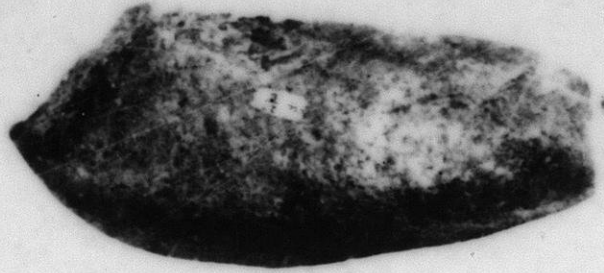


Fig. 39 Stone flisher. Heerwald Site, Cu-27.

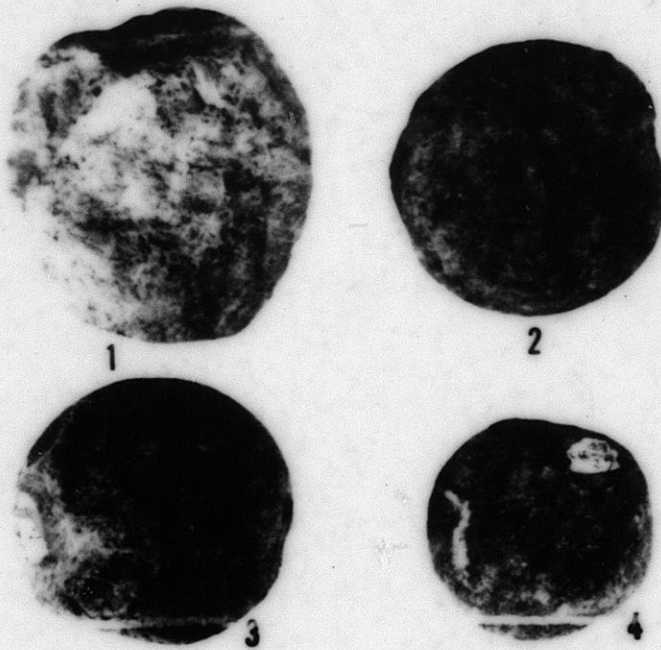


Fig. 40 Quartzite Hammerstone, Heerwald Site, Cu-27.

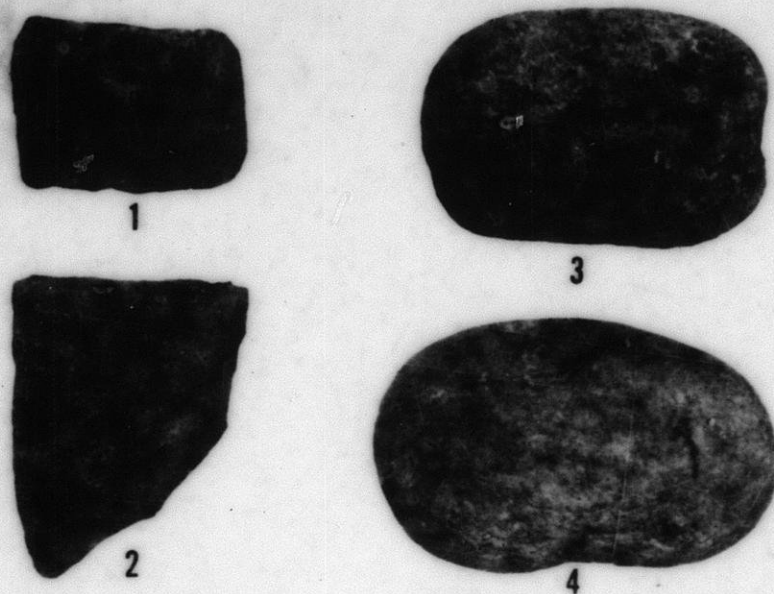


Fig. 41 (1) Mano, Type 2 (2) Metate Fragment, Type 3
(3-4) Mano, Type 1, Heerwald Site, Cu-27.

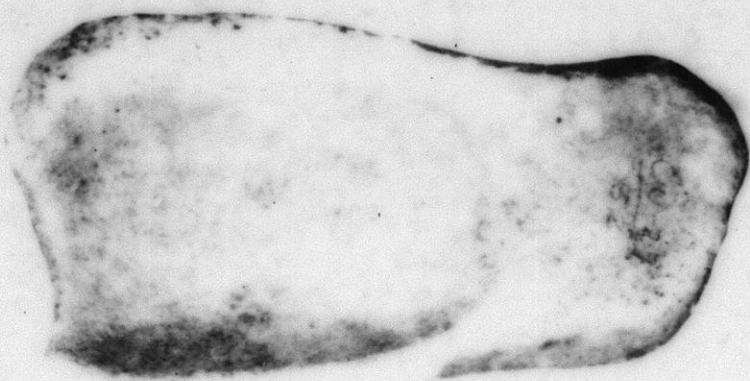


Fig. 42 Basin metate, type 1, Heerwald Site, Cu-27.



Fig. 43 Boulder mortar. Heerwald Site, Cu-27.

Pipes

Three elbow types: (1) a heavy sandstone, unpolished, 3.3 cm. in diameter with a short 1.5 cm. elbow; no lip. (2) fragment of a small tan sandstone pipe. 0.8 cm. in diameter, Fort Coffee type. (3) an acorn shaped bowl 2.2 cm. in diameter and 2.0 cm. high, of a red compacted sandstone with no lip. Illustrated, Figure 44 (1-3)

Polishing stones

Small irregularly shaped river stones showing use polish. Probably used in pottery making.

CHIPPED STONEArrowpoints

Harrel points: characteristic at this site is the range in size from 1.1 to 3.5 cm. in length. One quarter of the points are basal notched; bases vary from straight to concave and slightly convex. Illustrated Figure 45 (1-8)

Fresno points: less range in size than in the Harrel points; from 1.7-2.7 cm. One variety differs in having concave bases with rounded sides, lack of chipping in central part, and a somewhat concave blade reminiscent of the Young point of the Henrietta focus. Illustrated, Figure 45 (8-19)

Reed point: one intrusive specimen was found having two side notches instead of the usual single side notch of the Harrel point. Illustrated, Figure 45 (9)

Awls

Three varieties: (1) the usual expanded base awl. (2) a very small 1.4-cm. to 1.7-cm. slightly triangular to leaf-shaped awl, 0.7 cm. long;

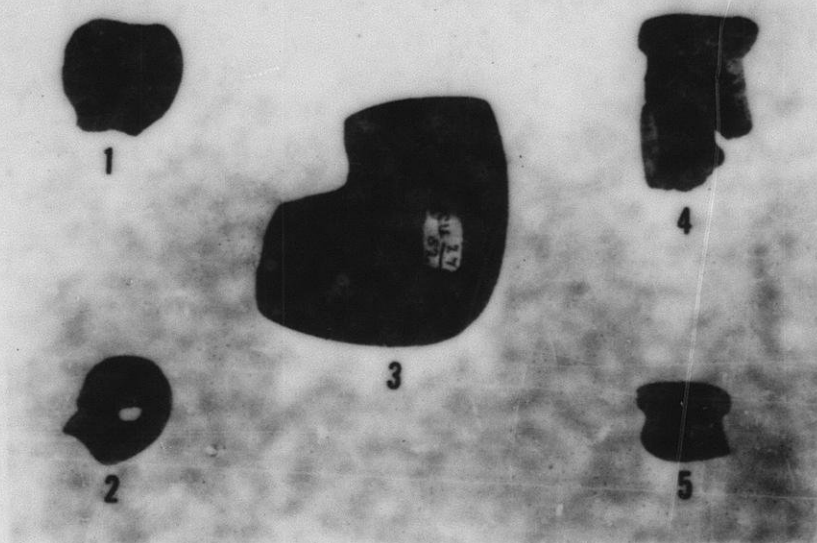


Fig. 44 (1) Stone pipe, type 1. (2) Stone pipe, type 2.
(3) Stone pipe, type 3. (4) Clay pipe, type 1. (5) Clay
pipe, type 2. Hoerwald Site, Cu-27.

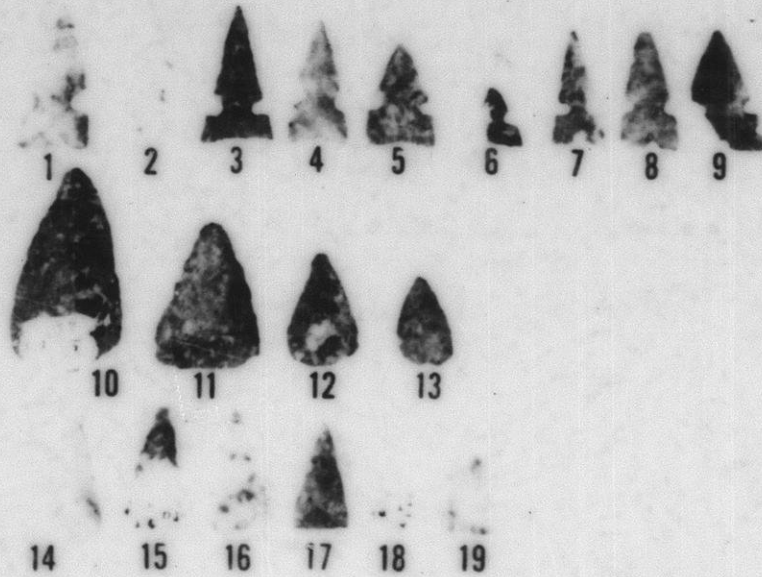


Fig. 45 (1)-(8) Harrel Points. (9) Reed point.
(3)-(13) Fresno point, Variation 1. (14)-(19)
Fresno point, Variation 2. Heerwald Site, Cu.27.

possibly hafted. (3) fragments of a flat type worked on the edges but not into the center; edge unifacially worked and at a steep angle.

Scrapers, side

Two varieties: (1) percussion chipped along one or both edges; usually a flake 4.0-9.0 cm. long. (2) use chipped flakes; thin; shape varies.

Illustrated, Figure 46 (1-5); Figure 51 (2)

Scrapers, end

A rather small, poorly shaped thumbnail type; approximately 3 cm. long and less than 1 cm. in height. Illustrated, Figure 46 (6-10)

BONE

Awls

Three varieties: (1) an awl formed from the distal end of a deer metapodial; short stubby form not highly polished. (2) Awl formed from the proximal end of a deer metapodial; a stubby form 6.0 cm., and a longer form 10.5 cm. (3) Splinter awls 12.5 cm. long. Illustrated, Figure 47.

Beads

Sections of animal bone; cutting marks show encircling with a flint flake, end then ground smooth; in most cases latter is carelessly done; beads not well sized for uniformity in length (1.4-3.3) or in diameter (0.5-1.2 cm.). Illustrated, Figure, 48 (1-3)

Digging stick

Formed from perforated distal ends of bison metapodial bone; haft hole 3.0 cm.; in diameter. Points or digging end show a variety of shapes but are narrower and thicker than hoes. Illustrated, Figure 49 (1-5).

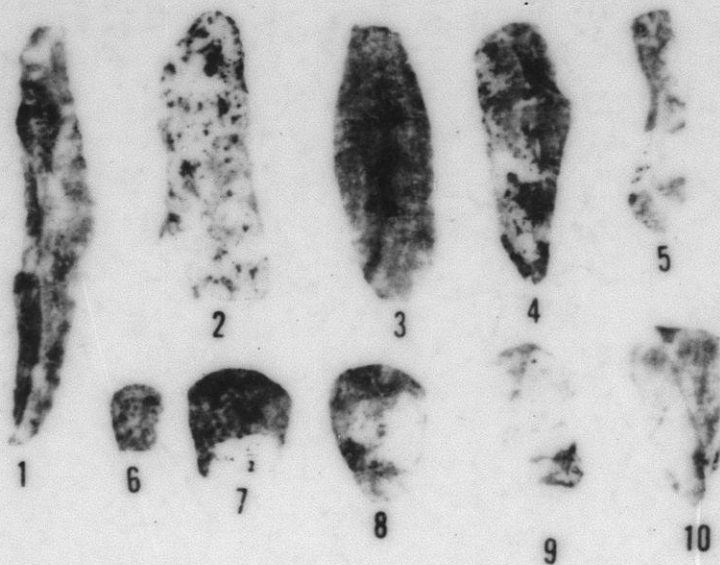


Fig. 46 (1)-(5) Side or flake scraper. (6)-(10) End or snub-nosed scrapers (6) (7) Forms called thumbnail scrapers. Heerwald Site, Cu-27.

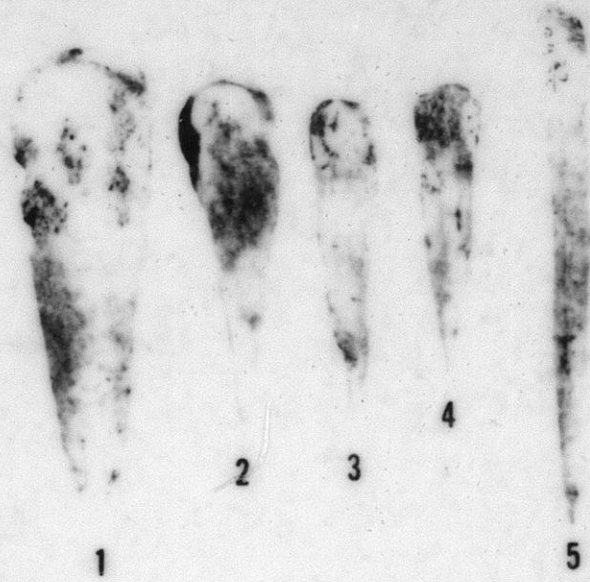


Fig. 47 (1)-(3) Bone Awl, Var. 1 (4) Bone Awl, Var. 2
(5) Bone Awl, Var. 3. Heerwald Site, Cu-27.

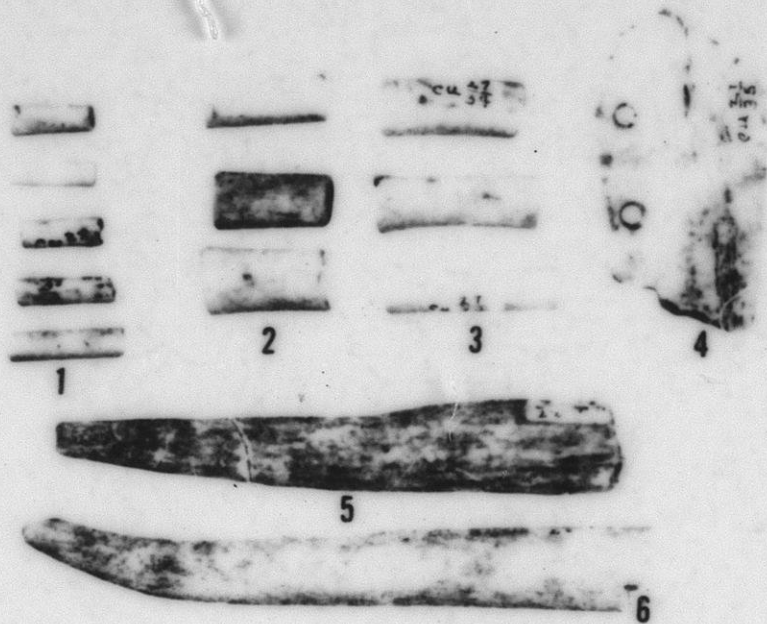


Fig. 48 (1-3) Bone Beads. (4) Perforated Bone Fragment.
(5-6) Horn Flakers. Heerwald Site, Cu-27.



