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Iowa archaeological reports 1934 to 1939. Volume XI, Archaeological survey of the Broken Kettle and Kimball pre-historic Indian refuse-mound village sites, 1939. Number 20, Volume XI 1963

Orr, Ellison

[Madison, Wisconsin]: Society for American Archaeology and the
University of Wisconsin Press, 1963

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IOWA ARCHAEOLOGICAL REPORTS 1934 TO 1939

(TEN VOLUMES)

by Ellison Orr

Volume XI: Archaeological Survey of the Broken
Kettle and Kimball Pre-Historic Indian
Refuse-Mound Village Sites. 1939.

EDITORS OF THE SERIES

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Milwaukee Public Museum
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Chicago Natural History Museum
University of Wisconsin Press

REPORT
of an
ARCHAEOLOGICAL SURVEY
of the
BROKEN KETTLE and KIMBALL
PRE-HISTORIC INDIAN
REFUSE-MOUND VILLAGE SITES.
1939.

Project 3600 of the WPA, Sponsored by the Graduate College
of the State University of Iowa.

Dr. Charles R. Keyes, Supervisor.
Ellison Orr, Assistant Supervisor.

Obligations to Dr. G. E. LeMar of Rapid City, S. Dakota, owner of, and to Mr John Behrens, tenant on the land on which the Broken Kettle Mound is located, for permission to extensively and deeply trench this mound lying in the farm yard in constant use, and for other favors rendered; To Mrs Eleanor Kimball for permission in like manner to trench the Kimball Mound in the middle of her corn field; and to Dr. T. C. Stephens for identifying the species of clams found, are acknowledged.

Also to Mr W. C. French and others of the CCC camp for enjoyable trips to where like archaeological work was being carried on in Minnesota, S. Dakota and Nebraska; and to W. H. Overcurator of the S. Dakota University Museum, and Mrs Ralph Henderson, curator of the Sioux City Public Museum.

Ellison Orr

SCHOOL MAP OF PLYMOUTH COUNTY IOWA

PREPARED BY THE
IOWA STATE PLANNING BOARD
IN COOPERATION WITH
IOWA AGRICULTURAL EXPERIMENT STATION



LEGEND

- TOWNSHIP SCHOOL
- RURAL INDEPENDENT SCHOOL
- CONSOLIDATED SCHOOL
- CITY INDEPENDENT SCHOOL DISTRICT
- SCHOOL DISTRICT BOUNDARY
- SCHOOL DISTRICT NAMES SHOWN IN RED
- PRIMARY ROAD SYSTEM

● BROKEN KETTLE FARM, Dr. G.E. LeMay, Owner
Rapid City, S. Dakota.
Henry Behrens, Tenant, Westfield, Iowa.
SW 3/4 Sec. 3 and All that part of SW NW
lying S. and E. of Center of Road, and All
of SE of Sec. 4 lying S. and E. of Road.
T. 90, R. 48 west of 5th P.M.
1939

W. P. A.
PROJECT
2077

List of WPA helpers in Trenching Broken Kettle Mound.

- I Jasper Baldwin, 607 Market St., Sioux City.
- 2 Frank Bansworth, 617 Omaha St., Sioux City
- 3 Charlie Garside, 4202 Correctionville Road, Morningside.
- 4 Stanley Hills, 604 Bluff St., Sioux City.
- 5 Otto Zents, 4320 Harrison St., Sioux City.
- 6 Gus Kouris, 611 Virginia St., Sioux City.
- 7 Joe Heeb, 718, Iowa St., Sioux City.
- 8 Edward Jones, 1120 S. Alice St., Sioux City.
- 9 Robert Bailey, Old Military Road., west from Sioux City.
- 10 Harry Thompson, 916 Jones St., Sioux City.
- 11 Melvin Herring, 215 12th St., Sioux City.

List of WPA helpers in Trenching Kimball Mound.

- 1 Frank Bansworth, 617 Omaha St., Sioux City.
- 2 Loyd Geidl, 1616 W. 6th St., Sioux City.
- 3 Horace Hollenbach, 316 31st St., Sioux City.
- 4 Albert D. Hubert, 2112 W. 16th St., Sioux City.
- 5 Otto Zents, 4320 Harrison St., Sioux City.
- 6 Lee Tinker, 116 W. 3d St., Sioux City.
- 7 Harold Corsine, 711 10th St., Sioux City.
- 8 Gerald Ferguson, 516 Perry St., Sioux City.
- 9 Clifford Harris, 2517 Warren Ave., Sioux City.
- 10 Harry Thompson, 916 Jones St., Sioux City.
- 11 Melvin Herring, 215 12th St., Sioux City.
- 12 Michael Mathers, 2038 S. Lakeport. Sioux City.
- 13 Fred Tinker, Jr. 3413 Dupont St., Sioux City.
- 14 Daniel OConnor, 3729 Floyd Ave., Sioux City

MAP No. 1

MAP
of
BROKEN KETTLE PRE-HISTORIC INDIAN
MOUND and VICINITY

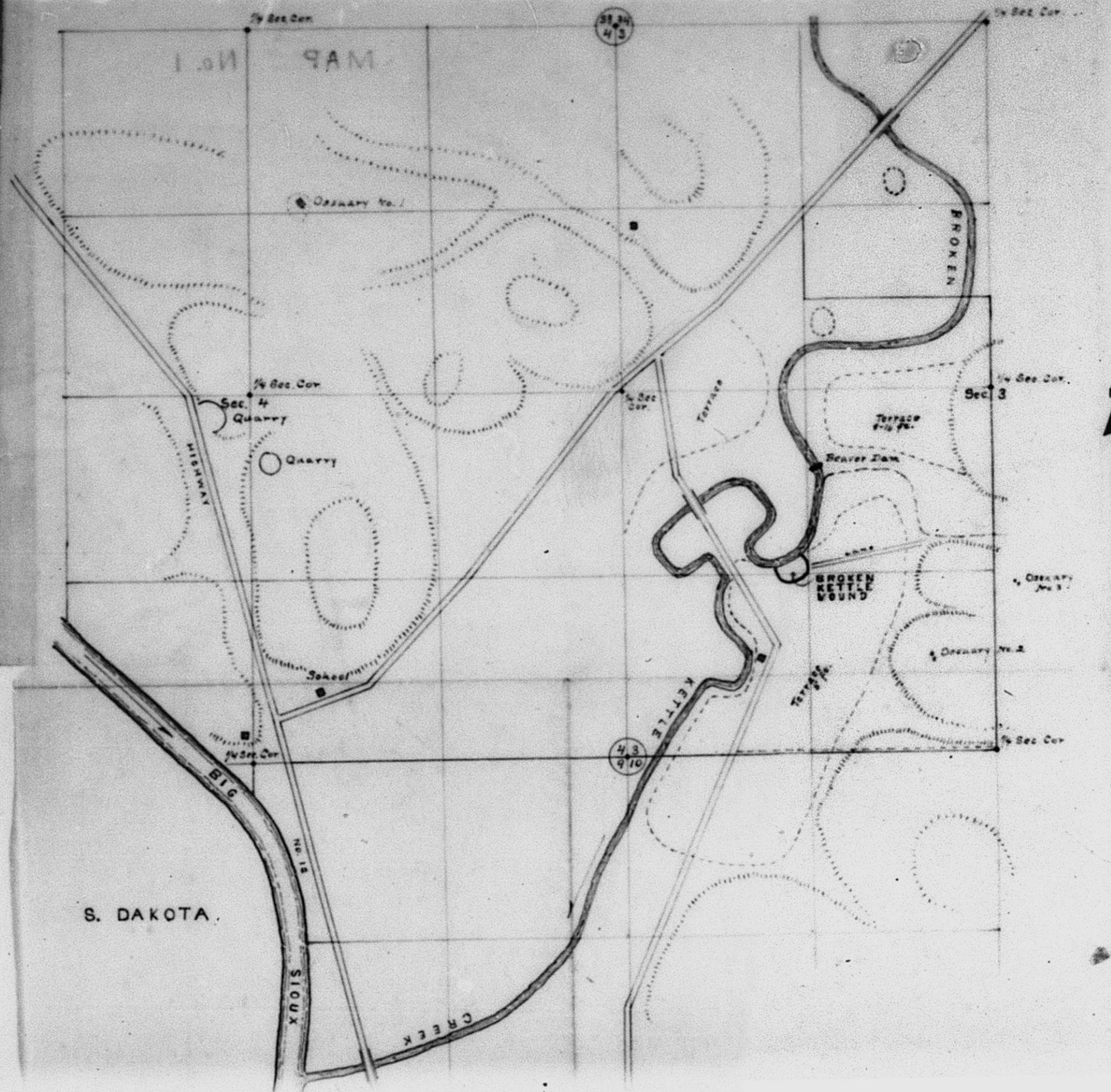
Located on Sections 3, 4, 9 and 10
T 90, R 48,
Plymouth County, Iowa.

Explanations.

- Foot of Loess Bluffs
- Edge of Terrace, - elevation
above flood plain in red ink.
- Natural Mounds in Flood
Plain

Scale, 1 inch 8 chains.

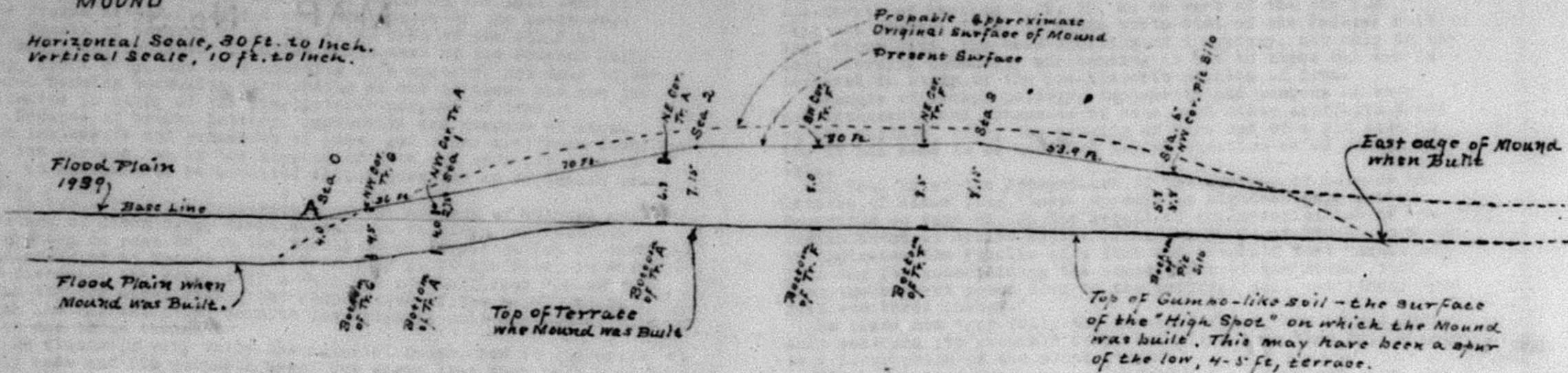
Survey by Ellison Orr, Field Super-
visor. 1939.



EAST and WEST
CROSS SECTION of
BROKEN KETTLE
MOUND

Horizontal Scale, 30 ft. to inch.
Vertical Scale, 10 ft. to inch.

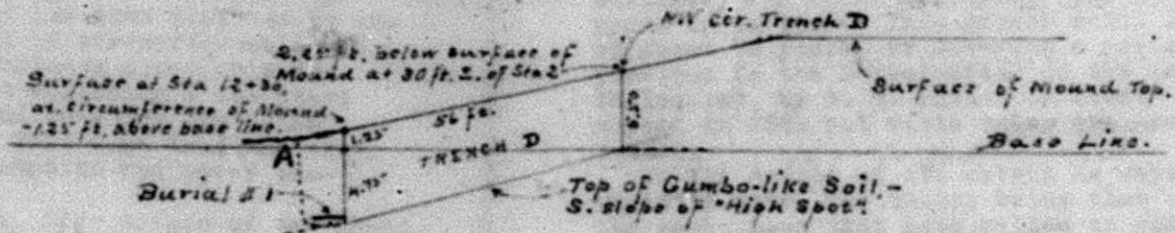
Continuation of Present Surface
and of Probable Surface of
"High Spot" Eastward - not de-
termined accurately.



LONGITUDINAL PROFILE OF
TRENCH D
BROKEN KETTLE
MOUND

NW Cor. Trench D, 30 ft E.
and 67 ft. S. of Sta. 2.
Runs S 23° W, 56 ft.

Horizontal Scale, 30 ft. to inch.
Vertical Scale, 10 ft. to inch.



Surrey by Ellison Orr
Field Supervisor,
1939

THE BROKEN KETTLE PRE-HISTORIC INDIAN MOUND.

For many years the Broken Kettle Mound on the left bank of the Broken Kettle Creek and near the center of the South-west one-fourth of Section 3, T. 90, R. 48 west of the 5th P.M. Plymouth county, Iowa, 12 miles north-west of the Federal Building, Sioux City, has been something of a mystery, not only to the local farming community surrounding it but to those who are interested in study of the pre-historic peoples of Iowa.

Because of broken pottery, implements and weapons of stone, and implements and ornaments of bone, and other artifacts found on its surface, or by the digging of pits and of a pit silo in it, it has come to be accepted beyond question as of Indian origin.

In Vol. II of the Proceedings of the Academy of Science and Letters of Sioux City, there appears an eighteen page article, beginning on page 85, on the "Result of an Investigation of the Indian Mound at Broken Kettle Creek," by W. T. Stafford, in which he discusses the results of a four and one-half foot "cross section dug for ascertaining the composition of the mound", that, "from the highest point down to the original soil was (then) nine feet and three inches."

He discusses very fully the material found, how it was probably made and its probable uses, but gives less than half a page to a description of the mound itself.

When recent excavations are considered it does not seem possible that all the material described by him could have been taken from the trench dug. It is more likely that he used a general knowledge of historic and proto-historic Indian customs and the manufacture of weapons, implements, etc. and their uses. However, on the whole, it must be considered a valuable contribution to the record of the knowledge of the Mound.

On page 88 he says; "since the mound has been deserted by the builders, elm trees measuring four feet in circumference have grown up on it." This growth would indicate a probable age of about 75 years, or covering a period beginning a few years previous to the homesteading of the land on which the mound is located, by B. B. Sutton in 1868. This same land was preempted in 1856 but title under the preemption was never perfected.

On the source of its origin he says: "The origin of the mound is in dispute, one theory being that the pile is the remains of the adobe huts that have fallen to ruin and decay, and that on the site there have been successive villages; another, that the village was near the spot and that this mound represents that part of their civilization that is now represented by our modern city dump, the rubbish at time being covered with clean fresh dirt."

Still another, and perhaps the correct theory, is that the builders camped here year after year and each time covered the debris with a fresh layer of earth.

This last is Shetrone's theory. On page 184 of "The Mound Builders" he says, "Instead of collecting and removing the garbage, (Of a village) they prefer the much more laborious method, when the accumulation becomes so great as to become unbearably obnoxious, of carrying earth and burying the debris where it lies scattered about."

On Sept 24th, 1910 a written report was made by A. G. Garretson to H. C. Powers, Curator of the Academy's museum, in which he describes the excavation of a trench from circumference to center, and of a pit, in the Broken Kettle Mound by "two good ditch diggers," and what was learned by the work. This ditch is reported to have been dug from the south circumference due north to the center and down to the original surface of the ground.

He says: "We found the character of the mound to be the same in the several locations examined." In a summary of his findings he enumerates: large quantities of ashes; broken pottery; bones of animals and fowls; horns of deer; stone tools; bone awls; flint arrow points; material for painting and vast quantities of clam shells.

He found no human burials but tells of the owner, Mr. Robert James, finding two adult skulls in the west end of the mound some years ago, not associated with any other skeletal remains.

These were probably "trophy skulls" like the one found by us in Trench A, Section 2, at 18 inches below the surface.

There are three traditions in the neighborhood as to the origin of the name of the mound. One is that it received its name because of the amount of broken pottery found scattered over its surface. Another, that it is the English equivalent of the Indian name for it. A third, that near its source, many miles north-east, there is an isolated hill resembling a kettle broken in two.

The foregoing work, described and made of record, still left much to be determined. But lack of funds necessary to carry on the extensive trenching that more complete exploration would require, for years prevented further scientific work.

In 1939 the approval of Project 3600 of the WPA, sponsored by the Graduate College of the State University of Iowa, following earlier similar projects originated and sponsored by the Iowa State Planning Board, by which ten WPA men were made available as shovel men for the work of excavation during the summer of 1939, made further planned and organized work possible.

Dr. Charles R. Keyes, Archaeologist for the State Historical Society, and the writer as Field Supervisor, took over the work.

Accordingly on June 5th, 1939, the organization was completed and work begun on the Broken Kettle. Some little difficulty was experienced at first in arranging for transportation for the men, but this was soon satisfactorily settled.

From a map of the topography and general surroundings, (See Map No. 1 following) it can be seen that the Broken Kettle Creek, a perennial stream, normally about 12 to 15 ft. wide, flowing at the bottom of a ditch approximately 30 ft. wide and 13 ft. deep, meanders in long straight reaches, curves and oxbow loops through its bottom lands on the west half of the SW of Sec. 3, T. 90, R. 48.

On its left, - south-east, - bank at a point where the center line, - tangent, - of the channel coming from the north is joined by a short curve with the center line, - tangent, - of the channel going west, with an apex angle of 125° , almost at the center of the SW quarter of Sec. 3, it cuts into the low, 4 X 6 ft. high, terrace that lies between the bottoms and the foot of the bluffs to the east, lies the mound, out of the north part of which the creek has eroded a triangular sector the apex of which almost reaches its center, so that it resembles a robust quarter moon.

Even where it has never been disturbed by cultivation it is difficult to fix accurately the diameter of a mound, and where one has been under cultivation or lies, as does this one, where buildings have been erected on it and stock have trampled over it for years, it is impossible to determine its circumference except approximately.

This mound has suffered some erosion and consequent flattening out from all of these and an indeterminable change in its circumference.

In a letter to the academy dated Sept. 10th, 1910, Mr. C. R. Marks, then owner of the land, says: "Evidently the Broken Kettle creek had washed into its north side of the mound, and after I came into possession of it in 1878 or 1879, considerable pottery, bones, stones and shells would be washed down the bank, and at one time in plowing upon the top of the mound we came upon what we considered to be a clay pottery oven, - probably two and one-half feet square and two feet deep, with walls two or three inches thick of clay."

From points in the approximate perimeter as fixed by us, the east and west diameter would be 240 ft. In our examination of the mound in 1934 when we made a state-wide survey of Iowa Indian Mound Groups for the purpose of determining a limited number to be recommended to the State Board of Conservation to be set aside as preserves, we fixed the approximate east and west diameter at 230 ft.

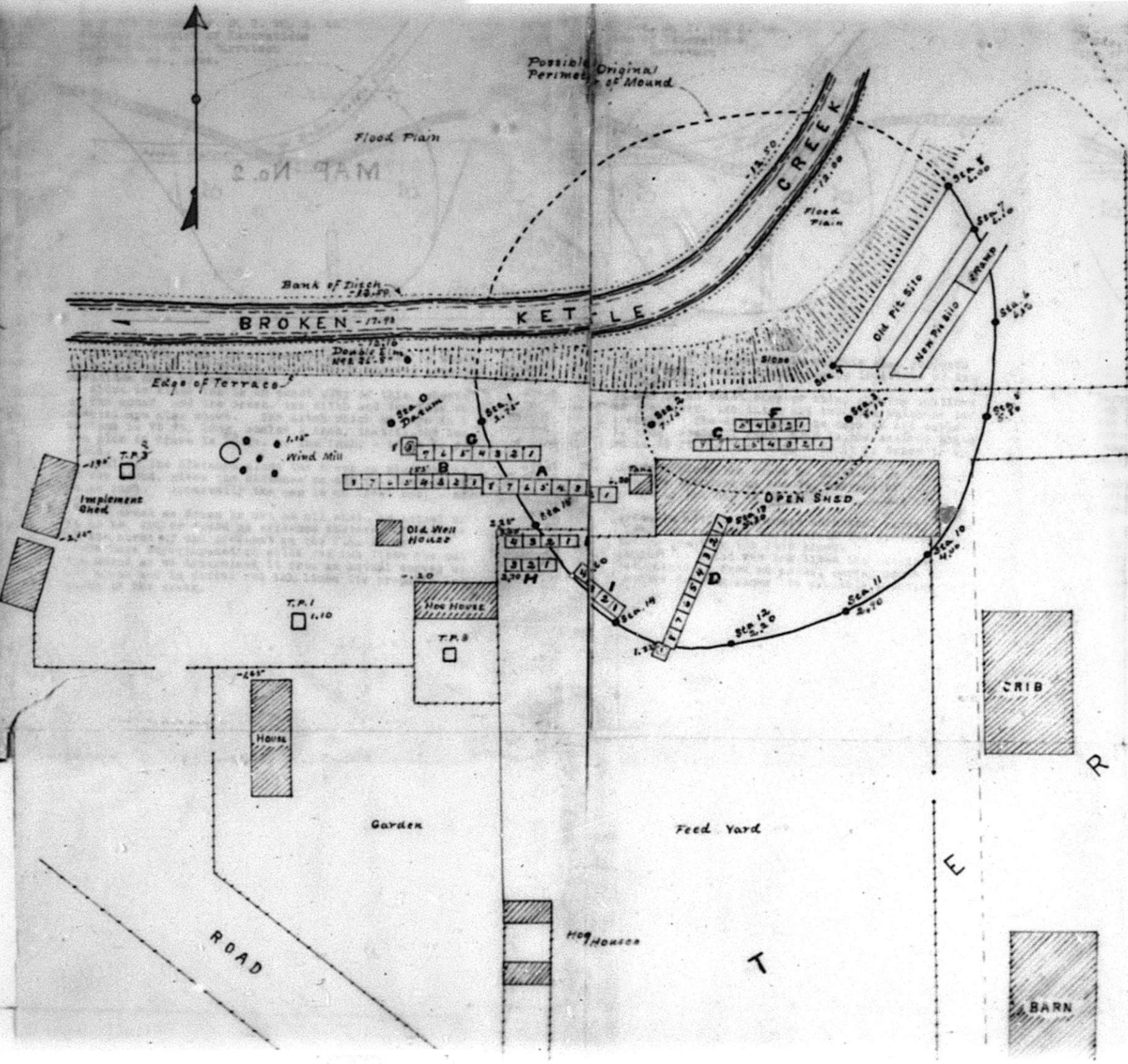
Cubic Contents 2500 cu.
 Excavated and worked over 110 cu.
 Survey by Ellison Orr 1934

PLAT
 of
 "BROKEN KETTLE" PREHISTORIC
 MOUND



Depth of
 Mound Earth
 in Center 8 ft.
 Scale 1 in. = 20 ft.

Excavations
 made under authority
 of the
 Iowa Delineation Board



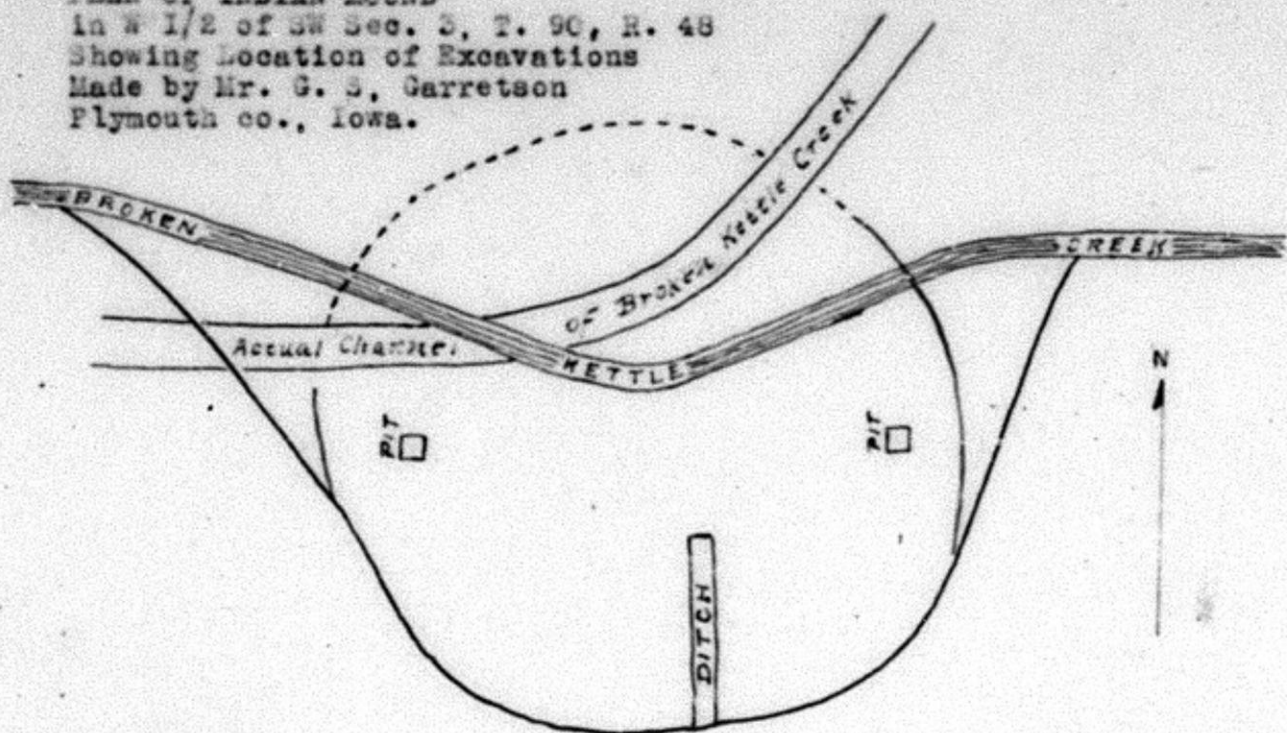
BROKEN KETTLE MOUND and SURROUNDINGS

SHOWING
Excavations June 5th to Sept. 1
1930
Survey by Ellison Orr
Field Supervisor

- EXPLANATIONS
- Flat top of Mound bounded by dotted line in Red Ink.
 - Trenches
 - Test Pits
 - Burials
 - Fences

4

COPY OF
 PLAN OF INDIAN MOUND
 in W 1/2 of SW Sec. 3, T. 90, R. 48
 Showing Location of Excavations
 Made by Mr. G. S. Garretson
 Plymouth co., Iowa.



On page 310, Vol. IX of Records of the Past is what purports to be a Plan of the Broken Kettle Mound showing locations of Excavations made by Garretson.

Above in black ink is an exact copy of this, showing outlines of the mound, and the creek. the ditch and two pits which he excavated are also shown. The ditch which he says in his explanations is 75 ft. long, scales 1 inch, that is, the scale to which the plan is drawn is 75 ft. to the inch, - if it is drawn to a scale.

Scaling the distance along the creek as platted, at the base of the mound, gives the distance as 435 ft. instead of 640 ft. as he says. Apparently the map is an ideal one, - not drawn to a scale.

The creek as drawn is not at all where an actual survey shows it to be, and we found no evidence whatever of the prolongation of the horns of the crescent as the Plan shows.

We have superimposed in solid red ink lines the outline of the mound as we determined it from an actual survey south of the creek and in dotted red ink lines its probable location north of the creek.

The distance from the south circumference to the center as fixed by Garretson, he gives as 75 ft., the length of his trench.

As we worked on this mound for two months and "looked it over" from all points many times, besides the survey made, we feel certain that, although of necessity it can only be an estimate, the center is at least 25 ft. north of Garretson's point.

Our Survey shows the mound to have been approximately circular or slightly oblong, with its north and south diameter around 200 ft., and 240 ft. east and west.

Well towards one-third of the north-west part of it has been washed away by the creek.

However there is the possibility, although improbable, that from the beginning it has been crescent shaped.

Garretson also estimates that four feet have been removed from the top by erosion.

When we remember that ~~that~~ it may have been used as a village site to within two hundred and fifty years of the present time, and that for any time between its abandonment ~~and~~ two hundred and fifty years ago it ~~was~~ covered by prairie vegetation or forest, and that as a village, or at the last, possibly only a camp site, its top would have been flat or nearly so, it must be conceded that erosion would have been slow, and we believe that his estimate is too great, and that the much more probable greater elevation was under two feet.

The present elevation of the mound ^{of the Bottom Land} above our datum line at the approximate present terrace level and which proved later to be at the same level as the "High Spot" on which the mound was built, is from 7.5 ft. at Station 2 of the survey, at the west end of the flat top area, to 8.15 ft. at the east end.

Beyond question the mound was built on a "High Spot", either a natural mound in the flood plain similar to the two on the NW 1/4 of Section 3, or what is more likely, on a small westward projecting spur of the low, - 4 to 5 ft. high, - terrace to the east. See Map No. 2

At the bottom of the stratified earth containing the refuse, - charcoal, ashes, broken pottery and bones, clam shells, etc. and the floor on which the mound was built, is a stratum of black gumbo-like earth. From a level area under the central part, corresponding to the same area of the present mound top, the surface of this old soil slopes to the west and to the south, as shown in trenches A, B and D, between the margin of the flat area and the perimeter of the mound dropping four to five feet to a lower level of the flood plain at the time the mound was first occupied.

So far as developed by the excavation of the new pit silo, the central floor runs back eastward with but a slight slope, to under approximately four feet of terrace material, subsequently deposited.

While the material composing this man-made mound was accumulating, the surface of the flood plain and the terrace were being added to by alluvial flood deposits, dust deposited by storms,

① was

TRENCHES C and F
in
BROKEN KETTLE

Showing Post Holes of House Wall Posts at the level of the Original Gumbo-like Original Soil, at 7.5 to 8.5 below the present Surface of the Mound.

Explanations:

Sections of Trenches numbered in red ink.

○ Post Holes.

----- Fence Lines.

Scale, 4 ft. to Inch.

In Trench C:

① ⑪ Pottery Dump.

② 2 Buffalo Shoulder Blades, - digging implements. See photo, page

③ Elk Shoulder Blade and Buffalo Skull digging implements. See photo, page

④ ⑫ Celts.

⑤ "door knob."

⑥ Crane's Head carved from elk tine.

⑦ Bone Fish Hooks.

⑧ Toy Pot.

----- ⑨ Boundary of area especially prolific in inclusions. 4 ft. in depth.

In Trench F:

⑩ Fish Hook.

⑪ "door knob".

⑫ Chalcedony Knife.

⑬ Celt.

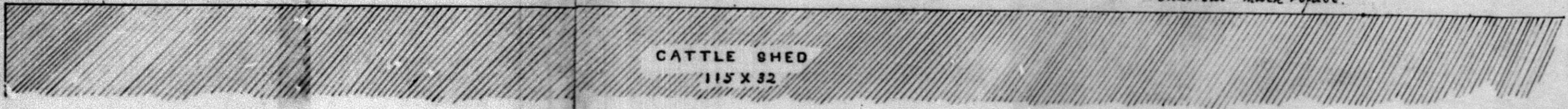
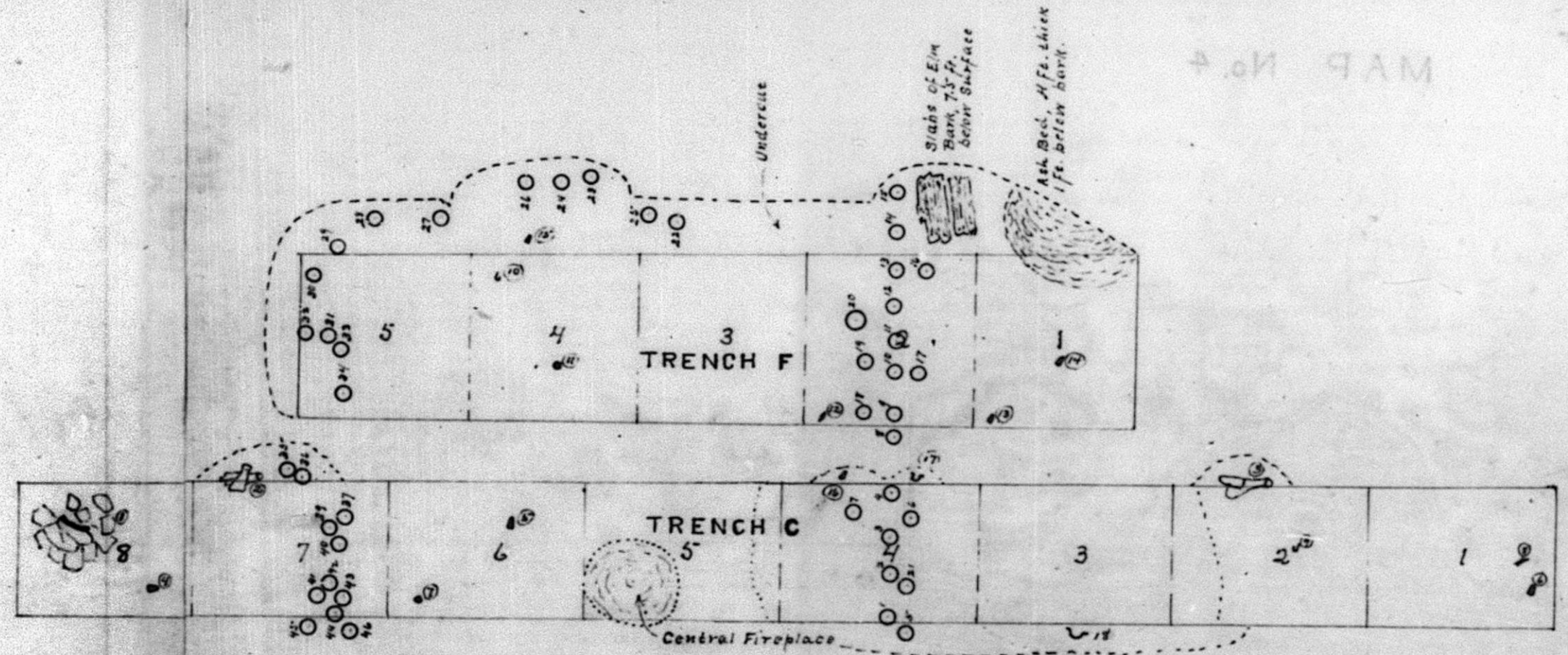
⑭ Celt.

⑮ Celt.

M.A.P. No. 4



● Sta. 2



soil washed off the bluffs, and humus. The material so deposited approximately equals in thickness the original height of the "High Spot", - 4 to 5 ft., - so that the present level of the surrounding surface to the south and west approximates that of the old "High Spot". See Map No. 2.

As a part of the compensation for digging trenches, 6 to 8 ft. deep, aggregating five hundred feet in length and five to seven feet wide, in different places in his farm yard, we agreed with Mr. Behrens, the tenant, to refill the old pit silo in the north-east part of the Broken Kettle Mound, the sides of which had been riddled with pockets made by "relic Hunters", with earth excavated from a new one.

The new silo to be ten feet wide, eight deep and forty-five long with a twenty foot ramp at the north-east end. (In length both silos had a direction of N 33 E)

In order to make some examination of the strata that might be shown on its sides and secure specimens of the material that might be found in that part of the mound we trimmed off some twelve inches of the pitted sides of the old silo.

Irregular sections of the walls showed distinct stratification of blackish, gray, brown, yellow and reddish earths. These strata were very irregular as to area, superimposition and thickness of from a mere streak, often swelling out in a few feet to 2 to 4 inches, (In one instance to 12 inches)

The very yellow strata, some of which were of a greenish yellow, contained none of the small particles of charcoal that was disseminated quite plentifully through all the other earths.

Thin ash strata at all levels, having a length sometimes of ten feet, were not scarce. Usually ash deposits were lens shaped, often with a diameter of two to four feet and a thickness up to five inches, and pure white unmixed with charcoal.

Small fragments of pottery, like the charcoal, were scattered through all the earths except the very yellow or greenish-yellow.

Besides these, implements and weapons of stone and bone, ornaments of bone and shell, pipes, and other artifacts were found very irregularly as to horizontal location and as to depth, in all strata except the very yellow.

The larger sherds of pottery were found singly, or two or more types together in nests, always with more or less soil mixed with them and often associated with broken large bones or clam shells.

The soil directly in contact was never stratified but homogeneous and often mixed with charcoal dust, - probably the filling of small, shallow pits not exceeding eighteen inches in diameter and twelve deep. The sides of these pits, - if pits they were, - could not be determined. There was a gradual change from the stratified earth to that of the supposed pits, - no sharp demarcation.

One noticeable such area, containing much fine refuse, charcoal dust and broken bones large and small, with a very irregular diameter of five to six, and depth of three feet, bowl shaped, in which were some fine large pottery sherds of several types, forty feet from the south-west corner, was found in the upper half of the west wall of the pit.

Also at twenty-five feet north-east and four feet east from the south-west corner, at thirty inches below the surface was a lens of pure ash, thirty-two inches in diameter by three inches deep, resting in a basin in yellow clay, three to four inches deep.

Along the south-west end of the west wall was a stratum of light yellow clay fourteen inches thick and eleven feet long, - the thickest and most extensive strata of this particulate clay encountered in any excavation. The top of this, at six feet below the surface was approximately level below twelve inches of dark gray soil containing a very few very small, well scattered pieces of charcoal.

No attempt was made to divide the old pit silo into sections and the location of material of special interest from the south-west corner, located N 38 E, 10 ft. from survey station No. 4



Men refilling the old pit silo. Behind the man at the right and in front of the man stooped over back of him was the area of accumulated refuse described in paragraph I of this page.

Looking south-west. Note the north side of the cattle shed at back.

Broken Kettle farm-yard. Broken Kettle Mound extends from directly back of the east end of the Hog House with the window in the center, under the water tank and open cattle shed, to directly back of the tractor at the back, - east half of the picture.

Unoccupied house at the left. Horse and cow barn at the right. Back of barn is corncrib and granery.

Wind mill back of the left hand hog house.

Back of the open shed were the Pit Silo and trench C and F.

To the left of the shed and between the water tank and the wind mill were trenches A, B, and G.

Beginning just under the shed a little west of its center and running down the slope of the towards the foreground was trench D.

Trenches E, H, and I were just to the right of the hog house with the Window.



NEW PIT SILO.

As agreed, a new pit silo, 45 ft. long, N 33 E, 10 ft. wide and 8 ft. deep, was dug parallel to and 4 ft. from the old one.

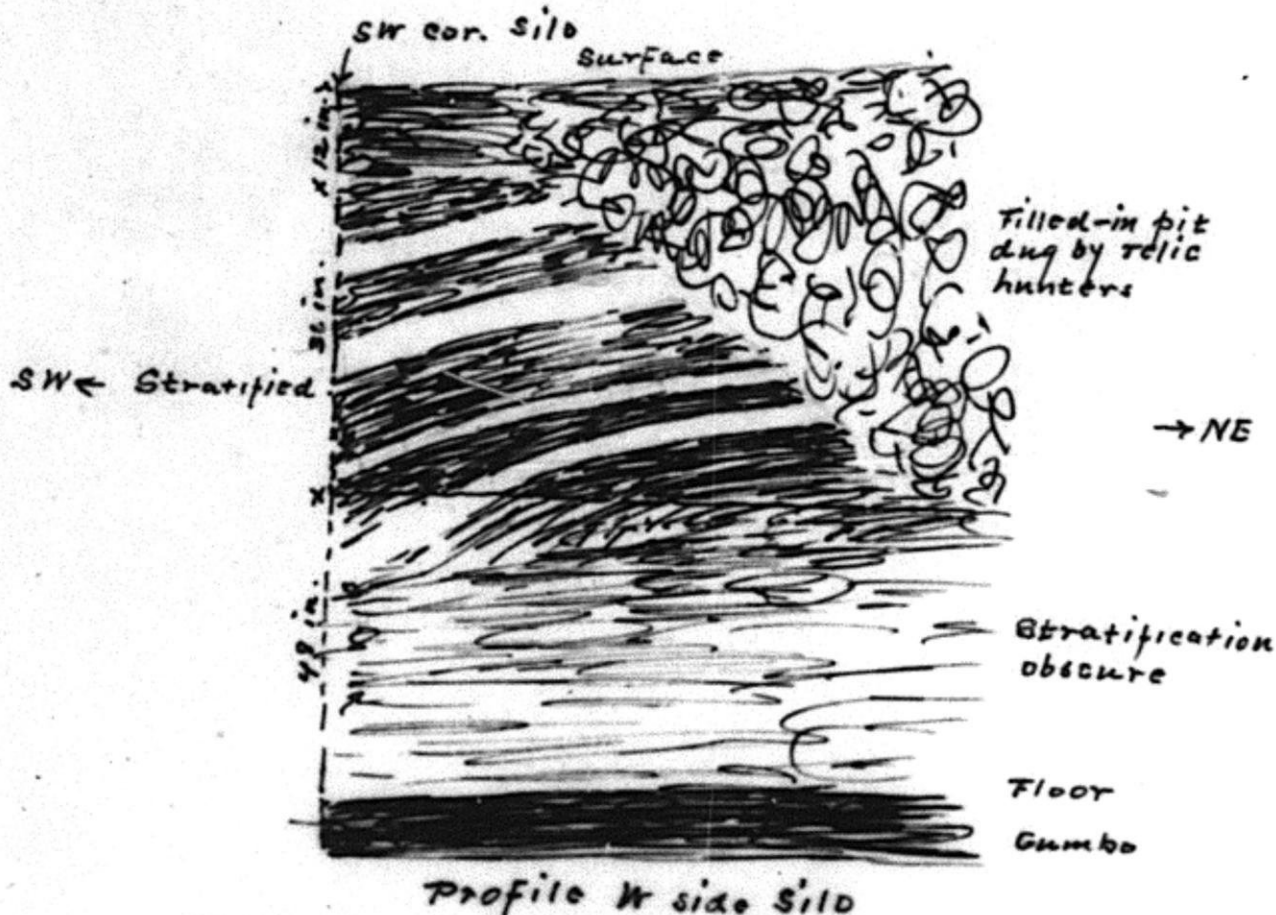
The south-west corner of this was N 44 E, 26.2 ft., the south-east corner, N 59 E, 31.8 ft. from survey station No. 3.

At the north-east end a ramp 20 ft. long and same width as the silo was dug sloping from the surface down to the floor.

In excavating the characteristic jumble of abbreviated, overlapping, superimposed strata, often very pronounced and again obscure, were found. Noticeable strata began at around three feet from the surface. Above that the soil was mixed yellow and black gradually changing to black at the surface. Changes from one soil to another were seldom sharp and well defined.

For the most part these strata were approximately parallel to the uneven top of the black gumbo-like soil believed to be the floor of the mound. See photographs.

There were two noticeable exceptions: The profile of the west wall for six feet from the north-west corner, (See photograph) shows the strata dipping downward approximately one foot, and for five feet from the south-west corner there is a decided downward dip. See sketch below.



Connecting stratification at the south end curved downward in center. See photo.

Small pockets containing a few small pottery sherds were not uncommon. In the east wall near the center, and nearly opposite in the west wall, were obscurely outlined accumulations or aggregations, (Pita ?) of refuse, - earth mixed with powdered charcoal and ashes, broken bones, pottery sherds, bone awls and tools, etc. Ash lenses were found at all levels to within a foot of the surface, in all parts of the pit. See photograph.

Following field notes give some idea of the features encountered. However it must be remembered that pottery sherds, bone implements, broken bones, clam shells, with evidences of fires in the shape of charcoal and ashes, in addition to the few instances given above, sometimes abundant, at others scarce, in all the estimated 95% of mixed stratified and homogeneous earth of which the mound was composed:

"Half of small pot and other sherds in NE cor. 20 in. below surface and 12 in. from E. wall, in black soil.

"20 ft. N. and 4 ft. east of SW cor., at 20 in. below surface, lens-shaped ash deposit, 4 in. thick at cen. Stratum of yellow clay under ash, - 5 ft. in length exposed.

"Plain crudely made toy pot, 1.5 in. in diameter, found at 38 in. below surface, 60 in. W. and 48 ft. N of SE cor. No other inclusions, charcoal or ashes near. Dark soil.

"Chalcedony notched arrow point at 18 ft. s. and 36 in. E. from NW cor., at 30 in. below surface. No other inclusions, charcoal or ashes near.

"Generally at 30 in. below the surface began to find many scattering broken bones, one nearly a complete lower jaw of a deer. Soil blackish.

"Thin stratum, - just a trace, - of charcoal and fireplace residue, 1/2 in. thick, 36 in. exposed, beneath which is a stratum of very yellow clay, (Paint ?), 1/2 in. thick in the center but feathering out at the edges, 50 in. from W. wall and 33 ft. from the SW cor. 36 in. below the surface.

"Deposit of red earth, 18 in. exposed, with small specks of charcoal. Center 15 in. from E. wall and 24 ft. from SE cor. 42 in. below surface.

"Fragment of human skull with obscure suture, 12 in. E and 30 ft. from SW cor. 60 in. below surface.

"In the Se cor., in blackish soil containing small pieces of charcoal, a large sherd of pottery with decorated flaring rim, Type No. 2, Incised horizontal lines encircling it with triangular plain areas extending up from the plain body, every 2 and 1/4 in.



Body

1/2 actual size

In New Silo.

10 in. long elk tine tool in E. bank, 54 in. below surface and 7 ft. from SE cor.

"Elk tine 65 in. below surface, 12 ft. from NW cor.

"Ash deposit, 36 in. in diameter, 2 in. thick, over an area of thin greenish-yellow clay, 5 and 1/2 ft. X 8 ft., the center of which was 6 ft. S. of NE cor. and 60 in. below surface.

"Ash stratum, 30 in. in diameter, 3 in. thick, 50 in. from W. wall and 20 ft. from SW cor. 46 in. below surface.

"Celt from center of pit at 50 in. below surface.

"Bottom of lens-shaped pure ash deposit, 3 in. in thickness at center and 30 in in diameter. Center 52 in. west and 19 ft N. of SE cor. Above this a 1 - 2 in. black stratum with much small charcoal.

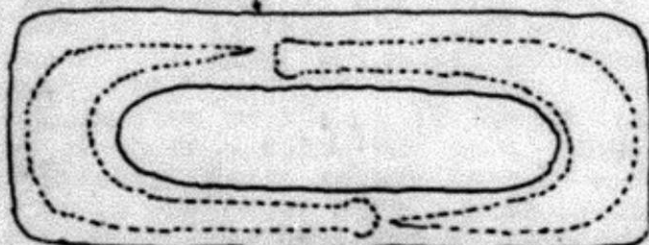
"Black fireplace with charcoal. 5 plain body sherds, 1 piece with thick plain vertical rim, (Type No. 1), 1 flat red rock and 1 abraider. Center of deposit 40 in. from W. wall 26 ft. from SW cor. and 80 in. below surface.

"At 94 in. below surface, 30 in. from E. wall and 18 ft. from SE cor., bottom of ash, fireplace refuse and charcoal deposit in black soil. Deposit 20 in. in diameter and 10 in. thick.

"Pottery body sherd with twisted string impressions, in black soil, 6 ft. below the surface at 3 ft. S. and 1 ft. W. from NE cor. at 6 ft. below the surface.

"At 82 in. below the surface at top of black soil, - gumbo, - a rectangular piece of round bone was found, partly worked to make 2 fish hooks. 2 ft. W. and 12 ft. N. from SE cor

Cut in two here



Roughed out for two fish hooks.

Cut in two here

"In the SW corner an area of 4 ft. in diameter of black earth, at 2 in. below a yellow stratum, mixed with charcoal and other burned matter, 90 in. below the surface, a bone awl, 2 clam shells, and 3 large rather thick sherds of coarse tempered, plain, nearly flat body sherds were found.

Sherds of flaring rim, (Type No. 4) and body with incised parallel lines running horizontally around and covering the whole of it, found at 92 in. below the surface, in black earth, 36 in. E. of W. wall and 9 ft. S. of NW cor.

"Awl and shoulder-blade digging implement from 10 in. below the top of the black soil stratum, - in pocket, - 90 in. below the surface, and 1 ft. from west wall, 18 ft. from north-west corner.

"At 7 ft. below the surface in mixed yellow and black soil, over black, a piece of rib bone partly worked to make two fish-hooks, 1 ft. west of the east wall and 7.5 ft. north of the south-east corner.

"Most of a thin-walled pot and other sherds in ash bed, 2 ft. east of the north-west corner, 72 in. below the surface.

"Lens-shaped piece, - "door knob", from four feet below the surface in the north-west corner of the Old Pit Silo.

"Seventy-five inches below the surface in the east wall, six feet from the north-east corner, black fire refuse, ashes, bits of charcoal, small pieces of rotten bone, and pottery sherds.

"One foot east and fifteen feet north of the south-west corner, at 84 in. below the surface, sherds of thin pottery, buffalo rib and foot bones.

"Pottery sherds of two types at top of black, gumbo, soil at 96 in. below the surface, in south end of New Silo.

Subsequent to the digging of the New Pit Silo and the refilling of the old, all trenches were divided into sections seven feet long and each workman assigned a section to excavate. One foot of soil was thrown out and the loose earth cleaned off. All were instructed to watch closely for any inclusions and lay anything found out on the bank. As an inducement to be watchful a small bonus was paid for certain articles not very common, such as bone fish hooks, celts, pipes, whole or nearly whole pottery, or any other unusual piece. By this we not only secured valuable material that might otherwise have gone over in the dump, but also much more of the commoner things.

It also made them more careful for if they broke or damaged anything on which a bonus was paid, they got no pay. All the material found in any foot of any section was washed up and put in one sack, with a memo of what it contained, what section it came from and at what depth.

In this way, foot by foot the excavation was carried down to the floor of the mound. If a digger struck anything out of common, such as large pieces of pottery, human bones, accumulations of animal bones, ash lenses or post holes, I was to be informed at once that they might be carefully uncovered.

TEST PIT No. 1

From Survey Station O, Test Pit No. 1, 72 X 42 inches, and 72 inches deep, bears S 24 W, 84.9 ft.

In the center at a depth of 48 inches, struck a deposit of small bones, much broken up, 24 inches in diameter, which extended down to a stratum of ash and other traces of fire, with clam shells and pottery sherds to a depth from the surface of 72 inches.

Included were three shoulder blade digging implements, eleven deer claw cores, seven small foot bones, one whole long bone and many clam shells.

At sixteen inches below the surface was a small pot, whole except for about one-half the neck and shoulder.

TEST PIT No. 2

Test Pit No. 2, at IO5.1 ft., S 81 W from Survey Station No O, 4 X 4 ft., was sunk to a depth of four feet through black alluvial soil, gradually becoming yellow, to a depth of 48 inches, with no other material encountered except three small, plain body sherds.

TEST PIT No. 3

Test Pit No. 3 bears S 86 W, 113.6 ft. from Survey Station No. No. 12, and is seven feet square and six feet deep.

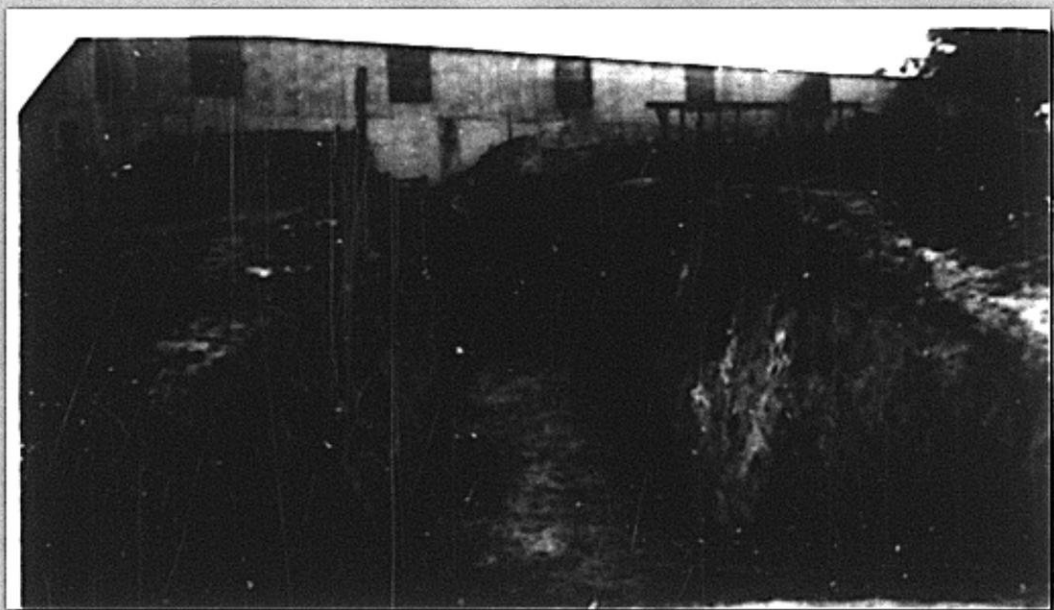
From the surface the black alluvial soil down to a depth of forty inches, contains hand rocks and small pottery sherds. Below forty inches, on the west side, the soil is yellowish, on the other three sides, blackish, with a few small specks of charcoal.

This blackish soil extends down and under the yellow to a depth of six feet.

Sixty plain body sherds, one corrugated, two decorated colored, five decorated flaring, four plain flaring, and one plain rim with hole, were included with other material.

At six feet under the south-east wall were three large bone fragments and a shoulder digging implement.

It would appear from what was recovered from these pits that while the mound was building, probably the latter part, that the terrace, or bottom land to the south-west, was occupied as a camp or village site.



Looking south in New Pit Silo. Broken Kettle Mound.

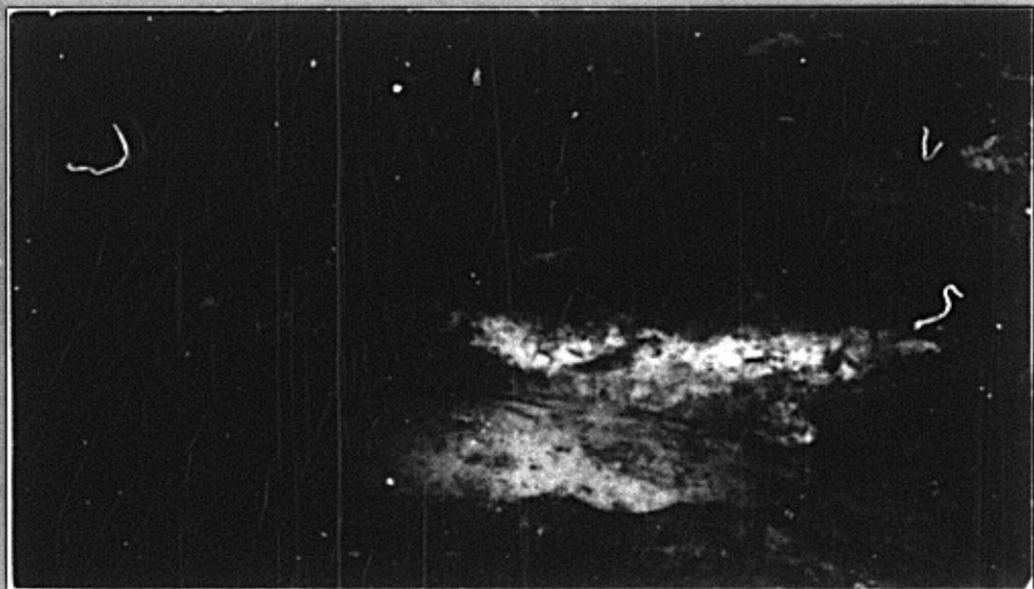
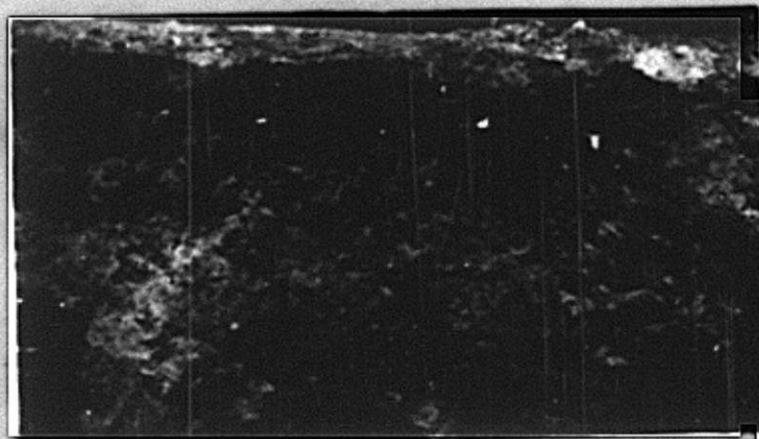
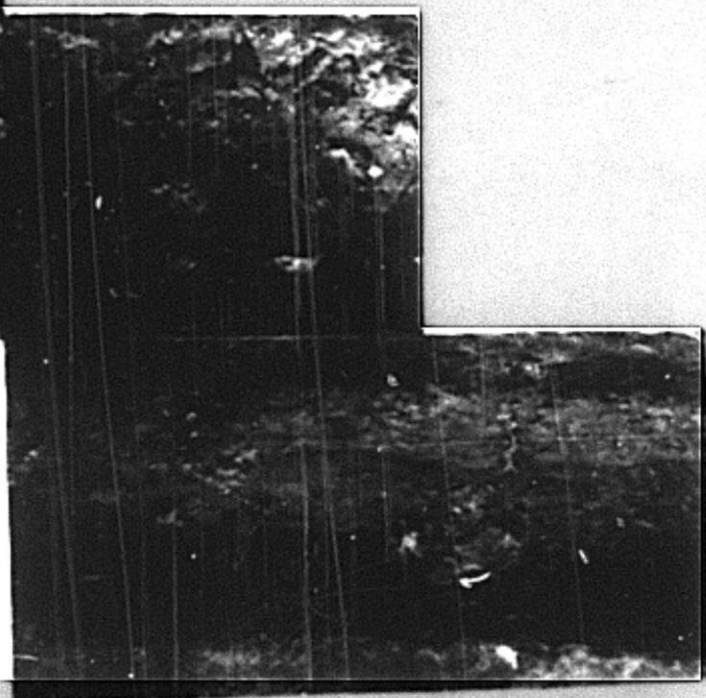


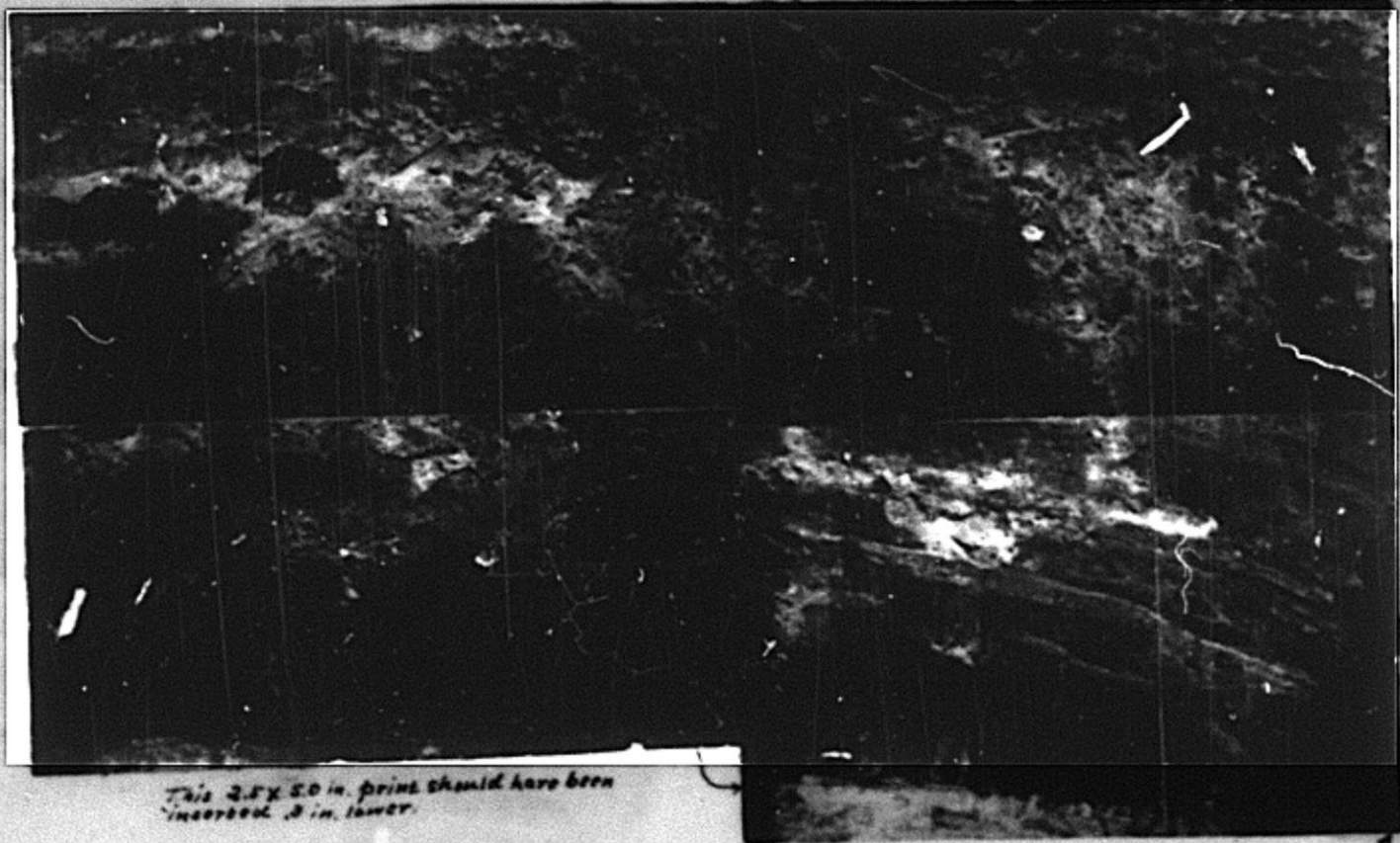
Photo of Profile of a Section of the Wall of the New Pit Silo in Broken Kettle Mound. Note Ash Stratum.



Photograph of approximately 16 ft. of
 west wall of Iron Pit Silo, Broken
 Kettle Mound: joins the Section shown
 on page 15 on left side.



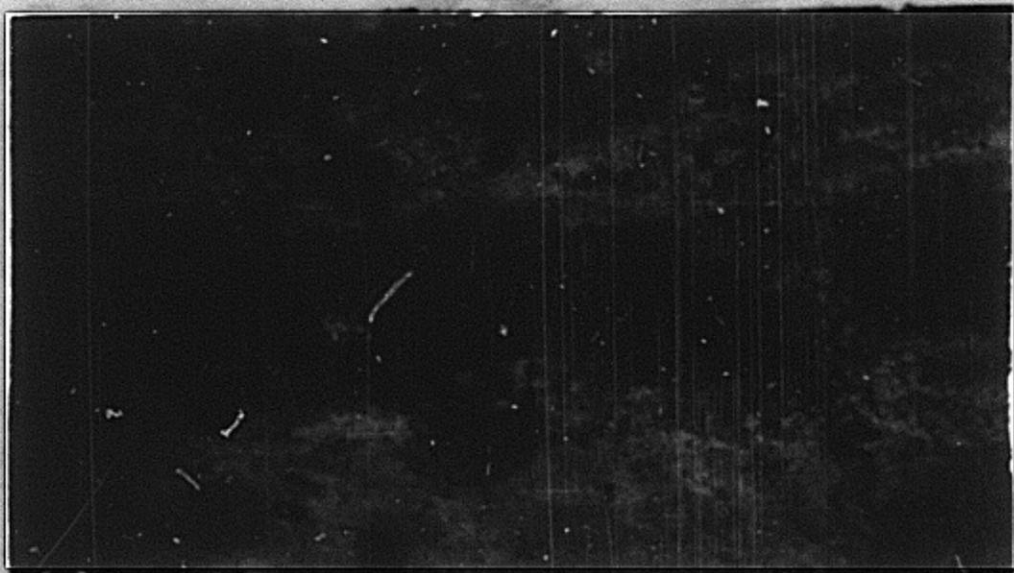
NW CORNER



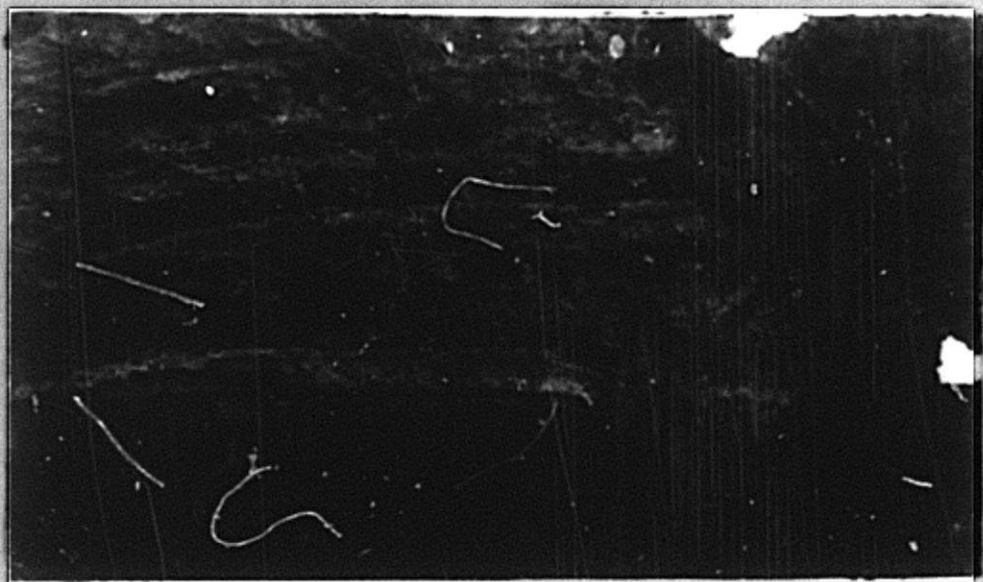
This 2.5 x 5.0 in. print should have been
inserted 3 in. lower.

