

7 *Mounds between lakes Ramsey and Maple.* On the N. W.  $\frac{1}{4}$ , sec. 8, T. 120-26, is a single tumulus, and the remains of five others belonging to the group can be discerned. Possibly others have been destroyed. They are about 60 ft. above the lake.

*Mounds at Twin lakes (Silvia lake)* on S.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 27, T. 121-28. Here are 19 earthworks, including 4 elongated mounds and one flat-topped, the last being the largest and out of the line of the series. Its base is 60 ft. and its top 24 ft. in diameter,  $5\frac{1}{2}$  ft. high. The longest mound is 265 ft. in length and 18 ft. wide,  $1\frac{1}{2}$  ft. high. This group is 60 ft. above the lake, from 20 ft. to 45 ft. from the brink of the bluff, and about 950 ft. from the water's edge. Surveyed Aug. 4, 1887. (Shown below.)

*Group at Waverly lakes*, lot 3, S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 32, T. 119-26. In this group of 11 mounds 3 are elongated, 20 ft. wide, the longest being 150 ft. long, and one has a curving spur-shaped enlargement. No. 1, the largest (58 ft. by 5 ft.), has an extension  $2\frac{1}{2}$  ft. high, 35 ft. wide, and 31 ft. long. When No. 1 was opened it was found to contain many human bones. Surveyed Sept. 17, 1881. (Shown on insert opposite.)

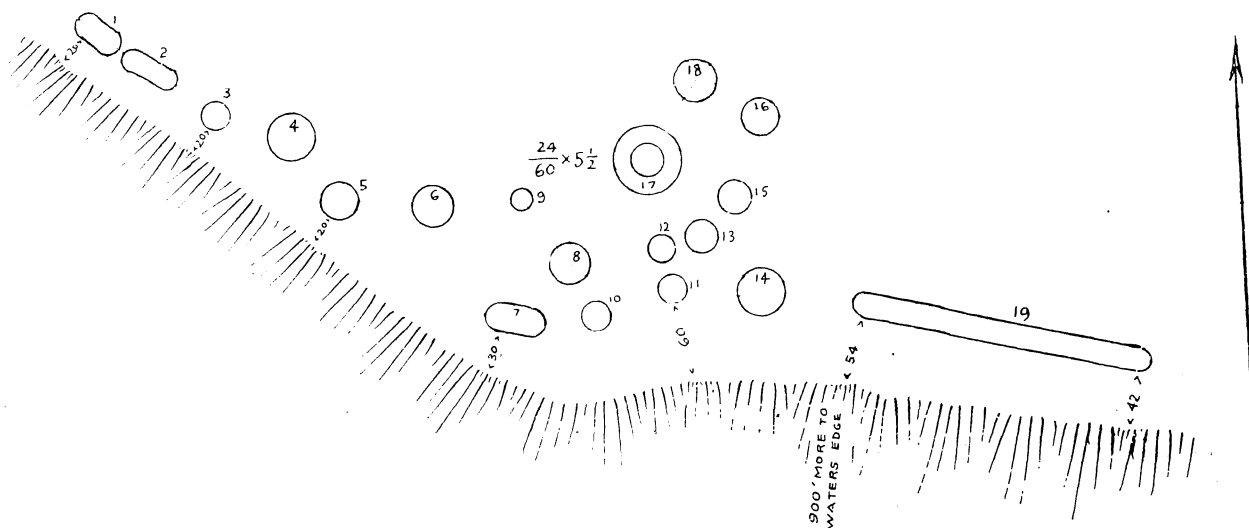
A solitary circular mound is on lot 6, N.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 32, T. 119-26, in the woods, 90 ft. from the lake and 20 ft. above it; 35 ft. in diameter,  $2\frac{1}{2}$  ft. high.

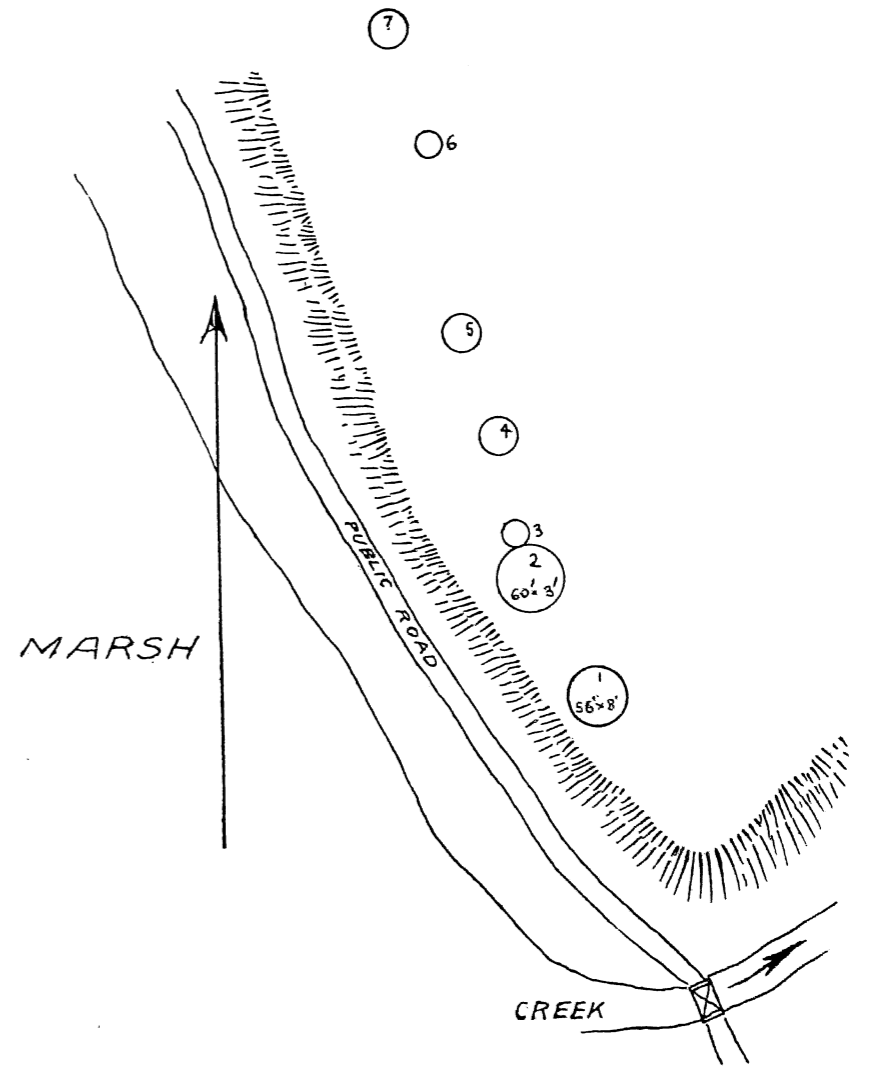
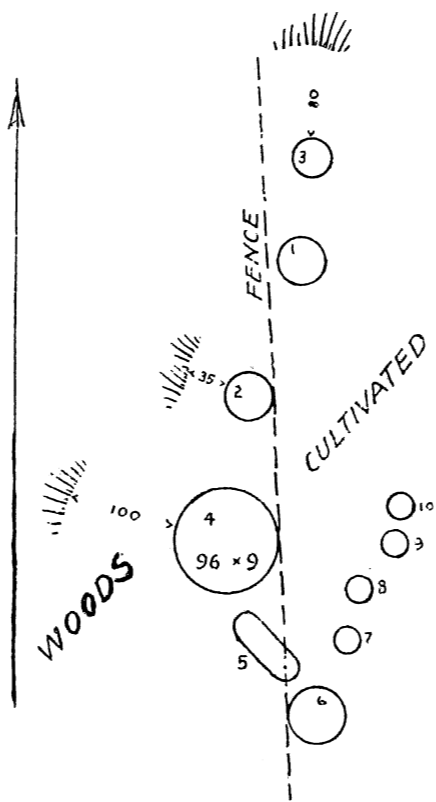
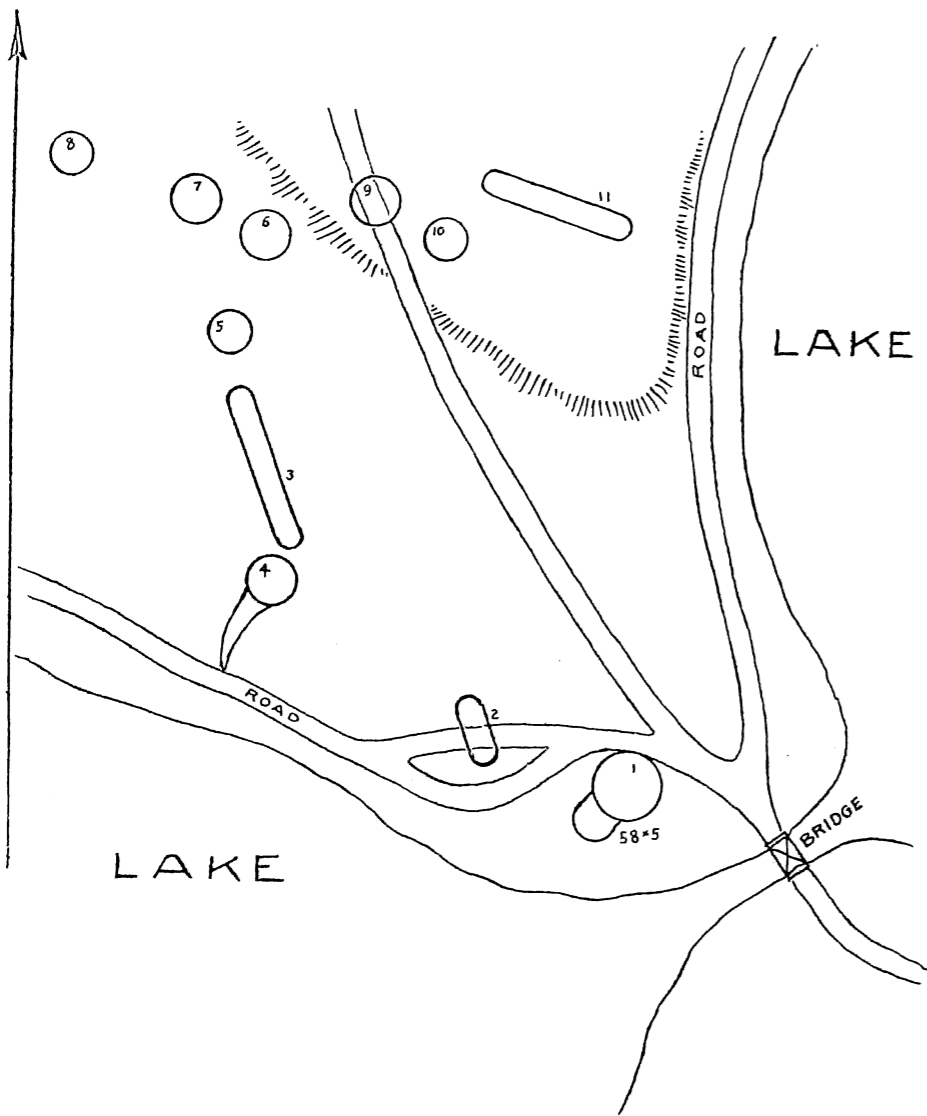
*Fish Lake mound*, N. E.  $\frac{1}{4}$ , sec. 13, T. 122-27. This mound is 55 ft. in diameter, 7 ft. high, and 50 ft. above the lake. It has been excavated. Surveyed Nov. 13, 1886

*Cokato Lake mounds*, E.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 23, T. 119-28, at 200 yards from the shore of the lake and 40 ft. above it. The largest here is 96 ft. by 9 ft., 100 ft. back from the bluff, within the line of extension of the series. One mound is elongated, 76 ft. by 25 ft., 2 ft. high. (Shown on insert opposite.)

*Grimshaw Creek group*, W.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 6, T. 118-25, consists of 7 tumuli, two of them being large, 60 ft. by 3 ft. and 56 ft. by 8 ft., situated on a bluff overlooking a marsh. Surveyed Sept. 16 1881. (Shown on insert opposite.)

According to the catalogue furnished by Mr. Lewis when it was turned over to Mr. Mitchell, the Lewis collection contained, from Wright county, 5 grooved axes, 6 arrow and spear heads, 2 war-points, 1 grooved hammer, 1 celt, 1 stone roller, 1 hoe, 1 scraper and 1 "chipped implement."





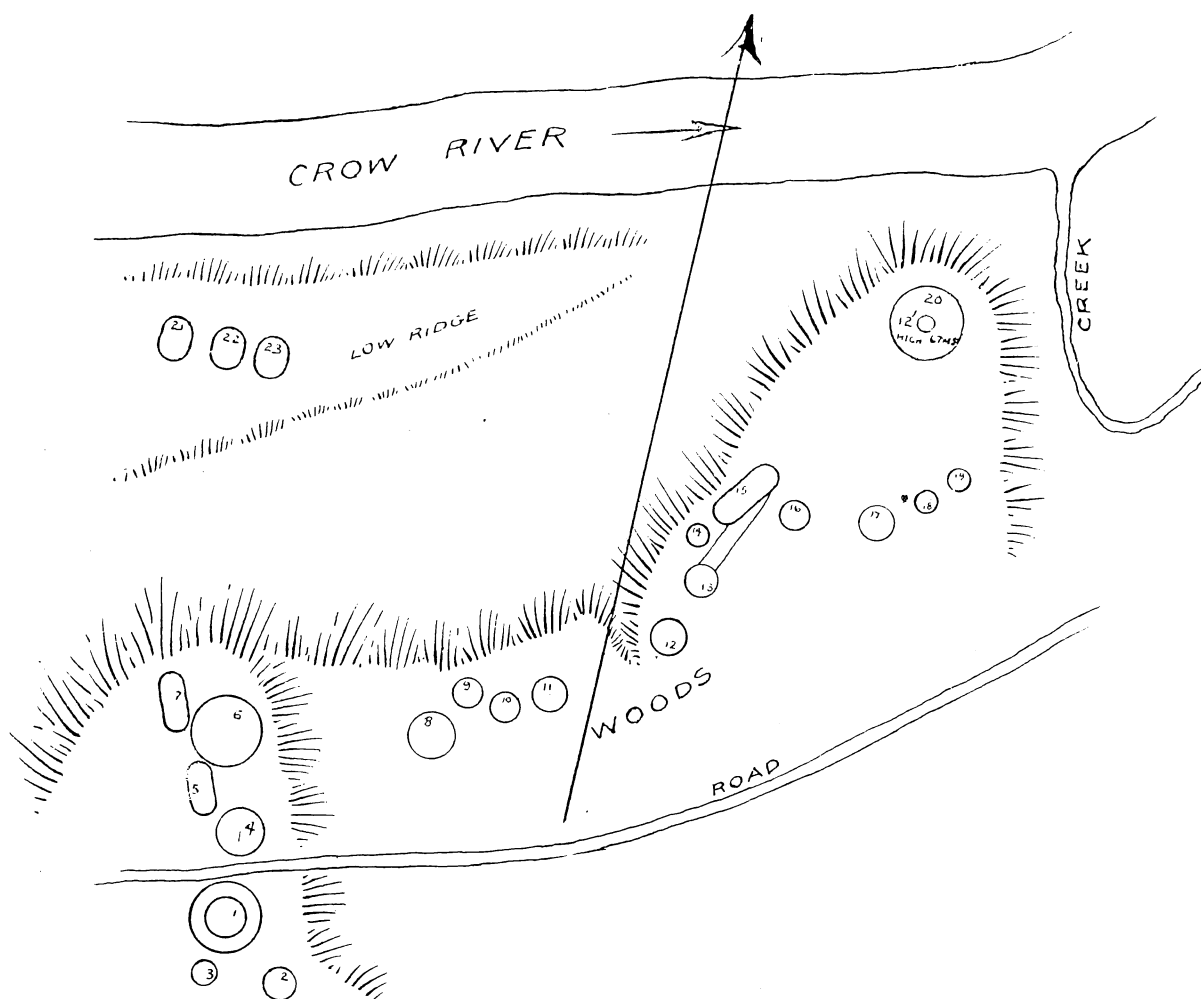
RAMSEY, FISH AND COKATO LAKES

## EARTHWORKS IN HENNEPIN COUNTY.

In Hennepin county more than 1,000 earthworks have been surveyed. They can be grouped in four geographical divisions, viz.: (a) Mounds of Crow river; (b) Mounds of Lake Minnetonka; (c) Mounds of the Minnesota river; (d) Mounds on the minor lakes and streams.

(a) *Mounds on Crow river.*

Group near Greenwood, S.  $\frac{1}{2}$ , sec. 29, T. 119-24. Here are twenty-three mounds, lying from 32 to 45 ft. above the river. Two are flat-topped, and five have been excavated. The largest one (No. 20) is flat-topped and 67 ft. in ground diameter, 15 ft. across the top. No. 1 is 60 ft. in diameter and 35 ft. across the top. Three of this group are elliptical (Nos. 21, 22 and 23), of the same size and 35 ft. by 25 ft., the elongation running north and south. These three are separated from the rest of the group, and are on a lower ridge near the river. The other elongated mounds of this group (Nos. 5, 7 and 15) are about 2 ft. in high and 46, 50 and 66 ft. in length by 20 to 22 ft. in width. Nos. 13 and 15 are connected by an embankment. Surveyed July 13, 1881.



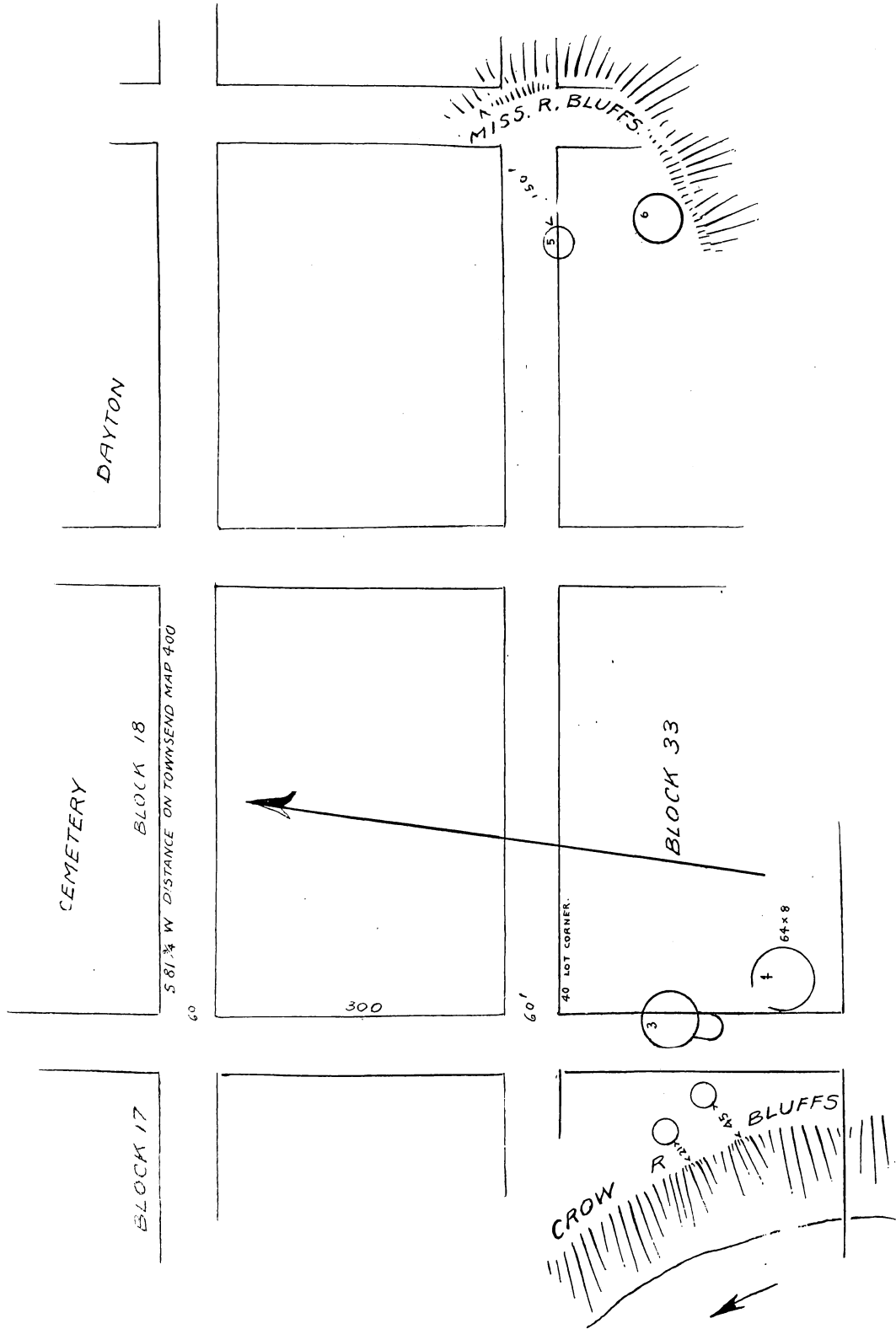
There is an isolated circular mound on N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 31, T. 119-24, at Greenwood, fifty ft. above the river, having a diameter of 40 ft. and height of  $3\frac{1}{2}$  ft.

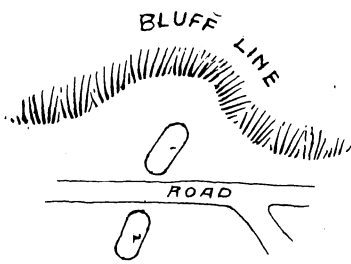
According to the Eleventh Annual Report of the Geological Survey, p. 193, there is a group of 16 mounds on the N. E.  $\frac{1}{4}$ , sec. 31, T. 119-24, from the largest of which, on being opened by H. Ellington, were taken human bones and pottery. This was 9 ft. in high.

*Mounds near Greenwood*, on the S. W.  $\frac{1}{4}$ , sec. 29, T. 119-24, two elongated mounds, 50 ft. by 18 ft. and 45 ft. by 20 ft.

THE ABORIGINES OF MINNESOTA.

DAYTON, HENNEPIN COUNTY.

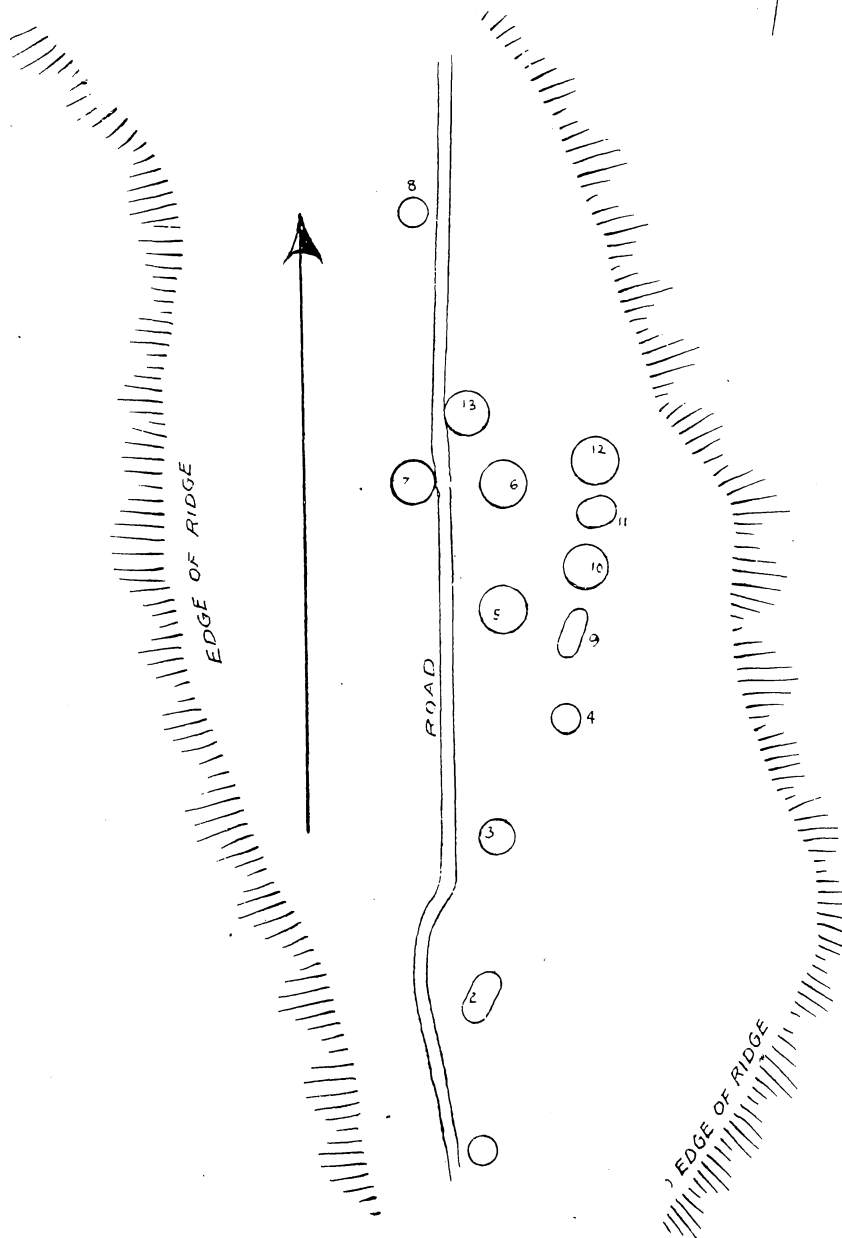
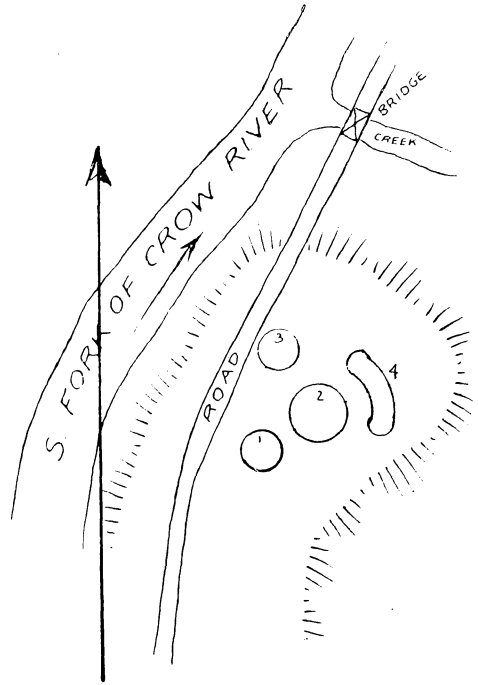




Mounds between Greenwood and Delano, on S. W.  $\frac{1}{4}$ , sec. 31, T. 119-24. A group of four mounds, on the south fork of the Crow river, of which one is elongated and curved, 75 ft. long and 18 ft. wide, with a height of  $1\frac{1}{2}$  ft. The others are

circular with basal diameters of 35, 35 and 50 ft. and heights of  $2\frac{1}{2}$ ,  $3\frac{1}{2}$  and  $3\frac{1}{2}$  ft. respectively.

Also on the ridge along which the road passes N. W.  $\frac{1}{4}$ , sec. 6, T. 118-24, is a group of 13 mounds, of which three are elongated and the rest are circular. These three have the



dimensions 18 ft. by 45 ft., 18 ft. by 45 ft., and 25 ft. by 35 ft., and heights respectively  $1\frac{1}{2}$  ft., 1 ft., and 3 ft.

[For Crow River groups on the north side, see Wright county.]

*Lake Calhoun mounds.* In 1867 Mr. A. J. Hill visited lake Calhoun and observed three mounds "situated on the summit adjoining each other and immediately overlooking the lake, between 2 ft. and 3 ft. high and 30 ft. to 40 ft. in diameter. Their surface is very irregular, either from the effects of weather or from digging subsequent to their construction." From Mr. Hill's plat these mounds appear at the lake bluff, S. W.  $\frac{1}{4}$ , sec. 4, T. 28-24, and probably now included within the Lakewood cemetery. (Compare Minn. Hist. Soc. Coll., vol. vi, p. 318.)

*Mounds at Dayton.* Those which are near the Crow river are about 45 ft. above that river and are more or

less defaced. Two of these are 8 ft. high and 60 and 64 ft. in diameter on the ground. Those nearer the Mississippi are 85 ft. above that river. Surveyed April 27, 1887. (Shown on preceding page.)

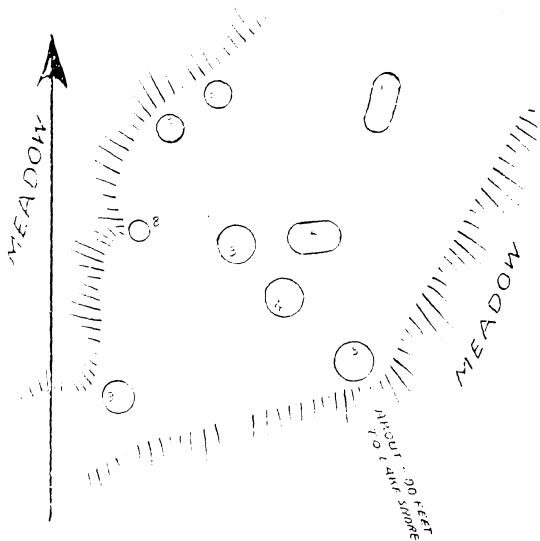
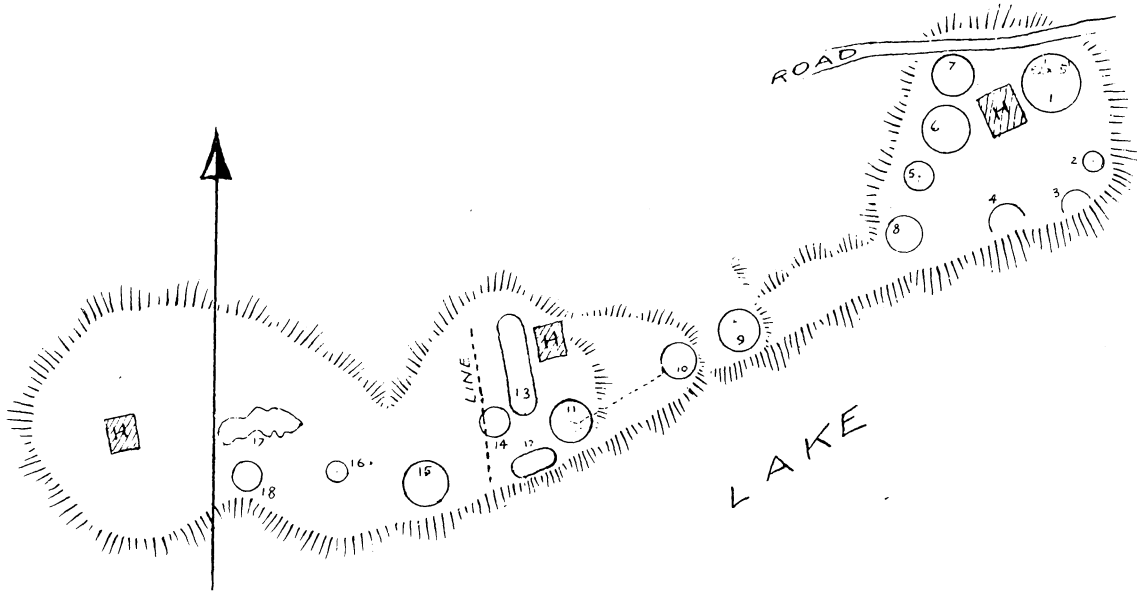
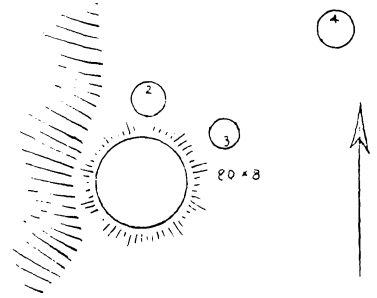
In the Smithsonian report for 1863, p. 382, Mr. O. H. Kelley reports the discovery of the remains of an old settlement at the mouth of Crow river, consisting of outlines of old buildings and articles of civilized life. This indicates, probably, the site of a trading-house.

(b) *Mounds of Lake Minnetonka.*

Near *Mound City*, 80 ft. from the shore, is a circular mound 40 ft. in diameter and 3 ft. high, about 18 ft. above the lake. It is on lot 1, S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 23, T. 117-24.

*Cook's group* is on lot 1, sec. 24, T. 117-24, and consists of one large circular mound, 80 ft. in diameter and 8 ft. high, and three smaller ones about 30 ft. in diameter and 2 ft. high. Surveyed May 12, 1883.

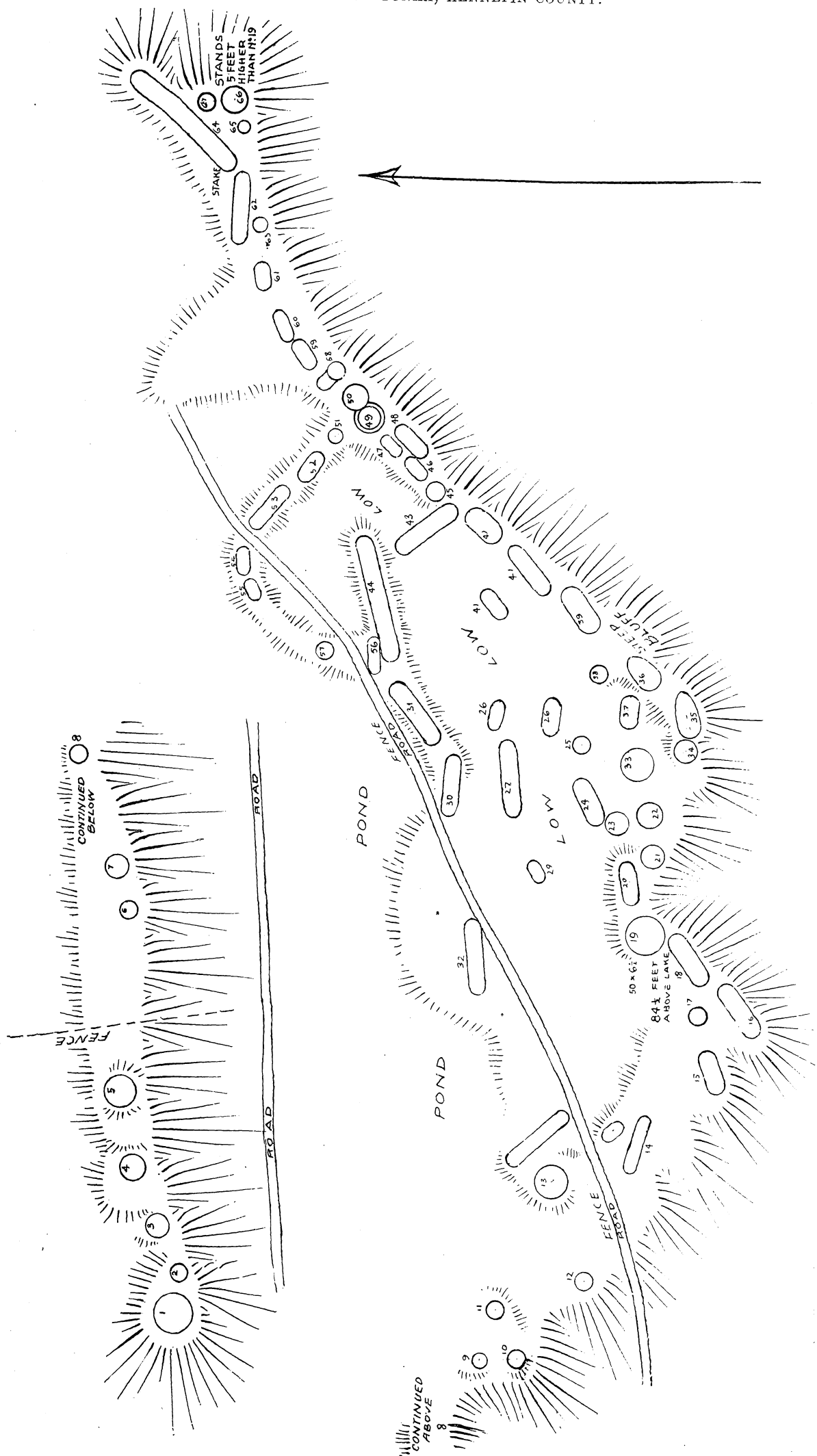
*First Bartlett group*, lots 3 in sec. 24 and 1 in sec. 23, T. 117-24, consists of 18 mounds, of which 15 are circular, two are elongated and one is of elongated irregular shape. No. 1 is the largest, 52 ft. in diameter and 5 ft. high. The rest are from 1 to 3 ft. high. The base of



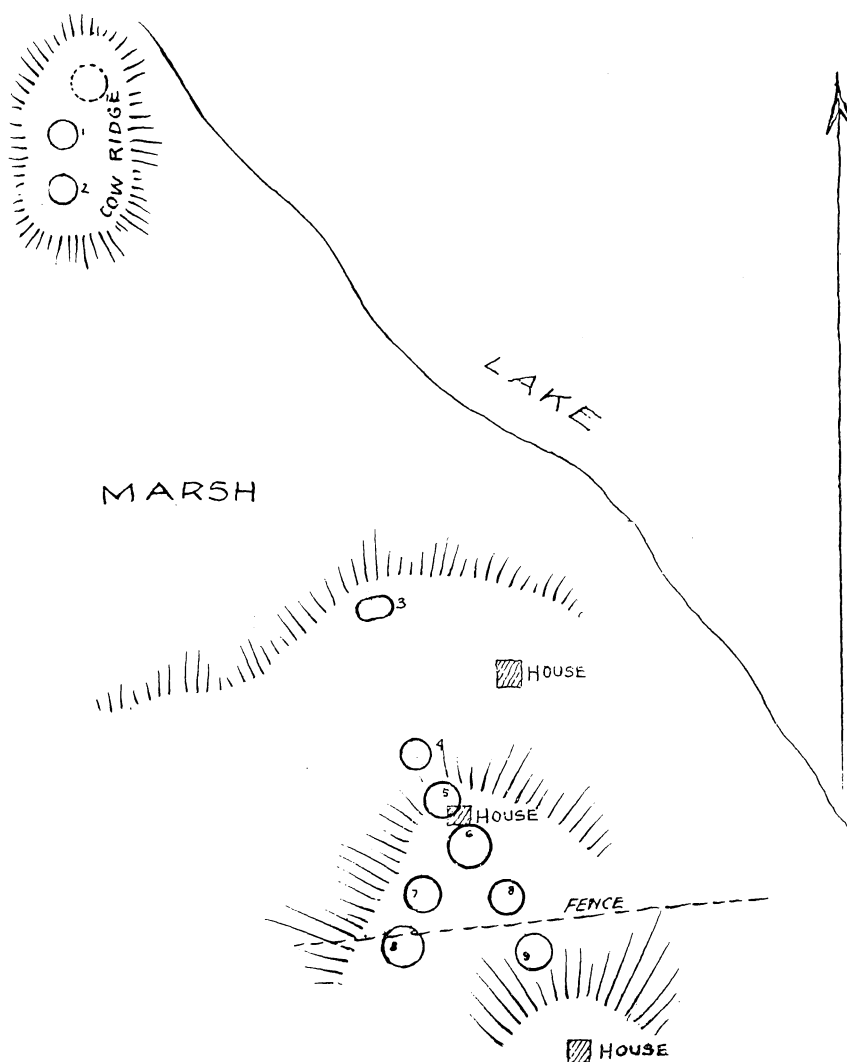
No. 5 has been drawn in and the height increased by Mr. Bartlett. Surveyed May 9, 1883.

*Second Bartlett group* consists of 9 mounds situated on lot 3, sec. 24, T. 117-24, the nearest mound being 400 ft. from lake Minnetonka. The Bartlett and Cook groups are near *Mound City*, at the west end of the lake. Of this group Nos. 1 and 2 are low elongated mounds and the rest are circular.

North side of *Halsted's bay*, lots 1 and 2, sec. 22, T. 117-24. Here is a remarkable series of 69 mounds, most of which are elongated. The width of these elongated mounds ranges from 16 ft. to 30 ft. (one is 32 ft.), averaging about 22 ft., and in length they range from 43 ft. to 167 ft., averaging about 60 ft. The largest circular mound (No. 19) is 50 ft. in diameter at the base and 6½ ft. in height. This stands 84½ ft. above the lake. They have about an equal elevation



above the lake, but the most eastern (No. 66) is about 5 ft. higher than No. 19, while No. 1, at the extreme western end of the series, is on ground about 10 ft. higher than No. 19. From No. 19 is a fine view of the lake, Halsted's bay and the surrounding country. This mound has about 2 ft. of "niggerheads" on top, while "No. 67 is covered with a layer of the same." No. 58 has an "approach" 18 ft. by 30 ft. Nos. 35 and 36 are not truly elliptical, but they have their greatest height and transverse diameter at about one-third their length from the western end. Surveyed May 10 and 11, 1883. (Shown on page 225.)



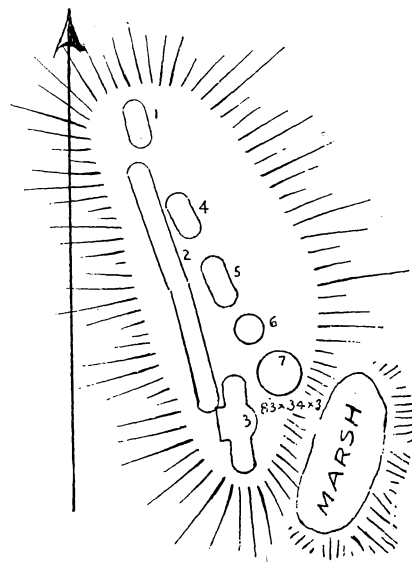
According to the *Pioneer Press* of May 22, 1901, ten human skeletons were found in a low mound in grading for a new road a mile or more west of Mound City. The mound was about 2 ft. high. There were found also "a curious old pipe and a number of shells that had been used for drinking purposes."