Fig. 49 (1-3) Digging stick points, fragments.
(4-5) Digging stick hafts, fragments. Heerwald
Site, Cu-27.

Flaker, horn

Antler prongs 6.5-12.5 cm. long with planed ends. A number of prongs found lacking these evidences of use. Illustrated, Figure 48 (5-6)

Flaker, olecranon

Bison heel bone showing high polish on the shank. The heel is battered and shows use scratches. Implements of this type made of deer bone have been identified as flakers. In this case more use is noted at the opposite and heavier end, suggesting use as a light pounder. Length, 25.0 cm. Illustrated, Figure, 50 (3)

Handle, horn

Horn core of a small buffalo horn with base reduced to a straight sided rectangle tapering to a beveled edge. Suggested uses: hide paint brush or a handle for attachment of a flint blade for hide scraping. Length 11.0 cm.; width 2.2-2.6 cm. maximum thickness 0.9 cm. Illustrated, Figure 51 (1)

Hoe, scapula

Buffalo scapula socketed medially to allow a small stick 2-3 cm. in diameter to be inserted in one side, the hole being left open. Specimens are all worn down to an average length of 16-17 cm. Illustrated, Figure 52

Ladle, horn

A bison horn core worked into a ladle with the upper part of the horn forming the handle and the lower expanding part, the ladle. Fragmentary but shows the handle was distinct from the scoop. Illustrated, Figure 50 (1)

Ornaments, fragments

Perforated bone plates with incised parallel lines. Illustrated, Figure 48 (4)

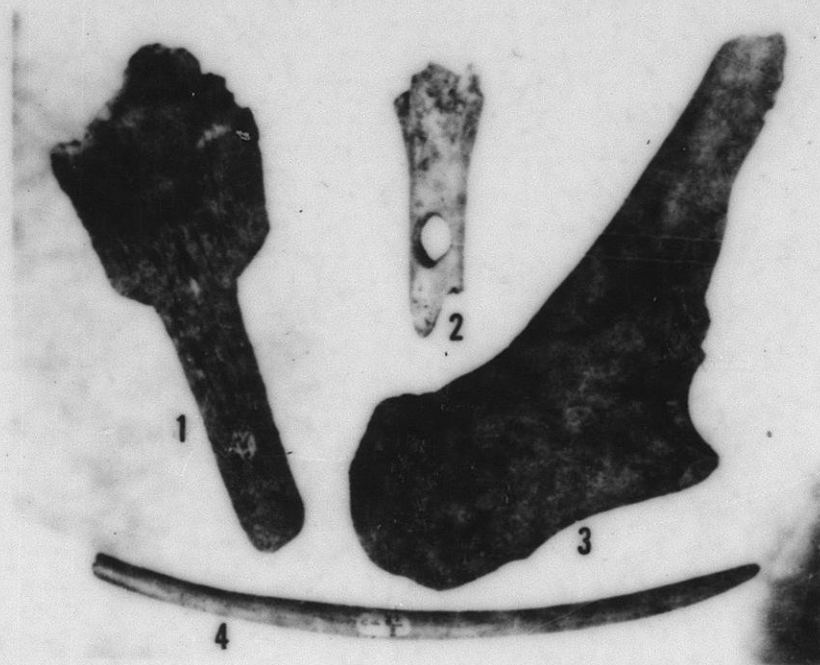


Fig. 50 (1) Horn ladle (2) Deer bone wrench (3) Bison heelbone flaker (4) Bone pin. Heerwald Site, Cu-27.

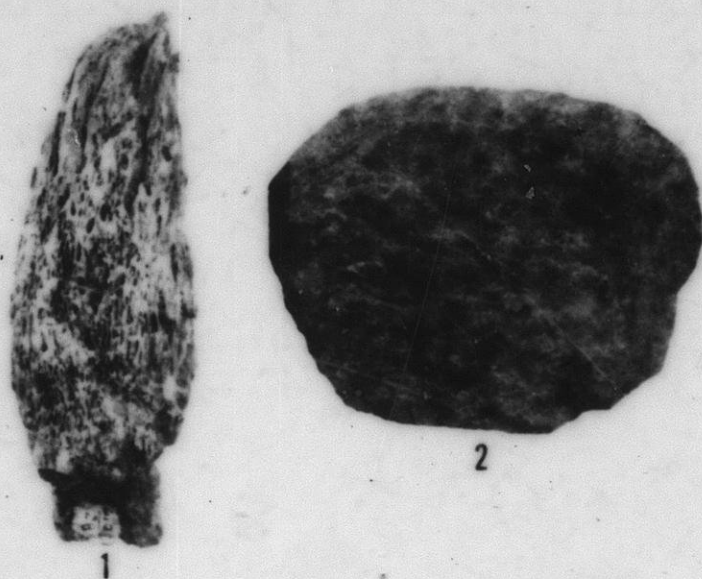


Fig. 51 (1) Horn handle. (2) Sandstone scraper or chopper. Heerwald Site, Cu-27.

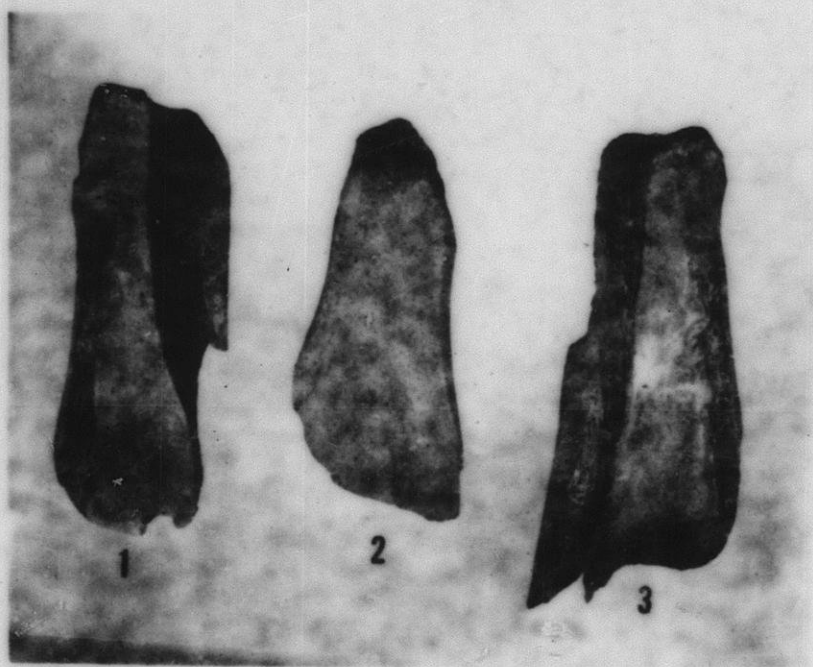


Fig. 52. (1) Buffalo Scapula, showing lateral hafting groove. (2) Front view of worn bone hoe. (3) Rear view of bone hoe. Heerwald Site, Cu-27.

Pin

A long narrow bone pin (24.5 cm. long, 1.0 cm. in diameter) with slight curve and one end missing. Middle appears polished but both ends show use marks. The complete end is beveled; the missing end was evidently an identical half. Alice Marriot has suggested this was a bone pin such as was used later by Plains Indians to fasten shut the tipi flap. Illustrated, Figure 50 (4)

Wrench

Deer femur with a hole 5.5 cm. from the top, 1.7 cm. in diameter. Hole is oval and not completely circular, nor does it show much wear. Does not seem symmetrical enough for an arrow straightener but fits accepted description of arrow wrench. Illustrated, Figure 50 (2)

SHELL

Beads

Disc bead from the thick part of a local mollusk shell; both sides are worked flat. Diameter is 0.8 cm. Illustrated, Figure 53 (2)

Button

Circular shape, flat on one side and concave on the other. Uniform in diameter (1.2-1.4 cm.) and in thickness (0.5 cm.). Two specimens show a central depression; one specimen crossed lines at right angles to each other. Illustrated, Figure 53 (5-6)

Fossil, shell

A considerable amount of fossil shell was found on the site and in the excavation. The nearest source was a hill several miles away. Possible use might have been for tempering pottery though this could not be determined.

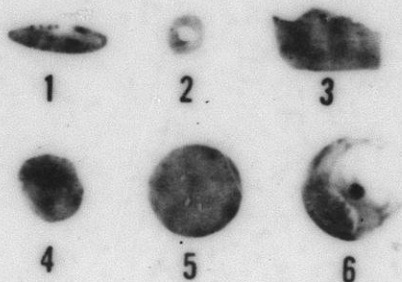


Fig. 53 (1) Gypsum crystal. (2) Shell disc bead
(3-4) Shell inlay. (5-6) Shell button. Heerwald
Site, Cu-27.

Inlays

Very thin sections of shell cut in geometric designs; one circular, others triangular, one with serrated edge. Illustrated, Figure 53 (3-4).

CERAMICS

Discs

Three perforated discs 4.4-8.0 cm. in diameter; one unperforated, one of perforated discs was cordmarked. Illustrated, Figure 54.

Figurines

Unfired, untempered tapering clay fragments, identical in shape to specimens identified as the legs of clay figurines. These specimens were 2.7-3.3 cm. long and 1.1-1.8 cm. in diameter. Illustrated, Figure 55(2-4)

 HOLDERS

Fragments of unfired, untempered clay showing a smooth concave interior and a convex exterior which is finely cordmarked or rubbed with a corncob. Some terminal pieces show a flat lip. Similar to complete specimens from Greer County which are heavy cylindrical pieces of clay 6.7 cm. in exterior diameter pierced by a hole approximately 2. cm. in diameter. Alice Marriott has suggested a ceremonial function similar to that of the Pueblo "paho" holder. Illustrated, Figure 57.

Pipe

Two neck fragments; one (type 1) of Lindsay plain, the other (type 2) of a thin walled untempered clay; both specimens have contracting necks and encircling lips; bowls and stems are missing. Diameter is estimated as 5.2 and height of bowl as 3.3 cm. Illustrated, Figure 44 (4-5)

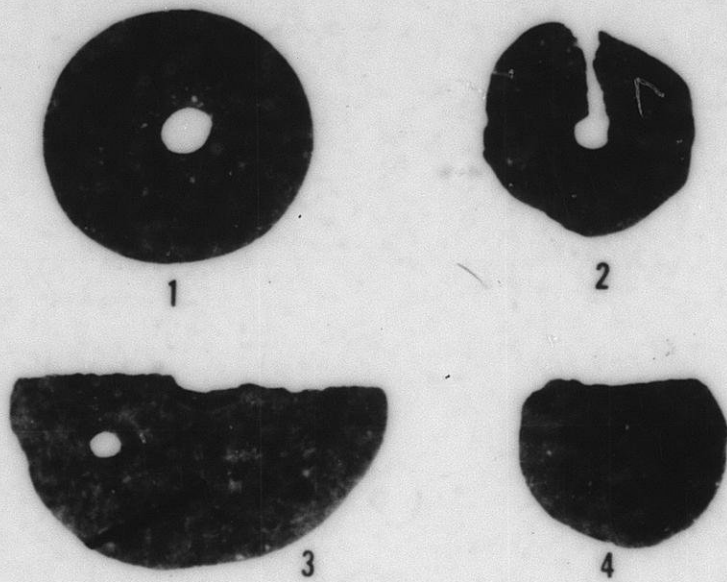


Fig. 54 (1-3) Perforated Sherd Disks. (4) Unperforated Sherd Disk. Heerwald Site, G-27.



FIG. 95 (1) Clay anvil or plug. (2-4) Clay Figurine leg fragments. Heerwald Site, Cu-27.



Fig. 57 Unfired clay cylindrical fragments. Exterior shows partially obliterated marks of corncob or fabric markings. Heerwald Site, Cu-27.

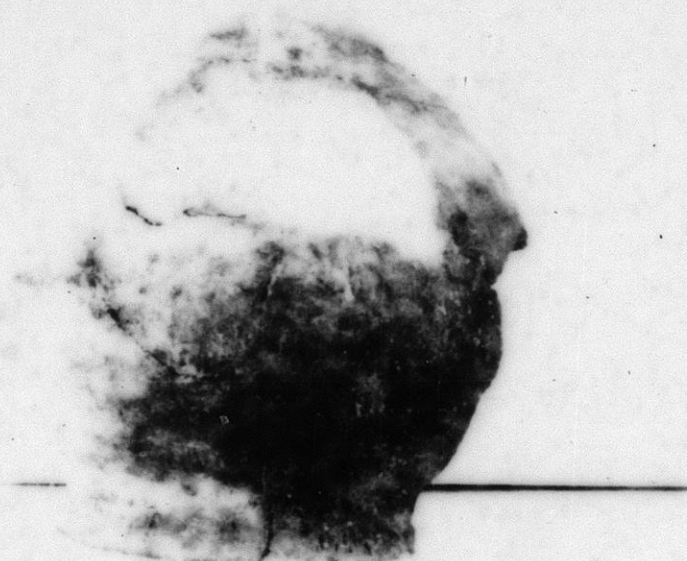


Fig. 58 Lindsay Cordmarked Jar, House 1, Heerwald Site,
Cu-27.

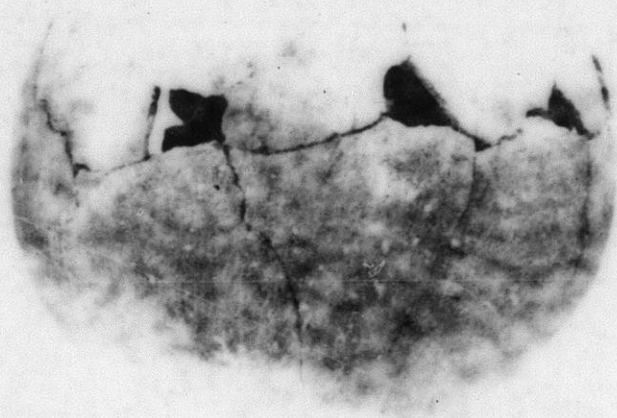


Fig. 59 Lindsay Cordmarked Jar, House 1, Heerwald Site,
Cu-27.