Photograph of Profile of Approximately 16 ft. of N End of West Wall of New Pit Silo
Broken Kettle Mound. Note dipping down of stratified earth at NW corner.
NW corner is 20 ft. from present surface circumference of Mound.

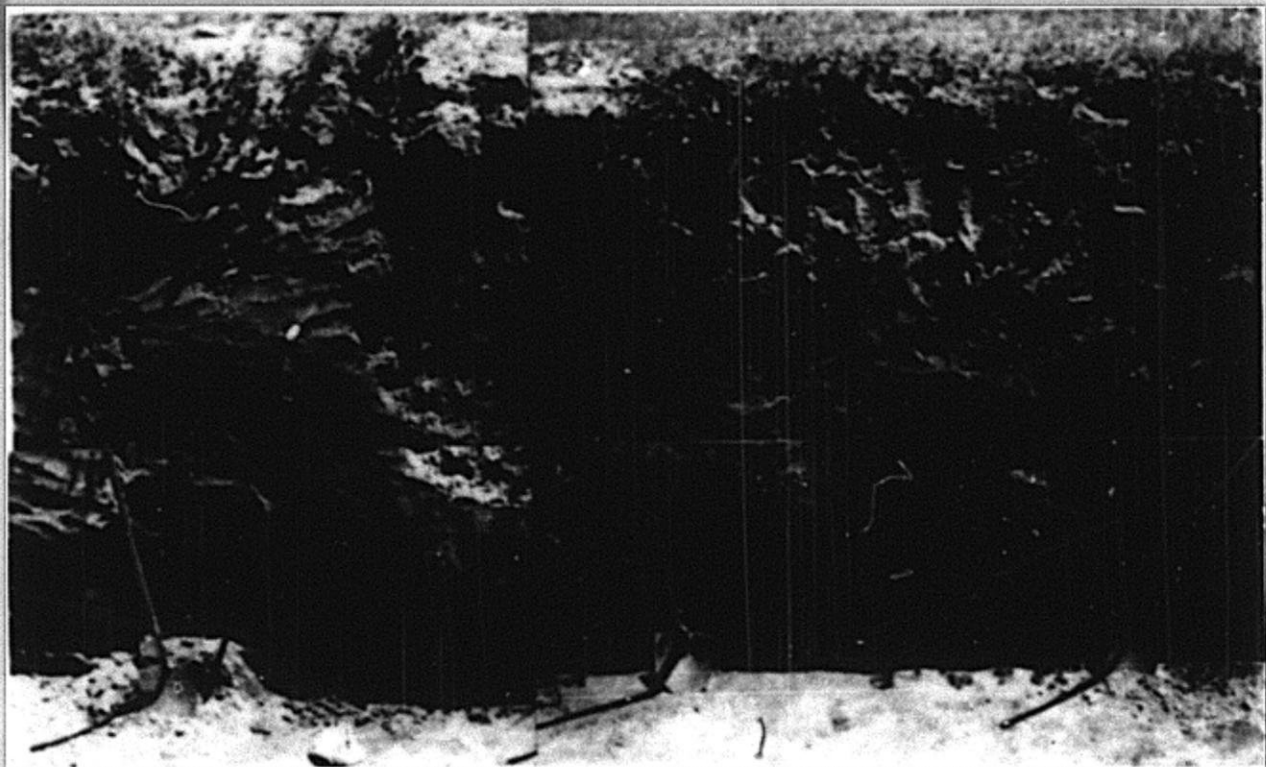
NW COR.



Profile of a Section of the east Wall of the New Pit Silo;
showing concentration (Pit ?) of refuse.



Profile of Wall, south side of New Pit Silo.
Note stratification curving down from south-
west corner. Looking south-west



Profile of face of East wall of New Pit Silo. About 16 ft. long. Right-hand side of
Picture about 12 ft. from South-east corner of Pit.

TRENCH A.

Trench A begins 15 ft. west of the center of the cattle shed on the top of the broken kettle mound, and extends, 5 ft. wide, 56 ft. due west to a point about 18 ft. west of the circumference of the mound at the present surface, as fixed by us. The north-east corner bears S 76 E, 93.6 ft., and the north-west corner, S 50 E, 34.9 ft. from survey station O.

For convenience in excavating, this, like succeeding trenches, was divided into 7 ft. sections, numbered from the east.

Important finds are indicated in the field notes, 1st, by the letter of the trench, then by the number of the section, and last by the number of inches below the surface.

A sample entry would be: Tr. A-6-45.

Handling findings were as described on page II.

Following taken from the field notes, are descriptions of some of the more notable features and findings uncovered.

For the entire trench:

"Obscure stratification; scattered pottery sherds, mostly small; buffalo, deer and other animal bones broken short off, - never split; an occasional awl or other bone tool or ornament; a few flints; many hand boulders or local rocks; and abundant clam shells, scattered irregularly at all levels, with ash strata and lens, charcoal and other signs of fire, are characteristic of this and other trenches.

"In station 2 at 18 in. below the surface, in a pocket dug 1 ft. into the south wall was found a 'trophy skull' described under 'Burials.'

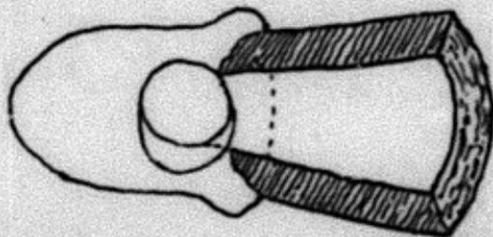
"At station 7 occurred a circular deposit of clam shells, 4 ft. in diameter and 6 in. thick, with scattering ones outside, over irregularly placed buffalo and elk bones and large pottery sherds, including about one-third of a plain large pot with a square-lipped rim, (Type 10) 18 in. west of the west end of Sec. 7 and 36 in. below the surface and on top of the shell stratum. In the center, vertically, of the deposit was a thin ash stratum. Below this was a skull of Bisonbison. The top of the shells was 32 in. below the surface. Streak of burned earth above the pottery.

This accumulation of pottery was photographed. See page 21 and I/2. Shoulder-blade in center of photograph, 44 in. below the surface.

"In Sec. 8 at 50 in. below the surface was the floor of the mound.

"In Sec. 8 at 50 in. below the surface, a small globular pot. Shoulder diam., 1.9 in. No neck. Mouth or opening at the top, 1 in. in diameter, height, 1.3 in.

"Pottery pipe in Sec. 8, at 8 ft. ft. below surface. See drawing below.



It is impossible to describe or determine accurately where one stratum or accumulation of earth terminates or merges into another of the hodge-podge of material of which the mound is composed, with anything like accuracy, or make accurate sketches of it.

Yet the following field notes of the strata of and the inclusions in the south wall of Trench A are given to bring out without aiming at too great accuracy, the characteristics that attract attention.

The photographs following give a far more accurate exhibition, though they lack the very essential element of color, of the eight sections of the wall.

If each vertical foot of each section were marked off by stretching chalk lines, and a competent artist with crayons were to make with care an accurately colored picture, a very slow and difficult job, of each individual vertical foot, then these individual sketches could be united on one sheet to form a panoramic true picture of the fifty-six by six to eight feet of trench wall.

But we had neither the time, - it would take days, - nor the artist to do this. And after all, the formation at only one place would be secured. Slice off five feet of that wall and an entirely ^{different} picture as to details would be presented.

"Sec. 1 was 72 in. deep. The first 2 ft. at the top, mixed black and yellow. At 34 in. an ash lens 12 X 4 in. From that stratified black and yellow to a depth of 6 ft. Thin streak of ash and charcoal separates the above and continues west into Sec. 2. At the beginning of Sec. 1 at the floor, an ash lens, 8 X 1 in., and at the west another lens at 61 in. below the surface, 6 X 2 in.

"Sec. 2, 69 in. below the surface to black soil. Mixed soil, black and yellow down to 29 in. below the surface. Stratified below. Strata sloping west 3 in. to ft. A pronounced greenish-yellow lens at 55 in. below the surface and 39 in. from E. end of Sec., 8 X 2 in. Much small charcoal mixed with the earth of the W. half.

"Sec. 3, 67 in. deep. Pocket 44 in. vertical and 42 in. horizontal cut into the wall in east and top half. In this was found the 'trophy' skull described in 'Burials.' Stratified black and yellow soil below with much small charcoal. From center of sec. stratification slopes sharply upwards.

"Sec. 4. Stratification very distinct with much small charcoal in the dark strata, to black undisturbed alluvial soil at a depth of 66 in. below the surface.

"Sec. 5, 66 in. deep. Mixed down to 26 in. below surface, below that, stratified. Runs level on through Secs 6 and 7, 54 in. to the black undisturbed soil.

"Sec. 6. Stratified from top to black earth 49 in. below. 62 in. to floor of excavation. At 28 in. below surface a 2 in. stratum of pure greenish-yellow clay has been cut through by a post hole, 6 in. in diam., extending down through the stratified soil to a rounded bottom, 15 in. below. Probably extends 8 in. farther up. Above this is 8 in. of undisturbed stratified soil to the surface.

In the New Pit Silo a greater amount of stratified yellow clay was exposed in the excavation than in any of the other trenches.

Only very rarely were small bits of charcoal found in the unadulterated strata of this material, and no ashes, bone fragments, shells or broken pottery were observed in them.

In places there were also irregular unstratified deposits of blackish soil barren of ashes, charcoal or other inclusions.

A study of the walls of the silo shows that in the upper central part, areas, usually not more than twelve feet in diameter, of soil made black by fire refuse, containing 10 to 20 % of much broken up animal and fish bones, small bits of pottery, clam shells and other small refuse, with which were found a few bone implements but no large pottery sherds or bones, also an occasional celt or chipped flint.

These deposits as a whole dip down into the more or less stratified surrounding soil, usually having a depth of two or three feet.

Large pottery sherds often occurred with no other associated material and also were found with somewhat spread out deposits of the large bones of buffalo, elk and deer, or with deposits of clam shells. Usually more than one type of pottery were found together.



Bundled burials in Ossuary No. 2 on the bluff top south-east of the Broken Kettle mound. Part of the north-west concentration, not very distinctly shown in the lower left corner. Looking south-east.

"Sec. 6. 18 in. E. of W. end of Sec. 6 is the corner of a brick wall, (White man's) extends down to 14 in. below the surface.
 Sec. 6 , 59 in. to top of black earth, 62 in. to floor of trench.
 "Sec. 7. Brick house foundation extends down to 20 in. below the surface, 46 in. to top of black earth 14 in. to bottom of trench.
 "Sec. 8. 17 in. to bottom of brick wall, then 28 in. of stratified earth to top of black soil 17 in. thick, to bottom of trench.

TRENCH B

Trench B is a continuation of Trench A to the west except that it is 2.5 ft. farther north. The NE corner bears S 53 E, 43.5 ft., the NW corner bears S 40 W, 33 ft. from survey Station No. 0.

This trench was excavated for the purpose of determining the surface of the terrace or flood plain at the foot of the "high spot" on which the mound was built, and because the last section of Trench A contained the rich deposit of broken bones, pottery sherds and clam shells, extending west under the end of the trench.

This trench was 6 1/2 ft. long and 7 ft. wide, divided into sections 7 ft long, numbered from the east. The depth to the undisturbed black soil varied from 50 to 62 inches. It was characterized by, at a depth of from 40 to 50 in., a deposit scattering large buffalo and elk bones and clam shells with which were some fine large pottery sherds.

Field Notes:

Trench B-1-57, 2 large, ^{2 in.} high plain rims with 2 holes, 1/4 in. in diameter, at base. (Type I)

Trench B-3, Mixed soil, no stratification, At 30 in. W. of W. end of Sta 2, at a depth of 50 to 62 in. was a practically continuous deposit entirely across the trench of scattered large bones, large pottery sherds, bone implements and clam shells.

Trench B- 3 and 4-48, large bones very abundant. Buffalo, elk, clam shells and large pottery sherds over an area of 48 X 72 in.

Trench B-5-40, effigy lug.

Trench B-7- 2, oval quartz lance head.

.. B-7-48, pipe of gray stone resembling quartzite.

.. B-7-54, at top of black earth, a unique pipe.

Trench B-8-48, split rib awl.

Above are but a few notes on the abundant material found in this trench, however the evidence of a camp or village site appeared to terminate in the east end of section 8.

Twenty-one shoulder-blade digging implements found in Trenches A and B. Of most of these only the thick joint handle end remained, the blade part having been worn or broken off. On all there were evidences of use.

See also next page, - 20 and I/2

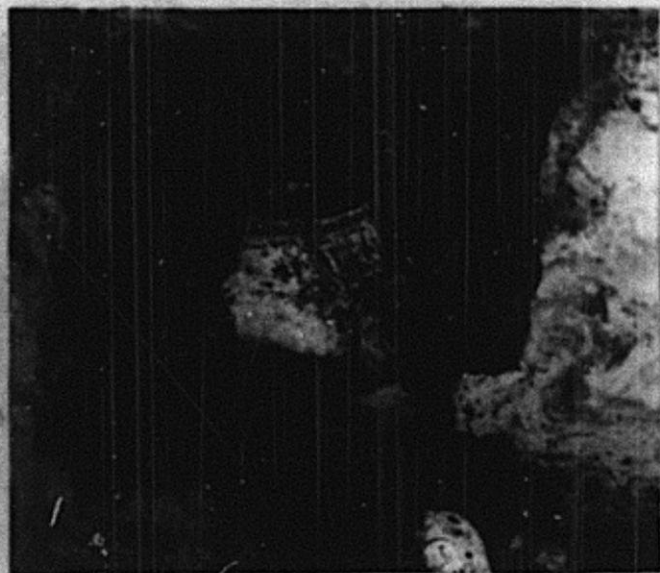
From all parts of Trenches A and B there was taken:			
Granite glacial hand boulders, 4 to 6 in. in diam.			191
Greenstone			37
Quartzite			40
Limestone, Graneros small slabs, 5' to 6 in. local			15
Greenhorn shale, local			9
Dakota sandstone, local			9
A total of			299

Six bushel baskets full of broken bones, all broken short off, none split, were thrown out, and at least another bushel not removed from the bottom of the two trenches.

Mostly the joint ends of the large bones of the buffalo and elk, with a much less number of deer, dog or wolf, beaver, and smaller rodents and flesh eaters, and now and then in the refuse pits a few fish bones and scales.

Over 200 clam shells of different species were removed from the deposit in Section 8 of Trench A, and probably as many more were scattered at all levels in other parts of the trenches.

Most of the clam shells were in a good state of preservation.



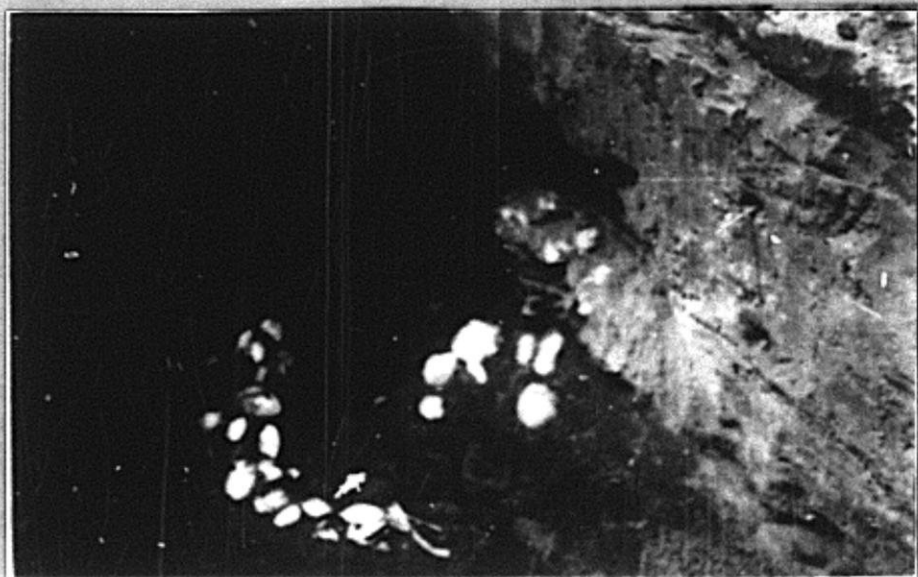
Three sherds of a large square-lipped, low rim and part of body, in situ above deposit of clam shells in Sec. 8 of Trench A at 48 inches below the surface.



WPA men at work excavating Trench A, running west from the tank and cattle shed, which see in the background. Looking east.



Large deposit of buffalo bones, a few large pottery sherds, Trench B, 3d section, 50 in. below surface.

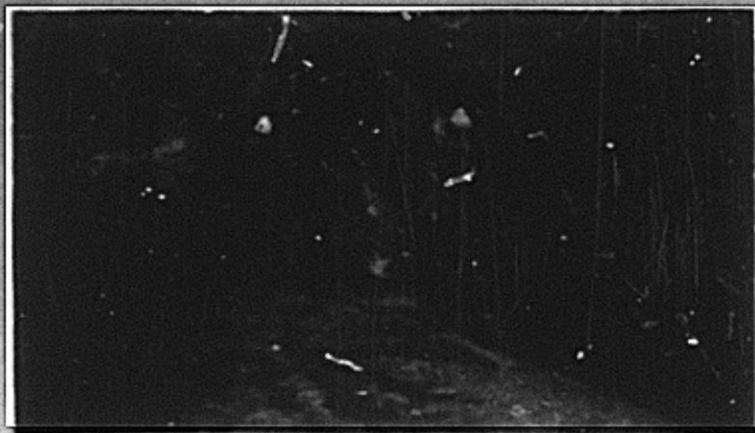


Clam shell deposit, - center removed by workman before realizing what he had struck. Trench A, Section 8, 50 in. below the surface.



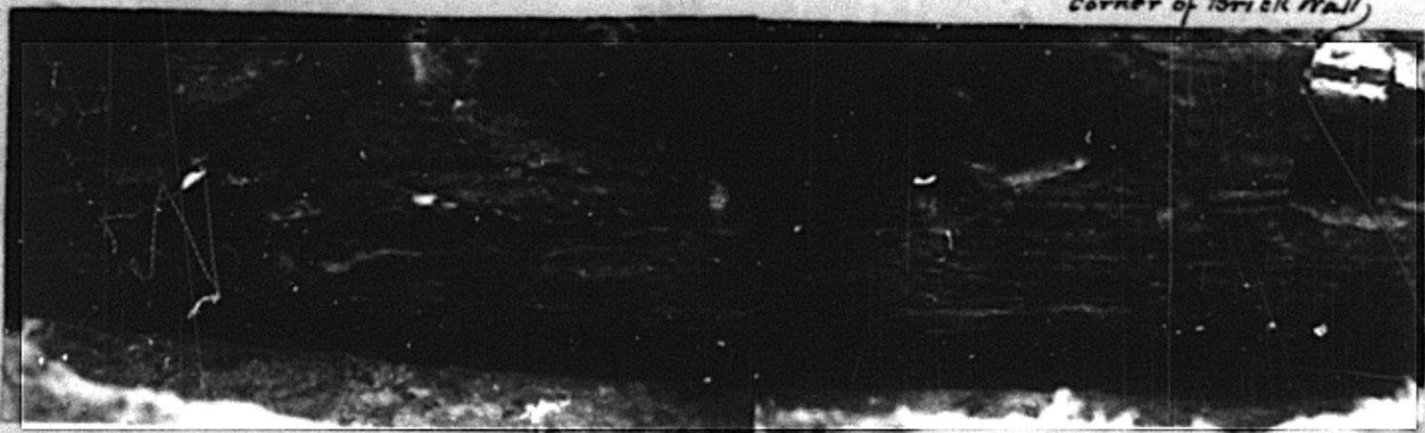
An accumulation of large bones beneath layer of clam shells, (removed) Notice a few of this layer higher up and a few associated with the bones, also two large pottery sherds, the one in the upper right, photographed. See page 20 and 1/2

Broken Kettle.

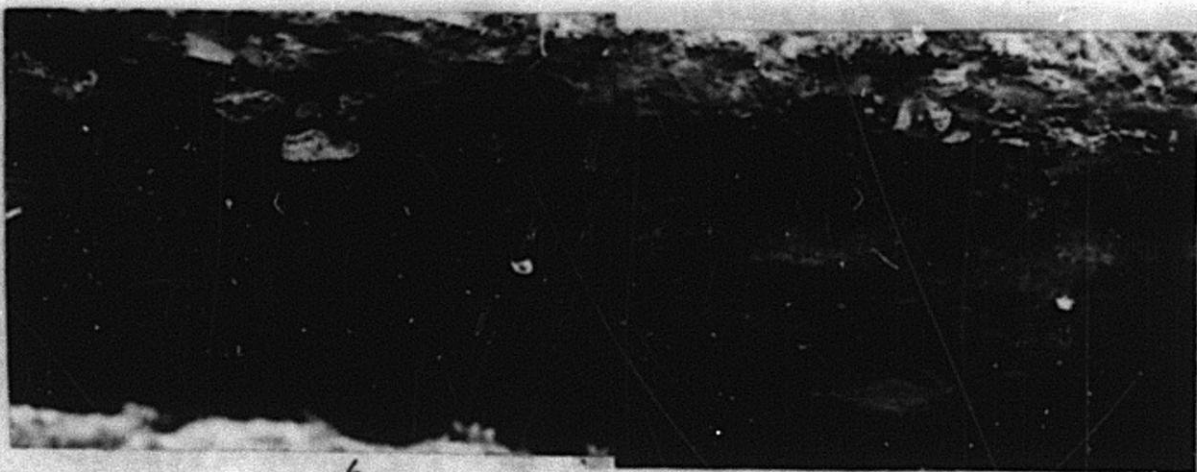


Bottom of East End of Trench A. Looking East.

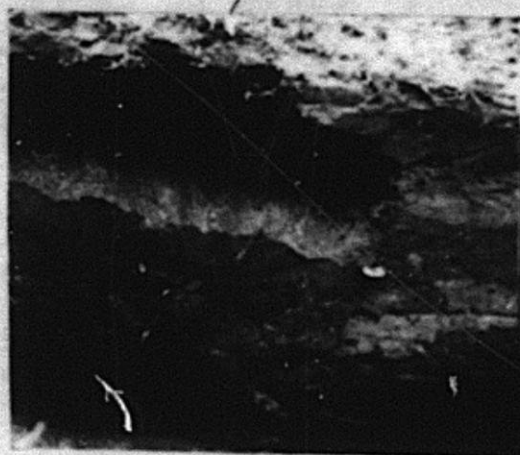
corner of Brick Wall



Profile of Seas 4 and ⁴5 of South Wall of Trench A. Note Black ⁵Oumko-like Earth at Bottom, Stratified above, and unstratified at top.



Profile of Sections 6, 7, 8 + 9 of
South Wall, of Trench A.



Broken Kettle.
Note curve in strata.



TRENCH C

Trench C, 56 ft. long and 5 ft. wide, was located 2 ft. north of and parallel to the cattle shed. The NE corner bears S 70° W, 30.8 ft from survey Station 3. Divided into sections 7 ft. long.

In this trench was first discovered the first evidence of a house or other structure in the mound, in the shape of two rows of post holes, north and south across it, extending from the top of the black gumbo-like soil on which the mound was built, and at the bottom of the trench down into it to a depth of from 8 to 16 inches.

These post holes, together with those in Trench F and in the trenches excavated in the Kimball Mound, will be more fully described later.

In Sections 1, 2, 3, and 5, extending entirely across the trench and from 12 in. below the surface to between 30 and 48 inches, was a bowl-shaped mass of unstratified earth discolored by charcoal dust, containing much fireplace refuse and both whole and broken pottery, bones, clam shells, weapons, implements and ornaments.

This is one of the puzzling large roughly bowl-shaped deposits which may be filled refuse pits.

Other parts of the trench yielded an unusual number of good artifacts.

Following are descriptions of notable construction or inclusions:

"In Sec. 8, a square poll celt in the SE corner at 24 in. below surface. 5 X 2 and 7/8 X 1 and 1/2 in.

"In Sec. 6-12, a small pot, 18 in. E. and 30 in. N. of SW corner, and a 3 X 2 X 1 in. celt, 36 in. E. and 18 in. N.

"In Sec. 7 - 20, 'door knob' (lens-shaped, polished piece) 18 in. E. and 20 in. N. of SW corner.

"In Sec. 8 at 18 in. below the surface, was a deposit of large pottery sherds, roughly covering an area of 30 X 30 in. in diameter and one sherd deep, the center of which was 30 in. E. and 20 in. N. of the SW corner of Sec. 8. Photographed, see page 25.

"In the east end of Sec. 3-24, bones and rocks.

"In SW corner of Sec. 7-26, three large body sherds of a very large pot with incised, horizontal and parallel lines covering entire piece, Type 4.

"In the center of Sec. 5-36, sherds of a flat bottomed, basin-shaped vessel, - plain. Type 5.

"In N. wall of Sec. 2-30, A fine shoulder blade, and a buffalo horn digging implement, and a perforated wolf's fang.

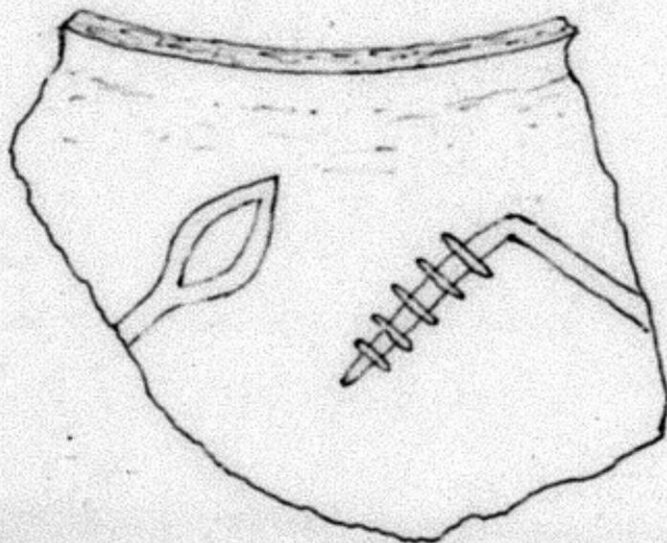
"At SW corner of Sec. 3-24, in undercut wall, three large sherds of corrugated ware, all belonging to same pot. Type 4.

"In Sec. 7-40, a fine awl made from a round deer's bone, 3 ft. N. and 3 ft. W. of SE corner.

"In Sec. 3-42, and in Sec. 4-40, a 6 in. stratum containing much broken pottery.

"In the NW corner of Sec. 3-24, a low recurved, square-lipped rim sherd with fragment of flat shoulder attached. Ornamented with what was evidently a procession of incised rattlesnakes extending entirely around the vessel.

This was a sherd of a small, four to six inches in diameter, highly polished black pottery tempered with fine sand. In every way a superior ware. With low recurved rims and flat shoulders on which were incised processions of parallel, horizontal lines connected with spirals, circles, and rattlesnakes.



"In Sec. 7-60, in N. wall, 1 buffalo and 1 elk shoulder blade together in pocket. Photographed, see page 31.

"In Sec. 8-96, in ' in. depression in black gumbo-like soil, the very probable central fireplace, 40 in. in diameter and 4 in. thick in the center, under which the earth was burned brown. The center of this fireplace was 12 in. from the S wall of the trench and the same distance from the SE corner of Sec. 3.

At 110 in. east of the center of this central fire was a double row of post holes running at right angles across the trench, - 4 holes in the row farthest west, - the main row, - 3 in the row 2 to 3 in. west, and a single one 9 in. to the east.

At 122 in. west of the fireplace were two main rows, the west one of 3 and the east one of 4, with three in the south wall, the bottoms of which were in the mound earth, and extending up into it, as also 2 in the E. wall with bottoms in the mound earth extending up into it.

"In Sec. 5-84, at top of black soil, leg bone of dog or wolf.

"In Sec. 2-24, a fish hook.

"In Sec. 1-84, sherd of square lip vertical rim, Type I, vessel 12 in. S. of SW corner of trench.

Depths from surface to black gumbo-like earth in Trench C:
 "SW cor. Sec. 1, at 72 in. below surface, stratum of yellow earth, 4 in. thick.

At 92 in., black earth.

"SW cor. Sec. 2, 72 in. to yellow earth. 100 in. to black, tough earth.

"At SW corner of Sec. 3, 100 in. to tough black soil.

"At SW corner of Sec. 4, 84 in. to black soil. Most westerly post of those on the west side of the house 48 in. west of the SW cor. of Sec. 4.

"At SW corner of Sec. 5, 90 in. to tough black earth.

"At SW corner of Sec. 6, tough black soil 90 in. below surface.

"At tough black earth at SW corner of Sec. 7, tough black soil at 102 in. below surface.

"At SW corner of Sec. 8, tough black soil 96 in. below surface.

"In Sec. 4-36, 1 ft. in wall of N. side, a small toy pot.

"In Sec. 4-1, at 1 ft. in south wall, a 2 in. long celt.

"Large deposit of pottery sherds between Secs 18 and 20 ft. from the SE corner, 18 in. outside the S. wall at 1 to 2 ft. below the surface.

A total of 472 rocks were thrown out of Trench C between Secs 1 and 5.



Deposit of Pottery Sherds in Sec. 8 of Trench C, Broken Kettle, roughly covering an area of 30 X 30 in. in diameter, the center of which was 30 in. E. and 20 in. W. of the SW cor. of Sec. 8 at 12 in. below the surface. Looking east.

TRENCH F

Trench F, 30 ft. long and 6 ft. wide, parallel to and 3 ft. north of Trench C. The center of the west end is N 87 and $3/4$ E 33.5 ft. from survey station No. 2 and is divided into sections 6 ft. long, numbered from east to west.

This trench was dug in the expectation of intersecting the north and south lines of post holes discovered in Trench C, and as these were respectively 110 in. east and 122 in. west of the center of the central fire ash bed in Trench C, it was believed that the line of holes of the posts forming the north wall of the enclosure or house site, might be found at approximately the same distance north or around 120 inches, and would be uncovered by this trench.

Directly north a continuation of both the lines of holes in Trench C were found as expected, and by undercutting the north wall two holes of a questionable north side of an enclosure were found, originating at the top of the gumbo and extending down into it at two feet north of the north wall of Trench F, Sec. 2.

Five others were found at 2 to 3 ft. north of this wall but the bottoms of these were above the gumbo, in the mound earth, and extended up into it. A single hole in the mound earth was found near the center of Sec. 3.

Altogether a total of 47 holes were uncovered in the two trenches and the undercutting of the north wall of Trench F.

Map 4, drawn to a scale of 4 ft. to the inch will show the location of these.

All holes are numbered.

In Trench C all holes, except 5, 35, 36, 44 and 46 were encountered at a few inches above or below the top of the black gumbo-like earth at the bottom of the mound earth or its floor. The five exceptions noted, from a few inches above the gumbo extended up into the mound earth for distances as follows:

No. 5,	1.4 ft.
.. 35,	2.5 ..
.. 36,	1.5 ..
.. 44,	2.0 ..
.. 46,	1.8 ..

In Trench F, post holes No. 9 to 21 and nos 23 and 25, were encountered at a few inches below or a few above the black gumbo soil. Following is the memorandum from the field notes in regard to the remainder:

Post hole 8, - bottom of hole 4 in. above the gumbo, - length of hole in mound earth, 1.3 ft., - 3 in. in diameter.

Post hole 22, - bottom of hole 1 ft. above gumbo. - length, .7 ft., - 4.5 in. in diameter.

Post hole 26, - bottom of hole, .5 ft. above gumbo at persistent 1 in. thick yellow stratum. - length, .8 ft., - Diameter, .3 ft.

Post hole 24, - Encountered at .3 ft. above gumbo, - length, 1.4 ft., - diameter, .4 ft.

Post hole 27, - bottom of hole, .6 ft. above gumbo, - 2 in. above yellow stratum, - length, .7 ft., - diameter, 3.5 in.

Post hole 29, - bottom 2 ft. above gumbo, - 5 ft. below the surface, - gumbo 8 in. thick to bottom of trench, - Diam., .3 ft., height, 1.8 ft.
 Post hole 28, - 5.5 ft below surface, - height, 1.6 ft., - diameter, .4 ft.
 Post hole 27, - bottom .3 ft above the yellow stratum, - .7 ft. above the gumbo, - height, 1 ft., - diameter, .35 ft.
 Holes 30, 32, 33 and 34, -.4 ft. in diameter.
 Hole 31, - .5 ft. in diameter.
 Five above holes encountered at a few inches above or below top of gumbo.

Holes in the gumbo had depths of from 8 to 16 inches. Except for a small quantity of material resembling snuff found at the bottom of six holes, no trace of the posts forming the framework of the walls of an enclosure, presumably a house, the holes themselves were, with few exceptions packed solidly full of earth.

In some this was loose and granulated and the sides of the hole could easily be determined. But in the majority the fill could not be differentiated from the mound earth except by the color at the top of the gumbo where the hole entered and down into that earth to the bottom. Often a color was not in evidence.

In cleaning out the holes after discovery the least difference in the compactness or the filling could usually be noticed.

The method of finding holes was, when the top of the gumbo was reached in excavating, to carefully shave off a half inch or less with a garden trowel in a search for the circular discolorations indicating a hole. When one was found there should be another within a foot. The finding of this established a line which was followed up to a corner.

Assuming that a structure was a rectangle, with length and width from twenty to thirty feet, as we found them to be, trenches were dug uncovering two sides and three corners and the dimensions of the particular site were exactly established.

Sometimes when the coloration was obscure a hole was located with difficulty, or occasionally not at all.

As the location of the post hole lines were absolutely unknown, and the shaving of the bottom of a trench three or four times, would require so much time, that unless we had reason to believe from the location in the mound where we were trenching, that there was a site in a particular place, we relied on the cleaning up of the gumbo top when it was reached in the spading.

The finding of the first hole was often more or less of an accident.

There can be no question but that set in the lines of post holes were once the posts forming the framework of a structure built on the slightly elevated gumbo-like soil, - the "high place", - at the very beginning of the building of the mound.

What the few post holes encountered in the mound earth itself indicated, is difficult to decide. Perhaps other structures were later built above the sites of the first ones.

These structures ~~which~~ can not with certainty be designated as houses erected for occupancy as dwelling places for families.

No evidence how the side walls or of the roof, if they had a roof, were constructed, or of what kind of material, was found, with one exception.

This was just outside the east line of post holes in Trench F, near what was probably the north-east corner of the structure, at 7.5 ft below the surface. At this place were two pieces of what appeared to be the bark of the white elm, approximately 24 X 36 inches, one directly under the other. Both were in a good state of preservation, showing their structure very plainly, but would not bear handling. They lay with the outer side up, one directly under the other.

One foot east of this bark and one foot below it was an ash deposit, 5 ft. in diameter and with a thickness at the center of .4 ft. The earth around and under this was discolored by the fire. About one foot of this projected into Trench F, and enough of the remainder was uncovered by undercutting enough to show its size and character. The ashes were pure white.

See Map No. 4.

The following descriptions of findings are from the field notes:

"In Sec. 2 - 12, in the NW corner, was a stratum of ash, 18 in. in diameter and 2 in. thick.

"In Sec. 2-12, above the ash lens, was found two shoulder blade digging implements, - one of a buffalo the other of an elk.

"In Sec. 1-24, near the center, nearly one-half of a corrugated (Type 4) pot. This was the only pot which we have found with the corrugations extending to and covering the bottom. No other type except No. 4 was found with decorations below the shoulder. With the sherds was found an L-shaped piece cut from a shoulder blade.

"In Sec. 2-21, was a translucent chalcedony oval knife, 2 in. long.

"In Sec. 4-22, a fish hook, 1.2 in. long.

"In Sec. 2-30, 2.5 in. awl of bird bone.

"In Sec. 4-24, a bird bone awl 4 in. long.

"In Sec. 3-30, 4 and 3/4 in. long bone awl.

"In Sec. 3-24, a canine fang.

"In Sec. 2-24, Split rib awl.

"In Sec. 3-48, a chalcedony scraper. For outline see Page 30.

"In Sec. 4-3, a worked slab of large round bone.

"In Sec. 1-3.5, an ash lens, 2 in. thick. Burned earth below, 18 in. in diameter.

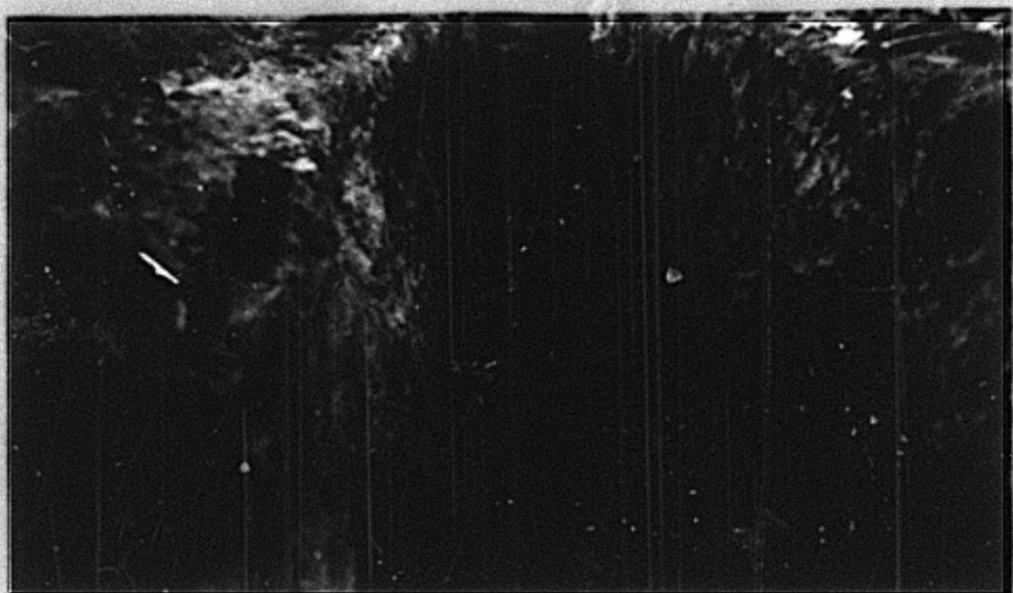
"In Sec. 4-36, a "door knob".

"In Sec. 1-42, 1/2 celt.

"In Sec. 3-64, vertical rim, (Type I) 6 in. long, 1 and 1/2 in. high.

"In Sec. 1-65, Celt, 2 X 3 X 7/8. Square poll. See page 30

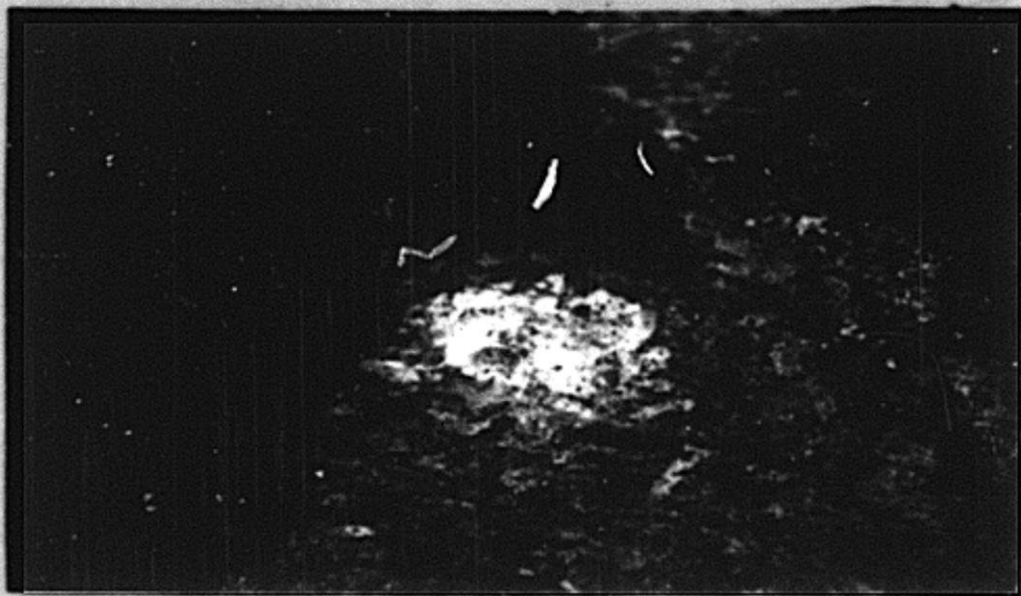
"In Sec. 3-105, large plain body sherd in shallow pit.



Trench C, Broken Kettle, looking east. Note two lines of Post Holes and ash deposit of Central Fireplace.



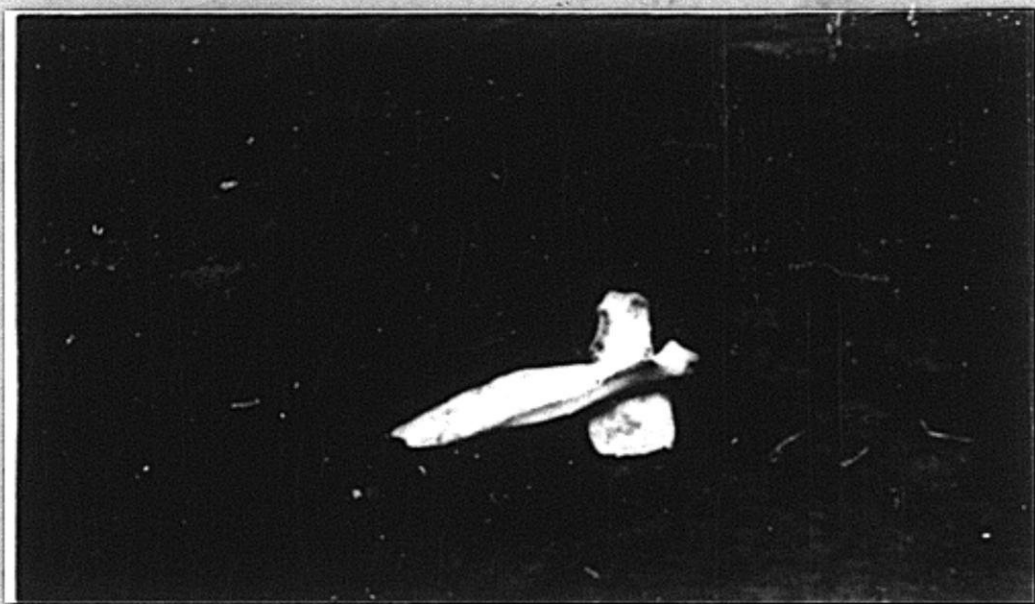
Trench C, Broken Kettle, looking west. Note two lines of Post Holes and fireplace. Dr Keyes "looking it over."



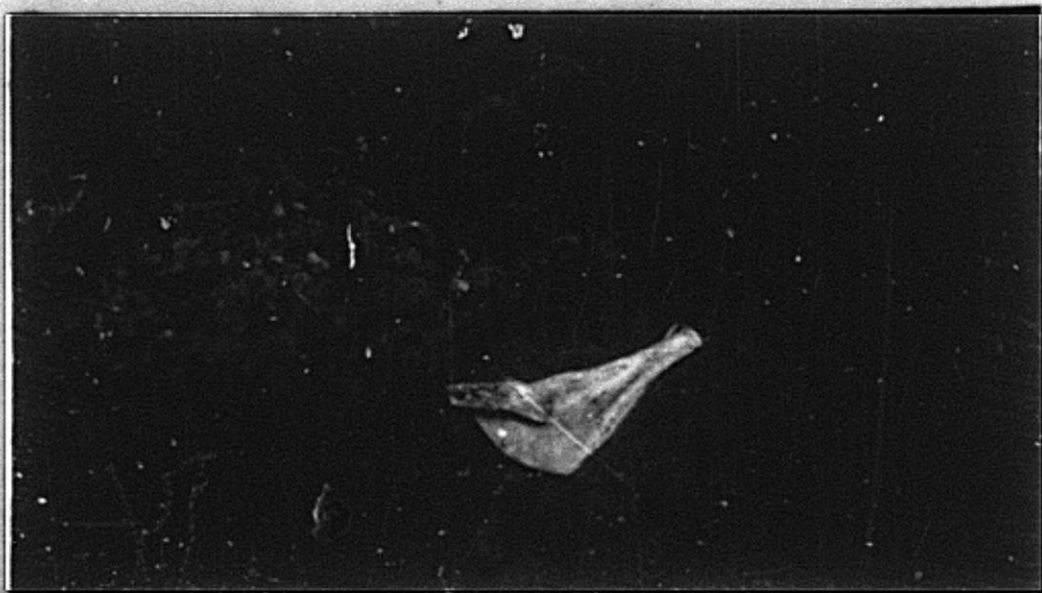
Ashes of Central Fireplace of propable house site in Trench C, Broken Kettle, looking west.



West Line of Post Holes across Trench C, Broken Kettle. Holes five inches in diameter. Looking west.

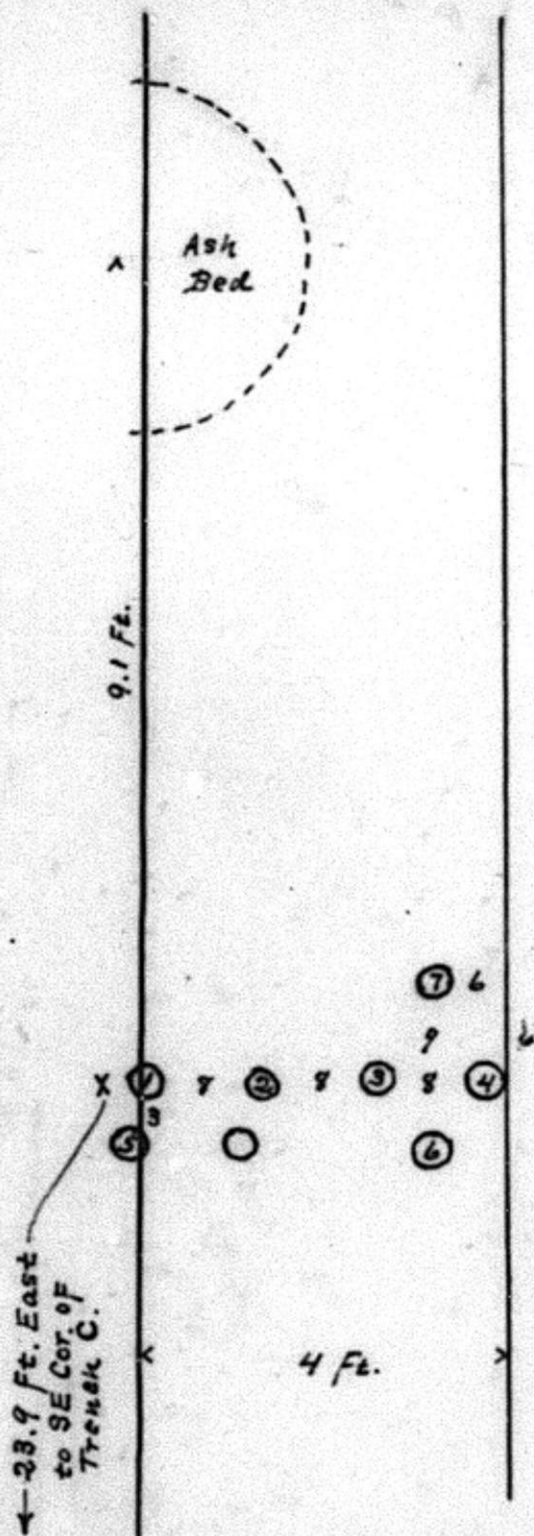


Two Buffalo Shoulder Blade Digging Implements from pocket dug in the north wall of Trench C, Broken Kettle, at a depth of 60 in. below the surface. Looking north.



One Elk Shoulder Blade and one buffalo horn and skull Digging Implement from pocket in the north wall of Trench C, Broken Kettle Mound, at 80 in. below the surface.

Broken Kettle Mound.
Post Holes in the West Part of Trench C



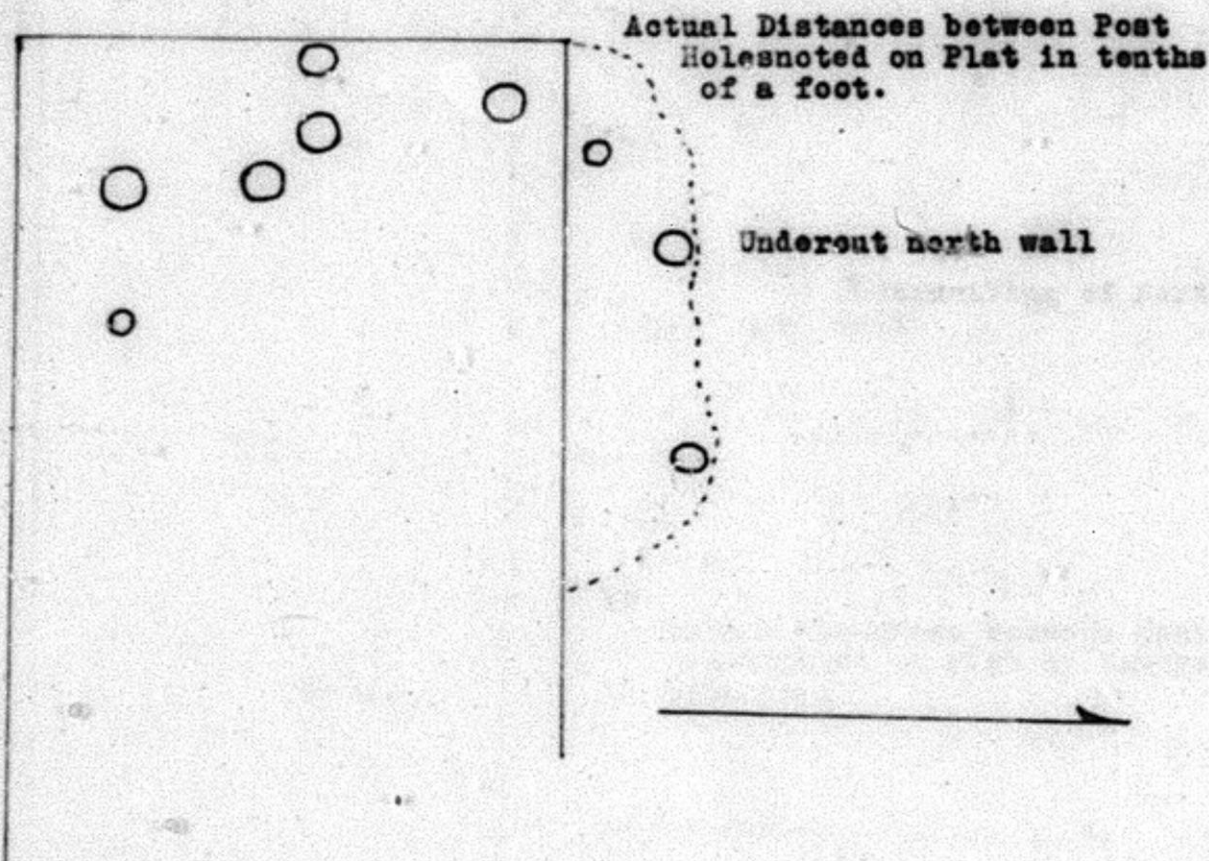
Actual distances between post holes
noted on plat in tenths of a foot.

All Posts except # 5, .3 foot in
Diameter.

Post # 5 extending up into the
Mound Earth.

Scale, - 2 ft. to Inch.

Brcken Kettle Mound.
Post Holes at West End of Trench F



Holes 30, 32, 33 and 34, .4 ft. in diameter.

Hole 31, .5 ft. in diameter.

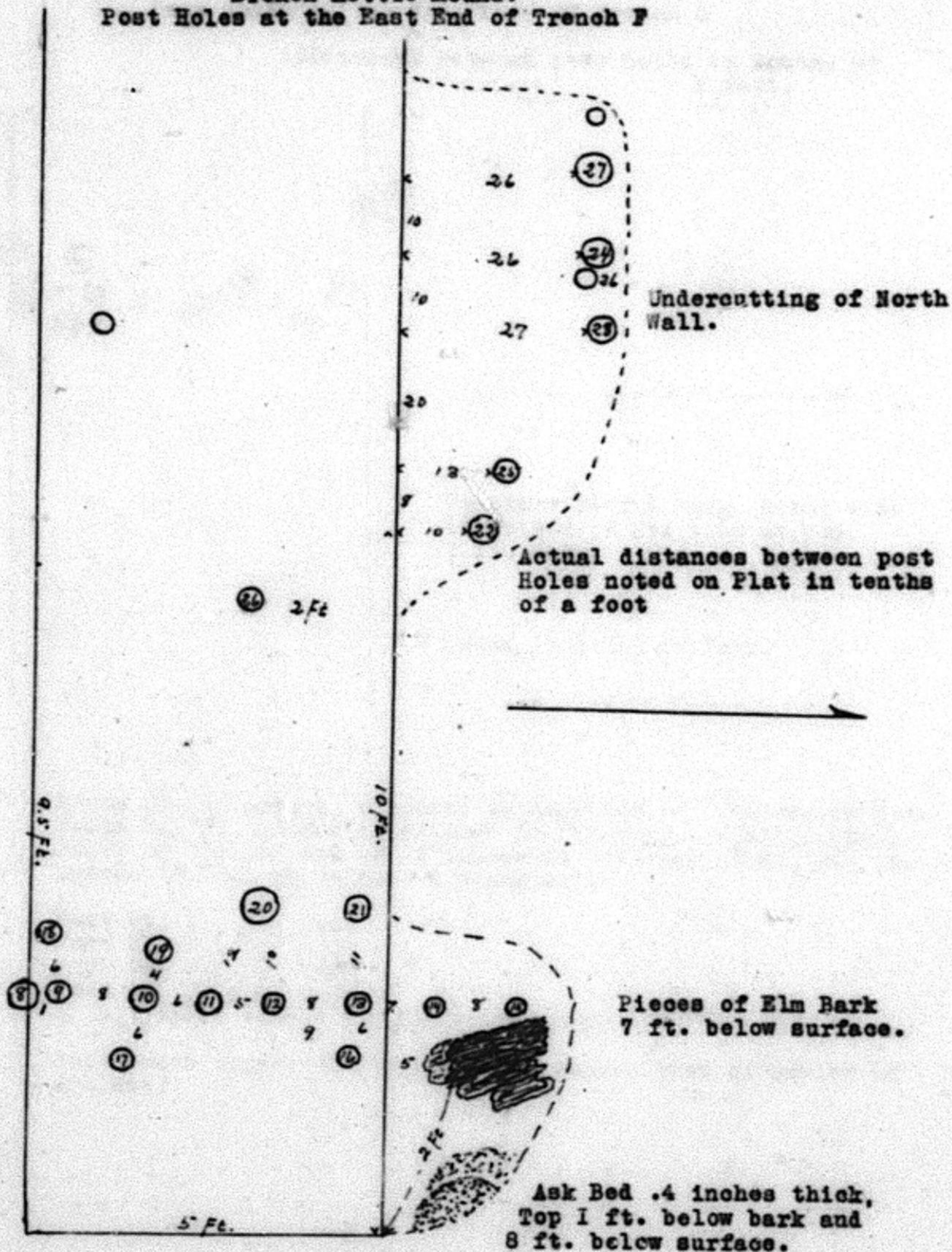
All post holes encountered at few inches above or below alluvial soil.

Post 29 - bottom 2 ft. above the black soil, - 5 ft. below the surface. Black soil 8 inches thick to bottom of trench. Diameter of hole, .3 ft. Height of hole, 1.8 ft.

Post 28 - Bottom, 5.3 ft. below the surface. Height of hole, 1.6 ft. Diameter, .4 ft.

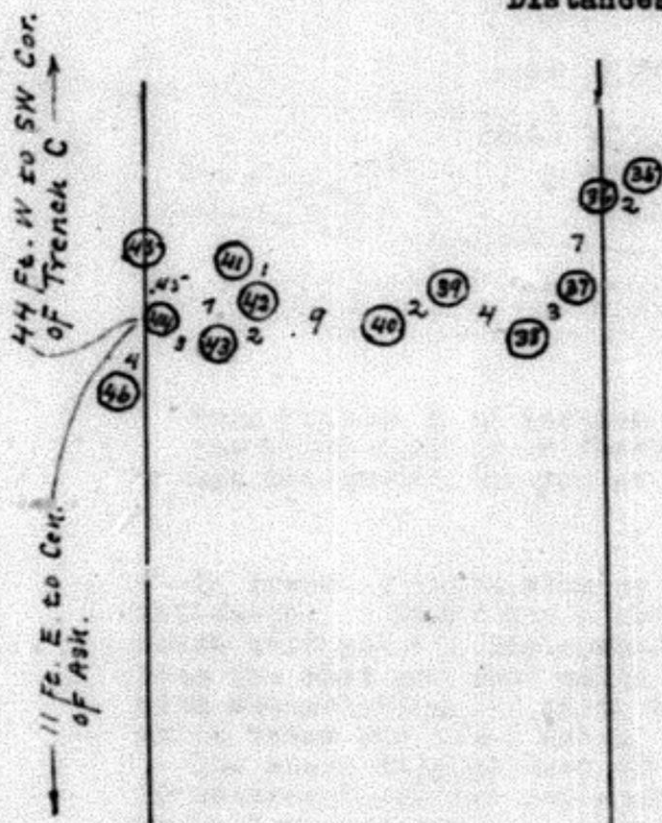
Post 27 - Bottom, .3 ft. above yellow streak and .7 ft. above the black soil. Length of hole, 1 ft. Diameter, .35 ft.

Broken Kettle Mound.
Post Holes at the East End of Trench F



Broken Kettle Mound.
Post Holes in the West Part of Trench C

Distances between post holes in Tenths of
a foot.



Trench C 56 ft. long, 5 ft. wide
at Bottom, 7 ft. wide at top.
8 ft. deep.

Scale, - 2 ft. to Inch.

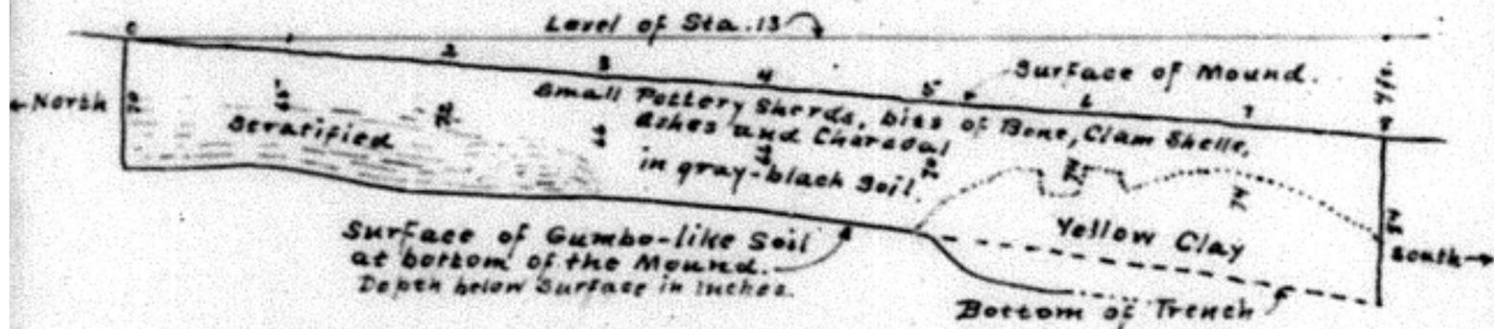
Posts 35, 43 and 44, 3 inches in diameter	Extending from
Posts 36, 37, 40 and 41, 4 inches in diameter	top of gumbo
Posts 38, 39, 42 and 45, 5 inches in diameter	down into it.
Bottom of Post 46 at top of black soil.	

Post 36, 1.5 ft. long
Post 35, 2.5 ft. long
Post 44, 2.0 ft. long
Post 46, 1.8 ft. long

All above extend up into mound earth.

South-east corner of Trench C, 110 inches east of center of
Ash Bed.

Profile of the East Wall of Trench D.



From Station 0 to Station 8, fifty-six feet, the surface of the Mound drops four feet. Fall of the Gumbo-like Soil was not determined but was at least five feet.

In Trench D there were no outstanding finds of pottery or other artifacts. There was a notable lack of stratification in the south half and its replacement by yellow clay. The upper half of both the east and west walls of the trench was marked by confusing accumulations of earth blackened by much charcoal dust, with which there was mixed ashes, small broken up pottery, etc.

The sharp dipping down of the gumbo-like soil at the beginning of Section 6 and the replacement of stratified material above it by yellow clay without inclusions, was also noticeable.

The 5 ft. slope of the of the original "high spot" was very clearly shown, and finally the accidental finding of the well preserved Burial No. 1, were the most interesting and important results of the excavation of the trench.



Fish hook cut from round bone, probably, the cannon bone of a large deer. Outline actual size.

TRENCH G.

Trench G, parallel to Trenches A and B, 48 ft. long E and W, 7 ft. wide, bears S 45 E, 14 ft. to NW corner from survey Sta. O. Divided into sections 6 ft. long.

Stations 4, 5, 6, 7, and 8, lie outside the probable circumference of the mound proper as fixed by us, and the gumbo-like soil, the top of the flood plain at the time the building of the mound was begun, lies below the present surface at depths as follows:

At NE cor of section 4	3.4 ft.
At NE cor. of section 5	3.9 ..
At NE corner of section 6	4.0 ..
At NE corner of section 7	4.6 ..
At NE corner of section 8	4.5 ..

Note that in the last 35 ft. the gumbo drops but 1 ft., rising .1 ft.

Following are the depths below surface of stations 1, 2, and 3, with notes on findings:

At NE corner of trench, 42 in. below surface to 12 in. stratum containing much charcoal and ash. Below this 6 in. of yellowish resting on undisturbed gumbo-like soil.

At NE corner of section 2, 36 in. to charcoal and ash stratum 8 in. thick. Below that 8 in. of yellowish, the upper having a greenish tinge. At 54 in. the Gumbo soil.

At the NE cor. of section 3, 40 in. to 1 in. charcoal stratum. Below that 12 in. to Gumbo.

Lying west of Trench G, and joining its west end, was a pit 5 ft. square, the center of the east side of which coincided with the NW corner of Trench G.

Because Thompson, the worker that excavated Sec. 8, in undercutting the west end of the trench, struck a human skull, this pit was dug to uncover the burial. See description of "Burial No. 3" and photographs on pages 57 and 58.

"In Sec. 8-12, Animal effigy on top of horizontal lug, facing inward.

"In Sec. 5-18, small bone fish hook.

"In Sec. 8-18, one-half of elbow pipe bowl of brown stone.