"In 1885 several other skeletons were found in a mound about 500 ft. from the late discovery."

*Howard Point group*, situated on lot 3, sec. 30, T. 117-23, embraces 10 mounds, of which one is somewhat elongated,

being 33 ft. by 18 ft. The circular mounds are about 25 ft. in diameter, but vary from 22 ft. to 36 ft. No. 9 has been excavated by Mr. Howard and others. Bones were found under a large boulder; also arrow-heads and a pipe-stone ("red stone") toy ax.

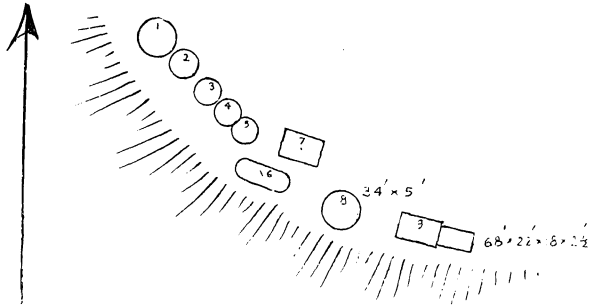
*Halsted mounds*, between Halsted's bay and the lake, center of sec. 26, T. 117-24. Here are seven mounds, the most remarkable feature of which is the shape of No. 2. It is 83 ft. long and 34 ft. wide, with a height of 3 ft. At the center it widens out suddenly on both sides from 17 ft. to 34 ft., the western enlargement being rectangular and the eastern curved. The western expansion is 18 ft., and the eastern is 16 ft., while north and south the extent of the entire expansion is 30 ft. These mounds are about 75 ft. above the lake, and if the timber were cleared off would command a fine view of the upper lake. The long embankment (No. 2) is an extremely elongated mound of the same type as the shorter elliptical mounds of this group. Surveyed May 22, 1883.



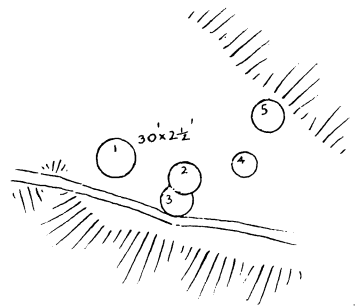


A single circular mound is on Dunlap island, N. E.  $\frac{1}{4}$ , sec. 36, T. 117-24; 28 ft. in diameter and 4 ft. high.

*Zumbra mounds.* Of these are two groups, one on lot 1, S. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 36, T. 117-24, and one on lot 2, S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , of the same section. The former consists of 9 mounds, of which three are elongated. Two of these are rectangular, and one of those that are rectangular has an ell, or approach, which is also rectangular. The main part of this mound is 38 ft. by 22 ft., and the "approach" is 18 ft. by 30 ft. and  $2\frac{1}{2}$  ft. high. The other rectangular mound is 24 ft. by 36 ft. and  $2\frac{1}{2}$  ft. high. The third elongated mound is 18 ft. by 48 ft. and 1 ft. high, with curving outline at the extremities. To the westward

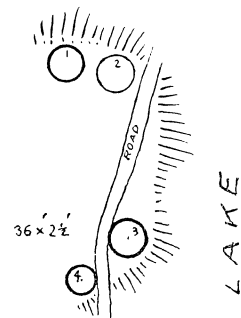
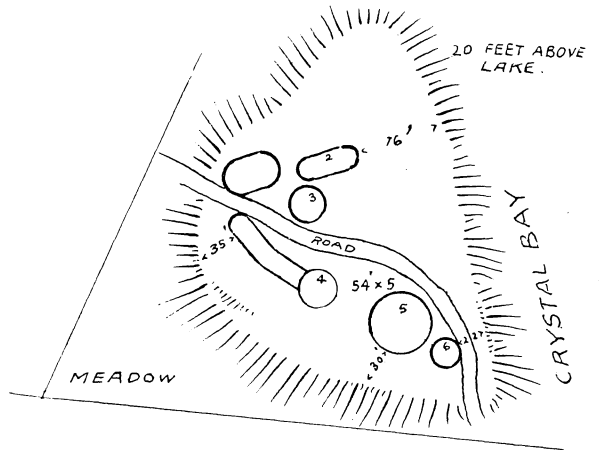
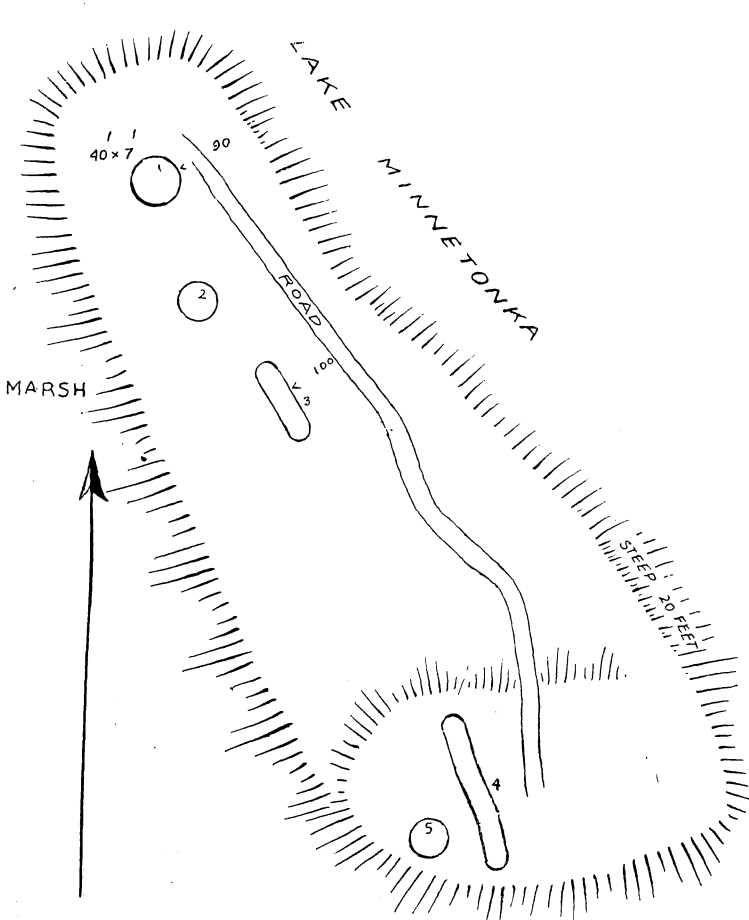


from these mounds are high points of land, from which is obtained a grand view of the upper lake Minnetonka and of Stone lake, while the mounds themselves are about 40 ft. above the lake. The circular mounds Nos. 1 to 4 are all connected apparently by a continuous embankment, their own height being from 3 ft. to 4 ft. Mound No. 8 is 5 ft. high. Surveyed May 22, 1883.

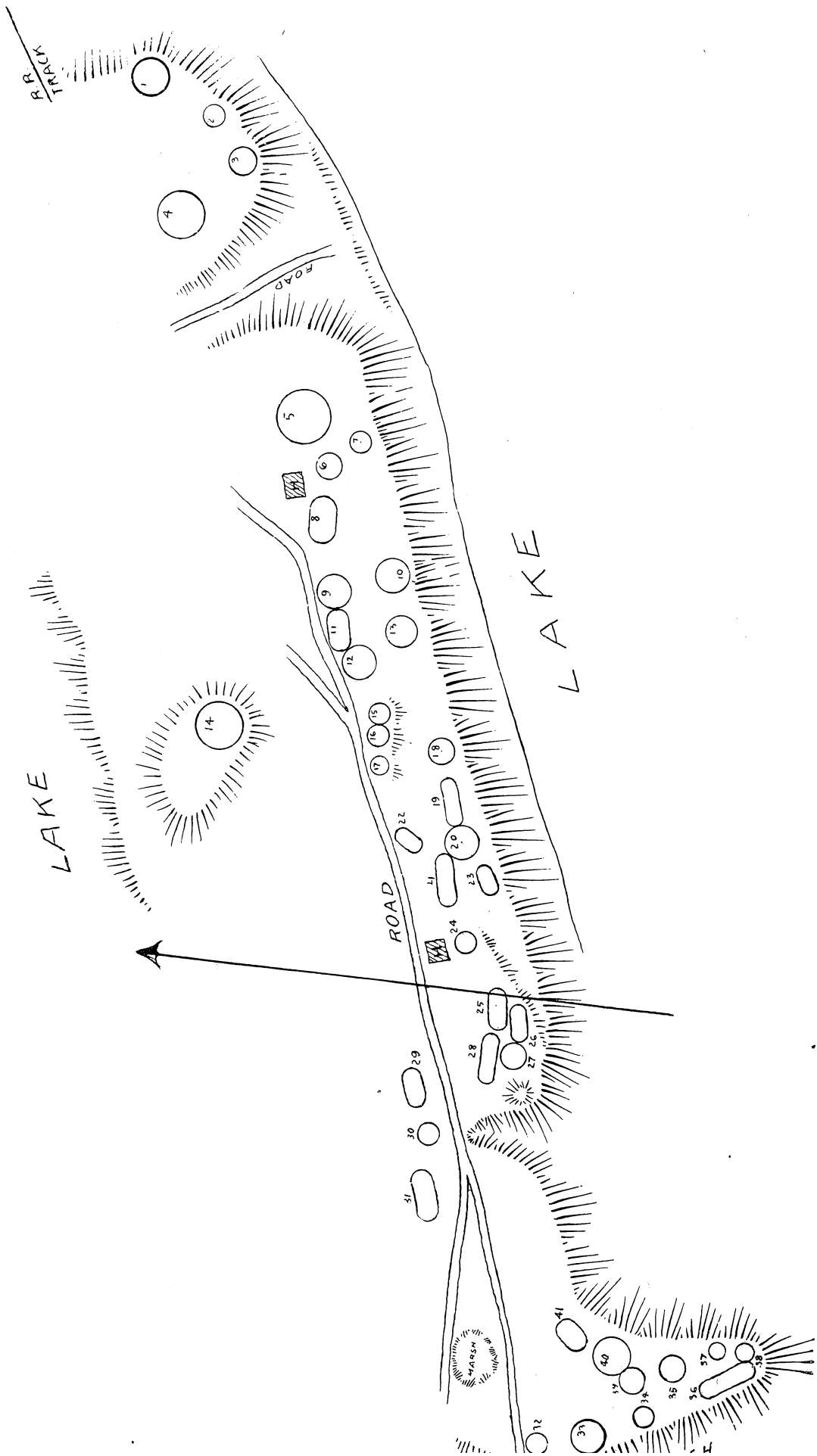


The second group of the Zumbra mounds is about 200 yards further west and numbers 5 mounds, all circular, from 2 ft. to  $2\frac{1}{2}$  ft. in height. This group overlooks lake Zumbra and is about 50 ft. above it.

*Crystal Bay group No. 1*, on lots 3 and 4, sec. 17, T. 117-23. Of these the largest, No. 1, has been excavated; 42 ft. basal diameter and 7 ft. high, and two are elongated mounds, 18 ft. wide and  $1\frac{1}{2}$  ft.



LAKE MINNETONAKA, HENNEPIN COUNTY.



high. The mounds of group No. 2 are six in number, of which one-half are circular and the other three elongated mounds. No. 1, however, is 40 ft. by 30 ft. and  $4\frac{1}{2}$  ft. high. The largest circular mound is 54 ft. in diameter and 5 ft. high, and has been excavated. These mounds are 15 ft. above the lake, and are situated on lot 2, sec. 17, T. 117-23. No. 3, 41-2 ft. in height, has also been excavated. Group No. 3, consisting of four mounds, is on lot 3, sec. 17, T. 117-23, all circular, and about 15 ft. above the lake, the largest being 36 ft. in diameter and  $2\frac{1}{2}$  ft. high. (Shown on page 227, bottom.)

*Isolated mounds on the north side of lake Minnetonka.* A solitary circular mound is on lot 1, N.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 27, T. 117-23; 30 ft. in diameter and 2 ft. high, near the lake bluff. Two similar circular mounds of the same dimensions are on lot 3 (S. E., N. W., N.  $\frac{1}{2}$ ), one 30 ft. and the other 50 ft. from the low (8 ft.) bluff of the lake, and another is on the same lot (S. E., N. W., S.  $\frac{1}{2}$ ), but is  $2\frac{1}{2}$  ft. high, and 20 ft. above the lake. A single mound is also on lot 4, sec. 20, T. 117-23, near the bluff, in Spring Park addition. A large one, known as the Harrington mound, is on S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 1, T. 117-23. It is 60 ft. in diameter and 8 ft. high. Spates mound is on lot 3, sec. 10, T. 117-23, on the brink of the bluff. Three others a little to the southwest from the house have been plowed down.

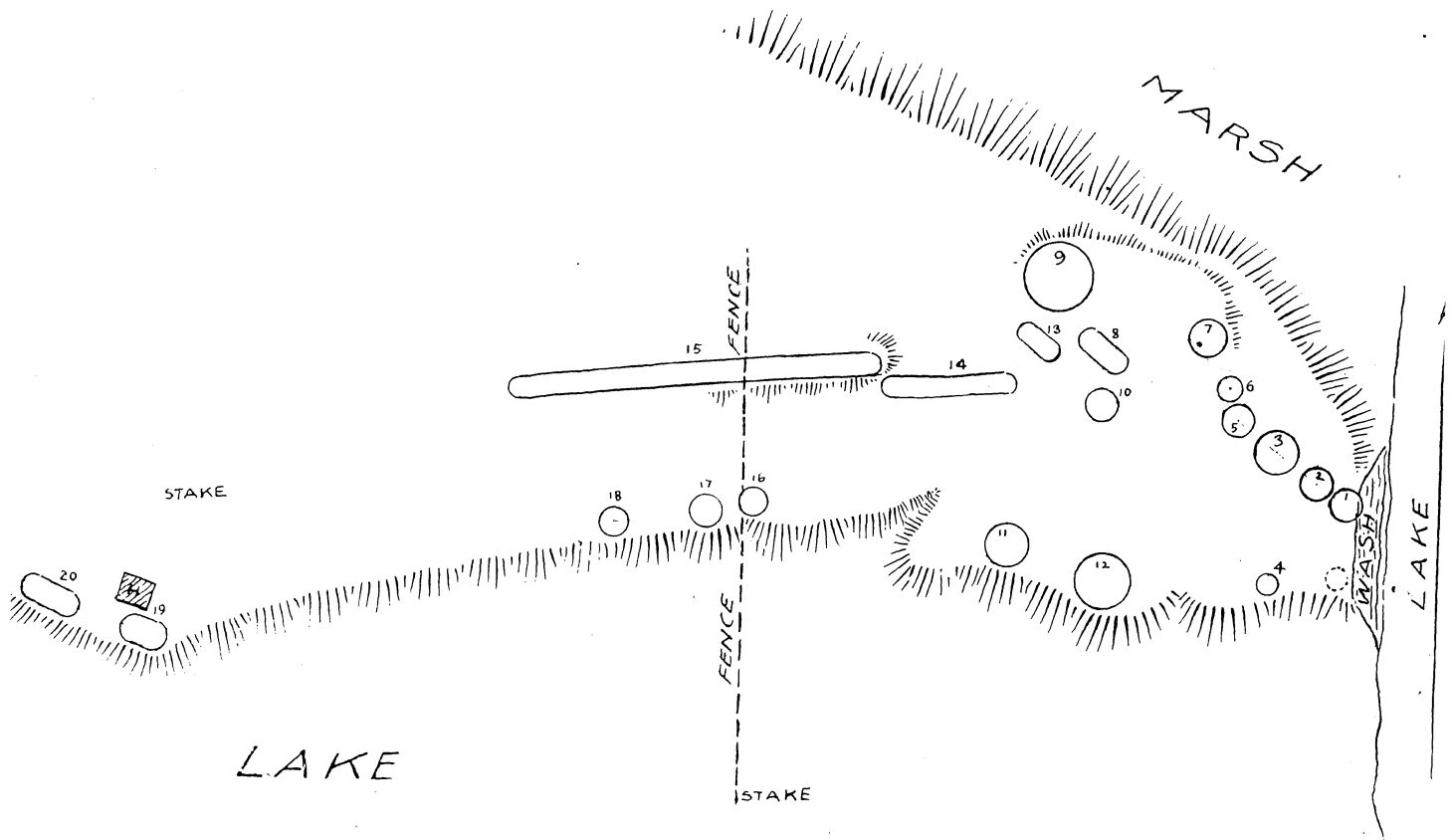
The Harrington mound was visited and examined Sept. 18, 1867, by Dr. De Montreville, of the Archæological Committee of the Historical Society, who made report as follows (condensed):

"The mound is located directly opposite Spirit knob, and occupied a very commanding position, and an extensive view of the lake was had from its summit. Until recently its immediate surroundings must have been densely wooded, as the stump of a tree, probably 300 years old at least, protruded from the ground some 15 feet from the center of the mound, and several other stumps of trees of smaller growth, rotted and decaying, are visible at the sides of the mound. This mound had evidently been of more than ordinary magnitude, its circumference at the base measuring 240 feet, and its diameter, over the top, 88 feet, its height being apparently 12 feet. A tree which had fallen across its base, having stood originally on the mound, measured, at 35 feet from the stump, 6 feet 9 inches in circumference. A shaft 5 feet wide and 10 feet long was sunk in this mound so as to cover the center, extending thence westwardly. A small piece of bone was found at  $1\frac{1}{2}$  feet from the surface, near the center; another, very much decayed, at  $2\frac{1}{2}$  feet. The earth seemed to be stratified, with a dip of about 45 degrees. At  $3\frac{1}{2}$  feet, some large pieces of charred wood were found, some being  $2\frac{1}{2}$  feet long and a foot or more wide, the larger pieces being eight in number; also a large quantity of cinders, intermingled with portions of decayed bones, leaves, argillaceous earth, etc. At  $6\frac{1}{4}$  feet from the top was found a couple of human crania, with a jaw, one being apparently within the other. Below these were the bones of the shoulder blades and some of the ribs, and under these the bones of the lower extremities, as if the burial had been in a sitting position and the bones had been pressed down on themselves by the overlying earth. \* \* \* \* \* One of the large sticks, which apparently occupied its original position, seemed to slant in a sheltering position over the bones, and apparently was placed there as a 'lean-to,' and formed a part of the wooden covering that had been reared above the skeletons. Some of the wooden remains had evidently been removed from the mound at 'a partial excavation said to have been made some seven years before.' That excavation had missed the sepulture, having been made about 4 feet to one side of the center. The traces of this excavation and the evidence of refilling were plainly discernible. The bones were all much decayed, the maxillary bones with some teeth attached being the best preserved."

*Spring Park group*, situated at the lake shore on lots 6 and 7 of sec. 18, and lot 1 of sec. 19, T. 117-23, embraces 41 mounds, of which 28 are circular and the remainder are small typically elongated mounds. The largest of the circular mounds is No. 5, being 60 ft. in diameter and 8 ft. high. The rest of the tumuli are from 1 ft. to 3 ft. and 4 ft. high, one being  $5\frac{1}{2}$  ft. and one 6 ft. The elongated mounds are from 30 ft. to 52 ft. long, and in width from 16 ft. to 37 ft., the height being from 1 ft. to 4 ft. Nos. 7 and 10 are partly gone. Nos. 13 and 22 are most symmetrical, the former having been partially excavated. Mr. Diamond opened No. 10, a circular mound 36 ft. in diameter and  $3\frac{1}{2}$  ft. high, and obtained a fine skull, which was sent to Dr. Murphy, of Peoria, Ill. No. 21 has been removed. It was an elongated mound 24 ft. long. These mounds are finely situated and command a fine view of the lake. Surveyed May 8, 1883. (Shown on page opposite.)

*Starvation Point group* ("now called Orono"), situated on lots 2 and 3, sec. 11, T. 117-23, embraces 20 mounds, of which 13 are circular and the remainder elongated, the longest being 210 ft., 18 ft. wide and  $2\frac{1}{2}$  ft. high. Nos. 2, 5 and 7 were excavated and furnished pottery. Nos. 5, 6 and 7 are connected. Surveyed May 28, 1883. Surveyed also by Mr. Hill for the Archæological Committee of the Historical Society, Sept. 30, 1867.

Dr. R. O. Sweeny reported to the Historical Society on the examination of the largest mound ("No. 1") of this group, as also of "No. 2," the first or most northerly. Dr. Sweeny's numeration was different from that here given. At the depth of about a foot, near the center, was found a horizontal deposit, or layer, of cobblestones. Near the west end of the trench, and also near the west base of the mound, was found a fragment of coarse pottery, the neck and shoulder of an ampulla, rudely ornamented. At the depth of 2 ft. were charcoal and partly charred human bones, below which were some stones that plainly showed the application of heat. There were here but slight ashes, but the charcoal showed the fibre and the annual rings. Another fragment of a round-bottomed pot or bowl was found near the north side of the mound, ornamented on the inner side as well as on the outside, but composed of the same materials as the other piece. In all, there were found the remains of four skeletons, the main bones being laid about parallel, with the skulls on top of the other bones. A remnant of a shell, which crumbled, was also found, the entire shell having been apparently as large as a man's hand.



On the contents of these mounds Dr. Sweeny made very interesting critical remarks, which may be summarized as follows:

"That they are not all burial mounds we are aware, since one of the largest two away from the main group contained no indication of burials, or fires, or anything suggestive of its past history or uses.

"We also know that the next largest mound—the end of the chain—contained a tomb, an altar or hearth, ceramic fragments, and, lastly, a stone pavement.

"The grave contained the brittle, crumbling bones of four human bodies, the excellent preservation of which is owing to the heating and baking of the soil upon the hearth, which probably prevented the rain and moisture from reaching them. Over the grave of the four bodies, after earth had been heaped around and over them to the depth of more than a foot, so as to make a hearth-like surface, fire was lighted and a human body was consumed amid the flames. I say a *body* was consumed, because the bones, or fragments of bones, indicate very clearly that they were not bare, or fleshless, when placed amid the coals. It is also evident that the density [intensity?] of heat in an open fire necessary to completely consume the solid bones of the legs, and reduce to charcoal the bones of the thigh, would cer-

tainly consume the thinner shell-like form of the skull if it were bare and dry, and yet we find bits of the cranium with the lines of demarcation so plainly defined that one edge is merely scorched, evidently protected by the contents of the skull—as were the charred thigh-bones and hip-bones by their fleshy wrappings. These charred bones and charred fragments are doubtless remnants of some human burning, perhaps prisoners or slaves. They were apparently collected into the center of the fireplace and buried under the earth piled upon it; and again upon the levelled summit smooth flat stones from the lake shore were carried and laid rudely in the form of a pavement, and then more earth still heaped above them until the mound was finished. We find them covered with the heaviest forest growth of this climate, and among this growth many indications of extreme age. There lie forest monarchs beneath the moss, wind-fallen perhaps a hundred years ago, or even farther back, when the present trees were but sapplings. Some of these decaying giants still measure over three feet in diameter. I have investigated whether there be any fixed relation between the age and the size of trees. Taking the oak, for example, I find that in a generous soil, with fair protection, a tree measuring 13 inches has an age, by its concentric circles of growth, of 66 years, i. e., one inch of growth on  $10\frac{1}{2}$  years, measuring from the center, or two inches measuring across the whole diameter. In a cold and rough soil the same kind of a tree will have 21 rings to the inch. That the larger a tree grows the closer the annulars concentrate, I believe will hold good. Another fact is that the rings on the northern side are closer than on the southern. The center is nearly one-third nearer the north side. This difference is evidently due to the sun's rays and the consequent expansion and growth of the woody matter more rapidly on the south side. Taking our first cited measurements, the trees upon the mound, measuring 24 inches, show at least an age of 126 years. The decaying trunks would indicate an age at least double that, not counting the time they may have lain prostrate before the present forest started. I believe that a consideration of the fallen and growing timber will warrant the belief that at least 500 years have elapsed since the construction of the mound.

“We have discovered, as yet, no implements that would indicate that these nameless grave-makers were hunters, fighting and conquering their subsistence from the forest. *Au contraire*, we have discovered culinary fragments, so frail as to set aside the possibility of their having been far transported. They are too carefully ornamented to permit the idea of hurried and careless manufacture. This clearly indicates a settled, semi-agricultural life. There are many tribes and peoples still living in the same conditions as our findings show for these people—their principal dependence being upon the soil rudely cultivated, and on the fish of the adjacent waters, resort to the chase being the exception rather than the rule.

“Next let us examine one by one the skulls of these old dwellers in our land. The bones are so old that little but the mineral parts of them is left to hold them together, and yet, although no vestige or ornament, nor scrap of cerements, implements or weapons were found with them, they bring us in close contact with these people that were, and reveal much as to their appearance, age and possible capabilities. The least perfect skull of the four (No. 1) is possibly that of a child about 12 years old, judging by the form and size of the fragments, for it is only the upper part of the head. The absence of the lower parts containing the teeth makes it more difficult to determine the age of the individual. There are some peculiarities about this fragment which make one hesitate between pronouncing it the head of a child or of a dwarf. The skull bone is remarkably thin, smooth and hard, and yet the sutures are well and smoothly knitted together. The forehead is round, full and prominent, like that of young children, giving a pleasant outline to the face and a facial angle of at least 90 degrees.

“This skull measures  $6\frac{1}{4}$  inches in its longest diameter, from front to back,  $2\frac{1}{8}$  inches across the forehead,  $4\frac{1}{2}$  inches across at one-third the length, or at the coronal suture,  $5\frac{1}{2}$  inches across at two-thirds of its length, which is at its greatest lateral diameter. It is  $18\frac{1}{2}$  inches in circumference in its largest part.

“No. 2 is that of an individual past middle life—this too is deficient in the under sutures—we must judge from the closeness of the sutures and the developed formation of the bones to confirm our opinion. This skull is very marked in characteristics. It is apparently long in proportion to its width. It is  $7\frac{1}{2}$  inches in its longest diameter, from front to back, 21 inches in circumference,  $4\frac{1}{2}$  inches wide at the top of the orbitary ridge,  $4\frac{1}{8}$  inches at the coronary suture and  $5\frac{1}{2}$  inches at the widest part, which

is at a point two-thirds of the length of the skull. Viewed in profile, the point the phrenologists call 'firmness' seems very high and pointed, but viewed from behind the form is remarkably rounding and symmetrical.

"No. 3, the only one in which the bones have retained their places, is small and symmetrical, evidently that of a woman, and of so great an age that the sutures in many places are completely obliterated by ossification. It is to this fact, I think, may be attributed its fine preservation. This is also corroborated by the condition of the teeth. Although the under jaw was not found, the teeth in the upper one show that none of the sixteen had been lost, and that they had been long and faithfully used, for the enamel of the crown is worn entirely away and almost down to the edge of the gums. This skull has a diameter of  $6\frac{3}{4}$  inches from front to back, and, although of the same type, is shorter and more spherical than No. 2. It measures 4 inches across the orbitary ridges and  $6\frac{1}{4}$  inches at the greatest breadth. Viewed from behind the skull is symmetrically rounded, with a slight prominence at the top. Viewed from the front the same rounded form is seen, but the prominences are more remarkable and pointed in appearance. The facial angle of this skull is less than that of the others, being only 77 degrees.

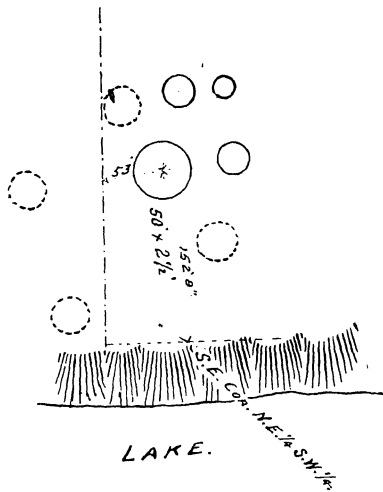


"No. 4, the last of those discovered in mound "No. 2," is a finely formed skull of the age of vigorous manhood. It is round and symmetrical, much more so than any of the others, from whatever position it is viewed. Although of the same type, it is the evidence of a more highly developed brain. Its facial angle is 83 degrees. The circumference is  $21\frac{3}{8}$  inches, forehead  $4\frac{1}{4}$  inches wide at the orbitary ridge, and rising broad and expansive in fair proportion. The greatest transverse diameter is  $5\frac{1}{2}$  inches. Viewed from in front the form of the head is very high, broad and spherical. Viewed from behind the same roundness and grandeur is observed. The jaw and teeth of this skull are remarkably well preserved. The size of the jaw is unusual; it measures  $3\frac{1}{2}$  inches from the chin to the angle, 3 inches from the angle to the summit of the coronoid process,  $5\frac{1}{4}$  inches across from condyle to condyle, and  $4\frac{3}{8}$  inches across from angle to angle. From the outer edge of the last molar on the right side to the outer edge of the last molar on the left side is  $2\frac{7}{8}$  inches. There are thirty-two perfectly sound but well-worn teeth, showing the effect of the immense muscular power indicated by the numerous processes and enormous proportions. These features, taken together, point, I think, to an even balance of characteristics, much above mediocrity.

"With a located or settled people pottery becomes a necessity—if not the very first art, at least one of the most primitive. The fragments we have denote a pottery well adapted to its uses. Its

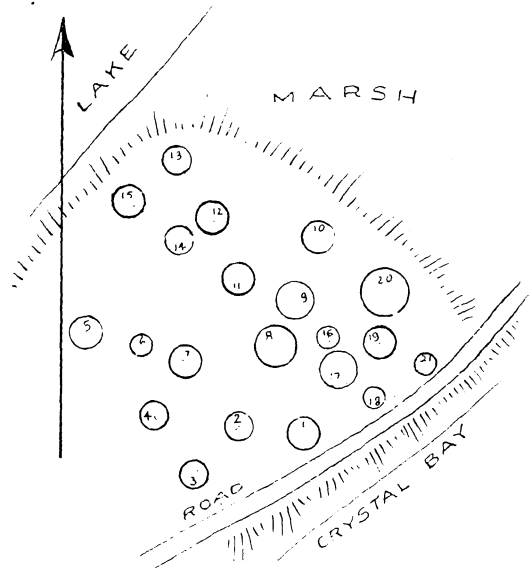
composition alone proves it to be the result of experience. The clay was tempered, or modified by some finely comminuted, or even powdered, shells, or with finely and coarsely powdered granite, the latter to insure its durability and solidity. The attempts at ornaments on these fragments are by no means contemptible, but show in their simple and varied arrangements no small degree of ingenuity and knowledge of the power of lines and points as decoration. These lines and dots were made with a notched or dentated tool, of which as many as eight different sizes or modifications have been used. There is no sign of mechanical turning or molding, but the symmetry and gracefulness of curve in the rims and fronts of the vessels were the result of modeling by hand, the ornamentation being with simple tools rather than with basket-work or coarse cloth—as some have supposed.

“The uneven color of the pottery might lead one to suppose it to be merely sun-dried, or at best but poorly burnt. I have tried it, and find it will hold water as well as our better burnt unglazed earthenware. It is porous, but not so much so as to unfit it for all the ordinary uses of such vessels, and is but little inferior to the English vase of 300 years ago. These vessels were used evidently in cooking, for they are stained, and some of the fragments still have lampblack upon the bottoms, which rubs off easily upon the fingers.” [Read before the Minnesota Historical Society, Monday evening, April 13, 1868.]—*Hill Rec.*

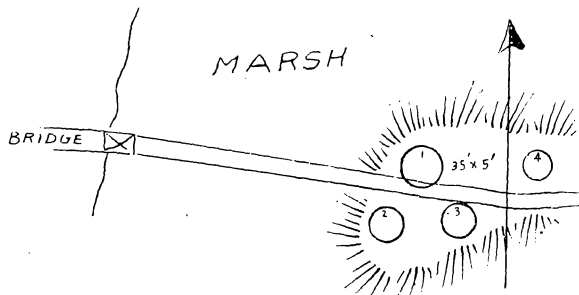


The Barnes mounds are situated on lot 3, sec. 10, T. 117-23; four in number, with four others originally in the group but now plowed down. The latter are indicated on the diagram by dotted circles. They are all circular, the largest being 50 ft. in diameter and 2½ ft. in height. Surveyed May 28, 1883.

The Johnson group is situated on Crystal bay, lot 1, sec. 8, T. 117-23. The banks are here 10 ft. high. This group comprises 21 circular mounds, the largest being No. 20, 40 ft. in diameter and 3 ft. high. But the highest is No. 1, 26 ft. in diameter and 3½ ft. high. Surveyed May 31, 1883.

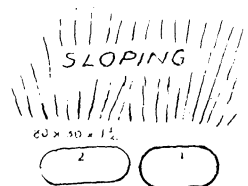


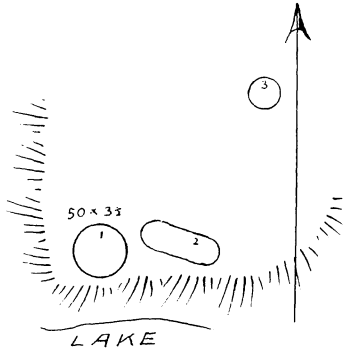
The Harrison Bay group is on lot 8, sec. 18, T. 117-23, embracing four circular mounds, from which is obtained a good view of the lake. The largest here is 35 ft. in diameter at the base and 5 ft. high. The smallest has a diameter of 26 ft. and height of 2 ft.



The Wayzata group, situated at center of sec. 6, T. 117-22, is three in number, one being an elongated mound, 1½ ft. high and 70 ft. long, 22 ft. wide. The larger circular mound is 50 ft. in diameter and 3½ ft. high. No. 1 commands a fine view of the lower lake. The main mound was formerly “in the public square, though trenching on its southern side somewhat on the street.” Examined by the archæological committee Sept. 30, 1867, and reported by A. J. Hill.—*Hill Rec.*

The Gale mounds are two in number, situated on lot 4, sec. 7, T. 117-22. They are both oblong and 1½ ft. high. One is 66 ft. by 32 ft., and the other 80 ft. by 30 ft.

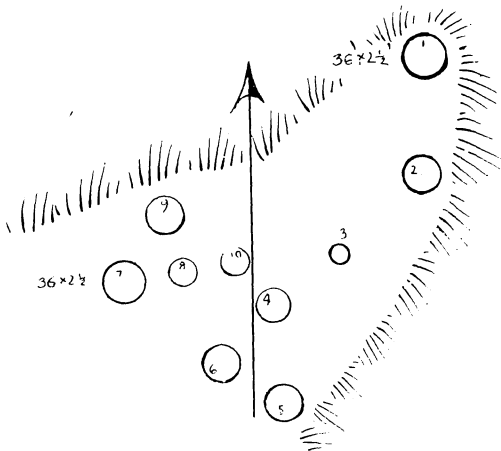
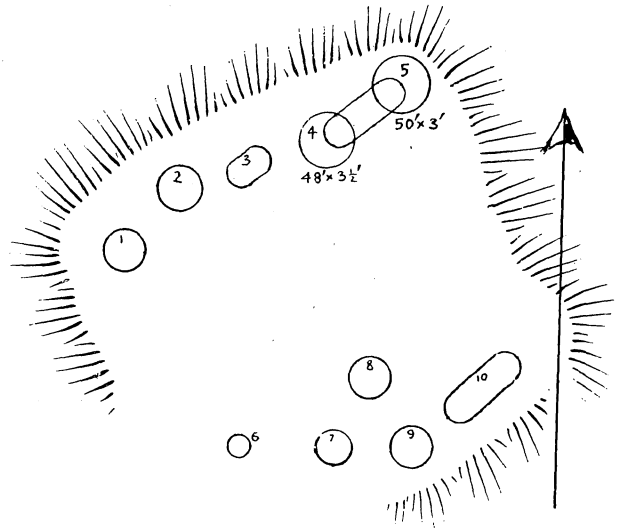




Gray's mounds are on lot 1, sec. 17, T. 117-22, and comprise 8 circular and 2 elongated mounds, the largest being 50 ft. in basal diameter and 3 ft. in high. Another circular mound is 48 ft. by 3 1/2 ft. The longest long mound is 80 ft. and 25 ft. wide. Surveyed May 16, 1883.

The Scott group is on lot 1, sec. 31, T. 117-23,

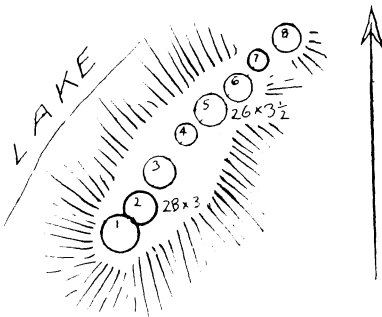
and embraces 10 mounds, all circular, two being 36 ft. in diameter and 2 1/2 ft. high, and the rest somewhat smaller, three of them being but a foot in high.



The Miller group has 13 mounds, situated on E. 1/2, S. E. 1/4, sec. 31, T. 117-23. Three are elongated, 90,

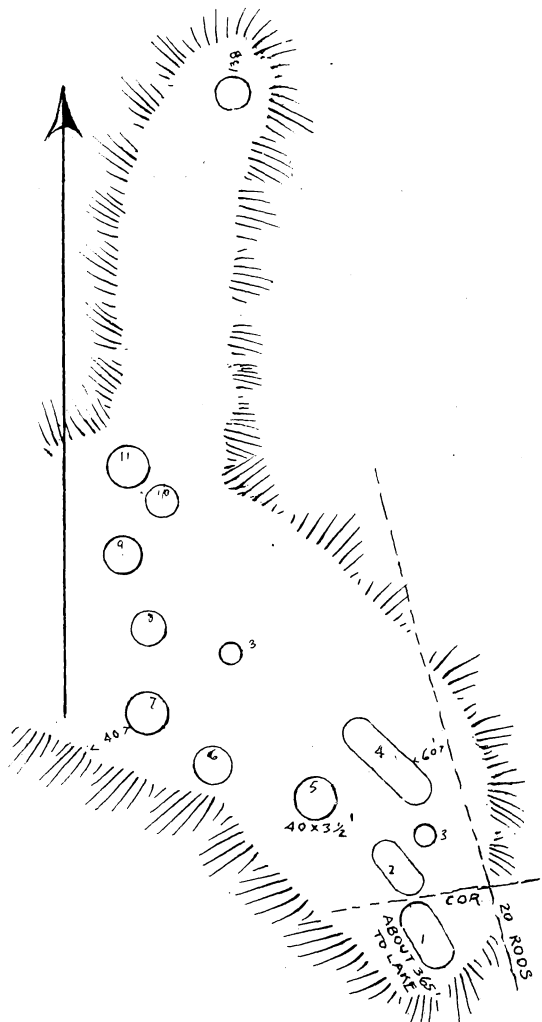
58, and 52 ft., and 22, 24 and 22 ft. wide respectively, 1 1/2 and 2 ft. high. The rest are low tumuli about 2 ft. high, the largest being 40 ft. in diameter and 3 1/2 ft. high. They are about 35 ft. above the lake.

The Linwood mounds are on lot 1, sec. 23, T. 117-23, and are eight in number, all circular, from 2 ft. to 3 ft. high and from 20 ft. to 28 ft. in diameter. Surveyed May 6, 1883.

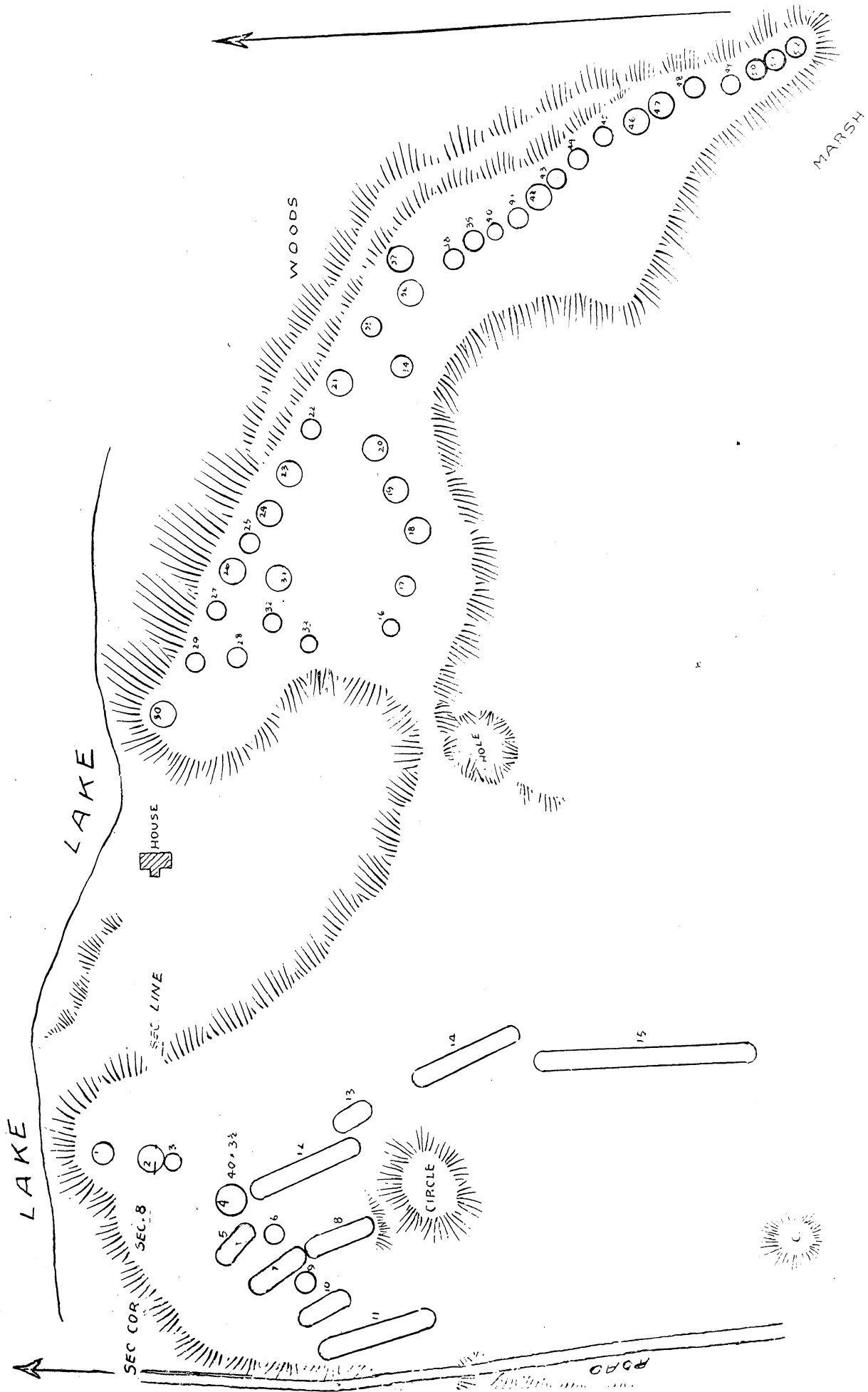


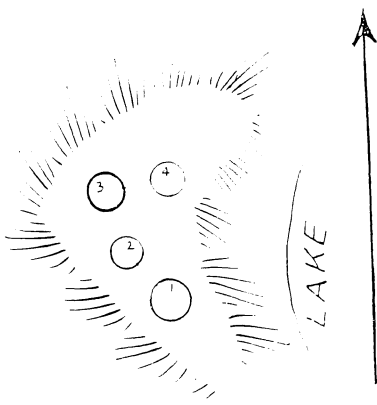
Mann's mound is an isolated tumulus on lot 4, sec. 27, T. 117-23, 30 ft. in diameter and 2 ft. high, near the steep bank of the lake 25 ft. high.