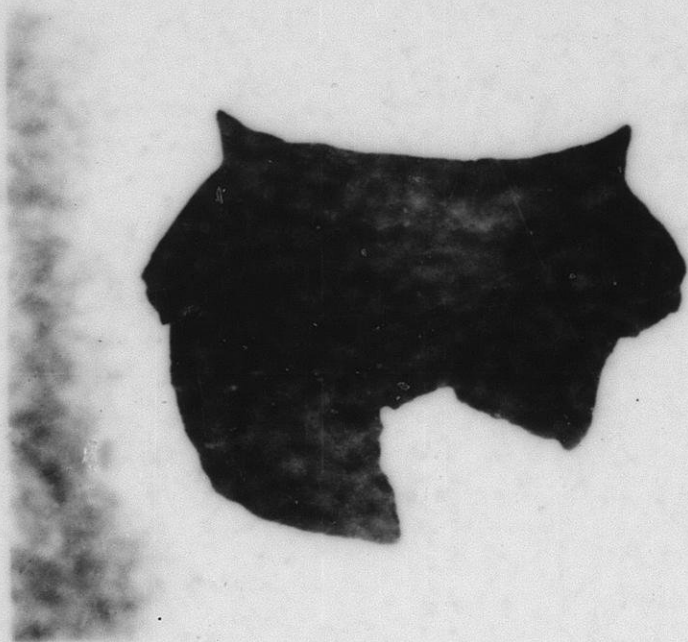


Fig. 60 Lindsay Plain Jar. Heerwald Site, Cu-27.

Plug or anvil

An untempered oval shaped lump of clay with a ridged back 2.5 cm. high. A small hole runs transversely through this handle. The bottom of the "anvil" is flat but not polished. The material is soft and friable. Possible function might be as a plug for a small vessel or an anvil in pottery making. Illustrated, Figure 55 (1)

Pottery

The pottery at the Heerwald site is of two types: Lindsay plain (53%), Illustrated, Figure 60, and Lindsay Cordmarked (47%). Less than half of one percent are intrusive sherds. The origin of these sherds have not been identified.

Two fairly complete vessels were found associated with House 1. Both were pointed bottom vessels and fall within the range of Lindsay Plain and Lindsay Cordmarked types. They are illustrated in Figures 48 and 49. However, twice as many disassociated flat bottoms (6) were found as were pointed bottom vessels (3). One sherd showing a lug was found as well as a single strap handle from the surface of the site.

Site Affiliations (Fig.56)

The following list summarizes the distributional data on the artefact types previously listed under Typology. This list is based upon the quantitative distributional data contained in the published literature on the Oklahoma area. Obviously there are certain limitations imposed by the location of excavated sites and the number of sites dug since most of the excavations have been made in eastern Oklahoma and a lesser number in

central Oklahoma while the western division is represented only by the Optima site. It is therefore difficult to be precise about the origin of all traits, that is, whether they might have originated in the western or the central area.

Oklahoma Origins of Traits Found at the Herrwald Site

(Based on maximum distribution occurrence)

<u>West</u>	<u>Central</u>	<u>East</u>
Amarillo Flint	Awl Sharpener	Celt
Basal Point Notching	Cordmarked Pottery	Clay Pipe
Boulder Metate	Grooved Abrader	Fresno Point
End Scraper	Digging Stick	Nutstone
Harrel Point	Horn Ladle	Oval Mano
Side Scraper	Hammerstone	Rectangular Mano
Stone Pipe	Pottery "anvil"	Shell Button
	Pottery Disk	Shell Inlay
	Pottery Figurines	
	"Paho" Holder	
	Scapula Hoe	
	Split Metapoidal Awl	
	Shell Substitute Tempering	
	Trough Metate	
<u>Non-Assignable</u>		
Bone Bead		
Bone Pin		
Bone Flaker		
Antler Flaker		
Slab Metate		
Splinter Awl		
Stone Ball		

Fig. 56

From the listing in Figure 56 it is apparent that the majority of the traits at the site had their origins within central or western Oklahoma, mainly the former, and that eastern influence, while not negligible, was minor. With the exception of the manos and the Fresno point the eastern traits are so rare as to be intrusive, indicating contact but not cultural dependence in the late horizons. The geographical position of the central area between two strong cultural centers, the Pueblo in the west and the Caddoan in the east, would normally result in a hybridization. Yet it is evident that the area between these two regions is quite distinct from either. Traits which characterize it are derived from neither of its peripheries. Apparently the central area of Oklahoma is a distinct cultural center in its own right. To the south of this area below the Red River the Henrietta and Wylie foci are the only pottery making cultures in central Texas. In the Texas Panhandle there is the Antelope Creek Focus, a relative of the Optima Focus of the Oklahoma Panhandle. The north central Texas foci are presumably later than those of central Oklahoma and differ considerably from them. The late Panhandle cultures are strongly Puebloid with stronger ties to the west than to the east. Therefore the source of the central Oklahoma traits can be found only in one direction----the north. If this view is correct then the cultural situation at the Heerwald site is mainly a peripheral manifestation of the central Plains influenced by a prior local history and to a lesser degree, by developments in eastern Oklahoma.

The hallmark of a peripheral cultural position are culture lag and a careless technology resulting from both isolation and a more conservative tradition. These two features are evident in the central Oklahoma area in the ceramic tradition of the Custer-Washita River Foci--the main trait by which late central Plains influence may be traced in Oklahoma. The ceramics of these foci have a soft, thick paste, unstandardized temper, crude and careless cordmarking. These features are in contrast to the thinner, harder, and more clearly defined cordmarking of the northwestern part of the state. On the other hand the bone technology which is shared to a large degree with the central Plains is better developed in central Oklahoma than in the northwest, i.e., the High Plains or Panhandle of Oklahoma. This situation is to be attributed to the relatively late diffusion of cordmarked pottery from the central Plains into Oklahoma as compared with the much earlier introduction of buffalo hunting and its associated bone technology. The buffalo hunting economy of the Custer-Washita River Foci was not necessarily derived from the same source as the cord-marked pottery and certainly not at the same time. It is likely that buffalo hunting was mainly a survival of the very ancient hunting patterns of the Paleo-Indian horizon which was more characteristic of the High Plains to the west. Because of the length of the sequence involved the buffalo tool technology of central Oklahoma is only slightly inferior to that of the central Plains at this same late time period. The relative absence of this technology to the west in the late Panhandle cultures is probably to be attributed largely to climatic changes shifts in Buffalo migrations and increased Pueblo contacts. These in turn

resulted in less dependence on the buffalo, greater dependence on agriculture and a consequent decline in the quantity and quality of the typical Plains bone technology.

Conclusion

In central Oklahoma it is the basic continuity of the buffalo hunting economic pattern which gives cultural distinctness to the region. Added to this is the probable introduction of agriculture and possibly some accompanying ceremonial overtones from the Caddoan region. A third late increment of traits from the central Plains, especially cordmarked pottery further differentiates the area from both its eastern and central Plains sources. The result is a cultural combination sufficiently distinctive and continuing to be termed the Southern Plains Aspect. The Heerwald site represents a late phase in this development.

MORPHOLOGY
SKELETAL MATERIAL FROM SITE CU-27 *

Burial #1

This burial includes three skeletons: an adult female, a fetus, and an 8-year old child.

A) Adult female.

The mandible is present, a large part of the face restored, and other cranial fragments are present. Some vault fragments appear abnormally thickened. The face is undistinguished, with malars rather small for an Indian, and nasal root notable for neither flatness or prominence.

The upper right third molar is not apparent, the lower left impacted. Teeth except for the unopposed third molars are moderately worn. There is a huge cavity in the upper right first molar with formation of an alveolar abscess.

The age is about 22-25. The medial clavicular epiphysis is not fused, and the basilar portions of occipital and sphenoid bones not joined. All long bone epiphyses however are fused.

Stature, based on arm bone lengths, is 62½ inches.

A small arrowhead is imbedded in the body of the first lumbar vertebra.

B) Fetus, found in association with the adult female.

This fetal skeleton is nearly complete and appears to be at about the 8th month.

C) 8-year old child.

This skeleton comprises a few fragments of the extremities, various parts of the pelvis and vertebral column, and a skull vault nearly completely restored. Age is well determined from a number of teeth. There is no cranial deformation apparent.

*Compiled by Dr. Alice M. Brues, Associate Professor, Department of Anatomy, Oklahoma University Medical Center.

SOURCES OF STONE AT CU - 27*

703 stone chips collected during the excavations were examined microscopically and macroscopically, and of these, 59% were from the well-known Amarillo flint quarries of the Texas Panhandle; 36% were flints from unknown sources; 4% were quartzites. Three chips were of Kay County flint and two of what appeared to be Arkansas River Boone chert were found on the surface.

Dr. Evans makes this comment about the flint: "All of the best material is Amarillo flint. These people looked entirely to these quarries for their best material. There is nothing to indicate outside material. Chips were small and well worked. The "unknown" flint material is also of good quality. Not much quartzite was used."

Dr. Evans has also suggested verbally that one reason for the absence of flint from the nearer Quitique quarries in the Texas Panhandle southeast of Amarillo might be not only the intervening Red River but more importantly the salt or alkaline rivers which are found in southwestern Oklahoma.

Certainly the Amarillo flint was prized. (Shaeffer, 1958a) This is seen not only by the maximum utilization which resulted in very small chips but by the presence of a villager's cache of this particular flint. Blading operations at the location shown on the site plan uncovered a small hole 3-4 inches in diameter containing about 70 pieces of flint. The flakes had been placed on edge in a very orderly and compact manner.

* Analyzed by Dr. Oren F. Evans, Professor Emeritus, Department of Geology, University of Oklahoma.

They ranged in length from 3-4 inches and in width from 1.5-3 inches; these dimensions are much larger than any artifacts made from Amarillo flint which were found on the site. These flakes were fairly uniform in thickness and had evidently been selected and placed with care in this hiding place.

Faunal remains at Cu-27*

In general the fauna show no marked departure from genera now found in the Plains area of Oklahoma. The species present are those which can adapt themselves to semi-arid conditions. As might be expected from the geography of the region on the border of the Plains Woodlands there is an intermingling for forms from the more arid area to the west and the moister area to the east.

Dr. Carpenter points out an interesting association between the occurrence of bison on the plains and the local representation of the western variety of box turtle (*Terrapine carolina triungius*). When buffaloes are numerous so is this box turtle. At the Heerwald site this ratio is especially apparent. The reason for this lies in the eating habits of the box turtle which will live to a great extent upon dung beetles when these are available as they would be when the bison herds were near their peak. The eastern variety of box turtle appears to be lacking at this site, another indication of a semi-arid habitat similar to that of today.

*Mammal identification on the accompanying chart was made by Dr. David E. Kitts; turtles by Dr. Charles C. Carpenter and fish by Dr. Carl D. Riggs, all of the Department of Zoology, University of Oklahoma.

Distribution of Faunal Remains by Location

Pits

Hearths House

GENERA	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	h1	h2	h3	H1	H1p	
BEAVER (Castor)	X											X										
BISON (Bison bison)	X			X			X					X		X		X					X	
COTTON RAT (Sigmodon)	X			X	X	X	X					X									X	X
COYOTE (Canis latrans)	X																					
DEER, WHITE TAIL (Odocoileus)				X	X						X	X		X		X					X	X
DOG (Canis canis)	X				X												X				X	X
RABBIT (Lepus)	X				X		X					X				X					X	X
BIRD	X	X	X			X															X	X
TURTLE, BOX (Terrapine caroline triungius)	X	X	X	X	X	X	X					X	X			X		X			X	X
TURTLE, WATER Terrapine trionyx mutica)	X			X		X						X	X			X		X				X
FISH Catfish, Perch	X											X									X	X

THE HEERWALD SITE, Cu-27

Fig. 62

Shell Identification from Site Cu-27*

Shell was uncovered in 24 different locations. It is not possible to estimate the number of shell fish involved because the shells were broken, obviously representing food remains. However, in comparison with the animal bone recovered, shell fish formed a minor part of the diet at this period. Quantitatively 350 pounds of animal bone were recovered as against less than half a pound of shell.

The shell was submitted to Mr. A. D. Buck. Mr. Buck stated that since the umbo of many of the specimens was so corroded and deteriorated it was impossible to tell anything definite about specie identification. All that the material warranted was allocation by genus. These specimens, incidentally, appear to be in about the same state of preservation, according to Mr. Buck as those recovered from the Mouse and Phillips sites near Butler, Oklahoma, thirty miles northwest of the Heerwald site. These sites excavated by Robert E. Bell are somewhat similar in artefact inventory to the Heerwald site except that shell occurred in considerably greater quantity at the northern sites while animal bone was less frequent suggesting a time difference between the sites of the two areas.

Generic identification of the shells as made by Mr. Buck and their locations by pits at the Heerwald site are as follows:

*Identification was made by Mr. A. D. Buck, Department of Science, Northern Oklahoma Junior College, Tonkawa, Oklahoma.

Location of Shell in Cache Pits, Cu. 27

Pit Numbers	2	3	4	7	9	12	13	14	23	24	28	32	33	51	54
GASTROPODIA															
Planorbis		x													
Physa			x												
MOLLUSCA															
Anodonta	x														
Cyclonaias						x									
Legumia				x			x	x							
Quadrula	x			x											
Unio							x								
Unidentified	x						x								
Unident, exotic to area		x			x	x		x	x	x	x	x	x	x	x

Figure 61

Mr. Buck states that little ecological significance can be inferred from the Heerwald shellfish remains. Anadonta is found all over the United States. Unio and Legumia also have a wide range. Quadrula is found all over the south and west and its distribution extends northward above Oklahoma. Mr. Buck points out that clear fresh streams with sandy bottoms are the most favorable habitat for shellfish. Heavy silting or other local contamination of streams would have had a very adverse effect on the shellfish propagation, but these unfavorable conditions might have been confined to a portion of a stream.

It would seem from the above, since the optimum condition for shell fish is clear running streams, that relatively moist conditions must have prevailed in central Oklahoma where shell remains are abundant. Certainly shell is less abundant in some sites than others in this area but this might be attributed to different time levels separated by changed ecological conditions. Less abundant shell might suggest drier conditions, less cover, and a greater runoff with the more turbid streams reducing the mussel population. Such an hypothesis might be kept in mind by investigators and tested by correlation and comparison of food remains with the quality and developmental sequence in the material culture as well as by enlisting the assistance of geologists and zoologists in the field wherever this is feasible.

On the other hand changes in shell fish frequency between sites in central Oklahoma might be due mainly to cultural factors such as changing food habits. The mussel shell might represent part of the older gathering tradition which was gradually supplanted by the later bison hunting-agricultural economy in the central area. Clearly the matter of local ecological

conditions prevailing near prehistoric sites is of great importance in accurately interpreting the cultural remains. Until it is possible to reconstruct ecological conditions more accurately it will be difficult to separate the effects of cultural tradition from the effects ecology in areas like Oklahoma which are subjected to periodic fluctuations of moisture and temperature.