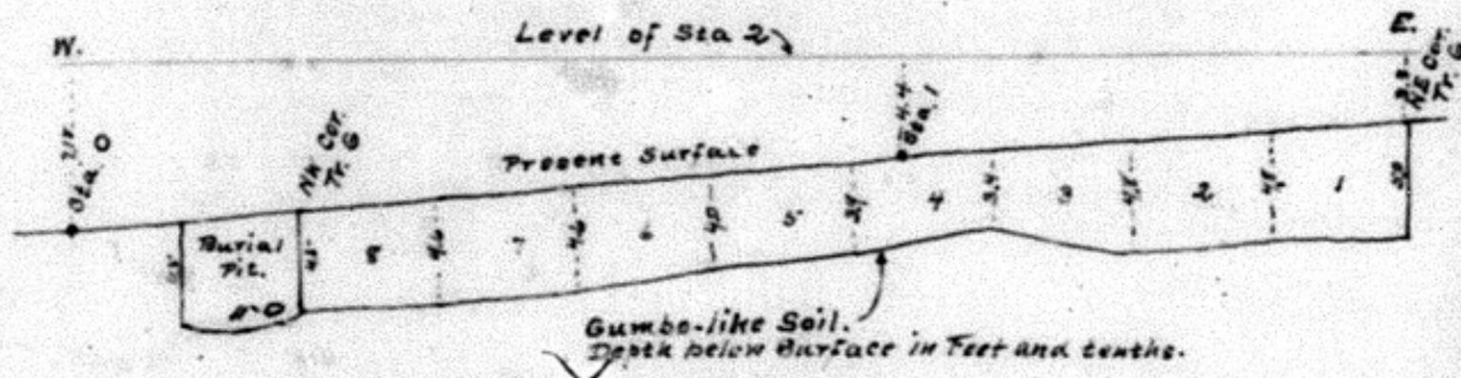
"In Sec. 3-24, a piece of pumice resembling nothing so much as a solid auto wheel and tire, 1 and 3/4 in. in diameter and 5/8 in. in thickness.

"In Sec. 3-24, lance head of dark flint.

"In Sta. 6-1, rectangular piece of cut bone.

"In Sta. 7-2, black but not polished pot with recurved, decorated rim with small side lug and rounded-angular shoulder, about 3.5 in. body diameter and 2.5 in. high.

"In Sec. 5-1, bone awl pointed at both ends.



Profile of North Side of Trench G.

Horizontal and Vertical Scale, 8 ft. to In.

Note the approximate Parallel Slope of the Present Surface with that of the Gumbo-like Soil.

"At the center of Sta. 4-24, a Sioux calumet pipe, 5.2 in. long. Stem, 3 in. long, .7 in. wide and 1.1 in. high. Handle 1.2 in. long and at the end, 1.2 in. high and .2 in. wide. Bowl, 1.3 in. high and at top, 1.1 in. X .8 in. and 1.3 in. high.

Nearly one-half of the right side of the bowl had split off, as had also a piece 1 in. long and .1 in. wide from the left side of the stem. Evidently because of this breakage neither bowl or stem had been bored. Two other artifacts at the same level.

Trench I.

Trench I, parallel to and 5 ft. south of Trench E, divided into sections 7 ft. long. North east corner bears S 50 and 1/2 E, 24 ft. Run east and west, 7 ft. wide.

For the entire length of this trench to a depth of 3.5 ft. the soil drab or blackish, containing charcoal, ashes and broken pottery, down to the gumbo.

At Sec. 2-2, a long oval knife of micaceous quartzite.

At Sec. 1-2, a circular worked piece of Greenhorn limestone.

At Sec. 2-2, 2 bird bone awls and two bone implements probably used in smoothing pottery.

At Sec. 1-1, an arrow head.

At Sec. 1-2, talon of bird-of-prey.

TRENCH E.

From Station 15 the north-east corner of Trench E bears S 75 E, 18 ft. From this corner it runs due west for 30 ft. with a width of 5 ft. Divided into sections 7 ft. long.

At Sec. 0 at the NE corner, and stations 1 and 2 it is 4 ft. from the surface down to the Gumbo. At station 3, 4.5 ft. and at station 4, 5 ft. with very little, and that very obscure, stratification.

At Sec. 3-3, effigy lug on rim of bowl-shaped pottery. Type 5.

At Sec. 2-2, bear effigy lug.

At Sec. 3-1, type specimen of Type 9 rim. See cross section, actual size, below.



At Sec. 4-3, a rim and shoulder sherd of a Type 8 pot with incised procession of flying birds on shoulder. Other sherds have this pattern of decoration with the addition of a small circle directly under the small one in the figures shown below.

At Sec. 3-3, a 3.9 in. sherd of low, - 3 in. - rim with flat, - 2 X 5 in, shoulder attached, which makes a sharply defined angle with the body below, - about 30 degrees from the vertical.

With black polished outside, rough inside, shell tempered. With incised scroll connected with horizontal lines on shoulder. See below.



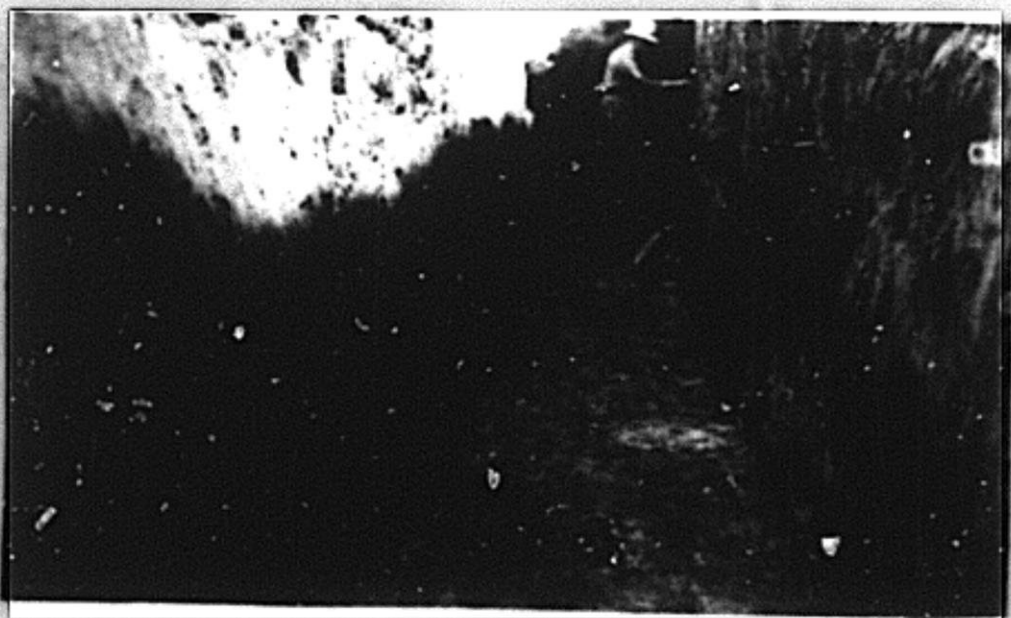
Procession of Flying Birds (?)



Scroll Decoration, Incised Lines.



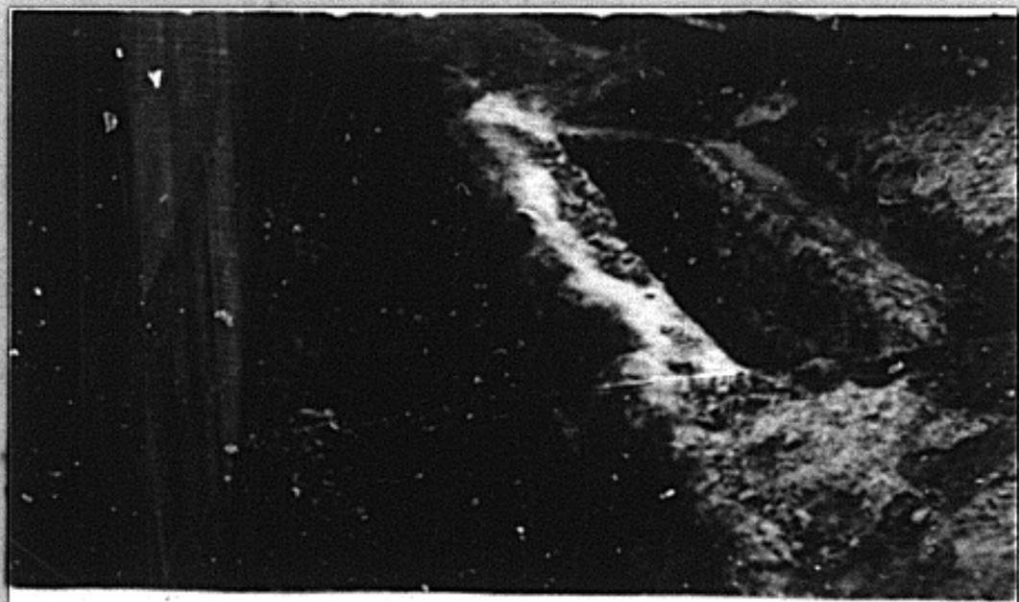
Men at work in Trench G. Burial No. 3 at nearest end of Trench not yet discovered. Man over fence at work in Trench H.



Dr. Keyes at work in east end of Trench G. Note line of post holes.



Burials in Trench C, Section 8, at around 3 ft. below the surface. From south-west. Broken Kettle.



Trenches C (left) and F (right), Broken Kettle Mound. Note ashes of fire-place in Trench C and line of post Holes at west end, also side of cattle shed at left. *Looking West.*

Results and Conclusions.

Consideration of the factual evidence of the results of the excavations in the Broken Kettle and Kimball pre-historic Indian mounds, in Plymouth county, Iowa, during the summer of 1939, leads to the following conclusions:

That both mounds were built on what may be designated as "High Spots" in the valleys of the Broken Kettle creek and of the Big Sioux river. What are unquestionably natural mounds, or such high spots, on the flood plains of both streams. In the Broken Kettle valley there are two in the same section, - section 3, - as the pre-historic mound.

At first it was believed that the ones selected by the builders for sites were such natural bottom land mounds, isolated from higher land, but later work showed that they were projections of spurs of the four to five feet high terraces, lying between the flood plain and the foot of the bluffs, into the bottom lands.

Completed excavations showed that these projections, so selected, had, when first occupied, a flat top approximately level with that of the then terrace, from which three of the sides sloped down to the flood plain.

That the uneven surface, both of the top and sides, of the original "high spot" was a black gumbo-like soil.

That the line of contact of this soil with the earth of the built-up mound was sharply defined, and at it there was no accumulation of ashes, charcoal, broken pottery or other indications of continued use as a floor, or of destruction by fire.

That in this gumbo-like soil there was uncovered straight lines of vertical holes, four to five inches in diameter, enclosing rectangular areas, approximately 20 X 25 ft. Such holes having a depth of from 8 to 16 inches, were filled with earth lighter in color than the gumbo, but usually not so compact, with occasionally one not completely filled.

A very few had at the bottom a small quantity of wood, decayed till it was but a brown dust. No other evidence of the posts that once occupied them was found. These posts, six to twelve inches apart, are believed to have been the framework of the walls of a structure erected by a people at the beginning of the mound. Other than these posts there is nothing to show of what such walls were constructed, and no evidence of a roof or of supporting main central posts, except one large, - 10 in. - hole in House C. Not the smallest piece of "daub" or adobe to indicate that such was used to finish the walls or roof.

No trace of decayed timbers, or of pieces of poles burned to charcoal indicating that a building had been destroyed by fire, was encountered.

One area enclosed by post holes was found in the Broken Kettle and three in the Kimball mound. These latter were twelve feet apart, in a row, with the north sides, toward the mound center, approximately a straight line.

For convenience these structures may be designated House Sites.

There were no house pits as in Mills county earth lodges, the floor inside the rectangular area enclosed by post holes being at the same level as that of the gumbo-like soil, - the top of the natural mound, - outside.

That storage pits were made use of. In House C of the Kimball mound, three-fourths of which was fully excavated, three shallow pits were found, all filled with yellow clay. In one of them the bottom was paved with three flat limestone rocks, and in another was a fine chert knife and an elk tine carved to represent a crane's head and neck.

Outside the south-east corner of the same house was a pit, beginning at the level of the top of the gumbo and extending down into it to a depth of twenty-four inches, the bottom of which had been lined with turkey-foot grass, which at the touch turned to brown dust.

That in general the lower half of the built-up mound was largely stratified earths, ranging in color from pure yellow or greenish yellow through different shades of the same to brown and yellowish-black, or occasional areas of pure black, quite thick but limited horizontally, to the upper half having but little stratified earth, but much homogenous concentrations of blackish earth rich in broken pottery, bones, clam shells, bone implements, and other inclusions.

The deposits of stratified earth were of all lengths, discontinuous, overlapping, and of all thicknesses from a streak up to four, rarely six, inches.

Through the mound at all levels were numerous lens-shaped deposits of pure white ashes with occasionally the earth around them burned red, which can be interpreted as indicating that such deposits were made by fire on the spot.

That probably not more than 5, certainly not more than 10% of the mound is refuse from camps or villages.

Why the thousands of cubic yards of various kinds of earth, - we threw seven hundred yards out of the trenches and silo of Broken Kettle alone, - which scarcely made a scar, - were carried to these particular places to build these mounds, is, and probably always will be an unanswered question.

In the field, with inadequate help, not much can be done in the way of studying the pottery sherds and other material recovered that had been thrown away, left purposely, or lost by the builders of the mounds. Over 12000 pieces were sent in, with many photographs to illustrate the findings.

A laboratory study of this material can not fail to increase our knowledge of this people and their relation to others.

To facilitate the listing of this material we made a tentative field classification of the different types of pottery which will follow. For reasons above, chipped flint, axes, celts and other implements and weapons of stone were also sent in without with but little study.

The same was true of the very numerous implements and ornaments of bone and shell.

Worked Busycon and Oliva shells, not rare, indicated traffic with people living by the sea, while arrow heads and a scraper of translucent chalcedony from near the boundary line between N. Dakota and Montana, showed intercourse with those from far to the north.

No copper was found, nor was anything indicating contact with the white man.

Villages, these people normally lived, for it can not yet be said that the mounds were their only habitations, - or even habitations at all, - they may have been temples or places where certain ceremonies were from time to time enacted, - have not been found. ©

Ossuaries of the bundled skeletons of, often many people, have been found on the surrounding bluff tops and as they are unmarked doubtless there may be many undiscovered. Yet we have no certain evidence that they are those of the mound builders.

The consensus of opinion is that the Indian has been here for many hundred, probably thousand, years. Many different cultures may have lived in these valleys. We should be slow to make positive statements.

Inside or outside the circumference of the mound, at its foot, four burials were found by us. Previously four others had been found by the operator of the farm. These may or may not have been of the builders of the mound, - they may have been intrusives.

© Twenty-two test pits were dug to a depth of three feet in the terrace between the creek and the foot of the bluff to the southeast. This is an ideal village site but we did not discover the least indication of one.

Characteristic of the Broken Kettle and Kimball mounds, and of the village sites in the valley of the Little Sioux in Cherokee, O'Brien, Clay and Buena Vista counties, having the same cultural aspect, is a lens-shaped object which the men called a "door knob", 2.5 in. in diameter and 1 in. thick, usually of some hard stone as granite, syenite, diorite or quartz, very symmetrical and usually polished, sometimes highly. Several of these were found.

Artifacts of chipped flint were much less common than the abundance of large animal bones had led us to expect. To kill the buffalo, elk and deer would require effective weapons of which they evidently took good care not to lose or throw away many.

The typical arrow head, showing fine workmanship, was long triangular, about 1 inch in length and .5 inch wide at the base, and one notch on either side. Less than a dozen of this type were found. See photograph on page 106

Of what is believed to be a typical celt, rather thin with flaring sides, square poll and rounded bitt, we found some good examples. See photographs on page 30 and 112

Only one grooved axe was found. This had been broken in two just in front of the groove and afterwards ground down to a very blunt edge. No grooved mauls were discovered.

A great variety of bone awls or piercing instruments and pieces used in incising patterns on pottery or in smoothing it, cut out of leg bones or made from split ribs, large bird bones and bills, were found in large numbers, some very finely made.

Noticeable as unique pieces were two elk tines carved to represent a crane's head and neck, and the finely made tube of stone, 4.7 inches long and .6 to .8 inches in diameter. We thought that this might be a tubular pipe or a medicine man's suction tube.

An instructor in instrumental music, - a cornetist, - who visited the work thought it might be a musical instrument and succeeded in making it squeak. See page 107 for photograph.

Ornaments were almost wholly of shell or bone. Note beads, ear ornament, pendant and fish in photograph on page 110

Bear fangs, some perforated and some not, were rather common.

Pottery disks, apparently cut from sherds, with or without small, - .15 to .2 in. - central perforations, were also common.

Lugs of Type 5 pottery were common. Characteristic effigies, often forming part of them, were created bird heads, a sprawling raccoon extending from handle to lug or lip, and human heads. See photographs on page 109.

Very common was one certain toe bone of some animal, from 1 to 1.9 in. long. Into the proximal end a funnel-shaped cavity terminating in a hole through the distal end. 1 to .15 inch in diameter. On part some shaping of this end had been done.

Also many of these bones were found on which no work had been done.

A number of pieces of worked bone in varying stages of completion, showing the process of making two fish hooks from the same rectangular piece of bone cut from a cannon or other round bone, were found. See photograph on page 110

Characteristic of the Oneota aspect of the Upper Iowa river were grooved arrow-shaft smoothers of which some very fine specimens were found in the valley of that river. These are made of coarse sand cemented together by what appears to be iron oxide. This implement, in our work along the Missouri, we have found to be very rare. One-half of one was recovered from Sec. 42-4 of the Kimball mound. See photograph on page 107

A few kernels of carbonized corn and small pieces of cob of an eight-row variety, were found which taken together with the large number of shoulder-blade digging implements, - a total of seventy-five of these was found in the Broken Kettle alone, on most of which but little more than the distal end remained, - indicated the raising of corn on a considerable area.

Because we found just outside the north east corner of the Broken Kettle house site, two pieces of bark in a fairly good state of preservation, and not the least evidence of it anywhere else, in either mound, we are forced to conclude that the structures indicated by the post holes, which we are tentatively calling house sites, were not any part of them, covered with bark, or if they were it was entirely removed and carried elsewhere when the occupants moved.

The Age of the Mounds.

In our work on the mounds we were almost invariably asked by visitors and others with whom we talked, "How old are these mounds?" Certainly two hundred and twenty-five years, how much older than that is not known.

In 1693 Nicholas Perrot established Ft. St. Nicholas at Prairie du Chien on the Mississippi river, after which the fur trade with the Sioux in south-western Minnesota was more firmly established. It is not unlikely that much of the fur traded at that post was brought in by illegal traders, *coursurs de bois*, who traveled far into the unknown Indian country.

La Hontan in 1689, returning from the Mississippi river by way of the Illinois river, reports that he found at Tonty's Fort on the latter river, twenty illegal traders.

Perrot established at Lake Pepin in 1685, - these forts were always trading posts. Ordered to return to Montreal to assist in the war with the Iroquois, he stored furs valued at 40000 livres, which he had accumulated, at the post or mission at Green Bay.

Le Seuer was in 1683 at Prairie du Chien engaged in active trade. In 1700, unable to obtain a license from Canada, he entered and ascended the Mississippi from Biloxi. The French then claimed all the territory drained by that river. At what is now Blue Earth in Minnesota, he built the trading post and fort L'Huillier from which he traded mainly with the Sioux.

As an indication of the large amount of trade with the Indians by illiterate, illegal, who worked out from established posts into the Indian country, it is related that one time when they were ordered by the governor of Canada to come into Montreal, they, instead, went down the Mississippi to sell their peltries to posts in Louisiana, the governor of which, D'Iberville, was friendly. It is a matter of record that 100 at one time went down the river.

It would seem then that by the beginning of 1700 trade must have reached the tribes along the Missouri in western Iowa. Had these traders contacted the people occupying or frequenting the Broken Kettle we should have found some evidence of it in the way of things of white man's make, but no such evidence was found.

It is reasonable then to conclude that the mounds were abandoned habitations or village sites, or for whatever purpose they were used, at least 225 years ago.① How long before that it may have been, or how long ago they were first occupied, we have nothing on which to base even a reasonable estimate.

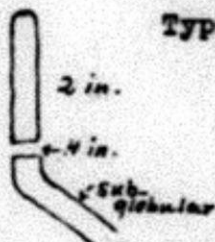
It has been our purpose in making these brief comments on results, to mention only in a general way such as were outstanding or unique. Detailed descriptions and classifications of the large amount of material sent in other than the pottery, like it, can only be made after a searching laboratory study.

① Strong says in An Introduction to Nebraska Archaeology, on page 10: "Long before any written accounts French traders were living with the tribes on the Missouri river, and almost the only record of their discoveries is preserved in various maps drawn by European cartographers by word-of-mouth accounts.

Some first-hand knowledge of the Missouri river tribes from 1719 to 1801 can be gained from the bare records or more rare accounts of such men as Du Tisne, Charlevoix, Bourgmont, the Mallet brothers, the Verendryes, Truteau, Perrin du Lac, and LeRays, but on the whole this was a period of commercial expansion -----"

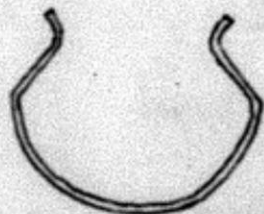
A Tentative Field Classification of Pottery Types Recovered in Excavating the Broken Kettle and Kimball Pre-historic Indian Mounds in Plymouth County, Iowa.

Type 1.



Thick, vertical, plain rims, usually two inches high, with rounded lip. A horizontal row of rounded holes, .4 inches in diameter in the rim just above its connection with the shoulder, approximately as far apart as the rim is high. Body, thick, plain, elongated sub-globular. Grit tempered. Not a common type.

Type 2.

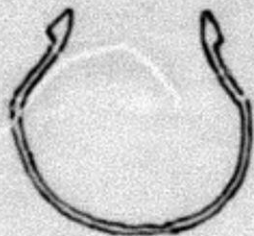


Plain sub-globular body below the rounded, wide-angled shoulder. From shoulder to base of rim, uniformly sloping or rounded.

Rim, .5 to 1.5 inch high, flaring or very rarely vertical. Circular, surrounding the opening from one-half to three-fourths the diameter of the vessel at the shoulder. Thicker at the base than at the rounded, - sometimes square, - lip.

Whole outside surface of rim sometimes plain but usually decorated with a great variety of patterns formed by horizontal, diagonal and vertical straight incised or trailed lines, with, on some at top, horizontal lines of short horizontal, diagonal or vertical indentations. A characteristic pattern is a series of triangles formed by one, two or three parallel incised or trailed lines, sig-saging from base to lip entirely around the rim, forming a series of triangles, one-half with the apex up the other with it down. Except when blank, these triangles are filled with horizontal, oblique or vertical incised straight lines. Grit tempered. The commonest type found.

Type 3. (Collared rim)



Except the rim, like Type 2. The inner side of the rim, concave. The outer, a flat surface, nearly vertical, on which is the decoration, just above the junction of the rim with the shoulder, turns abruptly inward. This turn at the bottom of the face on which is the decoration, with rare exceptions, is ornamented by deep indentations made by an implement or with the finger end.

Ornamentation on the face of the flat outer surface of the rim as on Type 2, or sometimes, plain. Grit tempered.

① neck

Type 4. (Corrugated Type)



Body sub-globular, ornamented on its entire outer surface, except on some a small part of the bottom, by incised or trailed, usually closely parallel, horizontal lines, giving the surface a corrugated appearance. Rim normally, low, recurved with rounded or square lip, usually ornamented with cross-hatching on the top and deep indentations on the outer edge. Occasionally this type has decorated collared rims resembling Type 3. Grit tempered. A fairly common type. Vessels usually large.

Type 5. (Bowl-shaped type)



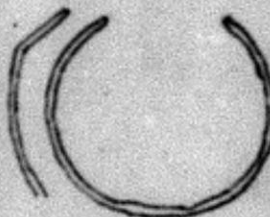
Plain, grit tempered, bowl or basin-shaped vessels with either straight, rounded or flaring sides. Lip either rounded or square. Vessel without incised decoration except, rarely, three or four deeply incised parallel, horizontal lines entirely around it just below the lip.



A large per cent, perhaps all, of these vessels have lugs of various shapes and sizes attached to the side of the lip opposite each other, - sometimes there are several, - consisting of small knobs or protuberances and larger half-moon or triangular thin projections out from the lip horizontally or with an upward slope. Others are in the shape of conventional effigies of birds, animals or human heads, often recognizable, or, often have effigies attached to them on top.

Horizontal Vertical forms usually have vertical holes drilled or punched through them.

Type 6. (Globular type) See Page 143



Grit tempered with sub-globular bowl, with or without short shoulder. No neck or rim around the circular opening at the top, approximately one-half the diameter of the body.

Occasionally parts of shallow trailed patterns on sherds showing a part of the orifice. In what appear to be sherds of that part of a vessel of this type, surrounding the orifice, at 1 inch below its edge, are punched holes .4 inch in diameter.

Type 7



Body probably plain sub-globular. Rims vertically concave inside, convex outside. Either plain or decorated with patterns of incised lines.

Usually immediately above the junction of shoulder and rim is a .1 in. in diameter half-round projection extending horizontally entirely around the neck but which often is missing. Above this the rim, bulging outward, extends vertically for an inch and terminates at the top in a vertical or flaring, rounded, sometimes decorated, lip, .1 to .2 inches high. This lip also sometimes is missing. Grit tempered.



Cross section of rim of Type 7

Type 8. (Rattlesnake type) See Page 108, 36, 37

Highly polished black pottery tempered with fine sand. In every way a superior ware. Low recurved plain rim. The flat shoulder between the body and base of rim decorated with processions of patterns; extending entirely around the vessel, of wide, shallow trailed lines. One such pattern appears to be intended to represent rattlesnakes; another, flying birds; another, spirals connected with straight horizontal lines; while still another is a circle of three rings one within another.



Type 9.

Below is a cross section of the only rim sherd of this type found. Grit tempered. Possibly a variant of Type 7.



Type 10. (Square lipped type)

Body sub-globular, plain. Rim flaring or sometimes recurved. Lip square, sometimes oblique. The flat lip either plain or less commonly decorated with cross-hatching. The outer edge indented. Grit tempered. Both bodies and rims in great variety as to sizes. The most common type after Type 2.



Type 11. (Rope decorated)

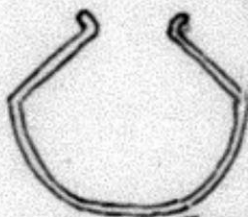
Vertical rim ornamented by what appears to be a representation of a coarse string or rope of clay consisting of two strands running horizontally around it at about its middle and welded to it forming a half-round protruding decoration. The appearance of twisted strands being made by deep diagonal indentations across it to the left, about .2 in. wide, .5 in. deep and .15 to .2 in. apart. This "rope" may have been pinched out of the neck in making the pot. Grittempered.



Type 12.

Small, - approximately 4 inches in diameter, - grit tempered, mostly plain vessels. Body below the shoulder, sub-globular. Shoulder flat sloping, the angle of junction about 108 degrees. Black, polished. Rim, knob-like or low recurved. Rarely some ornamentation on the shoulder.

This may be the same as Type 8 without ornamentation.

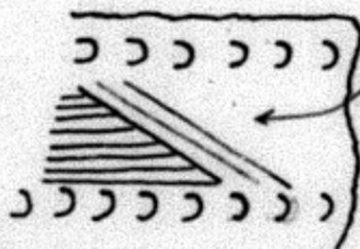


Type 13.

Body globose except for the flat bottom and mouth orifice. Mouth and bottom approximately the same diameter, - about .8 of the greatest horizontal diameter. Walls .2 inches thick. Two vertical lugs or jug handles. Grit tempered.



Type 14



Decoration of
Outside Face of
Rim.

Only Fragment of Rim found.

BURIALS.

As we have stated, the pre-historic Indian origin of the Broken Kettle mound appears to have been accepted from the earliest settlement by the whites and, among the various theories advanced to account for its age and the purpose for which it was built, it was surmised that it was a tumulus erected over the burial place of some noted but forgotten chief by a forgotten people.

The first published account of the actual discovery of burials that might be those that built the mound is found in a paper published in Vol. II of the Proceedings of the Academy of Science and Letters of Sioux City, for 1906.

In it the writer, W.T. Stafford, who dug or supervised the digging of "a cross-section" has the following to say of burials:

"One half-mile east of the mound (the Broken Kettle) on the summit of a sharp hill that rises abruptly from the creek valley and overlooking the Big Sioux valley for miles in all directions, is a burial place or graveyard. The entire top of the bluff is thickly strewn with remains.

"There seems to have been no particular design for the cemetery, or any regularity in these burials. On the contrary, there is evidence that many were placed one upon another. To illustrate, within a space of three feet square were found the remains of six different persons, apparently buried one over the other, yet so close to each other that the taking of one would in many instances reveal the other. The skulls taken from the spot were so close that it was impossible to remove one without the other. One was a well matured adult, the other a very young person. Directly beneath these were the jaw bones and parts of several others in a very advanced stage of decay. The arm bones of at least six different persons, together with the ribs and leg bones, were scattered around the skulls.

"From various positions and directions that these bones are in it is evident that they were placed there without any regard to the former burials. No weapons were found in these graves, nor ornaments of any description.

"From the position of these bones in their graves it would seem that they were placed there after the flesh had been removed, as it would be impossible to place a human form in the positions that some of these remains were found. It is possible that these Indians, like others in this vicinity, hung their dead in trees and on scaffolds until the flesh had been removed by the Great Spirit. Then the bones would be gathered and dumped wholesale into a trench or grave dug for that purpose."

The burials described were quite clearly "bundle burials". On some the ligaments still holding parts of the skeleton together probably dried instead of decaying, and the bones lay in distorted positions.

On a high ridge, one-fourth mile directly east of the mound, and a little south-east of the "forty" corner on the east line of the SW one-fourth of Section 3, we found old pits which may be the place where either Stafford or Garretson dug.

On Map No. 1 we have designated this as Ossuary No. 3. A few weathered, decayed human bones lay about on the surface of the earth thrown out of the pits. Survey

In Vol. II of our 1935 Report of a State-wide Survey of Indian Mound Groups, we, on page 12, in connection with a description of the Broken Kettle Mound, say: "At a mile, (actually 3/4 mile) north (NW) of the Broken Kettle, on the rounded peak of a high bluff, commanding a wide outlook of the valley of the Broken Kettle creek, and the Big Sioux and Missouri bluffs and bottom lands, a farmer in cultivating his corn turned out a few human bones.

"Digging here, at a depth of 10 inches we uncovered an ossuary consisting of 'bundle burials' thrown in every which way.' Under a surface area of roughly eight feet square they were packed solidly to a depth of six inches. With them were found one broken celt but no pottery or anything that would definitely connect them with the builders of the mound in the valley below. No mound had been erected over this ossuary."

Nor were there any rocks over or around it. This we have designated as Ossuary No. 1. None of these bones could be saved except by special treatment which we were unable to give them.

Mr. A.G. Garretson in a letter to Mr. H.C. Powers, curator of the museum of the Academy of Science and Letters of Sioux City, Sept. 24th, 1910, says of excavations made in the Broken Kettle Mound under his supervision: "No human bones were found in the mound, though Mr. Jones, (the owner of the farm), found two heads of adult Indians in a good state of preservation in the west end of the mound some years ago. These heads were not connected with, or even associated with, the bodies or skeletons to which they belonged."

Mr. Garretson further states: "I made two examinations in a nearby ridge by digging two holes, each six feet square, and eighty feet apart; in one I found two well preserved skeletons at a depth of four feet, and in the other hole I found five well preserved skeletons at a depth of four and one-half feet.

"There was nothing on the surface to indicate that interments had been made at these places."

As Mr Garretson does not mention the finding of any artifacts with these burials it may be presumed that there were none.

Also he does not state whether they were extended, flexed or bundled.

The two skulls found by Jones were probably trophy skulls like the one found by us in the east end of Trench A, which will be described later.



On the 200 ft. high point of the nearest bluff, one-fourth mile south-east of the Broken Kettle Mound, Ossuary No. 2, in a pit 7 X 10 ft., NW and SE, was located and uncovered during the course of the the excavation work done in the Broken Kettle during the early part of the summer of 1939.

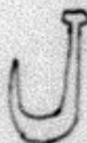
In it there were three connected concentrations of jumbled human bones, (bundled burials,) in advanced stage of decay.

The bottom of the deposit was twenty-four inches below the surface, the top ten to twelve inches. The last plowing, - for the 1939 crop of oats, - had turned up half a dozen pieces of bones.

In the south-east concentration, of which the above is a photograph, looking east, was a small but perfect bone fishhook, and in refilling the central part of the pit a flint perforator was found. This had been thrown out of the pit when digging it.

It is believed that excavations on any of the higher loess points in the immediate vicinity of the Missouri or Big Sioux rivers or the Broken Kettle creek, would quite likely uncover other ossuaries.

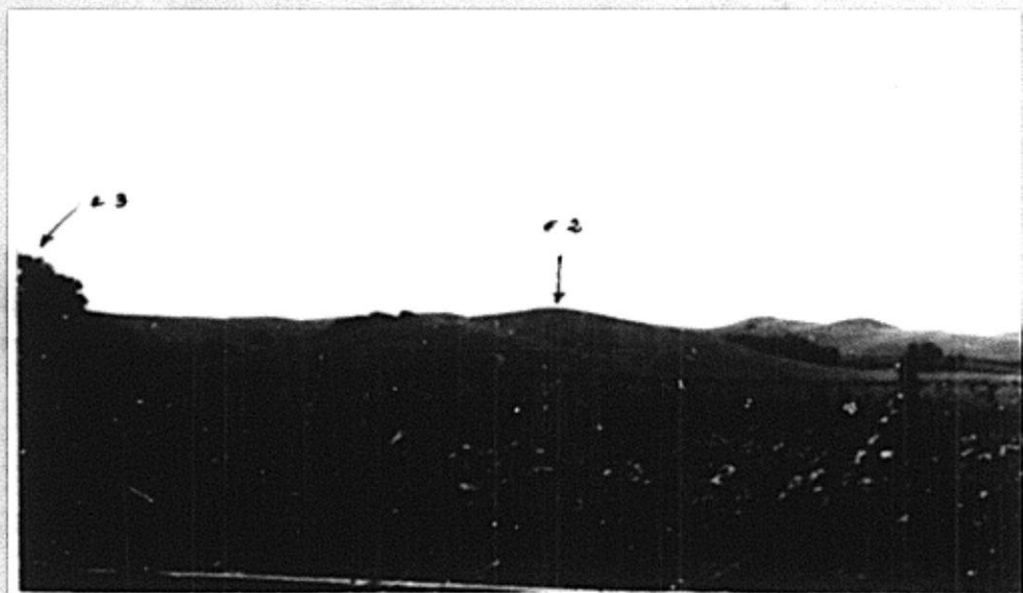
As so far very little except badly decayed, jumbled skeletons have been found in such as have been opened, to certainly connect them with any known culture, especially with the village site refuse mound under investigation, no further effort was made to discover them.



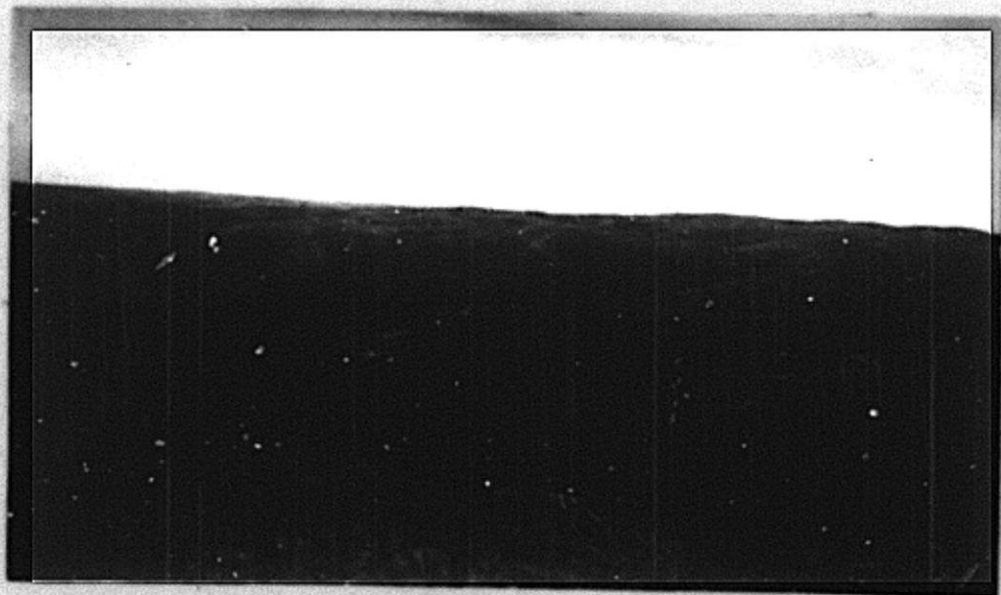
Outline of Bone Fishhook and flint piercing implement from Ossuary No. 2

Actual size.





Photograph of High Point of Bluff south-west of Broken Kettle Mound, one-fourth mile, on which is Ossuary No. 2, - indicated by arrow, looking south-east from 200 ft. east of Mound
At extreme left on high ridge, back of tree is Ossuary No. 3.



Photograph of Jumbled Hills north-east of Broken Kettle Mound. From the south.

In Section 2 in the south wall of Trench A of the Broken Kettle Mound was found, resting on its base, a well preserved "trophy" (?) skull, at eighteen inches below the surface.

Well polished apparently by much handling. Wisdom teeth not yet out.

The upper left part of the frontal bone had been fractured by a blow, and in the top just in front of the coronal suture were drilled two holes .05 inch in diameter and one inch apart.

No other bones or other inclusions were associated with it.

The two skulls found by Mr. Jones before mentioned may have served the same purpose as this one.

Occasionally in our work we have found parts of the human skull, worn smooth, for what purpose used is not known. They are never associated with other parts of the skeleton.

Although the bone fish-hook found with the skeletons in Ossuary No. 2 is identical with those found in the Broken Kettle and Kimball Mounds, and the flint perforator can not be said not to belong to the culture of the people who built these mounds, more conclusive evidence would be the finding of their pottery in these final resting places. This has not yet happened. As celts apparently were universal articles of pre-historic trade, the broken celt found in Ossuary No. 1, even had it been perfect, might not have been of the prevailing type found in the two mounds, - might have been acquired in trade.

Another thing that might raise a question in our minds is that hill-top burial places are found where there are no house or village sites. Final interment in hill-top ossuaries was of the skeletal remains of previous sepulture and was beyond question practiced by peoples of different cultures, occupying in succession the same area.

Burials in Broken Kettle Mound.

There have been found in the Mound itself and in its immediate vicinity, burials of a different type. In all, seven of these have been discovered in the Broken Kettle.

In 1936 Mr. Henry Behrens, tenant on the Broken Kettle farm, tore down the old horse and cow barn on the flat top of the mound and erected in its place a shed, 115 X 32 ft., open to the south. At the same time the water tank was moved from its former position to a place at the west end of the new shed. (See photographs)

In digging a trench from the windmill to the water tank, in which to lay the water pipe, there was uncovered at a depth of around three and one-half feet, three incomplete adult skeletons, and in the trench south from the tank to the horse watering place outside the main farm feed yard, an additional adult skeleton was found. All four of these were just within the perimeter of the mound. It appears

From Mr. Behrens' description that all were extended burials of incomplete, distorted skeletons of which some of the bones were misplaced. It was not, he said, as if an armful of bones had been thrown or laid there more or less carelessly. All were in a fair state of preservation.

These burials, together with the three similarly located, found by us in our work of excavation, and of which descriptions follow, are believed to be of the people who actually lived on or near the refuse mound and probably had some part in its construction.

The sherds of a large vessel of one of the commonest types of the Broken Kettle pottery complex, and the inclusion with it of the many clam shells so characteristic of the mound, found associated with the adult skeleton of burial No. 3, would seem to establish this belief beyond a doubt.

It is evident, however, from their location as to depth below the surface, that they were not of the first builders on the site but of the people who inhabited or frequented the place when it had approached the dimensions reached at the time when it was abandoned.



BURIAL No. I,
BROKEN KETTLE MOUND.
In Extension of Section No. 8, Trench D.

At eighty-four inches below the surface, and practically the level of the terrace at the circumference of the mound, on its south side, the careful workman, Kouris, in Section 8, just touched in the south wall, the distal - knee - end of human left femur. In trimming wall had he cut two inches deep - he would have missed it entirely.

Work with a trowel soon satisfied us that he had found a burial. An 8 X 8 ft. addition to that section, south-west of its south-west corner, with the end of the femur in the center of its north wall, uncovered the distorted, extended burial of a well preserved female (?) skeleton lying on its back with head to the west. The floor on which it lay was not distinguishable from the surrounding earth, eighty-eight inches below the terrace surface.

The earth above this burial, gradually changing from the dark surface soil to a pronounced yellow loess (?) showed no dipping down as of a grave pit. No traces of the walls of an original burial pit could be seen nor was there any looseness of soil such as might have been found over a burial.

An almost complete flat bottomed bowl was found at twenty-four inches above the left innominata. Typical Broken Kettle pottery sherds - not large - and a few clam shells were also found in this pit addition at a depth of 20 to 36 inches below the terrace surface.

Two small rim fragments and two small body sherds, one of which was red on one side, were found directly associated, in different places with the skeleton. These in no way differed either in composition or type from others found in the trench.

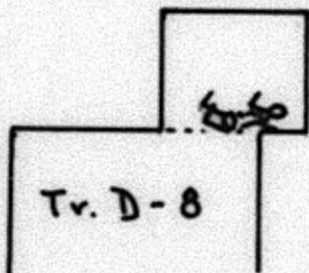
See page 55-A.

Regarding the skeleton found in Trench D:

You will remember that Kouris had the last Section of Trench D, the one S. of the cattle shed, # this Section, # 8. Extended to the foot--or circumference of the Broken Kettle Mound.

At a depth of 84 (?) in. below the surface,--he first touched in the South wall, in the SW corner, what appeared to be a well preserved human bone to which he called my attention.

Had the S. wall of the Section been 2 in. farther North he would have missed it. Digging around it with a trowel I uncovered the proximal end of a left femur. I then had the men dig an 8 x 8 ft. pit south and west of the SW Cor. of Sec. 8,--an addition to that Section, with the femur in the center of its N wall.



This additional pit, when fully excavated, uncovered the well preserved bones of part of a skeleton with head to the west, the position of the bones of which are better shown in the photographs than I can describe.

An almost complete flat-bottomed bowl was found approximately 24 in. above the left innominatum. Pottery sherds, not large and a few clam shells were also found in this additional pit at a depth of around 20 to 36 in. below the terrace surface level. The walls of the pit gradually changed from the dark surface soil to yellowish, the change being uniform, showing no dipping down as of a grave pit, of the darker soil, and there were no signs of a pit or grave wall, or looseness of soil over the burial.

Two small rim fragments and 2 small body sherds, one of which was red on one side, were found directly associated in different places with

[55A continued]

the skeleton. These in no way differed in type or composition from others found in the trenches.

The floor, not distinguishable from the surrounding soil, was 88 ins. below the surface.

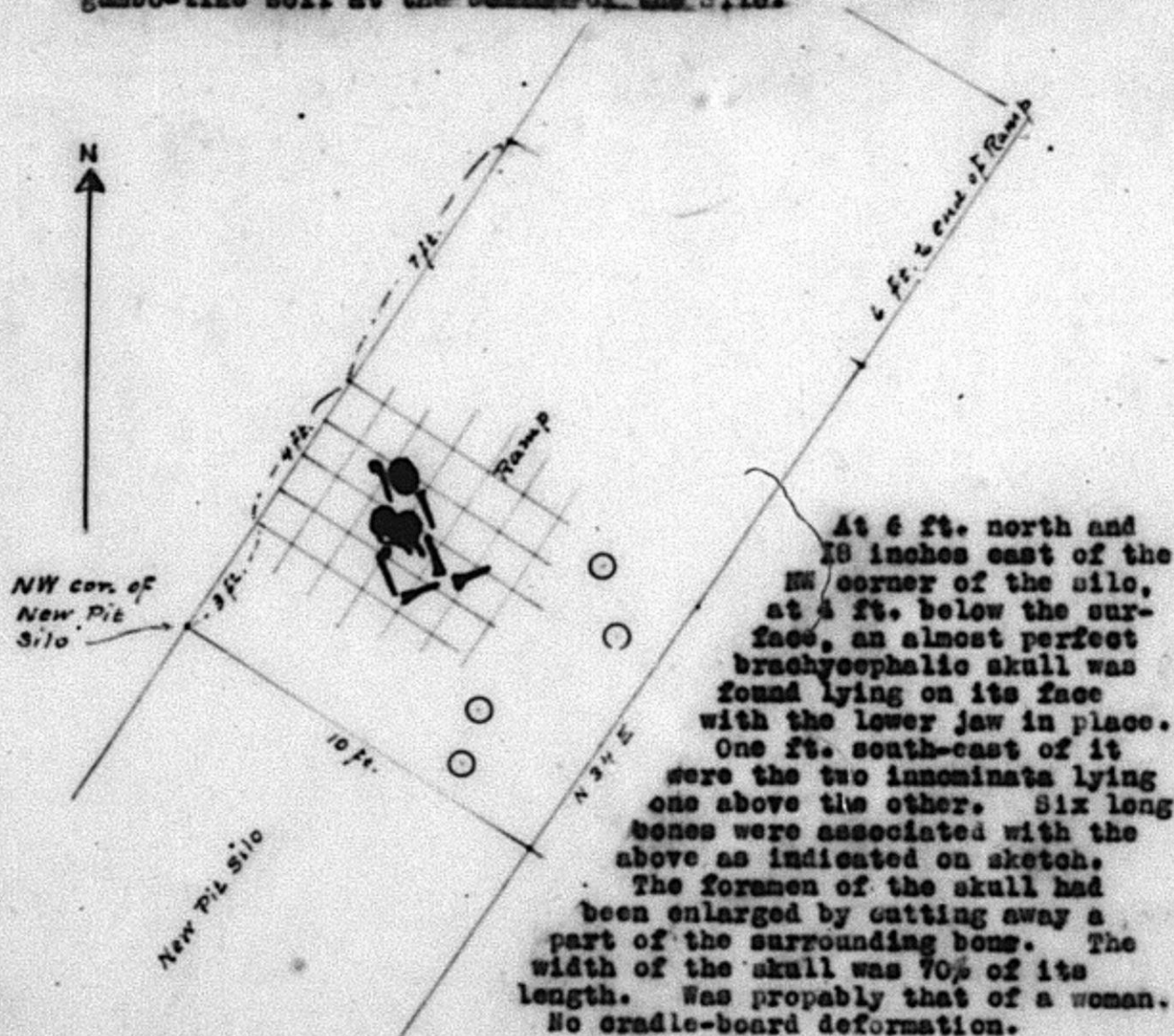
See page 55

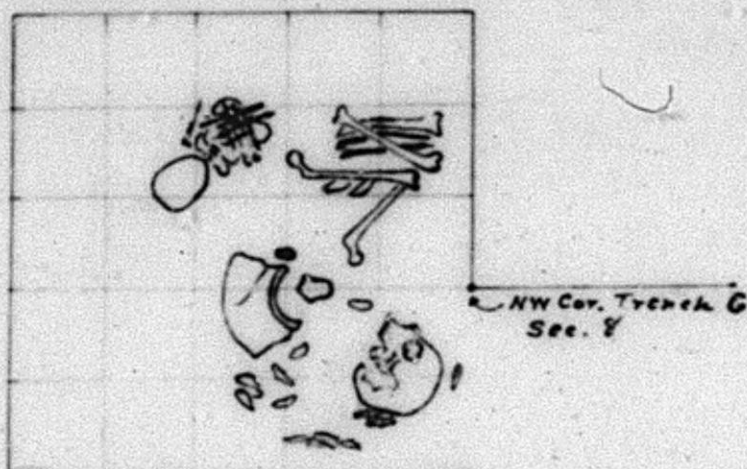
BURIAL No. 2

BROKEN KETTLE MOUND.

Burial # 2 and four pest holes found in excavating ramp of New Pit Silo.

Post Holes in stratified mound earth at 2 to 3 ft. above the gumbo-like soil at the bottom of the Silo.





BURIAL No. 3
BROKEN KETTLE MOUND.

Plan of Burial of Adult
and Child
in Extension of Section 8
of Trench G, Broken Kettle
Mound.

○ - Clam shells
Scale, 1/2 inch = 1 foot.

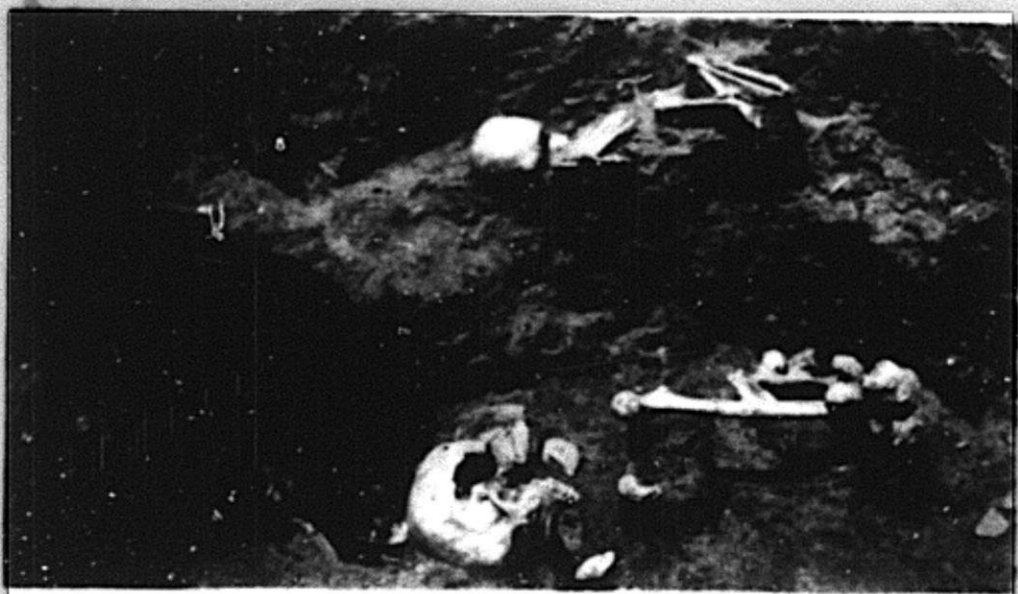
In the west end wall of Section 8 in Trench G, at about 1 ft. above the gumbo-like black soil, at 3.5 ft. below the surface, and at 1 ft. south and 1 ft. west of the north-west corner of Trench G, in a pit 5 X 8 ft., an extension west of Section 8 of Trench G, a well preserved skull and lower jaw of an adult, facing north-east and lying partly on its right side, was found.

Directly north of this, from 1.5 to 2.5 ft. were the 6 large leg bones, presumably a part of the same skeleton as the skull, lying as shown in the plan above. Except for part of the bones of one foot there were no traces of the remainder of the skeleton. The distal ends of these 5 bones were about 8 in. lower than the proximal ends, the right femur and the skull.

One foot west of the leg bones and about 1.5 ft. higher, extending north-east and south-west, was the partly bundled burial of an almost complete child's skeleton but which were so fragile that they crumbled at the touch. The bones of the torso and the skull, which lay face down, were in place, on top of which lay the bundled remainder of the skeleton.

The skull was very thin, - about .1 of an inch thick.

About these skeletons and in the shallow pit beneath there were many well preserved large river clam shells, a few good pottery sherds, - Mill Creek, - and a few hand size granite and greenstone boulders, and centrally located and about at the same level as the the remains of the adult skeleton, was one-third of a large Mill Creek pot.

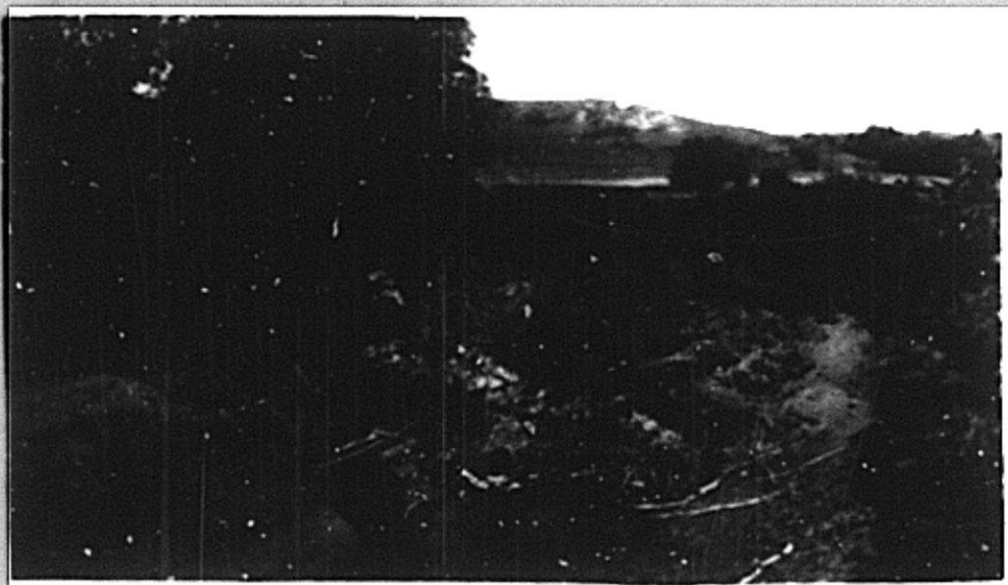


In cleaning up, lower jaw was removed and inadvertently not replaced when photograph was taken and sketch made. Sherds of large pot just back of skull.

Photograph of Burial No. 3,
In extension west of Section No. 8, Trench G, Broken
Kettle Mound.
Looking north-west.



Bundled Burials in the Ossuary on the Bluff Top SE of the
Broken Kettle. Looking north-west.



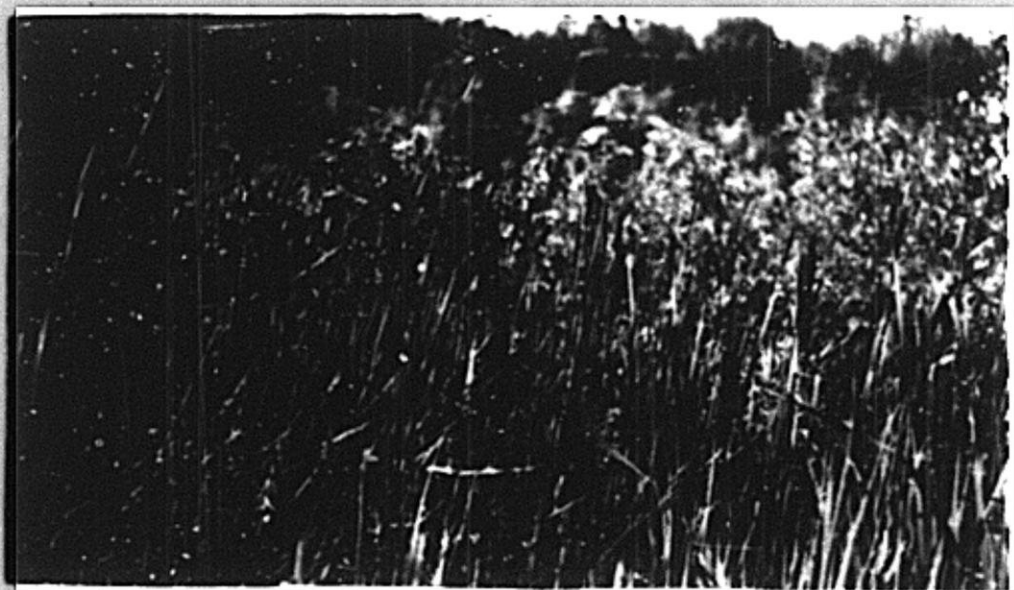
Beaver Dam on Broken Kettle creek forty rods above Broken Kettle mound. Looking north-west up stream. The beavers living here did not build houses but lived in holes in the 16 ft. high bank, entered from under water. In Sept. they added some corn stalks to the dam which they cut in the field above.



Willow trees cut by beavers on the bank of the Big Sioux, on Sec. 34, T. 90, R. 48. Looking west towards river.



Typa latifolia, broad-leaved cattail, at left; *Typa angustifolia*, narrow-leaved cattail, at right. In wide roadside ditch dammed by approach to entrance to farm field, forming a catch basin for run off of storm water. NE Sec. 36, T. 90, R. 48, on west side of Highway No. 13 NW of Sioux City.

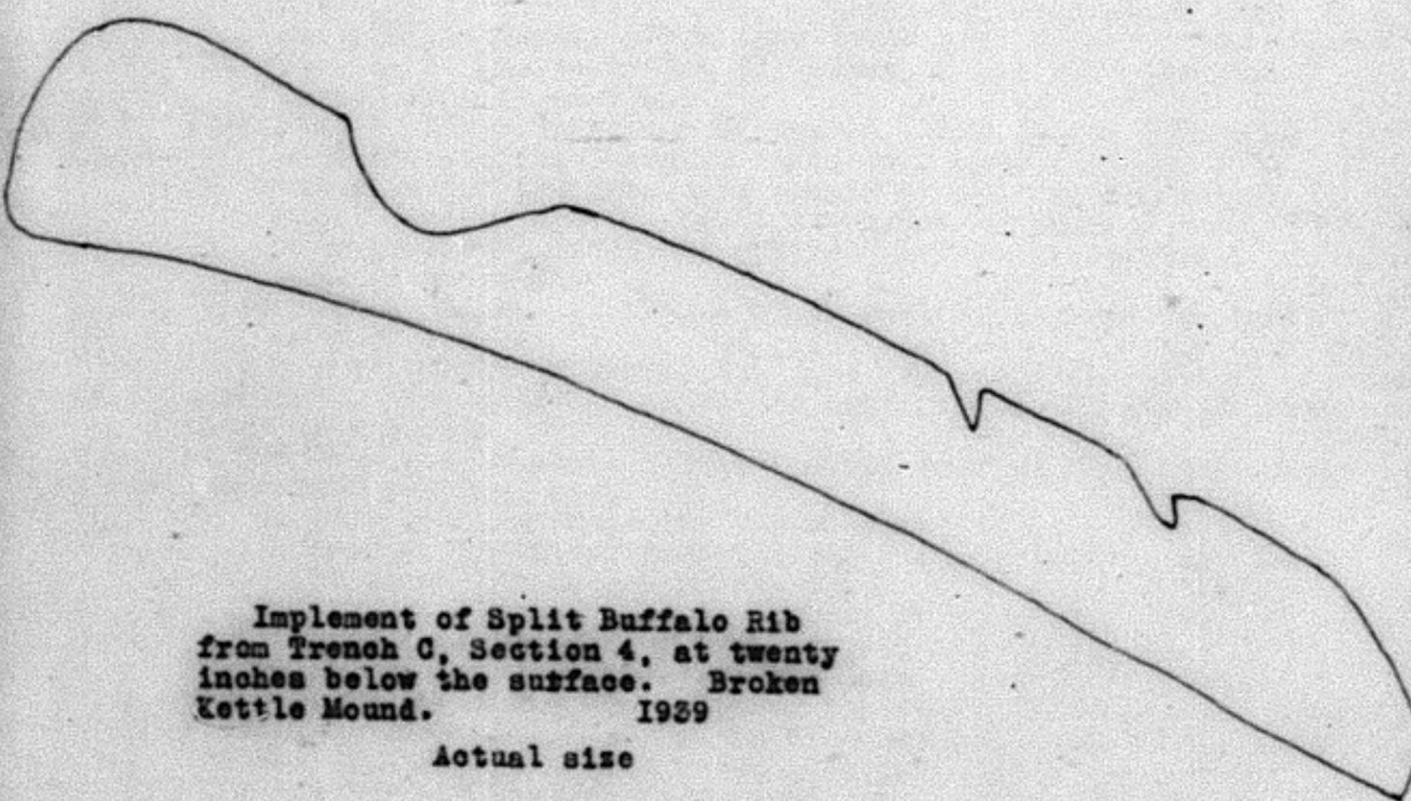


Same as above but camera set up in slightly different place. *Typa angustifolia* is very rare except along the Atlantic sea coast. To find the two species growing in the same mud hole was surely a great piece of luck.

Excavation in Broken Kettle Mound.

Total Length of Trenches Dug	523 ft.
Total Square feet of surface excavated	3088 sq. ft.
Total Cubic yards excavated	188 1/2 cu. yds.

As all trenches had to be refilled the total cu. yds handled was	3763 cu. yds
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**Implement of Split Buffalo Rib
from Trench C, Section 4, at twenty
inches below the surface. Broken
Kettle Mound. 1939**

Actual size

TRENCH D.

Trench D, 56 ft. long and 6 ft. wide, was divided into 8 sections numbered from the north end. The north-east corner, under the cattle shed, is north, 50 ft. from survey station No. 12.

From thence, it runs S 21 W, 56 ft. to the south-east corner at the surface circumference of the mound.

From the field notes of the excavation we get the following:

"At the north end of the trench, 70 in. down to the black, tough soil in which there are no signs of disturbance. The next foot above this black soil is much stratified with streaks of yellow and black soil, ash and charcoal.

"At SW corner of Sta. 1, 65 in. to black soil.

"At SW corner of Sta. 2, 72 in. to black soil.

"At SW corner of Sta. 3, 66 in. to black soil. Stratification above bends downwards to it.

"At SW corner of Sta. 4, 66 in. to bottom of trench at black soil.

"At Sta. 5, SW corner, 70 in. to black soil. At Sta. 5 plus 2 ft., yellowish soil here replaces the black which dips sharply downwards. From here black soil below bottom of trench.

"At Sta. 6, 74 in. to bottom of trench, - lower 30 in. yellowish with no charcoal.

"At Sta. 7, 74 in. to bottom of trench, - 30 in. of yellowish soil above, under blackish that turns gray when dry and contains for the remaining length of the trench, mostly small pottery sherds, small fragments of bone, a few clam shells of different species, and scattered small bits of charcoal.

"At Sta. 8, 84 in. to bottom of trench, soil above the same as over Sta. 7.

Center of pelvis of Burial No. 1, 6 in. s. of S. end of trench, - SW corner. Center of skull 3 in. SW from SW corner of trench.

"In Sec. 7-1, a small pottery effigy head of wood duck, also a worked piece of horn. (?)

"In Sec. 5-50, a small toy cup with handle, - a spoon. (?)

"In Sec. 6, in center an ash lens, 2 in. thick, 15 in. long. No other inclusions or charcoal.

"In Sec. 7-60, half a small toy pot with recurved rim.

"In Sec. 8, from surface down to yellow clay, 54 in.

"At 24 in. immediately above the left innominate of the burial in the 8 X 8 ft. addition to Sec. 8, was found a flat bottomed bowl, 6.5 in. in diameter and 2 in. deep, almost complete. In this addition just below the second foot below the surface were found clam shells and pottery sherds.

Midway between Secs 5 and 6, a test pit showed the black gumbo-like soil to be 88 in. below the surface.

"At Sec. 6 plus 6, in the upper half of the east wall of the trench, and also between Sta. 4 and 5 plus 2, much small shell and pottery fragments.

Nov. 27th, 1945.

Dr. T. C. Stephens,
Morningside College,
Sioux City, Iowa.

Dear Dr. Stephens:

Was pleased to receive your letter of the 22d with enclosures. I have a complete file of that interesting old periodical "Records of the Past" and have read Mr. Gabrielson's paper about the Broken Kettle Mound appearing in one of the numbers.

I agree with Mr. G. in the conclusion which he expresses in the copy of his letter which you enclosed, that the Broken Kettle is composed 5 to 10 per cent rubbish. Our estimate of the amount of refuse is that it constitutes not more than 10 per cent of the mound, the remainder being earths of different kinds.

This refuse is scattered through the mound at all levels, pockets of it being not uncommon. The great bulk of the mound - 90% - is composed of various kinds of clays and surface soils.

In the mound, everywhere, there was a jumble of abbreviated, superimposed, overlapping strata, often very pronounced and again obscure. Changes from one soil to another were seldom sharp and well defined.

All deposits were very irregular as to extent or thickness.

Nowhere was there that thick lens-like structure that would be produced by dumping baskets or skins full in heaps, which is sometimes shown in mounds.

In cleaning out the old pit silo a stratum of greenish-yellow clay was encountered. This was one of the few well defined extensive strata uncovered. The exposure was 11 ft. long, of unknown width, and 14 inches thick. It contained no charcoal or other inclusions - was just pure clay.

We tramped the surrounding hills and gave the the erosion ditches and gullies the "once over" but found no deposit of this interesting clay in situ. It must have been brought from a distance. This was true of other earths also.

found No borrow pit from which earth of any kind could have been taken to build the mound, either near or at a distance.