Lake Park mounds are on N. E. 1/4, sec. 28, T. 117-23. They are all circular tumuli, 4 in number, from 26 to 30 ft. in diameter and 2 ft. to 2 1/2 ft. in high. They are at







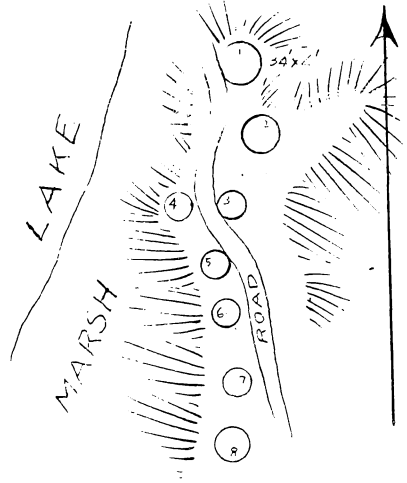
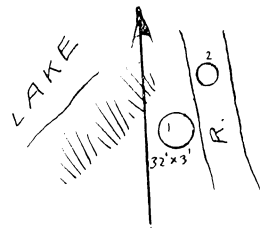


the northern extremity of a ridge. Mr. F. H. Nutter has given a note on this group with a sketch-plan in the Smithsonian report for 1879, p. 425.

*St. Alban's mounds* are 8 in number, all circular tumuli, from 20 ft. to 34 ft. in diameter and from 1 ft. to 4 ft. in height. Nos. 2 and 4 have been partially excavated. They are on lot 5, sec. 35, T. 117-23.

*The Gifford mounds* are two in number, circular tumuli, on lot 4, sec. 13, T. 117-23, the largest being 32 ft. in diameter and 3 ft. high. Surveyed May 25, 1883.

*The St. Louis mounds* are on lot 4, sec. 13, T. 117-23, and are all circular tumuli, 8 in number, from 21 ft. to 38 ft. in diameter, and from 1 ft. to 2½ ft. in height. They are near the hotel St. Louis toward the north, on the brow of the bluff of the lake. Surveyed May 16, 1883. (Shown below.)



*South side of Gray's bay*, on lot 1, sec. 8, and N. ½, N. W. ¼, sec. 17, T. 117-22. *Shaver mounds*. This is a remarkable series,



both for their number and uniformity of size, and for the manner of distribution of the two sorts. They are 52 in number, of which 9 are elongated mounds and the rest circular, of nearly uniform size. In the main, these two kinds are entirely separated, but a few of the circular tumuli are associated with the elongated. Thirty-seven circular tumuli are on a ridge which rises from the lake and the accompanying marshes, and run in a line along its summit, with not a single elongated mound in the lot. The largest circular mound is associated with the elongated mounds or embankments, being 40 ft. in diameter and 3½ ft. high. Except that they have a relation to the topography, being along the elevations facing the lake or some marshy land which may once have been covered by the lake, it is hard to see any purpose in their manner of distribution. The long mounds, which, owing to their length, might sometimes be styled embankments, are of nearly uniform width and height, but vary greatly in length. One is 270 ft. long and 20 ft. wide, rising but one foot. The shortest

one is 56 ft. and 20 ft. wide, rising one foot, and this last is associated with other short embankments and some tumuli, so grouped that as they appear now they seem hardly to have been arranged for defense against an enemy. Surveyed May 15, 1883. (Shown on page 235.)

*Gideon's Bay mounds*, S. E.  $\frac{1}{4}$ , sec. 28 and N. E.  $\frac{1}{4}$ , sec. 33, T. 117-23. These are 98 in number, and are along the western shore of the bay and on a high point that separates the lake from a marsh. From the point they run along a slight ridge southwesterly into the woods. While the most of these are small circular tumuli, 13 are elongated mounds or embankments. Some of these embankments blend in with some of the circular tumuli, and may have served as "approaches." These connecting embankments are usually somewhat lower and narrower than the round mounds with which they are connected, but not invariably. The curving embankment which connects Nos. 2 and 6 is  $1\frac{1}{2}$  ft. in height at No. 2, which is the same height as No. 2; but at the southern end where it connects with No. 6 its height is still  $1\frac{1}{2}$  ft., while No. 6 is 3 ft. high, its diameter being 40 ft. The embankment which extends southeastwardly from No. 6 is also  $1\frac{1}{2}$  ft. high, and is overlapped by the base of No. 8, which is also an elongated mound, having dimensions 62 ft. by 36 ft. The elongation No. 18, as it runs westwardly, experiences a slight curvature and at the same point it swells outwardly on the north or convex side in the form of a half-tumulus, the full diameter of which, if not interfered with by the embankment, would have been about 30 ft. Other elongated, yet short, mounds or embankments, are isolated in various parts of the group, but never far separated from a lot of circular mounds. The so-called "approaches," connected with some of the circular mounds, have the dimensions of the isolated elongated mounds which certainly could not have served as "approaches." It appears from these associations of the two sorts, and from the common manner of distribution, that the following ideas are justifiable:

1. The elongated mounds in their present form were probably not made for defense against an enemy.
2. The purpose of the short elongated or oblong mounds was not essentially different from that of some of the round tumuli.
3. The round tumulus seems to have been a unit, from which by duplication and greater multiplication the short elongated mound was developed.

This group of mounds is divisible for purposes of illustration into three parts, viz.: (1) northern part, (2) southwestern part, and (3) southeastern part. (Shown on the three following pages.)

The largest circular mound is No. 34, 70 ft. in diameter and  $2\frac{1}{2}$  ft. high. The smallest is 18 ft. in diameter and 1 ft. high. The circular mounds range as follows:

Eighteen ft. in diameter.....	10 mounds.	Thirty ft. in diameter.....	7 mounds.
Twenty ft. in diameter.....	13 mounds.	Thirty-two ft. in diameter.....	5 mounds.
Twenty-two ft. in diameter.....	9 mounds.	Thirty-four ft. in diameter.....	1 mound.
Twenty-four ft. in diameter.....	1 mound.	Thirty-five ft. in diameter.....	3 mounds.
Twenty-five ft. in diameter.....	3 mounds.	Thirty-six ft. in diameter.....	4 mounds.
Twenty-six ft. in diameter.....	6 mounds.	Thirty-eight ft. in diameter.....	4 mounds.
Twenty-seven ft. in diameter.....	2 mounds.	Forty ft. in diameter.....	7 mounds.
Twenty-eight ft. in diameter.....	13 mounds.	Seventy ft. in diameter.....	1 mound.

The average height of the circular mounds is about 2 ft.

*Approaches, embankments or elongated mounds.*

*Width stated.*

Eighteen to twenty-four feet.  
(Mostly 20 feet.)

*Height.*

All are  $1\frac{1}{2}$  ft. except the approach to No. 54, which is 2 ft., and that to No. 88, which is 1 ft.

Mound No. 2 is cultivated. No. 7 was opened and afforded about 30 human skeletons. One large skull, which was cloven from front to back apparently with one blow, has the note-book memorandum made by Mr. Lewis: "9 $\frac{1}{2}$  L. 6 $\frac{1}{2}$  D. 7 B.," which may mean length 9 $\frac{1}{2}$  inches, diameter 6 $\frac{1}{2}$  inches, and base 7 inches. Surveyed May 23 and 24, 1883.

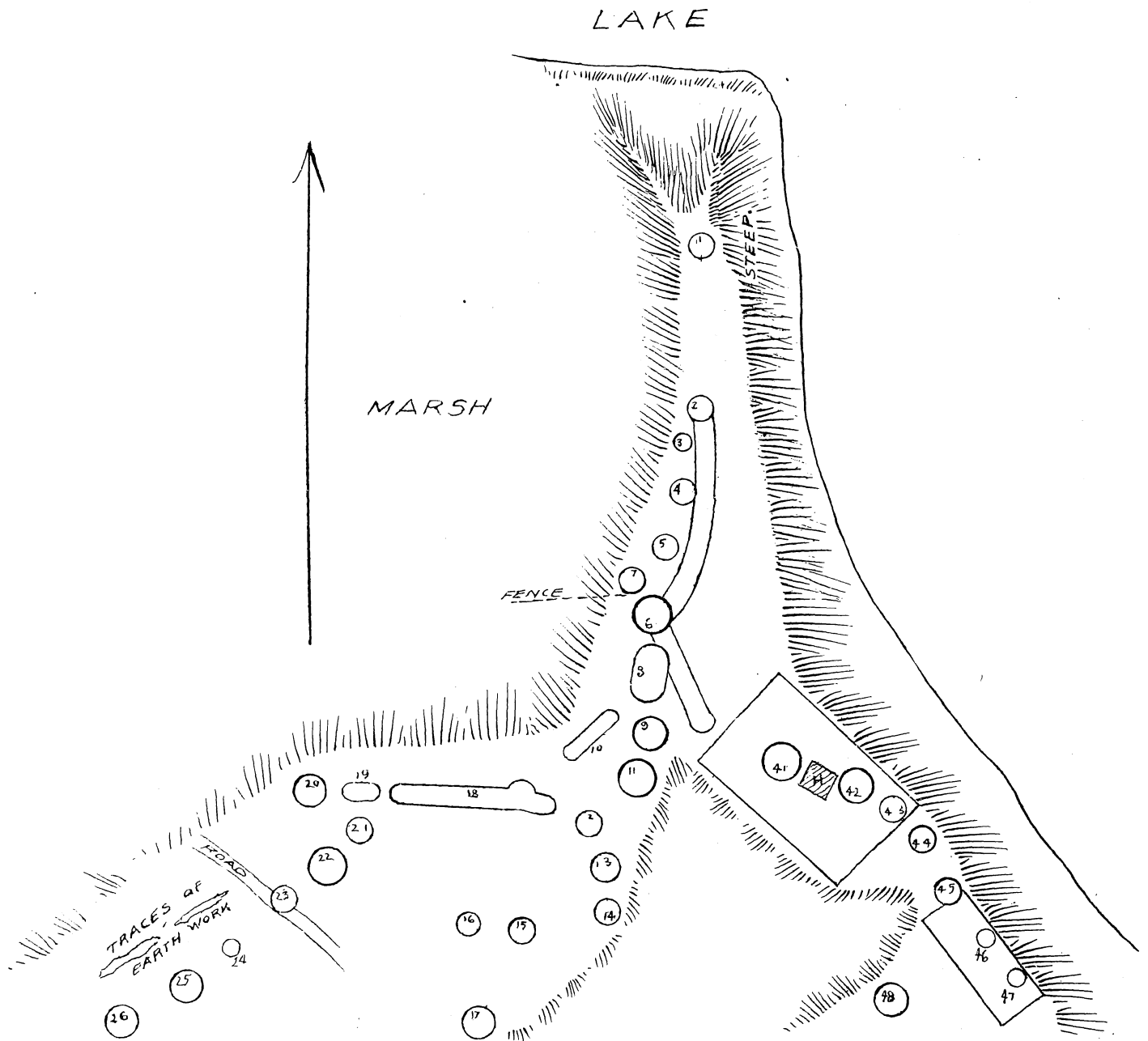
This is apparently the same lot of mounds as those described by Mr. Frank H. Nutter in the Smithsonian Report, 1879, pp. 422-424. His plan differs, however, in showing a smaller number of mounds, and in connecting Nos. 1 and 2 by a low continuous embankment. He says: "A little mound in the north orchard \*has been opened. At the depth of 5 $\frac{1}{2}$  feet, somewhat below the original surface of the

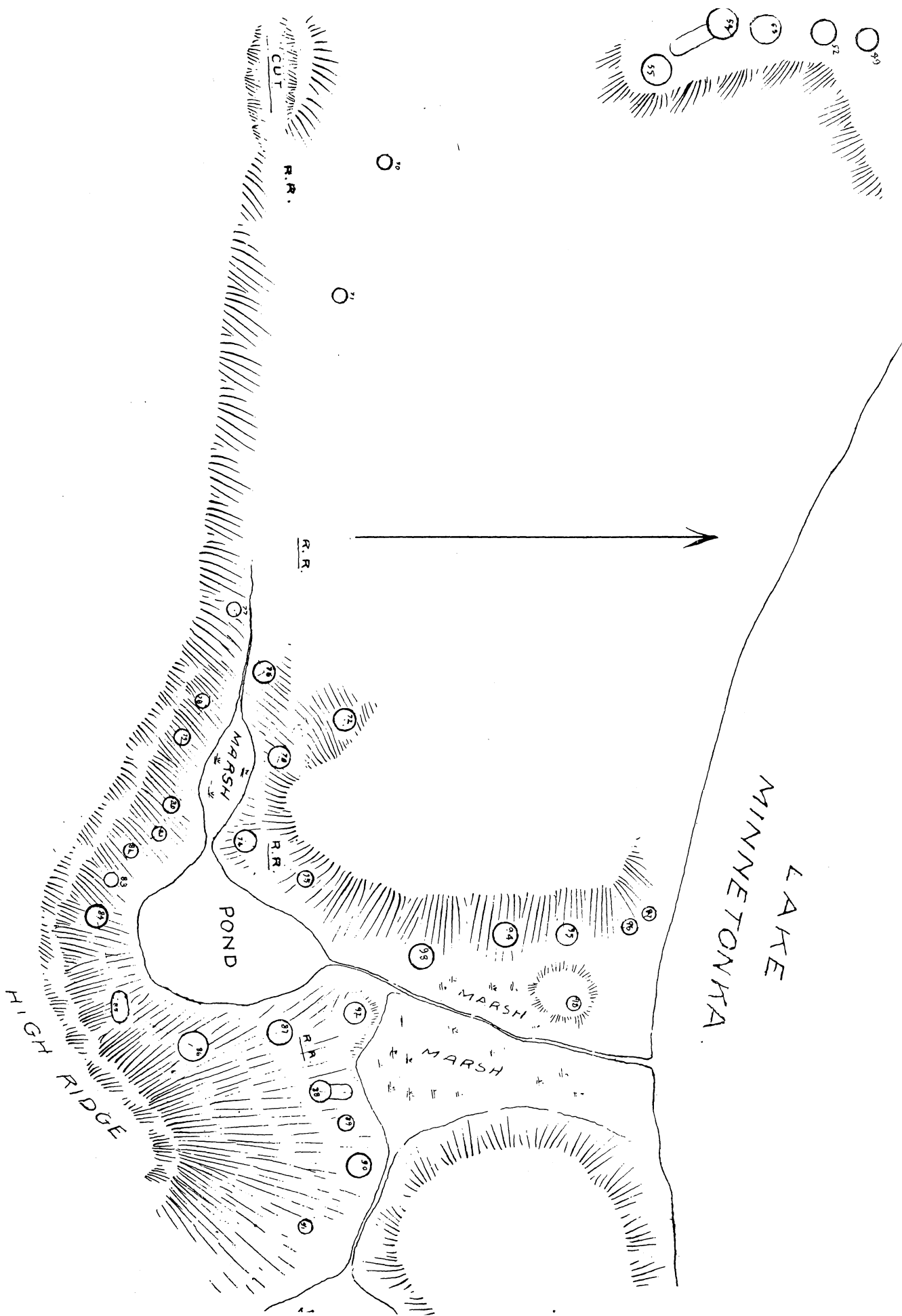
\*Probably No. 7 of the accompanying plan.

THE ABORIGINES OF MINNESOTA.

LAKE MINNETONKA.

GIDEON'S BAY MOUNDS.  
(Northern Part.)

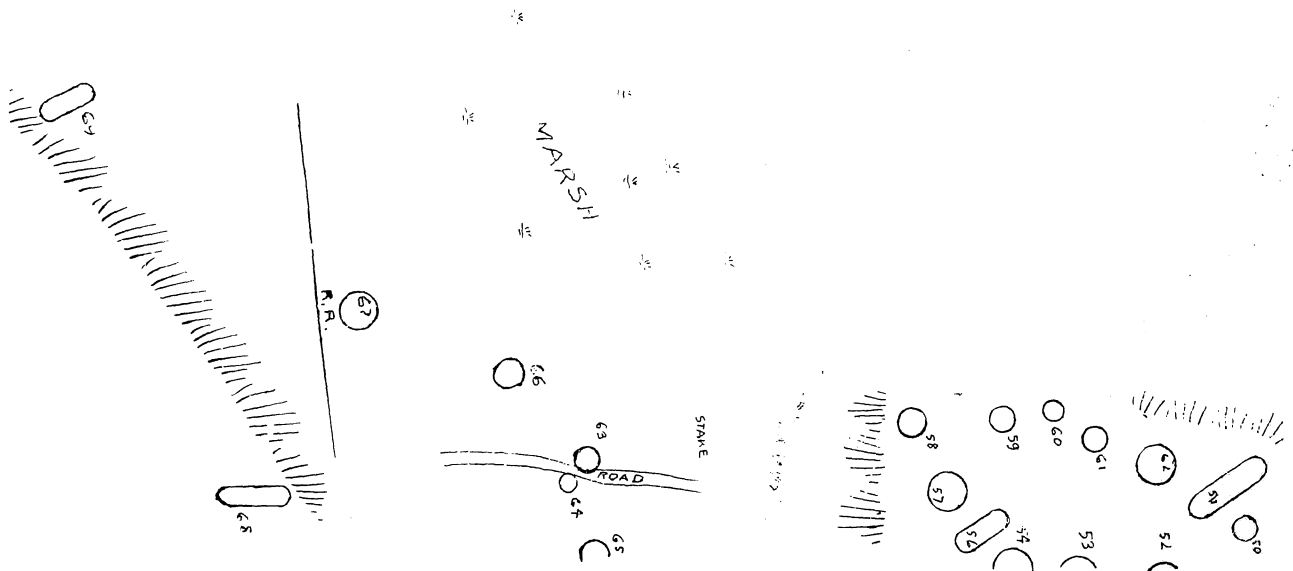
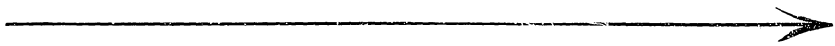
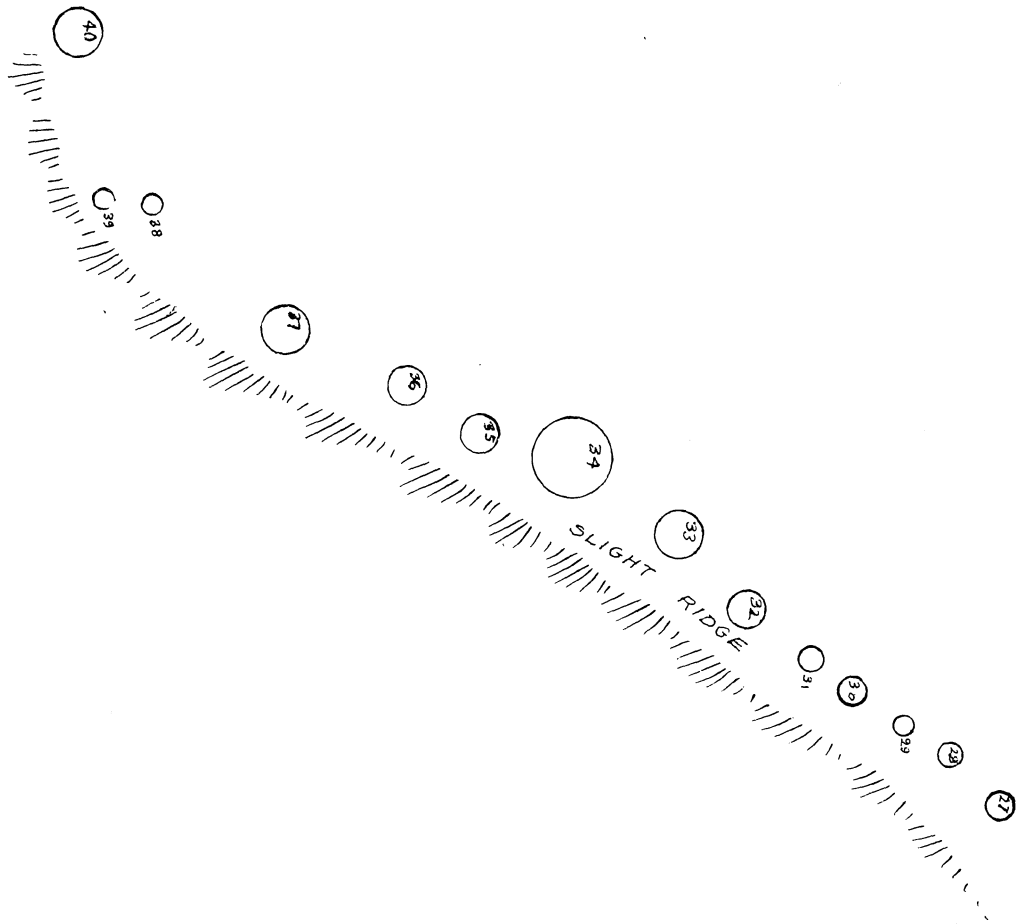


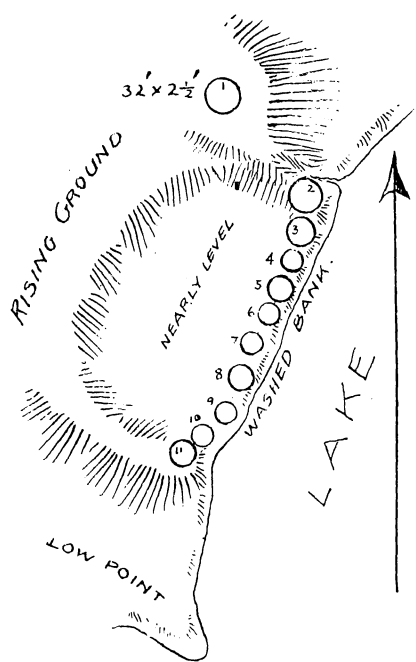


THE ABORIGINES OF MINNESOTA.

LAKE MINNETONKA.

GIDEON'S BAY MOUNDS.  
(Southeastern Part.)



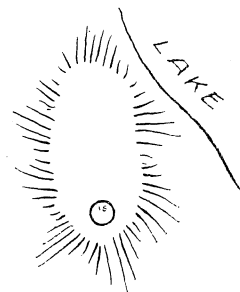
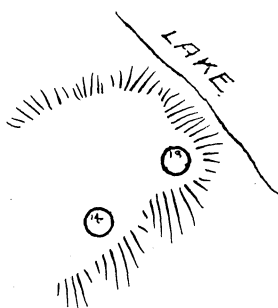
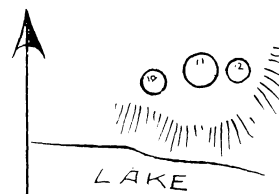
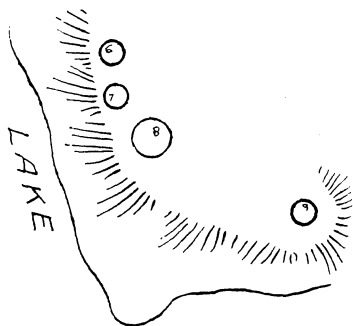
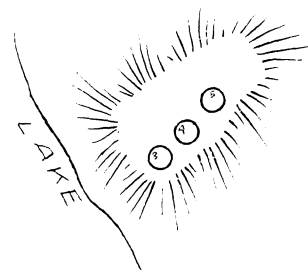
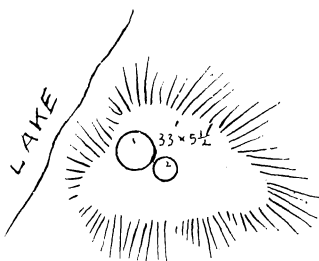


ground, were found between 30 and 35 skulls, arranged in a circle of from 5 ft. to 6 ft. in diameter, and imbedded in and covered with sand, evidently brought from the lake shore, as the soil is a clay loam. These skulls rapidly crumbled on exposure to the air, so they were returned to their resting place, and again covered with earth. One of these skulls was cloven from the top of the head to the jaw, as though by an ax, and a lower jaw, which, though in two portions, seemed to belong to the skull, also bore witness to the force of the blow. \* \* \* As they are unprotected by turf or grass, every severe rain assists in washing them down, and must finally obliterate them, as the last twenty-five years have plainly shown." (Shown on insert opposite.)

*Phelps Island mounds.* On lot 1, sec. 30, T. 117-23. Here are 11 mounds, situated on the very brink of the washed bluff, six of them having been more or less carried away by the encroachment of the lake. No. 10 is the highest, 4 ft., and 30 ft. in diameter. No. 11 is the largest,

32 ft. and 21½ ft. high. No. 7 is also 4 ft. high, but its diameter is about the same as the rest; i. e., about 20 ft. The smallest is 17 ft. in diameter, 2 ft. high, being also one of the lowest. All but No. 11 have been excavated. Surveyed May 30, 1883.

Mr. Hill, in 1872, noted two lone mounds on this island a quarter of a mile, or more, to the west of the above-mentioned group, on lot 2, sec. 25, T. 117-24. They were 36 ft. apart, the larger one 30 ft. by 5 ft. and the smaller 20 ft. by 3½ ft. On digging into the smaller one, he found human bones, the skull resting on the pelvis, with pottery and some animal bones in the center. "Just 15 inches below the peg we found some broken pottery; at 18 inches, knees of one of the skeletons; at 22 inches the skull; at 2 ft. a second skull; at 2 ft. 3 inches a third skull; at 2 ft. 4 inches arm-bone; at 2½ ft. a clam shell; at 2 ft. 9 inches arm-bones; 3 ft. 4 inches another skull. Of course, these were the bones



pertaining to these skulls. \* \* \* \* \* Arrow-heads occurred at 2 ft. 4 inches, 2 ft. 9 inches, and at 3 ft. 3 inches."—*Hill Rec.*

*Note.*—These mounds may by some error in definition be duplicated by two of those next mentioned.

Three other tumuli are on Phelps island, two near together on lot 1, sec. 25, T. 117-23, 15 ft. above the lake, the larger one 30 ft. in diameter and 2½ ft. high, and the smaller one 16 ft. in diameter and 2 ft. high. The third is on the same lot, but further east, 40 ft. in diameter, 8 ft. high.

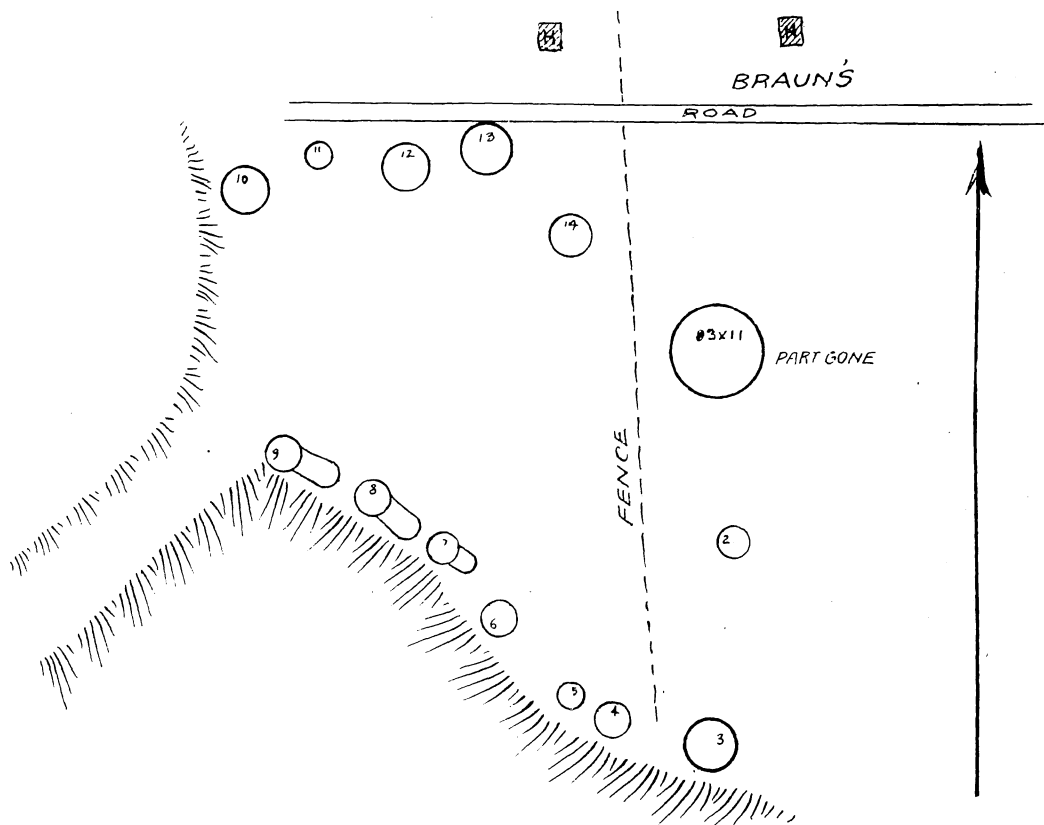
*Big Island groups.* Here are six groups, the first, second, third and fourth groups being on lot 6, the fifth on lot 5, and the sixth on lot 4, of the United States subdivisions. These are all simple circular tumuli. Group No. 1 consists of two, group 2 of three, group 3 of four, group 4 of three, group 5 of two, and group 6 of one. Their average diameter is about 20 ft., and high 2 ft. They are about 18 ft. above the lake, but group No. 2 is 25 ft. This island was formerly called Gale's island. (Shown on preceding page, bottom.)

*St. Bonifacius mound.* This mound is on N. ½, S. W. ¼, sec. 29, T. 117-24, a circular tumulus 42 ft. in diameter and rising 3½ ft.

Mr. A. J. Hill has a brief note on the mounds at lake Minnetonka in Minn. Hist. Soc. Coll., vol. vi, p. 316.

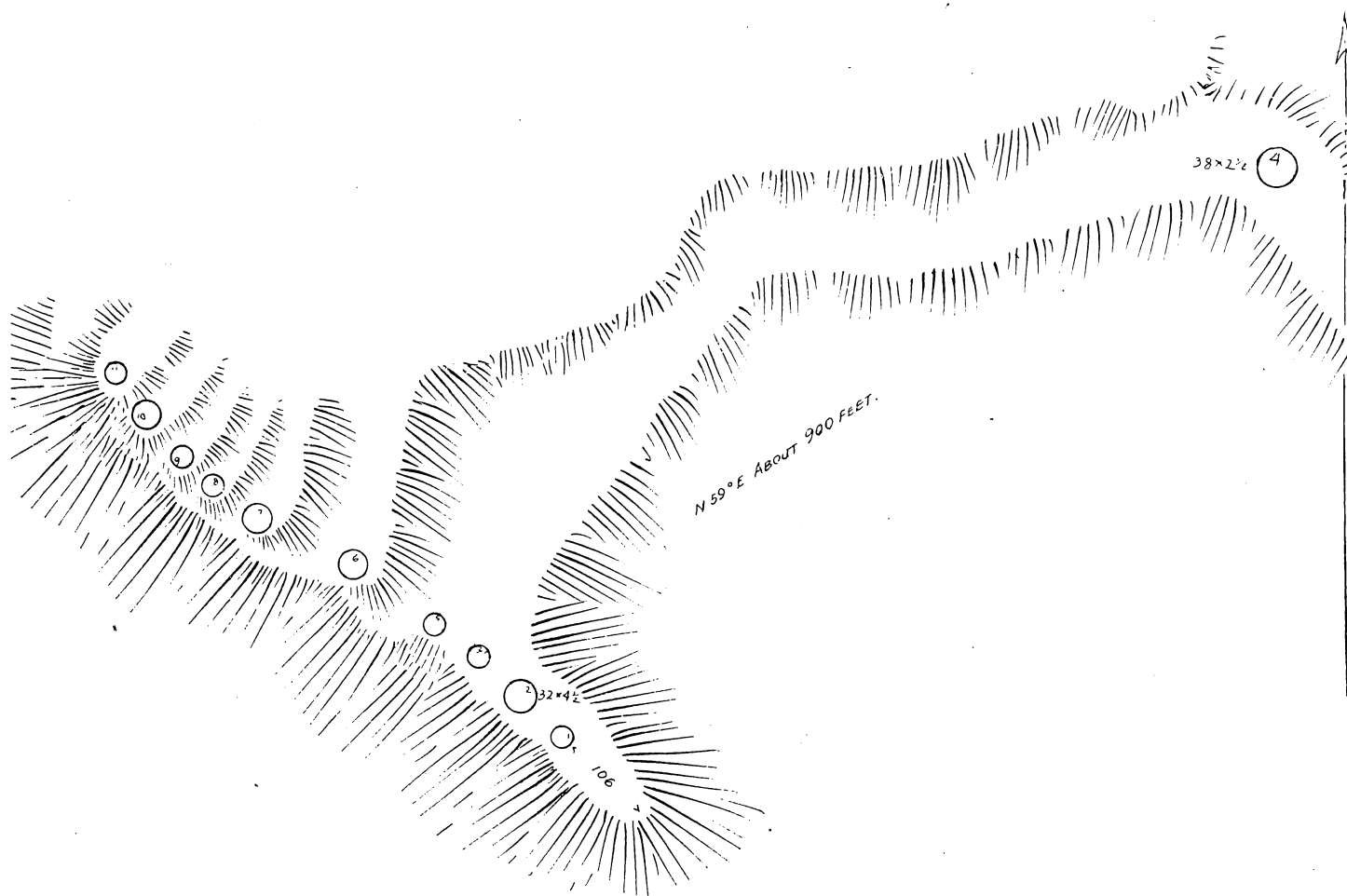
(c) *Mounds of the Minnesota River.*

Beginning four miles southwest from Fort Snelling and continuing westward along the bluff of the Minnesota river, W. ½, S. E. ¼, sec. 5, T. 115-21. Here is a group of 14 mounds, of which three, Nos. 7, 8 and 9, have "approaches," or embankments, extending uniformly in the direction of the line of tumuli, parallel with the bluff of the river. No. 7 is 2 ft. high, and its "approach" is 1 ft. high and 18 ft. wide; No. 8 is 2½ ft. high with an "approach" 24 ft. wide and 2 ft. high; No. 9 is 2 ft. high and its "approach" is 20 ft. wide and 1½ ft. high. It is apparent those appendages to the tumuli, being but little narrower and but little lower than the tumuli themselves, could not have been designed by the builders for the uses for which an approach, in the usual meaning of that word, is intended. They



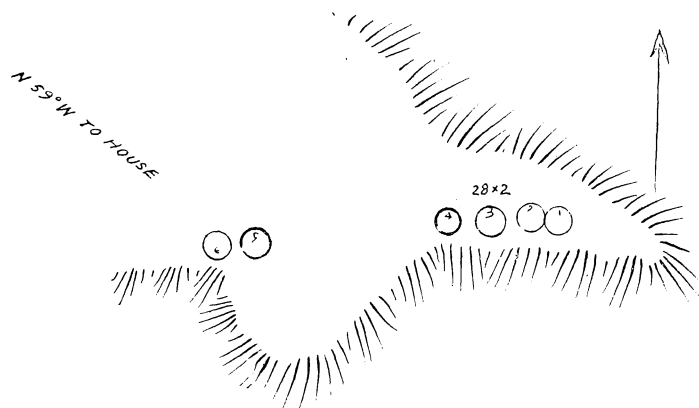


CUNNINGHAM GROUP.



seem to be rather inferior extensions of the tumuli themselves. Nos. 1 and 13 are partially gone. The largest mound, No. 1, removed from the rest, is 83 ft. wide and 11 ft. high. It may be noted here that the direction of the "approaches" is in near parallelism with the direction of the mound group, and with that of the face of the bluff. This is also true in several other places—so noticeably that it seems as if the principle which determined the location and direction of the mound group also determined the direction of elongation of the elongated mounds, as well as that of the so-called approaches. Surveyed Sept. 9, 1882. (Shown on preceding page.)

*Cunningham group*, on W.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 5, T. 115-21, on H. D. Cunningham's place. Here are eleven conventional mounds of the tumulus kind, averaging about 24 ft. in diameter and  $1\frac{1}{2}$  ft. in



height. It is noteworthy that here, as in other places, the largest mound, No. 4, stands isolated from the rest. Surveyed Sept. 9, 1882. (Shown on following page.)

On S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 34, T. 116-22. Here is an isolated large circular mound 60 ft. in diameter and 6 ft. high. Formerly others were near, but they have been plowed down and hence they were doubtless considerably smaller. They extended both ways along the bluff.

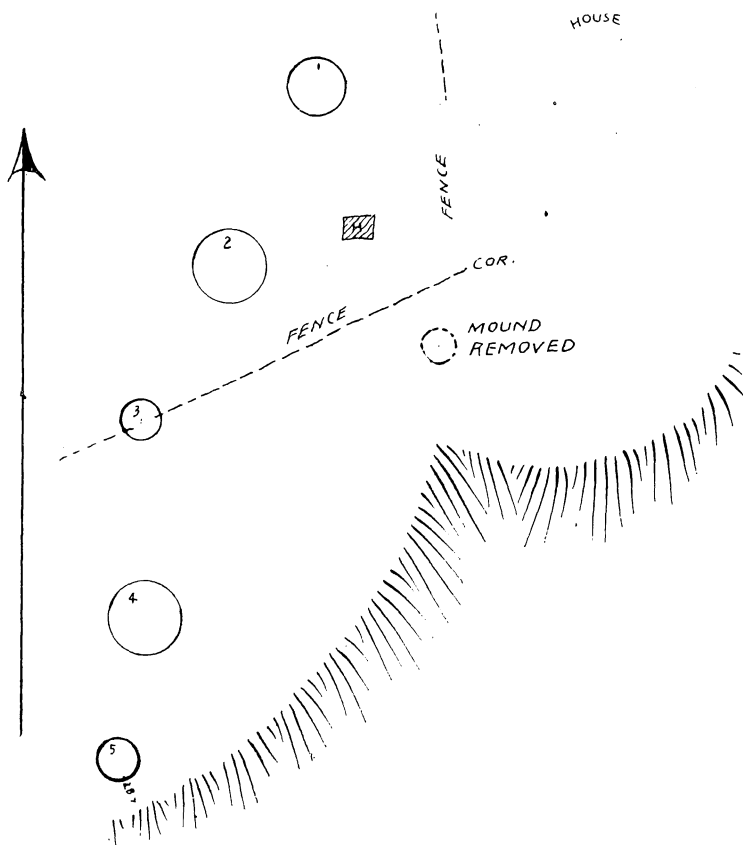
On lot 2, sec. 35, T. 116-22. Here are 6 ordinary circular mounds, averaging about 25 ft. in height and  $1\frac{1}{2}$  ft. high.

*Lincoln mounds* are on the S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , and the N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 6, T. 27-23, and are five in number, all circular. The largest is 66 ft. in diameter and 4 ft. high, and the smallest 30 ft. in diameter and 1 ft. high. Yet the highest of the group is  $4\frac{1}{2}$  ft. and 64 ft. in diameter.