THE RICHARDS SITE, Wd-1

Location (Fig. 66)

The site is located eleven and one half miles north of Mooreland in Woodward County, Oklahoma. It extends on both sides of State Highway 50 and approximately one mile along an east-west branch of Long Creek which is a southern tributary of the Cimmaron River 7 miles to the northeast. Wd-1 is located one mile north of Wd-2.

Area

The area north of Mooreland is crossed by several eastward flowing branches of Long Creek which itself flows north and drains an area which extends twenty miles south of the Cimmaron River. High points in the terrain are red sandstone hills at the bases of which are alluvial soils. In some areas these soils are very sandy. In general the area is as described subsequently for Wd-2.

Site

The site is located along the north bank of a creek on what is now sloping ground. Prehistorically the valley was probably more nearly level. Erosion has left numerous small grass covered hillocks and other concentrations of vegetation. It is from this top soil that the occupational material is now eroding.

Discovery

This site was located during the course of a routine archaeological survey of an approved construction project. One day was spent in collecting

and sifting the top soil for artifacts. The material found is described below.

Flint Sources

240 pieces of flint obtained by surface collection and screening of the top soil were examined by Dr. Owen F. Evans. Of these sherds 69% were of a single variety of good grey flint; 25% were mixed unknown sources; 6% were quartzites.

Dr. Evans reported as follows: "The predominant variety of flint was a dark grey with some penetration after wetting. It contains some slightly smoky or pinkish colors, a few reddish or yellow iron inclusions, occasionally manganese inclusions and also a few white inclusions. Of the 167 pieces examined, 28 of the larger ones showed weathered surfaces. This probably means a good quarry of the grey material nearby. No fossils were visible but it is probably of Permian age. No Amarillo or Kay County flints were found. One Mississippian chip occurred, probably the result of trade."

TYOLOGY

Awl

One expanded head awl. Dimensions: 5.5 cm. long; 1.1 cm. wide at the blade. Illustrated, Figure 64 (5)

Blades

Three thin blade fragments. One roughly triangular; the others with rounded bases. Thickness 0.2-0.5 cm.

Choppers

Three small size choppers, percussion chipped on both sides. Blades

semi-circular, of milky grey flint. Crust left on top and centers of the sides. 6.3 cm. wide; 5.7 cm. high; 3.0 cm. thick. Illustrated, Figure 64 (4).

Knife

One quartzite triangular shaped flake with secondary or use chipping along the cutting edge and a large flake knocked from back for better gripping. 8.5 cm. long; 3.5 cm. wide. 1.1 cm. thick. Illustrated, Figure 64 (2)

Metate

One basin type metate with very little platform and of soft red sandstone. 38 cm. long; 21 cm. wide; 8.2 cm. thick; concavity 6.0 cm. Illustrated, Figure 65

Scraper, end

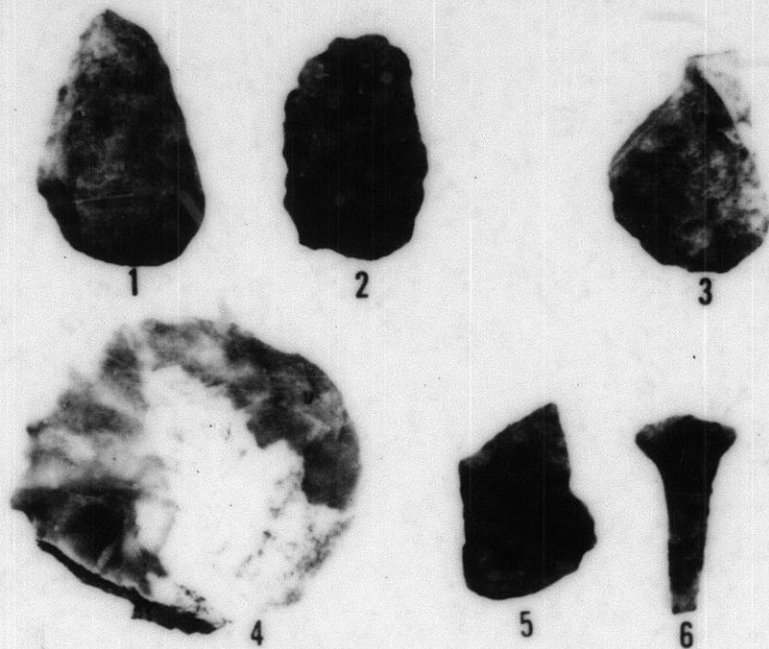
Four irregular blocks of stone with rounded blades and unfinished backs. Edges show some secondary chipping. Three are of quartzite and one of flint. There is one dual purpose tool having a scraper on one side opposite an auger. Illustrated, Figure 64 (3)

Scraper, side

Nine flint and quartzite scrapers, percussion chipped on one side, with occasional secondary chipping. Most are steep angled blades. Average dimensions, 3. cm. long; 5.1 cm. wide, 3.4-8.0 cm. thick. Illustrated, Figure 64 (1)

Conclusions

Except for the Kenton Cave material the Richards site represents the only pre-pottery site reported in western Oklahoma. This makes comparisons



Ref. 64 (1) Thick side scraper. (2) knife-saw. (3) End scraper. (4) Small flint chopper; compare with Fig. 75. Wd-2. (5) Expanding head/awl. Richards Site, Wd-1.

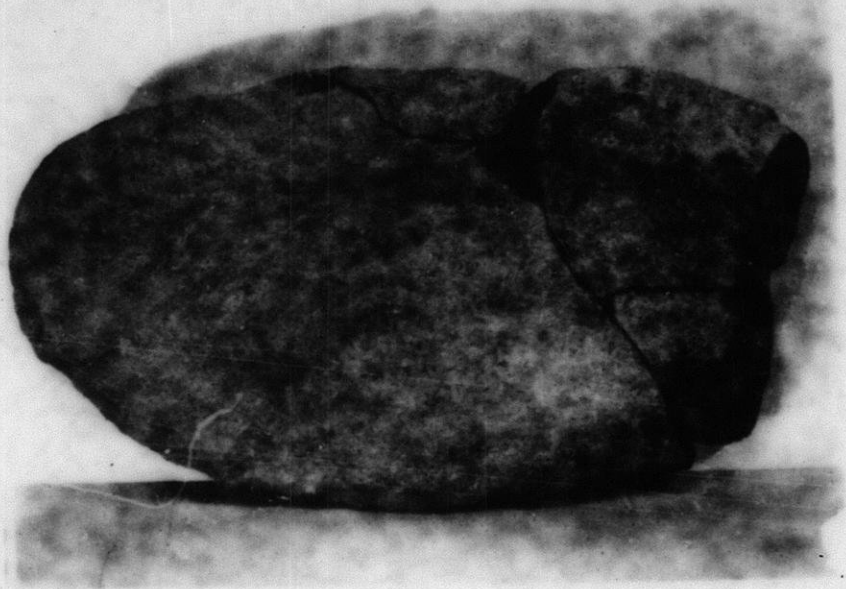


Fig. 65 Shallow basin Metate. Richards Site, Wd-1.

difficult and at this point not too significant. The Kenton Cave material, generally regarded generically as related to both the Southwestern Basket-maker and the Ozark Bluff Dwellers of Arkansas, is mostly of a perishable nature; stone artifacts are rather rare. However, flint and quartzite scrapers occur, and it is stated that these may have served as knives, choppers, points, or awls (Bell and Baerreis, 1951, p. 19). Examination of the Kenton Cave material shows very little direct connection with the Richards site material if one excepts the general similarity resulting from common utilization of the western quartzites.

For the present the greatest significance of the Richards Site is the connection noted by Dr. Evans in his analysis of the flints from the Richards (Wd-1) and the Hedding (Wd-2) sites; i.e., the continuity of flint types and the recognition that the Hedding site is the more recent site. This not only suggests local continuity from the non-pottery to the pottery horizon, but holds forth the possibility of establishing a local developmental sequence.

Whether there is a carry-over in the general technology cannot be determined since so few artefacts were found to the south at the Hedding site. However, to take one example, the use of choppers is not carried over to the pottery horizon either in central Oklahoma nor apparently in the Panhandle. Yet the chopper is a characteristic tool of the underlying "quartzite industry" found in central Oklahoma. The absence or dearth of arrow points or dart points at the Richards site is another feature of similarity with these non-pottery sites of central Oklahoma. Thus there appears to be some slight trace of parallelism between the Richards site

and those of central Oklahoma and Texas, albiet this connection is slight and probably at a much later time level. On the basis of the present data it is impossible to go beyond this conjecture.

THE HEDDING SITE, Wd-2

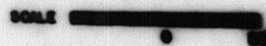
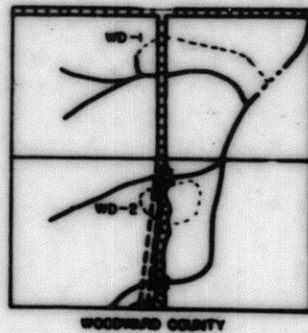
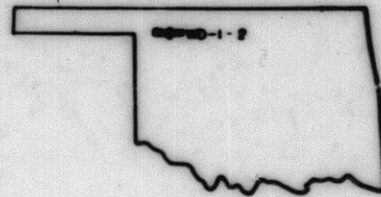
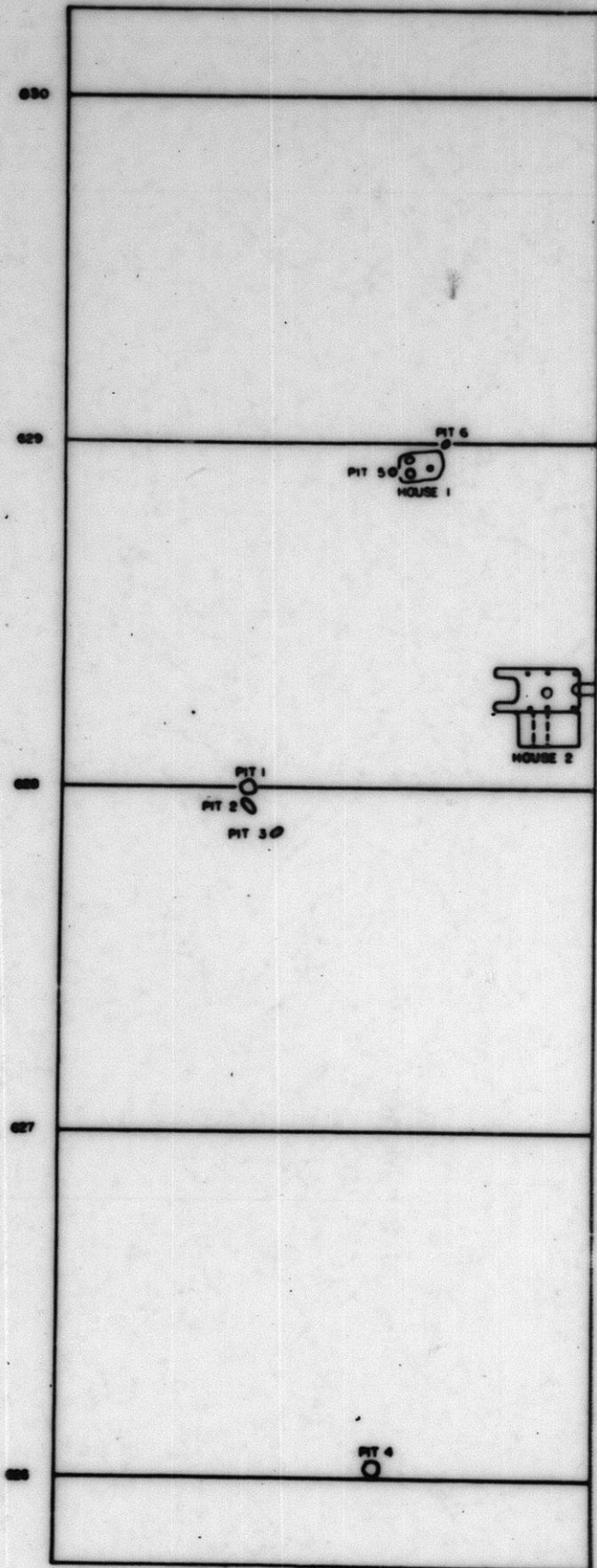
Location (Fig. 66)

The Hedding site is located in northwestern Oklahoma in Woodward County, eleven miles north of Mooreland on the west side of old State Highway 50 and one mile south of Wd-1 (See Fig. 66). At present the new highway right of way bisects the site, which is situated on rising ground overlooking the north and east drainages of Long Creek, a tributary of the Cimmaron River which it joins eight miles to the northeast.

The terrain consists of a series of rather sparsely covered red sandstone hills and sand covered flats which are cut by dry washes and deep gullies. Along these branches and creeks of the upper Cimmaron drainage are narrow concentrations of juniper, poplar, oak and other trees and shrubs. Judging from the location of sites, it is probable that the streams were wider, shallower, and perpetual during earlier prehistoric occupation. In fact, the prehistoric environment is suggested by the conditions prevailing today in the protected area of Boiling Springs State Park just outside Woodward fifteen miles to the west. Here large spreading oaks, dense thickets and an abundance of game including deer, turkey, raccoon, opossum, coyote, fox, and other wild-life duplicate conditions which probably prevailed on a wider scale in prehistoric times.

Discovery

The site was found during a routine check of an approved highway right of way. At this time a piece of wattle and a dozen flint chips



SITE PLAN & ENLARGED HOUSE

NEEDS SITE WD-2
FIGURE 66

were picked up on a plowed field in a relocated section of the right of way. The wattle suggested, of course, the possibility of locating a house, and a request was made to the Highway Department to notify the Archaeological Salvage Project when grading was to begin between certain designated survey stations.

Subsequently this notice was received. Upon arrival on the afternoon of that date it was found that grading had begun during the morning. Fortunately the highway inspector, Mr. Ralph Hedding, had followed the construction machinery on foot. In this way he was immediately able to notice the heavily oxidized red soil turned up by the machines which he rightly surmised was associated with a house. He therefore had the area staked off while the machines continued to operate in the vicinity as they worked on the twenty foot cut planned for this road section.

Excavation Assistance

Excavation was begun at the staked area and it was soon established that Hedding's find was the remains of a small house which had been completely burned. Rain interrupted operations for several days in this area, so survey operations were carried on in other parts of the state. After this short period the site was found sufficiently dry to allow screening. The additional help of two men, Bill Wellman and Andy Jackson was furnished by the James Clark Construction Company of Woodward. Subsequently the Reverend Edward Spencer of Mooreland contributed his time and assistance. He very materially forwarded the excavation through his careful work and observations, both of which were greatly appreciated.