I can not bring myself to believe that the Indian, who was not given to doing more than necessary work and not overly clean in his domestic life, should carry his refuse to one spot for a long period of years, scatter it around and bring in from a distance nine times as much earth to cover it.

There must have been other reasons for building that big mound, and we ask ourselves what they were. The question remains unanswered. We probably never will know.

At the bottom of the artificial heap, in the original natural loam, we found in our excavations, rows of post moulds - post holes - evidence that in the beginning there must have been some kind of a structure there. Probably something like the "earth lodges" scattered over an area of two by ten miles in Mills county, which we excavated in 1938.

In the beginning the site may have been a mysterious (wakan) place to the Indian, and certain ceremonies may from time to time have been performed there. But we are speculating.

In a trench running from the shed, south, we uncovered at the perimeter of the mound, the nearly complete distorted skeleton of a woman at a depth of six feet below the natural surface. In the new pit, also which we in consideration for permission to excavate, we found the scanty remains of two adult skeletons and less of those of a third. All were badly decayed.

At the west end of a trench running west from the mound center we uncovered a jumbled (not bundled) adult skeleton, a few feet from which were those of a child.

Mr. Behrens, in digging a trench from the windmill to the tank by the cattle shed in which to lay water pipe, uncovered in different places, four skeletons. All were extended and incomplete, distorted skeletons of which some of the bones were misplaced. It was not, he said, as if an armful of bones (bundle burial) had been thrown or laid there carelessly.

All of the six skeletons found by us and the four found by Mr. Behrens were located just within the perimeter of the mound.

test

In three pits dug on the flat area 40 to 80 ft. ~~off~~ of the mound was found broken pottery, clam shells and shoulder blade digging implements in abundance, indicating that the area had been much used for a camp or village site.

Give my respects to Mrs Stephens. I have not forgotten the pleasant evening at your house.

Just a year ago my wife after a long illness passed on into that silent land, and my only daughter who is a widow came back to the old home to live.

In April of the present year it became necessary for me to go to a hospital for a rather serious surgical operation but by midsummer I was fully recovered and my health is now good.

Perhaps in adjusting things after this war there may be again a chance to do some archaeological work.

Soon now it will be Christmas and the New Year. May they herald to you and yours a Happy and Prosperous New Year

Very respectfully yours,

EDITOR'S NOTE:

At this point in Volume XI a series of 13 sheets tabulating the material recovered in the Broken Kettle excavation were inserted. Since the sheets are approximately 11 x 15.5 inches in dimensions with the data tightly spaced, it would be extremely difficult and often impossible to read on Microcard. To facilitate their use, therefore, they have been typed and broken into smaller units. At the heading of each table, "SHEET 1", "SHEET 2", etc. indicates the manuscript sheets from which this portion of the table was derived. Since some tables are continuous and extend from one sheet to the following one, occasionally a typed table will bear a notation such as "SHEET 11-12" to indicate it was derived from two of the manuscript sheets.

On the original tables of ceramic material, tables from the second foot and deeper occasionally had entries with additional numbers written as a superscription above a figure. The meaning of these entries was not explained on the tables and in the typed version they were combined to form a single number. They were not present in tables of non-ceramic material.

SHEET 1. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHERDS FOUND IN FIRST FOOT.

	TRENCH										TEST	SILO	SHAL-	NEW	OLD	TEST	TOTAL
	A	B	C	D	E	F	G	H	I	PIT	RAMP	LOW	SILO	SILO	PIT		
										1		EXC.			2		
Type 1 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 2 - Vertical-Plain	5	2	-	3	-	-	-	-	2	-	-	-	2	-	-	-	14
Type 2 - Vertical - Decorated	7	-	-	3	-	4	-	-	6	-	-	-	33	-	-	-	53
Type 3 - Collared - Plain	3	-	-	-	-	-	-	-	-	-	-	-	2	-	-	-	5
Type 3 - Collared - Decorated	1	3	-	1	-	-	-	-	-	-	-	-	3	-	-	-	8
Type 4 - Corrugated Plain - Collared	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated Decorated-Collared	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated Plain - Recurved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 5 - Basin-shaped	1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Type 6 - Globular	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 7 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 7 - Decorated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 8 - (Rattlesnake) Shoulder dec. with incised patterns	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 9 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 10 - Square lip - Plain	-	2	-	-	1	-	-	-	-	-	-	-	3	-	-	-	6
Type 10 - Square lip - Decorated	-	-	2	-	-	-	-	-	-	-	-	-	1	-	-	-	3
Type 11 - Rope Decorated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 12 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Shell tempered	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unclassified	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
Toy Pot	-	-	-	1	1	-	-	-	-	-	-	-	-	-	-	-	2
TOTAL	17	8	2	8	3	4	-	-	8	-	-	-	44	-	-	-	94

SHEET 1. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHEERDS FOUND IN SECOND FOOT.

	TRENCH										TEST PIT 1	SILLO RAMP	SHAL- LOW EXC.	NEW SILO	OLD SILO	TEST PIT 2	TOTAL
	A	B	C	D	E	F	G	H	I								
Type 1 - Plain	1	-	3	-	-	-	4	-	-	-	-	-	-	-	-	-	8
Type 2 - Vertical-Plain	5	1	11	20	11	3	11	-	-	1	2	-	-	1	-	-	66
Type 2 - Vertical - Decorated	13	9	31	25	21	14	27	-	-	2	-	-	24	5	-	-	171
Type 3 - Collared - Plain	-	-	3	-	2	-	-	-	-	-	-	-	-	-	-	-	5
Type 3 - Collared - Decorated	3	-	3	5	-	5	4	-	-	-	1	-	3	2	-	-	26
Type 4 - Corrugated Plain - Collared	-	-	5	3	-	-	-	-	-	-	-	-	-	-	-	-	8
Type 4 - Corrugated Decorated-Collared	-	-	1	2	-	2	-	-	-	-	-	-	-	-	-	-	5
Type 4 - Corrugated Plain - Recurved	-	-	-	-	-	1	2	-	-	-	-	-	-	-	-	-	3
Type 5 - Basin-shaped	1	-	4	-	-	-	2	-	-	-	-	-	-	-	-	-	7
Type 6 - Globular	-	-	1	2	-	-	3	-	-	-	-	-	-	-	-	-	6
Type 7 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 7 - Decorated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 8 - (Rattlesnake) Shoulder dec. with incised patterns	-	-	2	2	-	-	2	-	-	-	-	-	-	-	-	-	6
Type 9 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 10 - Square lip - Plain	10	-	5	9	-	1	4	-	-	-	1	-	3	-	-	-	33
Type 10 - Square lip - Decorated	-	-	2	2	-	5	9	-	-	-	2	-	-	-	-	-	20
Type 11 - Rope decorated	-	-	1	3	-	3	1	-	-	-	-	-	-	-	-	-	8
Type 12 - Plain	-	-	-	1	-	2	2	-	-	-	-	-	-	-	-	-	5
Shell tempered	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unclassified	-	-	3	1	-	-	1	-	-	-	-	-	-	-	-	-	5
Toy Pot	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL	33	10	76	75	34	36	72	-	-	3	6	-	30	8	-	-	383

SHEET 2. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHERDS FOUND IN THIRD FOOT.

	TRENCH										TEST PIT 1	SILO RAMP	SHAL- LOW EXC.	NEW SILO	OLD SILO	TEST PIT 2	TOTAL
	A	B	C	D	E	F	G	H	I								
Type 1 - Plain	-	-	1	2	-	-	1	1	-	-	-	-	-	-	-	-	5
Type 2 - Vertical-Plain	18	14	15	3	-	17	4	6	-	-	3	2	-	9	-	-	91
Type 2 - Vertical - Decorated	14	26	50	20	3	26	24	11	7	-	8	2	20	15	-	-	226
Type 3 - Collared - Plain	-	4	1	-	-	-	-	-	-	-	-	-	-	1	-	-	6
Type 3 - Collared - Decorated	-	10	4	-	-	2	2	5	2	-	1	2	1	3	-	-	32
Type 4 - Corrugated Plain - Collared	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated Decorated-Collared	-	-	2	-	-	3	-	-	1	-	-	-	-	-	-	-	6
Type 4 - Corrugated Plain - Recurved	-	-	2	-	-	1	-	-	-	-	-	-	1	-	-	-	4
Type 5 - Basin-shaped	3	-	-	2	-	6	2	-	-	-	-	-	-	-	-	-	13
Type 6 - Globular	-	-	5	1	1	1	1	-	-	-	2	-	-	1	1	-	13
Type 7 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 7 - Decorated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 8 - (Rattlesnake) Shoulder dec. with incised patterns	-	-	1	-	1	-	-	-	-	-	-	1	-	-	-	-	3
Type 9 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 10 - Square lip - Plain	9	4	1	1	-	3	5	-	1	-	-	-	-	3	-	-	27
Type 10 - Square lip - Decorated	-	5	4	6	-	7	10	2	2	-	2	2	4	-	-	-	44
Type 11 - Rope Decor.	1	3	4	-	-	1	1	1	-	-	-	-	-	-	-	-	11
Type 12 - Plain	-	1	-	-	-	-	-	-	-	-	-	-	-	1	-	-	2
Shell tempered	-	-	1	-	1	-	-	-	-	-	-	-	-	-	-	-	2
Unclassified	-	-	1	-	-	1	2	-	-	-	-	-	-	-	-	-	4
Toy Pot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	45	67	92	35	5	68	52	26	13	-	16	9	26	33	1	-	489

SHEET 2. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHEERDS FOUND IN FOURTH FOOT.

	TRENCH										TEST	SILLO	SHAL-	NEW	OLD	TEST	TOTAL
	A	B	C	D	E	F	G	H	I	PIT	RAMP	LOW	EXC.	SILLO	SILLO	PIT	
Type 1 - Plain	-	-	1	1	-	1	1	-	-	-	-	-	-	1	-	-	5
Type 2 - Vertical-Plain	9	30	13	9	-	6	2	2	-	1	2	3	-	-	11	-	88
Type 2 - Vertical - Decorated	12	28	48	43	3	13	7	10	-	2	3	4	-	38	38	-	251
Type 3 - Collared - Plain	6	3	-	-	-	1	-	-	-	-	-	-	-	-	-	-	10
Type 3 - Collared - Decorated	4	12	14	2	-	2	4	2	-	-	1	-	-	4	10	-	55
Type 4 - Corrugated - Plain - Collared	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated - Decorated-Collared	-	-	-	1	-	1	-	1	-	-	-	-	-	-	1	-	4
Type 4 - Corrugated - Plain - Recurved	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 5 - Basin-shaped	-	3	-	3	1	-	1	1	-	-	-	1	-	7	-	-	17
Type 6 - Globular	3	1	-	3	-	-	-	1	-	-	-	-	-	-	-	-	8
Type 7 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 7 - Decorated	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 8 - (Rattlesnake) Shoulder dec. with incised patterns	2	4	3	-	2	-	1	-	-	-	-	-	-	-	-	-	12
Type 9 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 10 - Square lip Plain	7	14	4	-	-	2	1	-	-	-	3	1	-	-	2	-	34
Type 10 - Square lip Decorated	-	-	9	-	-	2	5	2	-	-	-	1	-	21	6	-	46
Type 11 - Rope Decorated	1	4	3	1	-	2	-	-	-	-	-	-	-	-	1	-	12
Type 12 - Plain	2	1	-	1	-	-	-	-	-	-	-	-	-	-	-	-	4
Shell tempered	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Unclassified	-	-	1	-	-	1	1	-	-	3	-	-	-	-	1	-	7
Toy Pot	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL	48	100	95	64	6	33	23	19	-	6	9	10	-	71	71	-	555

SHEET 3. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHEARDS FOUND IN FIFTH FOOT.

	TRENCH									TEST	SILLO	SHAL-	NEW	OLD	TEST	TOTAL
	A	B	C	D	E	F	G	H	I	PIT	RAMP	LOW	SILLO	SILLO	PIT	
										1		EXC.			2	
Type 1 - Vertical-Plain	-	3	-	-	-	-	-	1	-	-	-	-	-	-	-	4
Type 2 - Vertical-Plain	1	7	3	6	-	5	1	1	-	2	2	-	-	-	1	29
Type 2 - Vertical - Decorated	11	68	3	27	3	14	3	10	-	2	2	-	33	-	2	178
Type 3 - Collared - Plain	-	-	-	-	2	2	-	-	-	-	-	-	-	-	-	4
Type 3 - Collared - Decorated	1	6	-	2	1	1	1	1	-	2	-	-	3	-	-	18
Type 4 - Corrugated - Plain - Collared .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated - Decorated-Collared	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated - Plain - Recurved .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 5 - Basin-shaped .	1	-	1	1	-	-	-	-	-	-	-	-	4	-	-	7
Type 6 - Globular . .	-	-	1	2	-	-	-	1	-	-	-	-	-	-	-	4
Type 7 - Plain	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Type 8 - (Rattlesnake) Shoulder dec. with incised patterns .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 9 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 10 - Square lip Plain	-	-	1	4	-	-	1	2	-	-	-	-	2	-	-	10
Type 10 - Square lip Decorated	-	5	-	1	-	1	1	2	-	-	-	-	13	-	-	23
Type 11 - Rope decor.	-	-	1	2	1	2	-	2	-	-	-	-	-	-	-	8
Type 12 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Shell tempered	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unclassified	-	-	-	-	-	2	-	1	-	-	-	-	2	-	-	5
Toy Pot	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL	14	90	10	46	7	27	7	21	-	6	4	-	58	-	3	293

SHEET 3. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHERDS FOUND IN SIXTH FOOT.

	TRENCH									TEST	SILLO	SHAL-	NEW	OLD	TEST	TOTAL
	A	B	C	D	E	F	G	H	I	PIT	RAMP	LOW	SILLO	SILLO	PIT	
										1		EXC.			2	
Type 1 - Vertical-Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 2 - Vertical-Plain	1	-	6	-	-	2	1	-	-	1	1	-	-	-	1	13
Type 2 - Vertical - Decorated	6	11	13	-	-	5	3	-	-	2	6	-	13	-	2	61
Type 3 - Collared - Plain	-	1	-	-	-	-	2	-	-	-	-	-	-	-	-	3
Type 3 - Collared - Decorated	1	-	1	-	-	-	-	-	-	2	-	-	3	-	2	9
Type 4 - Corrugated - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 4 - Corrugated - Decorated-Collared	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	1
Type 4 - Corrugated - Plain - Recurved	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
Type 5 - Basin-shaped	1	1	1	-	-	-	-	-	-	-	-	-	-	-	-	3
Type 6 - Globular	-	-	2	-	-	-	-	-	-	-	-	-	-	-	-	2
Type 7 - Plain	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 7 - Dec.; Type 8-9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Type 10 - Square lip Plain	-	2	1	-	-	-	-	-	-	1	-	-	-	-	-	4
Type 10 - Square lip Decorated	-	7	4	-	-	-	-	-	-	1	2	-	7	-	-	21
Type 11 - Rope decor.	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Type 12 - Plain	-	-	1	-	-	2	-	-	-	-	-	-	-	-	-	3
Shell tempered	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Unclassified	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-	2
Toy Pot	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	10	22	31	-	-	9	6	-	-	8	9	-	25	-	5	125

SHEET 4. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. RIM SHERDS FOUND IN 7 & 8 FOOT.

	TRENCH									TEST PIT 1	SILLO RAMP	SHAL- LOW EXC.	NEW SILO	OLD SILO	TEST PIT 2	TOTAL
	A	B	C	D	E	F	G	H	I							
SEVENTH FOOT																
Type 2 - Vertical -																
Decorated	3	-	-	-	-	2	-	-	-	4	-	-	18	-	-	27
Type 3 - Collared -																
Decorated	-	-	-	-	-	-	-	-	-	5	-	-	-	-	-	5
Type 4 - Corrugated																
Plain - Recurved . .	1	-	-	-	-	1	-	-	-	-	-	-	-	-	-	2
Type 6 - Globular . . .	4	-	-	-	-	-	-	-	-	-	-	-	1	-	-	5
Type 10 - Square lip																
Plain	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2
Type 10 - Square lip																
Decorated	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1
Unclassified	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	1
TOTAL	11	-	-	1	-	3	-	-	-	9	-	-	19	-	-	43
EIGHTH FOOT																
Type 1 - Vertical-Plain	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Type 2 - Vertical-Plain	-	-	1	-	-	-	6	-	-	-	-	-	9	-	-	16
Type 2 - Vertical-Dec.	-	-	3	-	-	3	5	-	-	-	-	-	29	-	-	40
Type 3 - Collared - Dec.	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	1
Type 4 - Corrugated -																
Decorated - Collared	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	1
Type 5 - Basin-shaped .	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	1
Type 6 - Globular . . .	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-	3
Type 10 - Square lip																
Plain	-	-	-	-	-	1	1	-	-	-	-	-	1	-	-	3
Type 10 - Square lip																
Decorated	-	-	-	-	-	1	-	-	-	-	-	-	2	-	-	3
Unclassified	-	-	-	-	-	2	1	-	-	-	-	-	-	-	-	3
TOTAL	-	-	8	-	-	7	15	-	-	-	-	-	42	-	-	72

SHEET 1. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS FOUND IN FIRST FOOT.

	Plain - common	Plain - light colored	Corrugated	Shell tempered	With red slip or tain	Bowl-shaped - Type 5 Sides	With nearly erased string impressions - Types 2, 3 and 5	Unusual Body Sherds	Lugs - detached	Effigy	TOTAL
Trench A . . .	53	7	4	-	2	1	3	-	1	-	71
Trench B . . .	25	-	5	-	-	1	-	-	-	-	31
Trench C . . .	-	-	-	-	-	-	-	-	-	-	-
Trench D . . .	48	-	-	-	-	1	-	-	-	1	50
Trench E . . .	-	-	-	-	-	-	-	-	-	-	-
Trench F . . .	32	22	-	-	-	-	-	-	-	-	54
Trench G . . .	-	-	-	-	-	-	-	-	-	1	1
Trench H . . .	-	-	-	-	-	-	-	-	-	-	-
Trench I . . .	12	-	-	-	1	-	2	-	-	-	15
Test Pit 1 . .	-	-	-	-	-	-	-	-	-	-	-
Silo Ramp . .	-	-	-	-	-	-	-	-	-	-	-
Shallow exca- vation . . .	-	-	-	-	-	-	-	-	-	-	-
New Silo . . .	155	-	2	-	9	5	-	-	-	-	171
Old Silo . . .	-	-	-	-	-	-	-	-	-	-	-
Test Pit 2 . .	-	-	-	-	-	-	-	-	-	-	-
TOTAL . . .	325	29	11	-	12	8	5	-	1	2	393

SHEET 1. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS FOUND IN SECOND FOOT.

	Plain - common	Plain - light colored	Corrugated	Shell tempered	With red slip or stain	Bowl-shaped - Type 5 Sides	With nearly erased string impressions - Types 2, 3, and 5	Unusual Body sherds	Lugs - detached	Handles - detached	TOTAL
Trench A . . .	134	9	7	-	2	1	3	-	-	-	156
Trench B . . .	23	1	2	-	-	2	1	-	-	-	29
Trench C . . .	186	17	32	-	-	7	5	2	1	-	250
Trench D . . .	227	4	9	-	-	13	5	-	1	1	260
Trench E . . .	103	5	5	-	3	5	-	-	1	-	122
Trench F . . .	166	34	59	-	1	2	5	-	1	1	269
Trench G . . .	125	5	6	-	1	3	1	-	-	-	141
Trench H . . .	-	-	-	-	-	-	-	-	-	-	-
Trench I . . .	-	-	-	-	-	-	-	-	-	-	-
Test Pit 1 . .	7	-	11	-	-	-	-	-	-	-	18
Silo Ramp . .	29	-	2	-	-	-	-	-	1	-	32
Shallow excavation . . .	-	-	-	-	-	-	-	-	-	-	-
New Silo . . .	108	8	8	-	1	2	5	-	-	-	132
Old Silo . . .	34	27	2	-	-	4	5	-	-	-	72
Test Pit 2 . .	-	-	-	-	-	-	-	-	-	-	-
TOTAL . .	1042	110	143	-	8	39	30	2	5	2	1481

SHEET 2. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS FOUND IN THIRD FOOT.

	Plain - common	Plain - light colored	Corrugated	Shell tempered	W/red slip or stain	Box-shaped - Type 5 Sides	W/nearly erased string imp.-Types 2, 3, & 5	Unusual body sherds	Type 8 - Shoulders	Lugs - detached	Effigy	Handles - detached	TOTAL
Trench A . . .	43	4	1	-	-	2	-	-	-	-	-	-	55
Trench B . . .	187	23	6	-	10	12	3	-	-	3	-	-	244
Trench C . . .	287	94	18	-	3	18	2	-	-	2	-	-	424
Trench D . . .	99	6	5	-	1	-	7	-	-	-	-	-	118
Trench E . . .	28	3	1	-	2	1	-	-	-	1	-	-	36
Trench F . . .	262	7	16	-	1	16	4	-	1	-	-	-	307
Trench G . . .	188	8	6	-	-	4	5	-	-	-	-	1	212
Trench H . . .	39	-	-	-	-	10	-	-	-	-	-	-	49
Trench I . . .	45	-	-	-	6	6	1	-	-	-	-	-	58
Test Pit 1 . .	-	-	-	-	-	-	-	-	-	-	-	-	-
Silo Ramp . .	82	-	3	-	-	2	2	-	-	-	-	-	89
Shallow excavation . . .	39	15	1	-	-	10	3	-	-	-	-	-	68
New Silo . . .	60	18	6	-	-	2	9	-	-	1	-	-	96
Old Silo . . .	126	55	1	-	3	9	3	3	-	4	-	-	204
TOTAL .	1490	233	64	-	26	92	39	3	1	11	-	1	1960

**SHEET 2. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS FOUND IN FOURTH FOOT.**

	Plain - common	Plain - light colored	Corrugated	Shell tempered	W/red slip or stain	Bowl-shaped - Type 5 sides	W/nearly erased str. imp.-Types 2, 3, 5	Unusual body sherds	Type 8 - Shoulders	Lugs - detached	Effigy	Handles - detached	TOTAL
Trench A . . .	105	4	5	-	1	1	11	-	-	1	1	-	129
Trench B . . .	374	13	21	-	13	27	7	-	-	2	1	1	459
Trench C . . .	358	67	15	-	5	16	9	-	-	3	-	1	474
Trench D . . .	173	12	2	-	3	12	9	-	-	-	-	-	211
Trench E . . .	11	-	-	-	1	2	-	-	-	-	-	-	14
Trench F . . .	138	3	2	-	1	2	1	-	-	-	-	1	148
Trench G. . .	74	-	1	-	2	4	9	-	-	-	-	-	90
Trench H . . .	20	-	2	-	-	1	-	-	-	-	-	-	23
Trench I . . .	-	-	-	-	-	-	-	-	-	-	-	-	-
Test Pit 1 . .	8	2	-	-	-	-	-	-	-	-	-	-	10
Silo Ramp . .	29	-	2	-	-	-	-	-	-	1	-	-	32
Shallow exca- vation . . .	57	17	5	-	-	5	2	-	-	-	-	-	86
New Silo . . .	142	17	18	-	5	-	3	-	-	-	-	-	192
Old Silo . . .	246	15	9	-	4	13	3	-	-	-	-	-	290
Test Pit 2 . .	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL . .	1735	150	82	-	35	90	54	-	-	7	2	3	2158

**SHEET 3. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS FOUND IN FIFTH FOOT.**

	Plain - common	Plain - light colored	Corrugated	Shell tempered	W/red slip or stain	Bowl-shaped - Type 5 Sides	W/nearly erased string imp. - Types 2, 3 & 5	Unusual body sherds	Type 8 - Shoulders	Lugs - detached	Handles - detached	TOTAL
Trench A . . .	21	16	-	-	-	-	-	-	-	-	-	37
Trench B . . .	176	-	9	-	1	3	1	-	-	-	1	191
Trench C . . .	52	5	2	-	4	4	7	-	-	-	-	74
Trench D . . .	161	30	17	-	6	26	25	-	-	-	1	266
Trench E . . .	40	5	2	-	5	4	1	-	-	-	-	57
Trench F . . .	119	-	2	-	-	4	2	-	-	-	-	127
Trench G . . .	29	-	-	-	-	1	-	-	-	-	-	30
Trench H . . .	88	-	2	-	-	2	1	-	-	-	-	93
Trench I . . .	-	-	-	-	-	-	-	-	-	-	-	-
Test Pit 1 . .	8	-	11	-	-	2	-	-	-	-	-	21
Silo Ramp . .	8	-	-	-	-	-	-	-	-	-	-	8
Shallow excavation . . .	-	-	-	-	-	-	-	-	-	-	-	-
New Silo . . .	114	20	16	-	2	11	9	-	-	-	-	172
Old Silo . . .	-	-	-	-	-	-	-	-	-	-	-	-
Test Pit 2 . .	10	4	-	-	-	-	-	-	-	-	-	14
TOTAL . .	826	80	61	-	18	57	46	-	-	-	2	1090

**SHEET 3. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS FOUND IN SIXTH FOOT.**

	Plain - common	Plain - light colored	Corrugated	Shell tempered	W/red slip or stain	Bowl-shaped - Type 5 Sides	W/nearly erased string imp. - Types 2, 3 & 5	Unusual body sherds	Type 8 - Shoulders	Lugs - detached	Handles - detached	TOTAL
Trench A . . .	47	-	1	-	-	-	-	-	-	-	-	48
Trench B . . .	86	17	4	-	-	1	1	-	1	1	-	111
Trench C . . .	152	13	12	-	-	8	1	-	-	-	1	187
Trench D . . .	-	-	-	-	-	-	-	-	-	-	-	-
Trench E . . .	-	-	-	-	-	-	-	-	-	-	-	-
Trench F . . .	27	-	1	-	-	1	12	-	-	-	-	41
Trench G . . .	47	-	-	-	1	3	-	-	-	-	-	51
Trench H & I .	-	-	-	-	-	-	-	-	-	-	-	-
Test Pit 1 . .	8	10	-	-	-	3	-	-	1	1	-	23
Silo Ramp . .	12	-	-	-	-	1	-	-	-	-	-	13
Shallow Exc. .	-	-	-	-	-	-	-	-	-	-	-	-
New Silo . . .	75	6	5	-	-	4	2	-	-	-	-	92
Old Silo . . .	-	-	-	-	-	-	-	-	-	-	-	-
Test Pit 2 . .	10	4	1	-	-	1	-	-	-	-	-	16
TOTAL . .	464	50	24	-	1	22	16	-	2	2	1	582

SHEET 4. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BODY SHERDS RECOVERED IN SEVENTH AND EIGHTH FEET.

	Plain - common	Plain - light colored	Corrugated	Shell tempered	W/red slip or stain	Bowl-shaped - Type 5 Sides	W/nearly erased string imp. - Types 2, 3 & 5	Unusual body sherds	Lugs - detached	Handles - detached	Type 8 - shoulders	TOTAL
SEVENTH FOOT												
Trench A . . .	36	15	11	-	4	2	4	-	-	-	-	72
Trench C . . .	-	-	-	-	-	-	-	-	1	-	-	1
Trench F . . .	2	-	-	-	-	-	-	-	-	-	-	2
Trench G . . .	1	-	-	-	-	-	-	-	-	-	-	1
Test Pit 1 . .	21	30	24	-	-	9	-	-	-	-	-	84
New Silo . . .	28	8	4	-	2	6	2	-	1	-	-	51
TOTAL	88	53	39	-	6	17	6	-	2	-	-	211
EIGHTH FOOT												
Trench C . . .	68	9	4	-	-	3	2	-	-	-	-	86
Trench F . . .	10	-	7	-	3	-	9	-	-	-	-	29
Trench G . . .	7	5	-	-	-	-	-	-	-	-	-	12
New Silo . . .	121	13	13	-	2	1	21	-	-	-	-	171
TOTAL . .	206	27	24	-	5	4	32	-	-	-	-	298

SHEET 5. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
"SPECIAL"

[illegible]

SHEETS 6-9. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.

	Gouge	Diorite and Granite Rubbing Stones	Scoria	Mica	Abraders	Antler tines - Elk & Deer	Celt of Diorite	"Door Knob"	Arrow shaft smoother SHELL	Busycon perversum	Clams - river	Worked clam shells	Oliva shells	Beads - sea shell
FIRST FOOT														
Trench A	-	-	-	-	-	-	-	-	-	-	3	-	-	-
Trench B	-	-	-	-	-	-	-	-	-	-	4	-	-	-
Trench C	-	-	-	-	1	-	1	-	-	-	-	-	-	-
Trench D	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Trench E	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Trench G	-	-	-	-	-	-	-	-	-	-	2	-	-	-
Trench I	-	-	-	-	-	-	-	-	-	-	1	-	-	-
SECOND FOOT														
Trench C	-	-	-	-	-	1	1	2	-	-	-	-	-	-
Trench D	-	-	-	-	-	2	2	-	-	-	7	-	-	-
Trench E	-	-	-	-	-	1	1	-	-	-	-	-	-	-
Trench G	-	-	2	-	-	-	-	-	-	-	2	-	-	-
Test Pit 1	-	-	-	-	-	1	-	-	-	-	17	-	-	-
Silo Ramp	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Shallow Exc.	-	1	-	-	1	1	-	-	-	-	18	-	-	-
THIRD FOOT														
Trench A	-	-	1	-	-	-	-	-	-	-	8	-	-	-
Trench B	-	1	-	-	3	7	1	-	-	-	14	-	1	-
Trench C	-	-	1	-	-	2	-	-	-	-	-	-	-	-
Trench D	-	1	-	-	1	2	-	-	-	-	2	-	-	-
Trench E	-	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench F	-	-	-	-	-	-	-	-	-	-	7	-	-	-
Trench G	-	1	-	-	-	-	-	-	-	-	1	-	-	-
Trench H	-	-	-	-	-	-	-	-	-	-	3	-	-	-
Trench I	-	-	-	-	-	-	-	-	-	-	13	-	-	-
Old Silo	-	-	-	-	-	-	1	1	-	-	-	-	-	-
New Silo	-	-	-	-	1	1	-	-	-	-	-	-	-	-
Silo Ramp	-	-	-	-	-	1	-	-	-	-	-	-	-	-
FOURTH FOOT														
Trench A	1	1	-	-	-	-	1	-	-	1	106	-	-	-
Trench B	-	1	-	-	1	1	-	-	-	-	3	-	-	-
Trench C	-	-	-	-	-	4	-	1	-	-	1	-	-	-
Trench D	-	1	-	-	-	-	-	-	1	-	12	1	-	-
Trench F	-	-	-	-	-	-	-	-	-	-	6	-	-	-
Trench E	-	-	-	-	-	-	-	1	-	-	-	-	-	-

SHEETS 6-9. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
(STONE AND SHELL CONTINUED)

	Gouge	Diorite and Granite Rubbing Stones	Scoria	Mica	Abraders	Antler tines - Elk & Deer	Celt of Diorite	"Deer Knob"	Arrow Shaft Smoother SHELL	Busycon perversum	Clams - river	Worked clam shells	Oliva shells	Beads - sea shell
FOURTH FOOT (cont.)														
Trench G	-	-	-	-	3	-	-	-	-	-	42	-	-	-
Trench I	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Old Silo	-	-	-	-	-	4	-	-	-	-	-	-	-	-
New Silo	-	-	-	-	2	1	-	-	-	-	-	-	-	-
Silo Ramp	-	-	-	-	-	1	-	-	-	-	-	-	-	-
FIFTH FOOT														
Trench A	-	-	-	-	-	1	-	-	-	-	55	-	-	-
Trench B	-	-	-	-	1	1	1	-	-	-	2	-	-	-
Trench C	-	1	-	-	-	-	3	-	-	-	-	-	-	-
Trench D	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Trench F	-	-	-	-	-	-	1	1	-	-	-	-	-	-
Trench G	-	-	-	-	1	-	-	-	-	-	1	-	-	-
Trench H	-	-	-	-	-	-	-	-	-	-	3	-	-	-
Test Pit 1	-	-	-	-	-	-	-	-	-	-	15	-	-	-
Old Silo	-	-	-	-	1	-	-	-	-	-	-	-	-	-
New Silo	-	-	-	-	-	4	1	-	-	-	-	-	-	-
SIXTH FOOT														
Trench A	-	-	-	-	1	-	-	-	-	-	-	-	-	-
Trench B	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Trench C	-	-	-	-	1	-	-	-	-	-	18	-	-	-
New Silo	-	-	-	-	-	5	1	-	-	-	2	-	-	1
SEVENTH FOOT														
Test Pit 1	-	-	-	-	1	-	-	-	-	-	-	-	-	-
New Silo	-	-	-	-	-	1	-	-	-	-	1	-	-	-
EIGHTH FOOT														
Trench A	-	-	1	1	-	-	-	-	-	-	-	-	-	-
Trench C	-	-	-	-	3	-	-	-	-	-	-	-	-	-
New Silo	-	-	-	-	1	1	-	-	-	-	-	-	-	-

SHEETS 6-9. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.

	Lump pottery clay	Clam shell disk	Pottery disk	Elk jaw	Loess kindchen	Sandstone	Sea shell pendant	Square ornament - scapula	Perforated fang	Animal skull
FIRST FOOT										
Trench C	-	-	1	-	-	-	-	-	-	-
Trench D	-	-	1	-	-	-	-	-	-	-
Trench F	-	-	1	-	-	-	-	-	-	-
SECOND FOOT										
Trench F	-	-	1	-	-	-	-	-	-	-
THIRD FOOT										
Trench B	-	-	1	-	-	-	-	-	-	-
Trench C	-	1	2	-	-	-	-	-	1	-
Trench D	-	1	-	1	-	-	-	-	-	-
Trench F	-	-	1	-	-	-	1	-	-	-
New Silo	-	-	1	-	-	-	-	-	-	-
FOURTH FOOT										
Trench B	-	1	-	-	1	-	-	-	-	-
Trench C	-	-	1	-	1	-	-	-	1	-
Trench E	-	-	1	-	-	-	-	-	-	-
Trench G	-	-	-	-	-	1	-	-	-	-
FIFTH FOOT										
Trench B	-	-	1	-	-	-	-	-	-	-
Trench C	-	-	1	-	-	-	-	-	-	-
Trench D	-	-	3	-	-	-	-	-	-	-
Trench G	-	-	-	-	-	-	-	-	3	-
Old Silo	-	-	-	-	-	-	1	1	-	-
SEVENTH FOOT										
Trench B	-	-	1	-	-	-	-	-	-	-
EIGHTH FOOT										
Trench C	-	-	1	-	-	-	-	-	-	1
Trench F	-	-	1	-	-	-	-	-	-	-
New Silo	-	-	1	-	-	-	-	-	-	-

SHEETS 6-9. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
HUMAN SKELETAL MATERIAL.

	Lower jaw	Facial bone	Pelvis and femur	Fragment of skull (Adult)	Fragment of skull (Child)	Adult skull	Adult skeleton	Child's skeleton
SECOND FOOT								
Hill Top Os. . . .	1	-	-	-	-	-	-	-
FOURTH FOOT								
Trench G	-	-	-	-	-	-	1	1
FIFTH FOOT								
Trench D	-	-	-	1	-	-	-	-
SIXTH FOOT								
Trench B	-	-	-	-	-	1	-	-

SHEETS 6-9. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE. UNWORKED ANIMAL BONE (CONT.)

[illegible]

SHEETS 10-13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
CHIPPED AND FLAKED FLINT.

	Arrow points - small triangular - 1 notch	Arrow points - quartzite	Arrow points - other	Oval pieces - large	Lozenge shaped pieces lg.	Stemmed pieces - lg.	Hoes	Celts	Gravers	Piercing Imps.	Flakes	Lg. Qtzite. Pieces	Quartzite Cores	Qtzite. Black Hills	Scraper - small	Scraper - Nehawka	Flake - Nehawka	Flake - Chaledony
FIRST FOOT																		
Trench A	1	1	.	.	.	.
Trench B	1	.	.	.	1	.	.	.	.	.	.	1	.	.	.
Trench C
Trench G . . .	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trench H . . .	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
SECOND FOOT																		
Trench B . . .	2	.	.	2	.	.	.	.	.	.	.	.	.	.	.	1	.	.
Trench C	1	.	.	.	.	.	1	.	1	.	.
Trench D	1	.	.	.	.	.	.
Trench E	1	.	.	.	.	.	.	.	.	.	.
Trench F	1	.	.	.	.	.	.	1	.	.	.	.	.	1	.
Trench G	2	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Trench I . . .	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Old Silo	1	.	.	.	.	.	.	.	.	.	.
Hill Top Os.	1	.	.	.	.	.	.	.	.
THIRD FOOT																		
Trench A	1	.	.	.
Trench B	1	2	.	2	.	1	1	1
Trench C	1	.	.	.	.	.	.	.	.	1	.
Trench D	1	.	.	.	.	.	.	.
Trench F	1	.	.	.	.	.	.	.
Trench G	2	.	.	.
Old Silo	1	.	.	.	.	.	.	.
FOURTH FOOT																		
Trench A	1	1	.	.
Trench B	1	.	.	.	.	.	.	.	.	.	1
Trench C	1	.	.	1	.
Trench D	1	.	.	.	.	.	1	.
Trench F	1	.	.	.
Trench I . . .	1	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
New Silo	1	.	.	.	.	.	.	.

SHEETS 10-13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
CHIPPED AND FLAKED FLINT (CONTINUED).

	Arrow points - small triangular - 1 notch	Arrow points - quartzite	Arrow points - other	Oval pieces - large	Lozenge shaped pieces - lg.	Stemmed pieces - lg.	Hoes	Celts	Gravers	Piercing Imps.	Flakes	Lg. Quartz. Pieces	Quartzite Cores	Qtzite. Black Hills	Scraper - small	Scraper - Nehavka	Flake - Nehavka	Flake - Chalcedony
FIFTH FOOT																		
Trench A . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Trench B . . .	-	-	-	-	-	-	-	2	-	-	4	-	-	-	-	-	-	-
Trench C . . .	-	-	-	-	-	-	-	2	-	-	-	1	-	-	-	-	-	-
Trench F . . .	-	-	-	-	-	-	-	-	-	1	1	-	-	-	-	-	1	-
New Silo . . .	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
SEVENTH FOOT																		
Trench F . . .	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-	-	-	-
Test Pit 1 . .	-	-	-	-	-	-	-	-	-	-	1	-	-	1	-	-	-	-
New Silo . . .	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
EIGHTH FOOT																		
Trench F . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2	1	-	-
New Silo . . .	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1	1	1	-

SHEETS 10-13. . TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BONE IMPLEMENTS: I

[illegible]

SHEETS 10-13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
BONE IMPLEMENTS: I (CONTINUED)

[illegible]

SHEETS 10-13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
IRON IMPLEMENTS: II AND SUNDRY.

[illegible]

SHEETS 10-13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING BROKEN KETTLE.
SUNDY (CONTINUED)

	Diorite flake	Pipe bowl - one half	Beads	Wish bone	Fossil	Bird sacrum	Indurated clay	Vert. & base skull	Red paint rock	Yellow paint rock	Poll half of diorite celt	Pipestone - piece	Arrow-shaft straightener
FIRST FOOT													
Trench A . .	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench G . .	-	1	-	-	-	-	-	-	-	-	-	-	-
Silo Ramp . .	-	-	-	-	-	-	-	-	1	-	-	-	-
SECOND FOOT													
Trench D . .	-	-	-	-	-	-	-	-	4	-	-	-	-
Trench G . .	-	-	1	-	-	-	-	-	-	-	-	1	-
New Silo . .	-	-	-	-	-	-	-	-	3	1	-	-	-
THIRD FOOT													
Trench B . .	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench C . .	-	-	-	-	-	-	-	-	2	-	-	-	-
Trench F . .	-	-	-	1	1	-	-	-	1	-	1	-	-
FOURTH FOOT													
Trench A . .	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench D . .	-	-	-	-	1	-	-	-	-	-	-	-	-
Trench G . .	1	-	-	-	-	-	-	-	-	-	-	-	-
FIFTH FOOT													
Trench A . .	1	-	-	-	-	-	-	-	-	-	-	-	-
Trench B . .	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench C . .	-	1	-	-	-	-	-	-	-	-	-	-	-
Trench D . .	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench F . .	-	-	-	-	-	-	-	1	-	-	-	-	-
SIXTH FOOT													
Trench B . .	-	-	-	-	-	-	-	-	1	-	-	-	-
Trench C . .	-	-	-	-	-	1	-	-	-	-	-	-	-
New Silo . .	-	-	-	-	-	-	-	-	2	-	1	-	-
SEVENTH FOOT													
Trench A . .	-	-	-	-	-	-	1	1	-	-	-	-	-

BROKEN KETTLE
MOUND.

MATERIAL. RECOVERED

SHEETS 1-5	9151
" 6-9	565
" 10-13	<u>546</u>
TOTAL	10262

THE KIMBALL MOUND.

The Kimball Mound.

After completing on Aug. 23d, the excavation of 650 linear feet of trench, including the Pit Silo, with an average width of 6 ft., or a total of 3900 of the approximately 35000 sq. ft. of the surface area of the Broken Kettle Mound, we commenced on Aug. 28th, work on the mound on the farm belonging to Mrs Elenor Kimball.

With the exception of the desultory earlier excavations there still remained unexplored over 31000 sq. ft. of surface of the former mound. What we did was but to make a dent in it.

Yet we feel that our work has thrown some light on its structure and the reasons for its building, and that the large amount of material sent in may, after study in the laboratory, add much to our ^{knowledge} as to its place in the pre-history of the peoples that appear to have successively occupied the area drained by the Missouri river.

Our survey made preliminary to the beginning of excavation, located a point, - trench station No. I4, - near the center of the Kimball Mound, well out on the flood plain of the Big Sioux, at 1524.1 ft. north and 666 ft. west of the one-eighth section corner on the south line of the SE one-fourth of Section 22, T. 90, R. 48, just north of the center of the south line of the NW SE Section 22, Plymouth county, Iowa, (On the forty line running north from the point of beginning of the survey at 763.1 ft. is an iron pin marking a farm corner.) Set a hub stake at trench section I4 for the initial point from which subsequent measurements of lengths and directions of trenches dug and other location data were taken.

The Kimball Mound, like the Broken Kettle, is an oval area, approximately 196 ft. east and west by 320 ft. north and south, located on a spur of the alluvial fan of a normally dry creek, the valley of which opens from the east into that of the Big Sioux river at this place.

In general the front of the fan merges almost imperceptibly with the flood plain of the river, but the spur on which the mound is located is terrace like with the east, west and south (front) sides sloping noticeably down to the flood plain.

The approximately flat top with an east and west width of 115 ft., at its south end is 4.8 ft. above this flood plain on the east, south and west sides.

At the north end this flat area, approximately 115 by 200 ft., drops with a scarcely noticeable slope to the level of the fan.

Unlike the Broken Kettle this site was apparently known to but few besides the successive owners or tenants of the farm. It was known to them as a place where "Indian arrow-heads, tomahawks, (celts) pottery and other relics" could be found on the surface after rains and was regarded as a camp site.

There was a story current in the neighborhood of how one of the owners or tenants had once dug a deep pit in it, finding much ashes, broken pottery, animal bones and clam shells.

The place appears not to have been known to the Academy of Science of Sioux City, though they have in their museum the vertebrae of a plesiosaur found on adjoining farm.

Mr. W. C. French, one of the officers of the CCC camp three miles south, who collected "Indian relics" as a hobby, and who when off duty spent some time roving over the bluffs for miles up and down the river, first learned of the site from a tenant on the farm, and as a result of many visits to the place had accumulated a small collection from the surface.

From him Dr. Keyes had learned of and visited the place, and because of its shape and the abundant broken pottery, clam shells and rocks, with some worked flint, on the surface, had concluded that it was a pre-historic Indian village or camp site and that its excavation would be worth while.

In consideration of a payment of \$20.00 permission was secured from Mrs Kimball to dig trenches the surface of which would not exceed one-fourth of an acre.

The work of excavation was begun by running a line from the foot of the spur on its east side, due west through the "initial point" fixed by the location survey, to the foot of the terrace on its west side. Stakes were set on this line at every seven feet, the hub stake marking the "initial point" being # 14 of those set on the line. Stake #5 was approximately at the east edge of the flat top and stake #22 at the west.

A line was then run parallel to the first at a distance of five feet north from it. The space between the two lines was then divided into sections 7 ft. long, each having the number of the stake at its south-west corner. This was designated as Trench A.

Post hole lines.

Sections #8 to 14 inclusive were first excavated.

In the west part of section #12, three lines of somewhat irregularly located post holes were encountered in the black gumbo-like alluvial soil at the bottom of the built-up mound, at 8 ft. below the present surface. This we designated as post hole line # 1.

These had a direction of N 17 W, the individual holes penetrating the gumbo to a depth of from .2 to 1 ft., with a diameter of .35 to .4 ft.

These depths and diameters, as well as the distances between the holes from center to center of 1 to 1.5 ft., remained constant for all but a few holes found in the mound.

One hole in line #1 extended up into the material of which the mound was composed, the mound earth, .5 ft. This was in the north wall of Trench A, and one in the south wall 2.4 ft.

Doubtless many of the others extended up into it but the indications were so obscure that they escaped notice.

Post hole line # 2

Crossing the north part of section # 10 a single row of post holes, post hole line # 2, extended across Trench A, N 14 W.

This line was encountered in the mound earth at a depth of 7 ft. below the surface. The holes of this line, filled solidly full of granulated yellow clay, extended down 1 ft. through the mound earth into the black gumbo at 8 ft. below the surface.

The mound earth was cut away from the moulds which filled these holes, leaving half of the filling of each post hole projecting like half of a column out from the one foot high face. Excellent photographs of these hole fillings were taken, for which see page 21. West of the most northerly hole in the line was a single isolated hole extending from 1.2 ft. above the gumbo up into the surface for 2.7 ft. The holes of this line had a diameter of .5 ft.

Post hole line # 3

Crossing the line between sections # 9 and 10 was an irregular line of post holes, post hole line # 3, in the gumbo at 8 ft. below the present surface. These post holes apparently were not connected in any way with any of the others encountered.

Post hole line # 4

Post hole line # 4 consisted of two rows of holes crossing section # 15, N 14 W. The top of the holes was discovered at 6.5 ft below the surface. One post in the north edge of the trench extended up into the mound earth 1.5 ft. As in post hole line # 1 it is very probable that the holes, or part of them, extended up into the earth of the mound but as the filling was of the same color as that of the mound, it was not noted. Diameter of holes, .4 to .5 ft.

Post hole line # 5

Post hole line # 5 consisted of two irregular rows of holes across section # 17, N 16 W. Top of holes at the top of the gumbo, 7.5 ft. below the surface, but not discovered till a depth of 8 ft. was reached. One hole in the edge of the south wall runs .8 ft. up into the mound earth. Diameter of holes, .3 to .5 ft.

Post hole line # 6

Post hole line # 6 consists of a row of 4 holes running N 20 W, for 4 ft. East of these an irregular group of 5 forms a corner from which a row runs S 72 E. In section # 20 in Trench A.

line

In post hole # 1 there were 18 holes; in # 2, 6; in # 3, 4; in # 4, 9; in # 5, 13; and in # 6, 8.

In the directions taken by each of these post hole lines, except # 3, trenches 4 to 5 ft. wide dug down to the gumbo, uncovering all in that direction till the line, at the corner, turned at right angles to the right or left. This was done in the belief that each of the lines of holes uncovered in digging the main Trench A, was part of lines of such holes enclosing an area, probably a house site.

Extensions of post hole line # 2.

From the north end of line # 2, a trench, 20.5 ft. long and 5 ft. wide was excavated to a depth of 7 ft., uncovering sixteen holes, no trace of which was found till the depth of 7 ft. was reached. At 17 ft. in this trench, at the 16th hole, the line turned N 74 E at a right angle to line # 2. Three holes of a line running in this direction were uncovered by undercutting the east side of the extension trench, - sections 28, 29 and 30.

The holes uncovered were .5 ft. in diameter and approximately 1 ft. apart from center to center. So soon as the tops of the holes were found there was no difficulty in locating the direction of the line after making the turn. So soon as the men began to find what the work was being done for, it came to be a source of satisfaction to them to find the first indication of holes and call our attention to them. Their aroused interest soon led to their learning what were indications.

This was true of all the lines discovered.

In staking out a trench to be excavated in the direction indicated by a line of holes, in order to find how far it continued in that direction, it had always to be for an unknown distance to be sure that we were uncovering all of it. In order to be sure it would not have to be made longer, in order that some of the earth already thrown out would not have to be moved again, we made the extension plenty long enough.

It was assumed that if the pole lines were part of a house site, it would be a square or at least, rectangular, and that the distance between any two of the pole lines crossing Trench A, that might be part of the enclosing lines of such a site, would be one of the dimensions of such a site. This gave us a basis for estimating the length of all extension trenches.

Following the direction of line # 2 in the opposite direction, S 14 E, from that of the trench above described, we excavated an additional extension trench, 14 ft. long and 5 ft. wide, to a depth of 7 ft. It turned out however that there were only three holes to where the line turned N 75 E. We had trenched 12 ft. farther than necessary. This was a fortunate error in making our estimate, for at 10 ft. from Trench A, and at 6 ft. below the surface we found a burial of five skeletons, in part bundled. This burial will be described later.

The last trench described was divided into sections # 26 and 27. The burial was in # 27.

From the corner in section # 26 we followed the line, N 74 E, through a tunnel to and diagonally nearly across the main Trench A in # 9 and 8, to where it turned N 14 W. Beyond the turn we uncovered 3 post holes by undercutting the north wall of Trench A.

We now had uncovered the post holes in which had been set the posts forming the framework of two sides and two of a third and three of the fourth, together with three well defined corners of a nearly square enclosure, approximately 20 X 25 ft. Though the evidence is by no means conclusive we have designated this enclosed area as House A.

No trace of the walls or roof of the enclosing structure was found nor evidences of destruction by fire. Not all the post holes were completely excavated but in the complete excavation of the mound we found in a very few of the post holes that were completely cleaned out, a very small quantity, perhaps a tablespoon-full of decayed wood that was but a brown dust.

Nor did we find any other evidence, such as an earth into which pottery sherds, broken bones, and other camp refuse had been trampled, than the abrupt change of the clearly mound earth to the black, gumbo-like, alluvial original surface on which the mound was built.

The central fireplace of House A, if there was one, would have been found north of Trench A in an uncovered part of the area.

Excavation of House C

Extension of Post Hole Lines # 5 and 6.

Storage-refuse Pit # I

North of # 18, 19 and 20 of Trench A an area 23 ft. long, east and west and 7 ft. wide north and south, divided into # 31, 32 and 33, was excavated to a depth of approximately 7.8 ft. to the gumbo-like black soil, which here was quite level. This uncovered a post hole line connecting the corner at the north end of post hole line # 6 with an extension of post hole line # 5, N 17 W, 7 ft., a corner being formed by the junction of the two lines.

The line connecting the two corners had a direction of N 70 E.

In the area now uncovered, sections # 18, 19 and 20 of Main Trench A and # 31, 32 and 33, were found storage-refuse pits I, 2, 3, and 4, of which see descriptions, maps, and photographs following.

Storage-refuse pit # I in the central part of section # 18, had a diameter at the mouth of 1.6 ft. and was jug-shaped with a bottom diameter of 2.3 ft. The depth was 1.5 ft. It was filled solid with yellow clay, which, however, separated easily from the side walls, the line of demarcation being very distinct. Against the wall on the west side, at a depth of 1 ft., was a crane's head carved from an elk tine, and on the opposite side at the same level and against that wall, was a well made flint knife.

Storage-refuse Pit # 2

Storage-refuse Pit # 2, an oval pit, partly under where was the north wall of Trench A at the center of section # 19, had a NW and SE diameter of 3 ft., the short diameter being 2 ft., with a depth of 2 ft. This shallow pit like # 1, was filled with yellow clay, but had no inclusions. Covering the bottom were three flat limestone rocks, approximately .3 ft. in thickness.

Storage-refuse Pits # 3 and 4

Pit # 3, 2 ft. in diameter and 1.3 ft. deep, and Pit # 4, 1.5 ft. in diameter and 1.2 ft. in depth, to the south-east of Pit # 2, with less than half a foot separating them, were also in section # 19. These like the previous two were filled with yellow clay, the walls not determinable except by a slight difference in color. Neither contained any artifacts.

Storage-refuse Pit # 5

In the SE corner of section # 39, directly under its west wall, 5 ft. east and 2 ft. south of the south-east corner was a symmetrical outside pit, Pit # 5, the mouth of which, in the top of the gumbo at 5.5 ft. below the surface, with a mouth diameter of 2 ft. and a depth of 3 ft., was symmetrically funnel-shaped with a bottom diameter of 2.5 ft. The sides and basin-shaped bottom were thinly lined with what appeared to be fibrous inner bark which at the slightest touch crumbled to a brown powder. Filled with yellow clay with no inclusions.

A doubtful, obscure pit, about 1.5 ft. in diameter and the same in depth was located 4.5 ft. north of the central fire of House C. Filled with yellow clay with no inclusions.

Pit # 5 beyond question was used for the storage of provisions, that is as a cache, during the earliest occupancy of the site, as its mouth was at the level of the top of the gumbo-like floor of the mound. Above it was the undisturbed, obscurely stratified mound earth. When its use as a cache was abandoned it was filled with the yellow clay, - not with refuse.

The four pits in sections # 18 and 19 were also probably used for storage, though the shallowness of # 2, 3, and 4 may raise a doubt about this. At any rate no refuse was thrown in them when abandoned.

Pit # 1 may have had a lining of some kind, behind which, when the contents were finally removed, the crane's head and knife had been accidentally concealed, but of which all traces now were gone.

House C

Extension of Post Hole lines # 5 and 6 to the south.

South of sections # 18, 19 and 20 of Main Trench A, there was excavated, as an addition to these sections and to sections # 31, 32 and 33 on the north, an area 22 to 24 ft., east and west, by 10 to 11 ft. north and south.

It was expected that this would uncover the remainder of post hole lines # 5 and 6 to the south-west and south-east corners respectively and complete the excavation of the rectangular area bounded by lines of post holes, which we have designated as House C.

This was on the supposition that the area would prove to be approximately 18 ft. square.

However the corner turn of neither post hole line # 5 or 6 was reached.

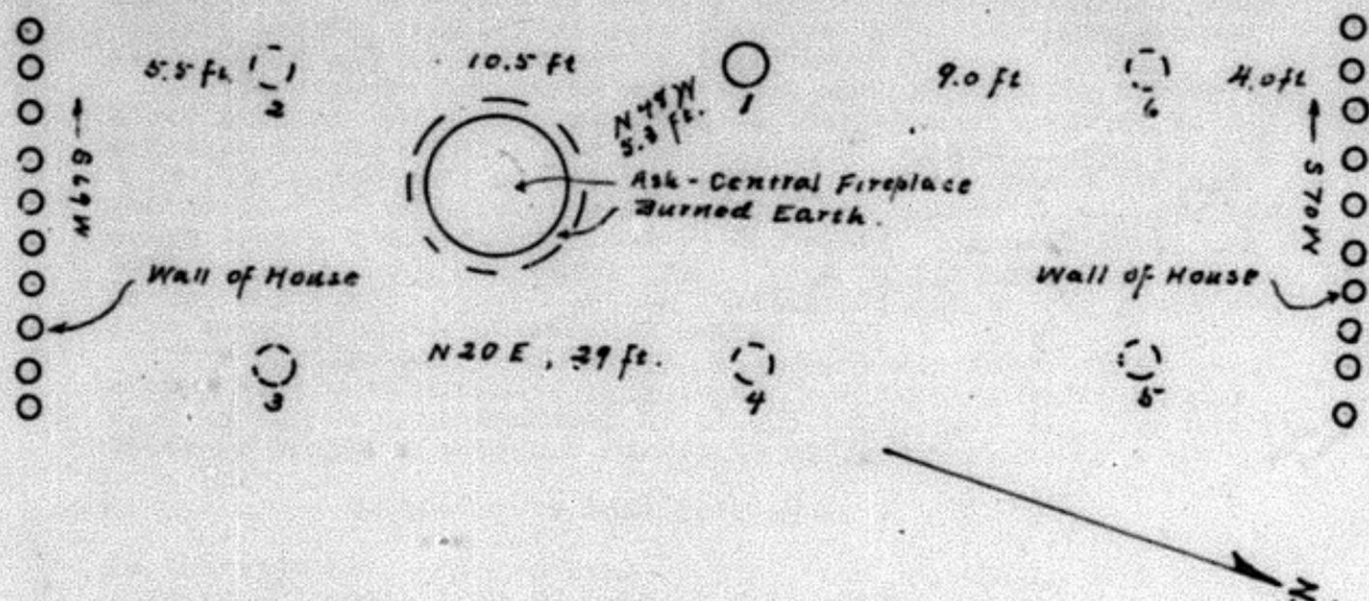
The excavated area, sections # 18, 19 and 20 of Main Trench A, 31, 32 and 33 on the north, and 34, 35, 36, and 37 on the south, down to the nearly level black gumbo-like soil, showed largely irregular, often obscure, stratification in the lower half of the mound, containing ash strata and lenses, at all levels. One fine one of pure white ash, 3 ft. in diameter, and .4 inches in thickness at the center, was encountered in the west center of section # 36 at 3 ft. above the gumbo. Another located at the level of the mound floor in the south-west corner of the same section at 12.4 ft. from its south-west corner, at exactly half-way between the east and west lines of post holes, had its center been 3 ft. farther north, would have been in the exact center of the House C. Of clean, white ash unmixed with charcoal, lens shaped, .4 ft. thick at the center and 3 ft. in diameter, it lay at 7.5 ft. below the present surface of the mound. Below and on either side the gumbo, for from .3 to .5 ft. it was burned red. It was the finest fireplace uncovered.

At 5.3 ft., N 48 W of this fireplace and 5.3 ft. north of the south wall of the section, # 35, was a plainly marked post hole, .9 ft. in diameter. This may have been one in which was set one of the main central posts supporting a roof. Careful search for others was made but without success.

If, as Gilder says in his foreword to a catalogue of articles collected by him now in the Omaha Public Library, that "houses of this shape, (square) suggest a ridge pole and gables", or, possibly with four flat, - not curved, - triangular surfaces with the bases horizontal at the eaves and apexes at the center, then the hole found may have been one of six in House C supporting such a roof.

Such an arrangement would be four posts equidistant from the central fire and two more, - one in line with the west two of those around the fire and 4 ft. from the north house wall, the other in line with the south two, also at 4 ft. from the north wall.

Should this be a valid suggestion the plan for the supporting posts of such a roof might be somewhat as shown on next page. However all this must be considered as something that might have been possible. There is no certain evidence to support it.



A Possible Plan of Central Posts to support a Suppositional Roof with "Ridge Pole and Gables" for House C, Kimball Mound. Based on the actual location of the north and south post hole lines in which were house wall posts, a central fireplace, ~~and one~~ and one interior post hole 9 inches in diameter, in which ~~fireplace~~ apparently was set one main central supporting post.

Numbers 2, 3, 4, 5, and 6, a possible location of remaining interior posts.

Besides the ash strata and lenses of ashes encountered in the excavation of House C, there were the irregularly scattered pottery sherds, bone and stone implements, clam shells, and animal, fish and turtle bones. All the different strata except the rare pure yellow, contained much fine charcoal in irregular varying quantities. What were apparently small pockets contained large pottery sherds, usually of more than one type, bone implements, clam shells and animal bones of large size.

In all excavations these were found most frequently in the upper half of the mound, composed of earth showing almost no stratification, - largely a homogeneous, blackish earth.

In the south part of section # 32, all of section # 19, and the north half of section # 35 and 36, was one of those puzzling concentrations of almost black earth, ashes, charcoal dust, and much broken-up bone and shell, small bits of pottery, bone implements, and almost every sort of inclusion found in the mound except nests of large sherds and bones.

This particular accumulation, with much irregularity as to shape, horizontal diameter and depth, was roughly basin-shaped with an approximate diameter of 14 and depth of 5 ft. The abundance of included material varied in different parts of it.

Extension of Post Hole Lines # 5 and 6.

As the excavation of sections of # 34, 35, 36, and 37 did not uncover the south ends of post hole lines # 5 and 6, trenches 4.5 ft wide, were dug following these to the turn, of # 6 to the east and of # 5 to the west, to form the south post hole line enclosing House C. This excavation was followed by making a 5 ft. wide trench uncovering the south post hole line, and completing the uncovering of all the post holes enclosing the House C area.

The one section of a trench uncovering post hole line # 6 was numbered 38; the one uncovering post hole line # 5, # 39, and that uncovering the line connecting the south ends of the two, # 43.

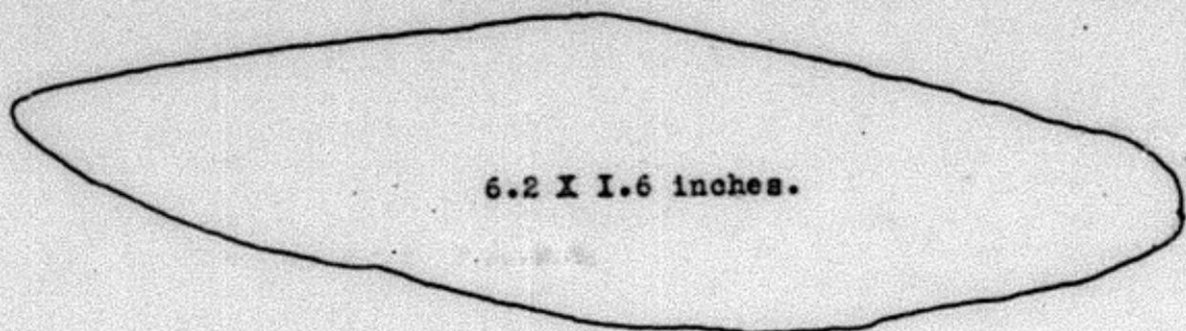
Post hole line # 6 proved to be a double line from the center of section # 34 to the end at the SW corner of the House, the lines being parallel and 1 ft. apart from center to center of the holes.

The section of trench, # 43, further uncovering ^{also a} this double line, was 13 ft. long and down to the gumbo in which the two lines were found.

In the north-east corner ^{of section # 35,} at 3.5 ft. below the surface, the skull of a child, a few badly decayed body bones and two femora, were found at 1.5 ft. from the north end of the trench.

Below this, at 4.7 ft. below the surface, a second child's skull, with a few badly decayed fragments of other bones, was uncovered. Two inches below this latter skull was a lozenge-shaped knife, 6.2 X 1.6 inches. See outline on following page.

From 2 ft. below the lower burial of Burial No. 6, and 6.7 ft. below the surface of the Mound.



Lozenge-shaped knife from section # 38 , Trench A.
Actual size.

The west post line of House C, - post line # 5, - in sections # 18 and 31, was very irregularly double. In section # 37 there were two lines but not so irregular.

In section # 39, 12 ft. long, it extended but for 8 ft. to the corner where it turned west.

The trench, # 43, uncovering the remainder of the south line not found in undercutting, was 12 ft. long and 4 ft. wide. This south line consists of two parallel lines 18 inches apart. In the west half of this line is a gap in both of the lines of holes.

From the inner line three holes are missing, from the outer, 2. This gap may be the entrance to the house.

On the north and west lines the holes average 1 ft. apart from center to center. on the east and south lines, 1.5 ft.

The north side has but one line of holes.

The entire area enclosed by these lines of pole holes may be said to have a direction of N 20 W or S 20 E of 29 ft. by N 70 E or S 70 W, of 18 ft. That is House C is 18 X 29 ft.

House C, whether a walled and roofed over house used for a habitation or for some other purpose, or only a wall surrounding an uncovered area, as yet we believe has not certainly been determined.

No signs of house floors at either top or bottom of post holes showing in Trench A. No dipping down or sloping upward of obscure strata around holes. They appear to have been cut clean through any noticeable strata.

House B.

In order to determine whether or not post hole line # 4 was part of an enclosure, a trench 11 ft. long and 4.5 ft. wide was dug, beginning 2 ft. east of the north-west corner of section # 15 Main Trench A, with which it was connected by a tunnel.

This continuation of line # 4 extended N 18 W, 10.4 ft., - 10 holes, - to where it turned with a round corner of 3 holes, S 76 E, discovered by undercutting the east wall of the trench. These 2 holes demonstrating that the corner reached was the north-west corner of a post hole enclosed area.