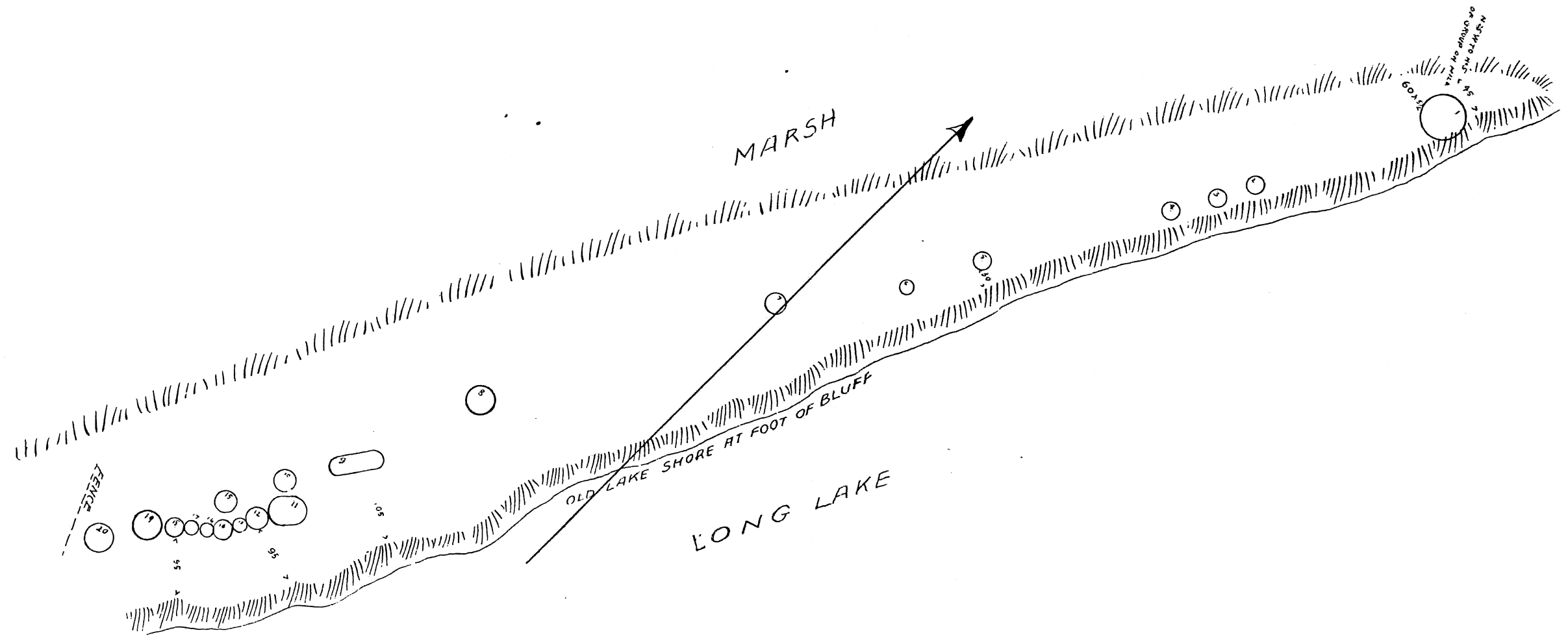
*The Van Ness mounds* are 24, situated S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 1, T. 27-24, all circular. The largest is 70 ft. in diameter and 5 ft. high. The rest are low, about  $1\frac{1}{2}$  ft. in height. The largest mound is somewhat isolated from the rest. Surveyed Sept. 7, 1882. (Shown on following page.)

*Hogback group*. These mounds are on the E.  $\frac{1}{2}$ , sec. 12, T. 27-24, and are 20 in number. They are on a ridge which separates Long lake from a marsh. The largest of the group, isolated from the rest, is on the extremity of the point, and has been partially washed away by the old lake. The old shore runs along the foot of the ridge. This isolated mound is 60 ft. in diameter and  $3\frac{1}{2}$  ft. high. This group embraces two elongated mounds, their direction running parallel with the ridge. They are 2 ft. and  $2\frac{1}{2}$  ft. high. The other circular mounds are low, about  $1\frac{1}{2}$  ft., average, in height, and 22 ft. in diameter. Surveyed Sept. 6, 1882. (Shown on insert opposite.)

*Hanson mounds*, N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 12, T. 27-24, are 9 in number,



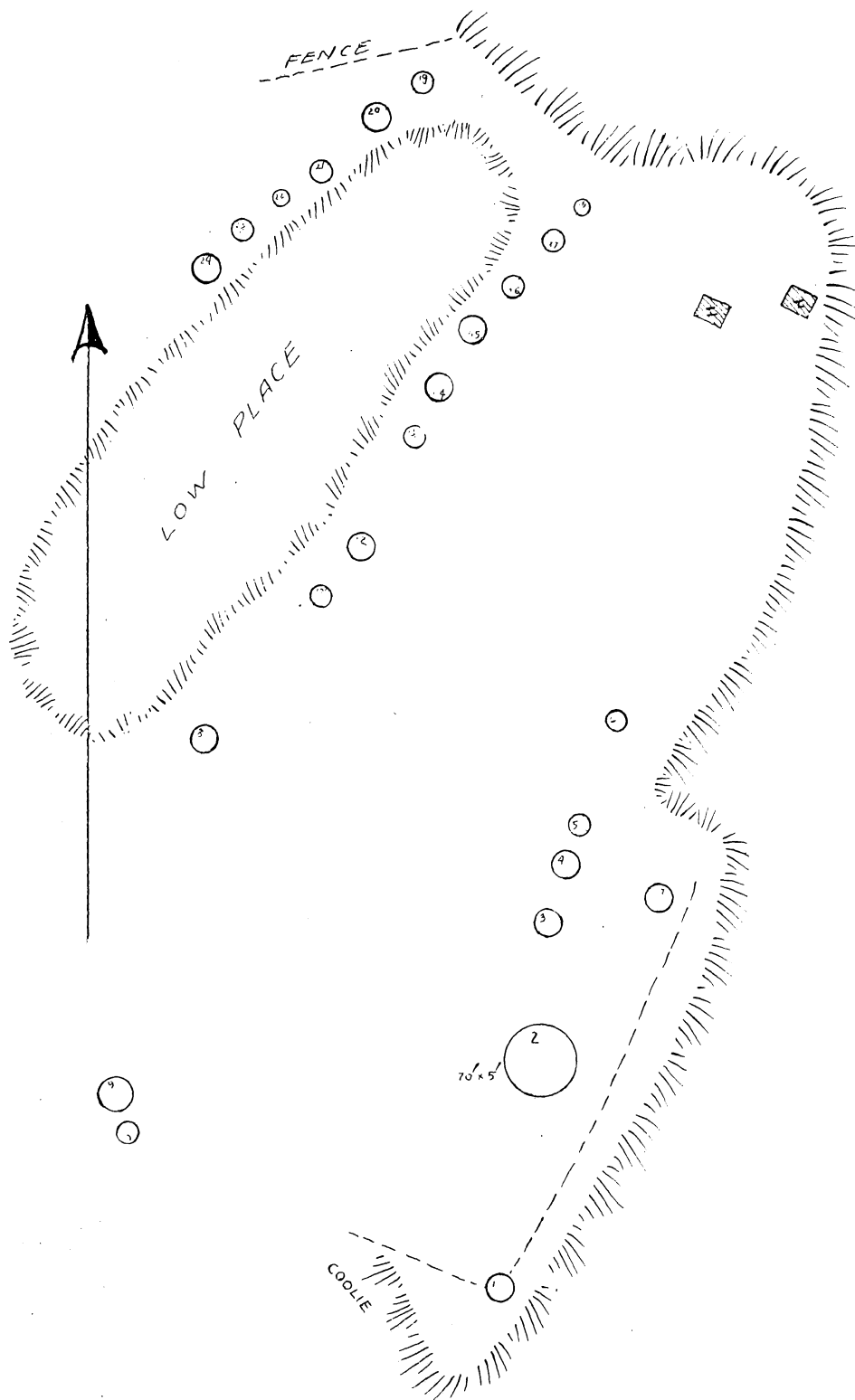
HENNEPIN COUNTY.

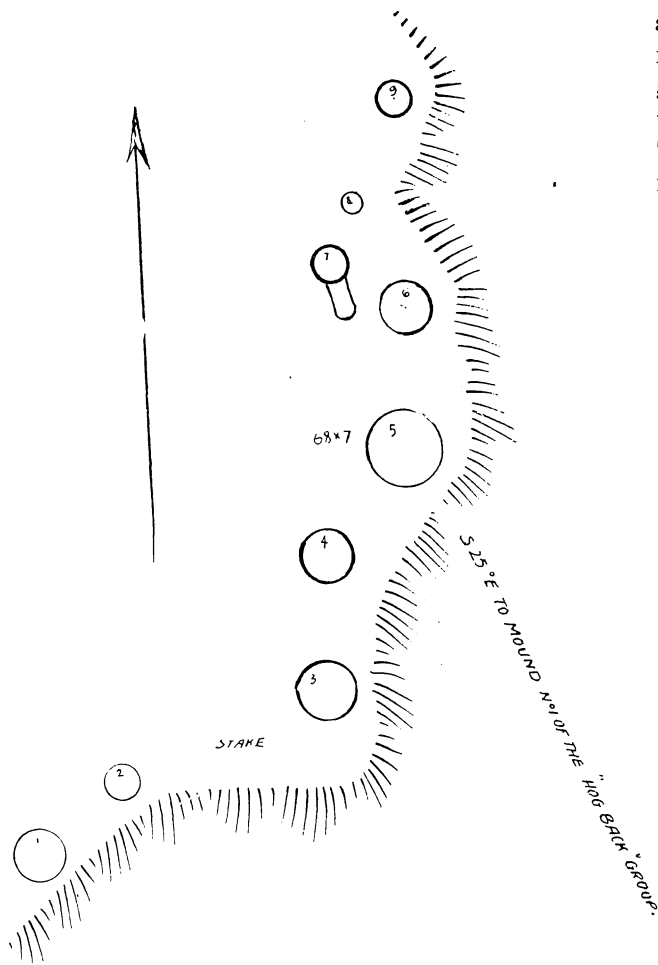


HOGBACK GROUP.

MINNESOTA RIVER MOUNDS.

VAN NESS MOUNDS.





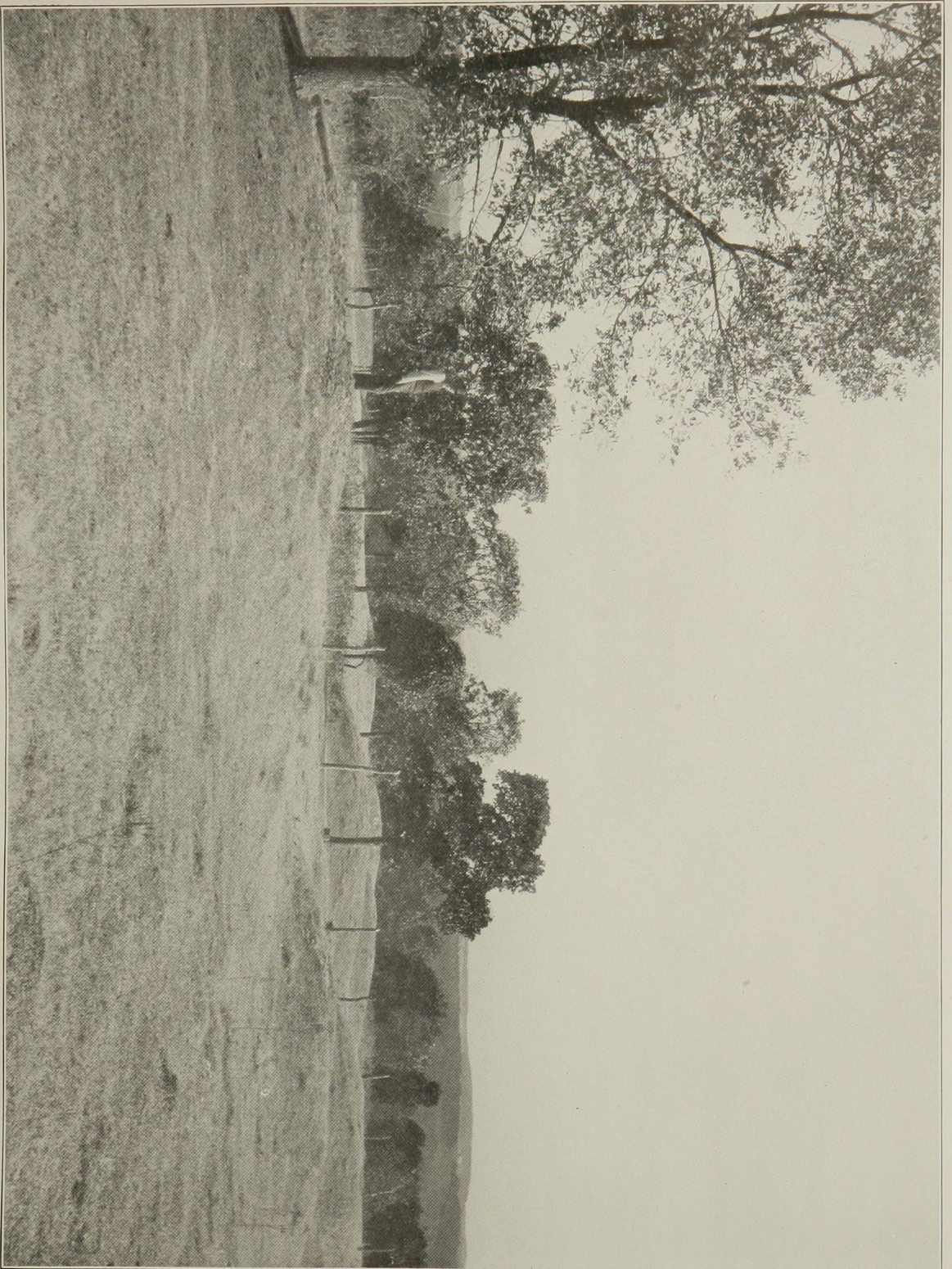
all circular, except that one has an enlargement 20 ft. in width, in the direction of the group. One of the series is remarkably larger than the rest, being 68 ft. wide and 7 ft. high. Two others are also 5 ft. high, 50 and 45 ft. in diameter, the rest being from 1 ft. to 2 ft. high. Surveyed Sept. 6, 1882.

*Findlay mounds. First Group* are on lot 5, sec. 14, T. 27-24, number 36, all circular, on the brow of the bluff, of the usual size, but varying in height from 1 ft. to 4½ ft., and in diameter from 18 ft. to 40 ft. (Shown below.)

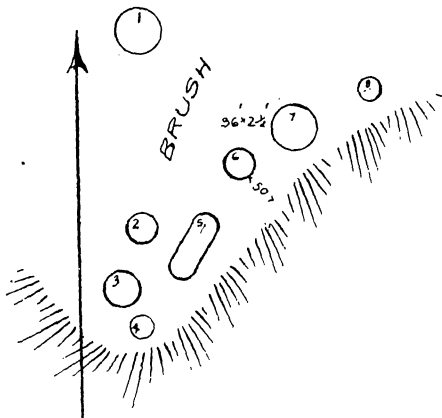
*Findlay mounds, Group 2.* Lot 5, sec. 14, T. 27-24. This group numbers 8, including one elongated mound, 60 ft. long, 20 ft. wide. One mound noticeably larger than the rest is isolated and is 36 ft. in diameter, 2 ft. high. Another of the same size but 2½ ft. high is in the series on the brow of the bluff. This land is now owned by Mrs. Richard Davis. (Shown on following page, top, and on the accompanying photograph plate, made by E. A. Bromley in 1908.)

*Findlay mounds, Group 3,* situated on lot 4, sec. 14, T. 27-24. These are 9 in number, all circular. One large mound is isolated (No. 9), and another (No. 6) is within the





FINDLAY MOUNDS, GROUP 2.  
LOTS 4 AND 5, SEC. 14, T. 27-24.



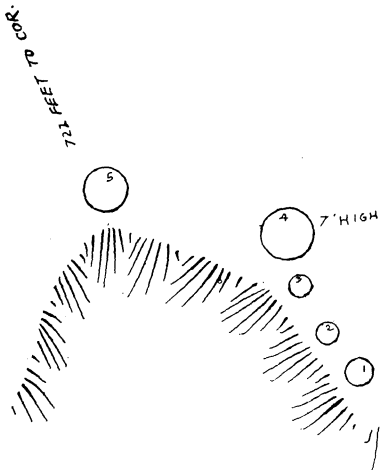
group. These are respectively 65 ft. and 60 ft. in diameter. (Shown below.)

*Palmer mounds, Group 1* are on lot 3, sec. 29, T. 27-24, consisting of two tumuli 45 ft. and 32 ft. in diameter and respectively 2½ ft. and 2 ft. high. Surveyed Sept. 7, 1882.

*Mahoney mounds* are on lot 2, sec. 12, T. 27-24, consisting of two tumuli, 30 ft. and 16 ft. in diameter, and respectively 2 ft.

and 1 ft. in high. Surveyed Sept. 7, 1882. (Shown on following page, top.)

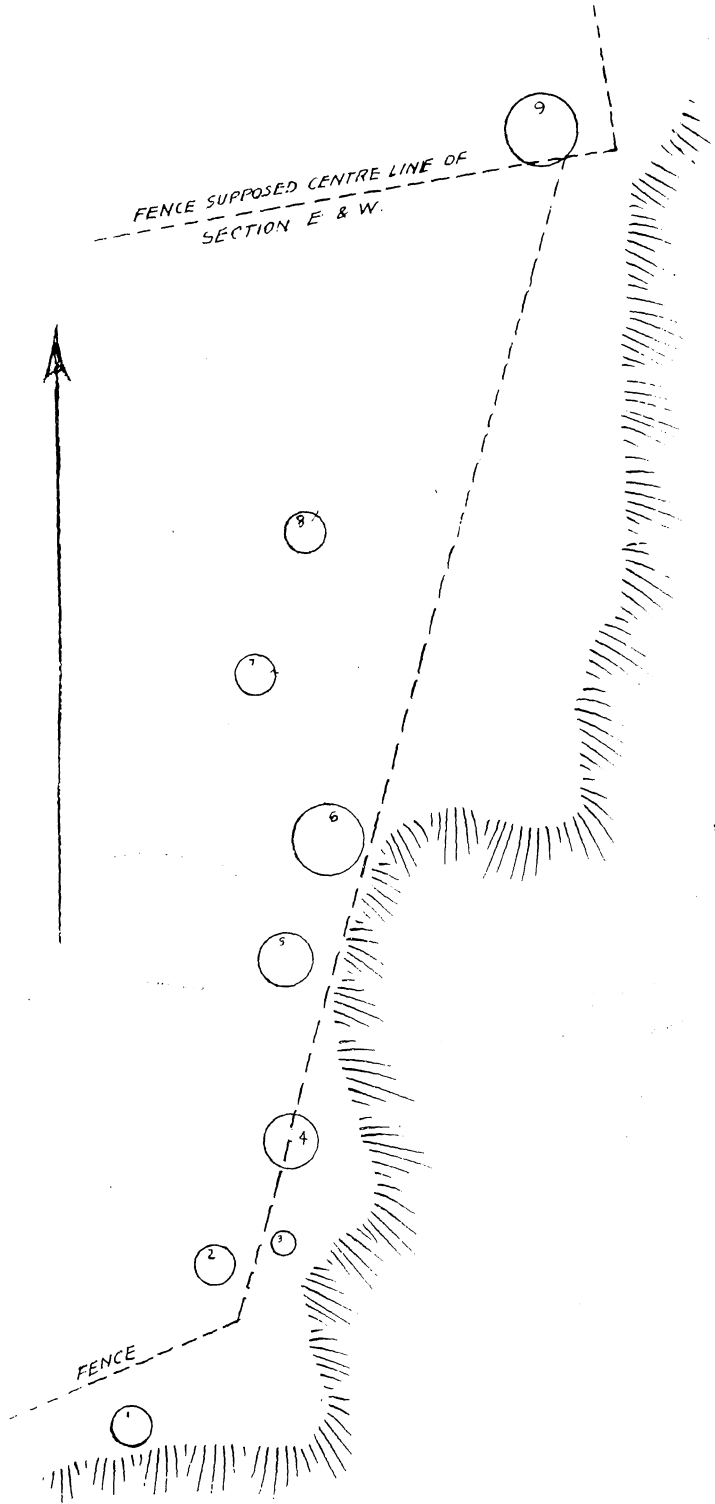
*Palmer mounds, Group 2* are on S. W. ¼, sec. 27, T. 116-22, consisting of five tumuli. One of these (No. 5) is isolated from the rest and 40 ft. in diameter, 2 ft. high, but the largest (No. 4) is 45 ft. in diameter and 7 ft. high. Surveyed Oct. 19, 1882.

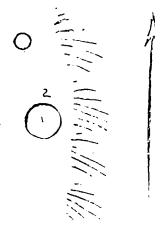
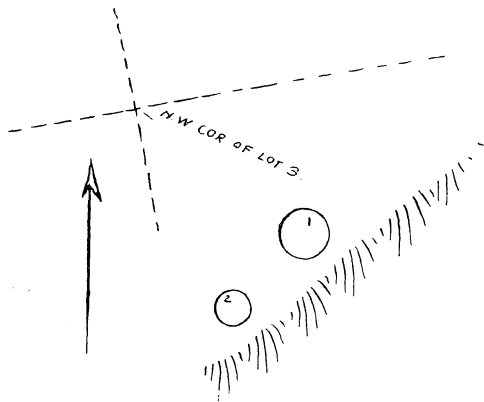


*Hopkins mounds* are on lot 3, sec. 22, T. 27-24, consisting of two tumuli of the normal size. (Shown on following page, center.)

*Mounds on Section 6*, situated S. E. ¼, N. E. ¼, sec. 6, T. 115-21, consist of 7 ordinary tumuli from 21 ft. to 45 ft. in diameter and from 1 ft. to 3 ft. in high. Surveyed Oct. 5, 1882. Nos. 1 and 7, at the two ends of the group, are the largest, the former being isolated from the rest. (Shown on following page, bottom.)

On the mounds of the Minnesota river bluffs west from Fort Snelling, the reader



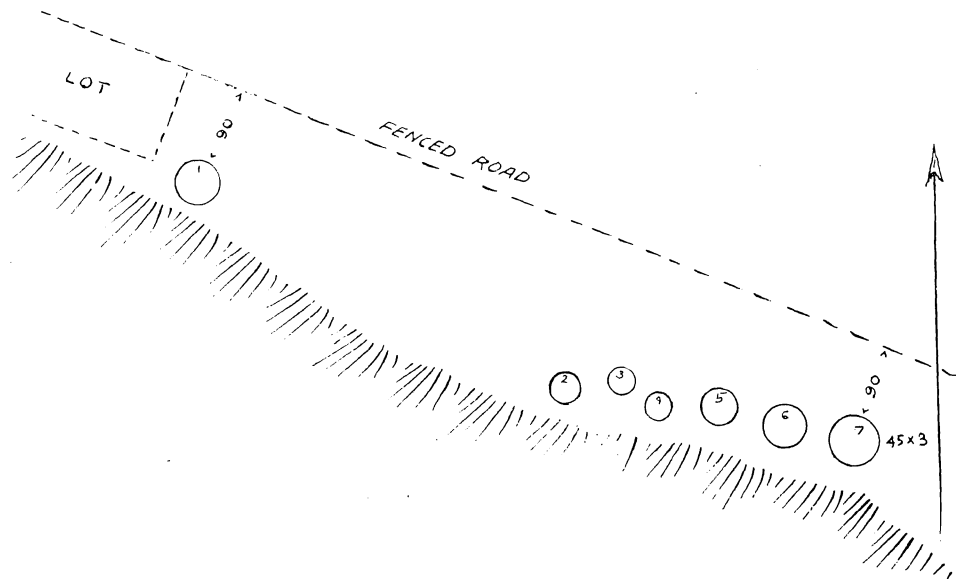
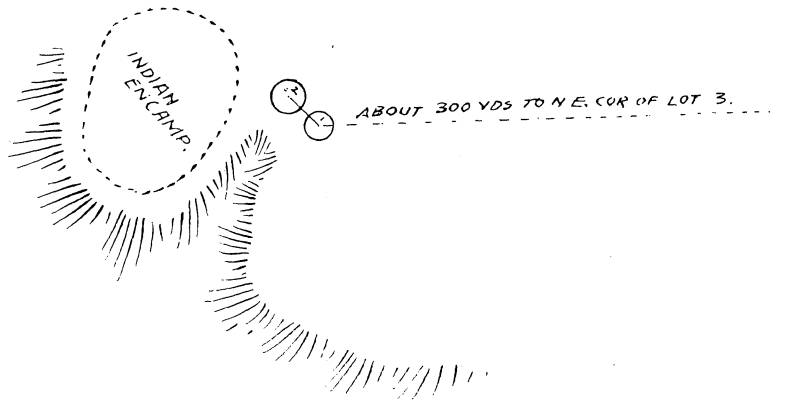


may consult G. H. Pond, *Minn. Hist. Coll.* I, 144; S. R. Riggs, *ditto*, I, 149; T. S. Williamson, *ditto*, I, 298.

*Bloomington Ferry mounds.* Here are 95 mounds, and formerly there were two more, situated S. W.  $\frac{1}{4}$ , sec. 31, T. 116-21. They are mostly to the westward of the postoffice of Bloomington Ferry, but

a large number are immediately east and southeast, including some of the large ones. With the exception of three of these mounds they are all circular. As in other instances, the large mounds, from 50 ft. to 70 ft. in diameter, of which there are 10, are separated from the main group or series, and stand isolated a short distance out of the line. Still there are two exceptions to this statement, Nos. 13 and 20, respectively 60 ft. and 65 ft. in diameter, are in the line of crowded small mounds.

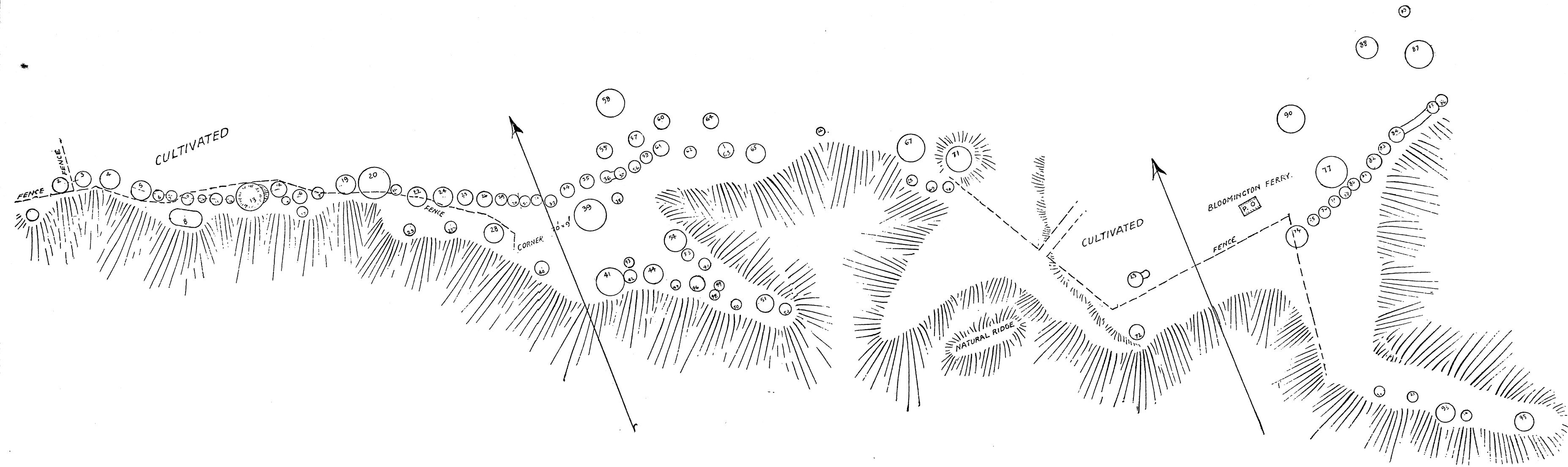
In this group of 95 mounds 5 are worthy of special note, viz.: Nos. 8, 13, 36, 73 and 84. No. 8 is an elliptical, or more correctly an oblong mound, having dimensions 70 ft. by 40 ft. and 6 ft. high. It is out of line of the series, but lies close by it, elongated parallel with the general line. No. 13 is a large mound 60 ft. in diameter and 8 ft. high. It has a sloping "approach" on the east side which is 42 ft. wide and projects about 10 ft. from the side of the mound, being a rare form. No. 36 is connected with No. 37 by a low embankment about 18 ft. wide. These are both small tumuli and stand in the main line. No. 73 is 34 ft. in diameter and 2½ ft. high, has an extension or "approach" toward the east which is 12 ft. wide, 1 ft. high and 32 ft. long. No. 84 is connected with No. 85 by a long "approach" or embankment, 71 ft. long, 18 ft. wide, 1½ ft. high, the mounds themselves being respectively 2½ ft. and 2 ft. in height. This long embankment, while running parallel with the general direction of the group, has a slight curvature or angle. Surveyed Oct. 6 and 7, 1882.



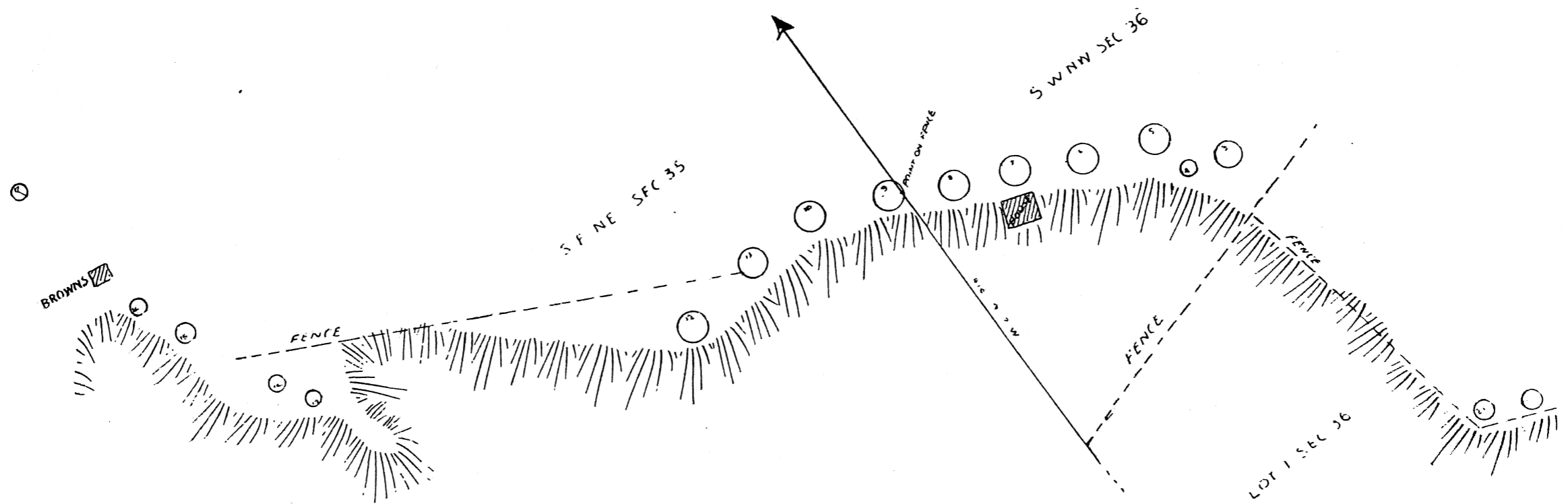
As to size the Bloomington Ferry group may be classified as follows:

As to size the Bloomington Ferry group may be classified as follows:





BLOOMINGTON FERRY MOUNDS



BROWN'S MOUNDS.

Eighteen ft. in diameter.....	3 mounds.	Thirty-six ft. in diameter.....	2 mounds.
Twenty ft. in diameter.....	15 mounds.	Thirty-seven ft. in diameter.....	1 mound.
Twenty-one ft. in diameter.....	3 mounds.	Thirty-eight ft. in diameter.....	3 mounds.
Twenty-two ft. in diameter.....	2 mounds.	Forty ft. in diameter.....	4 mounds.
Twenty-three ft. in diameter.....	1 mound.	Forty-two ft. in diameter.....	2 mounds.
Twenty-four ft. in diameter.....	4 mounds.	Forty-five ft. in diameter.....	1 mound.
Twenty-five ft. in diameter.....	9 mounds.	Forty-six ft. in diameter.....	1 mound.
Twenty-six ft. in diameter.....	4 mounds.	Fifty ft. in diameter.....	1 mound.
Twenty-seven ft. in diameter.....	2 mounds.	Fifty-four ft. in diameter.....	1 mound.
Twenty-eight ft. in diameter.....	4 mounds.	Fifty-six ft. in diameter.....	1 mound.
Thirty ft. in diameter.....	9 mounds.	Sixty ft. in diameter.....	4 mounds.
Thirty-two ft. in diameter.....	4 mounds.	Sixty-five ft. in diameter.....	1 mound.
Thirty-four ft. in diameter.....	5 mounds.	Sixty-eight ft. in diameter.....	1 mound.
Thirty-five ft. in diameter.....	3 mounds.	Seventy ft. in diameter.....	1 mound.

The average height of all the round mounds is 2.7 ft. But if the 10 large ones be omitted there would remain 85 simple, ordinary tumuli whose average height would be somewhat less than 2 ft.

*Embankments, approaches and elongated mounds.* There are comparatively few in this group, but so far as they exist they agree with those of other groups in being immediately associated with the round tumuli, and in having their greatest dimensions parallel with the extension of the group series. The simple embankments, or connections between two mounds, are  $1\frac{1}{2}$  ft. or 2 ft. in height, but the large mound No. 13 presents a rare feature. The height of this mound is 8 ft. It has a sloping approach, or lean-to, which is 42 ft. wide, but extending but 10 ft. from the mound itself.

In examining more closely the above table of the sizes of the circular tumuli, it is apparent that the commonest size is below 24 ft., within which limit are found 46 tumuli whose average diameter is 20.1 ft. Between 23 ft. and 35 ft. are 41 mounds whose average diameter is 24.5 ft. From 35 ft. to 56 ft., inclusive, are found 20 tumuli whose average diameter is 40.6 ft. Above 60 to 70 ft. are 7 tumuli whose average diameter is 63.3 ft. In other words, there is an increase in diameter in approximately a simple arithmetic ratio, i. e., the average diameters increase thus: 20 ft. (to 24 ft.) : 40 ft. : 60 ft., in which 20 is the unit of increase. What may be the basis of this rate of increase in the diameter of the circular mounds is a desideratum to be known. The last term in this series, however, embraces the isolated mounds which may have been designed for a different use, and hence the ordinary tumulus is reduced to two average dimensions, viz.: about 20 ft. and about 40 ft. It may be that if these tumuli were the bases of aboriginal houses, there were two methods of enlargement when it became desirable to accommodate more than the ordinary communal group; either (1) an extension of the house along the line of the group by the addition of another residence which could be in immediate contact, making an elongated mound, or could be connected with the original house by a lower covered way, or (2) by doubling the diameter of the original house. It may hence be possible that the elongated mound, generally, indicates that two, or even many, residences, were built in contact, or were connected by a continuous structure. The doubling of the original diameter would be more laborious and less common, and such mounds may have been made in double dimensions at the first. There is a prevailing scarcity of mounds whose diameters fall between 22 ft. and 30 ft.

Again, if the mounds were for burial, probably the same dimensions would be found convenient, and the unit of increase beyond the simple tumulus may have been applied with similar regularity, but this is not so likely. (Shown on insert opposite.)

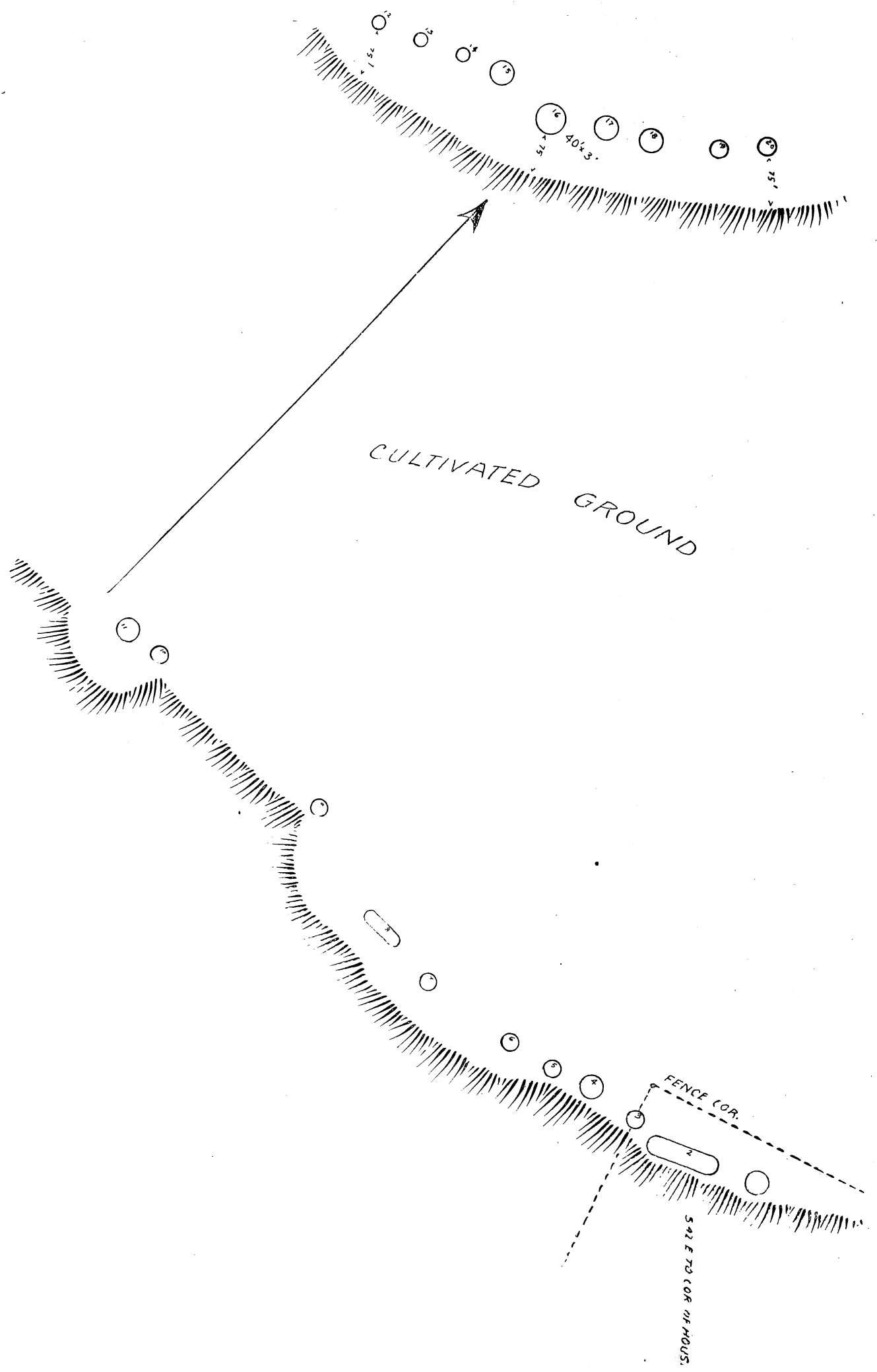
From this group some probable general principles can be deduced.

1. The so-called approaches merge into connections which, with the mounds at the extremities, make an embankment 119 ft. in length. It may be that other embankments are the result of connecting several mounds.

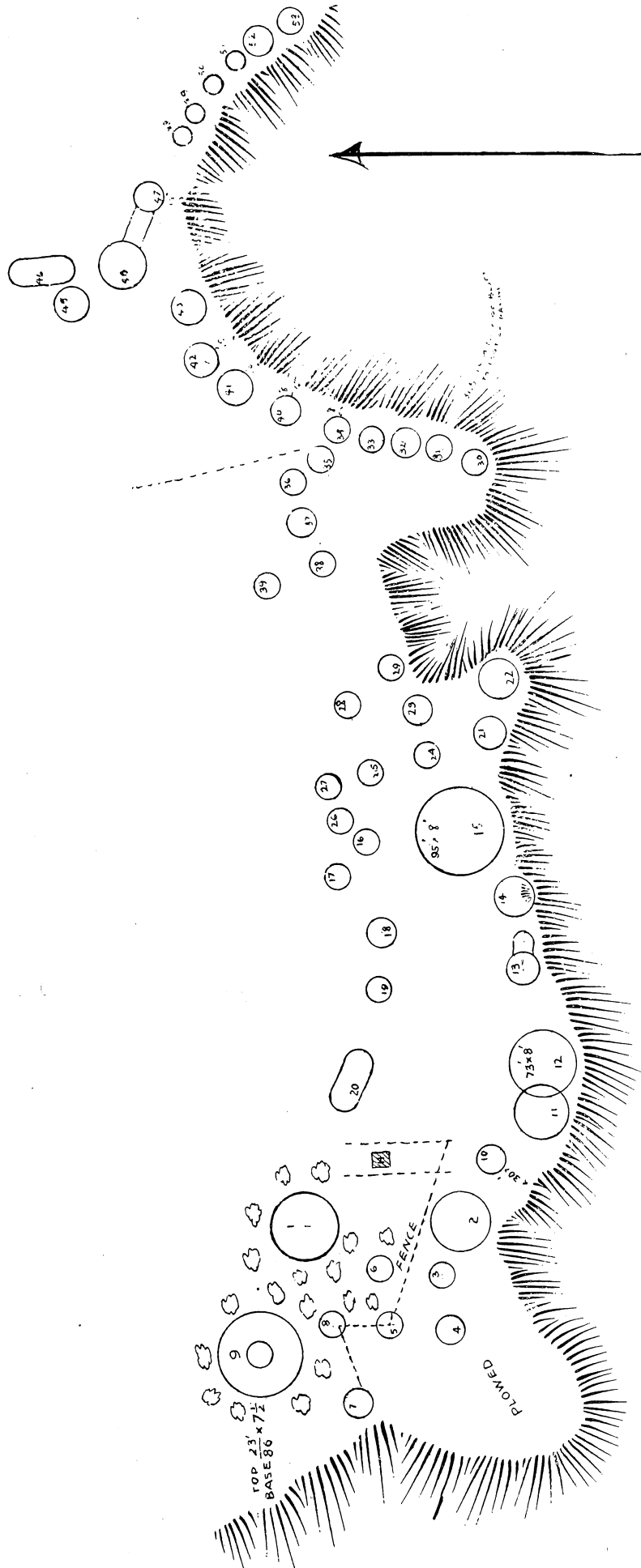
2. These extensions, or connecting embankments, are parts of the mounds with which they are connected, in purpose and structure. Their purposes may not have been identical with that of the mounds proper, but they are allied.