The project also received considerable help from Mr. H. K. Richards, the Resident Engineer, as well as from his inspectors, L. J. Black and Pat Richard, who facilitated the progress of the dig in many ways. The project received a great deal of local assistance from Mr. Homer Schoblen, Editor of the Mooreland Leader, who is responsible for the photographs taken at the site. Encouragement was also received from Dr. R. R. Boone, Jr., head of the Northwest Community Hospital Association, as well as Mr. Victor H. Casad, President of the Security National Bank of Mooreland.

Field Procedure

Field procedure was determined in large part by the operations of the earth movers and bulldozers operating in the immediate vicinity. Highway Inspectors Hedding and Black had marked off about ten feet on either side of the house outline which had been established after the initial test pitting. The machines continued to work around this area, cutting the sides as they proceeded with the cut until the excavated area eventually remained as a boat shaped island about six or seven feet above the right of way.

During the course of the first day's excavation at House 1, one of the bulldozer operators who was riding backward on his machine looking for other occupational evidence suddenly stopped his machine and motioned us over. His find, a dark discoloration in the red subsoil proved to be a pit. One of the men was put to work screening the fill. Presently another pit was located as the machines continued to cut into the native soil. This pit contained human bones and in order to not hold up excavations the house

excavation was stopped altogether and work shifted to the burial pit. Fortunately this pit was found Saturday afternoon so that Sunday could be devoted to taking out the burial and cleaning up the remaining pit before construction operations resumed Monday. It might be added that on Sunday we had considerable verbal assistance from many visitors who arrived as the result of publicity in the local papers.

Monday the work on House 1 was resumed while the machines continued to cut to the east. While visiting the site on one of his project inspections, Mr. Richards, the Resident Engineer, noted that the earth movers were slicing off clay which contained a considerable amount of charcoal at the bottom of the cut. After directing the machines to another part of the cut this area was examined. A number of yellow streaks showed on the surface similar in appearance to the wattle found at the base of House 1. The clay was so wet and stiff that a sharpened shovel could only penetrate about three inches. Consequently, nothing could be made of an outline. It was decided that since the machines were needed on a nearby cut they could be removed from the area without loss of time to the contractor. Work was continued on House 1 and Reverend Spencer began outlining the base of what appeared to be House 2.

Pits 1 through 4 and Houses 1 and 2 were completed just before Christmas, after which a return was made to the project to check the "island" around House 1 which was due to be removed at that time. Unfortunately a blizzard came up and all construction operations ceased. I was not able to return promptly afterwards and so was not present when Pit 5 was uncovered just west of House 1. This pit contained parts of a

cremation and an almost complete though smashed pot. All the soil from the pit was screened by inspectors Richard and Hedding, who are responsible for the recovery of the only complete vessel from the site.

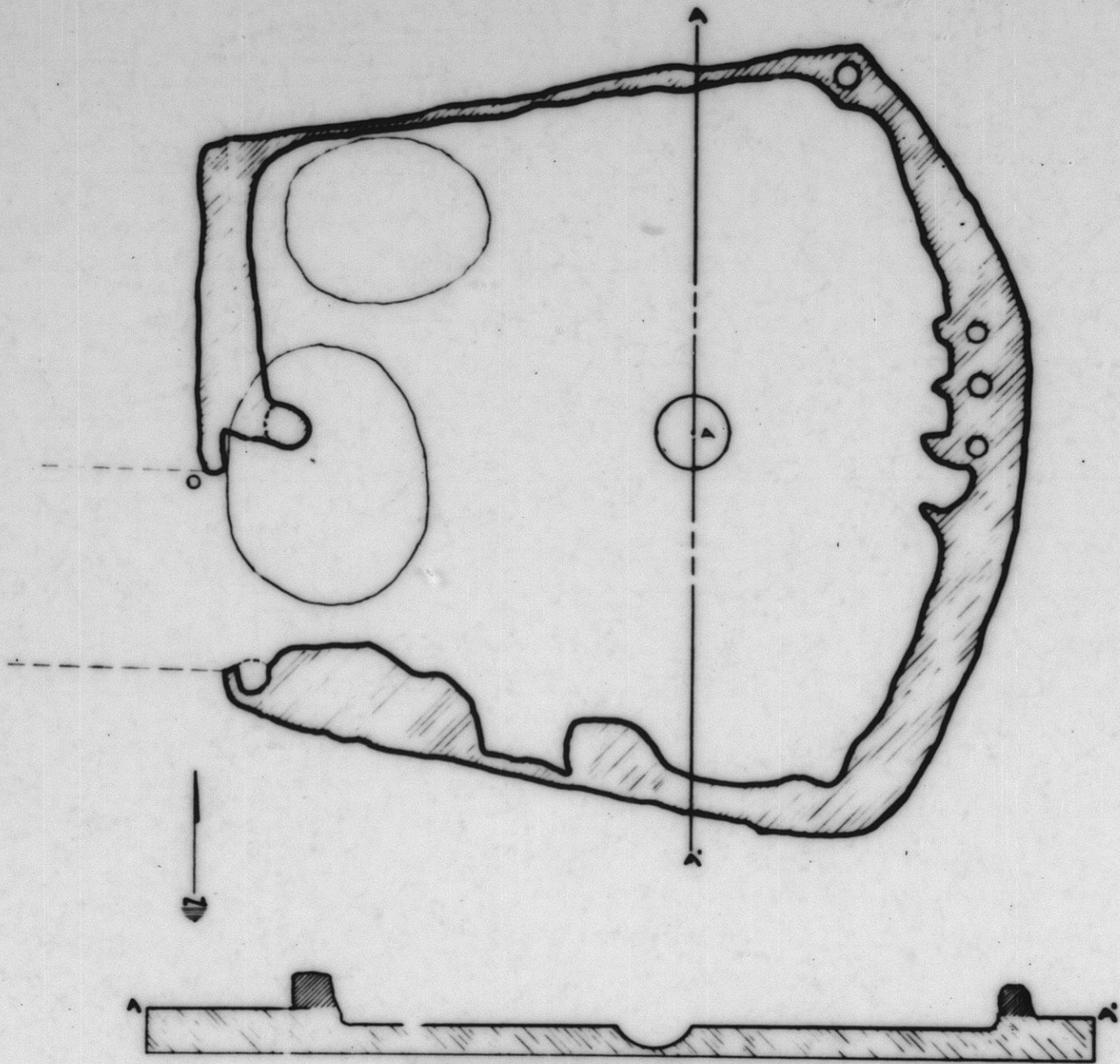
House 1 (Figures 67 and 68)

This is the first house in the western part of the state for which we have detailed information. It consisted of a small nearly square room about 10 or 10 1/2 feet by 11 feet. It had burned to the ground, hardening the clay around the base of the wall posts which gave the outline of the room. Inside there was a smooth basin fire pit approximately fifteen inches in diameter and filled with hard white ash. Two large pits occurred in the house. The one in the northwest corner was about 2 feet in diameter and 4 feet deep. The impression was that this pit might have originally been a post hole, possibly for another structure, which had been filled in to within a foot of the surface and used secondarily as a cache pit. The second pit was three and a half feet in diameter and four and a half feet deep, and was possibly filled in at the time of the occupancy of House 1. Both pits were devoid of debris with the exception of one Fresno point found in the second pit at the depth of about two feet. A third shallow pit (Pit 5) mentioned previously as found by Richard and Hedding, was located just west of the structure. This pit contained the remains of a partially cremated skeleton and a smashed cordmarked olla. The fill from all the pits was carefully screened.

The interesting aspect of this small structure was the fact that no wall posts penetrated the soil. From the location of the well baked fire



Fig. 67 House 1, facing west.. Burned clay around wall post base outlines the house. Post impressions are in the foreground. Left center shows wattle for wall that fell inwards towards the hearth pit. Section of burned wall material lies above, opposite cache pit. The depression of another cache pit, later excavated, can be seen in the upper left corner of the house. Hedding Site, Wd-2.



■ WATTLE
○ POST
▲ FIREPLACE



HOUSE-1-HEDDING SITE-WD-2

FIGURE 68

pit and the burned wattle, the old occupation level could be determined within an inch or so. Careful removal of the burned clay forming the outline of the house failed to reveal any signs of posts. This indicated that the posts rested on the ground and that clay was packed about their bases, and probably on them, as well. Post impressions along the wall base were sporadic and only two to four inches in diameter. This suggests a very light frame intertwined with withes or branches to form a lattice work which was then mud covered. Stability and weather proofing was increased by packing the base of the structure with mud. Judging by the thoroughness with which the mud had been burned and the number of impressions of grass or reed in the clay, these materials must have been used liberally on the roof and probably on the sides as well before they were daubed with mud. In this instance there would have been no positive evidence of a house beyond a fireplace if the house had not burned; this situation was reported at the Brown site (Schmidt and Toldan, 1953, p. 143). It is undoubtedly this custom of often placing uprights on the ground surface rather than imbedding them which accounts for the paucity of structures reported in the central and western parts of the state.

In the present state of our knowledge this house type cannot be tied in with others very definitely. The general house type is found in eastern Oklahoma. In northeastern Texas this type is found in the early Gibson houses, with later types in eastern and central Texas being round.

House 2 (Figures, 69, 70, 71)

About eighty feet southeast of House 1 and at a lower level, presumably because of the former slope of the hill towards the creek on the east, was

found entirely different type of structure. This structure, like House 1 had also burned thus insuring its preservation. Very little wattle was found. Instead the floor and pit which comprise the plan of this house were well sooted. The plan of the house was rectangular, measuring 12.5 feet by 17.5 feet, and was dug into the soil eight to twelve inches.

Features consisted of a well formed firepit located medially but slightly to the rear of the true center. Entrance was via a long narrow eight foot passageway at ground level and to the east. The entryway connected with the room by a short inclined semi-circular clay step. At the west end of the room approximately in line with the step was a small banquette or projection from the wall about eight inches wide. It could not be determined whether this was used as a resting place for upright roof supports or whether it had some vestigial non-utilitarian purpose. To either side of this projection, in the corners of the room, the walls extended for seven or eight feet in a long narrow trench about six to twelve inches wide. These trenches were filled with a miscellaneous debris of flint and burned animal bone. Again, the purpose was problematical whether they were non-utilitarian and ceremonial in nature or whether they were trenches for wall posts which formed another room. Certainly they were too narrow to serve as alternate entries.

As in House 1, the wall posts were placed on the ground inside the pit on at least two sides of the room. Two post molds were found above the floor, one on the east and one on the west side of the room. Posts three to four inches in diameter had been used. As indicated on the house plan, two other posts had been dug in to the floor. The central

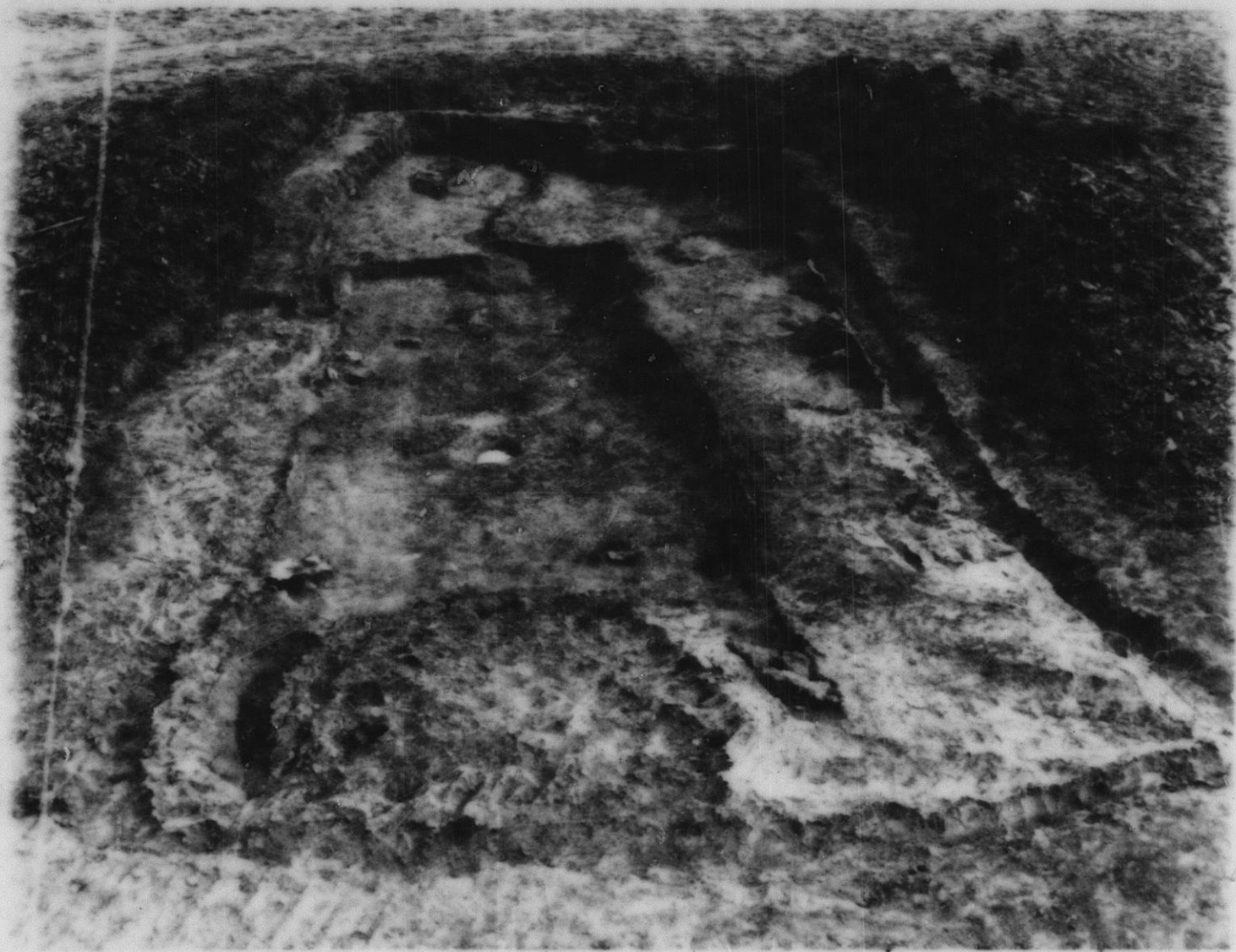


Fig. 69. Floor of House 2, facing east. Entrance at upper left showing ramp into pithouse. Surface room at upper right of picture. In foreground at either side are flue trenches. Depressions in the left foreground are due to disturbance by construction machinery in right-of-way. Clay was so hard that when dried it could not be leveled by trowel or shovel. Hedding Site, Wd-2.