In the opposite direction line 4 was uncovered by a trench, 15.5 ft long and 4 ft. wide. In this there were uncovered 10 holes to where the line turned N 77 E. Undercutting the east wall of the trench 4 holes were found running in this direction. This was the south-west corner of the same post hole enclosed area noted above.

The trench uncovering the N 19 W extension of line # 4 was section # 42, and that uncovering the extension in the opposite direction, S 22 E, was section # 40.

All the post holes of the post hole lines in both the main trench and extensions 40 and 42 were encountered at approximately .1 ft. above the black gumbo and at 7 ft. below the surface.

Parallel to line # 4 in section # 40 at 1.9 ft. above and 1.2 ft. west, was another line of post holes, - a total of 9 in a straight row, 13.2 ft. long with 2 missing places.

Lack of time prevented us from making excavations to determine whether or not this row of holes was part of the lines later made to enclose an area.

A trench, 9.5 ft. long, S 17 E, uncovered 6 holes of an extension of post hole line # 1 in that direction. At the end of this and at right angles to it was a double row, of which 4 holes within the trench turned in the wrong direction, N 73 E, but 3 others turned S 77 W, which if continued would form a straight line connection with the 4 holes in a line, N 77 E from the corner at the south end of the extension of post hole line # 4.

Without determining what the 4 holes, indicating 2 rows, running N 73 E were there for, we concluded that the the 3 running S 77 W, indicated the south-east corner of the same enclosed areas as the corners at the north and south ends of post hole line # 4 and its extensions.

Assuming that the line of holes forming post hole # 1 extended straight in the same direction, N 17 W, it would meet a line indicated as running S 76 E from the north-west corner of an enclosure as noted above and evidenced by the 2 post holes, then the point of contact of such 2 lines would be the north-east corner of an enclosure, which we have designated as House B.

Description

We have in the preceding pages endeavored to give a brief comprehensive of our discovery of post hole lines running from N 14 W to N 20 W across the Main Trench A, excavated east and west to a depth of from 7 to 8 ft., across the Kimball Mound at its south end, and the excavation of side trenches at nearly right angles to it, following up such post hole lines to where they turned at right angles. until three corners, two entire sides and a few holes of the other two were uncovered, - and in the case of House C, - of all four sides and corners, - demonstrating the existence of three areas enclosed by such lines of post holes, tentatively designated as House A, House B, and House C.

The stratification of the sides and the inclusions found in these trenches have been only briefly mentioned. The stratification was much the same as that of the Broken Kettle Mound which we have more fully described heretofore.

All inclusions were sent in with data as to horizontal distribution and location, and depth below the natural surface of the mound as it now is. It is contemplated that further descriptions and discussions of these will be made after a laboratory study is made.

Such a study would be expected to help materially in correlating the culture of the people who built the mound, with others contemporaneously occupying the valley of the Missouri. Also different cultural levels, determined by different types of pottery, which without adequate help is difficult in the field.

And also some information might be gained as to the probable date of the first settlement and the length of occupation.

x would be

The excavation of the trenches and of test pits outside near the circumference showed conclusively that the artificial mound was built on a natural elevation above the surface of the then surrounding flood plain, approximating that of its present surface.

The total length of trenches dug was	353 ft.
The total square feet of surface of same was	1966 sq. ft.
The total cubic yards excavated was	596 cu. yds.
As all trenches and pits dug had to be refilled the total number of cubic yards handled was	1100 cu. yds.
Total number of post holes uncovered	
In House A	52
In House B	81
In House C	126
	<hr/>
Total	259

Test Pits.

In order to determine the elevations and contour of the mound floor, nine test pits were dug in different places near its circumference.

The locations of these and of the character of the earth where they were dug, and the material found in them is described in the following copies of the field notes:

Test Pit # 1.

110.9 ft. east and 11.2 ft. south of stake # 14, at the initial point of the mound survey, at the east circumference of the mound. Pottery sherds and bones at all levels. At 4 ft. below the surface an ash stratum 1 in. thick. At 3 ft., 2 shoulder blades and 2 joint ends of large bones. At 7.5 ft. black alluvial undisturbed gumbo-like soil.

Excavated by Hubert.

Test Pit # 2.

105.6 ft directly south of stake # 14 at the south circumference of the mound. Only inclusions a few small sherds. At 4.5 ft. gumbo-like soil, continuing to a depth of 8 ft. below the surface.

Excavated by Herring.

Test Pit # 3:

At west circumference of mound directly west of stake # 14. 6 ft. of black alluvial (gumbo-like) soil merging into yellow at that depth. No inclusions.

Excavated by Bamsworth.

Test Pit # 4.

50 ft. east of the circumference at N 45 E of stake # 14. Black alluvial soil to 4.5 ft. At that depth becoming more gumbo-like.

Excavated by Corzine.

Test Pit # 5.

At circumference at S 45 E of stake # 14. At 6 ft. black alluvial gumbo-like soil. No inclusions.

Excavated by Herring

Test Pit # 6.

160 ft. north and 32 ft. west of stake # 14. 6 ft. east and west and 4 ft. north and south. No stratification down to 5 ft. below the surface and very little charcoal or pottery sherds. Some thin, (1/2 in.) discontinuous ash strata. Below the 5th ft. horizontal black and yellow stratification with a small amount of charcoal and pottery sherds. At 6 ft. below the surface, 2 shoulder blade digging implements. At 4.5 ft. below the surface, in the south wall, bones and pottery sherds. At 4 ft. below the surface in the north wall, sherd of large type # 2 pot - plain body and decorated rim, and with them a split rib awl.

Excavated by Corzine.

Test Pit # 7.

142 ft. north and 49 ft. west of stake # 14. 5.6 ft. long by 3.5 ft. wide. 7.5 ft. below surface to gumbo. Considerable broken pottery, bones and clam shells. A post hole in the east wall at .4 ft. from north-east

ner, 1.2 ft high above the bottom which was 2.4 ft. above the gumbo. A second hole inside the south wall, 3.5 ft. from the south-east corner. The bottom of this hole was 1.5 ft. above the gumbo. Pieces of rotten wood, (about a handful) were found in the bottom of this hole. Excavated by Hubert.

See sketch of other post holes on page 54.

Test Pit # 8.

57.4 ft south and 46.2 ft. west of stake # 14. Gumbo in north-east corner at 5.5 ft. below the surface. Granulated dark gray soil gradually changing to yellowish, and more compact (hard digging) soil. An accumulation of bones and pottery sherds in the north-east corner, from .5 to 2 ft. below the surface. Thin ash strata at 3 and 3.5 ft. below the surface. Thin ash strata on south side 2.3, 3.3 and 5 ft. below the surface. Below 3.3 ft. more small charcoal and very obscure stratification down to the gumbo. Shoulder blade in north-east corner at .5 ft. below the surface. 7 shoulder blades in all were found in this pit. Shallow pit .4 ft deep and 2 ft. in diameter in north-west corner, contained carbon dust. Gumbo mixed with yellow soil for 18 inches above the solid stratum of same. Excavated by Hubert.

Test Pit # 9.

73 ft. south and 54 ft. west from stake # 14. 7 ft. east and west and 5.5 ft north and south. In the north-west corner, 5 ft. to gumbo. In the north-east corner, 6 ft. to gumbo. In 4th. ft. below the surface, a large bone : flesher, 3 elk tines and an awl. For 1.5 ft. above gumbo, much stratified black and yellow, irregularly alternating. In the north-east corner an ash stratum .1 in. thick at 2 ft. above gumbo. In the south-east cor. a decayed lower jaw of an old person at .8 ft. above the gumbo. Excavated by Hubert.

Field Notes on Stratification, ash strata and lenses, and other findings showing structure and inclusions found in excavation of Trench A and its Extensions
Sections # 9 and 10.

Nest of large sherds of both corrugated and plain body and many small pieces, cupped together in the north-east corner of section # 10 and the north-west corner of section # 9. Bottom of deposit, 48 inches below the surface, partly outside the north wall of the two sections. See photographs on page 2.

At the south-west corner of section # 9, at top of gumbo, at 8 ft. below the surface, a cupped ball of clam shells, 18 ft. in diameter, enclosing core of black gumbo-like soil.

Section # 10.

At 7 ft. below the surface, a 2 inch long bone fish hook.

In the north-east corner of section # 10, in the north wall, a large deposit of large bones, 3 ft. in diameter and 1 ft. deep, at 6 ft below the surface. Center of bottom of this deposit, 3.5 ft west and 2 ft. below nest of large pottery sherds.

Toy pot, less rim, split rib perforator, and split rib ornament at 7 ft. below the surface.

Section # 11.

At 4 ft. below the surface, a large bone fish hook.

At 6 ft. below the surface, 2 oliva sea shells.

At 7 ft. below the surface, a bird effigy probably broken off a lug.

At 7 ft. below the surface, in the north-east corner, a celt and an awl made of a shoulder blade.

Section # 12.

At 4 ft below the surface, an ash stratum directly east of which, an accumulation of large bones at the same level.

At 3 to 3.5 ft. below the surface, a deposit of the ends of large animal bones, 5 ft. in diameter.

In north wall of section # 12, at 3.5 ft. below the surface, a deposit of many bones, .2 to .4 ft. in depth.

Section # 13.

In north part nearly one-half of pot with low recurved rim with indentations on outer edge of lip. About 5.5 in in diameter at the shoulder. At 4 ft. below the surface.

At 60 inches below the surface, a flint spear head, 3.5 inches long and 1.5 inches wide.

At 5 ft. below the surface, a bone fish hook.

At 3 ft. below the surface, a lug like the point of an antler. this type of lug projects straight out from the lip of the vessel.

At 3 ft. below the surface, 2 graveurs and 2 small scrapers.

At 5 ft. below the surface, sherd of one side of a globular rimless vessel, without decoration.

At from 66 to 72 inches below the surface, 3 bone awls, 1 sea shell (*Oliva*), and 2 toe bones of deer, used in playing the game of "ring and pin" game, and numbers of body sherds.

Section # 13, continued.

In the south-east part, a congestion of pottery sherds between 72 and 87 inches below the surface. 30 inches in diameter.

Section # 14.

Under the west side at 3 ft. below the surface, an ash bed 2 in. thick, - much small pottery sherds, - no charcoal.

In north-east corner just at top of gumbo, a stratum of white ash, 2 in. thick, extends south to center of trench and north under the bank. 6 in. above the ashes was found one-half of a small pipe bowl. Considerable small charcoal with ashes above these at 3.1 ft. below the surface and with clam shells, bones and broken pottery.

At 3.5 ft. below the surface, 2 large joints of animal bones, 1 flaring (type 2) decorated rim sherd and other pottery fragments.

At 4 ft. below the surface, 2 lugs, one on the top of which were two vertical knobs, the other like the end of an antler, projecting horizontally from the lip of the vessel.

At same level another antler tip type of lug.

At 4.5 ft., a "door knob", and also a type 7 rim.

At 5.0 ft., at 5 ft. below surface a stratum of carbonized turkey-foot grass in wall of north end of section. 5 ft. in diameter and 3 inches thick.

At 3.4 ft below the surface, recurved plain rim with handle.

At 8.2 ft below surface, at top of gumbo, a plain square-lip rim.

Ash lens, - basin shaped, - 2 ft. in diameter and 3 inches thick.

Ash lens, - basin shaped, dipping down into gumbo soil at bottom of trench, 3 ft. in diameter.

Nine ash lenses, 18 to 30 in. in diameter and 1 to 4 in. thick, at various locations and depths in north wall.

Deposit of clam shells and a few pottery sherds in the north-east corner, 24 in. in diameter, at 3.5 ft. below the surface. Ash stratum 2 ft. west and 1.5 ft. lower, in north wall. Directly below this, ashes and burned earth in top of gumbo at 8.5 ft. below surface.

The above deposit of ashes is believed to be the central fireplace of House B, at 10.2 ft. east of post hole line # 4 and 10 ft. west of post hole line # 1.

At 3.4 ft. below the surface, an arrow-shaft smoother.

Section # 15.

The north side of this trench shows at 1 ft. above gumbo, a distinct stratification of different shades of yellow-gray soil, for the most part barren of charcoal or pottery sherds. Yet in the south wall directly opposite was, at .5 ft. above the gumbo, a lens shaped accumulation of large bones, about one-half being large vertebrae, with pottery sherds, having a horizontal diameter 4 ft. and vertical of 2.5 ft.

A thin streak of yellow soil, beginning in the west wall of section # 15 at 4 ft below the surface, drops to a foot lower at 4 ft. west at which point just above it was a nest of large bones including 2 cannon and all the foot bones of 2 elk feet. From there rising 2 ft. in the next 7.5 north, then dropping 2 ft. to a point directly under station stake # 18, and in the next 7 ft. rising 1 ft. and from there running level.

Section # 16.

At 4 ft. below the surface, a "door knob."

At 8 ft. west and 5 ft. south of south-west corner of section # 16, an effigy head lag.

Section # 17.

At 7 ft. below the surface, at east center of trench, deposit of very yellow clay, 3 ft. in diameter and just under an ash lens 1 ft. in diameter.

Section # 18.

At 5.8 ft. below the surface, a small plain pot broken in 5 pieces.

At 2.5 ft. below the surface, in north wall, a wood duck effigy.

At 6 ft below the surface, a celt.

Section # 19.

At 6 ft. below the surface, a bone fish hook and smoothing stone.

Section # 20.

At 6 ft. below surface, large bone fish hook. Also buffalo horn digging implement.

Sec. # 21.

At 4.3 ft. below the surface, toy dipper in north wall.

Sec. # 18.

At 2.4 ft. below the surface, a "door Knob."

Extensions of Trench A.

IN Sections # 26 and 27.

8 ft. below the surface to the top of the gumbo-like alluvial soil, the bottom of the mound. Above this in these two sections outside the post hole line, the South-west corner of House A, is a thin stratum of apparently water-laid very light colored yellow soil.

At one-half inch ash and charcoal stratum, 4 ft. long., at 6 ft. below the surface, and outside House A.

At 6 ft. below the surface in section 28 was a burial of five skeletons. (See sketch, description and photographs on pages 98 and 97. Strata were continuous over this burial place. No sign of a burial pit. Deposit of clean ashes in south-east part filling skull # I.

At 2 ft. below the surface, in south-west corner, a celt was found.

At 4th ft. below the surface was found a finely made double-end perforator, 3.9 ft. long. See sketch below.

At 2 ft. below the surface, a bone fish hook was found.

See also page 124



May be a Fish Gorge

Section # 28.

At 3.5 ft. from the surface a .1 ft. thick stratum extends along the west wall horizontally for 5 ft.

At 4.6 ft below the surface, a trace of ash extends across the north wall, the last 2 ft. at the north-east corner dipping sharply down for 1 ft. greater depth.

Section # 29.

At 3 ft. below surface, a shell ornament with hole in the end.

At 4 ft. below the surface, shellfish ornament.

Section # 31.

At 2 ft. below the surface, a parrot effigy head broken off from lug.

Section # 34.

At 2.4 ft. below the surface, a celt and "door knob" were found.

At 5 ft. below the surface, one-half celt - bitt end. and large Oliva shell 3 ft. below surface.

At 6 ft. below the surface, fine spear head in center of trench.

At 5 ft. below surface,, small globular pot .9 ft. in diameter.

See second following page for description and outline of fine spear head from center of trench. *Page 82*

Section # 35. At 1.4 ft. a quartzite knife. At 2 ft. below the surface, a tubular pipe.(?) At 3.4, a tiny fish hook.

Section # 36. At 2.5 ft. a bone disk. At 3.4 ft. a bone partly worked from which two fish hooks would have been made, 3 pottery rims and a diamond shaped flint knife 5 in. long.

Section # 37.

At 2.4 ft. a pottery dipper.

Section # 38.

At 2.4 ft. below the surface, at 8 ft. from the south end, an almost complete sub-globular, - type 6, - pot.

At 2.4 ft. below the surface, a nest of 75 "wart" clam shells and perhaps an equal number of broken up thinner species, with fish bones, 1 recurved, square-lipped rim (type 10), 2 leg bone tools, 1 shoulder blade digging implement and 1 deer's jaw.

At 3.5 ft. below the surface, a limestone disk, 1.6 inch in diameter.

At 3.5 ft. and at 4.7 ft. below the surface respectively, two children's skeletons. See full descriptions under "Burials."

At 5.4 ft. below the surface, a thin stone disk.

The first 18 inches above the gumbo yellowish and stratified, (by water, ?) Almost no charcoal and very few artifacts or bone fragments.

From 1 ft. below the surface to 5 ft. below, ash strata, bone fragments and artifacts.

Section # 39.

At 2.4 ft. below the surface, a human effigy head - part of a lug.

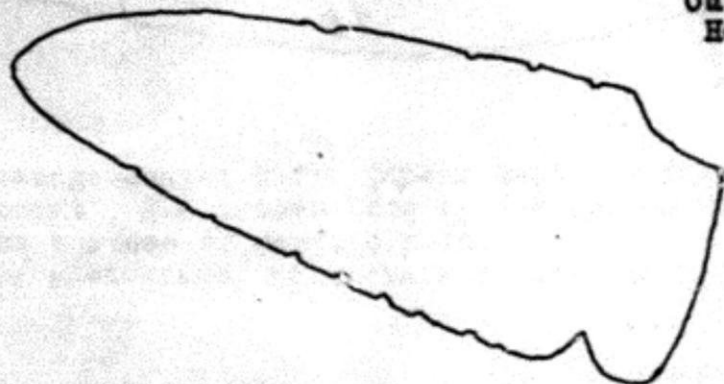
At 2.6 ft. of excavation, a smoothing bone.

At 2.4 ft. below the surface, in south one-third of section, a pottery lug and disk.

At 5 ft. below the surface, at 8 ft. from north-east corner, 2 elk tines and a shoulder blade digging implement.

Found in earth thrown out of section # 39, a bone spear head, See outline below.

Outline of Bone Spear
Head. Section 39



Section # 40.

At 2.4 ft. below the surface, disconnected pieces of a very thin human skull, in a poor state of preservation.

At 3 ft. below the surface, a celt.

At the south end of trench, stratified black and yellow earth, (water laid, ?) from 3.6 ft. to 4.6 ft. below the surface. Does not show on east or west walls.

At 3 ft. below surface on east wall a lens like stratum contains much broken bones and pottery. 2 shoulder blades protruding from the wall.

At 2.7 ft. below the surface, a small sea shell, - oliva, and clay pipe.

In earth thrown out of this section was found a bone flesher and a large rim sherd.

At 6 ft. below the surface, a celt at 12 ft. from the north-east corner

Section # 41.

At 2.4 ft. of excavation, an effigy bird head, and a broad flint arrow head.

Celt at top of gumbo

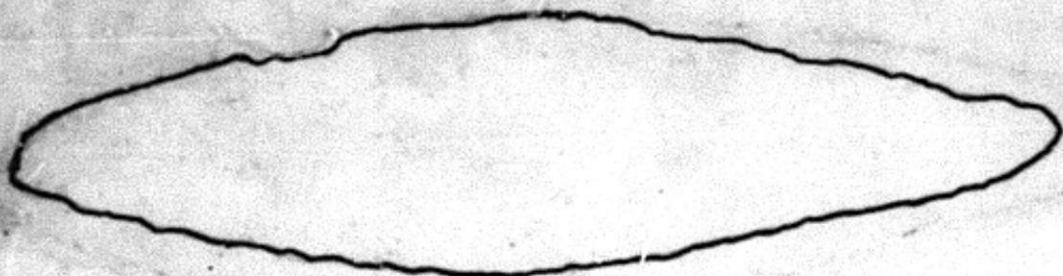
Arrow shaft smoother found in the earth thrown out of this section.

Section # 42.

At 3 ft. below the surface, a cache of 11 flints, a bone awl and handle of pot with effigy of raccoon sprawled on its top.

Section # 43.

At 2.4 ft. of excavation a bone head.



Lozenge-shaped Flint "Spear head", a fine chipped flint implement, 5.6 inches long by 1.5 inches wide, from 6 ft. below the surface of section # 34.

See photograph, with other flints, actual size, on page 106

Central Fireplace of House B

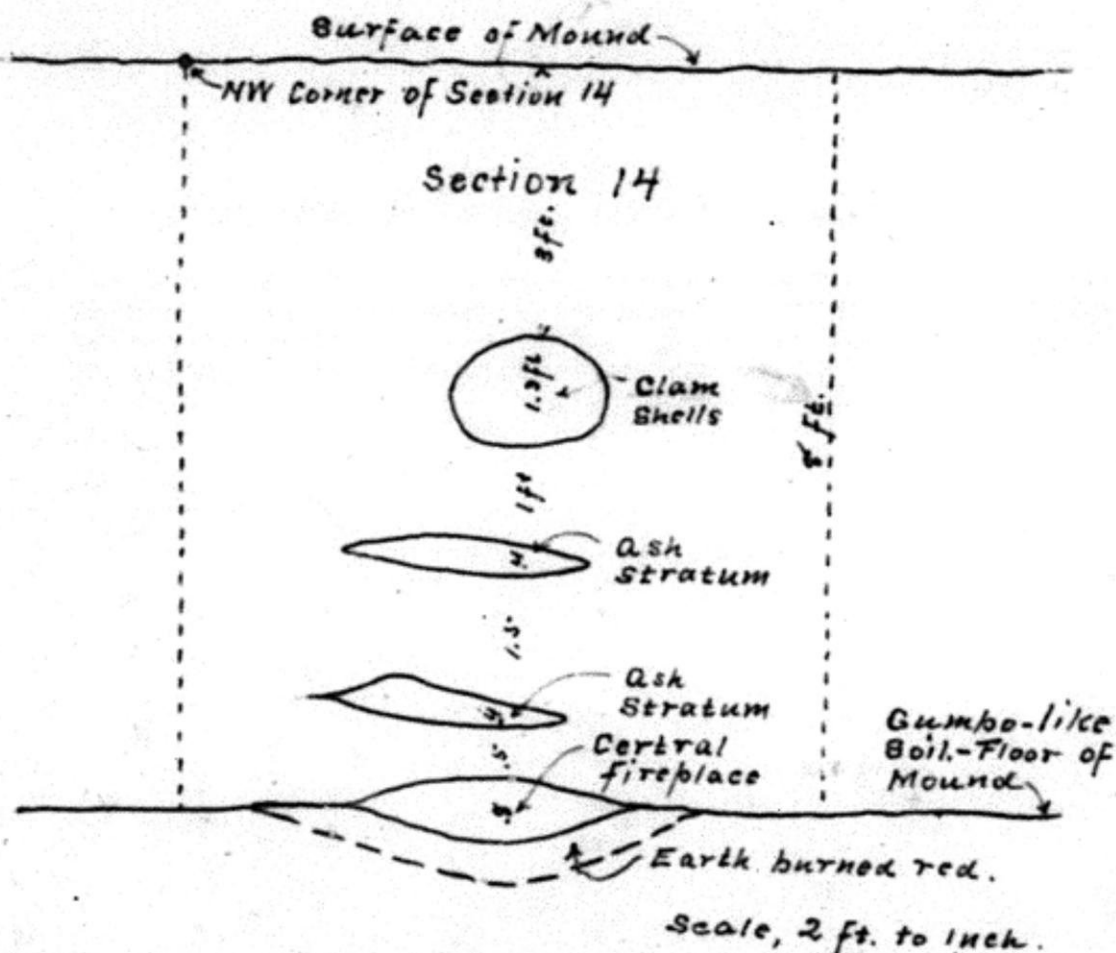
At 4 ft. east of the north-west corner of section # 14, partly under the north wall of Trench A, and extending down into the gumbo for half its thickness, was a lens-shaped fireplace of white ashes, 3 ft. in diameter and .8 ft. thick at its center.

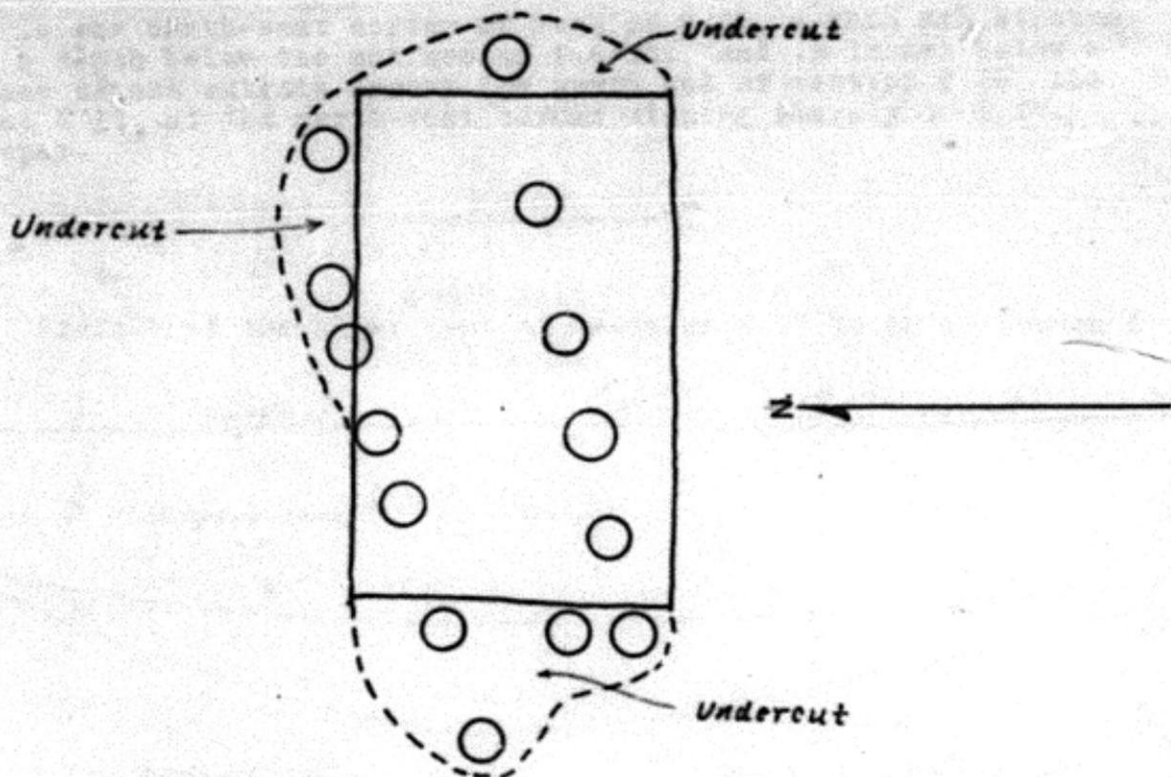
Under this was .3 to .4 ft. of earth burned red.

As the center of this fine fireplace was located 10.2 ft. east of post hole line # 4, and 10 ft. west of post hole line # 1, and is 14 ft. south of the north post hole line and 17 ft. north of the south post hole line enclosing the area designated as House B, as worked out by trenching, it is believed to be the central fireplace of that structure.

Were its center 1.5 ft. farther south it would be in the exact center of the house.

At .5 ft. above this central fireplace was another stratum, 1.5 ft. long by .4 ft. thick, at 1.5 ft. above this, still another, 2.5 ft. by .4 ft. thick. At 1 ft. above this was a nest of clam shells 1.5 X 1.3 ft. See profile below of north wall of section # 14.





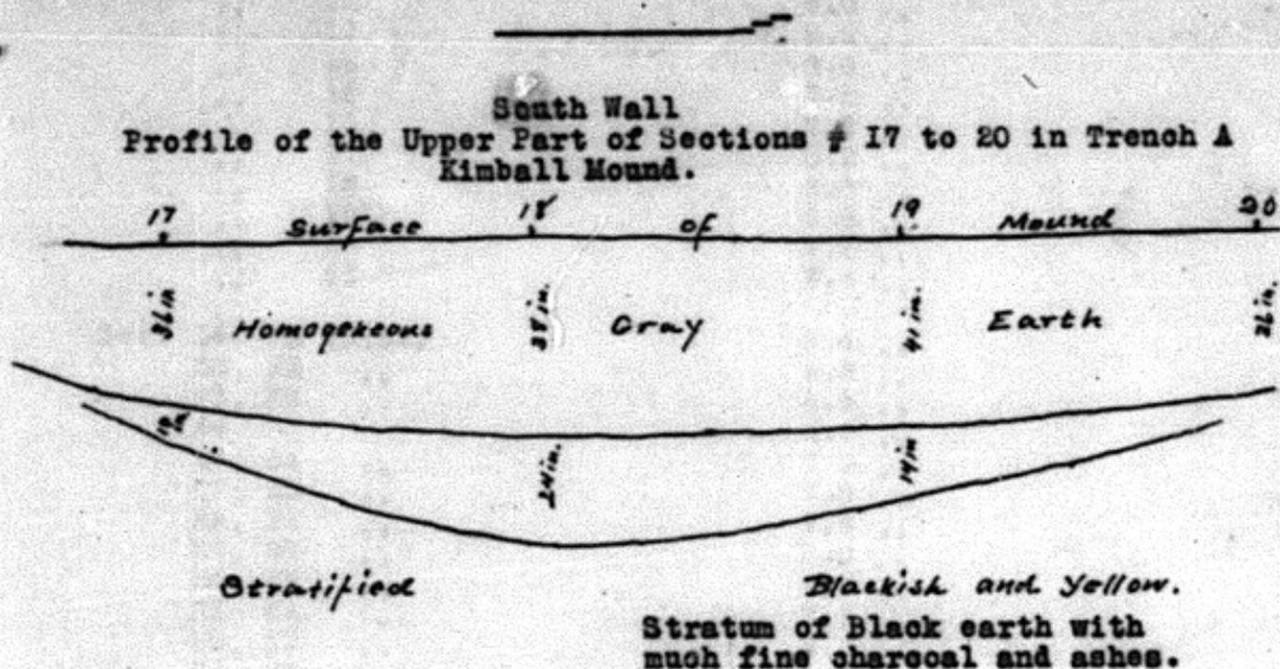
Sketch of Floor of Test Pit # 7., Kimball Mound.

The two lines of post holes, having a direction of approximately N 78 E, are apparently a part of the line of pole holes encircling a structure. This pit was unusually rich in material, but stratification was obscure.

Scale, 2 ft. to inch.

Some additional Stratification Notes.

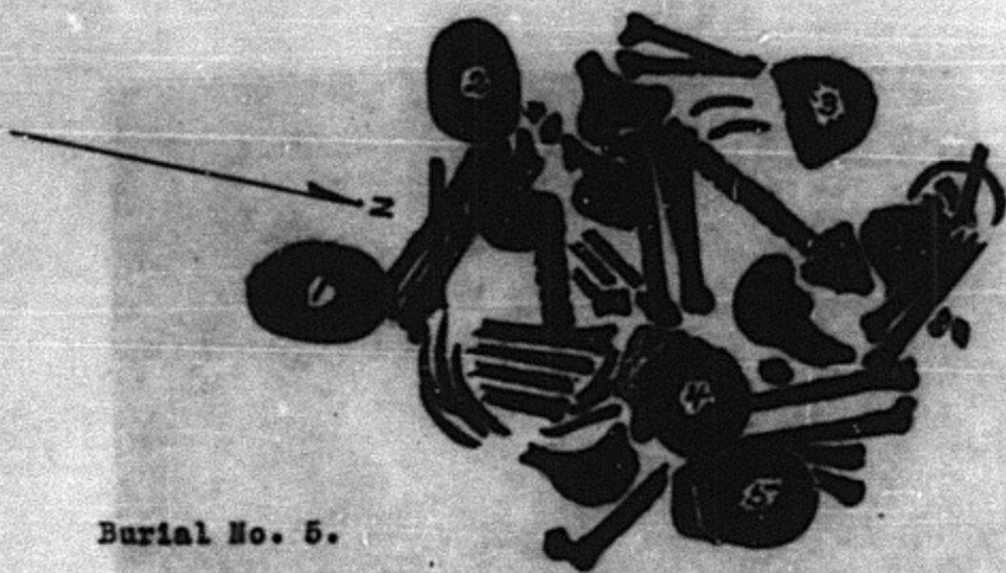
In the north-west corner of section # 29, a thin ash stratum at a depth below the surface of 4.6 ft., and .5 inches below a trace of ash extends across the north end of section # 29, the last 2 ft. at the north-east corner dipping sharply to 1 ft. deeper.



Lower two feet of Sections #17 to 21, stratified very irregularly with with dark and light shades of black, brown, pinkish and yellow. Contains not so much fine charcoal, small pottery sherds, broken animal and fish bones and clam shells, with occasional large pottery sherds and rarely the larger part of a small pot. A few bone tools but all of these very scattering.

Depth of the Gumbo-like Soil at the Bottom of the Mound, below
the Surface.

At Station #	8	8.0 ft.
..	9	8.0 ..
..	10	8.0 ..
..	11	7.5 ..
..	12	8.0 ..
..	13	8.0 ..
..	14	8.0 ..
..	15	7.5 ..
..	16	7.5 ..
..	17	8.2 ..
..	18	8.0 ..
..	19	7.8 ..
..	20	7.6 ..
..	21	7.6 ..
Sec.	14, NE corner	8.4 ..
20, NE	..	6.8 ..
23, NE	..	5.5 ..
24	..	4.9 ..
27, se	..	7.0 ..
27, NE	..	7.0 ..
28, NW	..	7.4 ..
29, NW	..	7.0 ..
30, NW	..	7.3 ..
31, Ne	..	7.5 ..
34, NW	..	6.8 ..
34, SW	..	6.4 ..
35, SW	..	7.0 ..
37, SE	..	7.0 ..



Burial No. 5.

In following up the post hole lines crossing Trench A, it was necessary to stake out the trench that was to uncover their extension, long enough to reach the corner which we expected to find.

In the first extension of a hole line that we uncovered, we overshoot the corner eleven feet, but were well rewarded for the extra earth that was thrown out beyond the corner, as at 6 ft. south from it we found at a depth of 6 ft. below the surface, a burial of 5 skeletons covering an area of roughly 3 ft. square.

There was no regularity of placement of the individual skeletons and not all of any one of them appeared to have been all there when interred. Some of the bones, - notably the vertebrae of two of the skeletons, - quite certainly were connected by (probably dried) ligaments. See sketch above and photographs on following page.

All the long bones interred were in a fair state of preservation, as were the skulls. These latter were, however, very easily broken. There were no indications of a burial pit. Underneath and below and above in the walls of the trench around it the earth was markedly stratified. This shows very plainly in the south and west walls in the photographs.

It is possible that a pit no larger than 6 ft. square was dug, the deposit of bones covering its entire floor.

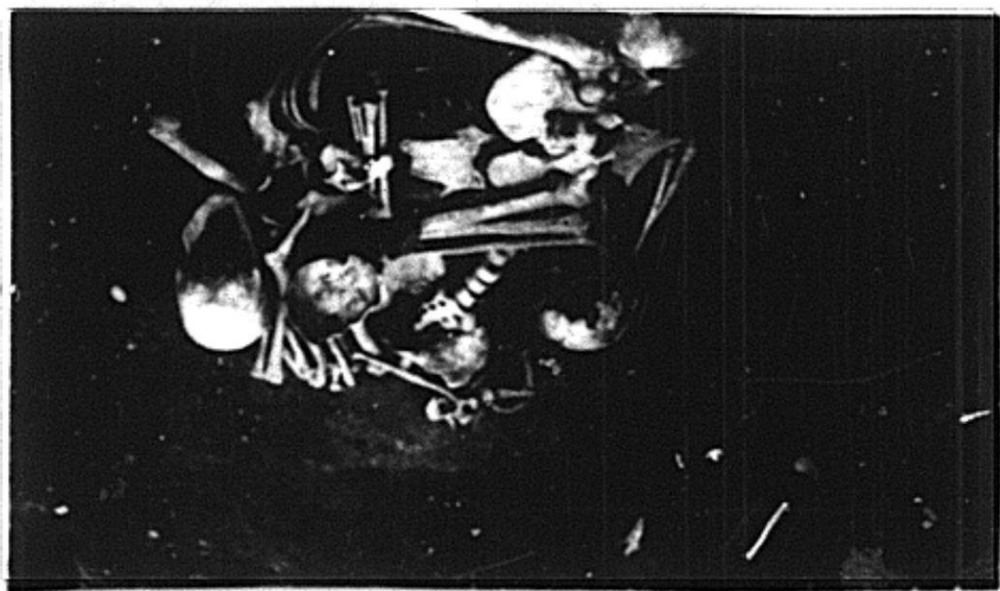
This may have been true also of the burials in the Broken Kettle, above which no stratification was noticeable, the men in excavating not seeing any indication of a pit.

In one of the photographs one skull was removed before the picture was taken and in the other it was shown but another one was outside the field covered in making the exposure.

A small undecorated pot, - shown in one of the pictures, - 1.5 inch in diameter, and a single clam shell were all the inclusions found. The small crudely made undecorated pots found in these mounds we believed, made for children, but there were no children's bones in the burial.



Burial No. 5, looking south-west. Complete, undisturbed in situ, except skulls No. 1 and 4 and small pot, removed, (see page 87) Note clam shell in place and stratified sides of trench and beneath the burials.



Burial No. 5, looking south-east from above. Complete, undisturbed, in situ, except clam shell removed, and skull No. 4 (see page 87) moved slightly in cleaning up-should have been replaced the width of it towards the top of the picture. Skull No. 1 not in picture. Six feet below the surface in section 27, of Trench A, Kimball Mound.



Skull of Burial No. 6, Looking North.
Child's skull and two long bones removed to back of ladder.

In the north-east corner of Section # 28 of Trench A, Kimball Mound, there was found at 1.5 ft. from the north wall of the trench, and 1 - 2 ft. from the east, and at 3.5 ft. below the surface, a child's skull, face to the east and between which and the east wall of the trench, was a mass of broken and badly decayed body bones on top of which were 2 wellpreserved femora.

Both skull and long bones however had to be handled with care.

Below these at 4.7 ft. below the surface, was another child's skull and some badly decayed and broken-up body and limb bones, so far gone in decay that as soon as uncovered they crumbled almost to dust.

There were no indications of a burial pit and no inclusions, except that at 1/2 ft. below the lower skull was a losenge-shaped flint knife, 6.2 inches by 1.6 inches.

For outline of this knife see page 72 - Photo. on Page 106

Trench B. Kimball Mound.

After refilling Trench A, all its extensions, and all test pits, we still had 62 hours time to work on Project 3600 before its termination.

This time was put in excavating Trench B, beginning at 57 ft. north and 8.5 ft. west of station # 12 on the south line of Trench A, and running from thence, due west, parallel to Trench A, 49 ft., divided into seven stations 5 ft. wide, numbered from the beginning at the east end.

This trench was excavated to a depth of 8 ft. and the refilling completed on Nov. 27th.

Except for a bowl-shaped accumulation of black earth and decayed charcoal, small fragments of pottery, bones and clam shells, approximately 7 ft. in diameter and 5 ft. deep, there were no notable inclusions of which location notes were made.

Gumbo-like soil was struck at 7 to 8 ft. below the surface.
Stratification obscure.

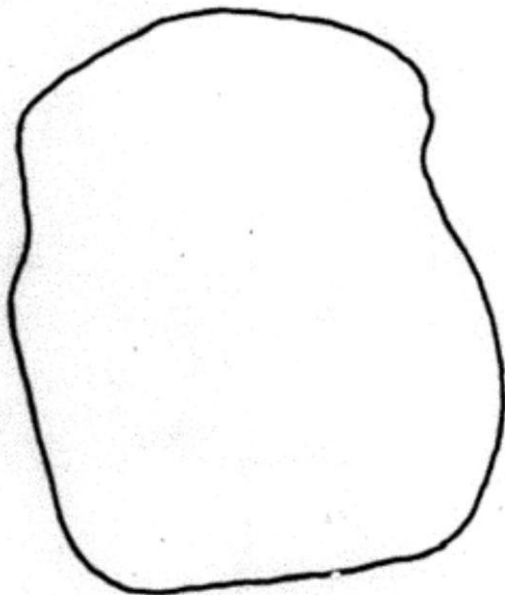
In section # 3.

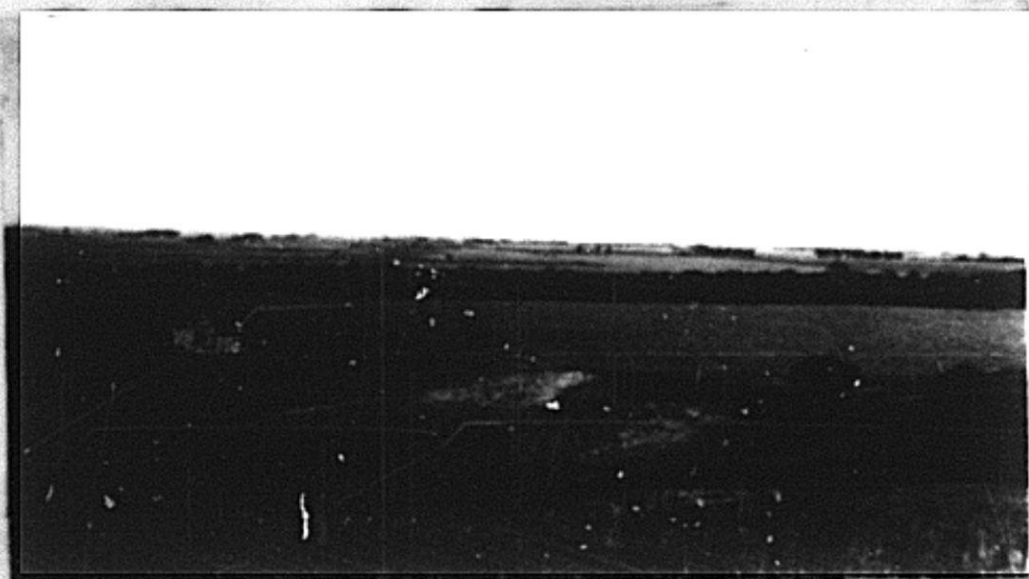
At 2.4 ft. below the surface, a triangular notched arrow head, 1.25 inches long.

In section # 6.

At 3 ft. below the surface, a crudely made grooved axe, .3 ft. long by .25 ft. wide and .1 ft. thick, with a round poll.

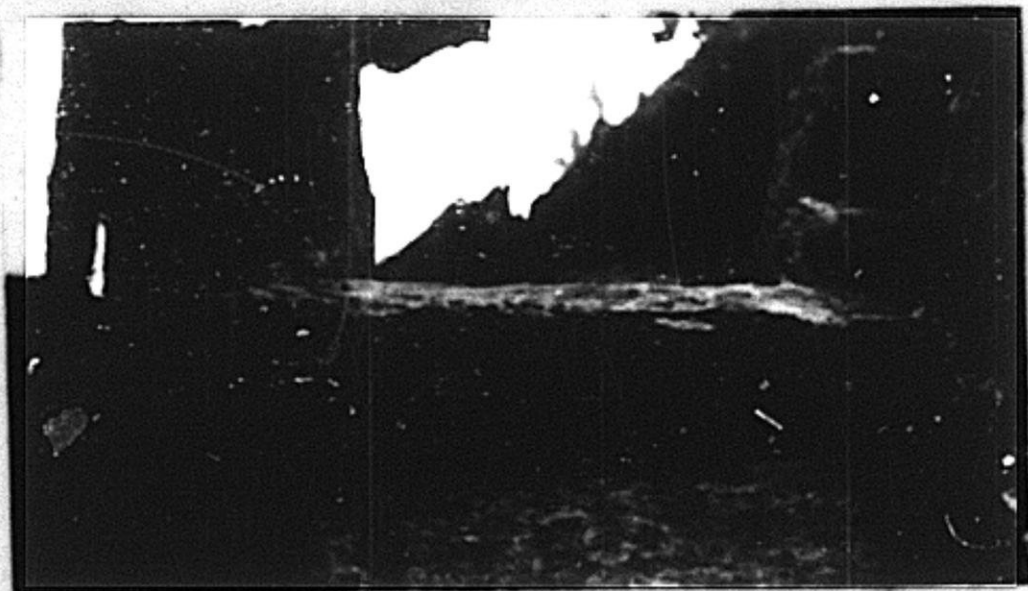
See outline below.



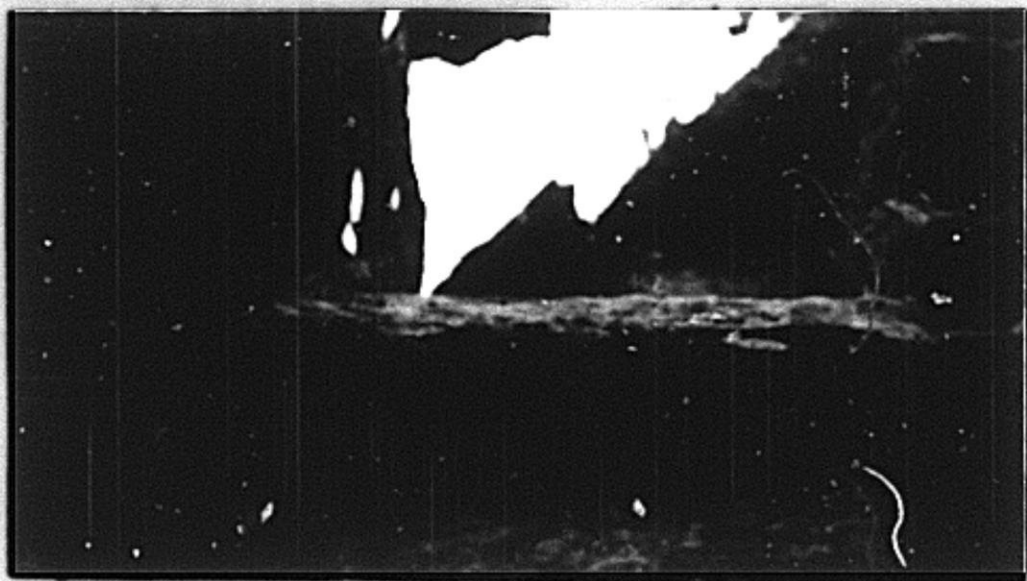


Looking ~~east~~^{west} from hill east of the Kimball Mound. at 1/4 mile. Timber belt along the Big Sioux across the center of the picture, back of which is the flood plain of the Missouri river and Big Sioux in S. Dakota. Note mound excavation in the center of the corn field.

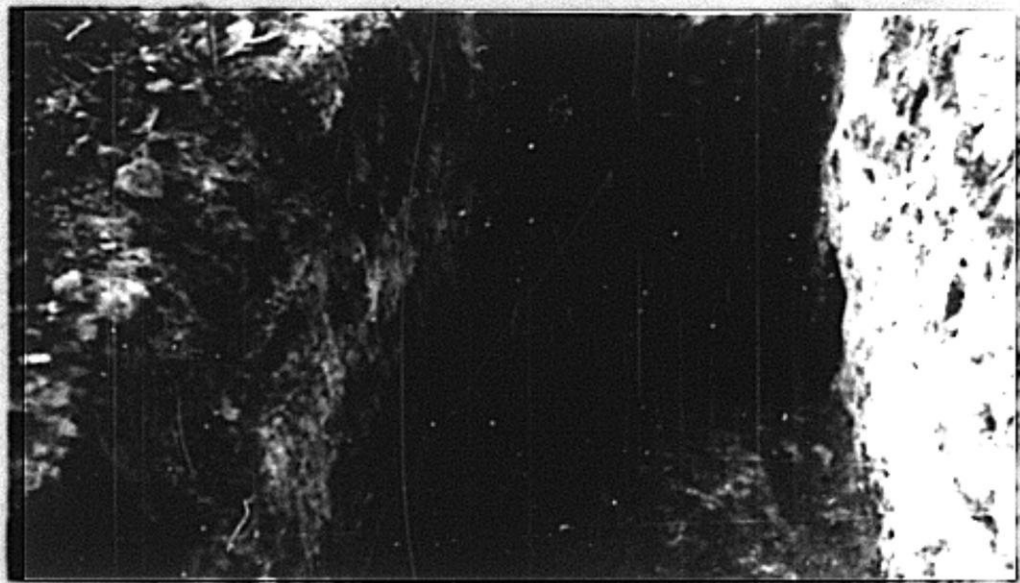
Looking west.



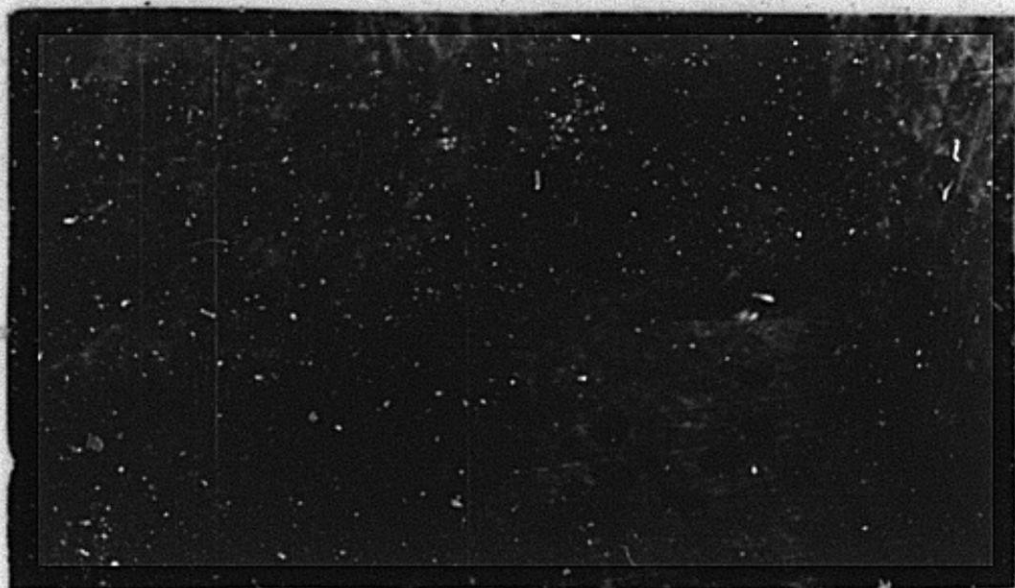
Moulds of posts that filled the holes on post hole line # 2. In section # 10, Trench A of Kimball Mound. Note the extension of of post at left up into mound earth, 1 ft. It is probable that more of the of all the posts also extended upward and were not discovered before the clean-up after a spading. The tops of the moulds shown are 1 ft. above the gumbo-like soil, - the "high spot" in the bottom land which the pre-historic people first occupied. looking E.



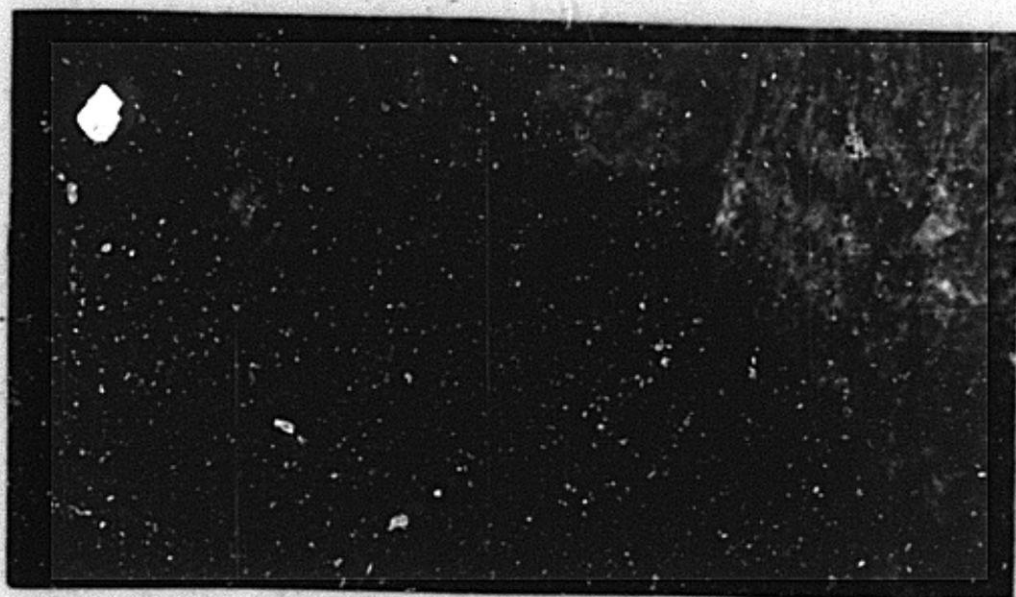
Moulds of earth filling post holes of post hole line # 2 in Trench A of Kimball Mound, in section # 10.
Looking east.



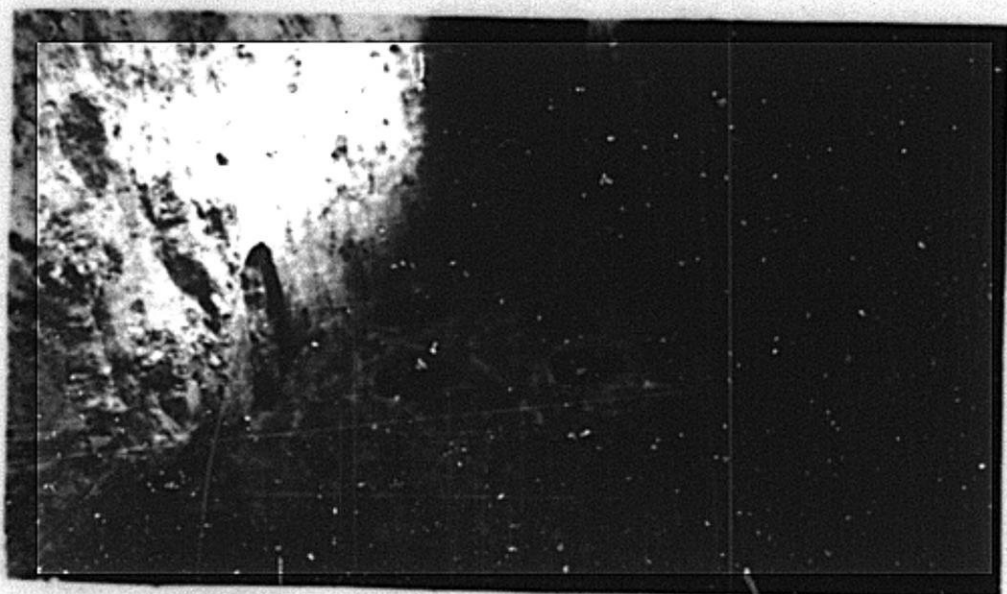
South-east corner of House A, in section # 8 of Trench A, Kimball Mound. Extension of post hole line # 1. Looking west. Note tunnel from section # 9 in center to section # 10, and undercut in the south-east corner, uncovering the beginning of east post hole line of House A. Note also the stratification of south side of the trench wall.



Post holes in section # 12 and 13 of Trench A, Kimball Mound.
East post hole line of House B, Looking west.
Central fire ash deposit in the north-west, - right hand, -
corner. Note stratification.

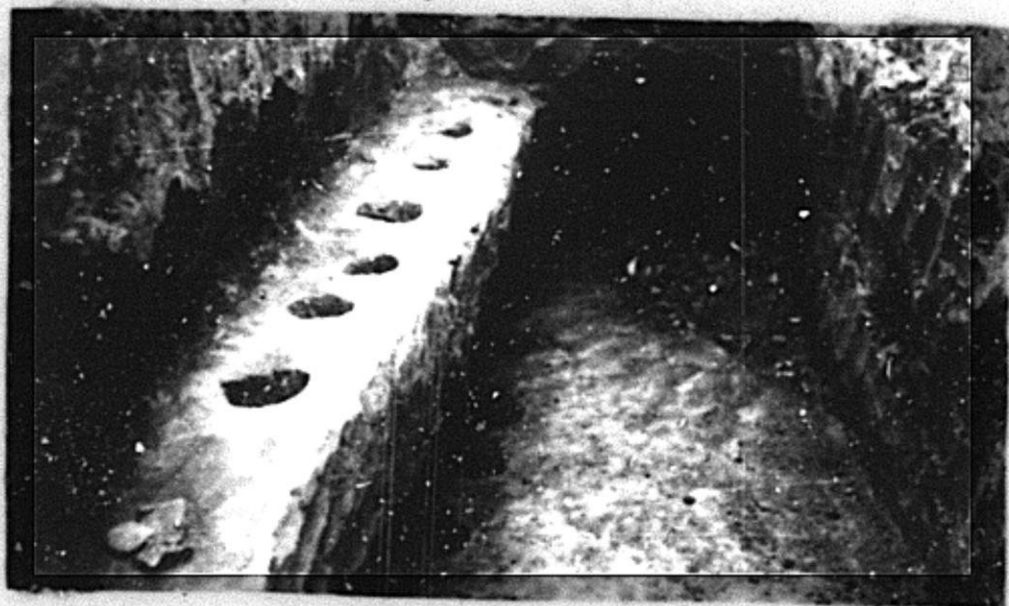


Same as above picture. Post hole line # 1, in sections 12 and
13 of Trench A, Kimball Mound, looking west.
East post hole line of House B. Central fire ash deposit in
the north-west corner.

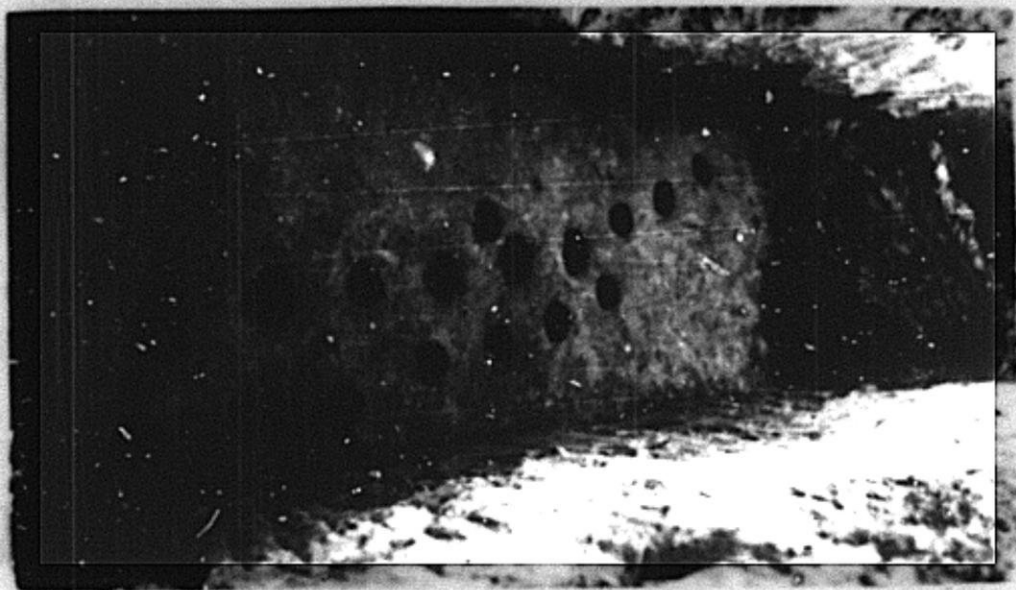


Post hole line # 4, in section # 15, of Trench A, Kimball Mound. West line of House B. Looking east.

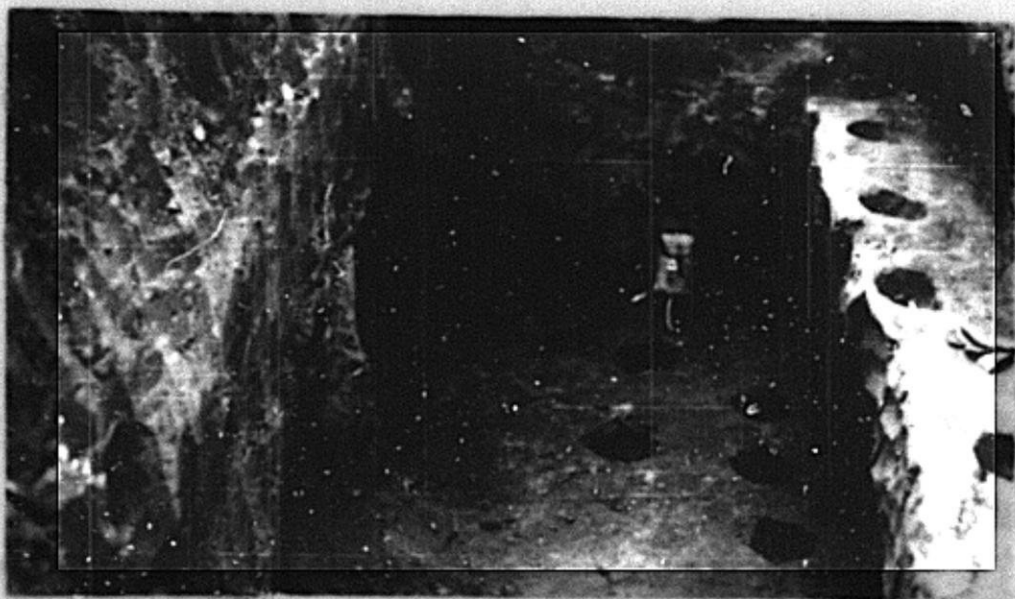
The floor into which the holes of this line and its extensions were dug, was 1 ft. above the top of the gumbo-like soil.
Note tunnel at back through separating wall, to section # 15.



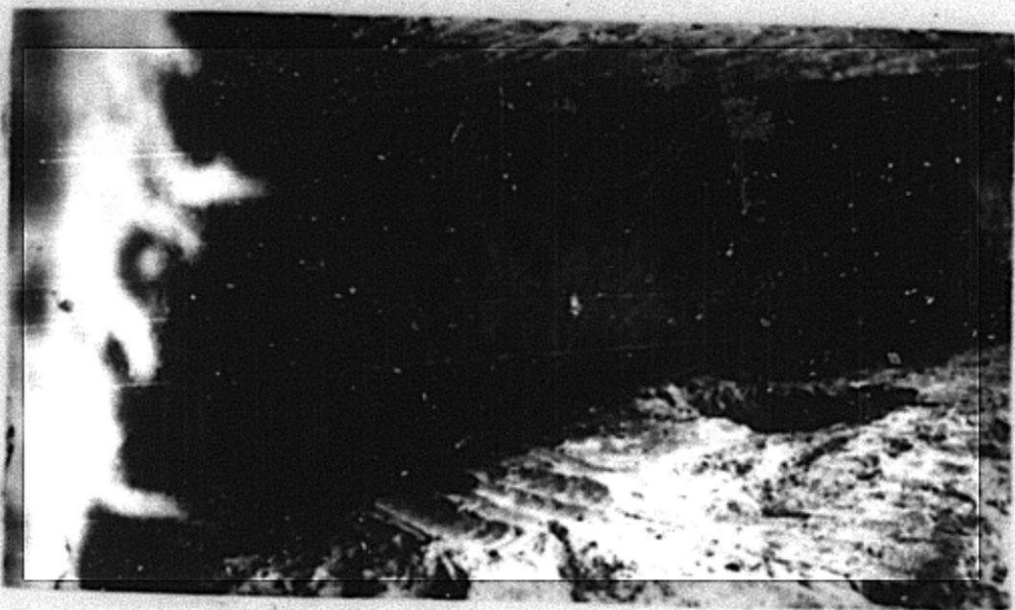
South extension of offset to Trench A, section # 40, of the Kimball Mound. Extension of post hole line # 4. South end of the west side of House B, lower row, and the upper row of a house built later. Looking north.



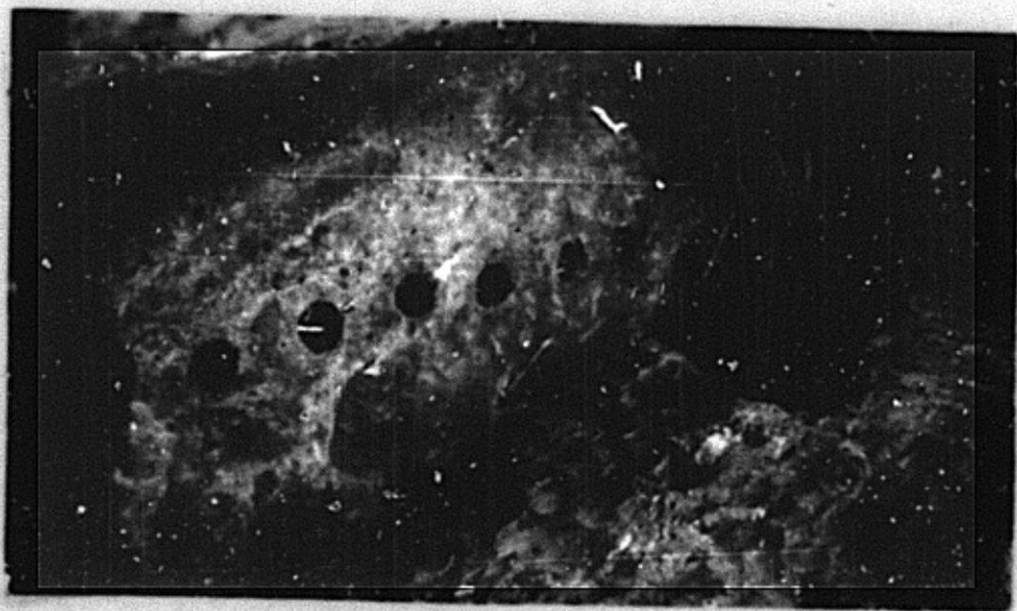
South extension of post hole line # 4 in Trench A, section # 40 of the Kimball Mound. Post hole line of the south end of the west side of House B, lower row, and the upper row, of a house built later. Looking south.