3. The large mounds, 50 ft. to 70 ft. in diameter, seem to have been constructed for a different purpose from that of the ordinary tumulus of 18 ft. to 30 ft. in diameter; and that purpose required, in most instances, that the large mounds be located apart from the rest of the group.

*Brown's mounds* are on S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 35, and S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , and lot 1, sec. 36, T. 116-22, closely along the brow of the bluff of the Minnesota river. These are 17 tumuli without noteworthy characteristics. They vary from 20 ft. to 45 ft. in diameter. (Shown on insert opposite.)



KEMPTON GROUP.



*Mounds on W. 1-2, N. W. 1-4, sec. 35, T. 116-22.* Here are 20 mounds in two series separated by a stretch of cultivated land, which lies between the opposite bluffs on which the mounds are located. In the southern series are two elongated mounds the length of which are 98 ft. and 58 ft. approximately, multiples of their widths, which are respectively 25 ft. and 16 ft. The rest are circular tumuli varying in diameter from 16 ft. to 40 ft. (Shown on page 250.)

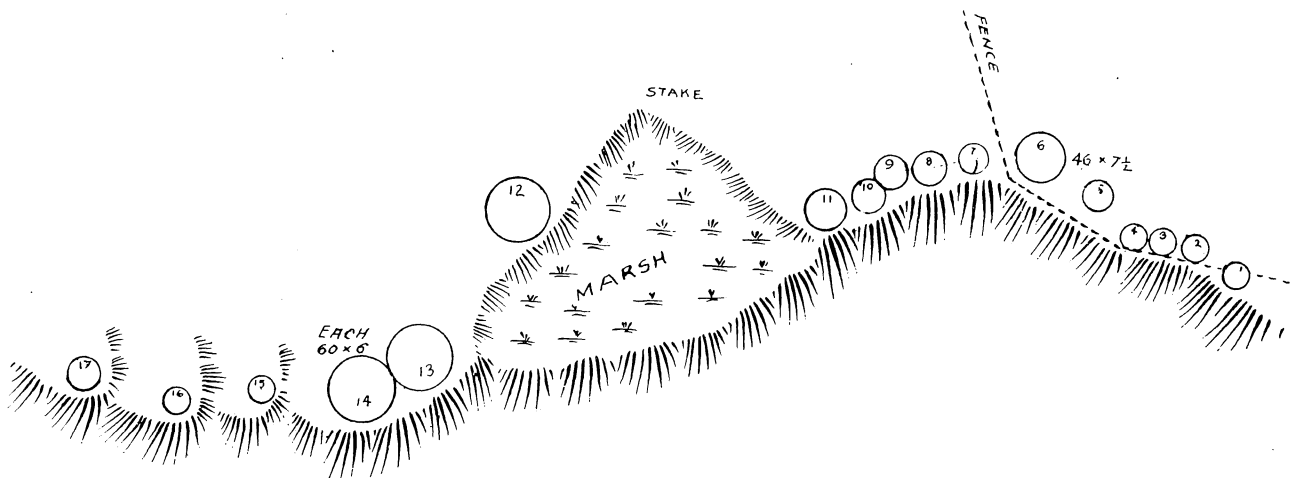
*Kempton group*, situated on a bluff about 115 ft. above the Minnesota river, on S. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , and the S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 29, T. 116-22, comprise 53 mounds, of which two are elongated, one is connected with another by a low embankment, one has an eastward extension, and one is flat-topped.

The elongated mounds have the dimensions 30 ft. by 70 ft., 3 ft. high and 24 ft. by 66 ft., 2 ft. high. Those which are connected are 56 ft. and 36 ft. in diameter, with respective heights 6 ft. and 5½ ft. The connecting embankment is 20 ft. wide and 1½ ft. in height. No. 13, which has an eastward extension, is 36 ft. in diameter and 2½ ft. high, the extension being 20 ft. wide and 1 ft. high. The flat-topped mound, No. 9, is 86 ft. in diameter, 7½ ft. high, and the platform on top is 23 ft. in diameter.

Some of these mounds are so near the edge of the bluff that they have been eaten into and washed away by the recession of the bluff since the mounds were constructed. This proves that if any of the mounds had originally been flat-topped the platforms of the same may have been destroyed by the weather so as to leave them now simply rounded tumuli.

Four of the large mounds are in the line of the series, and two are isolated. Surveyed Oct. 9 and 10, 1882, and Nov. 12, 1884. (Shown on page 251.)

*Fieldmann mounds.* These are on the S. E.  $\frac{1}{4}$ , sec. 30, T. 116-22. They are 20 in number and all circular. Seventeen are in a group, but two are on the next point of the bluff further west, and one is on the second point further west. Four of these mounds are of more than usual size, only one of which is separated from the rest, all being in the line of the series along the brow of the bluff. Surveyed Oct. 10, 1882.



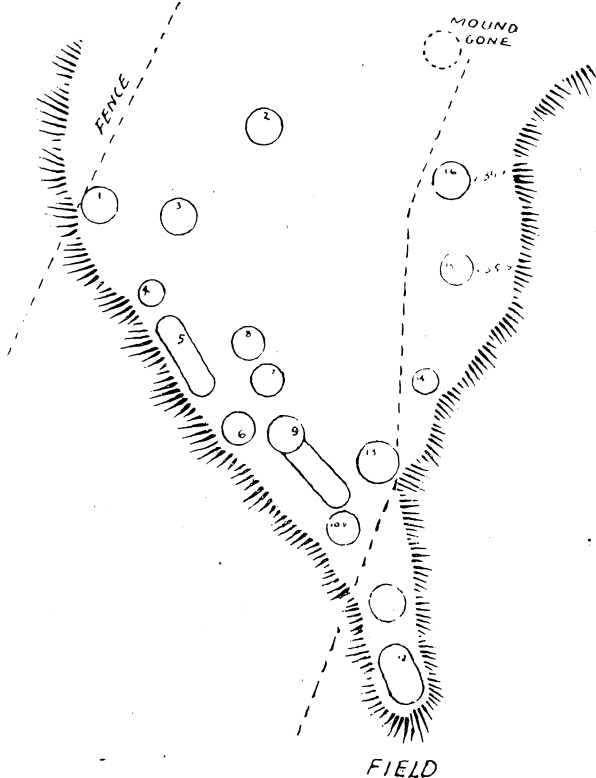
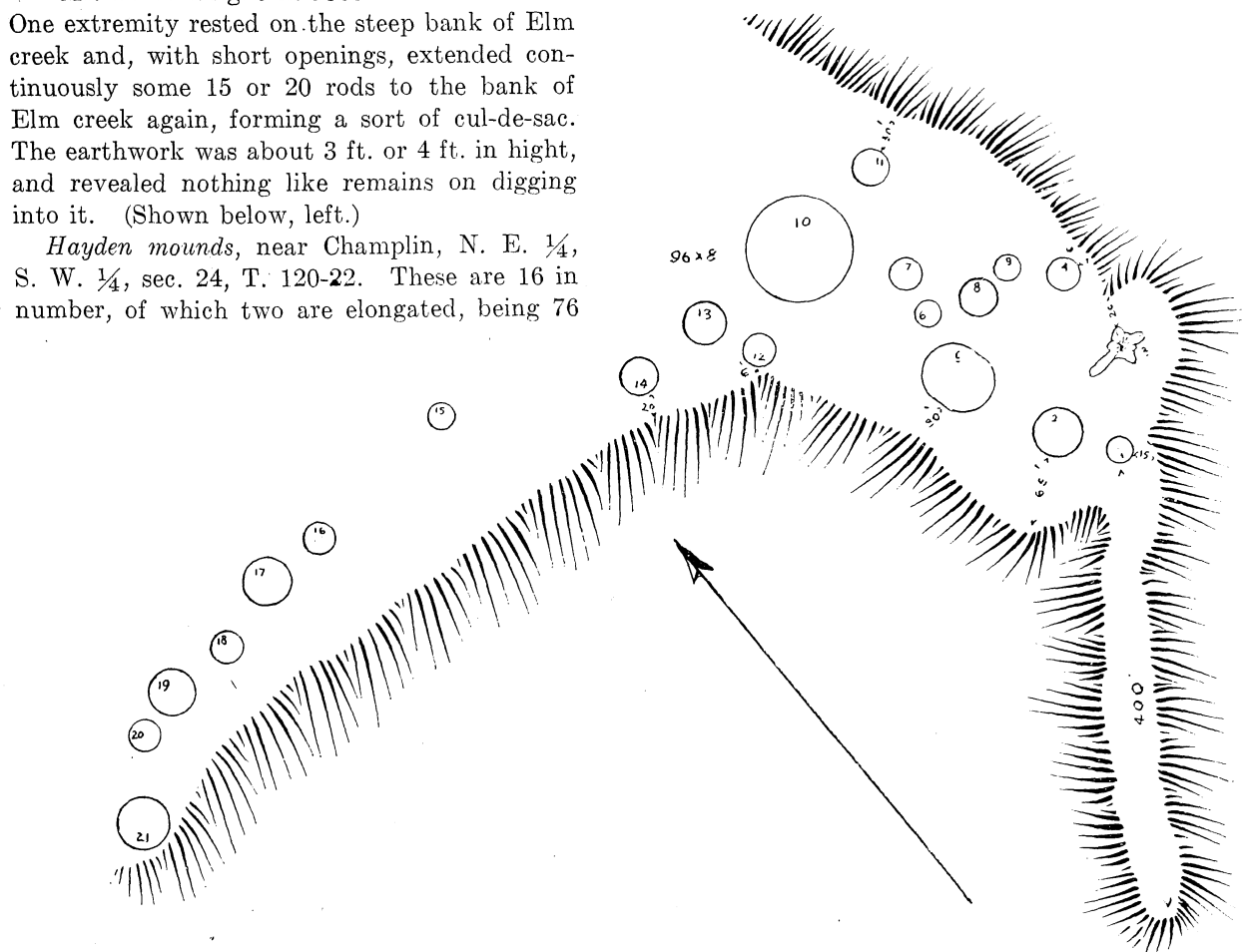
*Mounds on S. 1-2, S. W. 1-4, sec. 29, T. 116-22*, comprise a group of 21 mounds, all circular except one, which is nondescript in shape, or suggests a tadpole. No. 5, however, is not quite round, having the dimensions 67 ft. by 55 ft. No. 10 is one of the largest of circular mounds, being 96 ft. in diameter and 8 ft. high. Of the tadpole the tail is 7 ft. wide and 34 ft. long. It extends toward the west. The other tumuli are generally small, and 1½ to 2 ft. high. Surveyed Nov. 12, 1884. (Shown on following page, top.)

(d) *Mounds on the minor lakes and streams.*

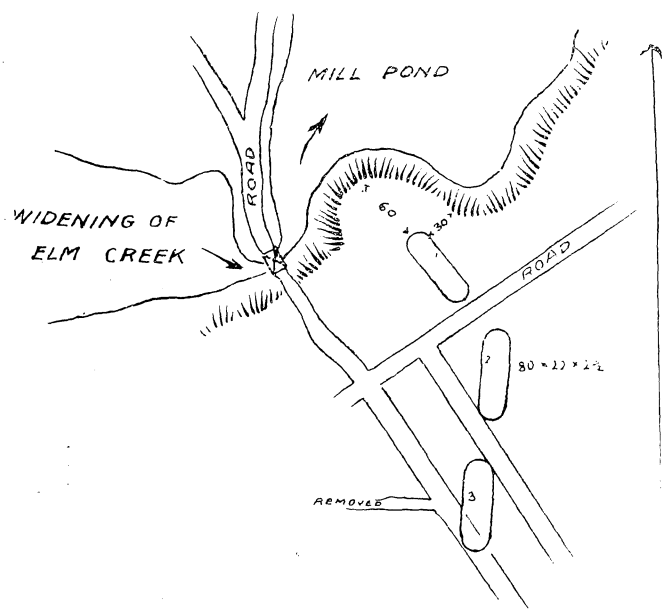
*Mounds just below Champlin*, on S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 19, T. 120-21. Here were 3 elongated mounds whose lengths are 72 ft., 80 ft. and 80 ft., and respective widths 20 ft., 22 ft., and 22 ft. One has been removed. They were 2½ ft. high. Surveyed Nov. 19, 1883.

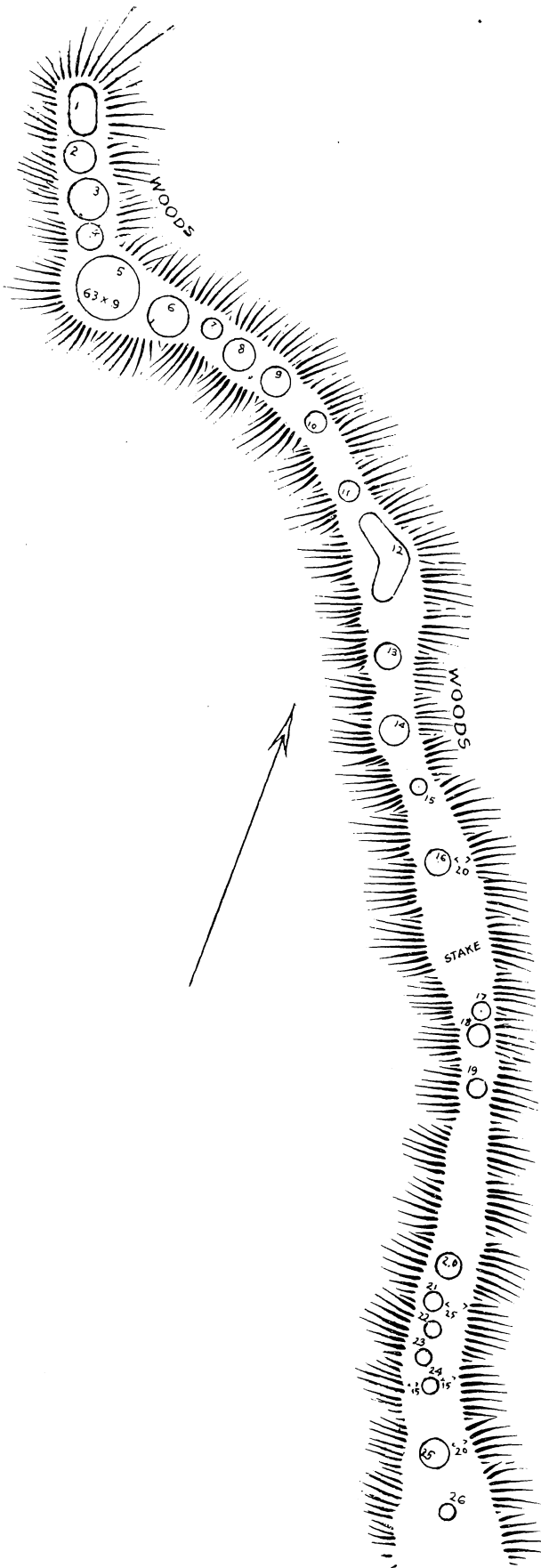
Mr. B. F. Wright in 1868 noted earthworks on Elm creek near its junction with the Mississippi. One extremity rested on the steep bank of Elm creek and, with short openings, extended continuously some 15 or 20 rods to the bank of Elm creek again, forming a sort of cul-de-sac. The earthwork was about 3 ft. or 4 ft. in high, and revealed nothing like remains on digging into it. (Shown below, left.)

Hayden mounds, near Champlin, N. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 24, T. 120-22. These are 16 in number, of which two are elongated, being 76



ft. by 18 ft., and 52 ft. by 26 ft., with heights of  $1\frac{1}{2}$  ft. and 1 ft. One circular mound has an extension parallel with the general series, 20 ft. wide, 1 ft. high, and 80 ft. long. The other circular mounds are about  $1\frac{1}{2}$  ft. in high. No. 11 has been excavated. (Shown to right.)





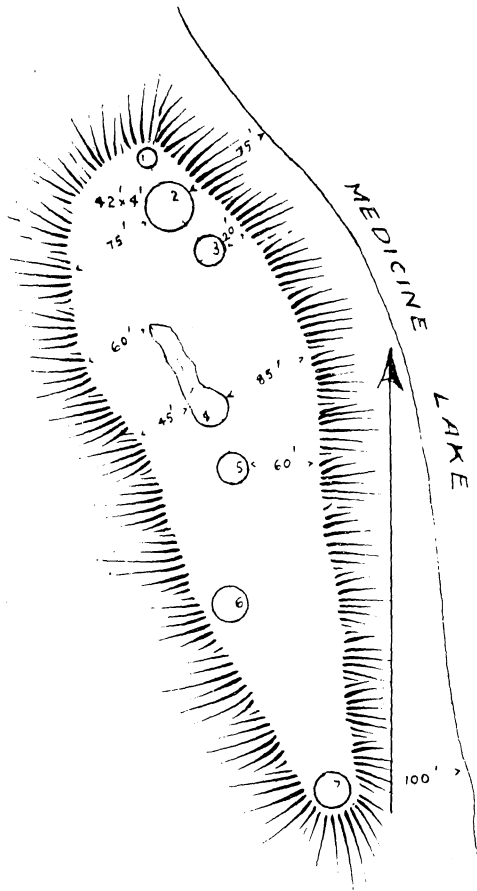
*Mounds at east end of Hayden lake, on N. W.  $\frac{1}{4}$ , sec. 25, T. 120-22.* These are about 25 ft. above the lake, on a low ridge, or hogback. They are 26 in number and mostly circular tumuli. One is oblong, with dimensions 50 ft. by 25 ft. by  $2\frac{1}{2}$  ft. No. 5, the largest of the group, has been excavated. No. 12 has an unusual shape, being apparently made by two elongated mounds brought together at an oblique angle and enlarged and somewhat widened at the junction. The width of the free extremity of one is 15 ft. and 1 ft. high, of the other 22 ft. and 2 ft. high. At the union of the two mounds the width is 28 ft. and the height 2 ft. A number of these tumuli are small, only 16 ft. in diameter.

Another mound is on S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 25, T. 120-22, about 15 ft. above the lake, on a low ridge. It is 18 ft. in diameter and 1 ft. high; also another one on the west side of the lake, 30 ft. above the meadow. It is on S.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 27, T. 120-22, 50 ft. in diameter and 5 ft. high; excavated in 1886 and afforded human bones and pottery.

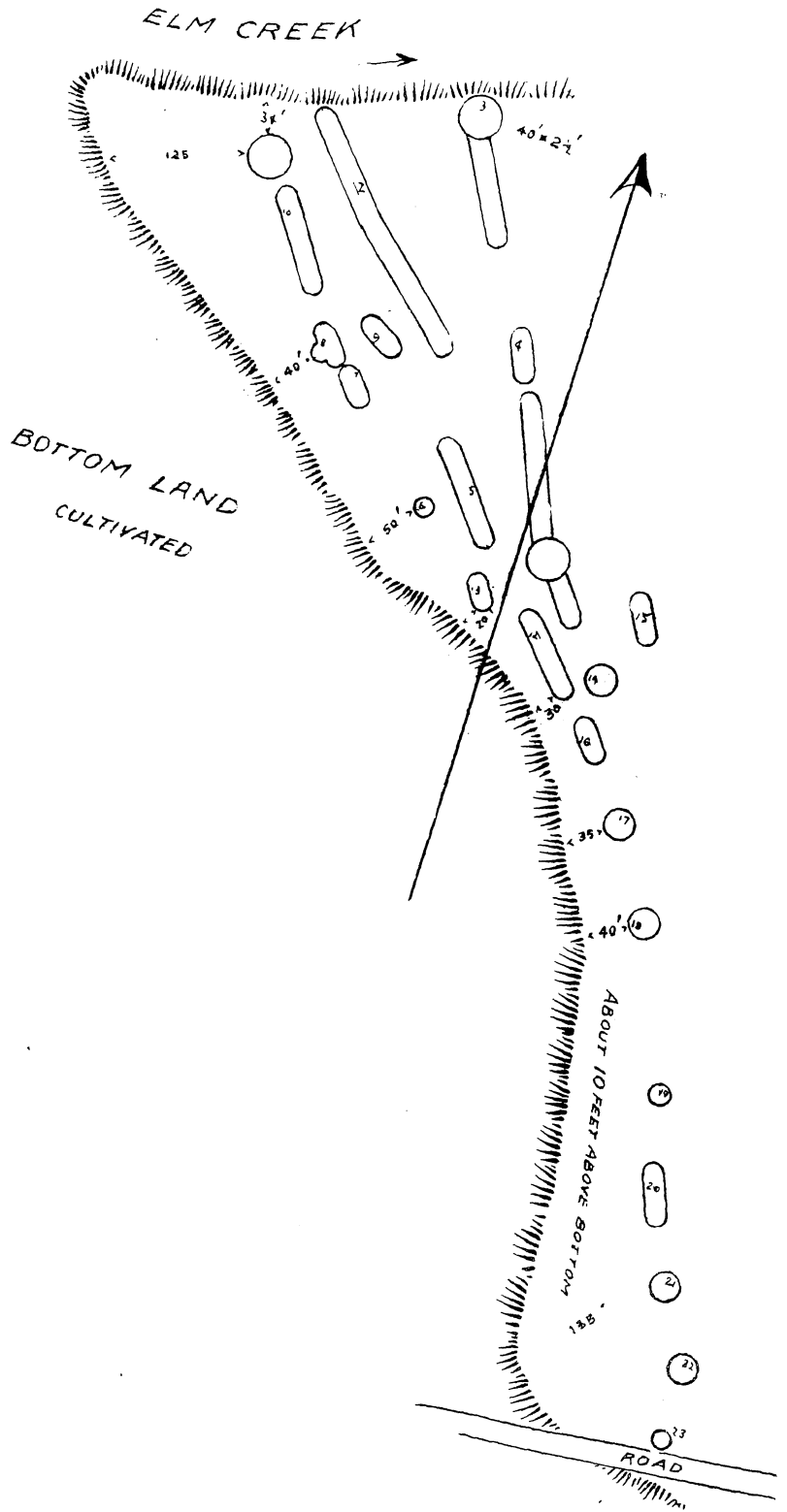
*Trussell mounds, on Elm creek, S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 24, T. 120-22.* These are 23 in number, of which 15 are elongated, along the bluff about 10 ft. above the cultivated bottomland. No. 1, 40 ft. in diameter, has been excavated. No. 2 is 256 ft. long, 20 ft. wide,  $1\frac{1}{2}$  ft. high. It has a slight angle, or change of direction, near the middle. No. 3 is a circular mound from which an extension 102 ft. long, 20 ft. wide, has been built,  $1\frac{1}{2}$  ft. high. No. 4 has dimensions 52 ft. by 18 ft., and  $1\frac{1}{2}$  ft. high. No. 5 is 107 ft. by 18 ft.,  $1\frac{1}{2}$  ft. high. No. 7 is 42 ft. by 18 ft.,  $1\frac{1}{2}$  ft. high. No. 8 is 42 ft. by 16 ft.,  $1\frac{1}{2}$  ft. high. No. 9 is 51 ft. by 22 ft.,  $1\frac{1}{2}$  ft. high. No. 10 is 102 ft. by 18 ft.,  $1\frac{1}{2}$  ft. high. No. 11 is a circular mound with low extensions in both directions, one 141 ft. (18 ft. wide), and the other 52 ft. (16 ft. wide). No. 12 is 90 ft. by 18 ft.,  $1\frac{1}{2}$  ft. high. No. 13 is 32 ft. by 16 ft., 1 ft. high. No. 15 is 49 ft. by 16 ft., 1 ft. high. No. 16 is 44 ft. by 18 ft.,  $1\frac{1}{2}$  ft. high. No. 20 is 60 ft. by 18 ft., 1 ft. high. The width, as well as the height, of the extensions, or "approaches," is generally about the same as the diameter of the smaller circular mounds. The largest circular mound in this group is 40 ft. by  $2\frac{1}{2}$  ft. Surveyed Nov. 20, 1883. (Shown on following page, right.)

*Medicine Lake mounds, on lot 2 of sec. 26, T. 118-22, situated about 50 ft. above the lake.* Here are 7 tumuli, of which No. 2, 42 ft. in diameter and

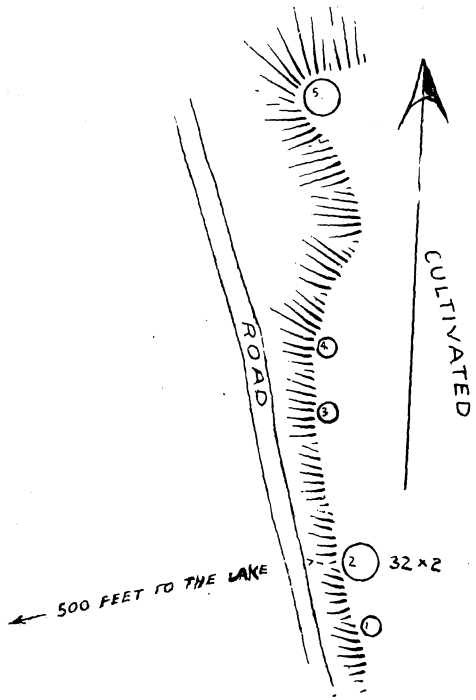




4 ft. high, has been excavated. No. 4, 2½ ft. high, has an irregular elongation extending 80 ft., about 18 ft. wide but a little crooked, which is a rare feature in such extensions. Surveyed June 21, 1887.



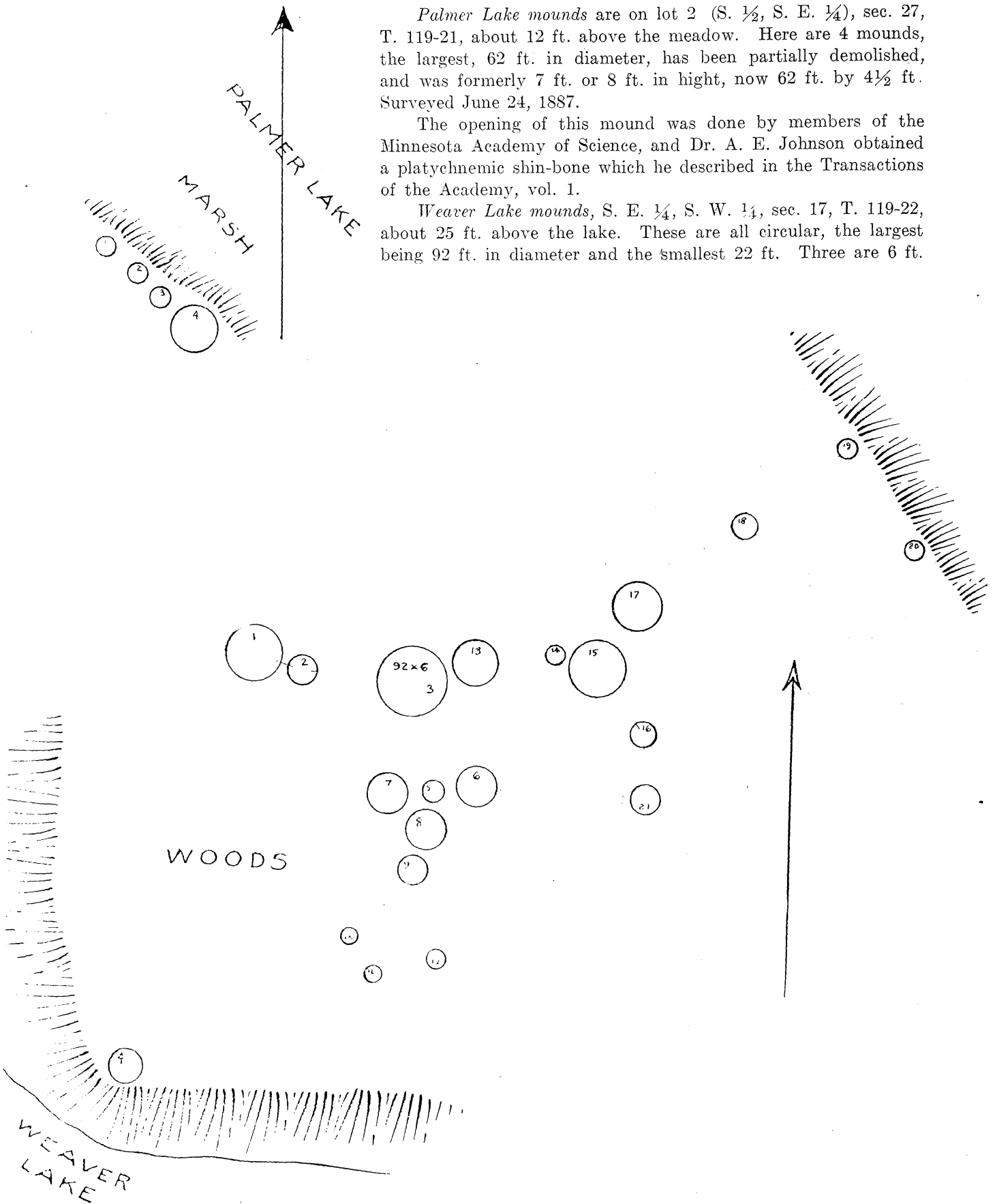
Eagle Lake mounds, S. E. ¼, S. E. ¼, sec. 25, T. 119-22; about 25 ft. above the lake, consist of five common tumuli, the largest being 32 ft. in diameter and the smallest 18 ft.

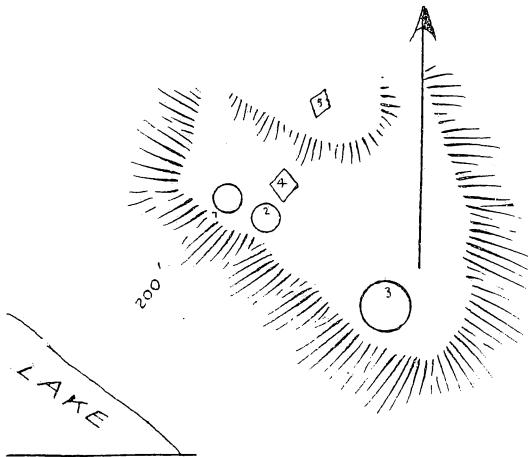
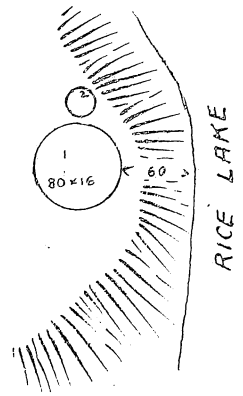
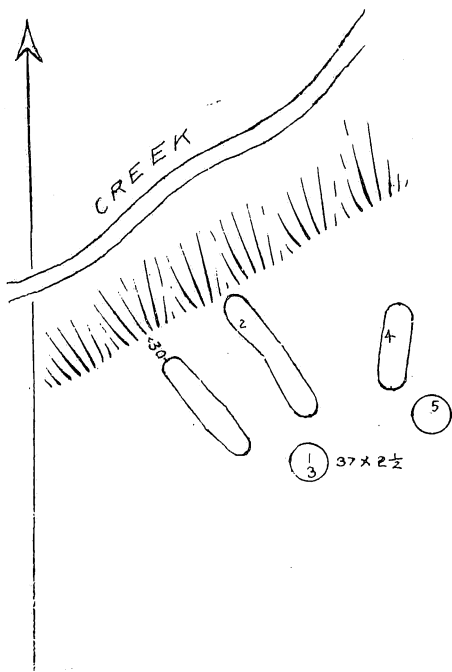


*Palmer Lake mounds* are on lot 2 (S.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ ), sec. 27, T. 119-21, about 12 ft. above the meadow. Here are 4 mounds, the largest, 62 ft. in diameter, has been partially demolished, and was formerly 7 ft. or 8 ft. in height, now 62 ft. by  $4\frac{1}{2}$  ft. Surveyed June 24, 1887.

The opening of this mound was done by members of the Minnesota Academy of Science, and Dr. A. E. Johnson obtained a platyhemiac sh-bone which he described in the Transactions of the Academy, vol. 1.

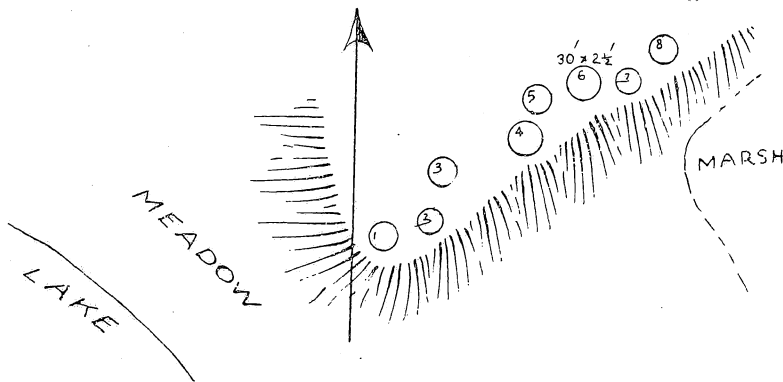
*Weaver Lake mounds*, S. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 17, T. 119-22, about 25 ft. above the lake. These are all circular, the largest being 92 ft. in diameter and the smallest 22 ft. Three are 6 ft.





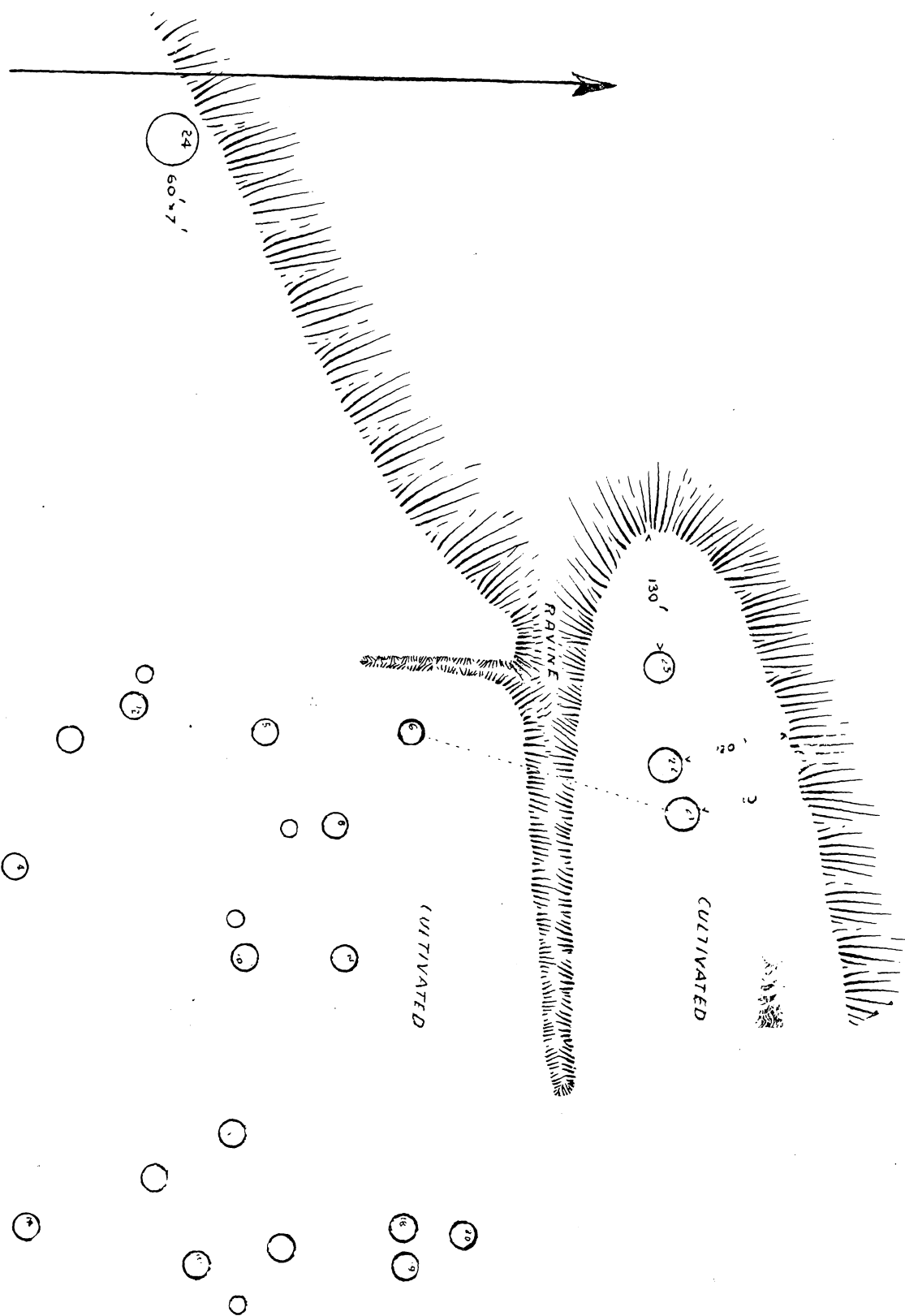
in height, of which one has been excavated. Nos. 18 and 19 are cultivated. Surveyed June 23, 1887. This group is remarkable for their large average diameter, which is 44 ft.

*Rice Lake mounds.* Three elongated and two circular mounds are on N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 21, T. 119-22, 300 to 400 yards back from the lake and about 40 ft. above it. About 200 yards N. 75° E. there formerly stood a mound about 7 ft. high. This group consists of three elongated and two circular mounds. Two of the former show a peculiarity, viz.: their sides are not parallel. In one the sides swell outward so as to increase the width of the mound from 18 ft. to 24 ft. In the other the opposite takes place, viz.: the width of the mound at the center is less than at the ends, these dimensions being respectively 18 ft. and 22 ft. (Shown above.)



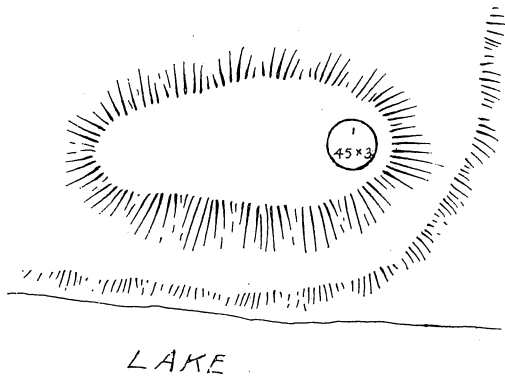
A single tumulus is on lot 1 of sec. 15, T. 119-22, 30 ft. in diameter, about 40 ft. above the lake, to which there is a gradual slope from the level of the mound.

Two others are on N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 21, T. 119-22, also about 40 ft. above the lake. One of these is 80 ft. in diameter and 16 ft. high, and has been excavated. The other is 24 ft. in diameter and 1  $\frac{1}{2}$  ft. high. Surveyed June 23, 1887.



Between lakes Independence and Katrina, lot 2 (N. E., N. W.), and S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 19, T. 118-23. Here are 24 tumuli, whose average diameter is about 24 ft. and average height about  $1\frac{1}{2}$  ft. There is, however, one isolated large mound whose diameter is 60 ft. and height 7 ft., which has been excavated. About the same number of similar mounds have been destroyed, some of which were on lot 5. These mounds are about 40 ft. above the lakes and overlooking both. Surveyed June 16, 1887. (Shown on page 258.)

*Mounds at lake Independence.* Three tumuli are on lot 2, sec. 12, T. 118-24, 45 ft. above the lake, and 8 more are on lot 1 of the same section, 50 ft. above the marsh. The largest of these is in the former group, 46 ft. in diameter and  $8\frac{1}{2}$  ft. high. Their average diameter is about 24 ft. Surveyed July 10, 1883. (Shown on page 257, bottom.)



*Lone mound at Long Lake.* This is on lot 1, sec. 34, T. 118-23. It is 45 ft. in diameter and 3 ft. high, standing at the east end on a little plateau, overlooking the lake which is near. Two mounds are on Mr. Aaron Hoag's land, sec. 18, T. 120-23.