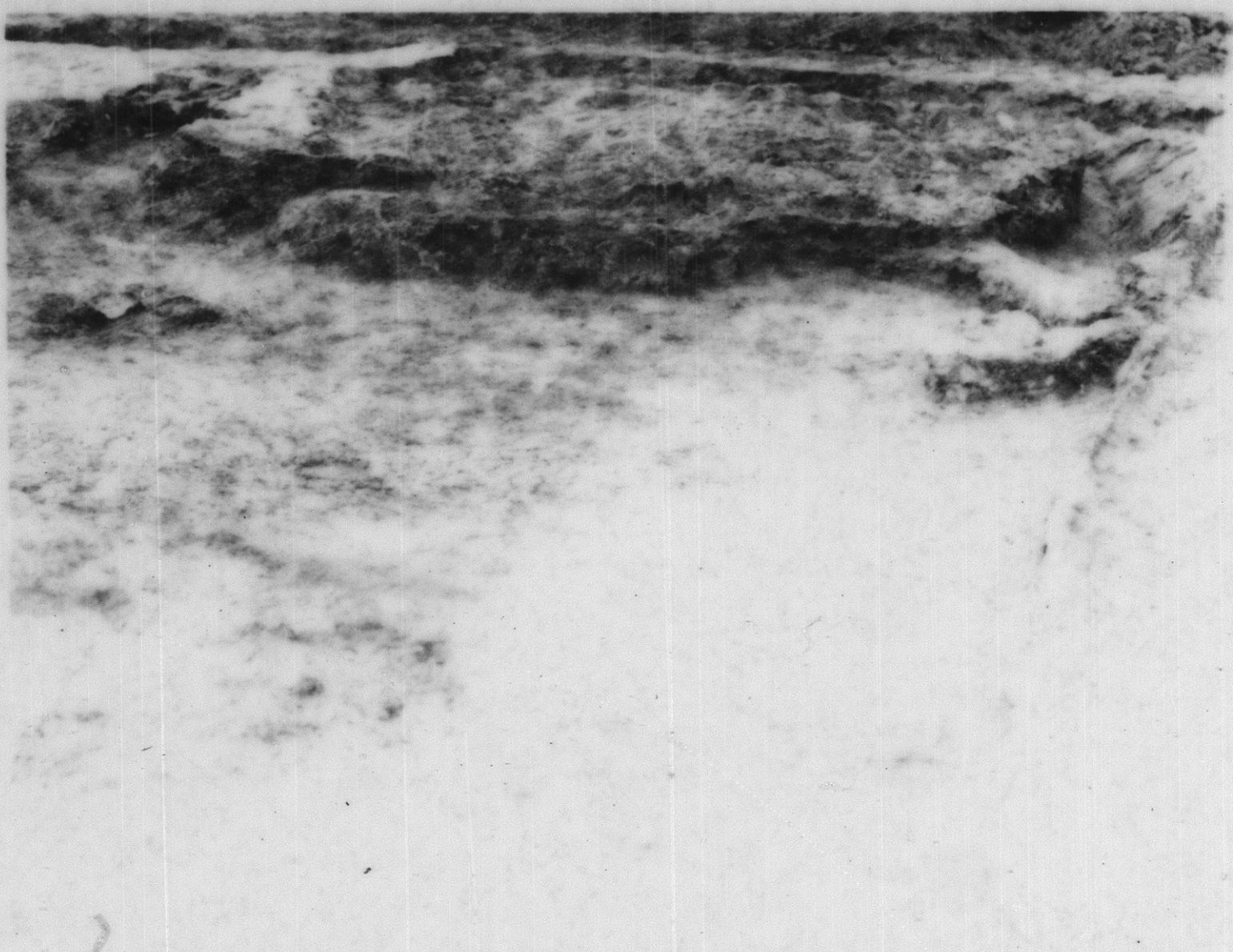
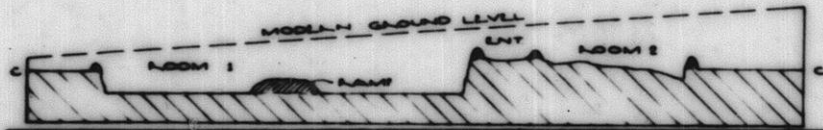
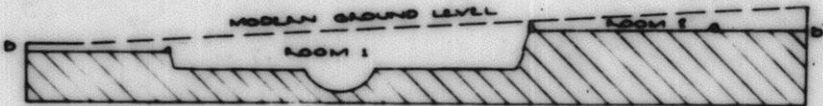
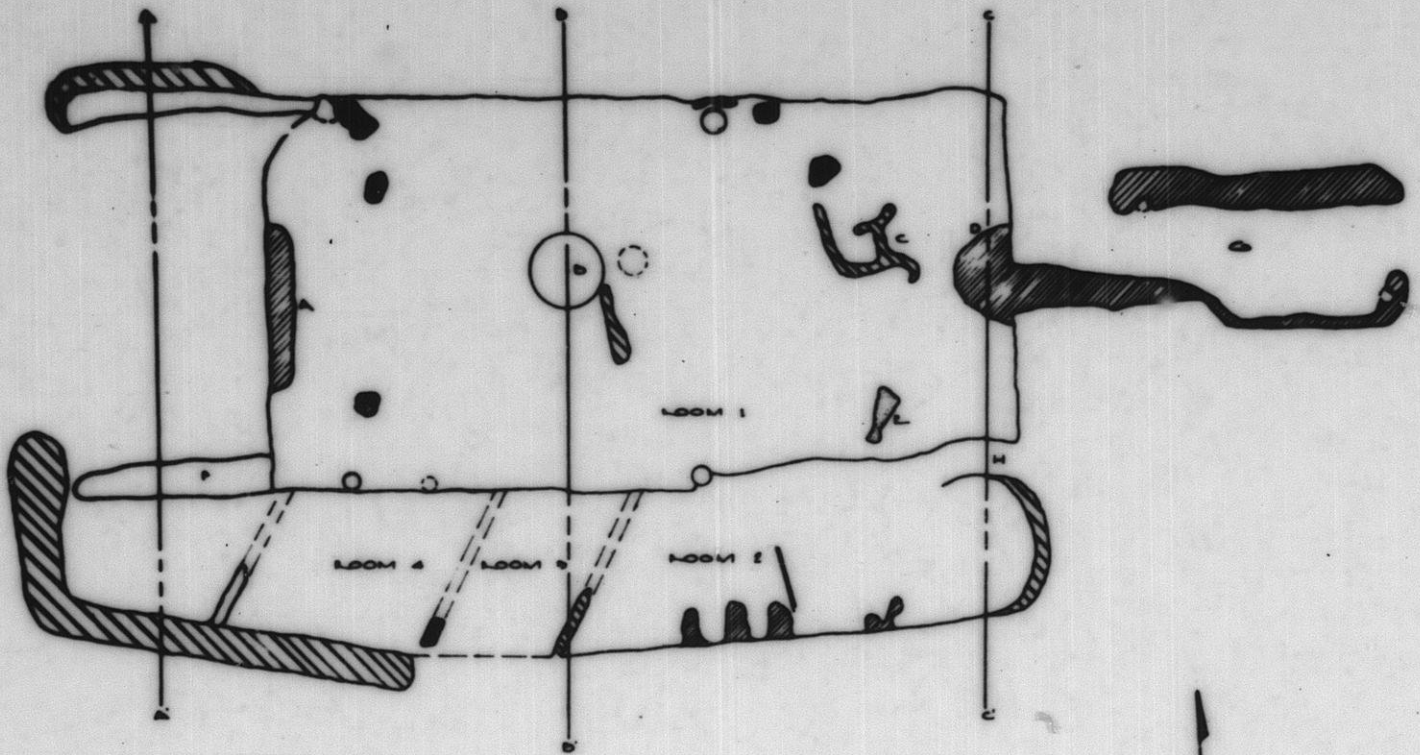


Fig. 70. Floor of House 2, facing west. Shows flues and centrally located banquette as seen from the floor level. Fire pit is in the left foreground. White discoloration on the floor in the center and the stones to the left mark the location of the former major roof supports. Hedding Site, Wd-2.

roof support probably consisted of four posts. This was deduced from the placement of three flat stones found on the floor and a buffalo scapula which had evidently been substituted for a fourth rest. Artifacts in contact with the floor were a small boulder type metate and several plainware sherds.

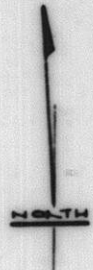
The interesting feature of this house was the possible addition of two or more small rooms on the south side at ground level. Whether this was done at the time House 2 was occupied or after its abandonment could not be determined. If the former was the case, then the south wall of House 2 served as the back wall of these smaller rooms which were about ten feet in width. This is conjecture, since the type of partition (if any) between the walls of the small surface rooms and the semi-subterranean room could not be determined because of the removal of the overburden by the road machinery. However, it was determined that Room 2 has an outer entrance which faced east. There was also the probability of a connecting doorway between Rooms 2 and 3. The walls of these rooms were very lightly built, as evidenced by the remaining plaster at the base of the walls. This was only about an inch thick. This fact, together with the absence of fireplaces, suggests that these rooms may have been storage areas. The only artifact was a single-grooved abrader found on the floor of Room 2.

It is quite possible that these above ground storage rooms attached to the pithouse may actually represent later structures which were partially built over the abandoned pit of House 2. Certainly there is some evidence for this in the pottery analysis. All that can be said in favor of the



- BURNED CLAY
- DISCOLORED SOIL IN NATIVE CLAY
- STONE
- POST HOLE
- PROBABLE CONSTRUCTION

- A- CLAY SHAFT
- B- FIREPLACE
- G- RAISED CLAY 1/2"
- D- CLAY ENTRANCE RAMP
- E- BUFFALO SHOULDER BONE
- F- FLUES
- G- HOUSE ENTRANCE
- H- STORAGE ROOM ENTRANCE



HOUSE-2- HEDDING SITE - WD- 2

FIGURE 71

contemporaneity of these dissimilar structures is that the outside walls of Rooms 2, 3, and 4 paralleled the wall of Room 1, that there was no sign of fireplaces in the smaller rooms, and that no independent wall could be established for the north side of any of the ground level rooms. Unfortunately, important as it is, this is a point which cannot be determined from the existing evidence, since no sherds or distinctive artifacts were found in the small rooms. The final answer can only be sought through more excavation at this site or elsewhere.

Pits 1-4 (Figure 42)

These pits which varied from 1 to 3 feet in depth were contemporary with House 1 as indicated by the pottery and flint chips found in them. The inventory (Figure 73) lists the artifacts found in each pit.

Stone Sources

203 pieces of flint obtained in the excavations were examined by Oren F. Evans. Of these, 70% were from unknown sources; 15% were of the good gray flint found at the Richards Site (Wd-1) one mile to the north; 5% were of a somewhat similar gray flint, but of a poorer quality; 7% was flint from Kay County, and under 2% resembled Amarillo flint but was probably from river pebbles; less than 1% was quartzite. Dr. Evans adds this postscript: "The flint material from Wd-2 is not of the same time as that of Wd-1, and may be later."



Fig. 72 Pit Number 4. Skull lies over the metate; mandible of this skull is that in the upper left corner. The large lumps scattered along the edge of the pit are partially burned masses of wattle. Hedding Site, Wd-2.

ARTIFACT INVENTORY, Wd-2

Typology	1	2	3	4	5	H1f	H1p1	H1p2	H2r1	H2r2	Totals
<u>Ground Stone</u>											
Abrader, grooved										1	
Abrader, flat		4				2			8		
Hammerstone		1				1	1		1		
Mano		1				2			1		
Metate, boulder									1		
Metate, trough			4								
Polishing stone								2			
Pounder									1		
<u>Chipped Stone</u>											
Arrowpoint, Fresno								1			
Awl, flint						1					
Chopper		1				1					
Knife, flint			1								
Nodule, flint	1										
<u>Bone</u>											
Awls		1				1					
Digging stick			1					2			
Flaker		2									
Flesher						4		1	1		
Hoe, scapula			1								
Rasp		1									
<u>Shell</u>											
Mussel shell	3	5				1					
<u>Pottery (sherds)</u>											
Plainware	6	1									17
Cordmarked	5	3	1 olla			15	2				2
<u>Skeletal Remains</u>											
Burned fragments				x		x					
Unburned fragments				x		x					

Fig. 73

TYPOLOGY

Ground StoneAbrader, Grooved

A grooved sandstone abrader with a single longitudinal groove. Back, wide on the bottom and tapering and rounded on top. Slight grooving along the sides. Groove approximately 2 cm. deep and fairly regular. Length 8.9 cm.; width 2-2.3 cm.; thickness 2.9-3.1 cm.

Illustrated, Figure 77 (3)

Abrader, Flat

Irregular oval to rectangular and squarish pieces of soft sandstone showing flat use surfaces; probably used as abraders. Possibly also a source of pottery temper. Average dimensions: length 2.2-8.1 cm.; width 3.4-5.1 cm.; thickness 3.9-6 cm.

Hammerstones

Round heavy battered stones from a variety of local materials; one specimen flint, three limestone nodules. Sizes: 5.2-8.2 cm. diameter; thickness 3.7-5.0 cm.

Manos

Three varieties present. First an oval turtle back with a flat grinding surface made of sandstone. Second a circular to oval sandstone with wear on both faces. Third an oval shape of quartzite, weathered red on exterior; high turtle back; shows use as pounder. Average dimensions; length 14-22 cm.; width 6.4-9.4 cm.; thickness 2.4-6.5 cm.

Metate, Boulder

A small sandstone boulder with a shallow oval depression on top. Under-side flat, showing use as an anvil or nutcracker. Length 16.5 cm.; diameter 6.5 cm.; thickness 7.0 cm. Illustrated, Figure 74.

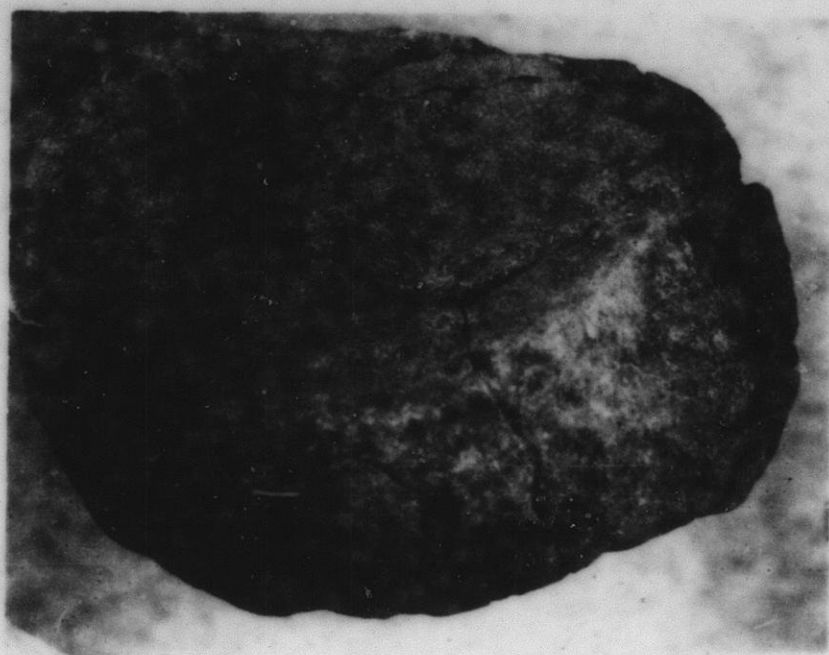


Fig. 7h Boulder mortar. Heading Site, Wd-2.