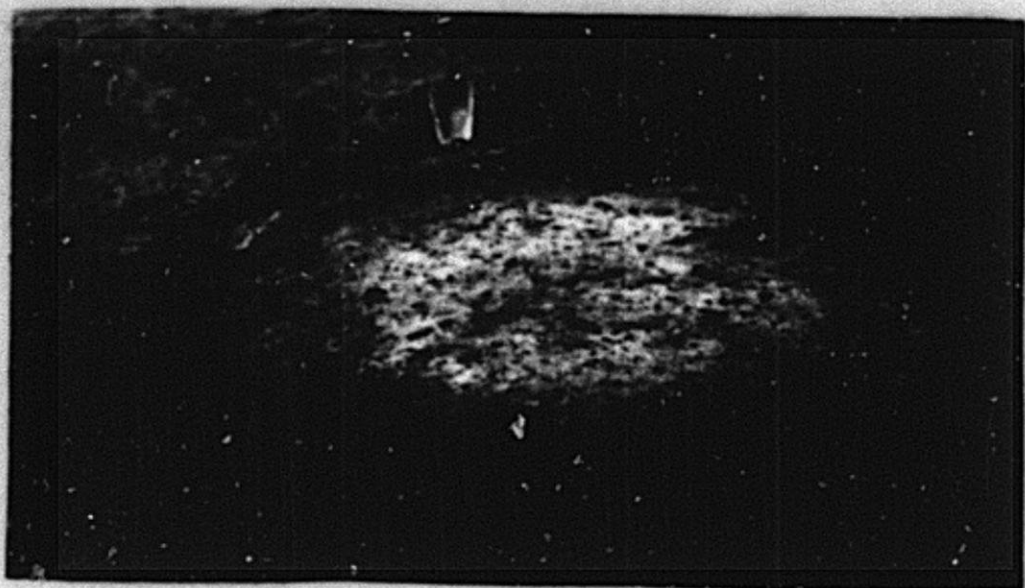
Post holes in the south extension of offset to Trench A, Kimball Mound. South part of the west wall of House C. Note corner of House upper left. Section # 38. Looking west.



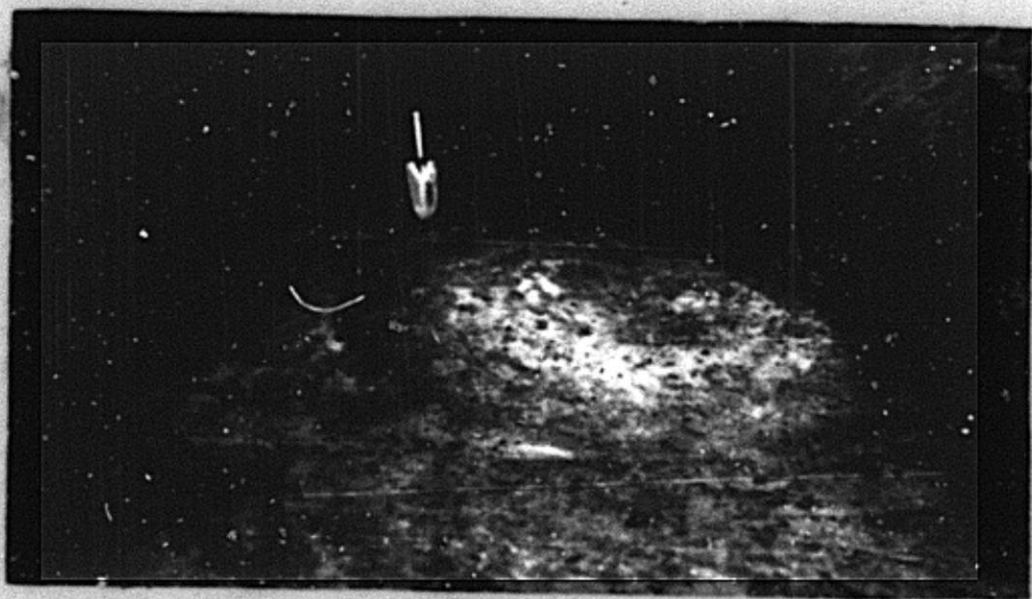
South extension of offset to Trench A, section 38, Kimball Mound. Post holes of the west wall of House C, Looking north. Burial No. 6 was found in back, (right hand) corner at about level of pocket dug out of wall.



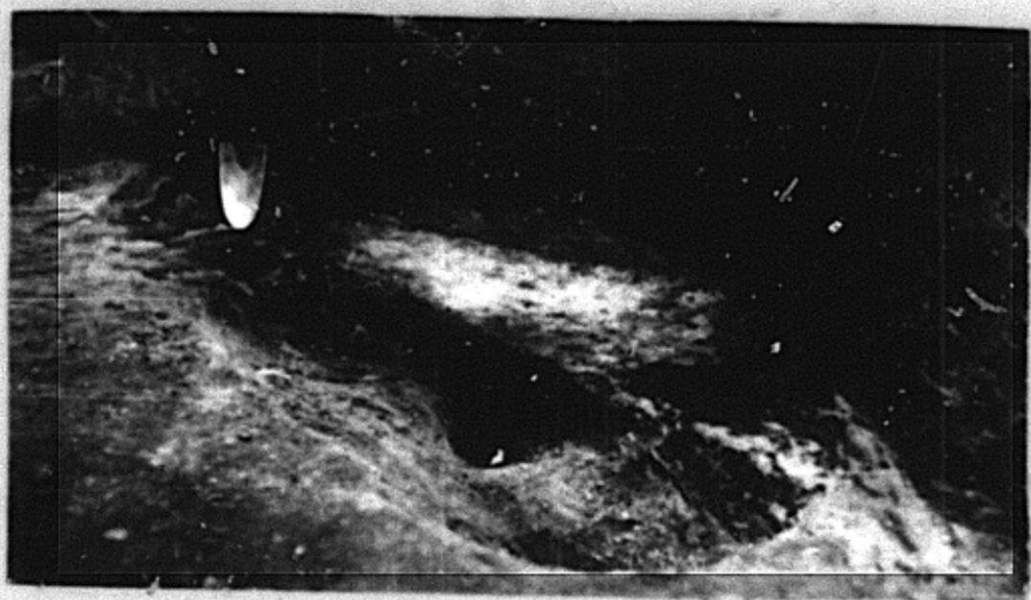
South extension of offset to Trench A, in section 39, of the Kimball Mound. Post hole line # 5. Post holes of the east wall of House C. Looking south.



Ash deposit of central fireplace in House C, of the Kimball Mound. Looking south.



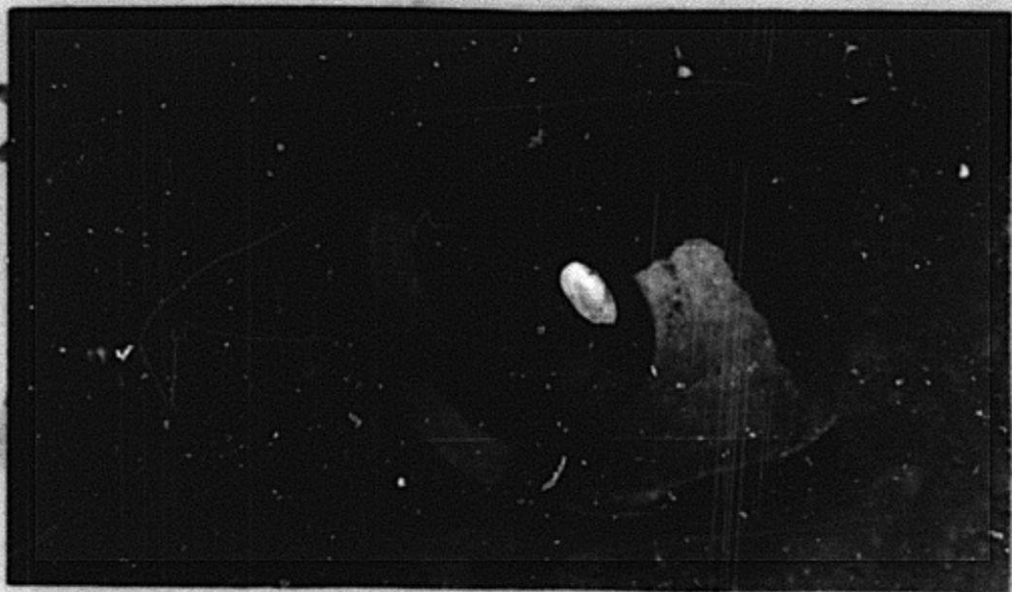
Ash deposit of the central fireplace in House C, - another view taken later, - in the Kimball Mound. Looking south.



Ash deposit of the central fireplace of House B. Looking
north-~~east~~ west



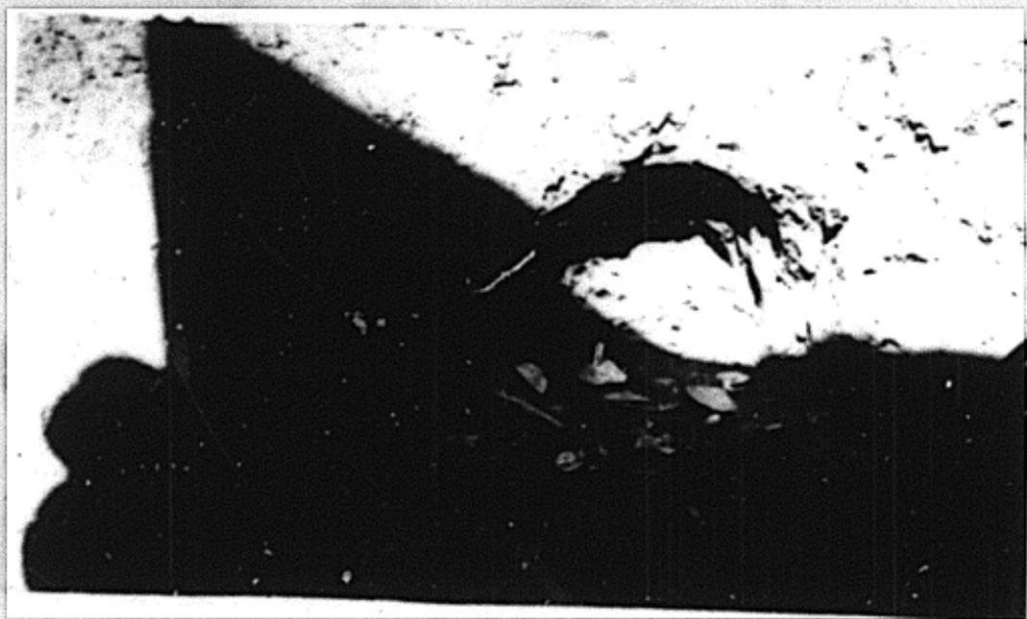
Deposit of pottery in the north-east corner of section # 10
of Trench A, Kimball Mound. Forty-eight inches below the nat-
ural surface. Partly outside the north wall of Trench A.
Looking north



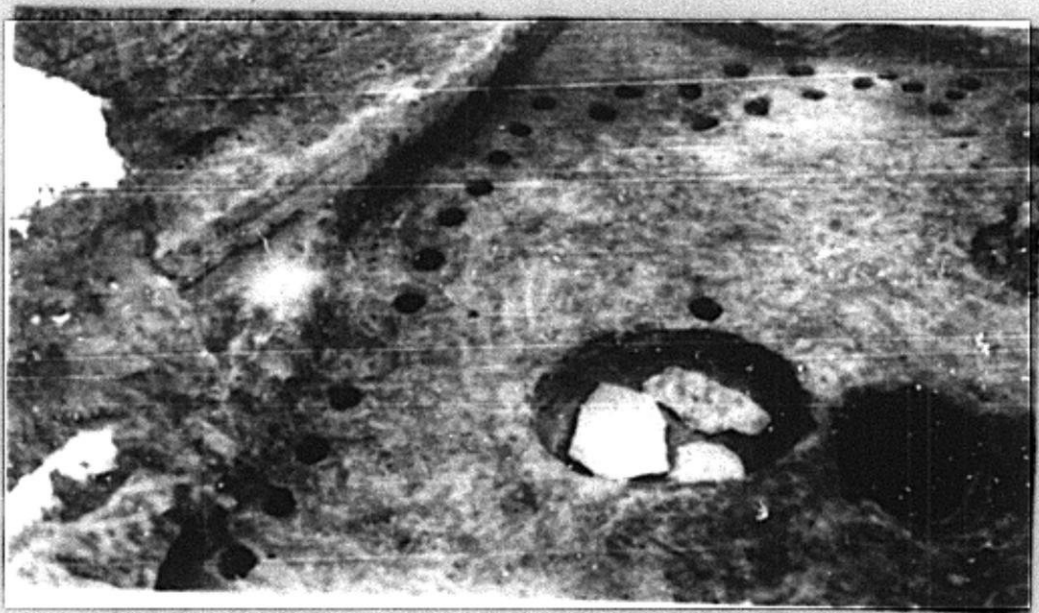
Deposit of pottery in the north-east corner of section # 10 of Trench A, Kimball Mound. Forty-eight inches below the natural surface. Partly outside the north wall of the trench. Looking north. A nearer view of the one on previous page.



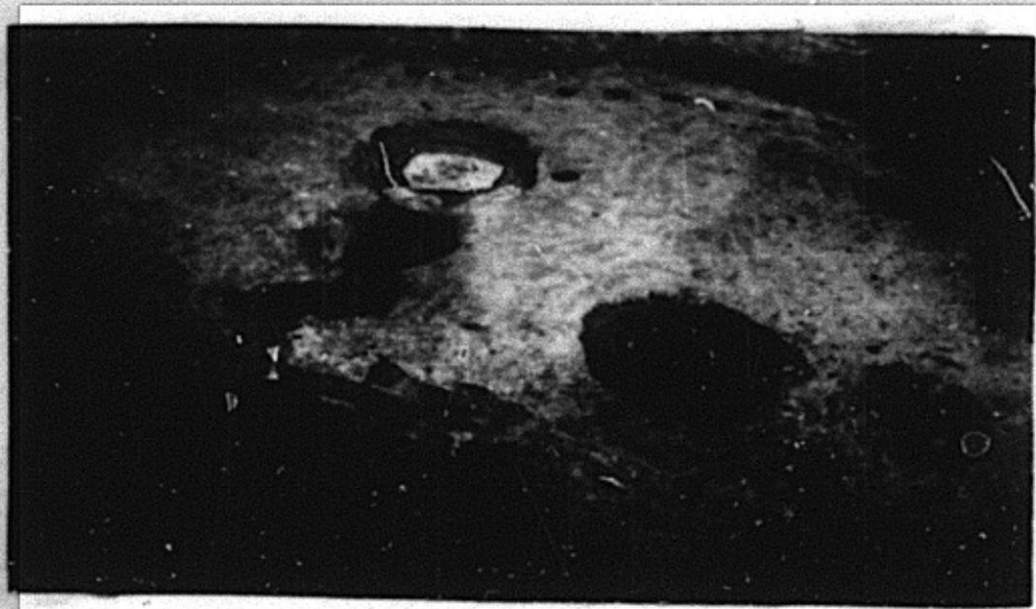
View of the same pottery nest taken by Dr. T. C. Stephens.



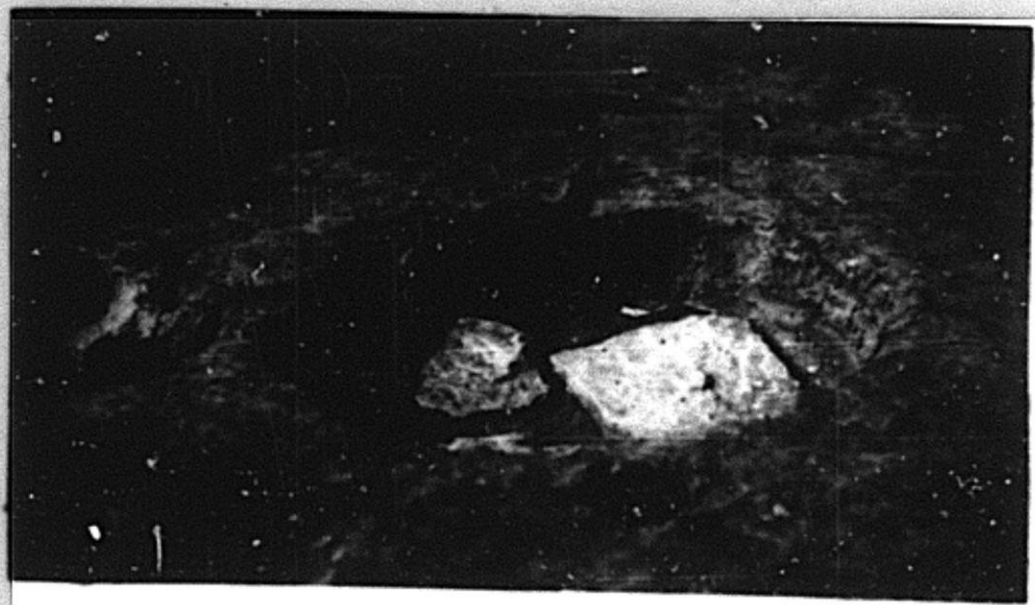
Nest of clam shells and pottery in section # 14 of Trench A of the Kimball Mound. Looking north.
Directly over the ash deposit of the central fire of House B



Storage-refuse Pit No. 2 and 3 in floor of House C, Kimball Mound. Looking east. Photographed by Dr. T. C. Stephens.
Note gumbo-like soil at the bottom of the north wall of trench, and stratification above.



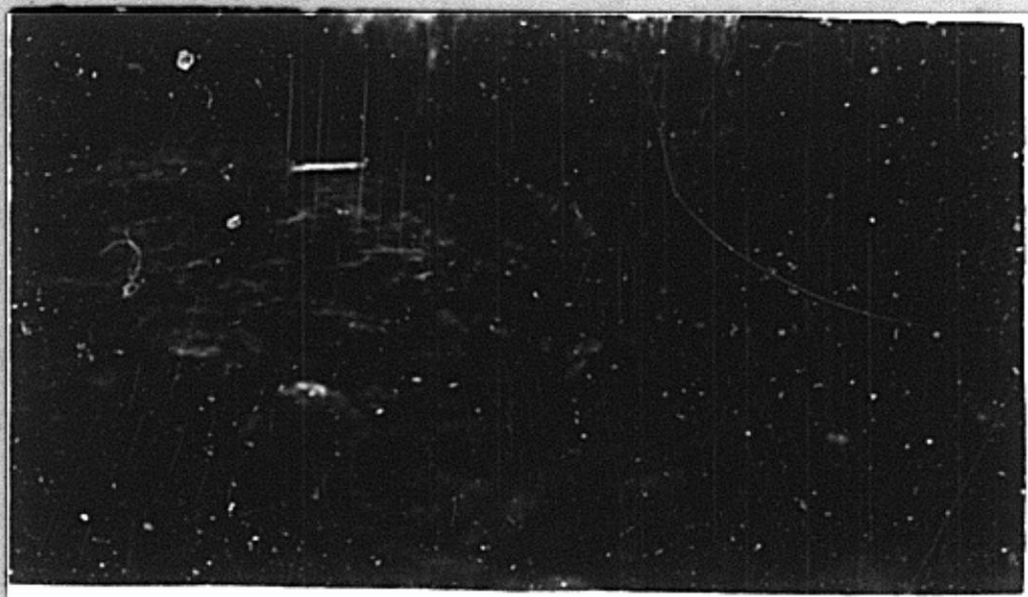
Storage- refuse pits, # 1, 2, 3, and 4 in House C. Looking north-west.



Close-up of Storage-refuse Pit No. 2 in House C of Kimball Mound. Looking west. Corn leaf back of rock, - blown in.



Storage-refuse⁵ Pit in House C. Looking north-east.
Note top of gumbo-like soil at bottom of north trench wall
at left, with stratification above.



Photograph showing stratification. Trench A, Section
38, Kimball Mound.



Trench A, Kimball Mound. Looking west.
Note tunnel between sections # 14 and 15. Timber belt
along the Big Sioux in the background with the "Big Cottonwood"
directly back of the men.



West end of Trench A, Kimball Mound. Looking south-
west. Men at work in House C. Note cornstalk
cover of section # 21, - bad weather cover.



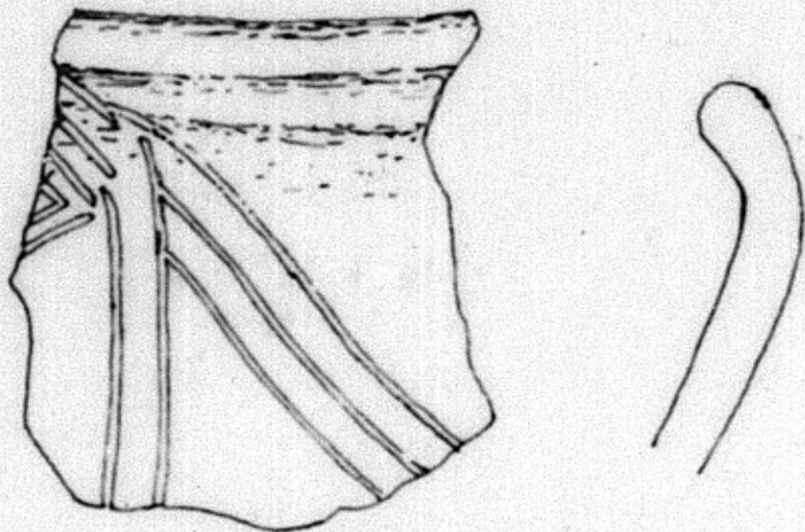
Sections 26, 27, 28, 29, and 30 of Trench A, Kimball Mound. Looking north. Kimball residence just to the west or left of the gap in the trees along the tributary creek from the east which deposited the alluvial fan on a spur of which the Kimball Mound was built.



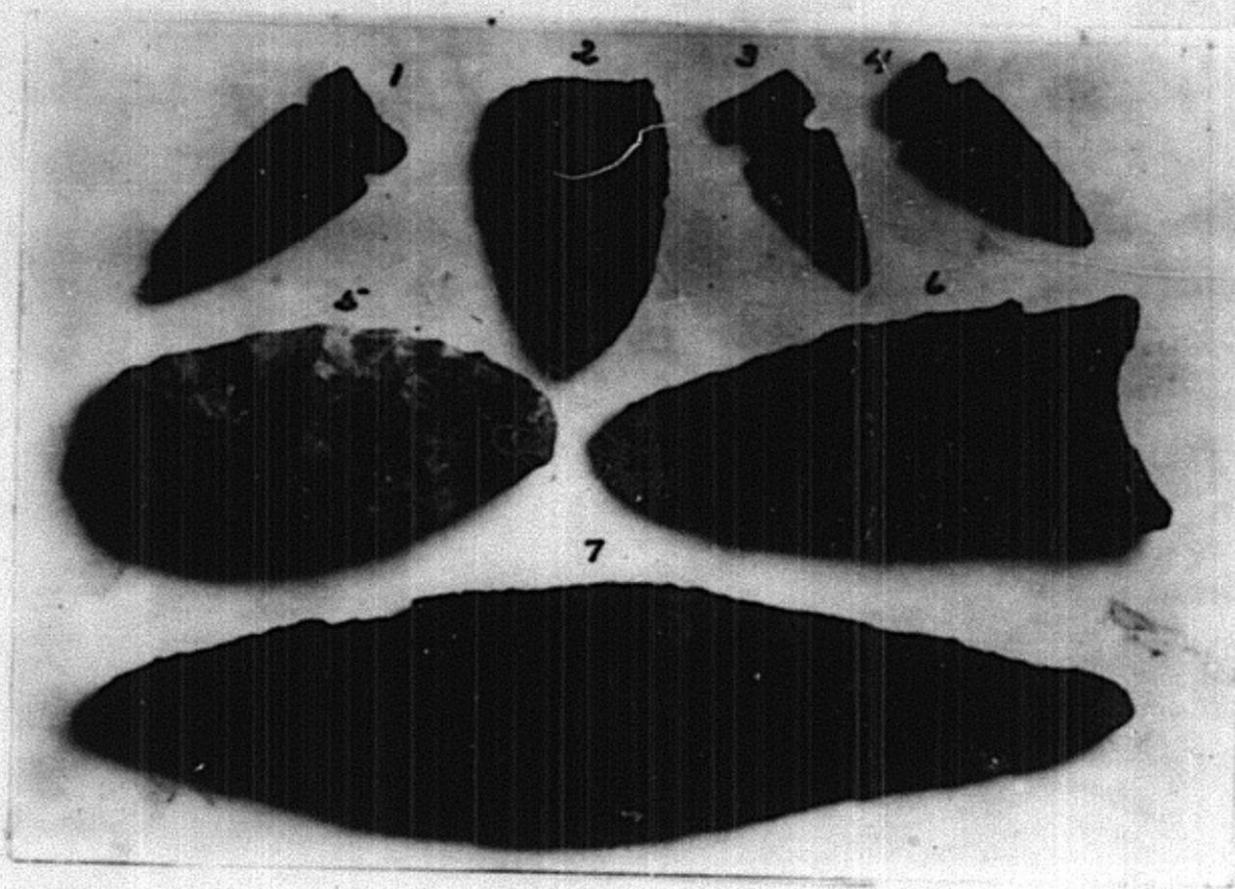
Men at Work filling Trench A, Kimball Mound. Work nearly completed. Looking west.



The Teepee at the Kimball Mound, a bad weather shelter.
Looking east.

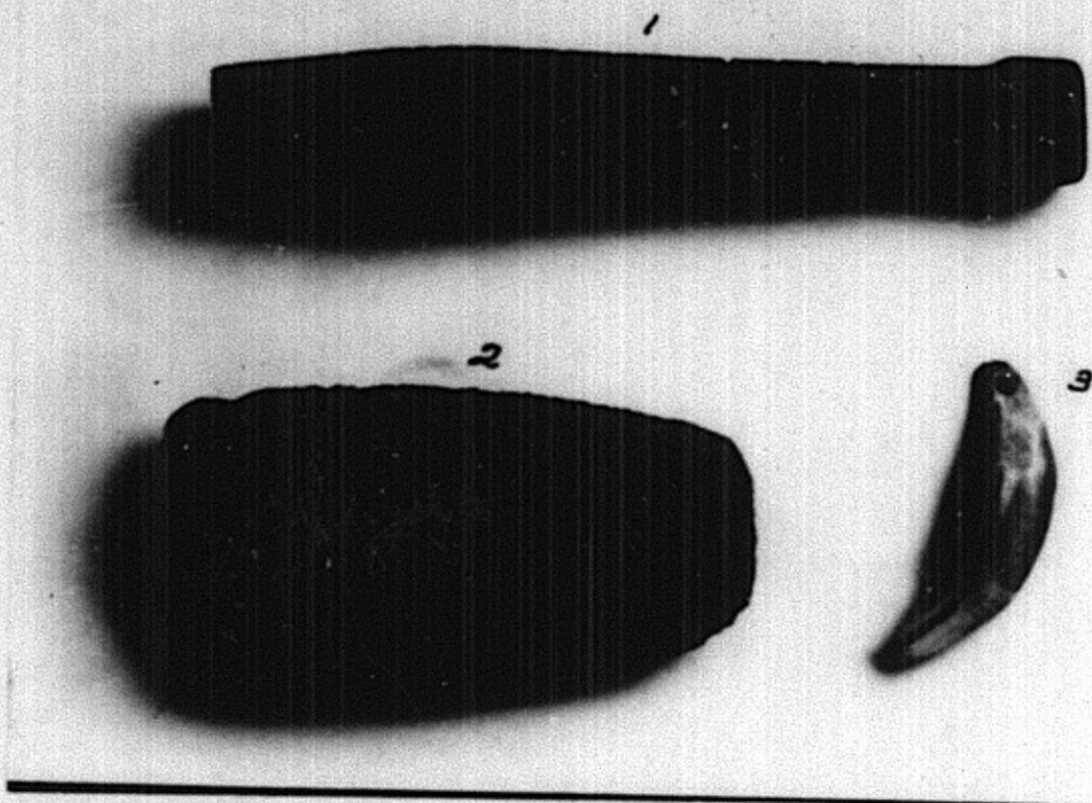


Sherd of Black Vessel with Black Lip. Shoulder decorated with deeply incised lines - part of a pattern.
Trench B - 5. 4th ft. of spading.
Kimball Mound.



Chipped Flints from
Trench A, Kimball Mound.

- No. 1, Chalcedony arrow head from Section 38 at 2 ft. below the surface.
- No. 2, Broad arrow head from Section 4I at 2.8 ft. below the surface.
- No. 3, Arrow head from Section 4I at 2.6 ft. below the surface.
- No. 4, Arrow head from Section 39.
- No. 5, Quartzite chipped piece from Section 35 at 1.5 ft. below the surface. 2.5 X 1.3 inches.
- No. 6, Concave base spear head from Section 34 at 4.8 ft. below the surface. 3.2 X 1.2 inches.
- No. 7, Lozenge shaped chipped flint from Section 34 at 4 ft. below the surface. 5.5 X 1.5 inches.



Sundry Inclusions from the Kimball Mound, Trench A.

- No. 1, Tubular pipe (?), 5 inches long, 1 inch in diameter. Perforated from end to end. From Section 35 at 2 ft. below the surface.
- No. 2, Arrow shaft smoother from Section 42 at 2.7 ft. below the surface.
- No. 3, Perforated Bear's fang from Section 41 at 4 ft. below the surface.

No. 1 above was probably a Medicine Pipe.



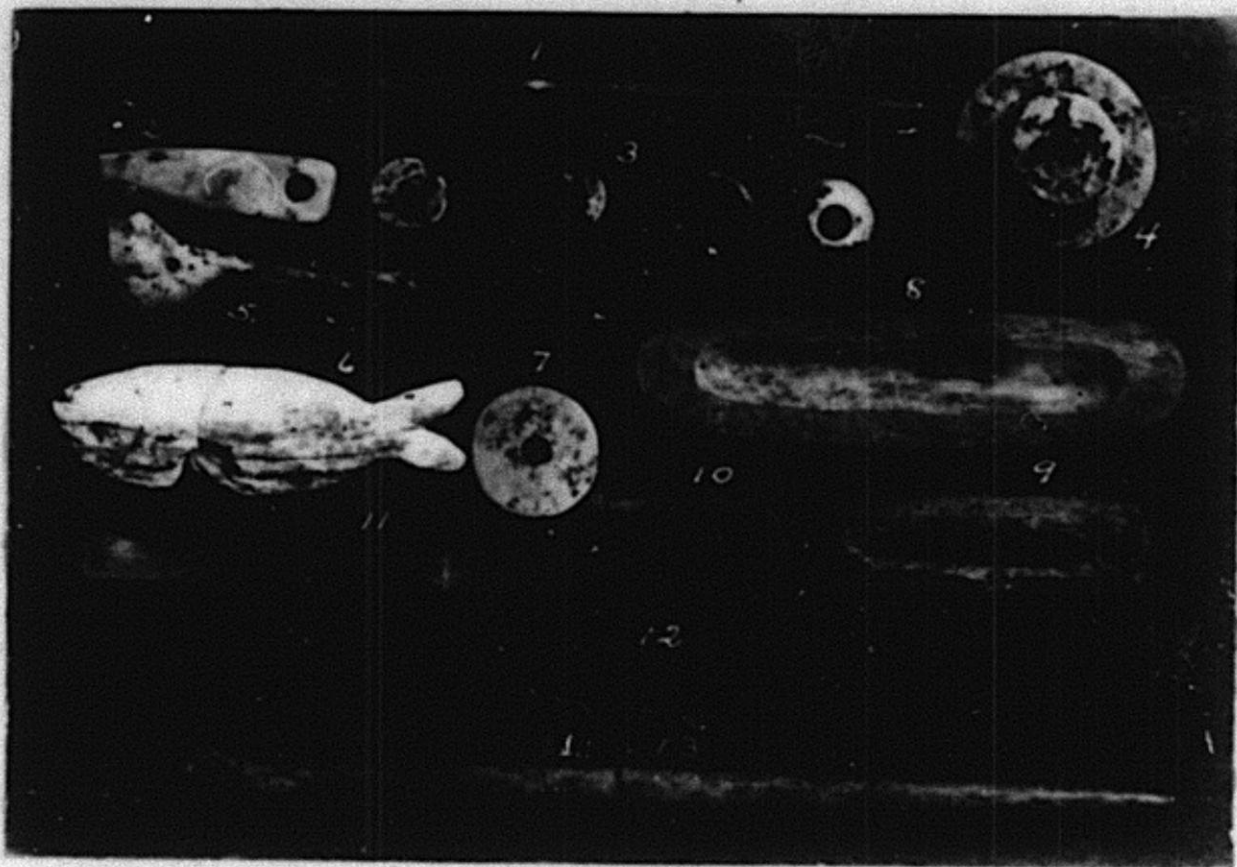
Pottery from
Trench A, Kimball Mound.

- No. 1, Sherd of Type 8 pottery from Section 40 at 2.7 ft.
below the surface.
No. 2, Sherd of Type 8 pottery from Section 35, at 4 ft.
below the surface.



Pottery Effigies from the Kimball Mound.
Trench A.

- No. 1, Pottery Spoon from Section 37, at 1.4 ft. below the Surface.
 - No. 2, Effigy Bird Head from Section 41, at 2 ft. below the surface.
 - No. 3, Parrot (?) Pottery Head from Section 31, at 2 ft. below the Surface.
 - No. 4, Globular Toy Pot, 1 inch in Diameter, from Section 34, at 4th ft. below the Surface.
 - No. 5, Effigy Human Head from Section 39, at 1.3 ft. below the Surface.
 - No. 6, Effigy of Sprawling Raccoon on the Top of a Horizontal Lug. From Section 33 at 1.4 ft. below the Surface.
- No. 4 is Type 14.

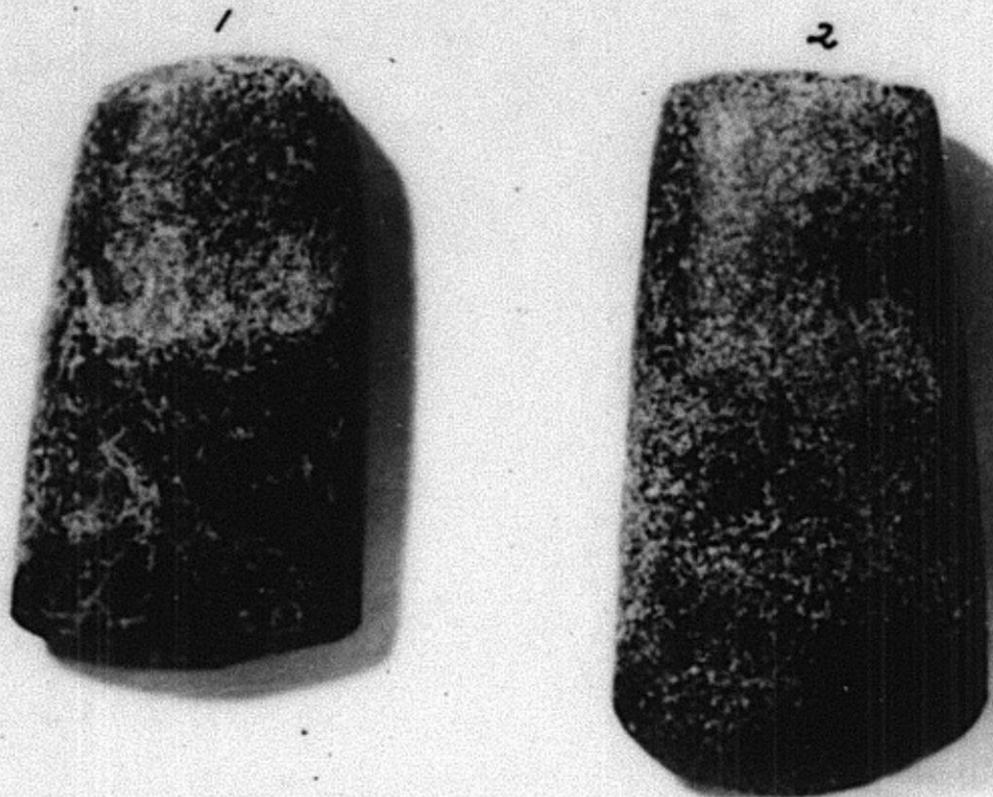


No Sundry Inclusions from the Kimball Mound, Trench A

- No. 1, Double end perforator from Section 14 at 2 ft. below the surface.
- No. 2, Bone pendant from Section 40 at 2.8 ft. below the surface.
- No. 4, Ear ornament from Section 38 at 3.4 ft. below surface.
- No. 3, Four bone beads from Section 38 at 2.6 ft. below surface.
- No. 5, Sea shell (Oliva) ornament from Section 39 at 2.8 ft. from the surface.
- No. 6, Fish shaped ornament made from clam shell. From Section 39 at 4.6 ft. below the surface.
- No. 7, Bone bead from Section 38 at 2.8 ft. below the surface.
- No. 8, Blank cut from leg bone for making two fish hooks. From Section 35 at 2.6 ft. below the surface.
- No. 9, Cut bone for making two fish hooks. Where found not noted.
- No. 10, Bone fish hook from Section 38 at 2.8 ft. below surface.
- No. 11 and 12, Two bone awls from Section 35 at 4 ft. below the surface.
- No. 13, One-half of Hair pin from Section 4 at 2.8 ft. below the surface.

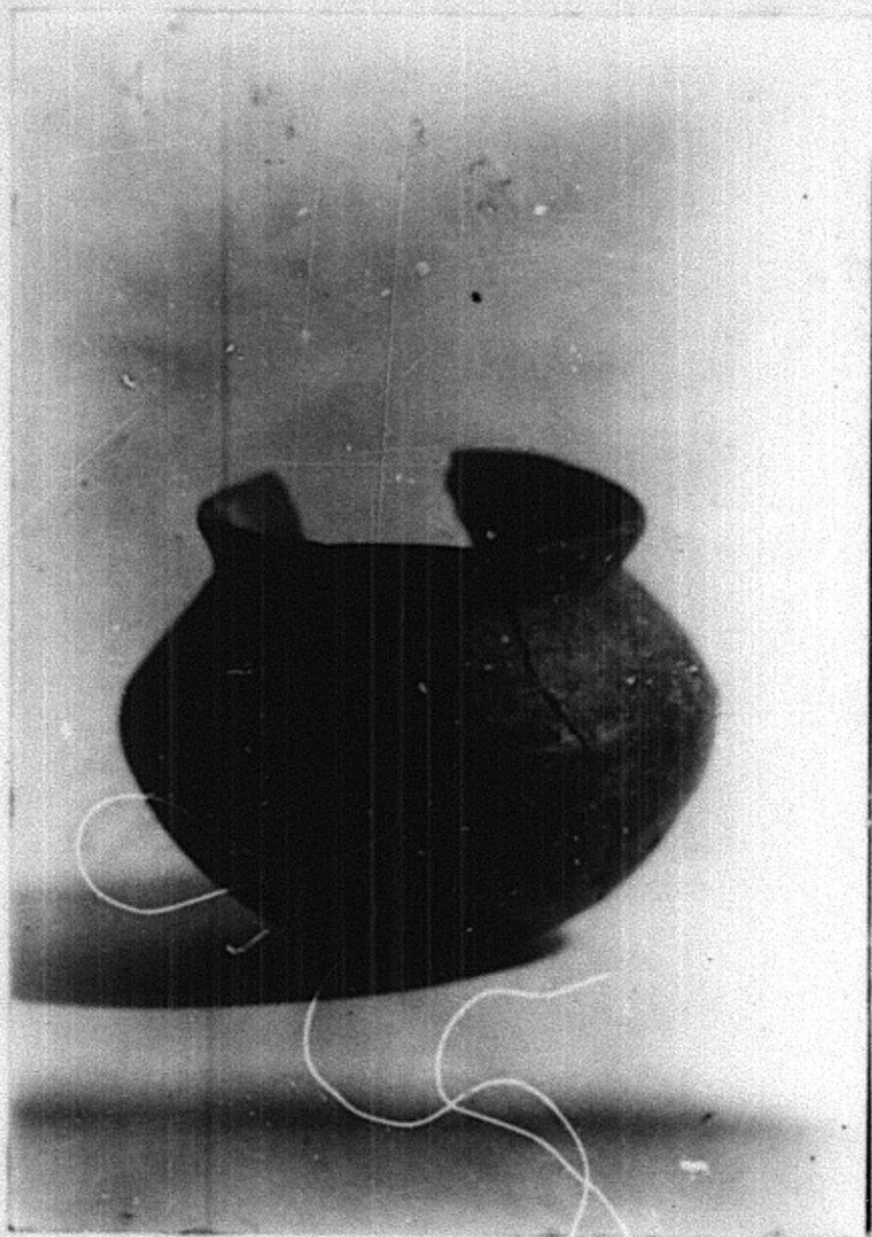


Head of Sand Hill Crane carved from the tine of an Elk's
Horn.
From Storage-refuse Pit No. I, in House C in Trench A,
Kimball Mound.

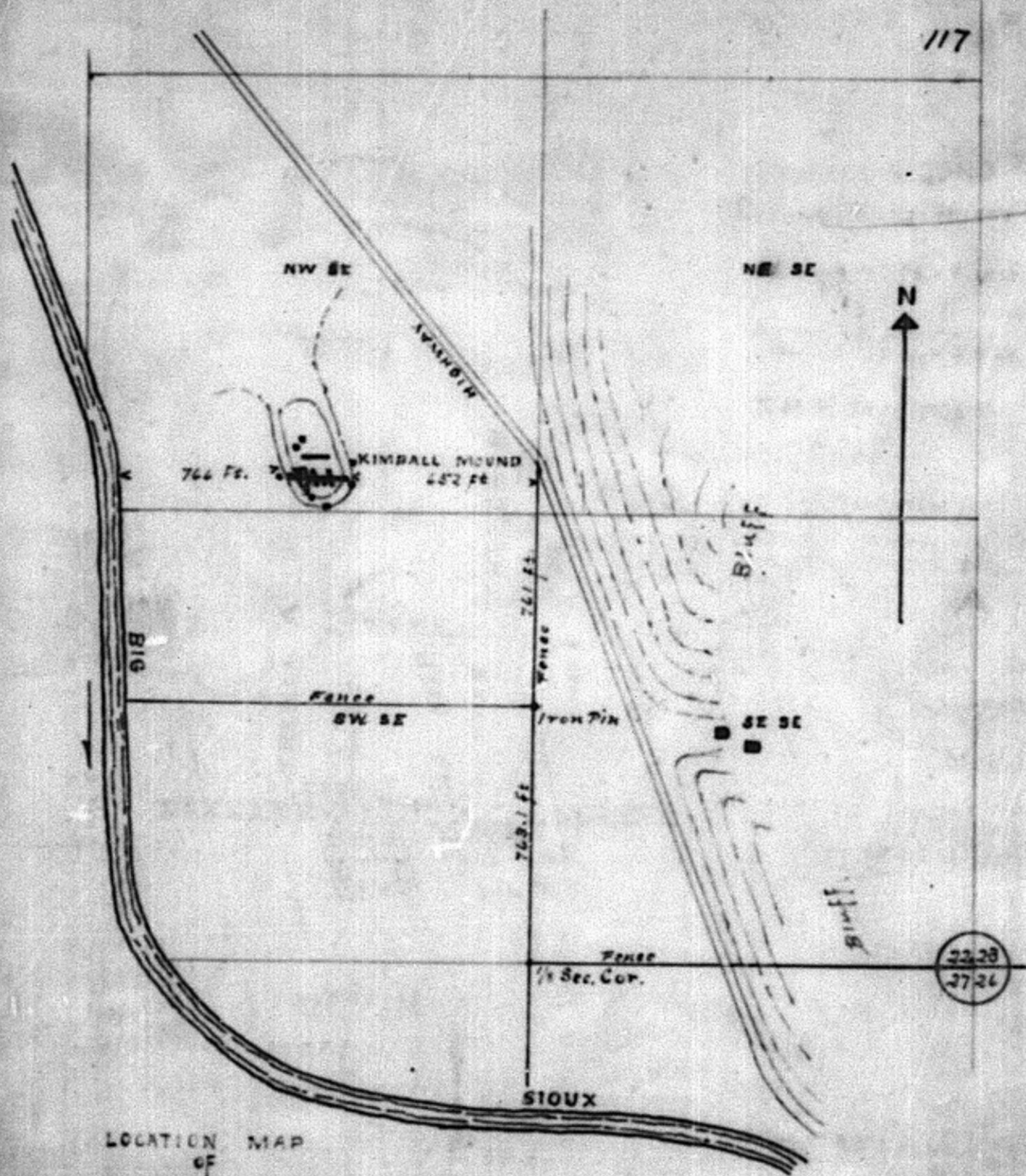


Two greenstone celts, actual size, from Trench A, Kimball Mound.

- 1 - From Trench A, Sec. 8, 2d foot of Excavation.
- 2 - From Trench A, Sec. 28, 5th foot of Excavation.



Type 12 Pot.
From Trench A, Kimball Mound.



LOCATION MAP
OF
KIMBALL MOUND
NW SE Sec. 32
T. 90, R. 43
Survey 1939
Scale, 3.3 in. $\frac{1}{4}$ Mile.

PLAT
of
KIMBALL MOUND
SHOWING EXCAVATIONS

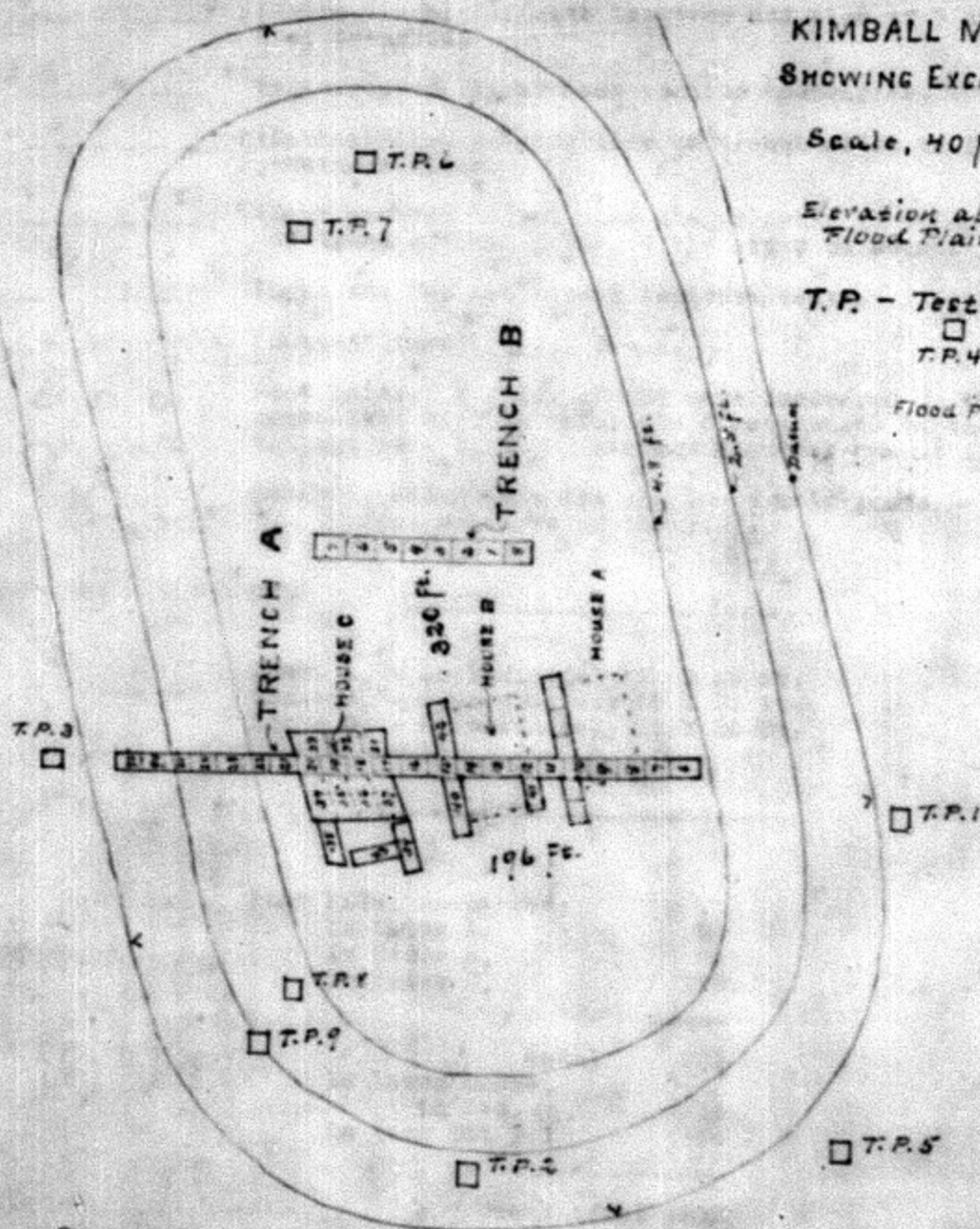
Scale, 40 ft. = 1 inch.

Elevation above
Flood Plain, - 4.8 ft.

T.P. - Test Pit

T.P. 4

Flood Plain



EXPLANATIONS.

- _____ (Solid lines) Indicate location and size of 7 to 8 ft. deep trenches.
- (Interrupted lines) Show section boundaries.
- (Dashes) Show undercutting of trench sides to follow post-hole lines.
- (Dash and dot lines) Show the probable location of lines of post holes, - the sides of houses.
- (Dash and two dot lines) Indicate central fireplaces.
- (Dotted lines) Burial areas.
- ○ ○ Post holes. A total of 257 were uncovered in the gumbo-like soil on which the first houses of the village were built. Average diameter was .6 ft.
- Holes in which were set the large main posts, - the central supports of the roof.

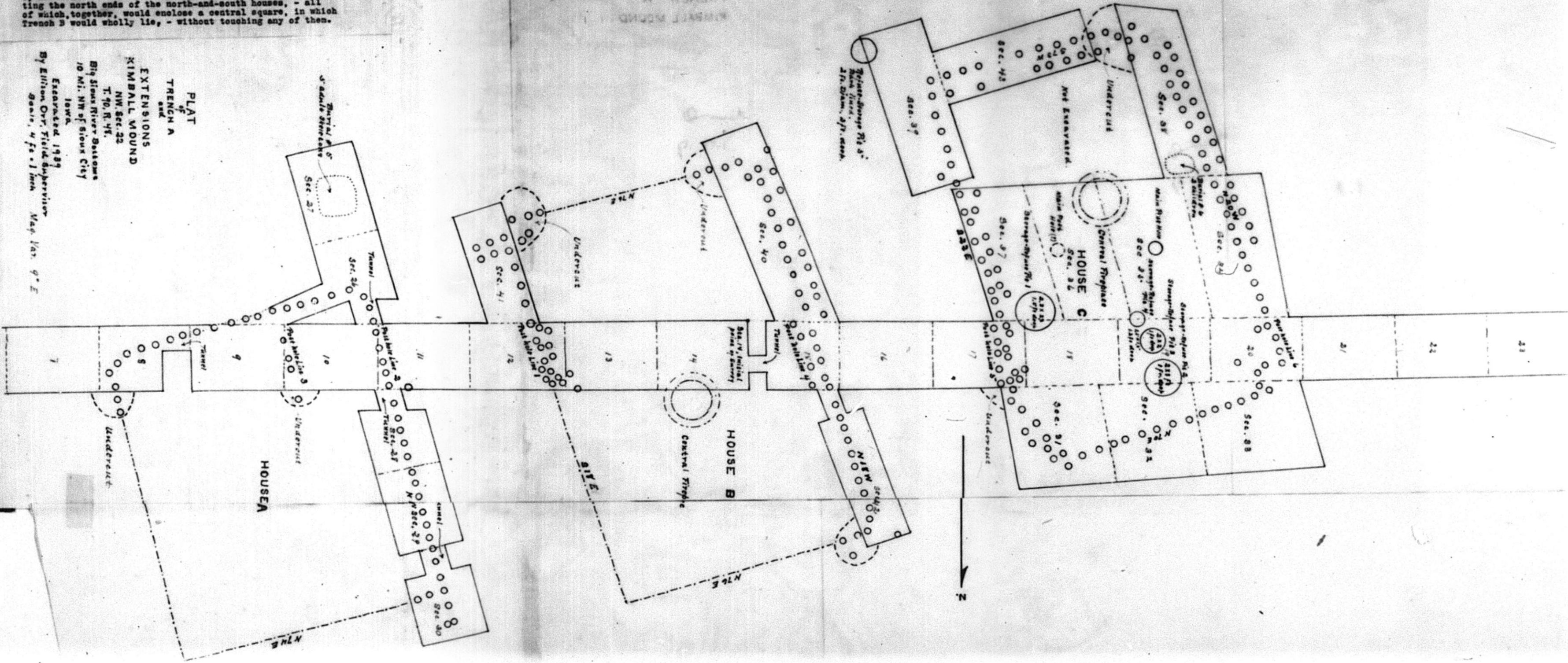
House A. - Approximately 20 X 25 ft.
 House B. - Approximately 20 X 31 ft.
 House C. - Approximately 19 X 20 ft.

Post Holes uncovered:	
In House A.	56
In House B.	72
In House C.	129
	<hr/>
Total	257
In later House, in Sec. 40.	11
In test pit # 7	14
	<hr/>
Grand total	282

It is possible that there may have been two or three house sites extending north in line with House Site A, and two or more, also extending north, in line with House Site C, and north of these, extending east and west, - connecting the north ends of the north-and-south houses, - all of which, together, would enclose a central square, in which Trench B would wholly lie, - without touching any of them.

REVERSE A
KIMBALL MOUND

PLAT
OF
TRENCH A
and
EXTENSIONS
KIMBALL MOUND
NW. Sec. 32
T. 70, R. 45.
Big Sioux River Bottoms
10 Mi. NW of Sioux City
Iowa.
Excavated 1939
By Ellison Orr, Field Supervisor
Scale, 4 ft. = 1 inch Map Lat. 9° E

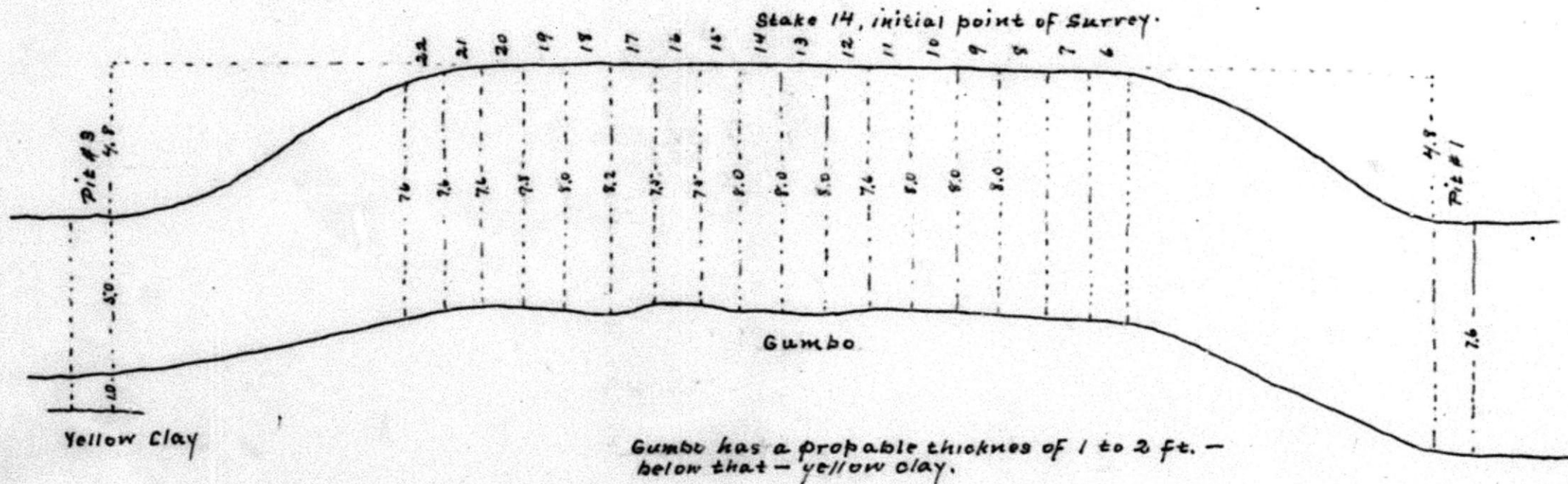


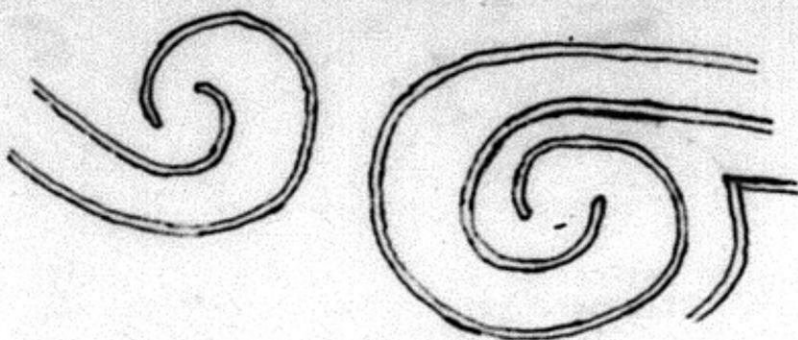
← WEST

PROFILE EAST and WEST ACROSS KIMBALL MOUND

EAST →

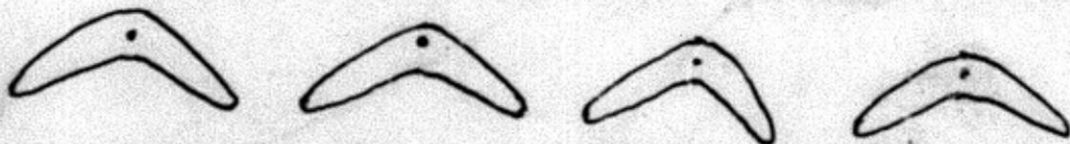
Horizontal Scale, - 20 ft. to Inch.
Vertical Scale, - 4 ft. to Inch.
6 to 22 Sections of Trench A excavated.
Depths excavated in Ft. and tenths.





The above scroll design, etched with rather deep trailed lines .15 inches in width, entirely around the vessel, actual size, on flat and nearly horizontal shoulder of a Type 8 (Rattlesnake) pot. Trench A, Kimball Mound.
See also page 108.

In Trench A, Sec. 27 was found a fragment of human lower jaw, hard and shiney, with the bone around the last molar cut away. Some 3 others were also found in different places. Why this was done or for what it was used is not known.



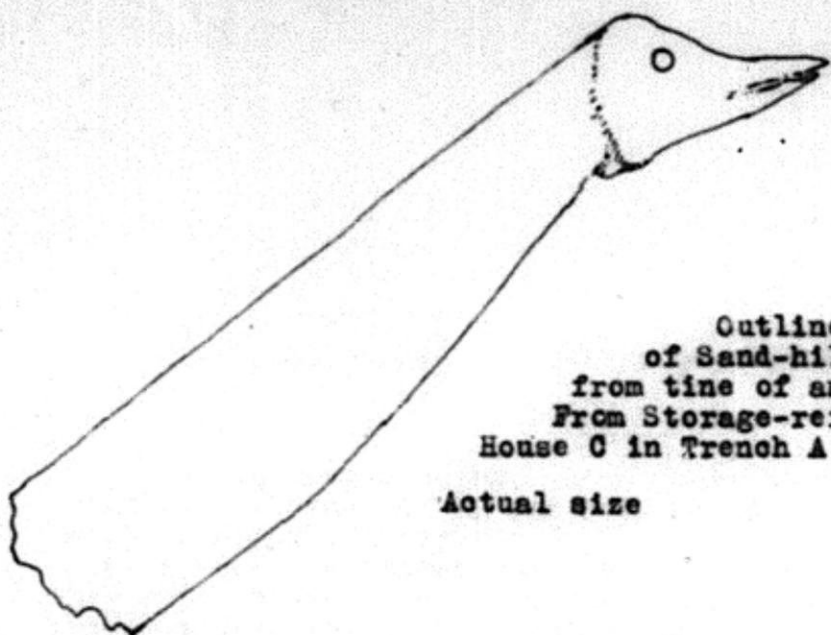
Part of a procession of flying birds (conventional) on flat shoulder of and extending entirely around a Type 8 vessel. "Rattlesnake" type of the WPA workers.

Above sketch about actual size. From Trench A, Kimball Mound

Among other articles which appear not to have been mentioned previously in this report, are the following:

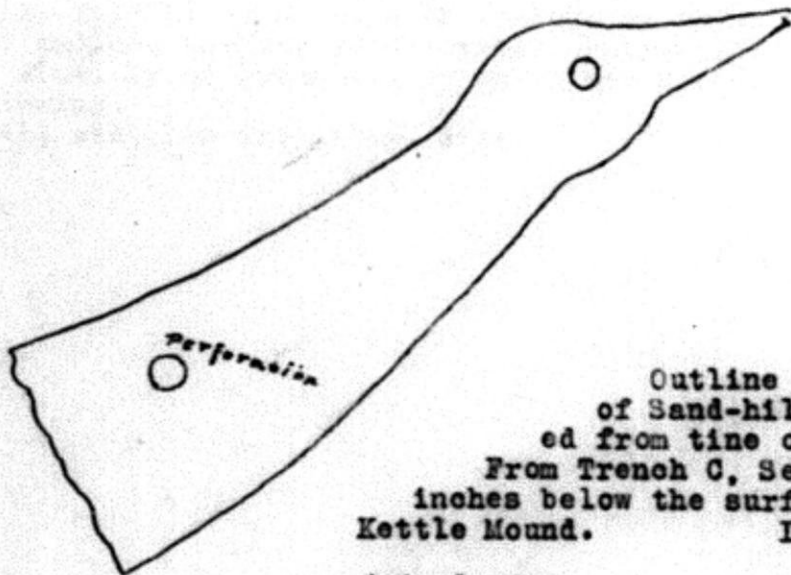
Found in Sec. 32, at 3d ft. of excavation, 2 small pieces of adobe, (daub or plaster of clay) - showing impressions of grass stems. These are the only pieces of this material found in either Broken Kettle or Kimball mounds.

Found in Sec. 26 of Trench A at 5th ft. of excavation, Part of a cone-shaped vessel filled with a hard clay adhering to the sides. Very fragile when first removed from matrix.



Outline of Head and Neck
of Sand-hill (?) crane, carved
from tine of an Elk's Horn.
From Storage-refuse Pit No. I in
House C in Trench A of Kimball Mound.
1939

Actual size



Outline of Head and Neck
of Sand-hill Crane (?) carved
from tine of an Elk's horn.
From Trench C, Section I at 55
inches below the surface. Broken
Kettle Mound. 1939

Actual size

Sketches of Pottery Decoration.

On the following pages, are Sketches of Incised Decorative Patterns on Rim and Body Sherds of Broken Kettle and Kimball Mound pottery.

With very few exceptions, -Types 4 (the corrugated type), 9, (the rattlesnake type), and occasionally Types 5 (the bowl-shaped type), and 12, -the bodies of the pottery from the Broken Kettle and Kimball mounds were without decoration.