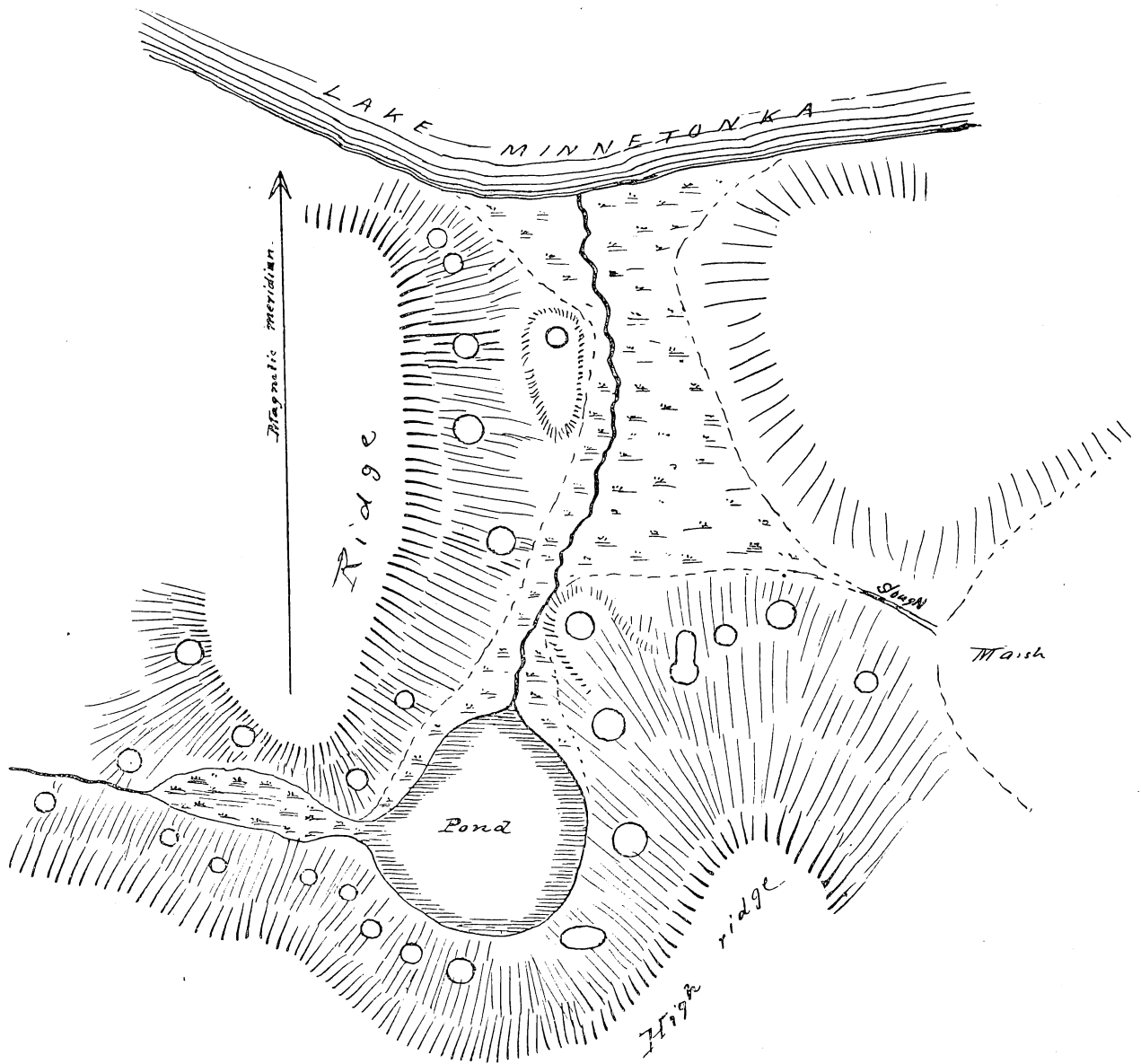
It was stated in the *Pioneer Press*, of St. Paul, July 7, 1887, that in grading for the "Soo" shops in northeast Minneapolis, the workmen "found what was undoubtedly the remains of an ancient Indian fort;" but Mr. W. W. Rich, the chief engineer, stated that he never noticed anything which seemed to indicate anything of the sort, but admitted that the slight elevations may have escaped his notice.—*Hill Rec.*

*Marsh mounds near Excelsior.* There is a class of mounds, which differ in location from all the foregoing, in Hennepin county, being found in low ground. They are not confined to Hennepin county. Outwardly they resemble the ordinary tumulus, and are in a similar manner elongated and extended or "approached." Of these the following groups have been surveyed near Excelsior, on lake Minnetonka. (Shown on page 260.) (Compare also Rice county.)

In the Minnesota Historical Collections, vol. 2, p. 220, Mr. G. H. Pond, in writing of the "Dakota gods," says: "A little to the left of the road leading from fort Snelling to Minnehaha, in sight of the fort, is a hill which is used at present as a burial place. This hill is known to the Dakotas as 'Taku wakan tipi,' the dwelling place of the gods. It is believed that one of this family of divinities [Onktehi] dwells there."

In the Bulletin of the Minnesota Academy of Science (I. 128, 1874) Dr. A. E. Johnson, in discussing the antiquity of man, has given some facts showing that man and the mastodon were cotemporaneous at the falls of St. Anthony, and that both existed in the Glacial epoch, viz.: "Here, at the falls of St. Anthony, opposite Boom island, on the east bank of the river, Dr. Simpson and myself discovered some human bones in the fluviatile sand and gravel beds, in a horizontal section of 25 ft. to 30 ft. and a vertical section of about 15 ft. The bones consist of one tibia and a fragment of another, fragments of two fibulæ, about six inches of the shaft of a femur, an os calcis and astragalus. These were found at different times and places, in the ancient drift bed which is composed of layers of sand, gravel, reddish sand, a layer of sand almost entirely filled with shells; above this, coarse sand and gravel, then a bed of well-worn pebbles supporting about four feet of black sandy loam. The highest stage of water never reaches the base of this bank. In the red clay and boulder drift, immediately upon the limestone ledge, two fragments of a human lower jaw with teeth were discovered by some workmen excavating material to use in the tunnel of Eastman notoriety. This bone bears the marks of having been rolled, and is distinctly colored by the clay matrix in which it was found. One mile above this, on the same side of the river, on the fourth and highest terrace, 50 feet above the present river surface, and beneath nearly 4 ft. of undisturbed drift sand, gravel and clay, and three feet deep in the crevice of the limestone ledge, the quarrymen of C. D. Dorr discovered a copper spear, which is now in possession of the St. Paul [Minnesota] Historical Society. Four miles above this, and on the same bank of the river, the fragments of a tusk and tooth of the elephant previously spoken of were found in the same character of drift and about the same depth as the human bones spoken of opposite Boom island. Man and the elephant were cotemporary here at the falls. The tusks and teeth of the one and the bones of the other have been discovered in the same character of drift."

MARSH MOUNDS NEAR EXCELSIOR.  
 (See Gidion's Bay Mounds Southwestern part.)



Without discussing the validity of these discoveries, it is apropos at this place only to state that there are strong reasons for questioning the relations of the human bones to the drift deposits as represented, especially as to their association with the red boulder clay.

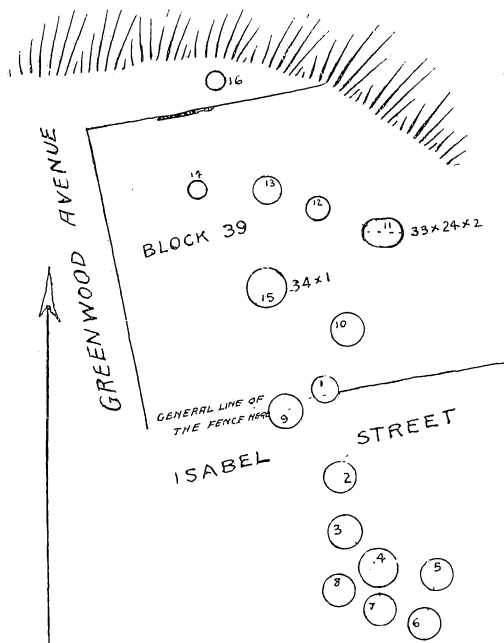
In the *Pioneer Press* of July 3, 1887, is a note of the discovery of the remains of an ancient fort, which indicated an extensive fortification. This was at the grading for the "Soo" yards in northeast Minneapolis. No particulars are given, but it appears that in the vicinity were found also some Indian relics.

Mr. Lewis registered from Hennepin county the following specimens: 111 lance, spear and arrow heads, of which 4 were from mounds, 67 war-points, 22 "chipped implements," of which 1 was obtained from a mound, 16 scrapers, 7 celts, 6 grooved hammers, 3 clay vessels, all from mounds, 3 bone chisels, 4 drills, 3 rubbing stones, 3 grooved axes, 2 human skulls, both from mounds, 1 knife, 2 copper awls, 1 muller, 1 pipe-stone hatchet, from a mound.

The most of these specimens are recorded as coming from two localities, viz.: the east bluffs on the Mississippi river below the Washington Avenue bridge, and 33rd street and Calhoun boulevard. Others are from lake Minnetonka, at various points on its shores; in all 273 articles.

## EARTHWORKS IN RAMSEY COUNTY.

*West St. Paul group.* Located north and south of Isabel street, eastward from Greenwood avenue. Formerly embraced sixteen mounds, of which the largest was removed a few years since to make room



for a house on lot 10, block 39. In removing it, portions of human bones, charcoal and broken pottery were found near the base of the mound. Nos. 11, 15 and 16 were opened and in them were found small pieces of pottery, flint chips and decayed human bones. This group is located N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 8, T. 28-22. These mounds are circular, the highest being two ft. in height (No. 11) and the largest (No. 15) thirty-four ft. in basal diameter. No. 11 is elliptical, having the dimensions 33 ft. by 24 ft., east and west. Surveyed in 1880.

*Suburban Hills addition to St. Paul.* Located south of Mound street, is a series extending about N. W. and S. E., as platted below. The bases of Nos. 6 and 8 interlock, and Nos. 8 and 9 touch each other. The largest of these mounds is No. 9, which was formerly 18 ft. high, with a basal diameter of 67 ft. Scale 1 : 2000. Location, sec. 4, T. 28-22. Surveyed May 8, 1862. (Shown on following page.)

Mound No. 9 of this group was opened by the late E. D. Neill in 1856, who has given a brief note concerning these mounds in his "History of Minnesota," published in 1858. The mound which he opened was 18 ft. high and 260 ft. in circumference, and at the depth of three or four feet afforded a human skull, which crumbled on exposure, and perfect shells of human teeth, the interior being entirely decayed.

Mr. T. H. Lewis has written of the Suburban Hills group in the *American Antiquarian*, vol. 18, p. 314, 1896, in the following words:\*

"The group located at the lower end of the bluff at the junction of Mound and Earl streets, overlooking the village site and 'Pig's Eye flats,' and now within Indian Mound park, is finely situated, and commands a magnificent view of the river, a large part of the city and the surrounding country for miles. This group formerly consisted of one round mound with an approach, one elliptical mound, and sixteen round mounds, the largest of which was eighteen ft. in height [No. 9] and the largest round mound in the state. In 1856 the late Dr. Edward D. Neill made an excavation in it, and at the depth of six feet found the fragmentary remains of a human skeleton and a few pieces of broken pottery."

Mr. Lewis also gives an abstract of the report of William H. Kelly, June 11, 1866, one of a committee of the Council of the Historical Society appointed to make survey and examination of these mounds. This special committee, consisting of Col. D. A. Robertson, Capt. Russell Blakeley and Mr. Kelly, was discharged, and its functions were transferred to the standing committee on archæology, consisting of Col. D. A. Robertson, Alfred J. Hill and Dr. C. De Montreville. This committee continued in existence and did some examination of mounds till 1874, its last joint field-work having been on Starvation point, lake Minnetonka, in September, 1867.

In all the examined mounds, so far as reported by this committee, were found human remains usually consisting of fragments of bones, teeth and some articles of Indian manufacture.

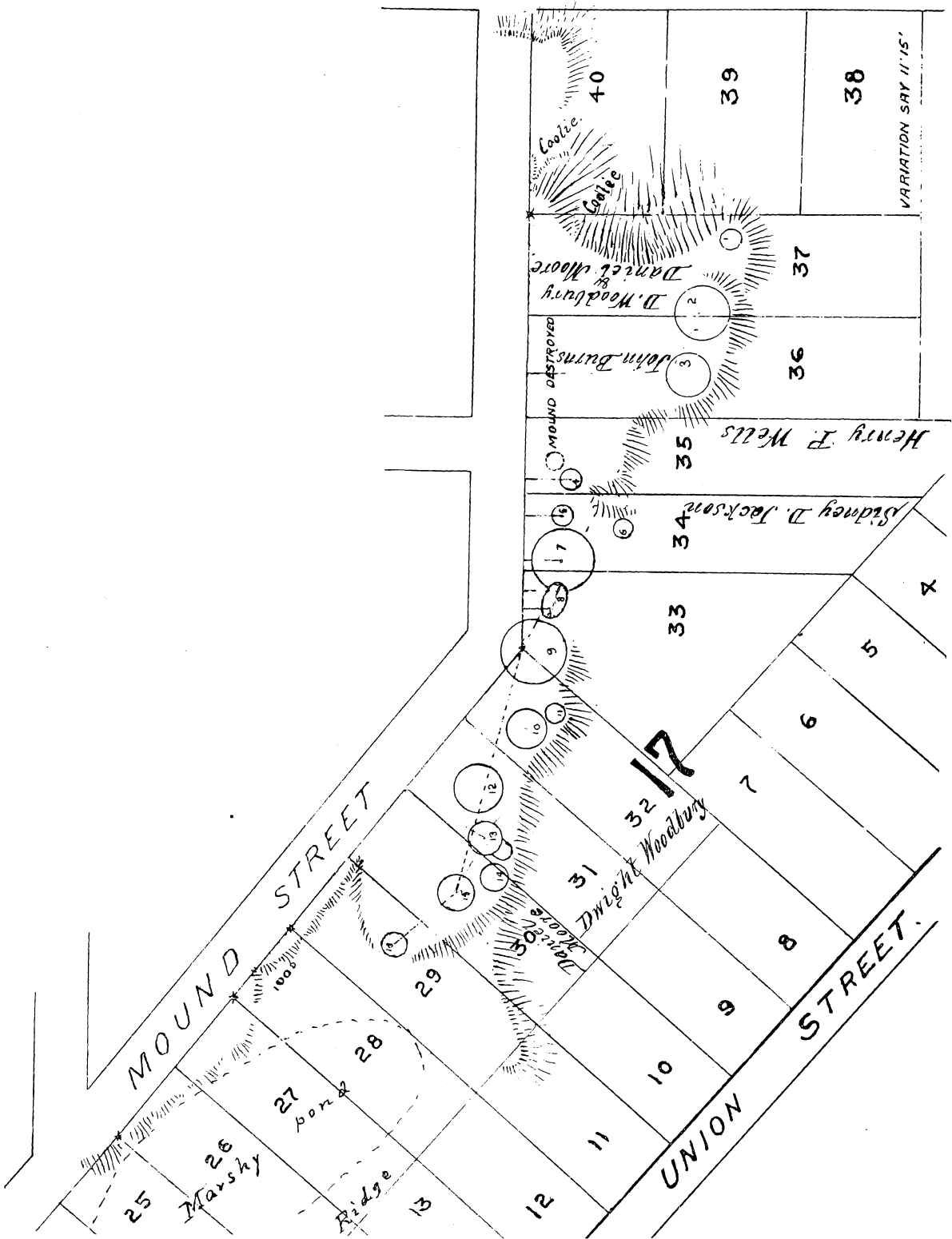
Mr. A. J. Hill made brief reference to the Suburban Hills group in *Minn. Hist. Soc. Coll.*, vol. vi, p. 313.

In Mr. Lewis' other article (*American Antiquarian*, vol. 18, p. 207, 1896) he gives the details of the discoveries made by himself in 1882 in exploring the mounds now included in the "Indian Mound park." He excavated Nos. 1, 3, 10, 13, 15, 12, 4, 6, 11, 16, 14, 17, and in all of them he found human bones and other evidences of human burial. These included numerous mussel shells, some fragments

\*This article was republished in the *Pioneer Press*, Oct. 4, 1896.

THE ABORIGINES OF MINNESOTA.

SUBURBAN HILLS.





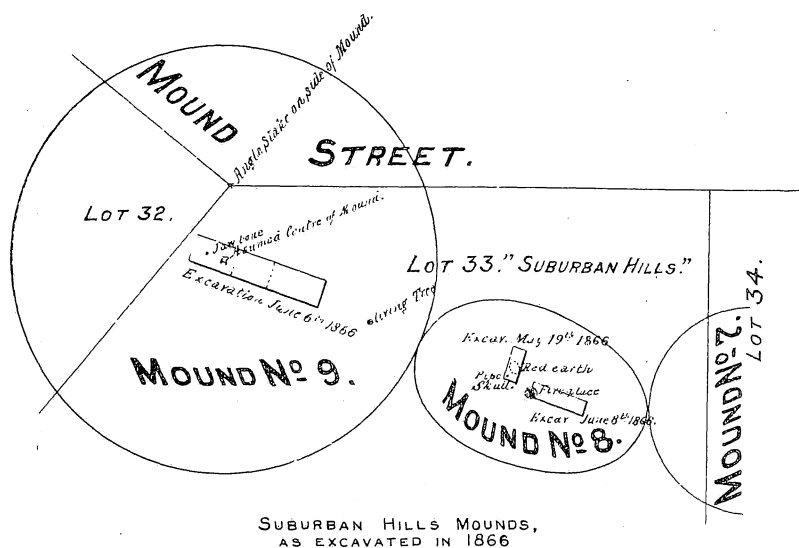
of hammered copper, broken pottery, arrow-heads, lead ore, red clay, perforated bear's teeth, frequently mingled with charcoal and ashes and also with some pieces of wood, apparently oak. In one mound (No. 12) he found eight stone cists, in which were human bones. These boxes were made by setting on edge thin limestone slabs and covering them with similar slabs. On this covering were piled boulders and flat pieces of limestone intermingled. This pile was 9 ft. in diameter and nearly 2 ft. in height. Over the whole was erected the earth mound to the height of 8½ ft. by 51 ft. in diameter. Reprinted in the *Pioneer Press*, Jan. 25, 1897.

In the "Macalester College Contributions" of Mr. Neill, first series, p. 175, is a description of some copper implements deposited in the museum by Mr. Lewis, with a plate of illustration: "No. 779, Copper ornament found in mound No. 12 of the group located in Mound park, St. Paul. It is oval in outline, flat on one side and convex on the other, with a small hole in each end for inserting a string. It is made of a thin sheet of hammered copper, the edges of which were notched out in order to fit closely around a wooden pattern of an oval shape."

In the *Pioneer Press*, Feb. 7, 1880, Mr. Lewis has given a brief note on an ancient fireplace found in St. Paul. It was located within 50 ft. of the east line of lot 15, of the Partition plat, and probably about 125 ft. south of the south line of Baldwin street if extended due west. The discovery was made in excavating for the foundation of Upham and Hankey's slaughter and packing house. It was 3 ft. beneath the surface. There were ashes, some small flint chips and charred bones, and indicated long use. Near-by was found a broken flint arrow-head. At seven feet further northeast, in the same stratum, were found human bones, consisting of a single vertebral joint, two bones of the forearm (radius), a shin-bone, and a portion of another bone. Some of them had evidently been gnawed. The overlying stratification was regular and undisturbed, and was evidently formed since the use of the fireplace. The absence of the rest of the skeleton, the proximity of the ashes and charcoal and the general conditions suggested the site of an aboriginal cannibal feast.

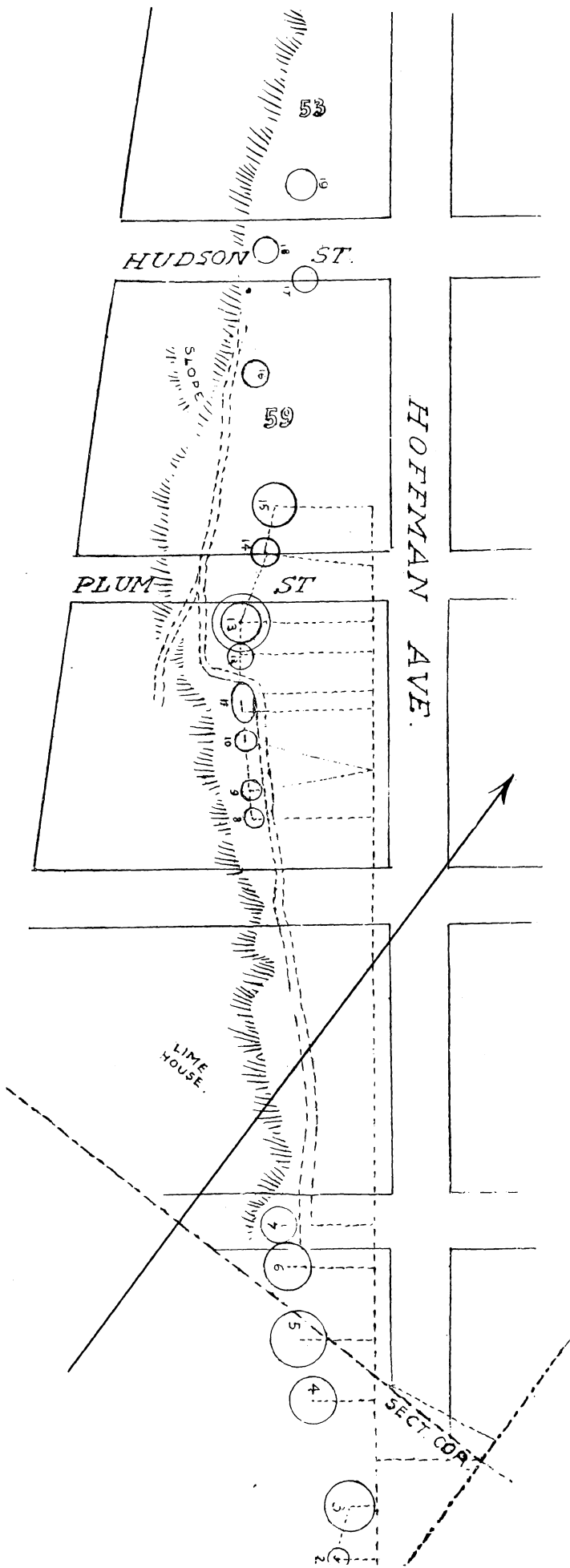
Mr. Lewis also opened some of the mounds "located on the terrace at the junction of Bertha and Isabel streets, in West St. Paul, now the sixth ward." In Nos. 11 and 16 nothing of interest was found, but in No. 15 were some badly decayed human bones, and with them were a few chert and quartz spalls, several fragments of pottery composed of broken stone and clay, and shell and clay.

In the *Hill records* is a plat of the chief of the mounds of the lower group on Dayton's bluff, showing Nos. 7, 8 and 9 and the positions of the excavations. These are in lots 32 and 33 of Suburban Hills addition. The work was done by the Committee of the Historical Society in June, 1866. This plat is reduced in the diagram below and is here on a scale of 1 : 400. It accompanies the detailed report of the Committee signed William H. Kelley.

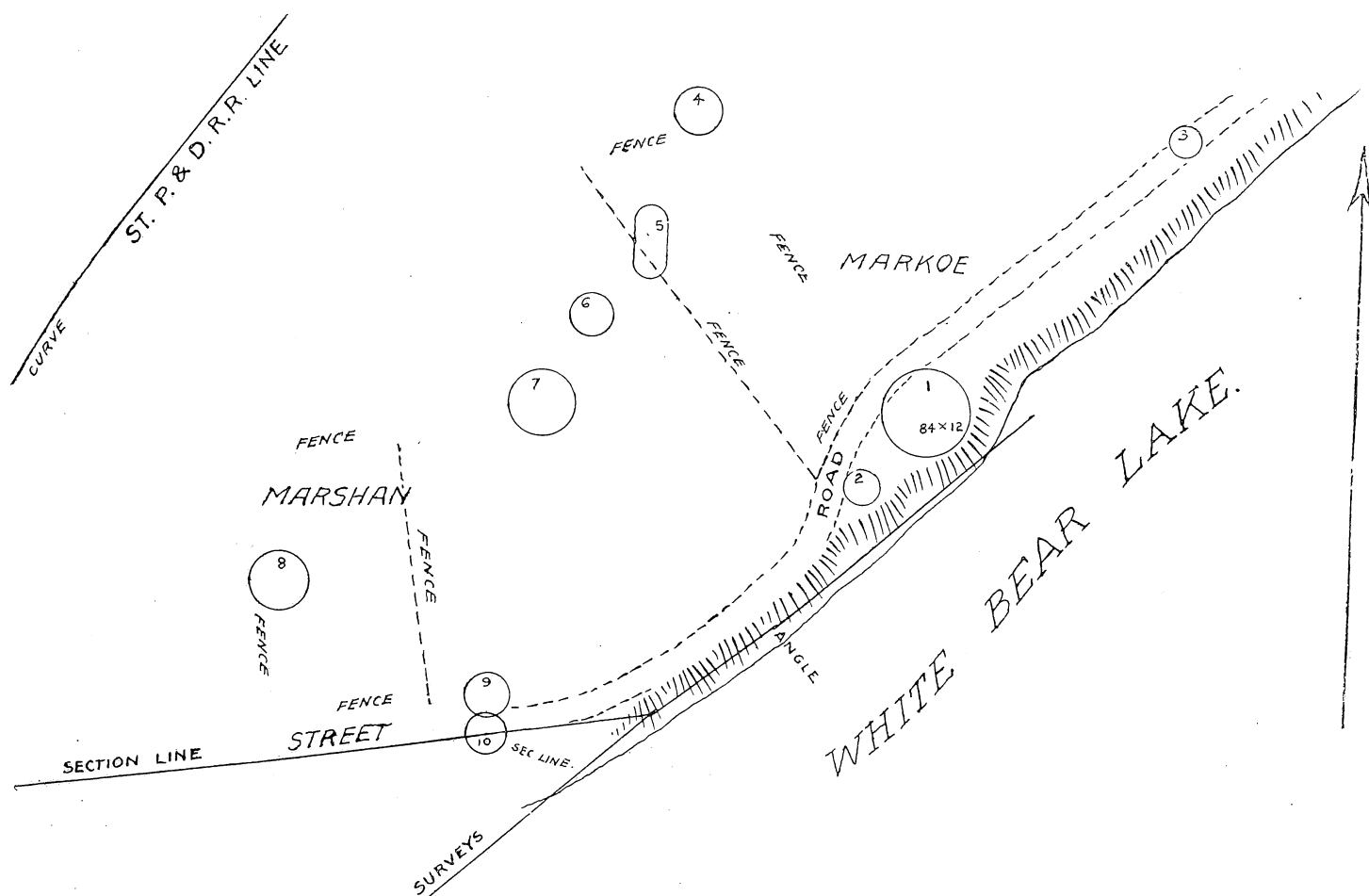


Mr. Hill sent some of the ochre found in the mound No. 7 to Col. Charles Whittlesey for examination. He replied, June 2, 1866: "Yours of the 2nd is received. I find nothing in the ochre you sent me but iron oxide, some earth, and crystalline silice. It was probably obtained from the oozings where bog ore is deposited. As I know of no clay pipes, or 'vermillion' (iron oxide) being found among the certain relics of the mound-builders of the West, I conclude those you describe belong to the present race of red men. \* \* \* \* \*

lump of mixed earth is analogous in composition to the pottery of the ancient Americans before it is burned. Skeletons sometimes have such lumps in their hands, with the impressions of the fingers upon them."—*Hill Rec.*



*Dayton's Bluff group*, St. Paul, consists of 15 mounds of which Nos. 6 and 7 are entirely gone, and No. 5, the largest, has height of six and a half feet and diameter of 58 ft. Surveyed Nov. 1, 1881. Nos. 12 and 13 are connected by a ridge. No. 11 is elliptical with basal diameters 24 ft. and 33 ft. No. 13 is also partly gone. Located, sec. 32, T. 29-22, along the southwest side of Hoffman avenue and southeastward from Euclid street. Surveyed Nov. 1, 1881. Mounds Nos. 20 and 21 are further northwest, the former 50 paces northwest from the corner of block 58 and the latter near the corner of Hoffman avenue and McLean street. There are large mounds but not more than one or two feet high.



These mounds are on the river bluff above the celebrated Carver's cave, and are undoubtedly the site of the burial of human bones by the Dakota Indians on the occasion of Carver's visit in 1767. Mr. Hill says: "A few years ago when Hoffman avenue (formerly Dayton) was graded, aboriginal traces were discovered a few inches below the surface of the street at the head of the rise about opposite the west line of Euclid avenue. They consisted of a fireplace (which I saw) formed by three small boulders blackened by smoke, with ashes between them, and close by an old human skeleton, in connection with which was a fragile clay pipe, and no other relics that I saw or heard of. This may have been an obscure mound, like those numbered 16 to 19. Indeed, there may have been others between No. 19 and the Hoffman avenue hearth."

Mr. Hill also examined some of the mounds "of the upper group of Dayton's bluff, i. e., those here distinctively called the Dayton's bluff group, viz.: Nos. 1, 2, 10, 11, 12, 13. Here also were found human bones, decayed wood, charcoal and ashes, mussel shells, broken pottery, arrow-heads, and some other chipped implements. In these mounds, as in the others, were found boulders, one of granite being 20 inches in diameter.

"Near the upper end of the bluff there was formerly a group of mounds located between what is now Hoffman avenue and the edge of the bluff, and extending from Euclid to a short distance below McLean street, a distance of a little over five blocks. This group formerly consisted of 32 mounds, but at the time of a personal survey by the writer, on Nov. 1, 1881, nine of them, principally located near the center of the group, on block 65, had been entirely demolished. Of the remainder there were two round mounds connected by a low embankment, two elliptical, and nineteen round mounds, the largest of which was 47 ft. in diameter, and  $5\frac{1}{2}$  ft. in height." (See also Minn. Hist. Soc. Coll., vol. vi, p. 313.) (Shown on insert opposite.)

In the *American Antiquarian* for 1904, vol. 26, p. 217, Dr. Warren Upham has called attention again to these mounds and to the examinations made by Mr. Lewis. He gathers together evidences that show that the Dakota Indians used these mounds, or constructed them, for burial of the bones of their dead within historic time, referring particularly to the statements of Carver: also to the account of Catlin, who relates the circumstances of the construction of a mound near the red pipe-stone quarry as a memorial of the son of a chief who was killed in an attempt to jump to the "leaping rock" from the quartzite bluff near that quarry. (Catlin's "North American Indians," vol. 2, p. 170.)

In addition to the statements of Carver and Catlin, that of Nicollet may be quoted: "On the high grounds above the cave there are some Indian mounds, to which the Indians belonging to the tribe *Mdewakantonwan* formerly transported the bones of the deceased members of their families." *Report Intended to Illustrate a Map of the Hydrographical basin of the Upper Mississippi river, 1841*, p. 72.

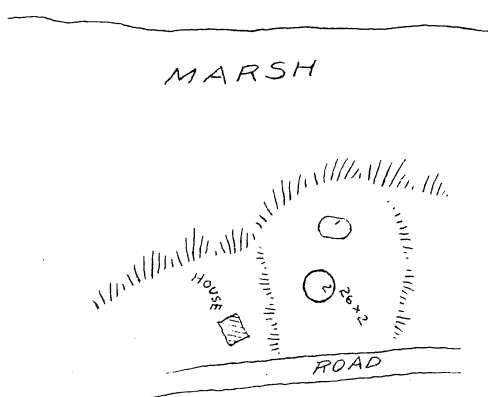
*White Bear lake.* Lot 2, S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 14, T. 30-22. Surveyed Sept. 30, 1881. Consists of nine mounds, of which the largest is 12 ft. high and has a basal diameter of 84 ft. Parts of Nos. 1 and 9 have been removed. There may be other mounds north and northeast in the brush. Mr. Hill has a note on this group in Minn. Hist. Soc. Coll., vol. vi, p. 315. (Shown on page 265.)

In the *Pioneer Press*, May 30, 1886, it is stated that One-legged Jim, a brother of Old Betts, asserted that the large mound (No. 1) was built by his forefathers as the burial place of some celebrated chief.

It was stated later in the *Pioneer Press*, April 28, 1889, that this mound had been entirely removed in order to make way for a public road. The Historical Society made application to the authorities for any relics of interest that might be found, and Mr. Clewett, who had charge of the grading, sent to the Society the following: A perfect human skull, a bone scoop, a bone needle or hairpin, a curious right-angled bone, which may have been some case of deformity, a cake of blue pigment, and some red coloring matter in powder. The mound also contained other bones and relics, but decayed and in fragments.

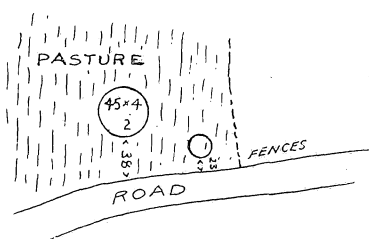
It was stated in the *Pioneer Press* that Mr. Victor Richards found a handsome agate spear-head, imbedded in a decayed tree on Manitou island, in White Bear lake, and presented it to the Historical Society.

### SPOON LAKE



*Spoon lake.* N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 16, T. 29-22. Surveyed Sept. 25, 1882. The circular mound is two feet high and the elliptical one is a foot and a half high, its dimensions being 20 ft. by 30 ft.

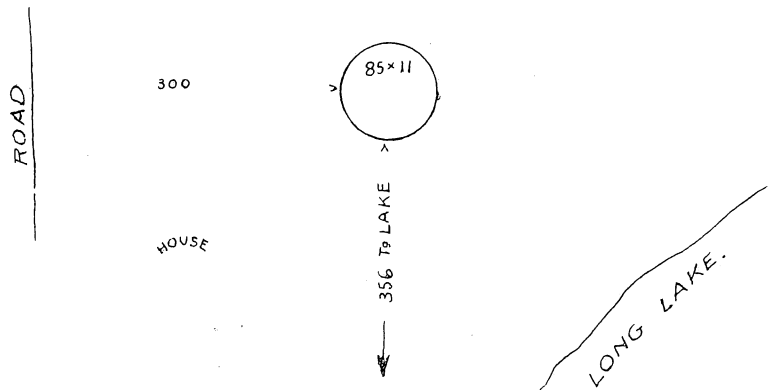
*Near Pig's Eye marsh.* W.  $\frac{1}{2}$ , sec. 11, T. 28-22. Surveyed Sept. 30, 1882. Group consists of two mounds near the road running east and west, on the north side, west from the schoolhouse; No. 2 was formerly 1 or 2 ft. higher.



*Long lake (of Rice creek).* N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 18, T. 30-23, at the north end of Long lake. This mound is 11 ft. in height and 85 ft. across the base, standing about 30 ft. above the lake, 300 paces east of the north and south road. Surveyed June 1, 1887.

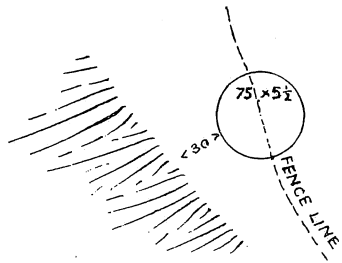
One of the mounds of Long lake was examined by late Dr. A. E. Johnson, for the Minnesota Academy of Science. It had numerous fragments of skulls and other bones of the human body (bearing the marks of teeth as if they had been gnawed), flint arrow-heads and pottery intermixed with charcoal, at depths varying from 4 ft. to 16 ft. from the surface. — *Hill Rec.*

One mile north of Red Rock. N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 23, T. 28-22. Mound is  $5\frac{1}{2}$  ft. in height and 75 ft. across the base. The Chicago, Burlington and Northern Railway line



fence crosses the center of the mound. Surveyed April 16, 1887.

According to Mr. Hill this has been dug into far enough to disclose human bones. In 1868 it had been repeatedly plowed.— *Hill Rec.* (See also Minn. Hist. Soc. Coll., vol. vi, p. 315.)



Ramsey county, for Mr. Lewis, was more productive of aboriginal articles than any other county, having 504 listed in his register. This is about as many as he obtained from Hennepin, Houston, Goodhue, Winona, Traverse and Pine counties combined, these having the next greatest numbers. Those came largely from the mounds of Dayton's bluff, from Bertha and Isabel streets and S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 4, T. 28-22, which last is where the old Sioux village was located, called Kaposia, within the

southern city limits of St. Paul, on the west side of the Mississippi.

These articles are as follows: 221 lance, spear and arrow heads, 48 warpoints, 46 chipped implements (one is a "stone implement"), 30 shell beads, 25 scrapers, 14 celts, 12 grooved axes, 10 stone disks, 8 "hammered copper," several from a village site, 5 copper awls, 5 human skulls, all from mounds, 5 drills, 8 grooved hammers, 3 stone pendants, 3 copper ornaments, 3 hematite celts, 3 stone pipes, 3 stone chisels, 3 copper spear and arrow heads, 3 "knives" (one is "chipped"), 2 stone sinkers, 2 hematite sinkers, 2 "stone implements," 2 stone balls, 2 clay vessels (one from a mound), 2 stone mullers, 2 pieces of vermilion paint, 2 "stone axes," 2 "stone shuttles," 2 shell pins, and, besides an indefinite number of pieces of broken pottery (partly from mounds), one each of the following: Rubbing-stone, amethyst ornament, copper fish hook, bear's tooth, lead ore, elk tooth ornament, copper knife, awl, stone hammer, drilled stone, "bone implement," copper ax, clay pipe, bone awl, ornamental stone and "copper implement."

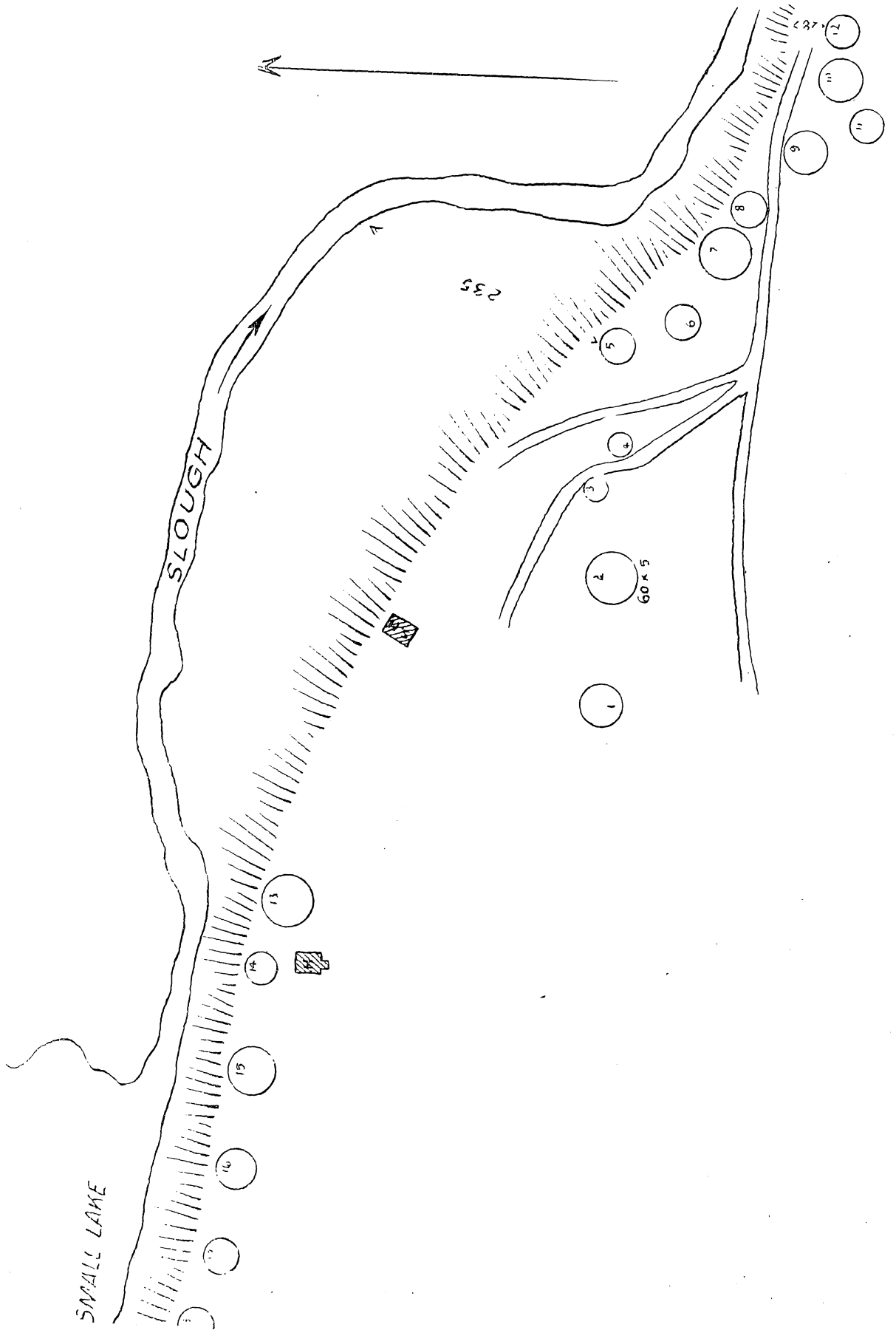
EARTHWORKS IN WASHINGTON COUNTY.

*Mounds of Gray Cloud island.* S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 30, T. 27-21, and S.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 25, T. 27-22. These mounds, 19 in number, are on the bluff, facing the slough to the east, and about 25 ft. above it. They are all ordinary tumuli, the largest being 60 ft. in diameter and 5 ft. high. They are loosely ranged along the terrace, and have a large average diameter. Surveyed May 9, 1887. (Shown on following page.)

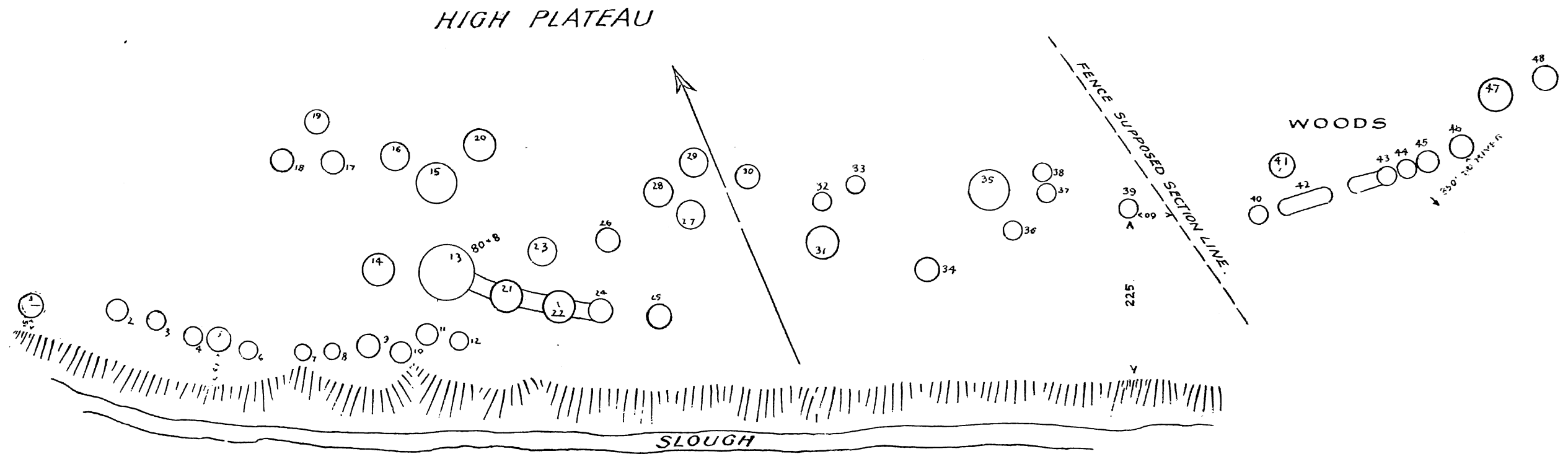
*Mounds of Gray Cloud island.* S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 31, T. 27-21 and S.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 36, T. 27-22. This group lies from near high-water mark to 18 ft. above it. The western part of this group is on land that overlooks a slough toward the southwest, and the eastern portion is along the Mississippi river. A high plateau lies to the northeast from the mounds. Eight or ten other mounds, now too much defaced, were formerly included in this group, which at present numbers 48. A continuous embankment, 25 ft. wide, connects Nos. 13, 21, 22 and 24. No. 13, where this embankment begins, is the largest of the group, being 80 ft. by 8 ft., and the others in the series higher and wider than the embankment. One of the tumuli has an extension in the form of a low embankment, which runs parallel with the direction of the group. This extension is 18 ft. wide and 1 ft. high, the mound itself being 30 ft. by  $1\frac{1}{2}$  ft. One elongated mound is in the line of the extension westwardly, and parallel with it. Surveyed Nov. 4, 1882, and May 9, 1887. (Shown on insert facing page 269.)