Metate, Basin

A deep basin metate of soft sandstone; a 14.0 cm. shelf at one end of basin. Wall of basin straight. Length 27.5 cm.; width 21.5-20.8 cm.; thickness 5.0 cm. at shelf to 14.1 cm. at far end; basin depth 5.2 cm.

Polishing Stones

River stones showing use planes in one case and use polish in other; one used as a combination polisher-grinder and hammer; other specimens probably used as pottery polish stones.

Pounders

Fragments of highly polished quartz with a weathered red exterior. When complete, are egg-shaped heavy stones with battered ends and polished sides.

CHIPPED STONE

Arrow point, Fresno

A small Fresno type point, percussion flaked with a slightly concave base. Length 0.6 cm.; width at base 1.0 cm. thickness 0.2 cm.

Awl, Flint

A pointed flint fragment or thick flake, percussion flaked along edges. Length 3.1 cm.; width 1.4 cm.; thickness 0.4-0.9 cm. Illustrated, Figure 77 (1)

Choppers

Two forms; the first is a roughly rectangular shape of local flint with crust removed at edge by bifacial percussion; a crude heavy implement; some secondary chipping showing use as a plane or scraper. Illustrated, Figure 75. Second is a smaller implement with the chopping face on the short axis; blade set at an angle but manufacture generally same as above.

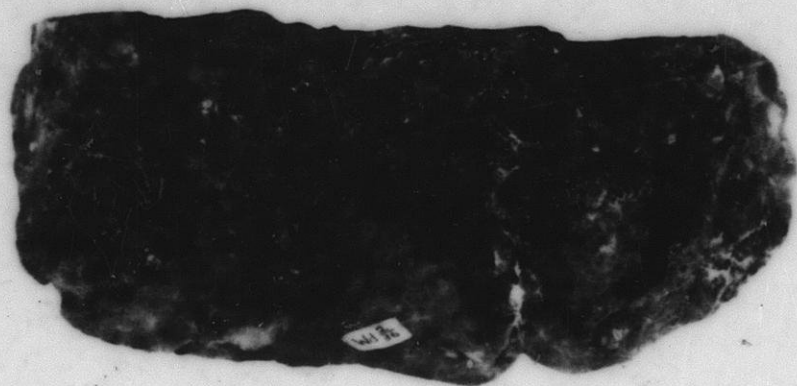


Fig. 75 Flint side chopper. Hedding Site, Wd-2.

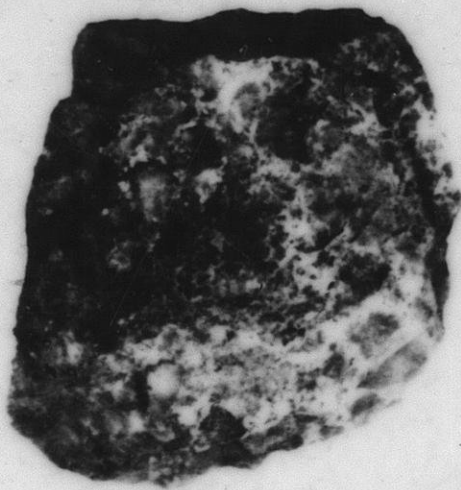


Fig. 76 Flint end chopper. Hedding Site, Wd-2.

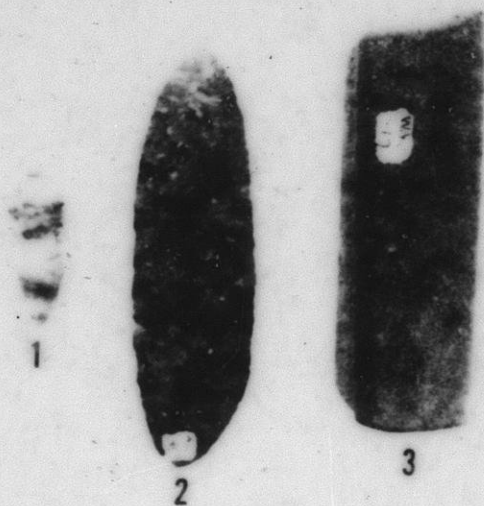


Fig. 77 (1) Drill point. (2) Flint knife. (3) Grooved
abrader. Hedding Site, Wd-2.

Dimensions of first: length 16.2 cm.; width 6.4-6.7 cm.; thickness 2.7-3.9 cm. Dimensions of second: length 8.5-9.3 cm.; width 7.4-8.4 cm.; thickness 3.0-3.4 cm. Illustrated, Figure 76.

Knife, flint

An oval shaped gray flint knife; material not local. Worked by percussion on all edges of one side; some occasional chipping on opposite side; all over percussion work both sides; a fairly well-made implement; probably intrusive. Illustrated, Figure 77 (2)

Nodule, flint

A large flint nodule of local origin showing crust on three sides. Weight approximately 25 pounds. Flakes knocked off edges found on floor of House 1.

BONE

Awls

One made from rabbit; others from bone splinters; poor polish and finish. Illustrated, Figure 78 (1-2)

Digging Stick

Two forms: type 1, split bison femur rounded at one end and planed into blade at the other; possibly lashed to stick for use. Illustrated, Fig. 79 (1). Type 2, a bison femur hollowed at top for insertion of a handle; only shaft head found. Length 21.7 cm.; width at blade 5.6 cm.; thickness 1.5-.4 cm.

Flaker

Prong of a deer probably used as a flaker. Length 8.0 cm.; width 5.5 cm.; thickness 1.2 cm. Illustrated, Figure 78 (3-4)

Flesher

A light flesher or scraper made from a small deer scapula; could be a reworked deer scapula hoe. Specimen shows polish; broken points shows a variety of width. Length 13.3 cm.; width 5.0 cm.; thickness, 1.1-2.0 cm. Illustrated, Figure 79 (2-3)

Hoe, Scapula

Bison scapula, hafted by hole at top which is open to the head. Hole shallow, 1.5 cm. deep and 4.5 cm. in diameter; ridges smoothed off; blade has very irregular edge from use. Length 29.5 cm.; maximum width 15.5 cm.; thickness at blade 0.3 cm. Illustrated, Figure 81



Fig. 78 (1) Rabbit ulna awl. (2) Cannon bone awl, with head partially removed by grinding. (3-4) Horn flaking tool (5) Incised bone fragment. (6) Bone chisel or scraper. Hedding Site, Wd-2.

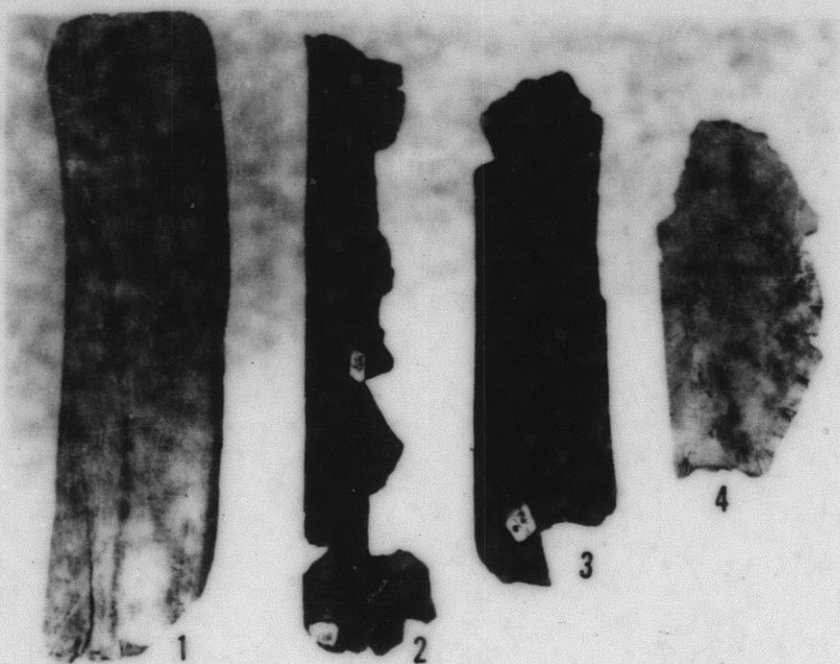


Fig. 79 (1) Digging stake, Type 1, (2-3) Fleshers or scrapers,
(4) Deer scapula squash (?) knife. Hedding Site, Wd-2.

Rasp

Semicircular shape, probably, with a handle; made from a deer scapula. Smoothed on back; marks cut into blade at regular interval about 1 cm. apart. May have been used as a rasp or as a knife for cutting some soft substance such as squash. Illustrated, Figure 79 (4)

SHELL

Mussel Shell

Food remains; no use marks on shells.

POTTERY

Sherds

In general there was a distinct difference between the pottery found on the floor of House 1 and the sherds from the rest of the site. Whereas the pottery from House 2 was about 90% plain, the reverse was true for the rest of the site where cordmarked pottery predominated in about the same percentage. The cordmarked sherds were better made than the sherds from House 2 in all respects; i.e., temper, color, thinness of wall, as well as in the firing.

Distribution of Pottery Types at Wd. 2

Component	Types	House 2	House 1	Pits					
			Floor	Pit 1	1	2	3	4	5
Component A	Plain A	16							
	Plain B	1							
	Cordmark A	2							
Component B	Cordmark B		20	2	4	2	1		Olla
	Cordmark C					3			
	Plain C				6	2			

Fig. 80



Fig. 81 Bison scapula hoe, showing lateral hafting groove at upper distal end. Hedding Site, Wd-2.

Plain A

Color tan to yellow. Texture sandy and rough to feel due to quartz grains. Paste inclusion of sandy lumps and some smaller miscellaneous stone grains. Temper sand and moderate amount of quartz grains. Thickness 6.5-8.5 cm. Diagnostic features: surface feel, light color, and only moderate use of quartz sand grains as temper.

Plain B

Color slightly darker than A. Texture slightly sandy to feel, surface smoother. Paste limestone inclusions and possibly some bone. Temper limestone and bone, only occasional quartz grains. Thickness 9.5-10.5 cm. Diagnostic features: ground limestone temper on surface, relative thickness, virtual absence of quartz temper.

Plain C

Color dark to black. Texture smooth, slightly bumpy. Paste sandy and filled with quartz grain temper. Thickness 3.5-4.5 cm. Diagnostic features: color, thinness, excessive quartz temper.

Cordmarked A

Color light tan to yellow. Texture soft, slightly sandy to feel. Paste, sandy with occasional black inclusion, with moderate amount of small quartz grain temper. Thickness 4.5-7.5 cm. Cordmarking knots rather than net dominant, with narrow parallel and fine marks 2 cm. or less apart. Diagnostic features: fine cordmarking, light color.

Cordmarked B

Color, dark brown with black clouding. Texture, soft, slightly sandy to feel. Paste, sandy and considerable quartz grains to sandy

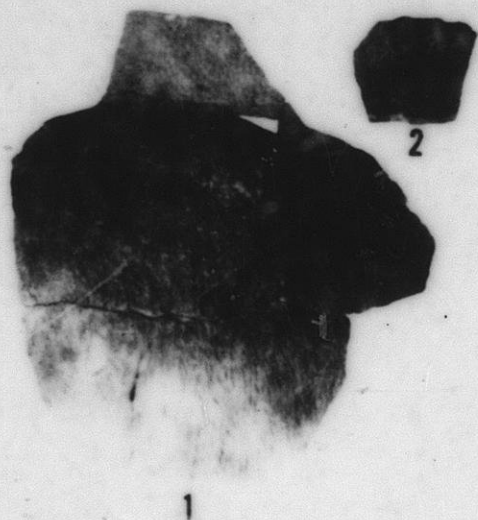


Fig. 82 (1) Central Plains Aspect, sherd type (2) Rim
lug of same vessel. Hedding Site, Wd-2.

with moderate quartz grain occurrences. Thickness, 4.0-6.0 cm. Cordmarking, moderately to heavily obliterated by smoothing, knots dominant, 2-3 cm. apart, parallel to obtuse, and acute angles of meeting. Diagnostic features: obliterated cordmarking, thinness.

Cordmarked C. (Illustrated, Figure 83)

Color, very dark with light clouding. Texture, smooth to polished on interior, exterior soft, though looks rough to the eye. Paste, sandy, some quartz grains, occasional white inclusions which show on surface. Thickness, 4.5-6.5 cm. Cordmarking, net rather than knot dominant, net averaging 5-6 cm. long and about 2-3 cm. maximum width, occasional fingernail marks over cordmarking. Diagnostic features: uniform dark color, harness, dominance of net over knot in marking, fineness of cordmarking, gray core in darker paste.

Cremations

Evidence of cremation was found in Pits 4 and 5. In Pit 4 a human mandible and separated parts of the anterior and posterior sections of a skull plus assorted other bone was found scattered above and below a large basin metate. Intertwined with these human remains, some of which were badly charred, but most of which were only slightly discolored or completely unburned, was a considerable amount of house wattle.

In pit 5 it was reported that a somewhat similar situation existed beside a large crushed olla. Bones here were both burned and unburned.

The impression at Pit 4 was that of a disturbed burial or possibly the reburial of a cremation with house trash. However, the occurrence in both cases of complete and rather bulky household artifacts suggests that these pits were interments, albiet they do not seem careful. Though

the possibility of cannibalism always exists, under the circumstances it is more likely that these cremations represent secondary burials of partially cremated remains.

Conclusions

The significant aspects of the Hedding site appear to be its architecture and its pottery. To consider the pottery first, the distribution of the plainware sherds seem to indicate that House 2 was earlier than the western part of the site and that two occupations were present. The late cordmarked type which lacks shell or caliche temper falls within the quartz sand temper tradition of the Optima pottery even though the surface treatment differs slightly from Stamper Cordmarked. It also seems to indicate that a local chronology of some depth exists in the region, one which is yet to be defined but with the Optima Focus representing probably an earlier phase, at least typologically. The plainwares give additional support to the hypothesis that a plainware tradition preceded cordmarked pottery in central and western Oklahoma and that the latter is relatively late. The absence of either shell or caliche in the local ware indicates that the plainware undoubtedly diffused from the east and during Gibson times. This appears to be substantiated by the occasional finds showing influence from the Sanders site of northeast Texas, at the Brown site (Sanders Plain), the Nagle site (frontal-occipital deformation), and the Goodman site (Hayes arrow point). All this evidence while not conclusive suggests a double occupation at the Hedding site in which an early Gibson ceramic tradition was superceded by Central Plains cordmarking and the development of a local

tradition which did not incorporate the shell and shell-substitute tempering of the Fulton complexes to the east.