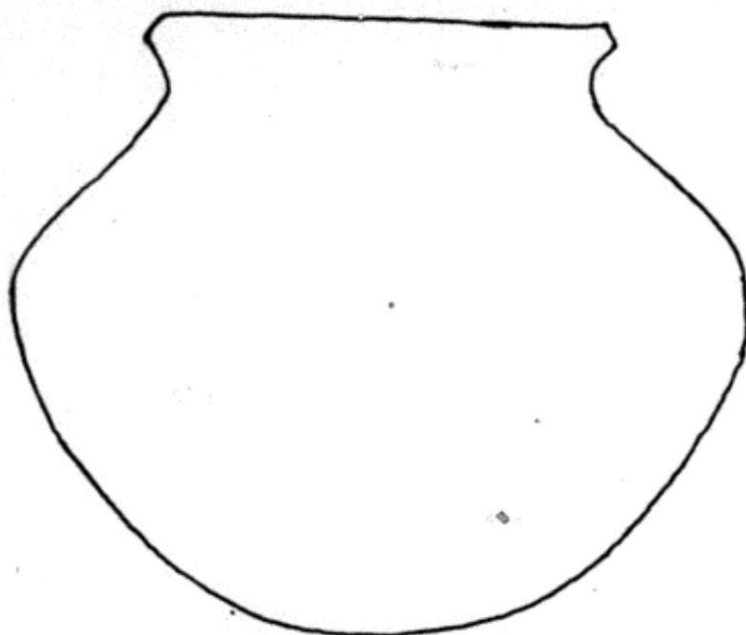
All decorating was by straight lines with rare exceptions, - and all were incised with a flint, bone or wood tool.

By far the greatest number of Sherds recovered were of tentative Type 2. The rims of vessels of this type show an almost endless variety of decorative patterns on the outside of the rims, by no means all of which are shown in the sketches following.

All sketches are actual size.

Kimball Mound.
Tentative Pottery Type I2.

Sketch A

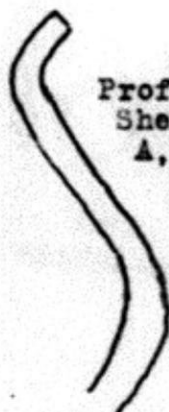


Plain Pot with flaring square-lipped rim. Actual Size.
From Trench A, Section 38, at 3.5 ft. below the surface.

Sketch B
Profile of Rim Sherd
from Trench B, at 3.5 ft.
below the surface.



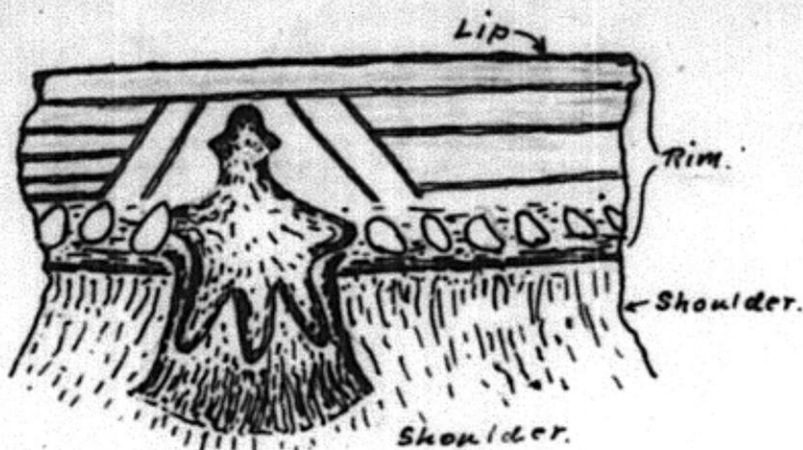
Sketch C
Profile of Rim
Sherd from Trench
A, Section 40 at
3.5 ft. below
the surface.



Tentative Type I2 Pottery.

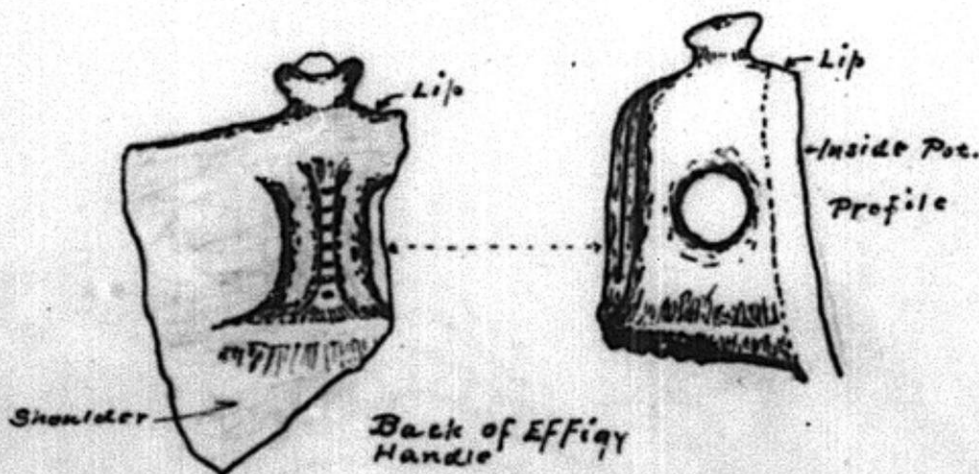
Sub-hemispherical bowl below the shoulder; shoulder narrow (1 to 1.5 in.) sloping - about 15 degrees from the vertical; rim, low, (about .5 in.) knob-like in cross section or with square, nearly horizontal lip; Diameter of mouth approximately equal to two-thirds of that of the bowl at the shoulder.

Effigies from Kimball Mound.



A sprawling or spread-eagle raccoon effigy superimposed on jug-handle of Type 2 rim sherd.

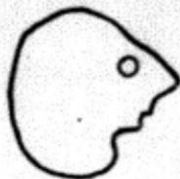
From Kimball Mound, Trench A, Station 18, at 2.5 ft. below the surface.



A vertically projecting slab-like handle with horizontal hole in center. Note crude animal head on the top and keel on outside of handle with six horizontal incisions.

From Kimball Mound, Trench A.

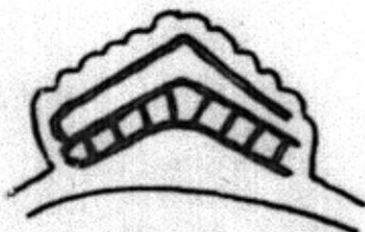
Effigies from the Kimball Mound.



Outline of Effigy of Human Head,
probably broken from lip of Type 5,
- bowl-shaped vessel.
From Trench A, Station 36, at 3 ft.
of excavation.

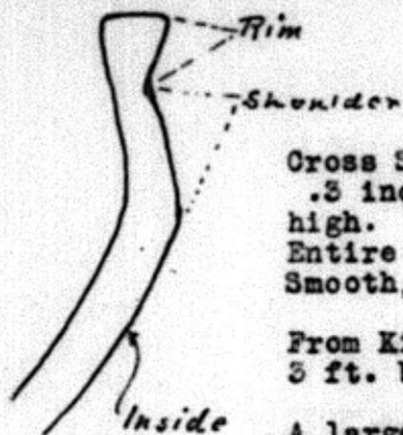


Outline of front and side view of
Human Head, probably broken from
lip of a Type 5 vessel.
From Trench A, Station 39, at 2d ft. of
excavation



Horizontal Rim Lug broken from lip
of a Type 5 vessel.
From Trench A.

Rim Sherds from the Kimball Mound.

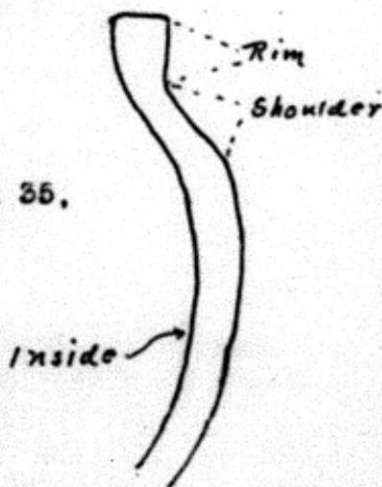


Cross Section of Type ... Sherd.

.3 inches along lip. Rim about .4 inches high. Base of rim to shoulder, .7 inches. Entire height of Sherd, 2.5 inches. Smooth, grit-tempered. No decorations.

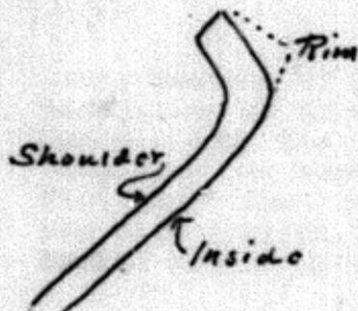
From Kimball Mound, Trench A, Section 35, at 3 ft. below the surface.

A larger sherd of this type in the Museum at the Public Library, Sioux City.



Sherd of Pottery Bowl from the Kimball Mound, Trench A, Section 35, at 8 ft. below the surface.

Knob-like, square-lipped rim.

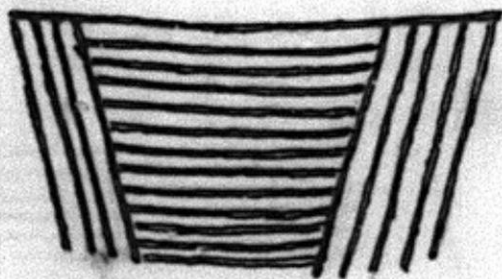
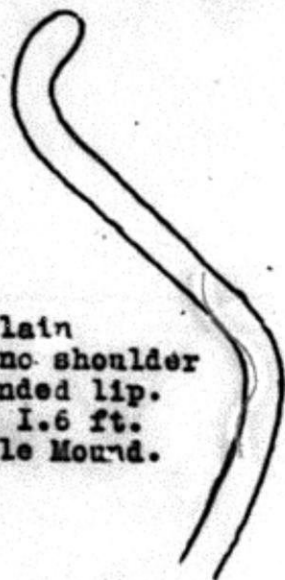


Flaring Rim, .5 inch high, with square, sloping, cross-hatched lip. In two pieces.

Trench B, Station 5, at 5th foot of excavation. Kimball Mound.

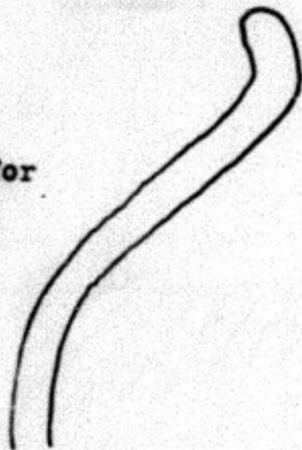
Rim Sherds, Broken Kettle Mound.

Cross section of sherd of Plain
Pot with sub-globular bowl, - no shoulder
angle. Recurved rim with rounded lip.
From Trench B, Section 6, at 1.6 ft.
of excavation. Broken Kettle Mound.



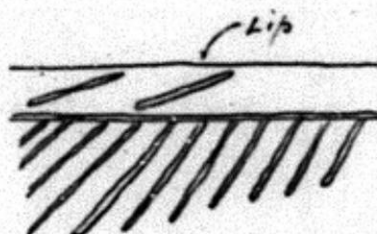
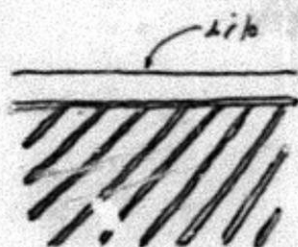
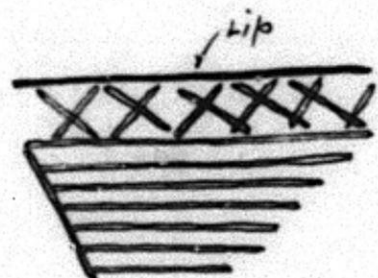
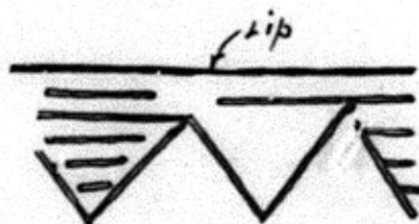
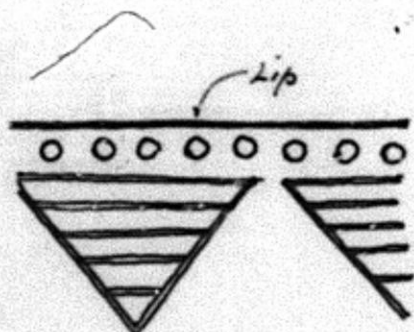
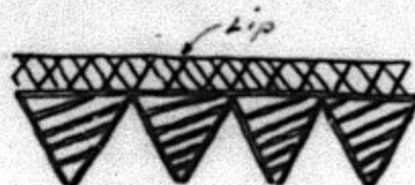
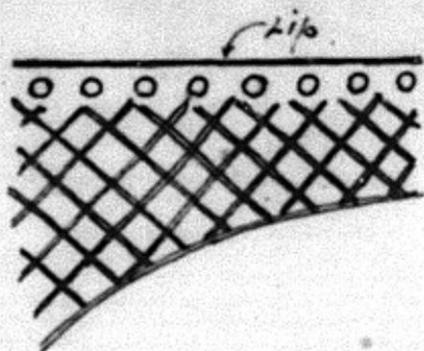
Decoration on shoulder of Pot,
cross section of sherd of which
is shown below.

Cross section of plain pot except for
decoration on shoulder shown above.
Sub-globular bowl below shoulder,
(angle 45 to vertical)
Flat above shoulder. Recurved
rim with rounded lip.
Broken Kettle Mound.

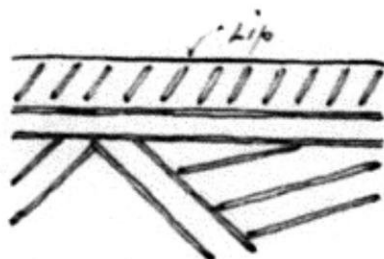
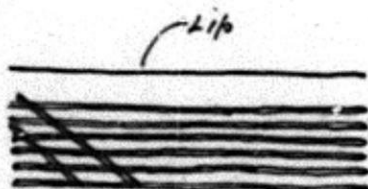
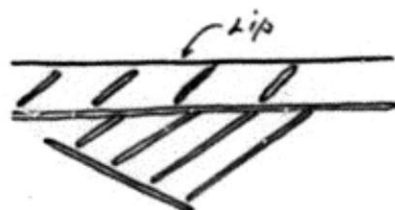
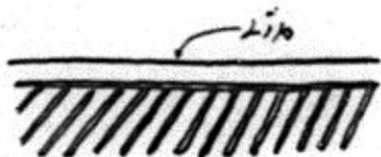
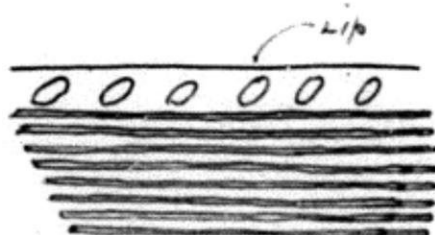
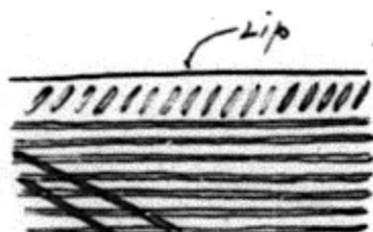
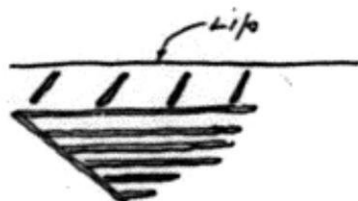
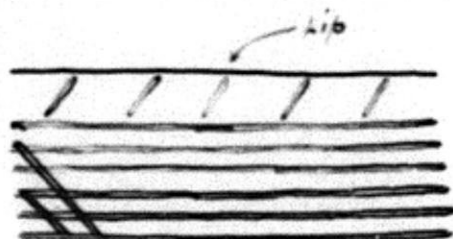


Incised Decorative Patterns on outside of Rim Sherds of
Type 2 Pottery. From Kimball Mound.

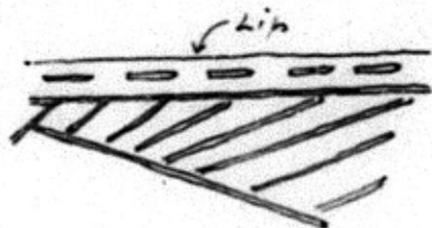
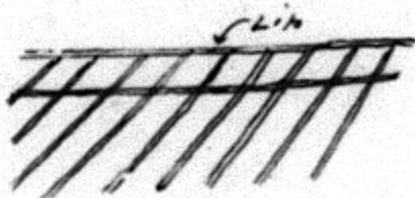
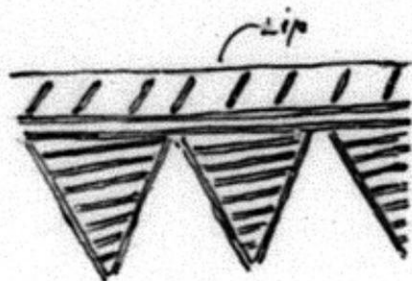
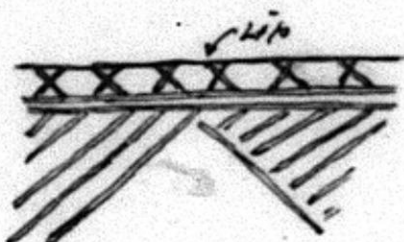
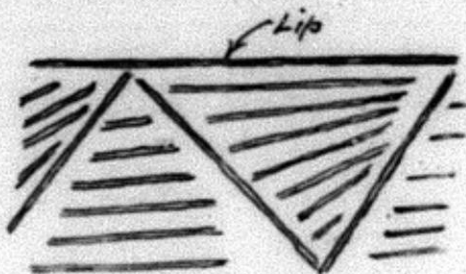
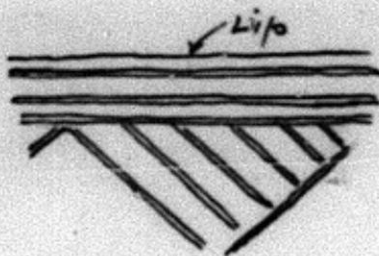
131



Incised Decorative Patterns on the outside of Rim Sherds of
Type 2 Pottery. From Kimball Mound.

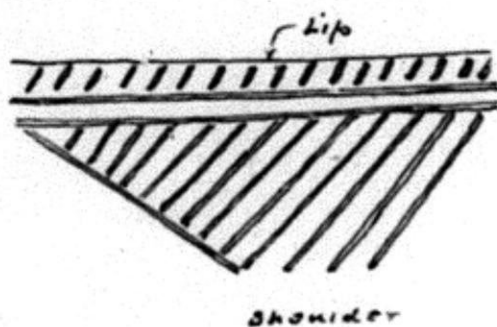
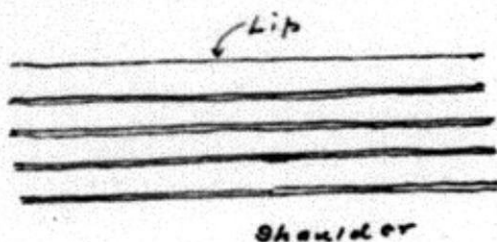
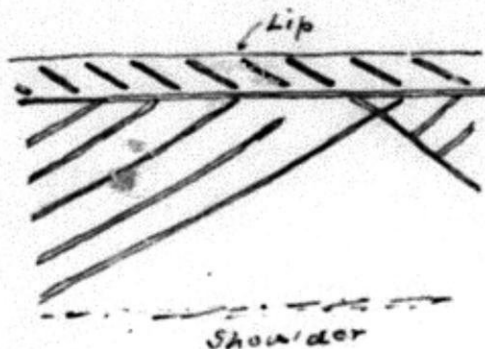
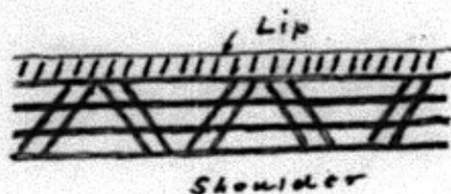
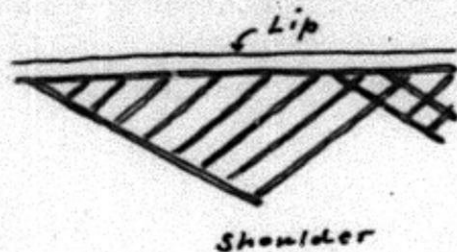
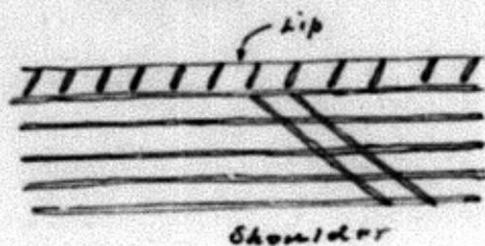


Inoised decorative patterns on
outside of Rim sherds of Type
2 Pottery. Kimball Mound.



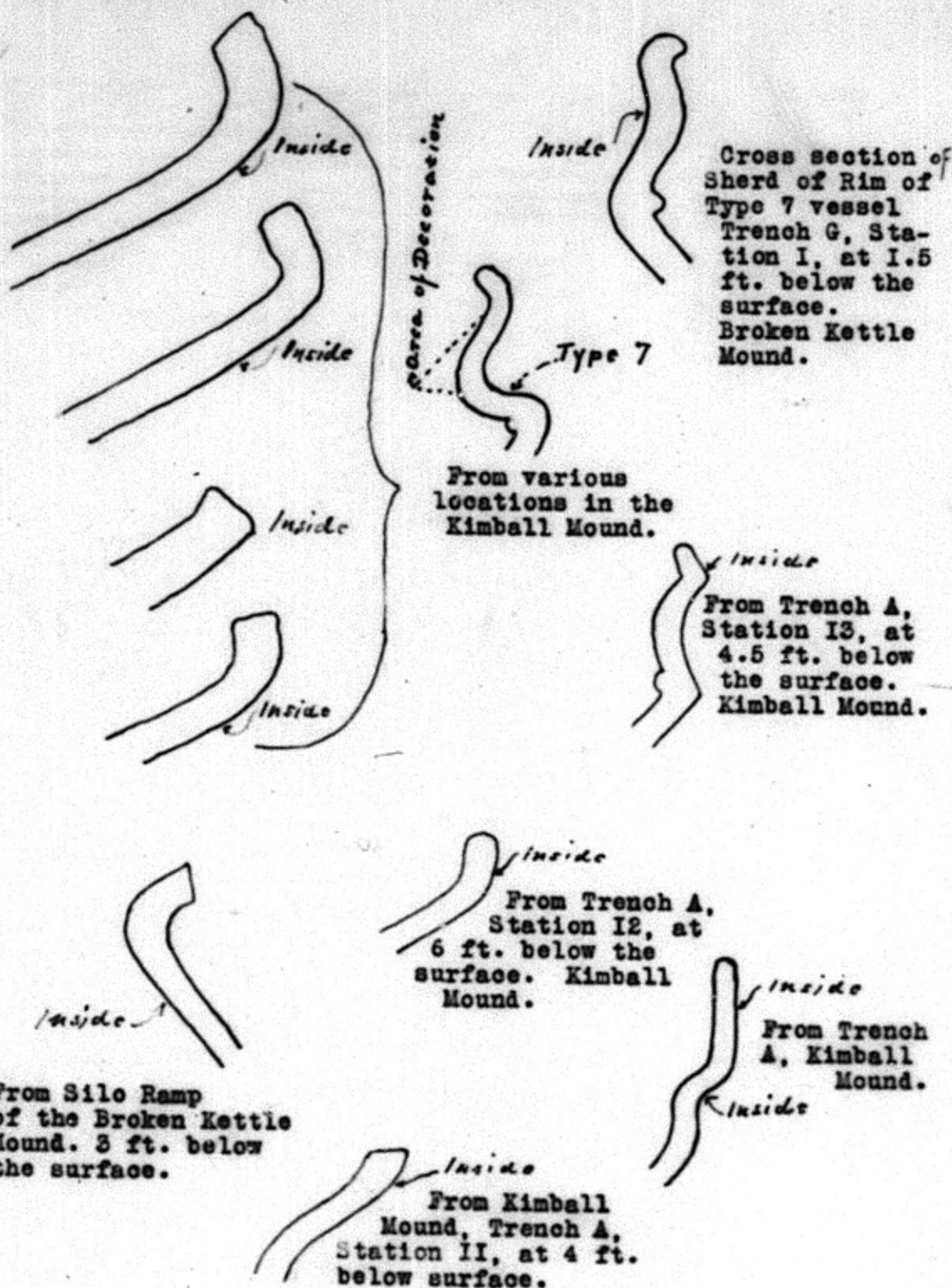
Incised decorative patterns on outside of Rims of Type
2 Pottery.

134

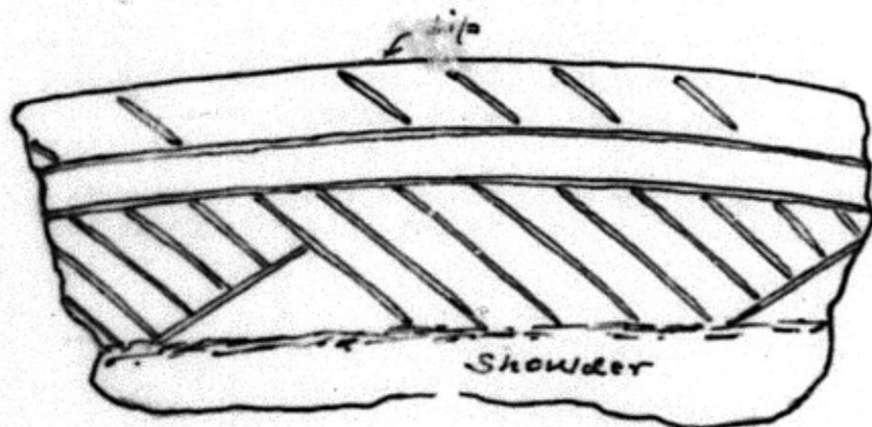
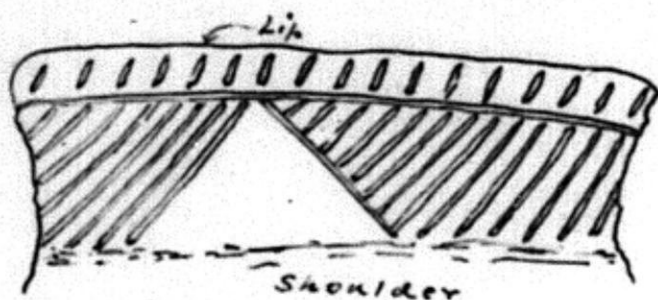
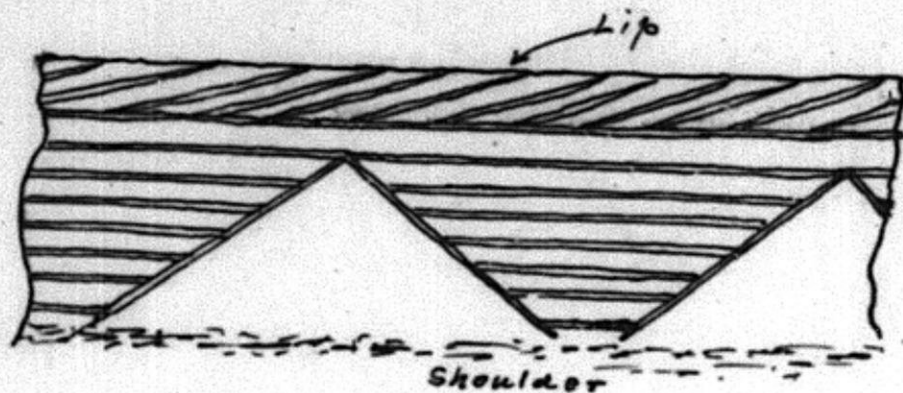


Profiles of Rim Sherds.

135



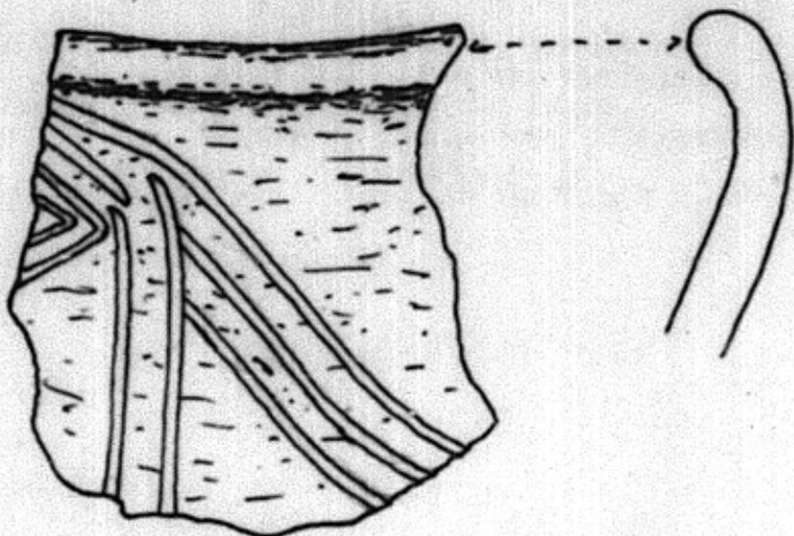
Decorative Rim Sherd Patterns,
From Kimball Mound, actual size.



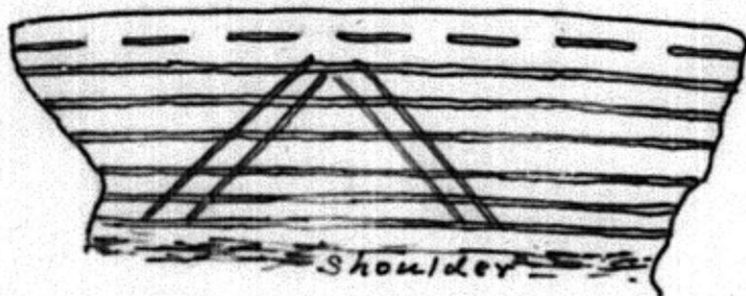
From Trench A, Section 13, at 4 ft.
below surface.

Pottery Sherd Decorative Patterns,
Kimball Mound.

137



Sherd of Black Vessel with Knob-like lip. Shoulder decorated with deeply incised lines - part of a pattern.
From Trench B, Station 5, at 2.5 ft. below the surface.



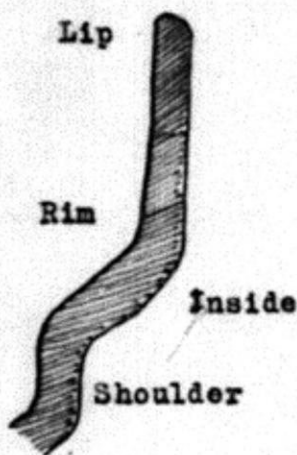
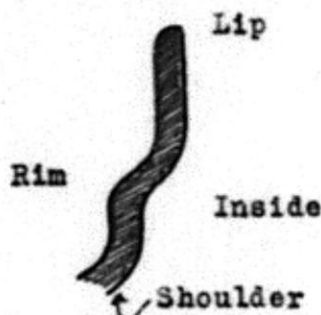
Rim Sherd of Type 2 pottery, from the Kimball Mound,
Trench A, Station 12, at 6th ft. of excavation.



From Section 4, Trench D
at 2 ft. below the surface.
Broken Kettle Mound.
Center of South-west of Section 3
T. 90, R. 48
West of the 5th P.M.

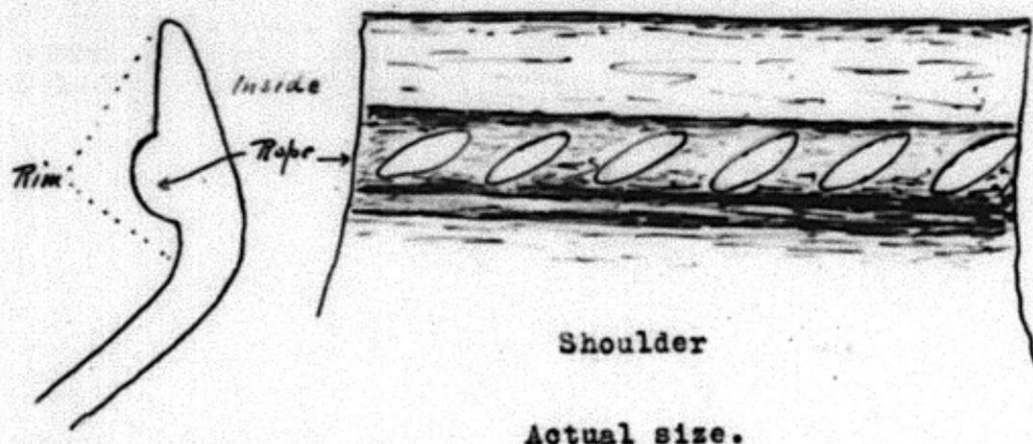
From Trench A, Sec.
At below the surface.
Kimball Mound.
NW SE Sec. 22, T. 90, R. 48
West of the 5th P.M.

(See page 135)



From Trench Sec.
At below the Surface
Broken Kettle Mound.
Center of South-west one-fourth
of Section 3, T. 90, R. 48
west of the 5th P.M.

Type 9
Rim Sherds - Actual Size.



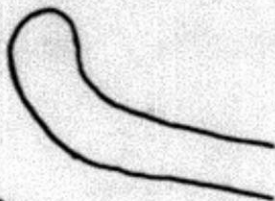
Sherd with "Rope-decorated Rim."

Type No. II.

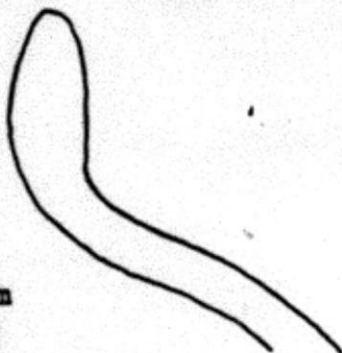
Rim ornamented by what appears to be a string or rope of clay. Consisting of two twisted strands running horizontally around it at about its middle and welded to it, forming a half-round protuberance, the appearance of twisted strands being made by diagonal indentations across it upward to the right.

"Rope" about .3 inches wide, the indentations being about .2 inches wide, .6 inches long and .15 inches deep, and from about .15 to .2 inches apart.

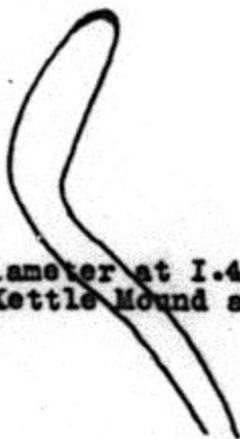
It may be that these "ropes" are pinched out of the clay used in making the rim, instead of being superimposed on it.

inside

Cross section of rim from Broken Kettle. Light colored on the outside, - stained very red inside.

inside

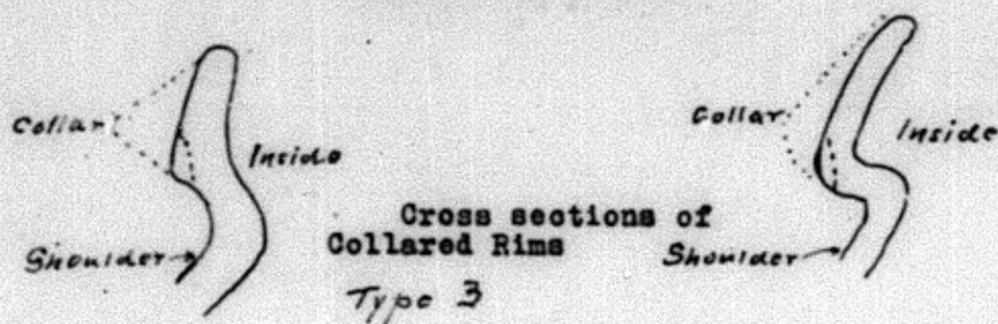
Cross section of Rim from the Broken Kettle Mound. Coloration same as above.

inside

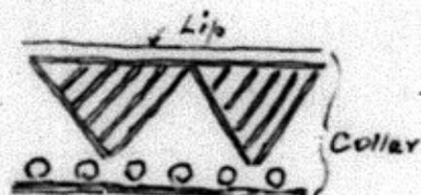
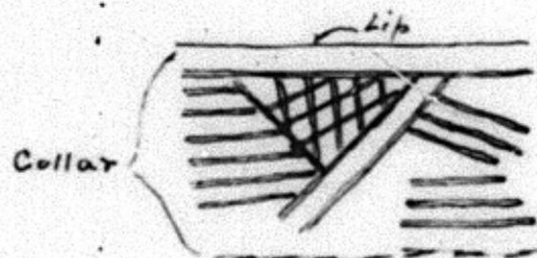
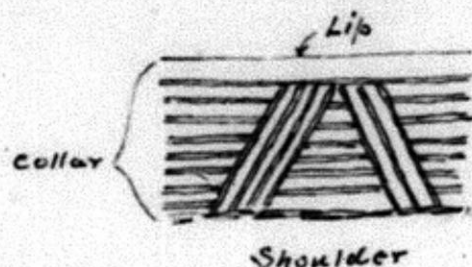
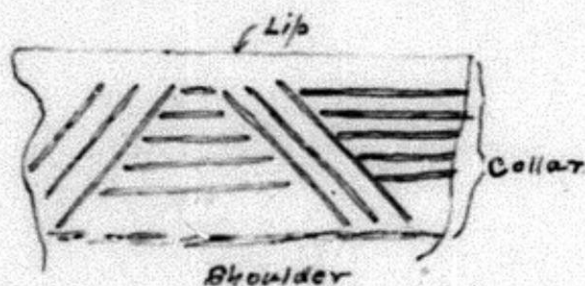
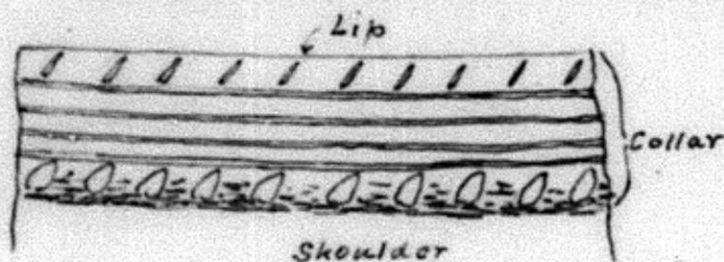
Cross section of Plain flaring 2.2 in. high with holes .4 inch in diameter at 1.4 inches below the lip, 1.5 inch apart. From Broken Kettle Mound and with the same coloration as the two above.

All three above actual size and from Trench E, Section 4, at 3.4 ft. below the surface.

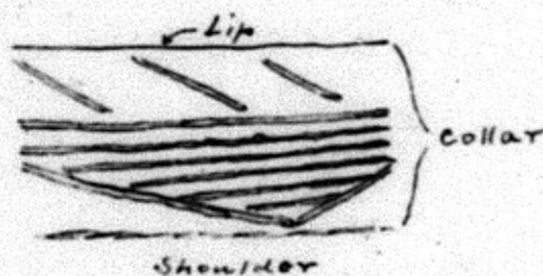
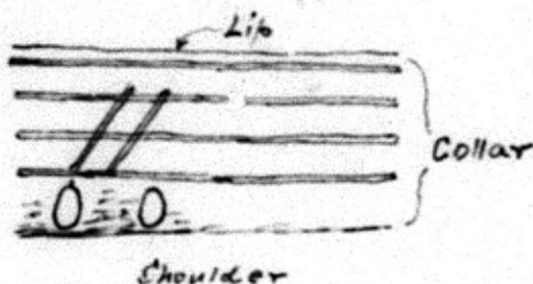
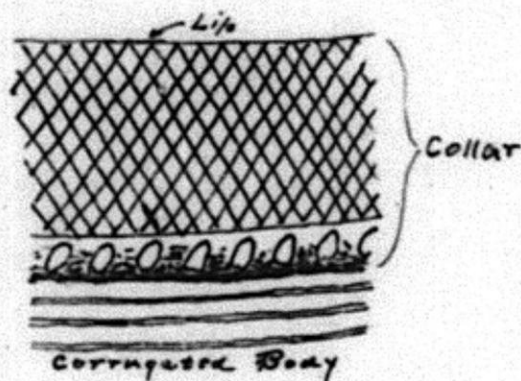
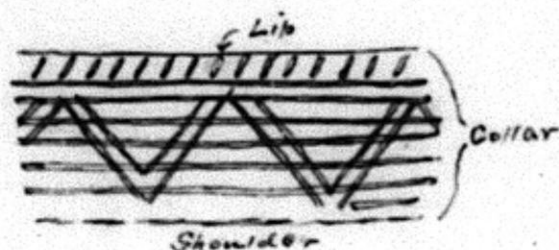
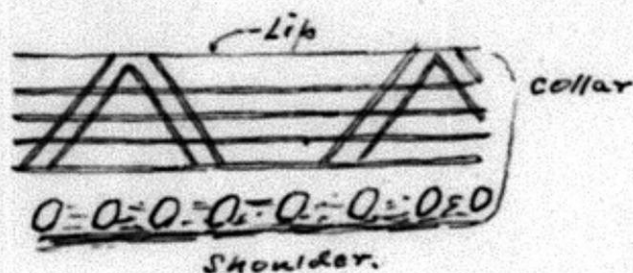
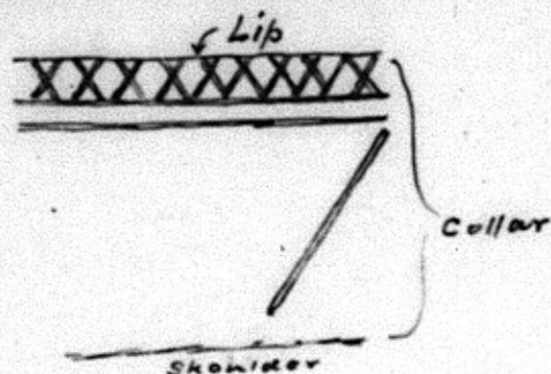
From Kimball Mound.



Incised Decorative patterns on Outside of Collared Rims.



Incised Decorative Patterns on Outside of Collared Rims.



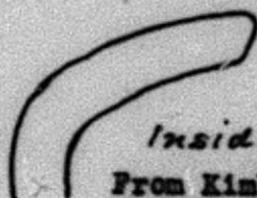
Plain Sherds of sub-globular Pottery. Type 6



Inside

From Kimball Mound,
Trench A., Section II,
at 5 ft. below the
surface.

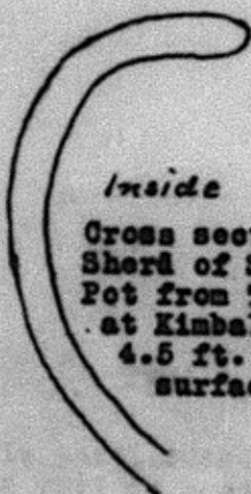
Type 6



Inside

From Kimball Mound,
Trench A., Section I4,
at 6 ft. below the
surface.

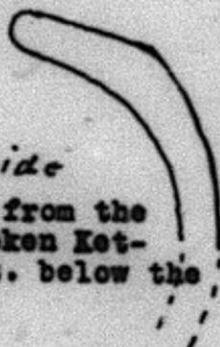
Type 6



Inside

Cross section of
Sherd of Sub-globular
Pot from Test Pit 9,
at Kimball Mound,
4.5 ft. below the
surface.

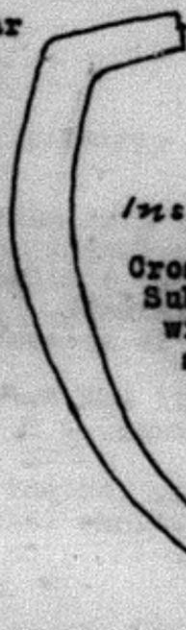
Type 6



Inside

Rim of Bowl from the
Silo ramp, Broken Ket-
tle, at 3 ft. below the
surface.

Type 6



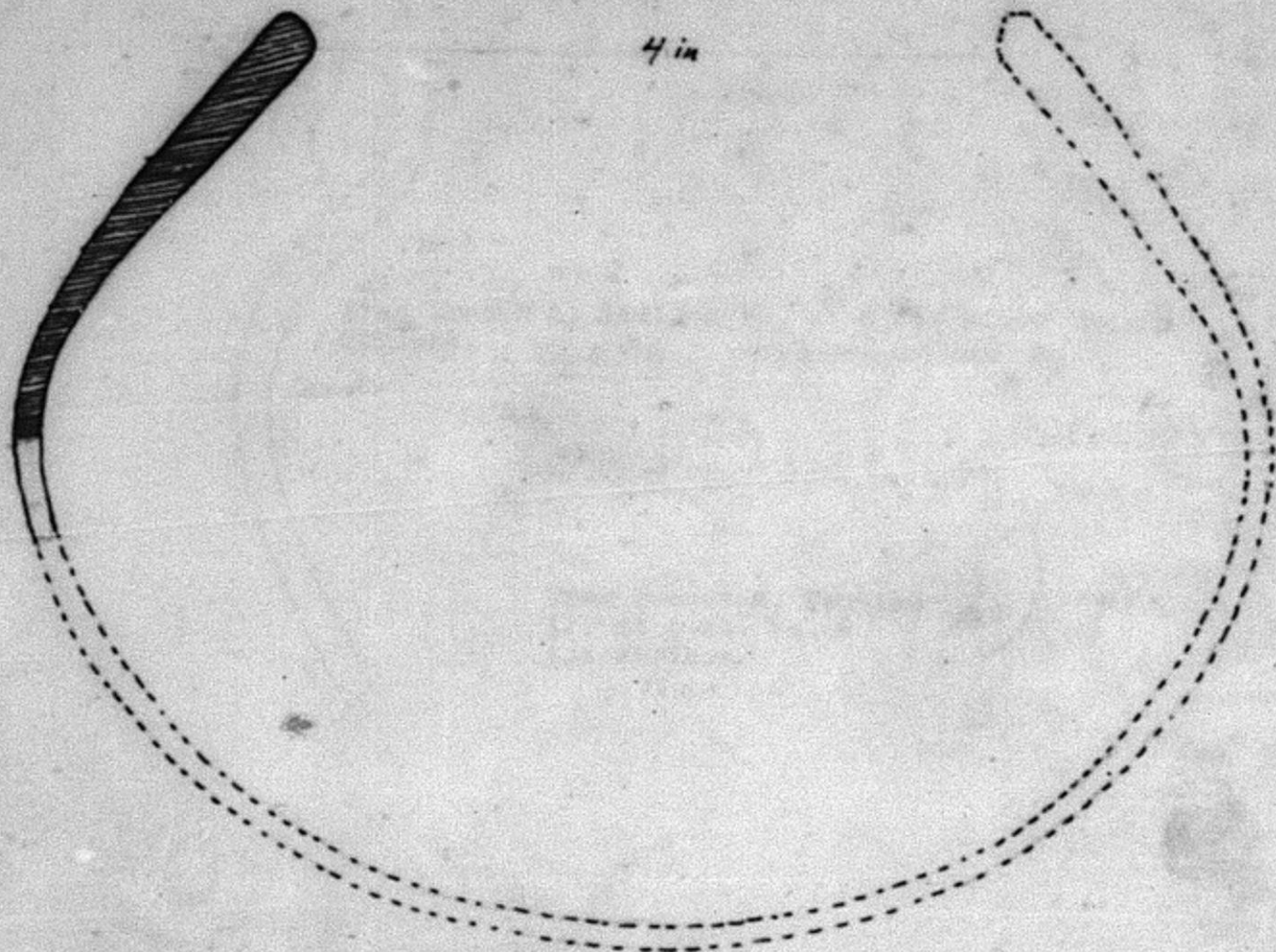
Inside

Cross section of Sherd of
Sub-globular Pot with
wide mouth, showing
sharp shoulder an-
gle. From Trench A,
Station 34, at 3.5
ft. of excavation.

Type 6

All above actual size.

See following page.



Type 6, Mill Creek Pottery.

An, in part, ideal cross-section of a type 6 Mill Creek vessel, based in part on a cross-section, actual size, of a sherd of that type pottery, from Trench B, section 5, at 5 ft. below the surface of the Broken Kettle Mound. Excavation of 1938.

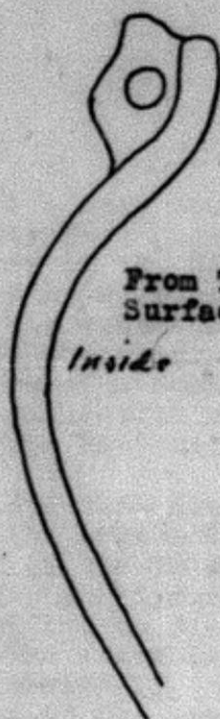
From this sherd the actual diameter of the opening at the top of the vessel was determined.

The inch and one-half next below the lip, both inside and out, is black. The remainder below is a light gray both inside and out.

The outside is polished, the inside, rough.

See cross sections of five other sherds of this type, actual size, on preceding page, I43.

Cross Sections of some unusual forms from the Kimball Mound.



From Trench A, Section I2, at 3 ft. below the Surface. Type 13 See Page 144-B

Inside

From Trench A, Section I2, at 6 ft. below the surface.

Type 10



Inside



Inside

From Trench A, Section II, at 3 ft. below the surface.

Type 10



Inside

From Kimball Mound.

Plain. Type 7 (?) or 3 (?)

TYPE 13, MILL CREEK POTTERY.

(See following page.)

A - From Storage-refuse Pit near the south edge of a sixty feet high terrace on the north side, of the Little Sioux river on the SW SE Sec. 24, T. 94, R. 39 west of the 5th P.M., in O'Brien county, Iowa. A post-glacial terrace.

The cross-hatched cross section shows the actual shape, size and thickness of the sherd found. Propable size and shape of a complete vessel is indicated by the dotted lines in connection with the same.

The horizontal diameter may be somewhat greater than shown.

B - From Trench A, Section 12, at 3 ft. below the surface of the Broken Kettle Pre-historic Indian Mound, near the center of the SW 1/4 of Sec. 3, T. 90, R. 48 west of the 5th P.M., in Plymouth county, 12 miles north-west of the Federal Building in Sioux City, Iowa.

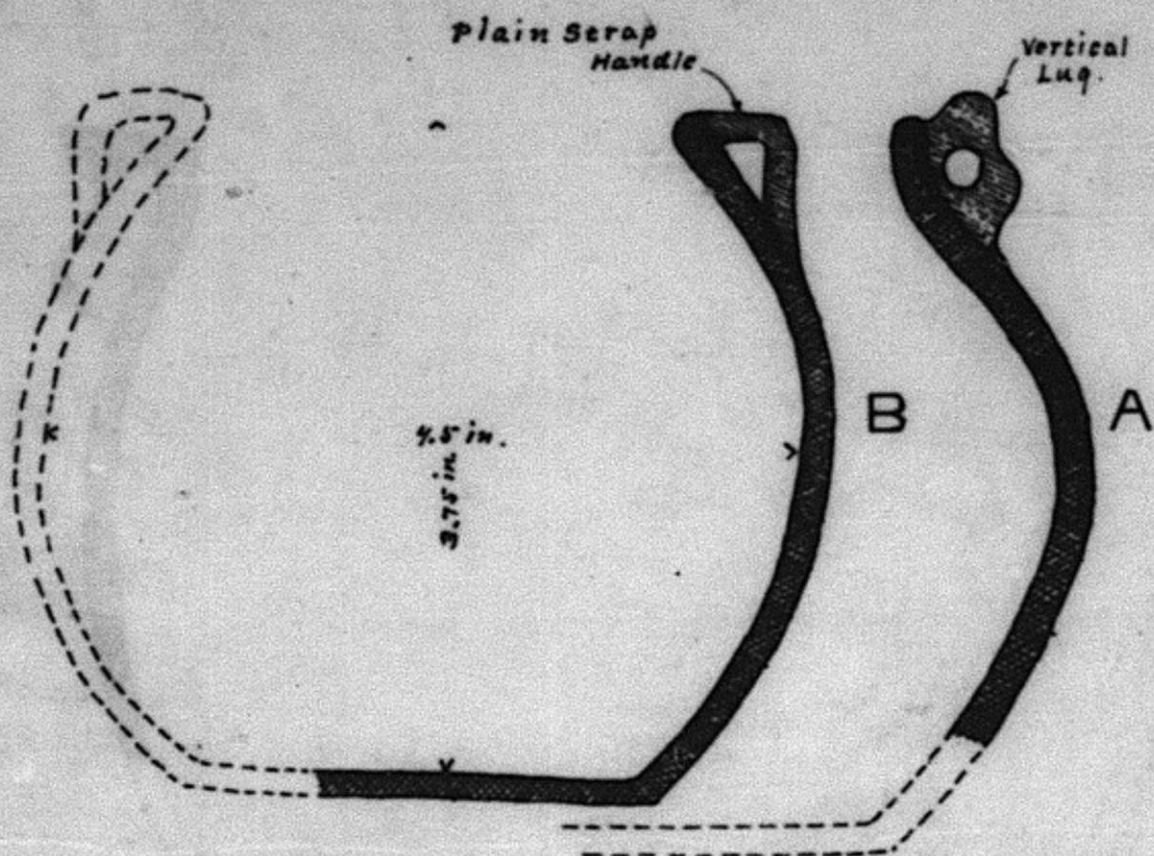
The cross-hatched cross section the actual size, shape and thickness of the sherd found as stated above. The continuation of the same in dotted lines shows what appears to be the most propable size and shape of a complete vessel.

However our guess may be wrong - the bottom may be sub-globular and the two of different types - not the same.

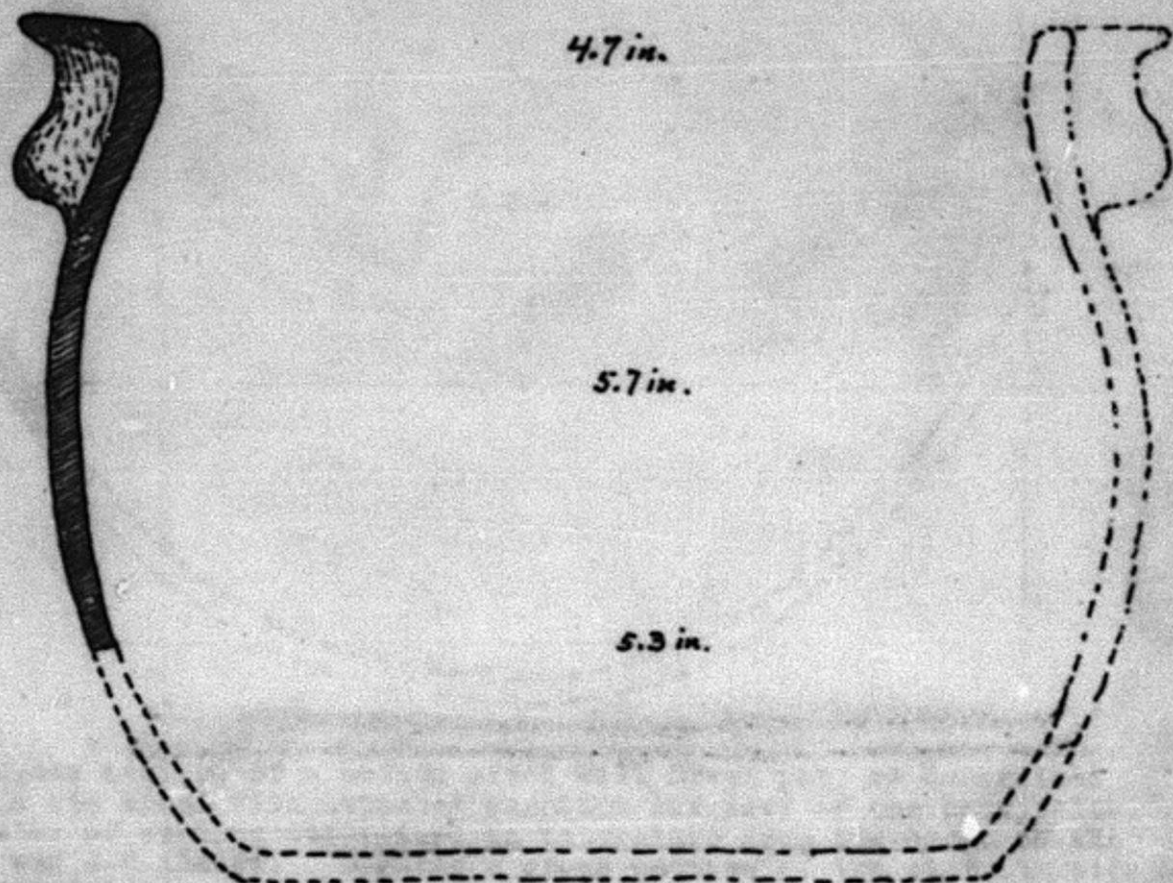
If we are right then the bodies of both, except for the flat bottoms, are sub-globular. Both are grit tempered.

The two sherds figured are the only ones of this type found. Sherd A was found in 1934, sherd B in 1939.

Neither sherd shows ornamentation of any kind.



TYPE 13. MILL CREEK POTTERY.



Type 5, Mill Creek Pottery.

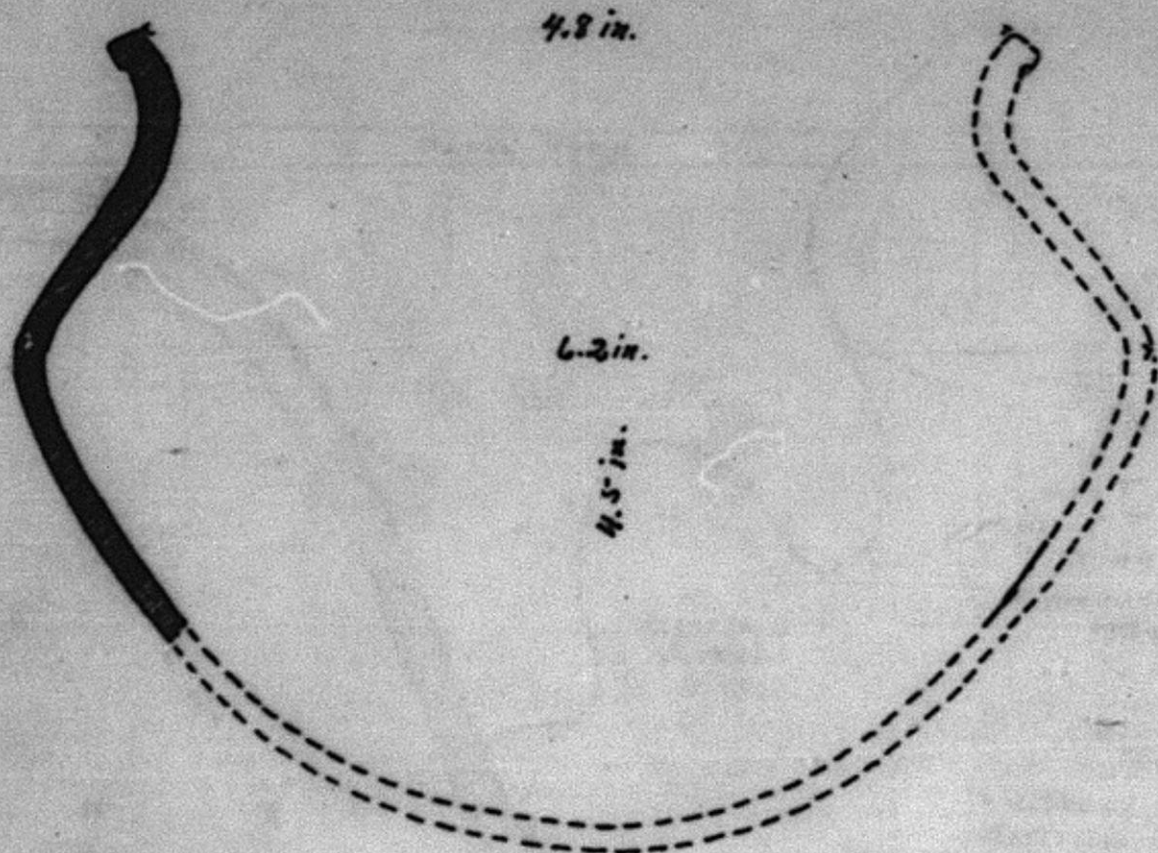
Cross Section of a Theoretical Restoration of a Vessel, developed from a sherd of this type from Trench A of the Kimball Mound.

At the left, the cross-hatched part is the actual size, shape and thickness of the sherd found. The diameter at the lip was determined from the curve of same on the sherd as was also the greatest diameter and that at the broken end.

The depth shown is problematical but probably approximately correct.

It may be necessary, on further study, to make two or more types of this one - our tentative type 5. One might be a shallow, flat-bottomed dish with straight flaring sides.

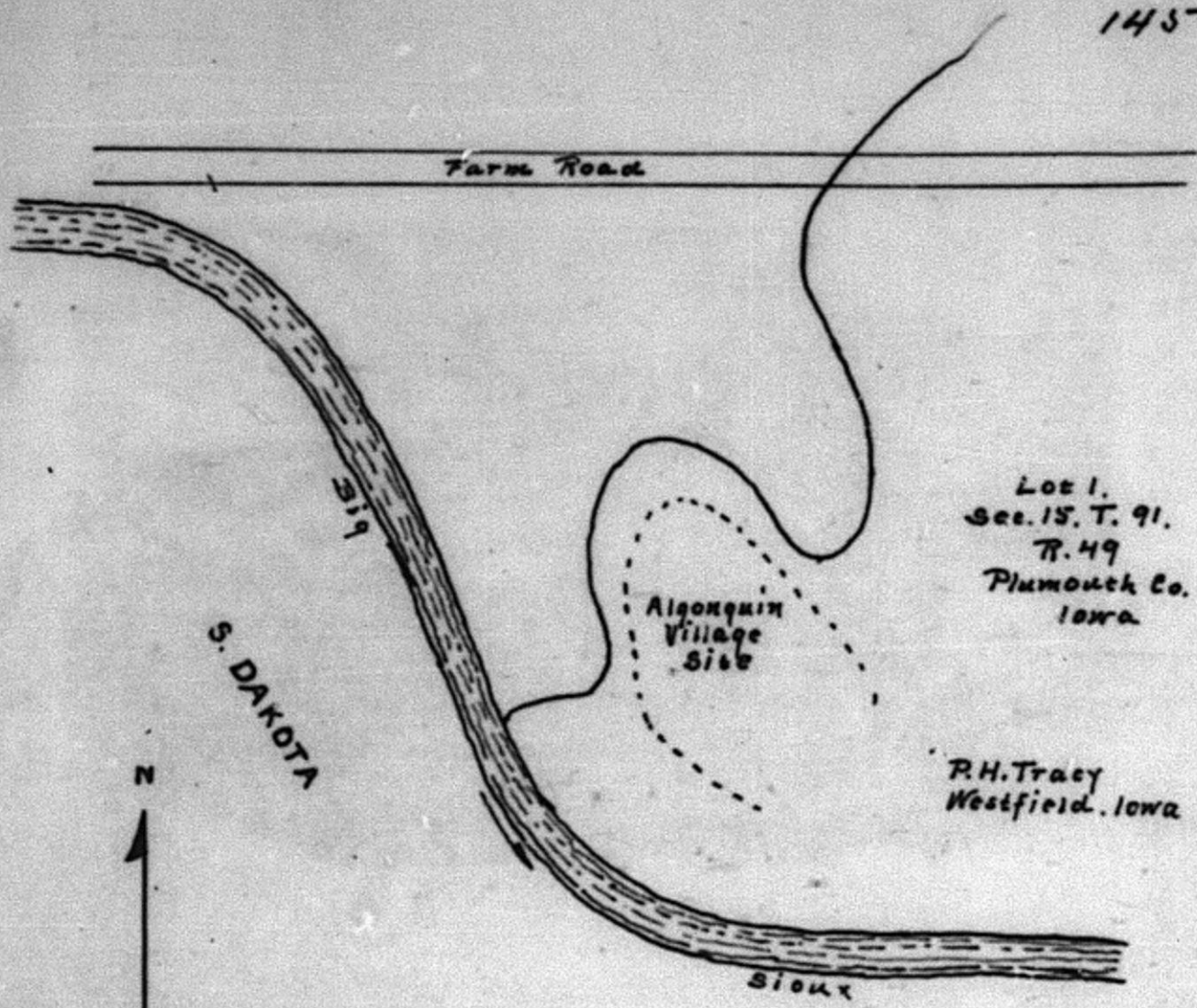
Type 5 is characterized by numerous lugs of many patterns, among them some fine effigies.



Cross section of a medium sized Mill Creek pot, as determined from a rim sherd with attached shoulder and part of the body below. Diameter of opening determined as determined from the curve of the lip, was 4.8 inches. Drawing a cross section of the opposite side in dotted lines - the cross section of the sherd in solid lines - gave the outline of a very close approximation of a cross section of the whole vessel, except the bottom. The most probable shape of the bottom is as shown.