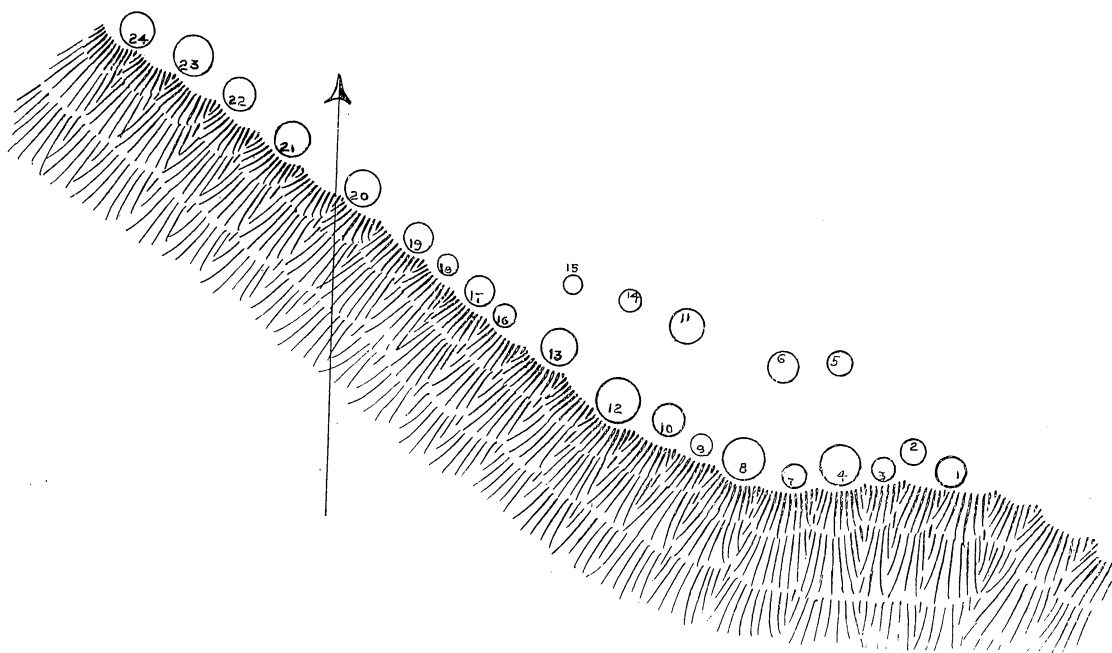
*Curry mounds.* S.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 33, T. 27-21. On a bluff which faces the slough to the southwest, on cultivated land about 80 ft. above the Mississippi river. This group of 24 tumuli are of ordinary size and are ranged evenly along the brow of the bluff. The smallest is 18 ft. by 1 ft., the largest 38 ft. by 3 ft. Surveyed May 10, 1887. (Shown on page 269, top.)

GRAY CLOUD ISLAND.



GRAY CLOUD ISLAND.

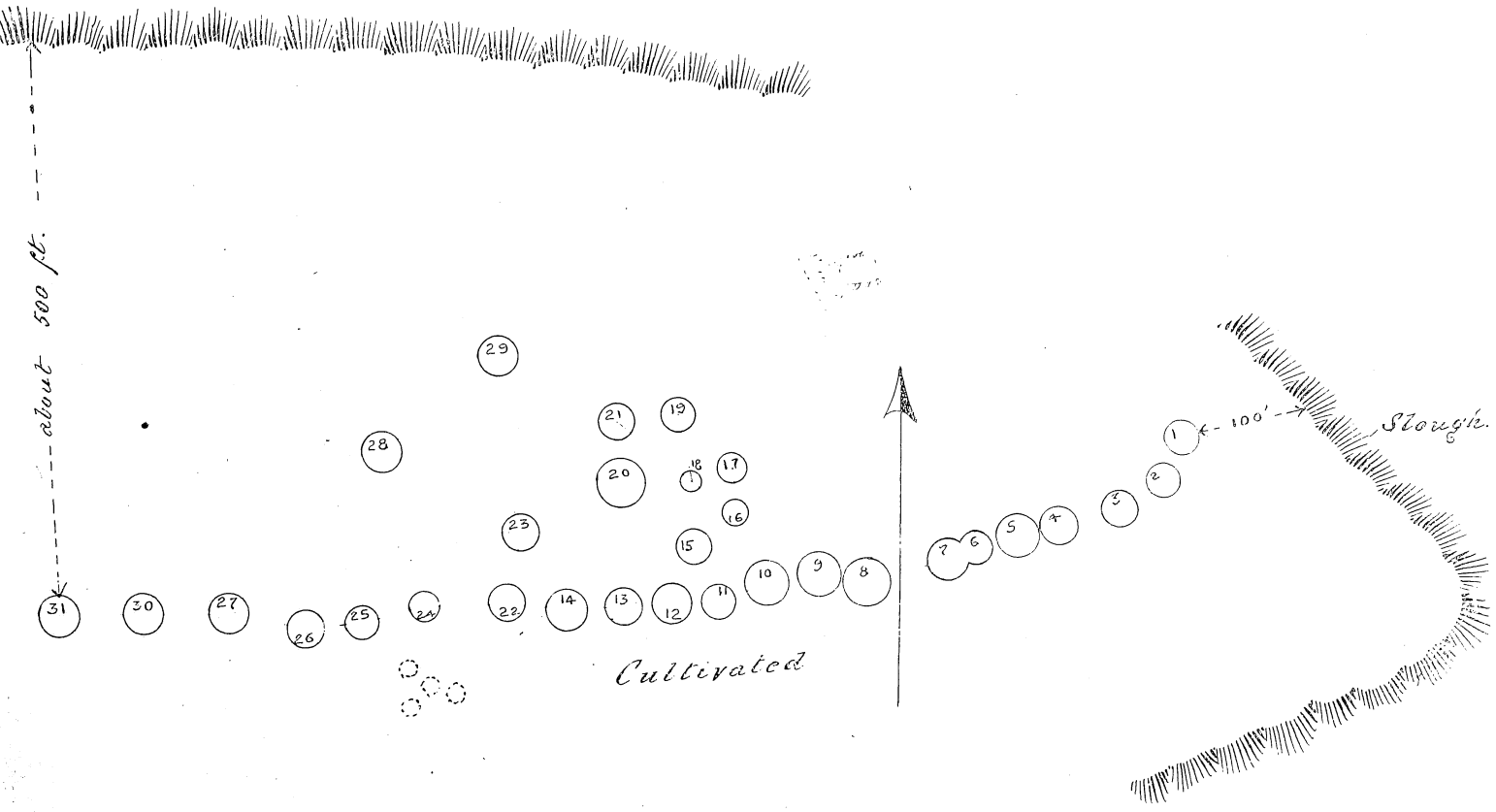




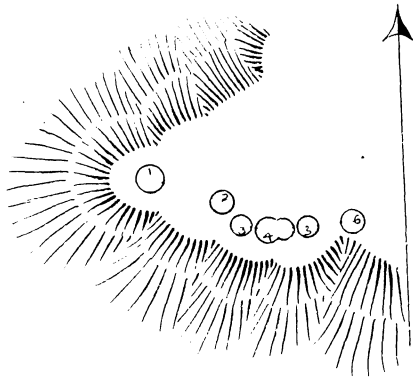
*Mounds at the lower end of Gray Cloud island.* On S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 32, T. 27-21. This group embraces 31 mounds, which are all circular. They are set thickly about 10 ft. above overflow. About south of No. 24 seem to be the traces of 4 others, and about 300 yards further west were three others and one embankment that are nearly levelled down. These tumuli average about 30 ft. in diameter. Surveyed May 10, 1887. (Shown on page 269, bottom.)

In his work, "Minnesota," Mr. Brower has given a map of Gray Cloud island showing the distribution of the mounds. He examined 105 on this island. They are numerous along the north side of the outlet of Baldwin lake and at the western extremity of the high limestone hill, near a place called "Robinson Rocks."

*Mounds one mile above Point Douglas.* S. W.  $\frac{1}{4}$ , sec. 8, T. 26-20. This is just opposite Hastings. Here is a crowded group of 6 mounds, which are all small and circular. No. 4 has a short enlargement 16 ft. wide and 2 ft. high. Surveyed June 22, 1883. (Shown on following page, top.)





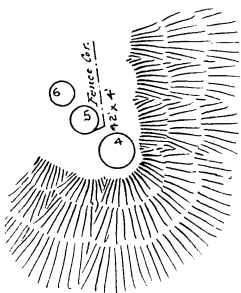
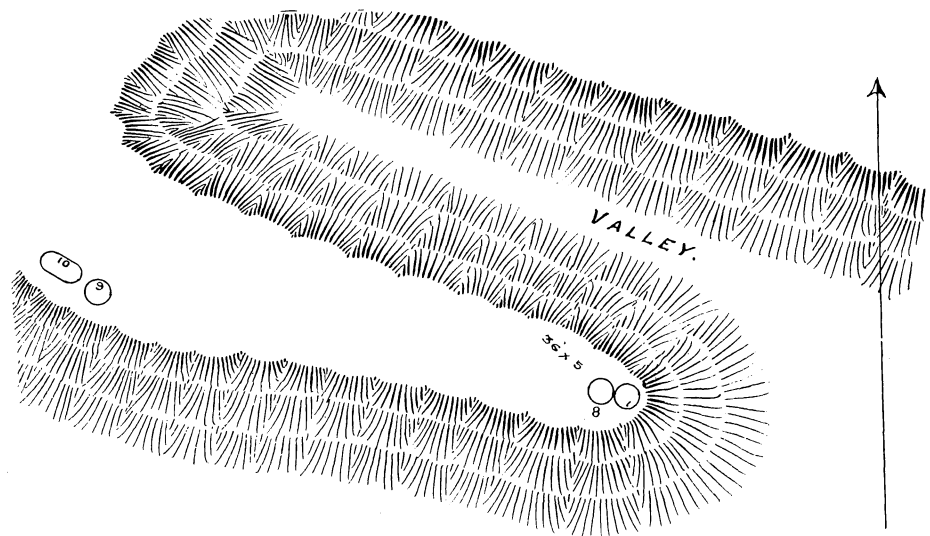


*Mounds just above Point Douglas.* W.  $\frac{1}{2}$ , sec. 8, T. 26-20. These 4 mounds are on a narrow spur of the bluff, the largest being flat-topped, having dimensions 36 ft. by 5 ft. by 12 ft. One mound further west is elongated, having length 50 ft., width 25 ft. and high 2 ft. Scale 1 : 3000. Surveyed Nov. 9, 1882. (Shown below.)

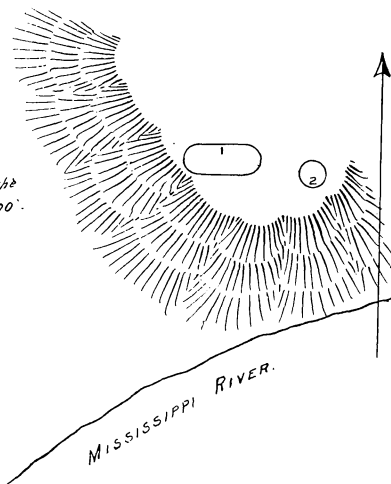
*Mounds just above Point Douglas.* W.  $\frac{1}{2}$ , sec. 8, T. 26-20. This group adjoins the last toward the northeast. It embraces 5 tumuli situated on the rock terrace of the Mississippi river. No. 4 has been opened. It was 42 ft. by 4 ft. Nos. 5 and 6 are in a cultivated field. No. 3 of this group is an unnumbered mound in the next, and is distant from No. 2 a distance estimated at 1,200 ft. in a direction N.  $68\frac{1}{2}$  degrees E. Surveyed Nov. 9,

1882. Scale 1 : 3000. (Shown below.)

*Mounds at Point Douglas.* N. W.  $\frac{1}{4}$ , sec. 9, T. 26-20. This group of 9 mounds embraces two embankments, both of which have slight angles near the center. These embankments are 22 ft. wide and 2 ft. high. One is an extension from a tumulus, which has been opened. This tumulus is 42 ft. by 5 ft. Scale 1 : 3000. Surveyed Nov. 9, 1882. (Shown on following page; top.)



from No 1 to No 7 of the last diagram S. 82° W. about 1500.



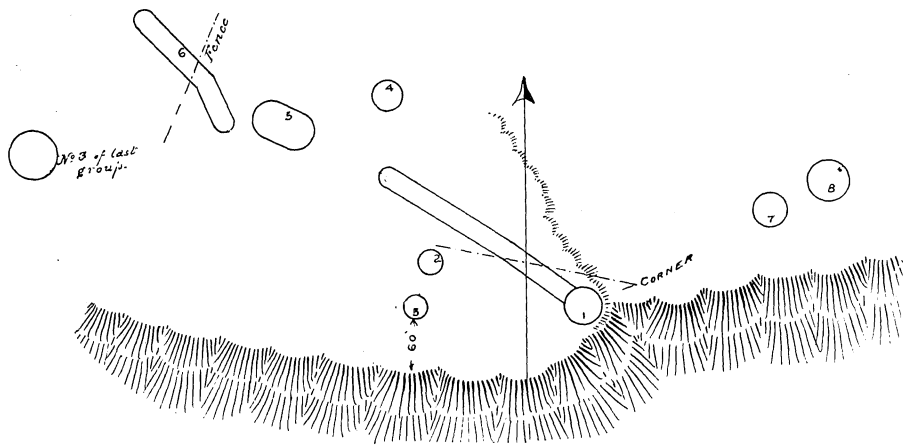
Consult Mr. Brower's work, "Minnesota," p. 45, for a sketch-map of the region of Point Douglas and Prescott, showing the location of mounds.

*Rattlesnake group at Afton.* W.  $\frac{1}{2}$ , sec. 23, T. 28-20. This group is on sloping ground. No. 5 is just above overflow, but its approach, or tail, is partially overflowed in high water which is 20 ft. above low-water line. The head is 56 ft. in transverse diameter and  $5\frac{1}{2}$  ft. high, length 88 ft. This effigy, if it be intended to represent a rattlesnake, in-

creases in width from the tail, which is 18 ft. wide, to midway in the body, where it is 26 ft. wide, and then diminishes to 22 ft. at the neck. Its height also increases from the tail, 1 ft., to the neck, 2 ft. Its entire length is 534 ft. Surveyed June 25, 1883. (Shown on following page, right.)

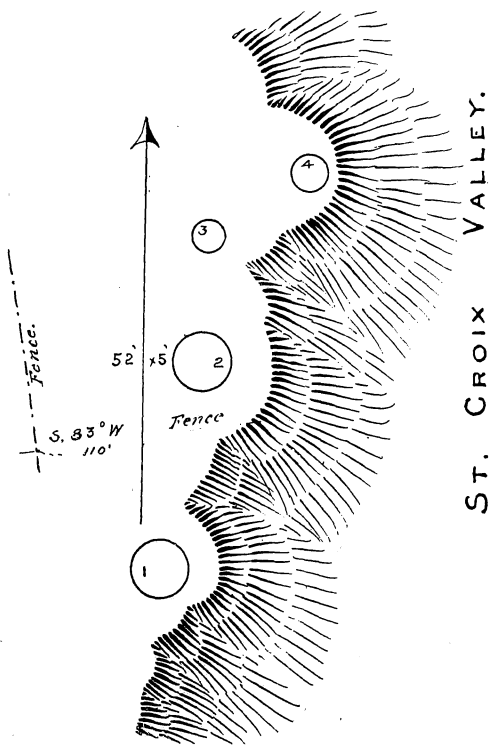
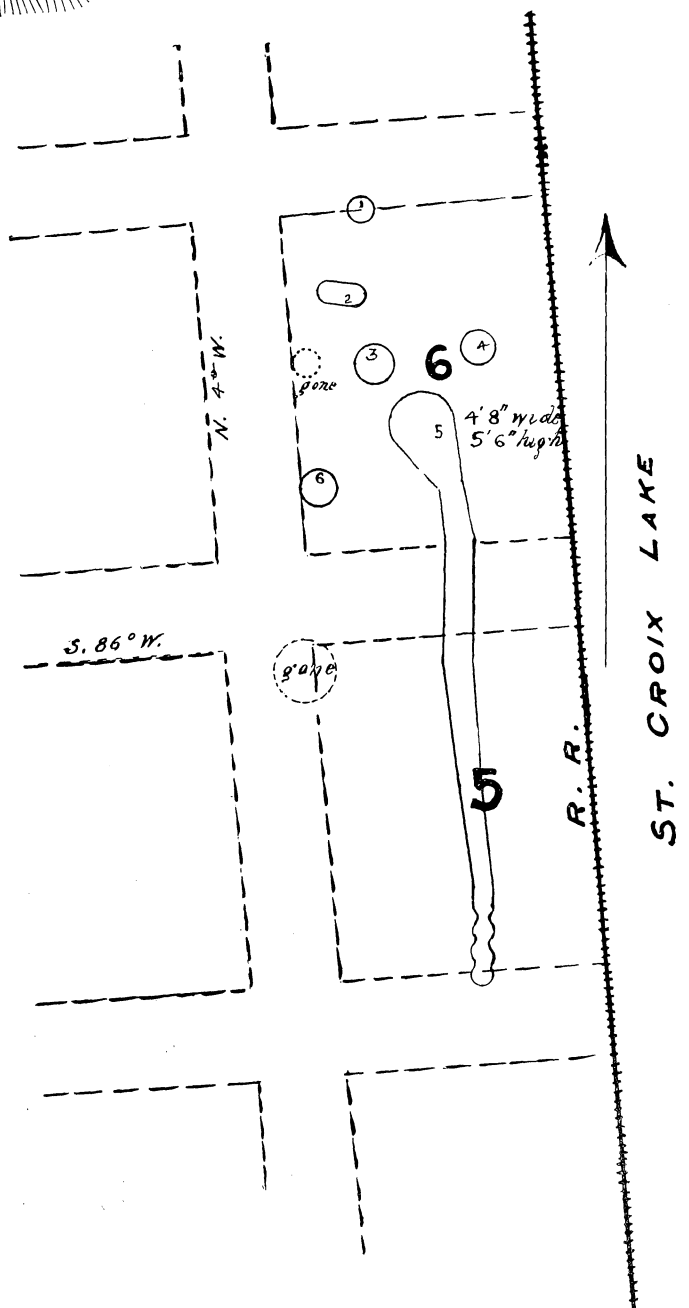
Mr. Lewis has published a description of the "rattlesnake mound" in *Science*, No. 220, 1887.

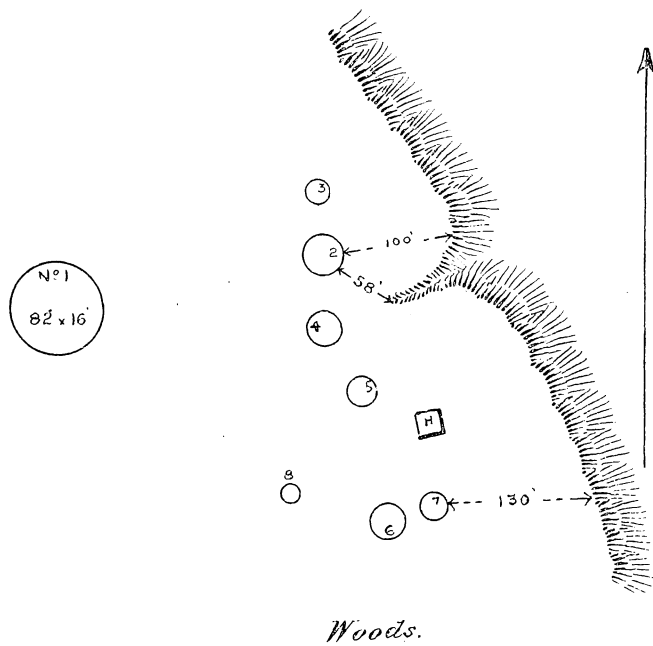
*Mounds at Lakeland.* N. W.  $\frac{1}{4}$ , sec. 35, T. 29-20, west of Green and Oliver's addition. Traces of mounds are to be seen also south of No. 1 along the bluff: This group consists of 4 tumuli, the largest being 52 ft. by 5 ft. (Shown on following page, bottom.)



Mounds just below Arcola. Lots 5 and 6, sec. 32, T. 31-19. At about 100 ft. above the river. One very large mound, 82 ft. by 16 ft., is situated back from the bluff, isolated. The others, 7 in number, are rather small and are arranged in a series along the bluff. (Shown on following page, top.)

Mounds at Arcola. N. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 30, T. 31-19. At about 100 ft. above the St. Croix river. The group embraces 9 tumuli somewhat loosely arranged on an elevated plateau, the largest being 50 ft. by 4 $\frac{1}{2}$  ft. Surveyed Nov. 24, 1885. (Shown on following page, bottom.)





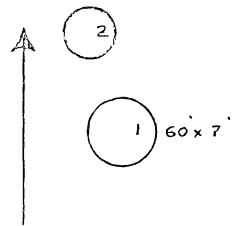
*Mounds at Arcola.* E.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 30, T. 31-19. About 80 ft. above the river. This group consists of round mounds, with one exception, which is a large elongated mound 90 ft. by 40 ft. by 3 ft. Altogether the group contains 31 mounds, generally about 30 ft. in diameter. Surveyed Nov. 24, 1885. (Shown on page 274.)

*Mounds one mile north of Arcola.* E.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 19, T. 31-19. About 20 ft. above the slough. The group embraces 26 mounds, the largest being 85 ft. by  $8\frac{1}{2}$  ft. Another is 75 ft. by 9 ft. One small mound 12 ft. wide has an extension southward which runs to a vanishing point, which is a novelty. Surveyed Nov. 24, 1885. (Shown on page 273.)

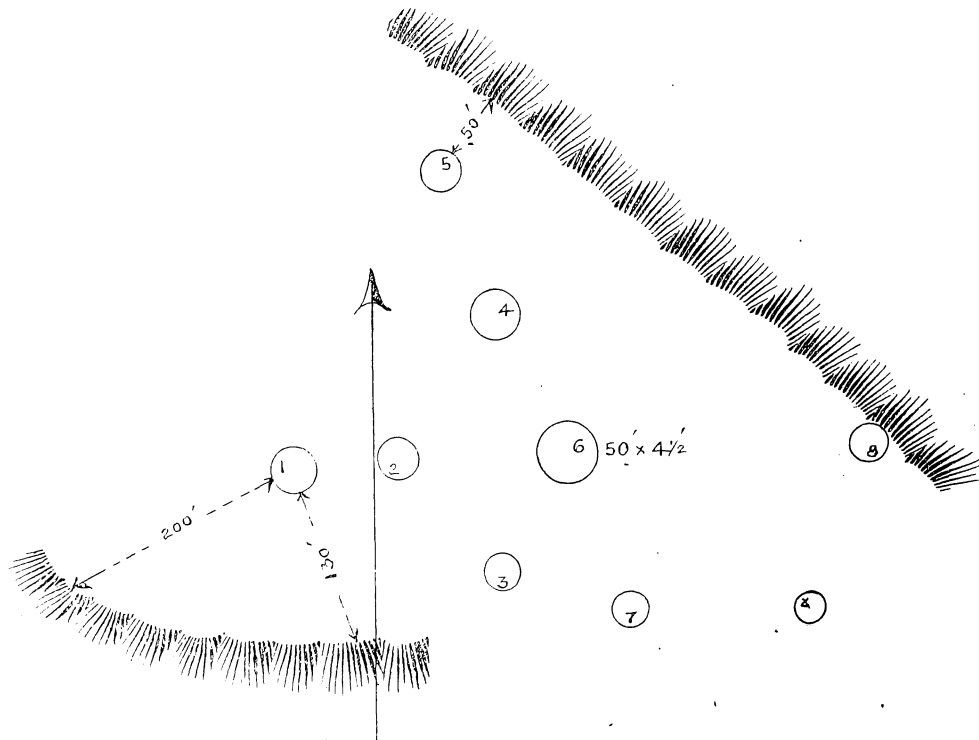
*Mounds a mile and a half north of Arcola.* This group now consists of only two circular mounds, but there are traces of 15 or 20 small mounds. They are situated about 22

ft. above the slough, the larger being 60 ft. by 7 ft. Surveyed Nov. 24, 1885.

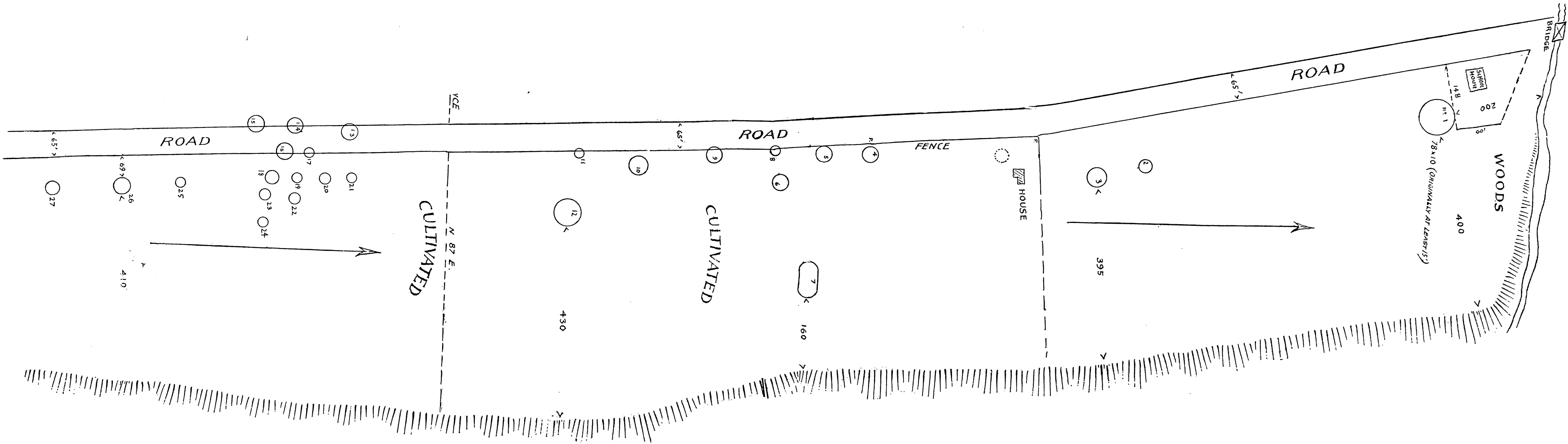
*Mounds at Vasa.* E.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 30, T. 32-19. The group is about 150 ft. above the river. Many more small mounds have been destroyed. No. 1, 78 ft. by 10 ft., is partially graded down, and must have been at least 5 ft. higher. The Vasa skinning knife in the collection of the Minnesota Historical Society was taken from this mound. Christopher Columbus, an Indian trader, and his dog, were buried in No. 12 about 1860. The group as illustrated contains 27 mounds, all circular except No. 7, which is elongated, 40 ft. by 80 ft. and 3 ft. high. Surveyed Nov. 23, 1885. This is probably the group mentioned in Minn. Hist. Coll., vol. 1, p. 354, as "on the Otis farm."



(Shown on insert facing page 272.)

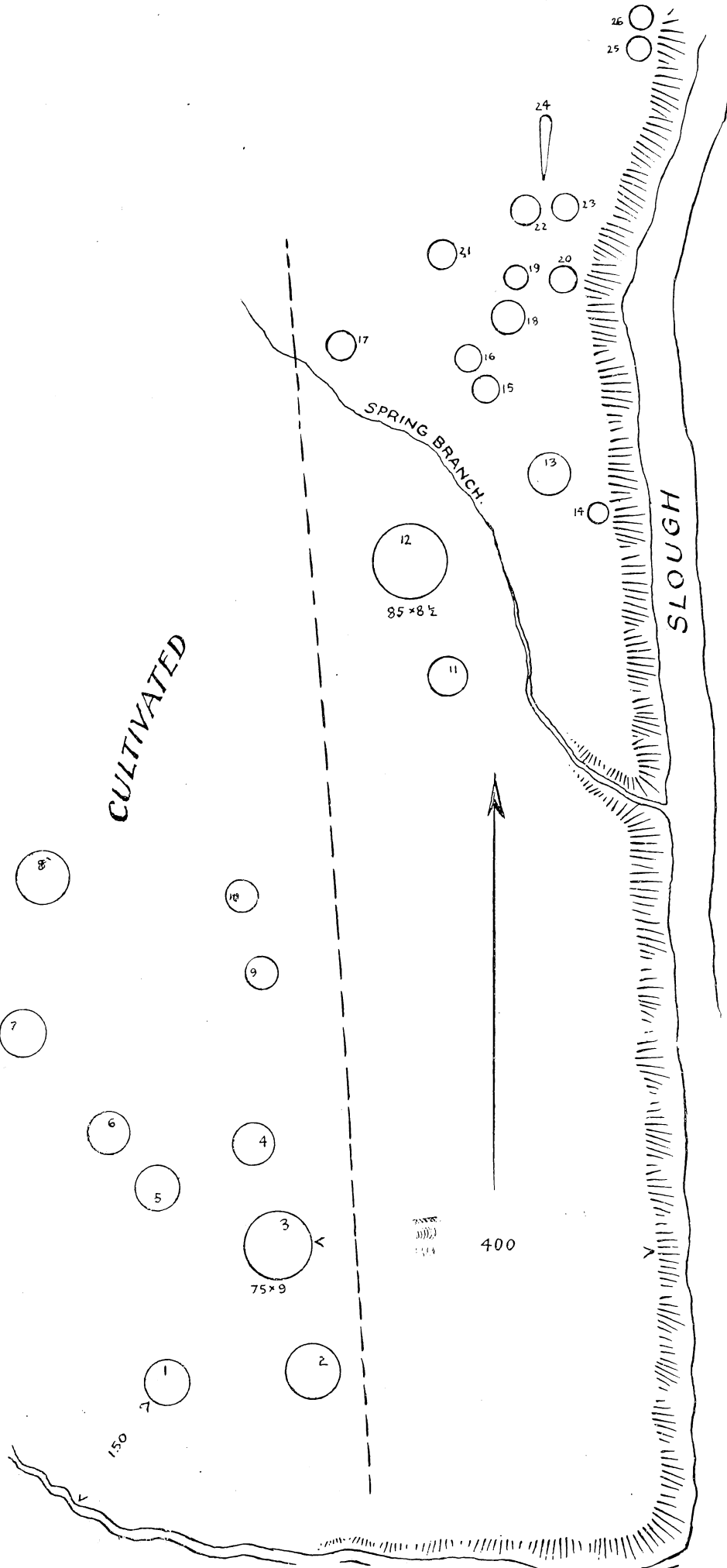


There is a lone mound near Vasa on S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 31, T. 32-19, 32 ft. by  $1\frac{1}{2}$  ft. A lone mound one mile above Stillwater is on S.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 15, T. 30-20. It is 28 ft. by  $2\frac{1}{2}$  ft. and about 60 ft. above the river. Another is on S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 8, T. 32-21, accompanied by the remains of 2 other mounds, about 200 yards west of and 12 ft. above Forest lake.



MOUNDS AT VASA.

ONE MILE NORTH OF ARCOLA.



According to William P. Payte, who surveyed the townsite of Vasa in 1855, there were two circular conical mounds within the townsite, one of which was opened and afforded bones and pottery.— *Hill Rec.*

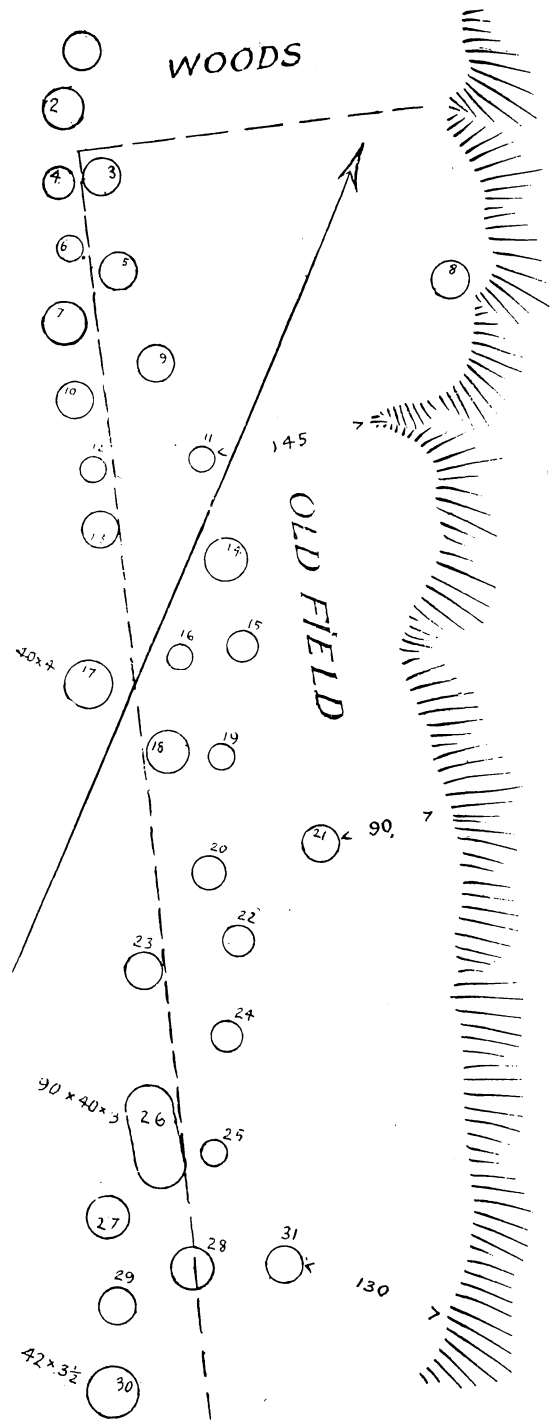
In 1868, Mr. J. D. Ludden wrote, concerning this mound, as follows: "With this I send you for the Minn. Historical Society an Indian axe or wedge. This axe was found by Charles A. Peterson, of Vasa, in one of the mounds three miles above Marine [i. e., at Vasa] and by him contributed to the Historical Society. This mound is near the military road, and opposite the Russell House. A few days since about half this mound was removed, and a large human skeleton was found lying with the head toward the east, about eight feet above the level of the surrounding prairie and about 4 feet below the top of the mound. The bones were quite perfect when first exposed, but soon crumbled. This mound was about 70 feet in diameter and 12 feet high. No other remains were found."— *Hill Rec.* The drawing of the axe shows it was 13 inches long and  $3\frac{1}{2}$  inches wide. (Shown on insert facing p. 272.)

In the *Hill records* Mr. J. E. Shield has given, under date of Feb. 22, 1884, a general description and map of the mounds in secs. 30, T. 32-19, and 31 in T. 31-19, from which the following facts are extracted. In sec. 30 he represents 7 mounds, No. 7, the farthest north, being quite near the road but on the west side, south of a small ravine, evidently the same as referred to by Mr. Payte. It was composed of fine black loam and contained several skeletons and some pottery. The others are on the side of the road, further south. Of all these the largest was 12 ft. high, situated near No. 7 above, and on the Vasa townsite. In sec. 31, Mr. Shield described a circular mound 74 ft. in diameter, 15 ft. high, with oak and butternut trees of the same size as those near growing on it. This is on a tableland 75 ft. or 80 ft. above the St. Croix river and about 600 ft. from the west bank. Between it and the river are five smaller tumuli, one of which had been excavated, but nothing found in it, built of fine black loam. He also states that on sec. 11, T. 31-19, a tumulus was opened which was 80 ft. in diameter and 12 ft. or 15 ft. high, composed of fine black loam, in which was found, at the center, a jug one ft. long and 6 inches in diameter, which had a handle, but which crumbled on being exposed to the air.

Mr. A. D. Van Vorhes reported the discovery of remains of the mastodon at Stillwater\* associated in the same strata with fragments of pottery. These strata were deposited by glacial waters draining directly from the ice of the great glacier, cotemporary, essentially, with the gravel at Little Falls that carries the white quartz chippings. If these observations are correct, it appears that the white quartz-workers were coeval with a race that made pottery, and were familiar with the mastodon.

The following are listed from Washington county by Mr. Lewis: 6 arrow-heads, 1 "chipped implement," from a mound, 1 war-point, from a mound, 1 small pestle, from a mound, 1 hematite celt, 1 clay vessel.

\*Geol. Sur. An., xi, 61, 1877, and Geol. Sur. II, 397, 1888.



EARTHWORKS IN ISANTI, ANOKA AND CHISAGO COUNTIES.

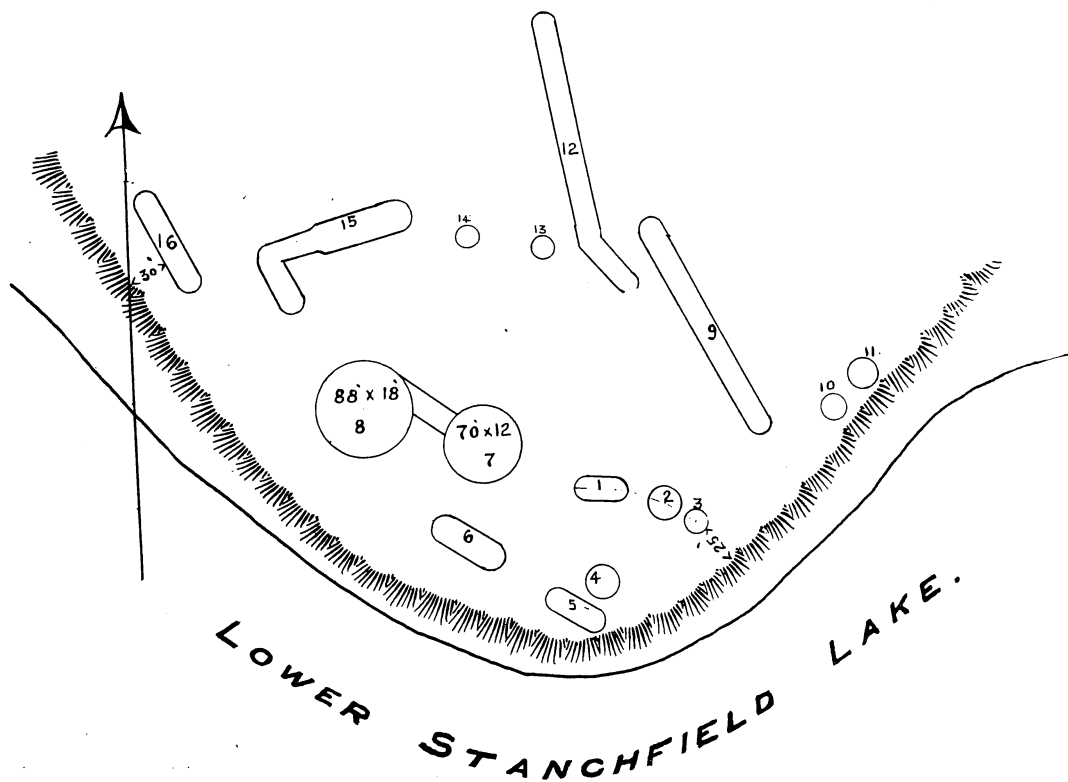
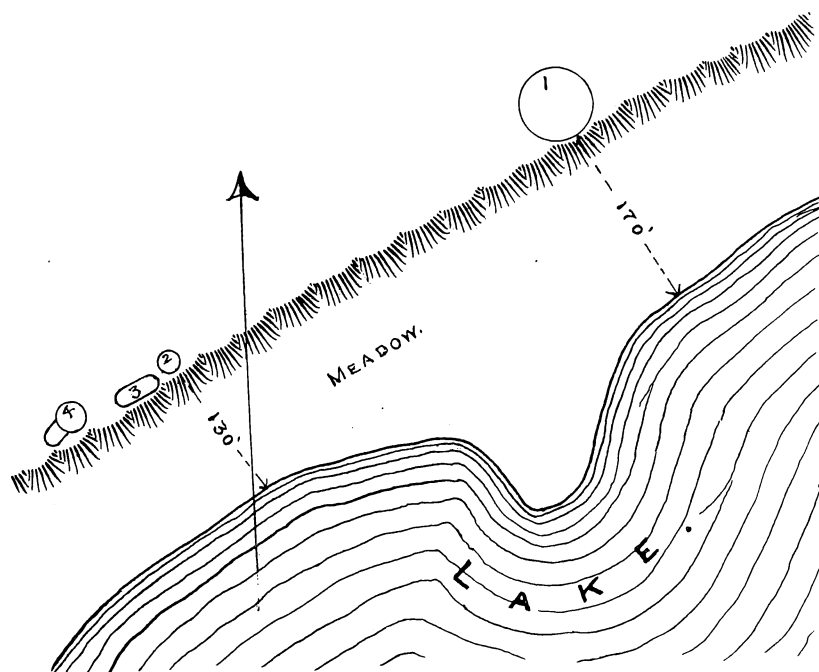
*Upper Stanchfield Lake mounds.* S. W.  $\frac{1}{4}$ , sec. 33, T. 37-25, about 18 ft. above the lake. This group embraces 4 mounds, of which one is a small elongated mound, and one has a short "approach."