With regard to the architecture while there is no significant comparative material against which to judge House 1 there are certain features of House 2 which tend to link it to the Panhandle architecture of the Optima and Antelope Creek Foci. Other features seem more reminiscent of central and northern Plains traditions.

Those features which tend to link Hedding House 2 directly with the Panhandle cultures are the presence of adjoining rooms, different room levels, flues or ventilators, the banquette or beam support, 4 center posts. Reminiscent of the northern Plains is the long entry way, the shallow pit, the interior step, the arrangement of poles on the floor along the side. A good example of this latter connection is seen in the Monroe Focus house of the Ft. Pierre Branch, South Dakota (Lehmer, 1952, p. 334).

In view of our limited knowledge of house type in the immediate area of Texas and Kansas it would probably be misleading to analyze the Hedding house in terms of the few known house types which are undoubtedly of different time levels. However it might be pointed out that there is probably more of an architectural sequence in western Oklahoma than the literature suggests. Future excavations will doubtless fit the Hedding pithouse into the Optima sequence in a logical manner. Other sites of slab type pithouses are known locally. Therefore it seems possible that a local pithouse sequence will be developed, one connected more basically with the central Plains than with the Pueblo Southwest has been supposed. In such a hypothetical reconstruction

Component A at the Hedding site would be considered ancestral to the later developments in the Panhandle rather than as the existing evidence now stands...a marginal manifestation of Panhandle culture. On typological grounds Component B at the Hedding site might well follow the Optima site since the Hedding cordmarked pottery is partially obliterated by polishing. This may be assumed a later introduction. Architecturally the heavy mud plaster around the base of the wall posts at ground level may be a vestigial survival of the shallow stone lined house pits.

Excavation in this area suggests that further work might throw some light on the very interesting and crucial problem of the relation of the Southwest and Plains pithouses. The area in question, evidently being one of overlap, would possibly reveal some answers to this aspect of superficial resemblances.

SKELETAL MATERIAL FROM SITE WD-2*

Pit #4

(1) Adult skull fragments, of which a front portion has been restored. It shows a flat broad nasal root. The occipital fragments are charred, mostly but not entirely on the inner surface of the vault.

(2) Fragments of a cranium of which the posterior part of the vault has been restored. It shows an os Inca. The skull is a small and narrow one.

(3) An adult mandible with moderate tooth wear, right 3rd molar unerupted. Sex doubtful.

(4) Fragments of a tibia and two humeri, of a small but very muscular adult.

(5) A few skeletal fragments in poor condition. A few bone fragments, some charred.

Pit #5

Many fragments, the long bone parts largely charred. Part of the vault of the skull has been restored. The vault is quite small and definitely keeled at the saggital suture. Tooth wear is quite pronounced.

This is judged to be a female about 30-40.

*Material analyzed by Alice M. Brues

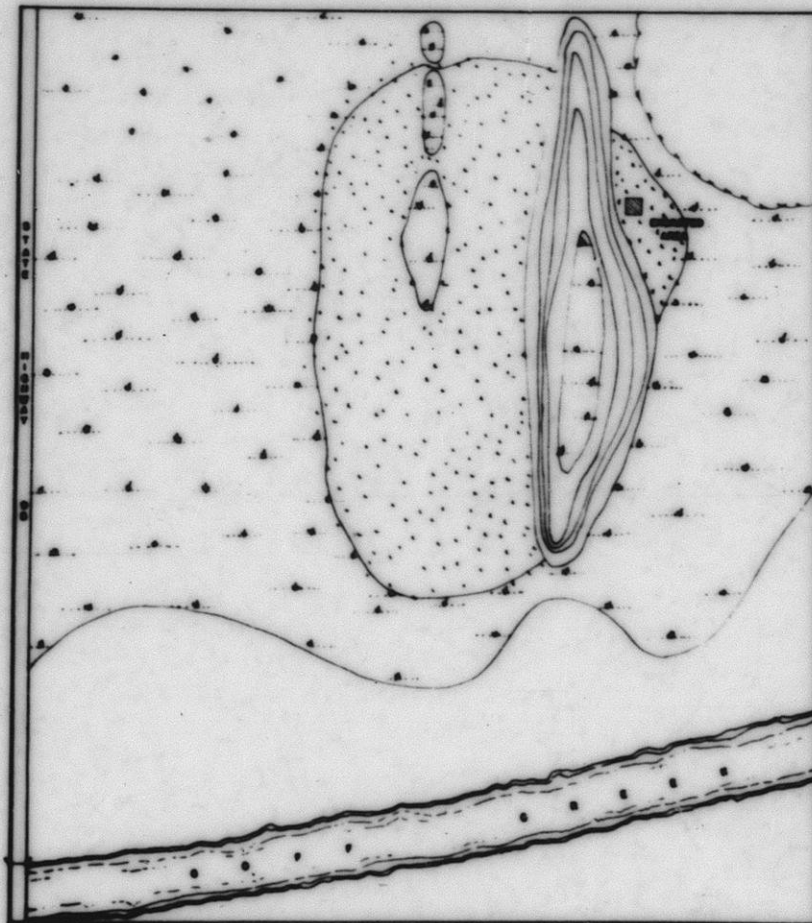
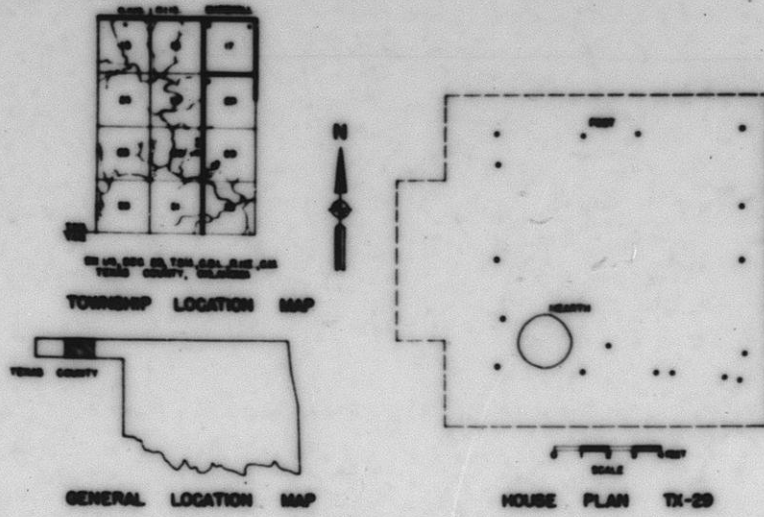
THE RHOTON SITE, Tx-29

Location:

The Rhoton site is located about a quarter of a mile north of Big Goff Creek on both sides of State Highway 95 in Texas County in the central Panhandle of Oklahoma. The creek is about five miles north of the town of Eva and the site itself lies mostly on the east side of the highway about a hundred yards south of the district school.

Area:

Big Goff Creek together with the Cimarron and North Canadian Rivers which it joins twenty miles to the east form the principal east-west drainages of the Oklahoma central Panhandle. The creek has few tributaries being fed largely by springs from the sand hills. Since salt springs are absent in the area the water of the creek though hard is potable. North of Eva the creek has a wide sandy bed with a shallow channel flowing between high north and south banks. The north bank, on which the site is located, is paralleled along its edge by a wide sandy ridge which slopes northward to a flatter surface. The ridge is covered with a fairly substantial growth of grasses, cacti, and low shrubs, except in those places where wind action has created large blowouts in the lee of the ridge. Trees are very rare in the region. None are now growing along the creek within eyesight and most of the trees which are present, specimens ten to fifteen miles away, were planted by farmers.



- LEGEND
- OLD CLUSTERS
 - DISTURBED VEGETATION

- LEGEND
- PINE TREES
 - CHERRY TREES
 - LINE OF BOUNDARY

SITE PLAN RHOTON SITE
TX-29

FIGURE 83

Site: (Fig. 83)

The site is located mostly to the east of the highway. Part of the western end has probably been destroyed by previous road construction and work around the school grounds. The area is characterized by a series of ridges running north and south to the shrub covered sand ridge which is parallel to the river. These vegetation covered ridges slope to the north and represent a recent ground surface which was first broken by highway borrow pit activities and further opened by the winter winds from the south which sweep and swirl over the bank causing sand blowouts between the ridges. There are two main ridge complexes between the road and the eastern edge of the occupation area which ends along the shores of a small playa. The intervening occupation area covers a distance of about 250 yards east-west by about 200 yards north-south.

Discovery:

This old borrow pit site was brought to the attention of the writer by Mr. Charles Rhoton, Jr. of Keyes who accompanied the writer to the spot in the spring of 1957 when a number of specimens were obtained by surface collection. The present work resulted from a chance visit during a survey of several construction projects in Cimarron and Texas counties. This occurred in November 1958 when the site was checked for any new evidence due to blowout action.

Culture Material:

The area is characterized by concentrations of stone which have been uncovered in the sands by wind action. The original stratigraphic position of the material cannot be determined in all cases since some

of the material must have obviously settled down from a higher level. However, some of the materials, as indicated by charcoal concentrations, must be in original position. This would place the deepest material 10-15 feet below the highest present surface. The concentrations appear to be the remnants of hearths and work areas. For the most part they consist of two types of stone, the remains of rounded quartz boulders and of sandstone river stones having one or more flat, possibly abraded surfaces. This latter is a point which it is difficult to determine because the exposed surfaces are sand blasted. Flint is occasionally found but it is rare. Mr. Rhoton reports that both dart and arrow point have been found at the site. The assumption in this case is that material of different ages has settled to a common surface. There are some animal bone fragments to be seen in the sands.

The quartz stones are quite characteristic of the Panhandle cultures and appear to represent the remains of egg-shaped boulders whose ends are quite battered while the sides remain smooth almost to the point of polish. Weathering and exposure have changed the outside surfaces to a dark red color. This type of material is found in the late pottery bearing cultures in the Panhandle and extends eastward at least to Custer County but quite possibly may have an earlier origin.

Hearths: (Illustrated, Figure 84)

Most of the stone material is fractured, some by heat and some by weathering. Because of the evidence of thermal fracturing it had been assumed prior to this investigation that most of the rock represented hearth material even though charcoal itself seemed lacking.

On the present visit examination of one of the stone concentrations along the eastern side of the site at the end of a small playa showed definite signs of charcoal immediately below a thin dark crust upon which the hearth stones were resting. Excavation subsequently revealed a small pit, or what could have been a mound, of charcoal about two feet in diameter and six inches deep. Some discolored stones were found imbedded in this mass; others which had weathered out on top suggested an original greater depth for this accumulation. This material was collected and it is hoped that enough charcoal can be salvaged from the mass of burned brush to result in a radio carbon dating.

Post Pattern: (Figure 83)

One or two inches below the charcoal and to one side were found other circular charcoal concentrations which appear to be the bases of posts. Further excavation revealed the post pattern shown in Figure 83. This pattern appears to be that of a small house approximately 9 x 10 feet. The posts were about 3-4 inches in diameter. Signs of charred posts appeared along the south wall and extended along part of the east wall. The remaining posts showed up as post molds or slight discolorations were found within the area circumscribed by the post pattern with the exception of one larger charred post located half way along the edge of the north wall and 15 inches in from it.

This single interior post may have represented one of the supports for a central rafter upon which shorter roof poles could have been layed at right angles. However, a corresponding post or post mold on the south side could not be located. Another possibility is therefore that this was the base of a single post ladder connected with an overhead entrance.



Fig. 84 Outline of circular hearth, half excavated in sand blowout. Burned and thermal fractured rock mixed with charcoal fill. Rhoton site, Tx-29.

This matter of entrance could not be determined satisfactorily due to time commitments. The sides of the excavation were carried 15 inches beyond the line of posts on all sides. A two foot extension was then made to the west to determine whether there had been a side entrance in that direction. Results were negative. Entrance therefore may well have been simply between two of the wall posts.

No artifacts or even hearth stones were found within the post pattern area except for those in and around the hearth. It therefore seems quite likely that the post pattern uncovered was that of wall supports which penetrated slightly below the floor level. It is quite possible that the hearth, did not belong to this house since its location next to a wall would seem an improbable location. However, it did seem likely that the old floor level of the house must have been at least this height.

Conclusions:

In size and lack of features this house resembles the small burned one found at the Hedding site, Wd-2, (Figure 67), about 200 miles to the east. It differs in that no mud was apparently used in its construction even though the basic plan seems similar. In both cases the frame was of very light poles with probably even smaller cross-members; the sides and roof were probably grass covered. At the Rhoton site the poles were slightly imbedded in the sand. At the Hedding site they were placed on the ground surface but reinforced with a mud footing. The size in both cases is approximately the same. Lacking at the Rhoton site, of course, is a central hearth and a large interior cache pit.

The finding of a house pattern associated with this non-pottery horizon in the Panhandle somewhat alters our view of these widespread stone concentrations. It suggests that these remains are not necessarily the hearths of nomadic hunting groups but those of villagers who led at least a semi-sedentary existence. The preponderance of quartz pounding and sandstone milling tools over flint weapons suggests a more moist ecological condition which permitted a higher proportion of gathering as well as an increased stability of location resulting from this activity.

The persistence of this general type of stone technology into the pottery horizons further suggests not only a continuation of culture development but of population as well. This non-pottery culture in the Panhandle equates at a technological level with that of the quartzite industry found in central Oklahoma as well as in the scarcity of flint as a tool material. However, it differs from it radically in tool form and in the relative occurrence of these forms. In the central Oklahoma material percussion-chipped planes, choppers and blades are dominant while hammerstones and milling stones are in the minority. In the Panhandle non-pottery material pounding, abrading, and milling tools are dominant and percussion tools are in the minority.

The relatively deep position of some of the material might normally be accepted as an indication of age except for the known unreliability of sand dune surfaces. Under these conditions deep deposits often result from the settling and reposition of wind blown sands. So until more positive evidence is obtained the cultural placement of the site can be stated only in terms of alternate chronological positions. For example,

if the site should prove relatively old then it would seem that the lack of pottery, dominance of pounding and milling implements, and the crude stone technology would place it in an intermediate horizon with the quartzite industry and the Archaic culture of central and eastern Oklahoma...somewhere between the Paleo-Indian and the ceramic horizon. Since the distinctive egg-shaped pounder is also found in the ceramic horizon in the Panhandle this would imply some age and considerable continuity of tradition. On the other hand the house type is like that of the ceramic horizon to the east rather than the late slab-lined houses of the Optima Focus in the immediate area. The house type together with the pounder are traits which suggest that the Rhoton site may be a rather late non-pottery occupation, even perhaps within the ceramic horizon which shows architectural influence from the Low Plains. The nearby Optima houses with their Pueblويد elements may have been developments of a later stage. Therefore, tentatively it might be logical to place the Rhoton site either in a late phase of the middle prehistoric or an early phase of the late or ceramic horizon.

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