The recurved, square lipped, unornamented rim and shoulder was a smooth, tool-marked gray - not polished. That part of the body below the shoulder is stained black. Inside of the rim and shoulder, tooled but not as smooth as the outside. Thickness of shoulder, .15 inches, near bottom, .2 inches. Center of walls, a slate gray. Fine grit tempered. See photo on page I45-A., actual size of sherd.

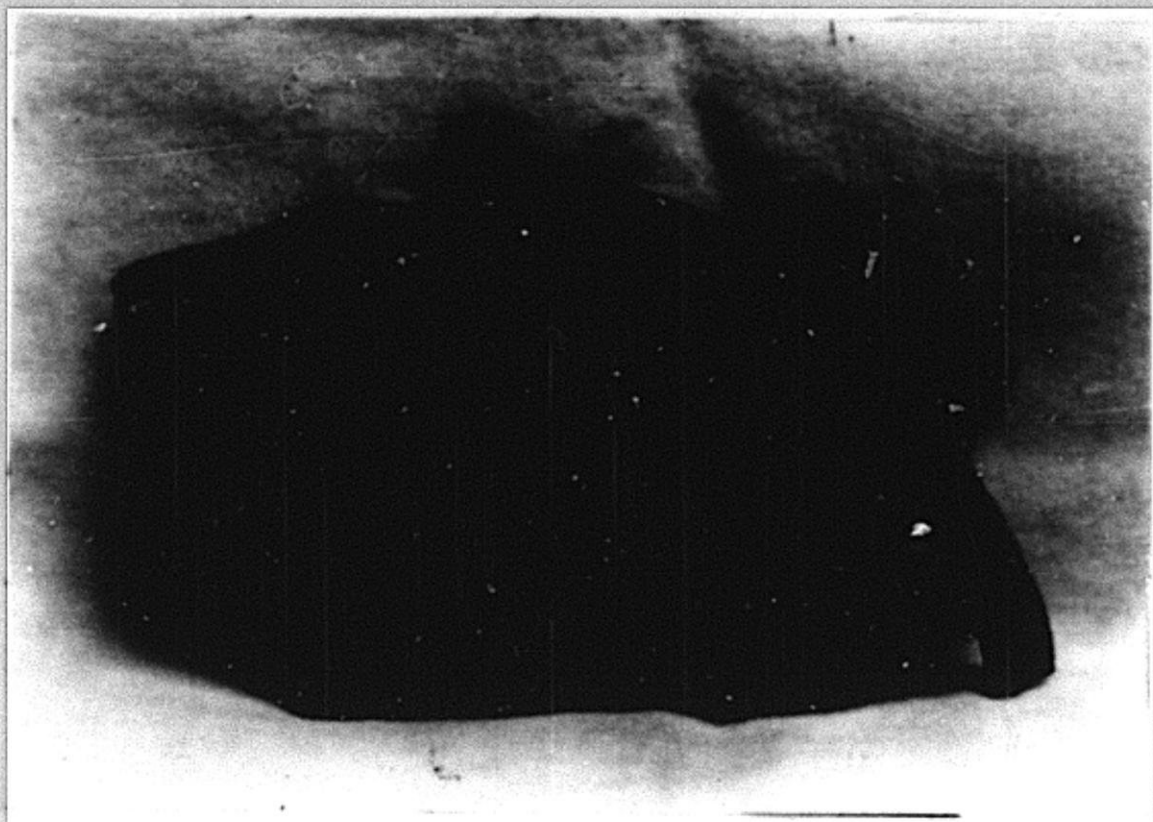
Rounded shoulder angle, 112 degrees.



Map of Location of Algonquin Village Site
on Lot 1 of Sec. 15, T. 91, R. 49,
west of the 5th P.M.

There is also another Village Site of the
Algonquins on the bottoms of the Big Sioux
river, either on the SW corner of Sec. 35
or on the SE corner of Sec. 34, T. 90, R.
48 west of the 5th P.M.

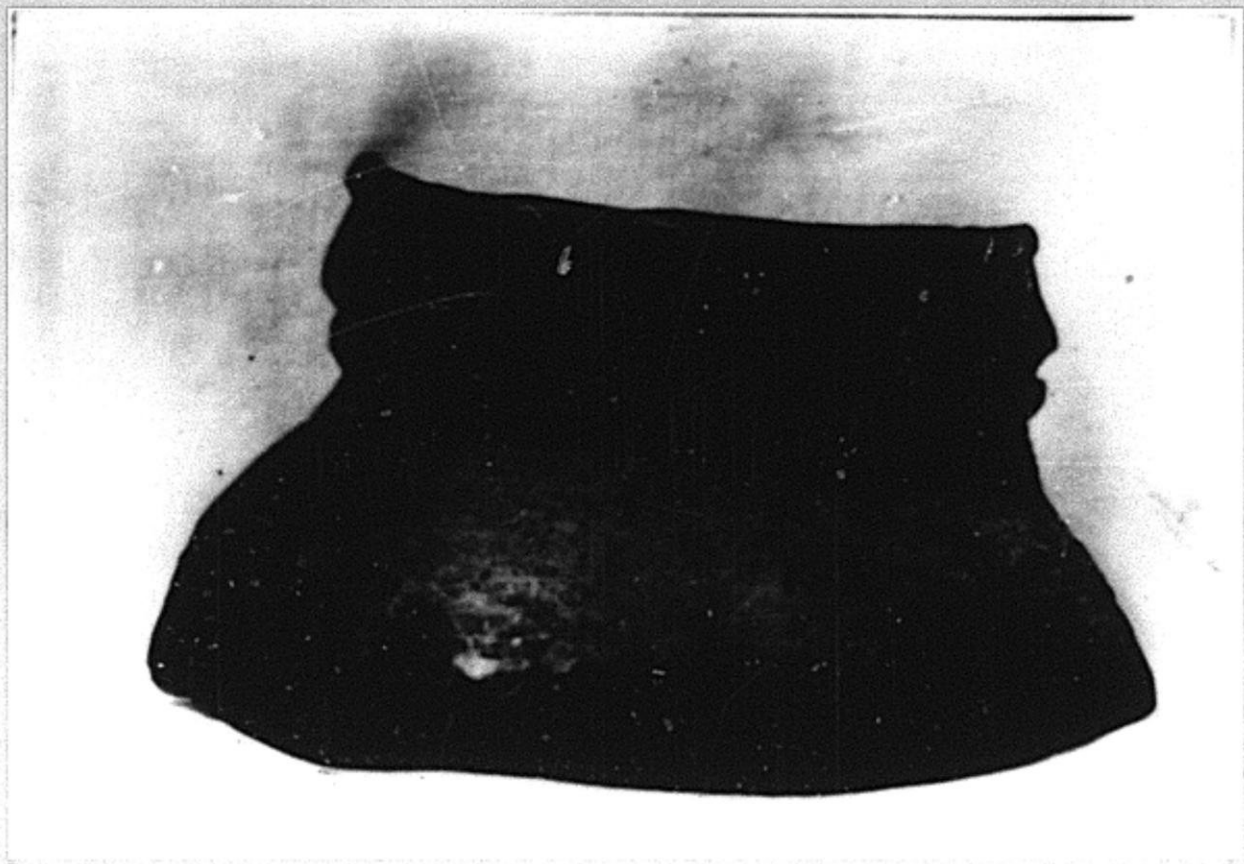
145-A



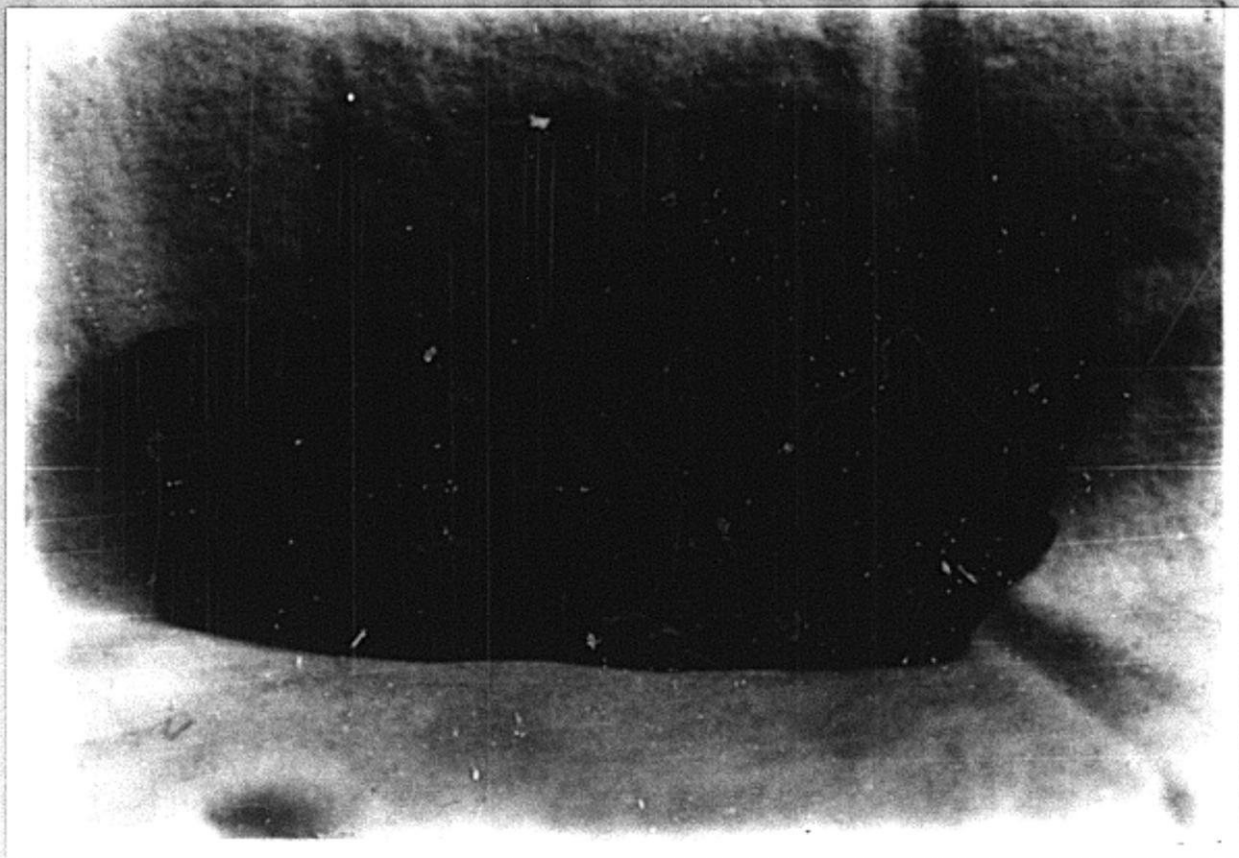
K - 41

Rim Sherd of Mill Creek Pottery, Type 12. From Kimball
Mound. Photo 1939 by Ellison Orr.

Actual size



Rim Sherd of Mill Creek Pottery. Type 7. 1.5 actual size.
From Kimball Mound. Photographed by Hirth.

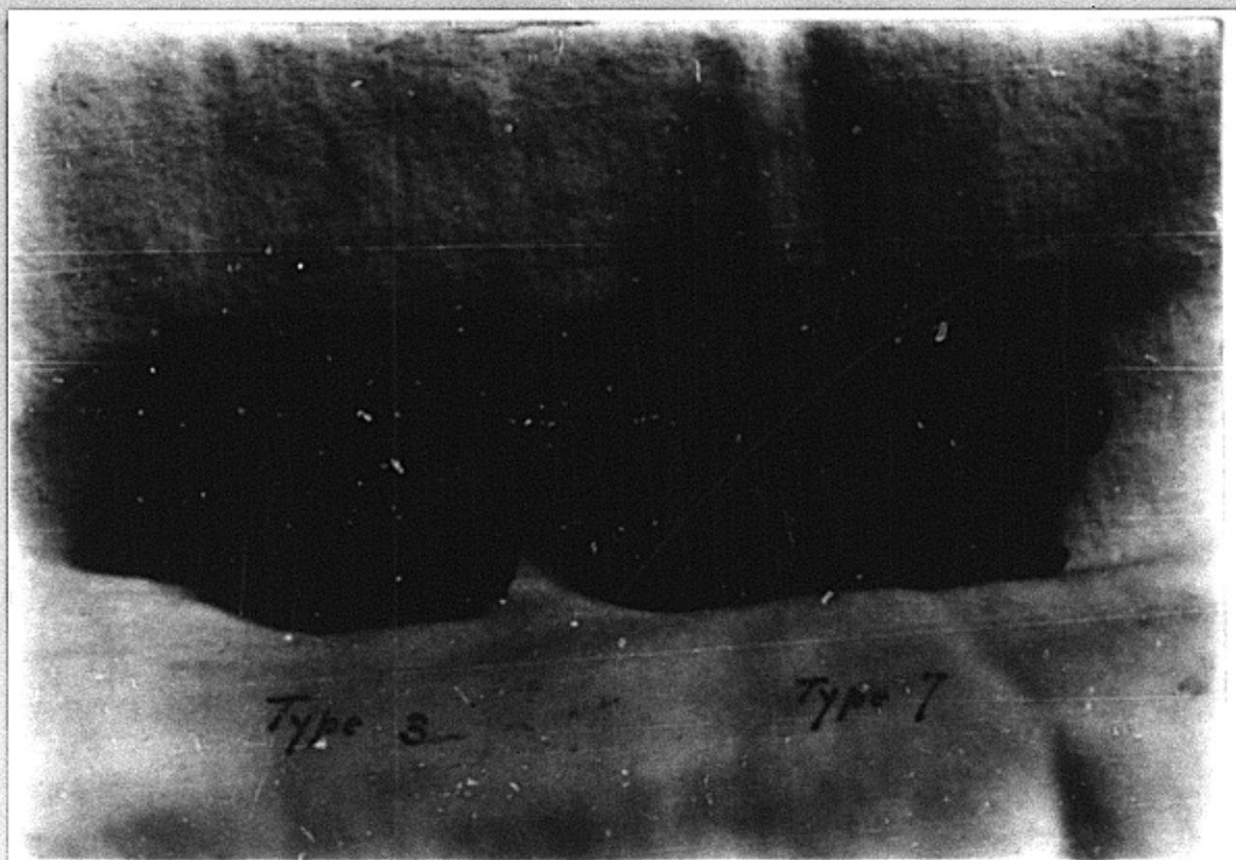


K - 5

Mill Creek Pottery Sherd, actual size. Type 2.
Photographed by Hirth, 1939.

From Kimball Mound. Showing one of the more than one hundred patterns of decoration on the outside of the rim of this type. Tool smoothed on the inside of rim. Wall of shoulder .3 inches thick. Rim .4 inches thick.

Rim and shoulder on both outside and inside, a yellowish gray. Center of wall a slate color. Fine grit tempered.



K - 35
Rim Sherd of Mill Creek Pottery, Type 7. From Kimball
Mound, 1939. Actual size.

K -
Rim Sherd of Type 3 Pottery from the Kimball Mound.
Actual Size. 1939.

Photographs by Hirth.

Rim Sherd , Type 7, from the Broken Kettle Mound.
Trench B, Section 3, 6th ft. of
excavation. 1939. Actual
Size.

See photo of K - 37 - same type,
page I46 and I48. Also see below.



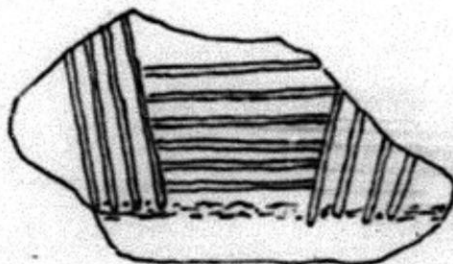
Rim Sherd of Type 7 pottery, from Kimball
Mound. Actual size. 1939

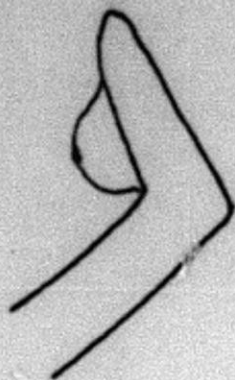


Sherd of small polished pot of
Black ware of coarse material.
From Trench B, Section 6 at
4th ft. of excavation

Flat Shoulder (?) decorated
with trailed line pattern.
From Kimball Mound, 1939.

Body





Rim Sherd, K - 36, from Kimball
Mound. Actual size.
Type II. 1939



Square-lipped Sherd, Type
10. Actual Size. From
Kimball Mound.



Decorations on the top of
the lip

Cross-hatching
Indented
shoulder



Square-lipped Sherd, Type 10, from Kimball
Mound. Actual Size. 1939.

Corrugated shoulder of body

EDITOR'S NOTE:

At this point in Volume XI a series of 18 sheets tabulating the material recovered in the Kimball Mound Excavation were inserted. As in the case of those associated with the Broken Kettle report, they have been typed to facilitate use. The practice of using superscriptions was not found on these sheets.

SHEET 1. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - SECOND FOOT.

	RIM SHEARDS Type 1 - Plain	Type 2 - Vert. or Flaring - Plain	Type 2 - Vert. or Flaring - Dec.	Type 3 - Collar- ed - Plain	Type 3 - Collar- ed - Decorated	Type 4 - Corrug. Plain-Collared	Type 4 - Corrug. Dec.-Collared	Type 4 - Corrug. Plain-Recurved	Type 5 - Basin- shaped	Type 6 - Globular	Type 7 - Plain
Section 9	-	-	4	-	-	-	-	-	-	-	-
Section 10	1	-	2	-	-	-	-	-	4	-	-
Section 11	-	2	12	-	7	-	-	-	1	-	-
Section 12	-	-	-	-	-	-	-	-	-	-	-
Section 13	-	-	5	1	4	-	-	-	7	-	-
Section 14	-	-	7	-	-	-	-	-	-	-	-
Section 15	-	7	4	-	1	-	-	-	-	-	-
Section 16	-	6	12	2	6	-	1	-	-	-	-
Section 17	-	4	5	-	4	-	1	-	6	1	-
Section 18	1	6	43	-	5	-	-	-	-	-	-
Section 19	2	6	8	-	-	-	1	-	17	-	-
Section 20	-	-	3	-	4	-	-	1	-	-	-
Section 26	2	-	1	-	-	-	-	-	-	-	-
Section 27	-	-	-	-	-	-	-	-	-	-	-
Section 28	-	-	-	-	-	-	-	-	-	-	-
Section 29	-	-	-	-	-	-	-	-	-	-	-
Section 30	1	-	-	-	-	-	-	-	-	-	1
Section 31	3	2	14	-	14	-	-	-	2	-	-
Section 32	-	6	12	-	11	-	-	-	-	-	-
Section 33	-	5	18	-	9	-	-	-	1	-	-
Section 34	-	2	-	-	3	-	-	-	-	-	-
Section 35	-	-	-	-	-	-	-	-	-	-	-
Section 36	-	2	3	-	1	-	-	-	-	-	-
Section 37	-	-	-	-	-	-	-	-	-	-	-
Section 38	-	3	-	-	-	-	-	-	1	-	-
Section 39	-	1	1	-	1	4	-	-	2	1	-
Section 40	-	-	-	-	-	-	-	-	-	-	-
Section 41	-	-	-	-	-	-	-	-	-	-	-
Section 42	-	2	3	-	-	-	-	-	-	1	-
TOTAL	10	54	157	3	77	5	3	1	41	3	6

**SHEET 1. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - SECOND FOOT.**

	Type 7 - Decorated	Type 8 "Rattlesnake" Shoulder dec. with incised patterns	Type 9 - Plain	Type 10 - Square lip - Plain	Type 10 - Square lip - Decorated	Type 11 - Rope Decorated	Type 12 - Plain	Shell tempered	Decorated	Unclassified	BODY SHERDS Plain - common	Decorated	Plain - light colored
Section 9	-	-	-	-	2	-	-	-	-	-	13	-	-
Section 10	-	-	-	-	1	-	1	-	-	-	12	-	-
Section 11	-	-	-	1	11	-	-	-	-	-	50	-	20
Section 12	-	-	-	-	-	-	-	-	-	-	21	-	-
Section 13	-	1	-	-	-	-	-	-	-	-	-	-	-
Section 14	-	-	-	-	1	1	-	-	-	-	20	-	-
Section 15	-	-	-	-	-	-	-	-	-	-	23	-	-
Section 16	-	-	-	3	7	3	-	-	-	-	54	-	-
Section 17	-	-	-	7	5	-	-	1	-	-	54	-	-
Section 18	-	-	-	3	1	-	-	-	-	-	102	-	-
Section 19	-	-	-	1	5	1	-	-	-	2	71	-	-
Section 20	-	-	-	2	2	-	-	-	-	-	29	-	-
Section 26	-	-	-	-	-	1	-	-	-	-	14	-	-
Section 27	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 28	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 29	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 30	-	1	-	1	-	-	-	-	-	-	12	-	-
Section 31	-	-	-	3	5	-	2	-	-	-	104	-	-
Section 32	-	-	-	7	14	1	1	-	-	-	115	-	-
Section 33	-	-	-	1	8	-	1	-	-	-	91	1	-
Section 34	-	-	-	2	3	1	-	-	-	-	30	-	-
Section 35	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 36	-	-	-	-	2	-	1	-	1	-	17	-	-
Section 37	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 38	-	-	-	-	3	-	-	-	-	1	12	-	-
Section 39	-	-	-	-	-	1	-	-	-	1	31	-	-
Section 40	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 41	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 42	-	-	-	-	-	1	-	-	-	-	14	-	-
TOTAL	-	2	-	31	70	10	6	1	1	4	889	1	20

**SHEET 1-2 TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - SECOND FOOT**

	Corrugated	Shell tempered	W/red slip or stain	Bowl shaped - Type 5 sides	With nearly erased string impressions	Unusual Body Sherds	Lugs - Detached	Decorated Col. rim- Raccoon	Handles - detached	Type 8 - Shoulders	Hand Stones	Diorite and granite rubbing stones	Scoria	Abraders	Granite Ball
Sec. 9	1	-	-	2	-	-	-	-	-	-	-	1	-	-	-
Sec. 10	-	-	-	1	-	-	1	-	-	-	-	-	1	-	-
Sec. 11	2	-	-	5	4	-	1	-	1	-	-	-	-	-	-
Sec. 12	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Sec. 13	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Sec. 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 15	1	-	-	-	-	-	-	-	-	-	-	1	-	4	-
Sec. 16	6	-	-	1	-	-	1	-	-	-	-	-	2	-	1
Sec. 17	2	-	-	3	1	-	1	-	-	-	3	-	-	-	-
Sec. 18	12	-	-	6	-	-	1	2	-	-	-	-	-	-	-
Sec. 19	6	-	-	2	-	-	-	-	1	-	-	-	-	-	-
Sec. 20	10	-	-	13	-	-	-	-	-	-	-	-	-	-	-
Sec. 26	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Sec. 27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 28	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 30	-	-	-	7	-	-	-	-	-	-	-	-	-	-	-
Sec. 31	1	-	-	9	1	-	1	-	1	-	-	-	-	-	-
Sec. 32	4	-	1	22	-	-	2	-	-	-	2	-	-	-	-
Sec. 33	7	-	-	28	1	-	2	-	-	-	-	-	-	-	-
Sec. 34	1	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Sec. 35	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 36	3	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Sec. 37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 38	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 39	-	-	-	-	1	-	-	-	1	-	-	-	-	-	-
Sec. 40	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	56	-	1	104	8	-	12	2	4	-	5	2	4	4	1

**SHEET 2-3 TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - SECOND FOOT.**

	Antler tines - Elk/Deer	Celt of diorite	SHELL - Clams, River	UNWORKED BONE Buffalo tooth	Deer - lower jaw - frag.	Deer metacarpals	Beaver incisor	Bird bones	SUNDRY Pottery disk	Square ornament-scapula	HUMAN SKELETAL REMAINS Adult skull - fragment	CHIPPED & FLAKED FLINT Arrow points - small Triangular - 1 notch	Arrow points - other
Section 9	1	1	4										
Section 10			7					1			1		
Section 11									1				
Section 12													
Section 13			3										
Section 14													
Section 15			2				1						
Section 16			6									6	3
Section 17			8	2									
Section 18			11										
Section 19			10						1				
Section 20			3		1				1				
Section 26	1		1						1				
Section 27													
Section 28		1											
Sec. 29-32													
Section 33						1							
Sec. 34-37													
Sec. 38			1										
Sec. 39-41													
Section 42			2										
TOTAL	2	2	58	2	1	1	1	1	4	1	1	6	3

SHEET 3. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - SECOND FOOT.

	Celts	Gravers	Flakes	Scraper - small	Flake - chalcedony	BONE IMPLEMENTS Bone Scraper	Awls from lg. round bones	Awls-bird wing humeri	Awls from split ribs	Awls - bird bills	Split bones for tools	Other bone tools	Long bird bones	Bear's fangs	Shoulder blade for digging
Section 9	1														
Sec. 10		1													
Sec. 11				3		1		3	1						
Sec. 12															
Sec. 13										1					
Sec. 14															
Sec. 15		1													
Sec. 16			1				1								
Sec. 17				1											
Sec. 18	1		1												
Sec. 19											1	1	1	1	
Sec. 20															
Sec. 26															
Sec. 27					1										
Sec. 28-30															
Sec. 31								2							
Sec. 32									1	1					
Sec. 33			2												1
Sec. 34							1								
Sec. 35	1														
Sec. 36-41												1			
Sec. 42															
TOTAL	3	2	4	4	1	1	2	5	2	2	1	3	1	1	1

**SHEET 3. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - SECOND FOOT.**

	Bone ornament	SUNDRY	Piece large celt	Pin gaming cup - metacarpal	Diorite flake	Half of pipe bowl	Red paint rock
Sec. 9-10	-	-	-	-	-	-	-
Sec. 11	1	-	1	1	1	-	2
Sec. 12-15	-	-	-	-	-	-	-
Sec. 16	-	-	-	1	-	-	-
Sec. 17	-	-	-	-	-	-	-
Sec. 18	-	-	-	-	-	-	1
Sec. 19	-	-	-	2	-	1	-
Sec. 20	-	-	-	-	-	1	-
Sec. 26-31	-	-	-	-	-	-	-
Sec. 32	1	-	-	-	-	-	1
Sec. 33	-	-	1	-	-	-	-
Sec. 34	-	-	1	-	-	-	-
Sec. 35-42	-	-	-	-	-	-	-
TOTAL	2	3	3	4	1	2	4

SHEET 4. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND,
TRENCH A - THIRD FOOT.

	Type 10 - Square lip Plain	Type 10 - Square lip Dec.	Type 11 - rope dec.	Type 12 - plain	Unclassified	BODY SHERDS Plain-common	Decorated	Corrugated	Red slip or stain	Bowl shaped-Type 5 sides	W/nearly erased string imp.	Unusual body sherds	Lugs - detached	Handles - detached	Type 8 - shoulders
Sec. 9	2	-	-	-	3	57	-	1	-	-	-	-	-	-	-
Sec. 10	2	2	1	-	1	50	-	1	-	1	1	-	-	-	-
Sec. 11	4	-	-	-	-	44	4	5	-	12	2	-	-	-	-
Sec. 12	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Sec. 13	-	-	-	-	3	15	-	1	-	-	-	-	-	-	-
Sec. 14	-	1	-	-	1	14	-	2	-	-	-	-	-	-	-
Sec. 15	-	2	-	-	-	46	-	1	-	-	-	-	-	-	-
Sec. 16	3	3	-	-	1	38	-	1	-	1	-	-	-	-	-
Sec. 17	4	10	-	-	-	94	-	-	-	-	3	-	4	1	-
Sec. 18	-	9	1	2	2	136	8	7	1	21	1	-	1	-	1
Sec. 19	5	17	-	-	7	202	-	30	1	11	-	2	25	1	-
Sec. 20	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 26	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 27	-	1	-	-	-	13	-	-	-	2	-	-	-	-	-
Sec. 28	-	2	-	-	-	37	-	1	-	-	-	-	-	-	-
Sec. 29	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 30	-	8	2	1	1	74	-	2	-	6	-	-	-	-	-
Sec. 31	-	3	-	-	4	38	-	-	-	1	-	-	-	-	-
Sec. 32	3	-	-	-	1	71	-	2	-	20	2	-	1	-	-
Sec. 33	6	3	-	-	2	112	-	-	-	19	1	-	2	-	-
Sec. 34	-	4	-	-	2	48	-	4	-	6	1	-	-	-	-
Sec. 35	2	7	-	-	4	85	-	3	-	6	-	-	-	-	-
Sec. 36	-	5	-	-	1	18	-	1	-	-	-	-	-	-	-
Sec. 37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 38	-	6	-	-	2	19	-	5	-	1	-	-	1	-	-
Sec. 39	-	4	-	-	2	-	-	-	-	-	-	-	1	-	-
Sec. 40	-	-	-	-	-	22	-	-	-	-	-	-	-	-	-
Sec. 41	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sec. 42	1	1	-	-	-	18	-	-	-	-	-	-	-	-	-
TOTAL	32	88	4	4	38	1251	12	67	3	107	11	2	35	2	1

**SHEET 4-5. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - THIRD FOOT.**

		Hand stones	Bitt half of Celt	Carbonized corn	Pipestone	Stone Disk	Adobe	Granite Ball	Diorite & Granite Rubbing stones	Scoria	Abraders	Celt of diorite	"Door Knob" SHELL	Snail Shell	Busycon perversum	Clams - river
Sec. 9	.	5	.	.	.	.	.	.	.	4	.	.	.	.	.	8
Sec. 10	.	2	.	.	.	.	.	.	.	.	.	.	.	.	.	6
Sec. 11	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.	14
Sec. 12	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 13	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	6
Sec. 14	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 15	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.	2
Sec. 16	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 17	.	1	1	.	.	.	.	.	.	.	.	.	.	.	.	6
Sec. 18	.	.	.	.	.	.	.	1	1	.	1	.	1	.	.	4
Sec. 19	.	.	.	.	.	.	.	.	.	.	1	.	.	.	1	3
Sec. 20	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 26	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 27	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Sec. 28	.	.	.	1	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 29	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 30	.	.	.	.	1	.	.	.	1	.	.	.	.	.	.	.
Sec. 31	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Sec. 32	.	.	.	.	.	.	2	.	.	.	.	.	.	.	.	.
Sec. 33	.	.	.	.	.	.	.	.	.	.	.	1	.	.	.	.
Sec. 34	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	.
Sec. 35	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 36	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	2
Sec. 37	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 38	.	.	.	.	.	.	.	.	1	.	.	1	.	.	.	1
Sec. 39	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	1
Sec. 40	.	.	.	.	.	1	.	.	.	.	.	.	.	.	.	.
Sec. 41	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.
Sec. 42	.	.	.	.	.	.	.	.	.	.	.	.	.	.	.	7
TOTAL	.	8	2	1	1	1	2	1	3	6	3	2	1	1	1	61

**SHEET 5-6 TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - THIRD FOOT.**

	UNWORKED BONE	Carnivora - lower jaw	Beaver's lower jaw	Deer - upper jaw - frag.	Animal bones	Sundry bones	Fish Bones	SUNDY	Pottery Disk	Perforated fang	HUMAN SKELETAL REMAINS	Child's skeleton	CHIPPED AND FLAKED FLINT	Arrow points - small	Triangular - 1 notch	Gravers	Flakes	Quartzite Cores	Scraper - small	Scraper - Nehawka
Sec. 9					1	1	1													
Sec. 10			1																	
Sec. 11																1				
Sec. 12																				
Sec. 13					5															
Sec. 14										1										
Sec. 15																				
Sec. 16									1											
Sec. 17		1							2											
Sec. 18						1														
Sec. 19-29																				
Sec. 30																			1	
Sec. 31																				
Sec. 32																	1			
Sec. 33																	1			
Sec. 34																				
Sec. 35														1						1
Sec. 36					1*															
Sec. 37																				
Sec. 38											1									
Sec. 39-41																				
Sec. 42																	11#			
TOTAL		1	1	1	8	2	1	5	1	1	1	1	1	1	1	1	13	1	4	1

* - Deer metacarpals

- Nehawka flakes

SHEET 6. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - THIRD FOOT.

	BONE IMPLEMENTS																
	Awls from large round bone	Awls from bird wing humeri	Awls from split ribs	Awls - bird bills	Needles	Double-end - Gorges (?)	Split bones for tools	Fish hooks	Other bone tools	Long bird bones	Bracelet from scapula	Bone ornaments	Antler Point	SUNDRY	Pin gaming cup-metacarpals	Half of pipe bowl	Red paint rock
Section 9	1		1										1				
Section 10													1				
Section 11			3	2			2		1				2				
Section 12																	
Section 13																	
Section 14																	
Section 15	1						1			1					1		
Section 16																	
Section 17													2				1
Section 18	2	1	1				1						1				
Sec. 19-26																	
Section 27			1	1											1		
Section 28	2				1				1							1	
Section 29																	
Section 30	2											1					
Section 31			2												1		
Section 32	1							1							6		
Section 33	2		1										1				
Section 34		1	1	1					1			1	1				
Section 35									1								
Section 36		1				1								1			
Section 37											1						
Section 38	1																
Section 39		1							1								
Sec. 40-42																	
TOTAL	12	4	10	4	1	1	5	2	1	1	1	2	11	2	10	1	2

**SHEET 7. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - FOURTH FOOT.**

	RIM SHERDS Type 1 - Plain	Type 2 - Vertical or Flaring - Plain	Type 2 - Vertical or Flaring - Decorated	Type 3 - Collared - Plain	Type 3 - Collared - Dec.	Type 4 - Corrugated Plain - Collared	Type 4 - Corrugated Decorated - Collared	Type 4 - Corrugated Plain - Recurved	Type 5 - Basin shaped	Type 6 - Globular	Type 7 - Plain	Type 7 - Decorated	Type 10- Sq. lip - Plain	Type 10- Sq. lip - Dec.
Section 9		1	2											
Section 10		4	5				7		9			1		
Section 11			5			1								1
Section 12														
Section 13			4	1	3		1							1
Section 14		2	4		4				3	1	1		2	3
Section 15														
Section 16		2	7					1	1				3	1
Section 17		3	7		7				1				1	
Section 18	3	3	25		9			2	11				3	9
Section 19	2	5	28		6				17				5	9
Section 20		4	7		1		1		4					4
Section 26	1	5	7		5				3					1
Section 27		1	1		1				1				3	2
Section 28		1	14		2		1		1					2
Section 29														
Section 30			8	1					2				4	3
Section 31														
Section 32		2	3		4				3		1		1	2
Section 33			1		1				1					2
Sec. 34-37														
Section 38	1	9			9	4			7				2	12
Section 39														
Section 40	1		11		15		1	1	10	1				1
Section 41		4	4		5		1		5				3	5
Section 42			2		2				4				1	4
TOTAL	8	46	145	2	80	4	11	4	83	2	2	1	28	62

SHEET 7-8 TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - FOURTH FOOT.

	Type 11 - Rope decorated	Unclassified	BODY SHERDS Plain - common	Decorated	Corrugated	With red slip or stain	Bowl shaped - Type 5 sides	W/nearly erased string imp.	Lugs - detached	Handles - detached	Hand stones	Toy Pot	Effigy	Concretion	Corn - carbonized	Diorite & Granite rubbing stones
Section 9	-	1	21	-	1	-	-	2	-	-	-	-	-	-	-	-
Section 10	-	3	34	-	-	-	-	-	-	-	-	-	1	-	-	-
Section 11	-	1	25	-	-	-	2	-	2	-	-	-	-	-	-	-
Section 12	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 13	-	1	13	-	-	-	7	-	-	-	-	-	-	-	-	-
Section 14	-	3	26	-	-	-	-	5	2	1	-	-	-	-	-	-
Section 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 16	1	4	52	-	-	-	5	1	-	-	-	-	-	-	-	-
Section 17	-	-	134	-	1	-	-	-	1	-	-	1	2	-	x	-
Section 18	2	6	201	-	12	-	10	-	2	1	-	1	-	-	-	2
Section 19	-	6	169	-	9	1	19	-	1	1	-	-	-	-	-	-
Section 20	-	-	51	-	3	-	1	1	-	-	-	-	-	-	-	-
Section 26	-	1	29	1	-	-	-	-	-	-	-	1	-	-	-	-
Section 27	-	3	28	-	1	-	-	-	1	-	1	-	-	-	-	-
Section 28	-	3	42	-	-	-	-	-	-	-	-	-	-	1	-	-
Section 29	-	-	-	-	-	-	-	-	-	1	-	1	-	-	-	-
Section 30	-	4	40	-	6	-	-	1	-	-	1	-	-	-	-	-
Section 31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 32	-	2	25	-	2	-	-	-	1	-	-	-	-	-	-	-
Section 33	-	3	17	-	1	-	-	-	6	-	-	-	-	-	-	-
Sec. 34-36	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 37	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Section 38	1	1	82	-	-	-	-	1	-	-	-	-	-	-	-	-
Section 39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 40	-	1	68	-	2	-	-	-	1	-	1	-	-	-	-	-
Section 41	-	1	50	-	-	-	-	1	1	-	-	1	-	-	-	-
Section 42	1	-	25	-	2	-	-	-	-	-	-	-	-	-	-	-
TOTAL	6	44	1137	1	40	1	44	12	19	4	3	5	3	1	x	2

SHEET 8

TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - FOURTH FOOT.

	Scoria	Mica	Abraders	Antler tines-elk or deer	"Door knob" SHELL	Busycon perversum	Clams - river	Worked clam shells	Oliva shells UNWORKED BONE	Canine tooth	Animal bones	Bird bones	Sundry bones SUNDRY	Pottery disk	Sandstone	HUMAN SKELETAL REMAINS
Section 9	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 11	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 12	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Section 13	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 14	-	-	-	-	-	-	9	-	1	-	-	-	-	1	-	-
Section 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 16	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 17	1	-	-	1	-	-	5	-	-	-	-	-	2	-	-	-
Section 18	-	-	-	1	-	-	6	-	-	-	-	-	-	1	-	-
Section 19	1	-	-	3	-	-	-	-	-	-	-	-	-	-	-	-
Section 20	-	1	-	1	-	-	3	1	-	-	-	-	-	1	-	-
Sec. 26-27	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 28	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	-
Section 29	-	-	-	1	-	1	-	-	1	-	-	-	-	-	-	-
Section 30	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Section 31	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 32	1	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-
Section 33	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-
Section 34	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Sec. 35-37	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 38	-	-	-	-	-	-	2	-	-	-	-	-	-	-	-	-
Section 39	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 40	-	-	1	-	-	-	9	-	-	-	1	-	-	-	-	6
Section 41	-	-	-	-	-	-	4	-	-	-	-	-	-	-	-	-
Section 42	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	4	1	1	8	1	1	50	1	4	1	3	1	2	6	1	6

SHEET 9. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.
TRENCH A - FOURTH FOOT

	Fish hooks	Fish hooks - blanks	Other bone tools	Fish vertebrae	Bone ornaments SUNDRY	Piece large celt	Pipe - pottery	Pin gaming cup - metacarpal	Half of pipe bowl	Beads - bone	Red paint rock	Yellow paint rock
Section 9												
Section 10			1		2							
Section 11	1		4									
Section 12			1									
Section 13												
Section 14			4			1			1			
Section 15												
Section 16												
Section 17												
Section 18			2								4	
Section 19												
Section 20											1	
Section 23											1	
Section 26			1									
Section 27												
Section 28		1						1				1
Section 29												
Section 30			1	1				2				
Section 31												
Section 32			1							1		
Section 33	1											
Section 34												
Section 35	1											
Sec. 36-37												
Section 38			1				1					
Sec. 39-40												
Section 41			1									
Section 42												
TOTAL	3	1	17	1	2	1	1	3	1	1	7	1

SHEET 10. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A		RIM SHERDS													
		Type 1 - Plain	Type 2 - Vertical or flaring - Plain	Type 2 - Vertical or flaring - Decorated	Type 3 - Collared - Plain	Type 3 - Collared - Dec.	Type 5 - Basin shaped	Type 6 - Globular	Type 7 - Plain	Type 7 - Decorated	Type 8 - "Rattlesnake" Shoulder decorated with incised patterns	Type 10 - Sq. lip - Plain	Type 10 - Sq. lip - Dec.	Type 11 - Rope Decorated	Unclassified
FIFTH FOOT															
Section 10		1	20		3	1	1			1	1	2	1	1	2
Section 11		2	5		1						1	1	1		1
Section 13			12	2			3						3		1
Section 14			3		1										1
Section 15		4	5		2	5						1	6		2
Section 17			1												3
Section 18			7		6	10		1					10	1	1
Section 19			5						1			1	3		3
Section 27		1	1			1									2
Section 28		1			1										
Section 34			1		1						1	1		1	1
Section 36			1											2	2
Section 37		2	12		5	1					1	1	4		3
Section 38			1											1	
Section 40					3	1							1		
TOTAL		1	12	74	2	23	22	2	1	1	4	7	29	7	22
SIXTH FOOT															
Section 9			4						1				2		
Section 10		3	10		1	1									3
Section 11			2										1		
Section 12		1											1		1
Section 13			3		1										1
Section 14			1		1	1							3		3
Section 15			1	1									2	2	
Section 16		1	3		1								4		1
Section 17	1		4			1						1	2		5
Section 18	1		1	2									2		
Section 20			3									2			
Section 26		1	1				1								
Section 27		1	3	1	1		2					3			
Section 29			1										1		2
Section 36	1		7									2	2		
Section 38			1									1	1		
Section 39		1	4			1						2	2		
Section 41			3				1						2		
TOTAL		3	8	52	4	5	1	3	1			11	25	2	16

SHEET 10. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A

FIFTH FOOT

	BODY SHERDS	Plain - common - dec.	Plain - light colored	Corrugated	W/red slip or stain	Bowl-shaped - Type 5 sides	W/nearly erased string impressions	Lugs - detached	Handles - detached	Effigy lugs	Toy pot	Dipper - clay	Hand Stones for Rubbing
Section 10	28	-	-	-	-	2	-	-	-	-	-	-	-
Section 11	27	-	-	-	-	2	-	-	-	-	1	-	-
Section 12	-	-	1	-	-	-	-	-	-	-	-	-	-
Section 13	33	-	-	1	-	3	-	-	-	-	-	-	-
Section 14	3	-	-	-	-	1	-	-	-	-	-	-	-
Section 15	34	-	-	3	-	-	-	-	1	-	-	-	-
Section 18	58	-	-	5	-	1	1	-	-	1	-	-	-
Section 19	37	-	-	-	-	2	1	-	-	-	-	-	-
Section 27	6	-	-	-	-	-	-	-	-	-	2	-	-
Section 28	21	-	-	-	-	-	-	-	-	-	-	1	-
Section 34	12	-	-	-	-	6	-	-	1	-	-	-	-
Section 36	13	-	-	-	1	-	-	-	1	-	-	-	-
Section 37	36	-	1	-	-	7	-	2	1	1	-	-	-
Section 38	47	-	-	-	-	-	-	-	-	-	-	-	-
Section 40	7	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	378	1	10	1	24	2	2	3	2	3	1	-	-

SIXTH FOOT

Section 9	18	-	-	-	-	2	-	-	-	-	-	-	-
Section 10	16	-	-	-	-	-	-	-	-	-	-	-	5
Section 11	9	-	-	-	-	-	3	-	-	-	-	-	-
Section 12	15	-	-	-	-	-	-	-	-	-	-	-	-
Section 13	23	-	-	-	-	-	-	-	-	-	-	-	-
Section 14	18	-	-	-	-	2	1	1	-	-	-	-	-
Section 15	24	-	1	-	-	-	-	-	-	-	2	-	-
Section 16	31	-	1	-	-	4	-	-	-	-	-	-	-
Section 17	57	-	-	-	-	12	1	-	1	-	-	-	-
Section 18	24	-	-	-	-	3	-	-	-	-	-	-	-
Section 20	27	-	1	-	-	-	1	-	-	-	-	-	-
Section 26	11	-	-	-	-	-	-	-	-	-	-	-	-
Section 27	19	-	-	-	-	-	-	-	-	-	-	-	-
Section 29	19	-	-	-	-	1	-	-	-	-	-	-	-
Section 34	1	-	-	-	-	-	-	-	-	-	-	-	-
Section 36	23	-	4	-	-	2	-	-	-	-	-	-	-
Section 38	-	-	-	-	4	-	-	-	-	-	-	-	-
Section 39	13	-	-	-	-	-	-	-	-	-	-	-	-
Section 41	13	-	-	-	-	-	-	-	-	-	-	-	-
TOTAL	311	-	7	4	26	6	6	1	1	-	2	-	5

SHEET 11. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A		Diorite and Granite rubbing and smoothing stones	Scoria	Abraders	Antler tines - elk or deer	Celt of diorite	"Door knob" SHELL	Busycon perversum	Clams - river	Beads - bone	UNWORKED BONE Canine tooth	Carnivora - skull	Deer - lower jaw	Deer - metacarpals	Beaver - incisor	Animal bones	Bird bones
FIFTH FOOT																	
Section 10		1	3	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 11		1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
Section 13		1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
Section 15		1	1	1	1	1	1	1	3	1	1	1	1	1	1	1	1
Section 17		1	1	1	3	1	1	1	2	1	1	1	1	1	1	2	3
Section 19		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 28		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 34		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 36		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 38		1	1	1	2	1	1	1	3	1	1	1	1	1	1	1	1
TOTAL		1	5	1	11	1	2	1	15	1	1	1	1	1	1	2	3
SIXTH FOOT																	
Section 9		1	2	1	1	1	1	1	5	1	1	1	1	1	1	1	1
Section 10		1	1	2	3	1	1	1	1	1	2	1	1	1	1	1	1
Section 11		1	1	1	1	1	1	2*	1	1	1	1	1	1	1	1	1
Section 13		1	1	1	2	1	1	1	1	1	4	1	1	1	1	1	1
Section 12		1	1	1	1	1	1	1	1	1	1	2	1	1	1	1	1
Section 14		1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
Section 15		1	1	1	1	1	1	1	12	1	1	1	1	1	1	1	1
Section 17		1	1	1	3	1	1	1	1	1	1	1	1	1	1	1	1
Section 20		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 29		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 36		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Section 40		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
TOTAL		1	4	4	12	2	1	1	21	1	6	1	2	1	1	1	1

* - Oliva shells

SHEET 11-12. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A

FIFTH FOOT

	Turtle carapace	Fragment - jaw SUNDY	Stone Disk	Lump pottery clay	Pottery disk	Bone disk	HUMAN SKELETAL REMAINS Adult skeleton	CHIPPED & FLAKED FLINT Other types points	Flake diorite	Quartzite pieces - large	Stemmed pieces - broken	Gravers	Scrapers	Flakes - Nehawka	Celts - large pieces	Flakes - flint
Section 10	1	1	1	1	1	1	1	2	1	1	1	1	1	1	1	1
Section 11																
Section 12																
Section 13																
Section 15																
Section 17																
Section 34																
Section 36																
Section 37																
Section 38			1			1				1				1	3	
TOTAL	1	1	1	-	4	1	-	2	1	1	1	3	7	2	5	5

SIXTH FOOT

	Turtle carapace	Fragment - jaw SUNDY	Stone Disk	Lump pottery clay	Pottery disk	Bone disk	HUMAN SKELETAL REMAINS Adult skeleton	CHIPPED & FLAKED FLINT Other types points	Flake diorite	Quartzite pieces - large	Stemmed pieces - broken	Gravers	Scrapers	Flakes - Nehawka	Celts - large pieces	Flakes - flint
Section 9	-	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Section 10	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 11	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Section 13	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Section 14	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 15	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Section 17	1	-	-	-	2	-	-	-	-	-	-	-	-	-	-	-
Section 18	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Section 27	-	-	-	-	1	-	1	-	-	-	-	-	-	-	-	-
Section 29	-	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Section 34	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-
Section 36	-	-	-	-	1	-	-	-	-	1	-	-	-	-	-	-
Section 38	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
TOTAL	1	-	-	1	8	-	1	-	-	1	-	-	2	-	-	-

SHEET 12. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A		BONE IMPLEMENTS												
		Awls from lg. round bones	Awls - bird wing humeri	Awls from split ribs	Awls from bird bills	Awls from fish ribs	Fish hooks	Other bone tools	Bear's fangs	Fish vertebrae	Shoulder blade for digging	Bone ornament	Shoulder-blade knife	Pin gaming cup-metacarpal
FIFTH FOOT														
Section 10				1		1		1				1		
Section 11		1		1				2						
Section 13		1					1	1						
Section 17				1		1	3	2			1	1		1
Section 19				1			1	1						
Section 27			2					1						
Section 28										1				
Section 34														4
Section 36								4		1				2
Section 38	37		1						1					1
TOTAL		2	3	4	-	2	5	12	1	2	1	2	1	4

* - one piece is classed as "yellow paint rock"

SIXTH FOOT														
Section 10		1	-	-	-	-	-	-	-	-	-	-	-	1
Section 12		-	-	-	-	-	-	2*	-	-	-	-	-	-
Section 13		2	-	1	1	-	-	1	-	-	-	-	1	-
Section 14		1	-	-	-	-	-	1#	-	-	-	-	-	-
Section 16		-	-	-	-	-	1	-	-	-	-	-	-	-
Section 17		-	1	-	-	-	-	1	-	-	-	-	-	-
Section 20		-	1	-	-	-	-	3	-	-	-	-	-	-
Section 29		-	-	1	-	2	-	-	-	-	-	-	-	-
Section 34		-	1	-	1	-	-	-	-	-	-	1	-	5
Section 36		-	-	-	-	-	1	-	-	-	-	-	-	-
Section 39		-	1	-	-	-	-	-	-	-	-	-	-	-
TOTAL		4	4	2	2	2	2	8	-	-	-	1	1	5

* - one specimen was classed as "bird wing metacarpal"

- specimen was classed as "wishbone"

SHEET 13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A		RIM SHERDS								
		Type 2 - Vertical or flaring - Plain	Type 2 - Vertical or flaring - Decorated	Type 3 - Collared - Decorated	Type 5 - Basin shaped	Type 6 - Globular	Type 7 - Plain	Type 10 - Square lip-Plain	Type 10 - Square lip-Dec.	Type 11 - Rope decorated
SEVENTH FOOT										Unclassified
Section 13		1	1	-	-	-	-	4	2	3
Section 16		1	8	1	-	-	-	1	-	3
Section 17		-	1	-	-	-	-	-	2	-
Section 19		1	7	1	-	-	-	-	2	3
Section 20		-	1	-	-	-	-	-	-	4
Section 29		-	1	-	-	-	-	-	-	-
Section 31		-	8	-	-	-	1	2	2	1
Section 33		-	2	-	1	-	1	4	-	2
Section 34		-	2	-	-	1	1	1	-	-
TOTAL		3	31	2	1	1	3	12	8	16
EIGHTH FOOT										
Section 13		-	1	-	1	-	-	3	2	-
Section 18		1	4	-	-	-	-	-	2	-
Section 19		-	-	-	-	-	-	-	-	1
Section 26		-	2	-	-	-	-	1	-	1
Section 36		1	-	-	-	-	-	-	-	-
Section 37		-	-	-	-	1	-	-	1	-
TOTAL		2	7	-	1	1	-	4	4	2

SHEET 13. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

trench A								
		BODY SHERDS						
		Plain - common	Corrugated	W/red slip or stain	Bowl-shaped - Type 5 sides	With nearly erased string impressions	Lugs - detached	Effigy lugs
SEVENTH FOOT								
Section 13		40	-	-	2	-	-	-
Section 16		47	-	-	1	1	-	-
Section 17		12	-	-	-	-	-	-
Section 19		70	1	-	2	-	-	-
Section 20		19	-	-	3	-	-	-
Section 31		16	-	-	-	-	-	-
Section 33		22	-	-	1	1	-	-
Section 34		11	1	-	-	-	-	-
TOTAL		237	2	-	9	2	-	1
EIGHTH FOOT								
Section 13		17	-	1	-	1	-	-
Section 18		16	-	-	-	-	1	-
Section 26		9	-	-	-	-	-	-
Section 37		6	-	1	-	3	-	-
TOTAL		48	-	2	-	4	1	-

SHEET 14. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A													
SEVENTH FOOT	Mica	Abraders	Antler tines, elk or deer	Celt of diorite	"Door knob" SHELL	Busycon perversum	Clams - river	Oliva shells	UNWORKED BONE	Buffalo bone - Cache	Deer - upper jaw - fragment	Animal bones	SUNDRY Stone Disk
Section 13			4	1			1				2	2	
Section 16			1										
Section 17			1										
Section 19			4										
Section 29					1			1				3	
Section 33							2		1				2
Section 36						1							1
TOTAL	-	-	10	1	1	1	3	1	1	2	5	1	5
EIGHTH FOOT													
Section 13	-	1	1	-	-	-	-	-	1	-	-	-	-
Section 18	-	-	1	-	-	-	1	-	-	-	-	-	-
Section 19	-	-	-	-	-	-	10	-	-	-	-	-	-
Section 26	-	1	2	-	-	-	2	-	-	-	-	1	-
Section 37	1	-	1	-	-	-	1	-	-	-	-	-	-
Section 32	-	-	-	-	-	-	-	-	-	-	1	-	-
Section 33	-	-	-	-	-	-	-	-	-	-	-	-	1
Section 36	-	-	-	-	-	-	-	-	-	-	-	1	-
TOTAL	1	2	5	-	-	-	14	-	1	-	1	1	1

SHEET 15. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A																				
SEVENTH FOOT		CHIPPED AND FLAKED FLINT																		
		Oval pieces - large																		
		Celts																		
		Gravers																		
		Flakes																		
		Scraper - small																		
		Arrow shaft smoother																		
		BONE IMPLEMENTS																		
		Awls from large bones																		
		Awls from bird wing humeri																		
		Awls from split ribs																		
		Awls - bird bills																		
		Awls - fish ribs																		
		Double end - Gorges (?)																		
		Long bird bones																		
		Fish hooks																		
		Fish hooks - blanks																		
		Other bone tools																		
Section 13																				
Section 16						1			4	1		1								
Section 17						3				1										
Section 19									1			1								
Section 20																				
Section 29						3			1									1		
Section 31									1											
Section 36		1				1									1		1			
TOTAL		1	-	-	-	8	1	1	8	3	3	-	-	-	1	-	1	2	7	
EIGHTH FOOT																				
Section 13		-	1	1	-	-	-	-	1	-	-	-	-	-	-	2	-	-	-	
Section 18		-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	
Section 26		1	-	-	-	-	-	-	4	-	1	1	1	-	-	-	-	-	-	
TOTAL		1	1	1	-	-	-	-	5	-	2	1	1	-	-	2	-	-	-	

*SHEET 15. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

TRENCH A

		Shoulder blade for digging	Shoulder blade knife	SUNDRY Concretion	Crane's (?) head of elk tine	Pin gaming cup - metacarpal	Muller	Red paint stones
SEVENTH FOOT								
Section 13		-	-	-	-	-	-	-
Section 17		-	-	-	-	-	-	-
Section 19		1	1	-	-	-	-	-
Section 31		-	-	-	-	1	-	-
TOTAL		1	1	1	1	1	-	-
EIGHTH FOOT								
Section 13		-	-	-	-	-	2	-
Section 18		-	-	-	-	-	-	2
Section 26		1	1	-	-	-	-	-
Section 31		-	-	-	-	2	-	-
TOTAL		1	1	-	-	2	2	2

SHEET 16. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

	RIM SHERDS												
	Type 1 - Plain	Type 2 - Plain	Type 2 - Decorated	Type 3 - Collared - Plain	Type 3 - Collared - Dec.	Type 4 - Corrugated - Plain	Type 4 - Corrugated - Dec.	Type 4 - Corr. - Plain - Rec.	Type 5 - Basin shaped	Type 6 - Globular	Type 7 - Plain	Type 7 - Decorated	Type 8 - "Rattlesnake" Shoulder decorated with incised patterns
Test Pit 1	2	2	12	1	4	2	1	1	3	1	1	1	1
Test Pit 6	1	5	12	1	6	1	1	1	2	1	1	1	1
Test Pit 7	1	4	30	4	3	2	8	1	16	1	1	1	1
Test Pit 8	1	1	1	1	2	1	1	1	5	1	1	1	1
Test Pit 9	4	12	63	5	15	5	8	1	26	1	1	1	1
Refill	-	3	-	-	2	-	1	-	2	-	-	-	1
TRENCH B													
SECOND FOOT													
Section 4	1	-	4	-	2	-	-	-	3	-	1	-	-
Section 6	3	1	7	-	5	-	1	1	4	-	-	-	2
Section 8	2	-	7	-	7	-	-	-	7	-	-	-	2
	6	1	18	-	14	-	1	1	14	-	1	-	2
THIRD FOOT													
Section 0	1	1	3	-	1	-	3	-	2	-	-	2	-
Section 2	-	1	5	2	3	-	-	-	1	-	-	-	-
	1	2	8	2	4	-	3	-	3	-	-	2	-
FOURTH FOOT													
Section 1	-	-	-	-	-	1	-	-	1	-	-	-	-
Section 4	2	3	5	-	3	-	-	-	1	1	-	-	-
Section 5	1	-	-	-	-	-	-	-	2	-	-	-	-
	3	3	5	-	3	1	-	-	4	1	-	-	-
FIFTH FOOT													
Section 3	-	1	9	-	-	-	-	-	-	-	-	-	-
Section 4	-	-	4	-	-	-	-	-	1	2	-	-	1
Section 5	-	-	11	-	-	-	-	-	6	-	-	-	-
Section 6	1	-	2	-	-	-	-	-	-	-	-	-	-
	1	1	26	-	-	-	-	-	7	2	-	-	1
SIXTH FOOT													
Section 0	-	1	5	-	1	-	-	-	2	2	-	-	-
GRAND TOTAL	15	22	125	7	39	6	13	1	58	6	2	2	2

SHEET 16. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

	Type 10 - Sq. lip - Plain	Type 10 - Sq. lip - Dec.	Type 11 - Rope decorated	Unclassified	BODY SHERDS Plain - common	Decorated - rare	Plain - light colored-rare	Sides of Type 5	Decorations nearly erased by smoothing	Lugs - detached	Effigies	Handles - detached	Toy pot - plain	Pottery spoon
Test Pit 1	3	5	1	3	45	3	-	-	5	1	-	-	-	-
Test Pit 6	3	1	-	-	35	-	-	3	-	-	-	-	-	-
Test Pit 7	2	5	-	1	137	-	-	4	1	-	1	-	-	-
Test Pit 8	6	6	3	-	2	-	-	-	-	-	-	-	-	-
Test Pit 9	-	1	-	-	-	-	-	-	-	1	-	-	-	-
	14	18	4	4	219	3	-	7	6	2	1	-	-	-
Refill	-	-	-	1	-	1	-	-	-	1	-	2	-	1
TRENCH B														
SECOND FOOT														
Section 4	1	5	-	-	9	-	-	-	-	-	-	-	1	-
Section 6	-	9	2	-	22	-	5	-	-	-	-	1	-	-
Section 8	1	2	1	-	60	1	-	-	-	2	-	-	-	-
	2	16	3	-	91	1	5	-	-	2	-	1	1	-
THIRD FOOT														
Section 0	-	3	-	2	12	-	-	-	-	1	-	-	-	-
Section 2	3	3	-	-	39	-	-	-	-	-	-	-	-	-
	3	6	-	2	51	-	-	-	-	1	-	-	-	-
FOURTH FOOT														
Section 1	-	3	-	-	11	-	-	-	-	-	-	-	-	-
Section 4	-	6	-	3	21	-	-	-	1	1	-	-	-	-
Section 5	-	1	-	-	-	-	-	-	-	-	-	-	-	-
	-	12	-	3	32	-	-	-	1	1	-	-	-	-
FIFTH FOOT														
Section 3	1	2	-	1	13	-	-	-	-	1	1	-	-	-
Section 4	-	-	-	1	14	-	-	-	-	-	-	-	-	-
Section 5	1	1	1	-	35	1	-	-	-	-	-	1	-	-
Section 6	-	2	-	1	10	-	-	1	-	-	-	-	-	-
	2	5	1	3	62	1	-	1	-	1	1	1	-	-
SIXTH FOOT														
Section 0	-	1	-	3	36	-	-	-	-	-	-	-	1	-
SEVENTH FOOT														
Sec. 0-6	-	-	-	1	-	1	-	1	-	1	4	-	1	-
GRAND TOTAL	21	56	8	17	491	7	5	9	7	9	6	4	3	1

SHEET 17. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

	Granite Ball	Diorite & Granite Rub. Stone	Scoria	Celt of diorite	Celt of diorite - broken	"Door knob"	Perforated stone	Grooved axe	SHELL	Busyon perversum	Clams - river	Worked clam shells	Oliva shells	Snail shells	Clam shell ornaments	Perforated pottery disk	Toy bow made of bone or horn	Cut human skull	Human lower jaw
Test Pit 1	1	1	3	1	1	1	1	1	1	1	4	1	1	3	1	1	1	1	1
Test Pit 7	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Test Pit 8	1	1	1	1	1	1	1	1	1	1	36	1	1	1	1	1	1	1	1
Refill	1	2	1	1	1	1	1	1	1	1	9	1	1	3	1	1	1	1	1
TRENCH B																			
SECOND FOOT																			
Section 4	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-
Section 8	-	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-
THIRD FOOT																			
Section 2	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
FOURTH FOOT																			
Section 5	-	1	-	-	-	1	-	-	-	-	-	-	-	-	-	-	-	-	-
FIFTH FOOT																			
Section 3	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-	-	-
Section 4	-	-	-	-	-	-	-	-	-	1	5	-	-	-	-	-	-	-	-
Section 6	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
SEVENTH FOOT																			
Sec. 0-6	-	-	-	-	-	1	-	-	-	-	-	-	1	-	2	-	2	-	1
TOTAL	1	4	4	1	2	2	1	1	1	1	57	2	2	3	2	1	2	2	1

SHEET 18. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

	CHIPPED AND FLAKED FLINT															
	Arrow point - chalcodony	Arrow points - flint	Worked flints	Quartzite implements	Flint scrapers	Quartzite scrapers	Flint flakes	Nehavka flakes	Nehavka scraper	BONE IMPLEMENTS		Awls from split ribs	Fish bones	Bird bones	Animal bones	Cut ends of bones
Test Pit 1	.	.	.	.	.	.	.	.	.	2	2	1	.	2	1	1
Test Pit 8	.	.	1	1	.	.	.	.	.	3	.	.	.	.	.	.
Test Pit 9	.	.	.	.	.	.	.	.	.	1	.	.	.	.	.	1
Refill	.	.	.	.	1	.	.	.	.	3	2	1	.	2	1	.
TRENCH B																
FOURTH FOOT																
Section 5	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-	-
SIXTH FOOT																
Section 5	-	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
SEVENTH FOOT																
Sec. 0-7	1	3	3	-	1	1	6	1	1	10	3	3	1	1	4	-
TOTAL	1	3	4	1	2	1	6	1	1	10	3	3	1	5	5	2

SHEET 18. TABULATION OF MATERIAL RECOVERED IN EXCAVATING KIMBALL MOUND.

	Turtle bones	Worked bones - other	Cut elk horn	Bone tubes - beads (?)	Bone implements	Shoulder blade for digging	Perforated bird bill	Buffalo horn and skull digging implement	Bone disk	Pierced decorated bone SUNDRY	Pin gaming cup	Carbonized corn	Pottery disk	Red paint stone	Other (itemized below)
Test Pit 1	2	4													
Test Pit 8			1												
Test Pit 9			4	1	1	1									
Refill					2		1	2					2	1	(1)
TRENCH B															
SECOND FOOT															
Section 4									1				1		
FOURTH FOOT															
Section 4					1										(2)
FIFTH FOOT															
Section 4						1									(3)
Section 5															(4)
SIXTH FOOT															
Section 5					1	1									
SEVENTH FOOT															
Sec. 0-7													2		(5)
TOTAL	2	4	5	1	5	3	1	2	1	1	1	1	5	1	16

(1) 1 - Hammer stone

(2) 1 - Fish vertebra

(3) 1 - Bone spear head

(4) 1 - Deer antler

(5) 2 - Deer antler; 8 - bone beads; 2 - bone fish hook.

Nine entries also appear in a column between "Pottery Disk" and "Red Paint Stone" but their nature is not identified.

KIMBALL MOUND

MATERIAL RECOVERED

TRENCH A

SHEETS 1-15 7126

TRENCH B

SHEETS 16-18 663

TEST PITS

No. 1-9

495

REFILL

58

TOTAL PIECES

8232