They are along a bluff which overlooks a marsh, on to the lake toward the southeast. The largest mound is 65 ft. by 13 ft. and is separated from the rest. Surveyed Nov. 3, 1886.

A lone mound, 40 ft. by 5 ft., is on the east side of upper Stanchfield lake. N. W.  $\frac{1}{4}$ , sec. 4, T. 36-25, about 30 ft. above the lake.

There is another near Rice lake at S. E. cor. S. W.  $\frac{1}{4}$ , sec. 8, T. 37-23, 45 ft. wide and 5 ft. high, from which the top has been taken off. Further to the northwest is another which has been demolished. Surveyed Nov. 3, 1886.

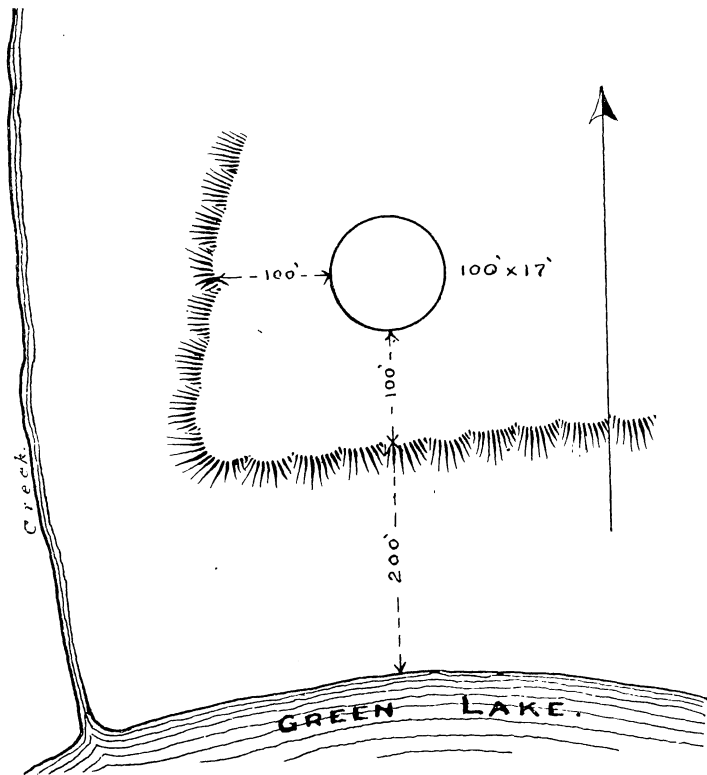
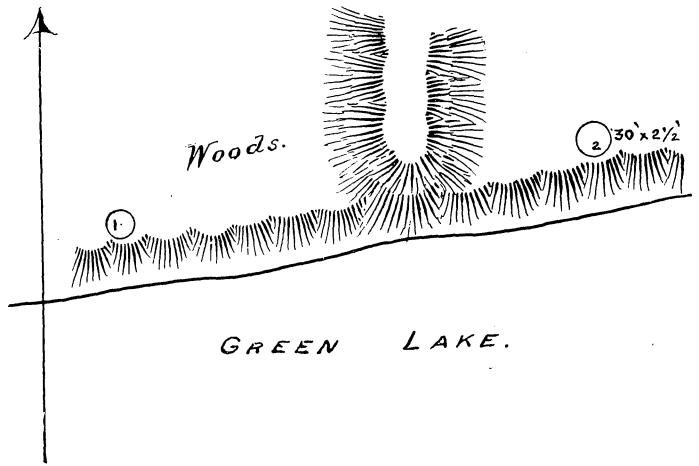
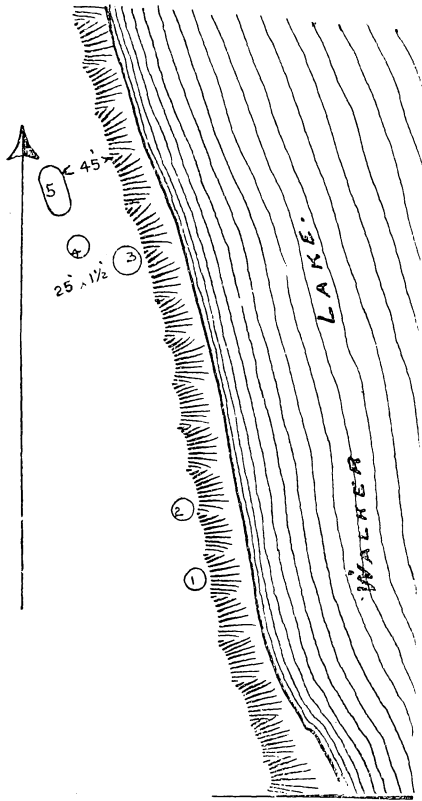
*Lower Stanchfield Lake mounds.* On N. E.  $\frac{1}{4}$ , sec. 5, T. 36-23, from 12 ft. to 20 ft.



above the lake. This group embraces 16 mounds, including 7 elongated mounds and embankments. These embankments show the unusual feature of angles in their lines of extension, one forming an obtuse angle and the other an acute angle, the latter also changing its width from 26 ft. to 22 ft. The width of the other embankments is from 20 ft. to 25 ft., with high from 1 ft. to 2½ ft. The large circular mound, one of the largest in the state, is 88 ft. by 18 ft., and is connected by a tangential embankment 22 ft. wide and 2 ft. high, obliquely with another large mound 70 ft. by 12 ft. According to Mr. George C. Lynch, in 1869, there were pine stumps 2½ ft. in diameter on one of these mounds, and on another were two Chippewa graves, recently made.— *Hill Rec.*

*Walker Lake mounds.* W. ½, S. E. ¼, sec. 30, T. 35-25. These are 5 mounds, of which one is elongated, about 35 ft. above the lake. Surveyed May 10, 1890.

*Green Lake mounds.* S. ½, N. E. ¼, sec. 27, T. 36-25, on the



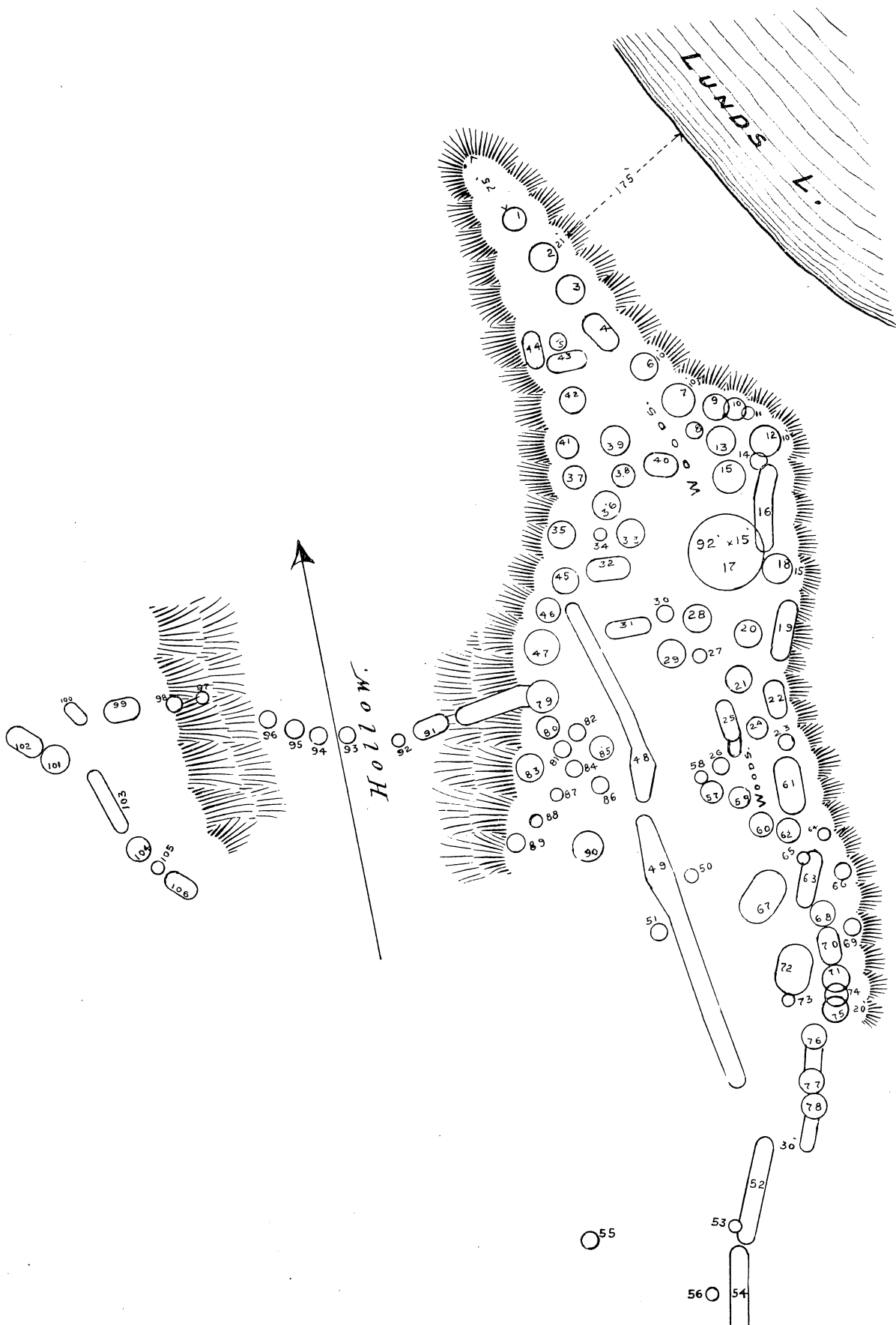
bluff of Green lake. No. 1 is 20 ft. above the lake. No. 2 is 28 ft. above the lake.

*Large mound at Green lake.* N. ½, S. W. ¼, sec. 26, T. 36-25, about 20 ft. above the lake. This mound, which remains 100 ft. by 17 ft., having been partially destroyed, must have been at least 20 ft. in high when it was constructed. It is perhaps the largest in the state. Surveyed April 25, 1890. [See, however, mounds of Itasca county.]

*Spencer Brook group of mounds.* On the E. ½, S. E. ¼, sec. 19, and W. ½, S. W. ¼, sec. 20, T. 35-25, from 15 ft. to 40 ft. above Lund's lake. This large group contains 106 mounds, the largest being 92 ft. by 15 ft. These mounds are much crowded, some of them overlying their neighbors, both circular and elongated. One tumulus (No. 10) has an extension which forms an obtuse angle with itself, by changing its direction near its point of union with the tumulus. The largest mound interferes with an elongated mound which itself has two directions, its



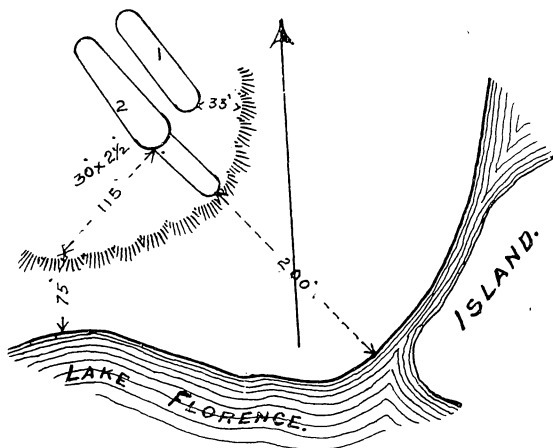
SPENCER BROOK.



parts forming an obtuse angle. Two of the elongated mounds, Nos. 48 and 49, have long bodies which swell out near one end and contract again so as to simulate the form of an alligator's head. Their bodies are not exactly straight, but each one has a slight bend back of the head, otherwise being like an ordinary elongated mound or embankment. The entire length of one, including the head, is 254 ft., and the general width of the body is 18 ft.; of the other 342 ft., with general width about 22 ft. These are so situated that they are headed toward each other and nearly in contact, lying back further from the bluff than the main group. Two other elongated mounds are situated in nearly the same way with respect to each other, but they are without noticeable variation from their type. The elongated mounds, Nos. 67 and 72, are short and broad, approximately the form of simple tumuli. Nos. 76 and 77 are united by an embankment. No. 77 is in contact with No. 78, without apparent overlapping, while No. 78 has an extension southward, thus constituting a continuous earthwork, though each unit keeps its characteristic form. Those which have been excavated are Nos. 7, 38 ft. in diameter; 15, 38 ft. in diameter; 17, 92 ft. in diameter; and 60, 28 ft. in diameter. Mr. Upham mentions several opened mounds in this county, one of them being probably in this group, in which were found human bones. Several of these tumuli are 20 ft. and 18 ft. in diameter, and one 17 ft. (No. 11, which so interferes with No. 10 that it may be considered as extension of No. 10). No. 58 is also 17 ft. in diameter, while six others are 16 ft. Surveyed May 9 and 10, 1890. (Shown on preceding page.)

Messrs. Thomas S. Roberts and John W. Cobb made a survey of this group in 1880 and sent a plat to Mr. Hill. They found in one of the mounds, at a depth of 4 ft., a very hard, compact, light-colored earth, and two fragments of pottery near the surface.—*Hill Rec.*

*Mounds two miles south of Cambridge.* On E.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 5, T. 35-23, about 18 ft. above the lake Florence. These are only elongated mounds, two in number. One of them tapers from the larger



end, 30 ft. wide, 2½ ft. high, to 20 ft. wide, 2 ft. high at the other end. At the larger end it has an extension in the form of a smaller elongated mound, which makes a slight angle with the main mound, and also tapers from 20 ft. to 16 ft. This feature of tapering from one end to the other is rare in the elongated mounds. Surveyed May 26, 1890.

There is a *lone mound* six miles southwest of Isanti on S.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 4, T. 34-24, overlooking a cranberry marsh to the south and about 20 ft. above it, and 500 ft. southeast from lake Henrietta. This tumulus is 66 ft. in diameter and 9 ft. high. It has been excavated.

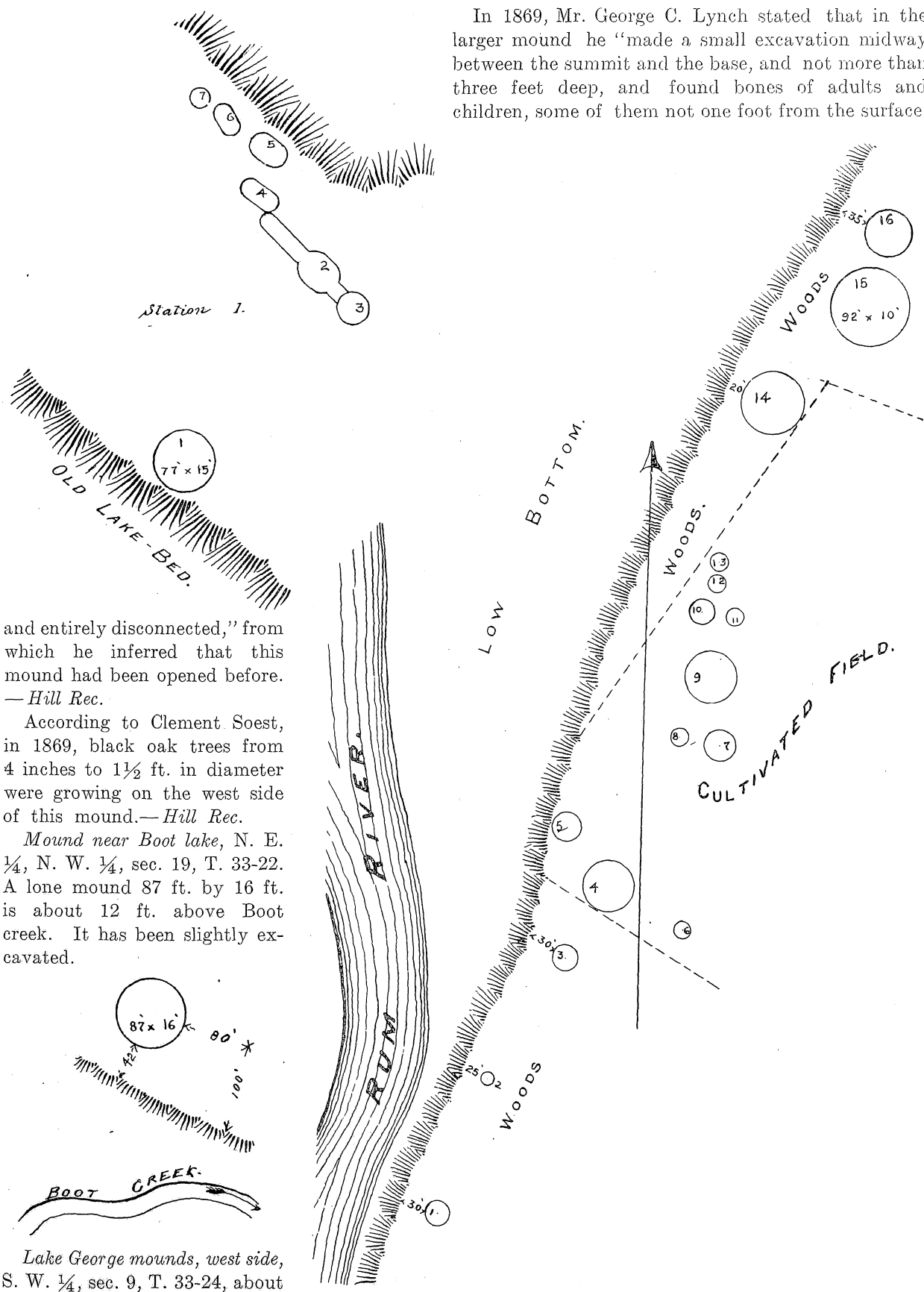
*Rum River mounds*, between Isanti and St. Francis, on the S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , and N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 15, T. 34-24, about 25 ft. above the river, partly in woods and partly in a cultivated field, along the line of the bluff of Rum river on the east side. These are all circular mounds, the smallest being 16 ft. in diameter and the largest 92 ft. Surveyed May 20, 1890. (Shown on following page, right.)

There is a *lone mound* between Isanti and St. Francis on the east side of Rum river, N. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 22, T. 34-24, about 28 ft. above the river.

*Island Lake mounds*, E.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 4, T. 33-22. Here are 7 mounds, 4 elongated and 3 circular, 12 ft. above the lake. The largest is isolated, 77 ft. by 15 ft. The smallest is 24 ft. The elongated mounds present a rare feature, viz.: one of them has an extension connecting with a tumulus at one end and at the other a simple straight extension, the whole four parts in the same right line. It is quite evident from this association that the elongated mounds were designed primarily for the same purpose as the circular. Four other mounds of this group have been plowed down. Surveyed July 18, 1889.

At this place Mr. W. P. Payte reported two large mounds in 1868, the larger to the south of the other and situated "immediately on the shore of the lake," and on being opened affording human bones. "The smaller one is truncated, having the appearance of being unfinished. They lie about 150 ft. apart." He examined these mounds in 1862. It may be presumed that Mr. Payte did not recognize the artificial nature of the elongated mounds.—*Hill Rec.*

In 1869, Mr. George C. Lynch stated that in the larger mound he "made a small excavation midway between the summit and the base, and not more than three feet deep, and found bones of adults and children, some of them not one foot from the surface,

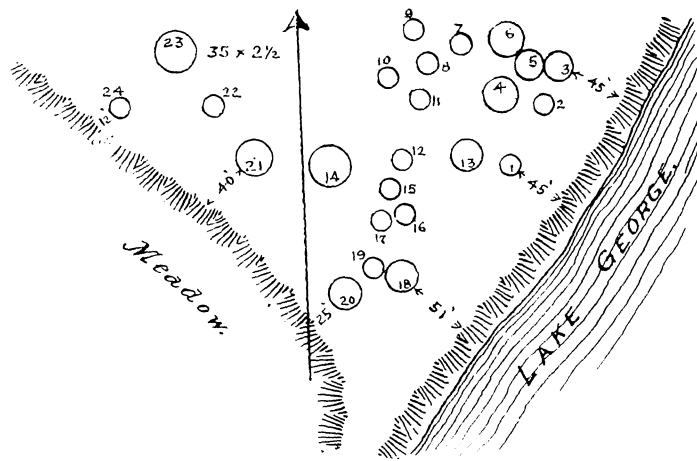


and entirely disconnected," from which he inferred that this mound had been opened before.—*Hill Rec.*

According to Clement Soest, in 1869, black oak trees from 4 inches to 1½ ft. in diameter were growing on the west side of this mound.—*Hill Rec.*

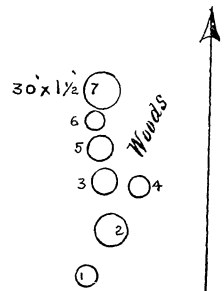
Mound near Boot lake, N. E. ¼, N. W. ¼, sec. 19, T. 33-22. A lone mound 87 ft. by 16 ft. is about 12 ft. above Boot creek. It has been slightly excavated.

Lake George mounds, west side, S. W. ¼, sec. 9, T. 33-24, about



12 ft. above the lake. This group embraces 24 tumuli, all rather small, of which 7 are only 16 ft. in diameter. Surveyed May 15, 1890.

*Lake George mounds*, W.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 9, T. 33-24, about 20 ft. above the lake, on a ridge, the land sloping gently on each side of the row. The lake is about  $\frac{1}{4}$  mile distant. These are all small tumuli. Surveyed May 16, 1890.



Dr. T. S. Roberts in 1880 observed a mound near the center of sec. 16, T. 33-24, on a low, narrow point of land that makes out into the south shore of lake George. It is 64 ft. by 9 ft. It had been opened 18 years prior.—*Hill Rec.*

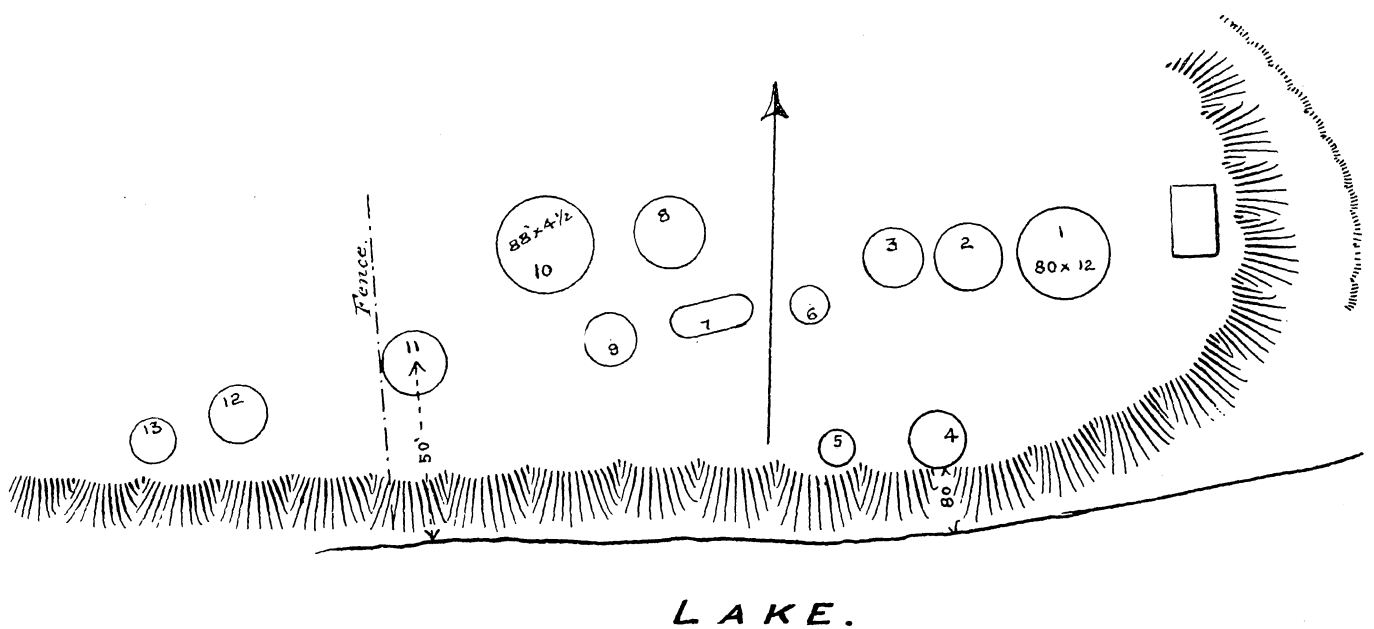
*Lake George mounds, south side*, S. W.  $\frac{1}{4}$ , sec. 16, T. 33-24, from 6 ft. to 8 ft. above the lake. No. 19 was probably 2 ft. or 3 ft. higher when in an undisturbed state. It is now the largest of the group, 70 ft. by 9 ft. The group embraces 26 mounds, of which 6 are elongated and the rest ordinary tumuli. Surveyed May 15, 1890. (Shown on following page.)

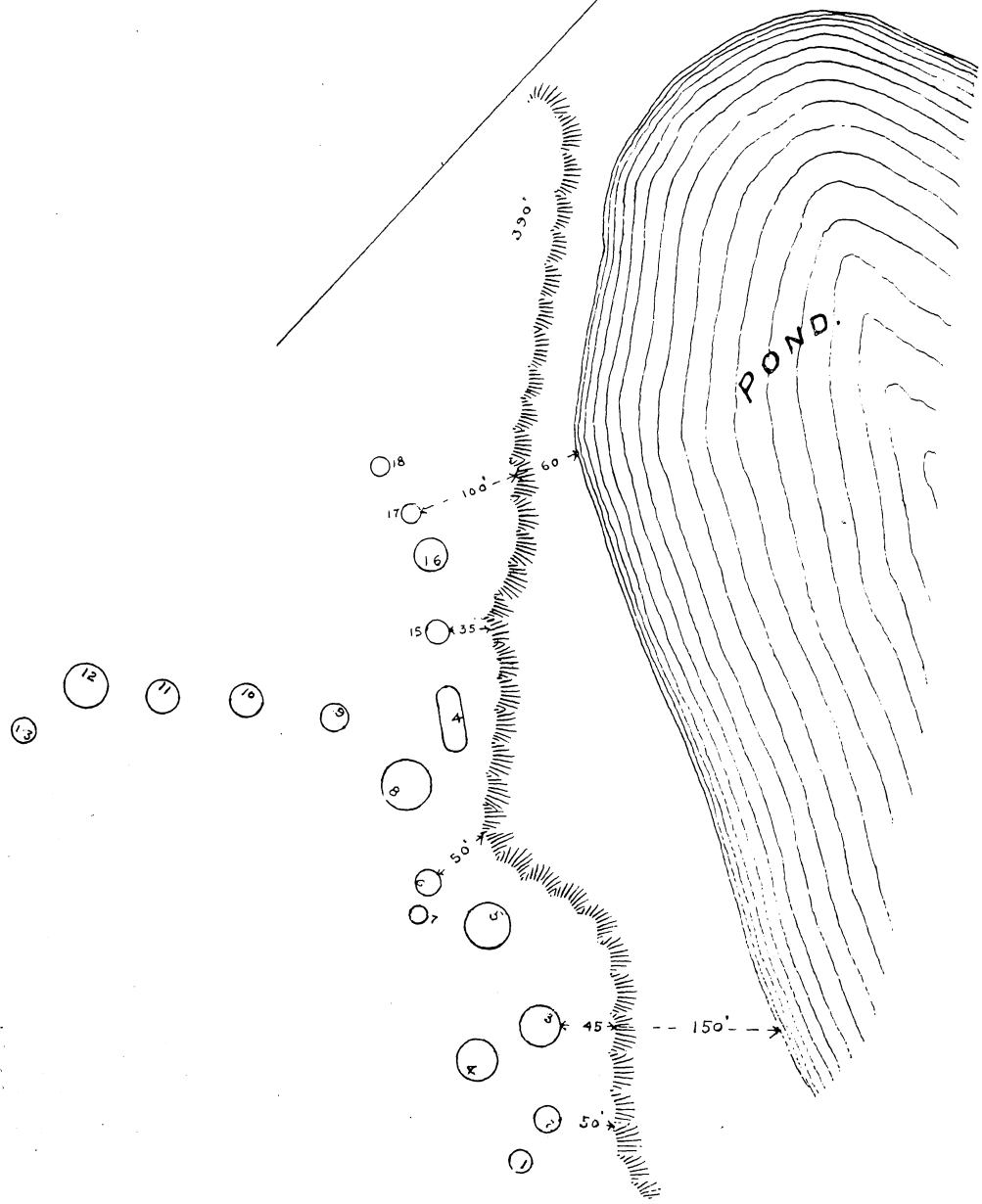
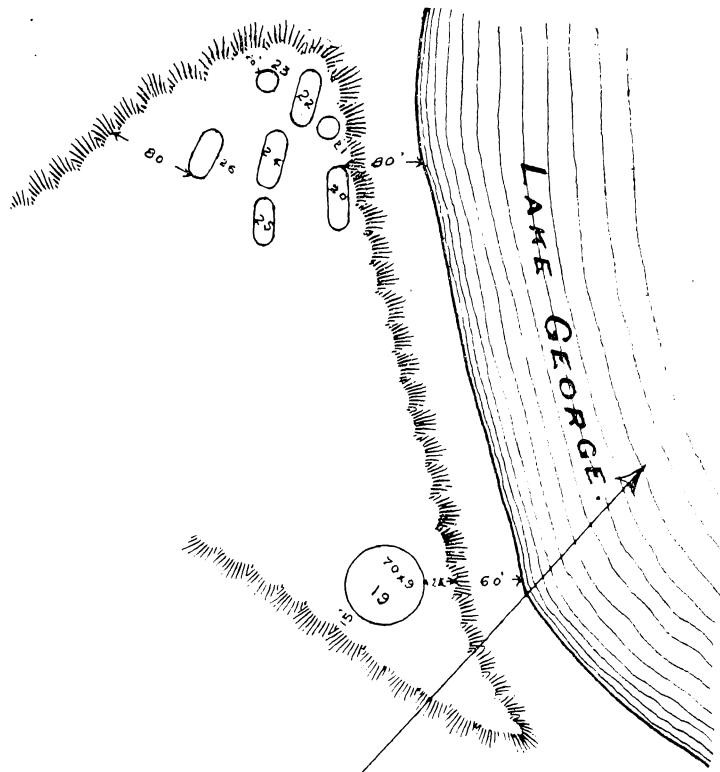
There is a *lone mound* on the northwest side of Round lake, S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 20, T. 32-24, and there were formerly 12 or 15 others, which have been plowed down. Its dimensions are 64 ft. by 5 ft. According to Mr. P. T. Pratt (*Hill Rec.*) this mound on being opened revealed regular layers of human skeletons, implements of war, etc.

There is another mound just below the bridge at Anoka, on S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 12, T. 31-25, 20 ft. by 1 ft.

*Centerville Lake mounds*, on S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 15, T. 31-22, about 13 ft. above the lake. This group has a large average diameter, the smallest being 32 ft. and the largest 88 ft. in diameter. But one of the group is elongated, 80 ft. by 30 ft. Other mounds in the vicinity are unsurveyed. (See Mr. Hill's note on the Centerville mounds in Minn. Hist. Soc. Coll., vol. vi, p. 318.) (Shown below.)

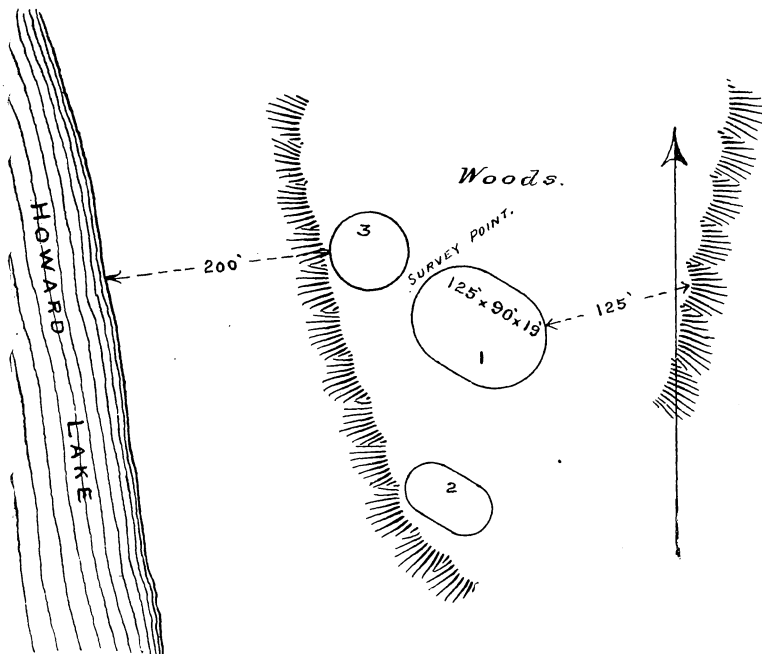
In reference to the *lone mound*, S. W.  $\frac{1}{4}$ , sec. 20, T. 32-24, above, Mr. R. M. Taylor wrote in 1868: "The interior of the mound had been excavated some years ago for a cellar. At present the top of the





mound has fallen in, and presents a mass of earth, timber and tall weeds. I proceeded to examine the sides in different places, and on the north side, about three feet from the outside, and 6 feet from the surface of the earth, I exhumed a mass of broken bones, pieces of skull-bones showing the sutures, a portion of an under jaw with three molar teeth in it, one small incisor, and numerous pieces of ribs and other bones. It is evident the bones were broken before they were placed there. The ground was packed very hard, and portions of it had been burnt. Six inches below these bones there was a layer of black earth filled with some small particles of charcoal, and a piece of wood with one end charred." — *Hill Rec.*

*Mounds at Three Pine or Howard lakes (not meandered; source of Rice creek). S. E. ¼, sec. 13, T. 32-22, about 18 ft. above the lake. These three large mounds embrace two that are elongated, one having dimensions 125 ft. by 90 ft. by 19 ft., ranking among the largest in the state. Surveyed July 16, 1889.*



According to Mr. I. A. Bunker (*Hill Rec.*) the circular mound "is very steep from its base to about two-thirds its high; balance more gentle." It has been excavated "from the southeast about 10 ft. above the base and extending into mound 20 ft. or 30 ft."

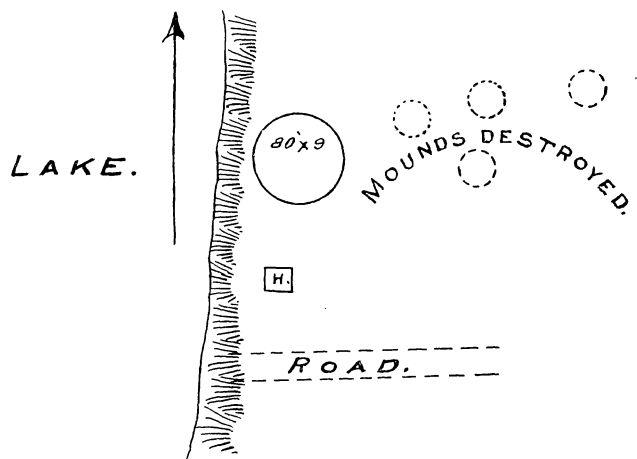
*Lake Peltier mounds, at the north end and east side, S. W. ¼, S. E. ¼, sec. 11, T. 31-22, near Centerville. Formerly there were 15 or 18 mounds along this part of the lake. That one now remaining was originally about 12 ft. high. It is now only 9 ft. high and 80 ft. in diameter. The top of the mound is about 30 ft. above high-water. Surveyed June 28, 1883. (Shown below.)*

There is a lone mound near Rice creek, S. ½, S. W. ¼, sec. 35, T. 32-22, about 18 ft. above the marsh.

It is 70 ft. by 8 ft. It commands a good view of the marsh and an old lake, or river-bed, and the surrounding country. On excavation this mound disclosed seven skeletons. Surveyed June 28, 1889.

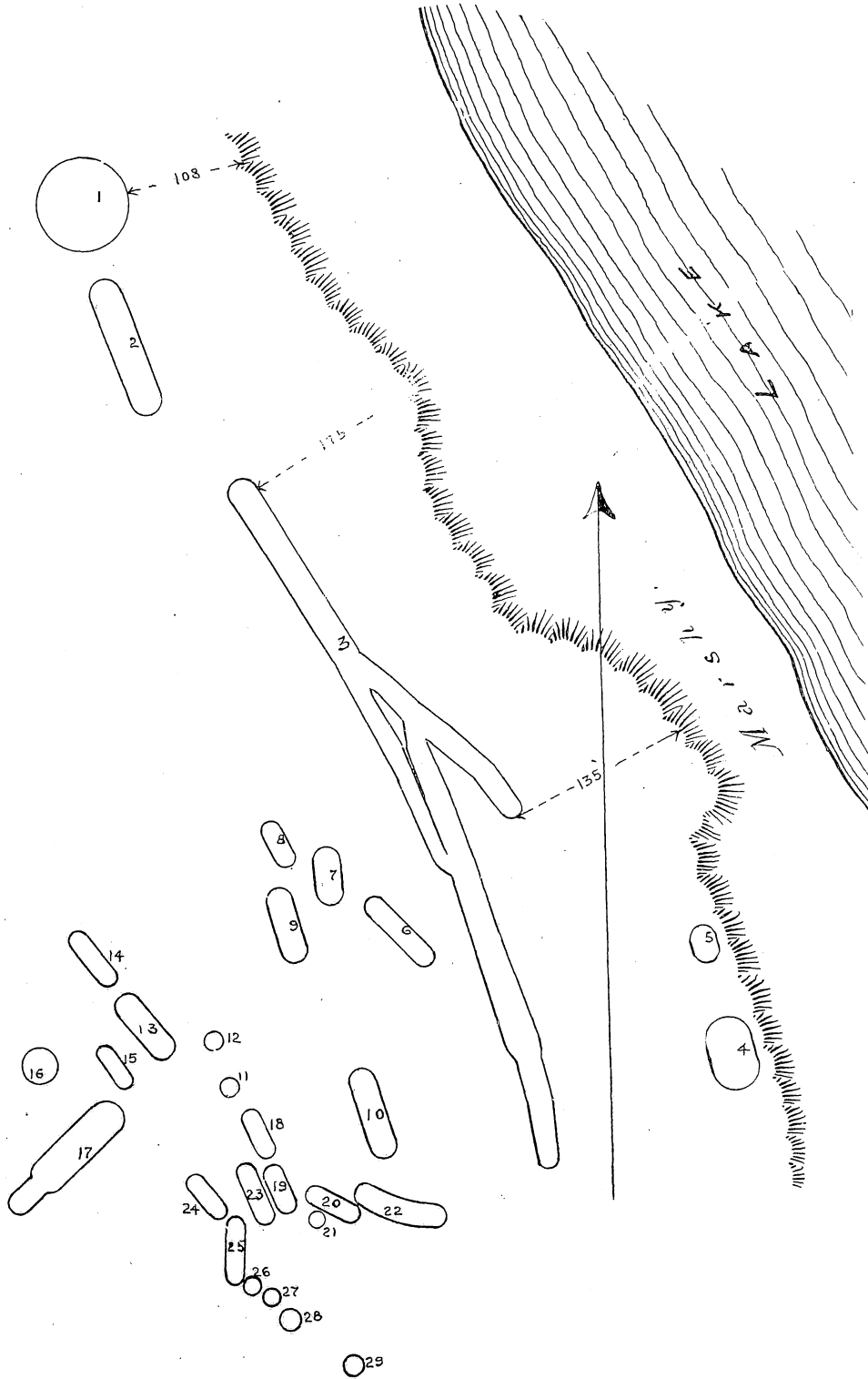
There is a lone mound between Reshanau and Rice lakes, on N. ½, sec. 29, T. 31-22, 42 ft. by 4 ft.

*Group of mounds and embankments on the east arm of Rush lake, lot 2, sec. 5, T. 37-22. This remarkable series begins at the north with a large solitary tumulus, 92 ft. by 18 ft., which has been excavated. The group contains 29 different earthworks, but from this tumulus southward it consists only of embankments, except that at the southern extremity of the group are 7 small tumuli from 18 ft. to 22 ft. in diameter, and one 32 ft. The most singular feature is the length and the manner of interference of the embankments. Coming from the north at about 20 ft. above the lake the main embankment forks, the branches slightly diverging and somewhat narrower than the main. The eastern fork divides again and its western subfork impinges upon the western fork of the main so as to include a small narrow triangular area between them. This western subfork then becomes the main embankment further south and becomes wider; but it suddenly contracts again to the prevailing width, forms a slight angle*



by turning more southerly, and after about 40 ft. extent beyond the bend it terminates. The other embankments are simple elongated mounds. No. 22 presents the variety of being curved instead of straight. It is 92 ft. long and 23 ft. wide, with a height of 2 ft., which is the height of nearly all the embankments. Surveyed Dec. 1 and 2, 1885. (Shown below.)

Mr. Folsom, of Rushseby, reported a large mound on the bank of the St. Croix river in the N. W.  $\frac{1}{4}$ , sec. 30, T. 37-20, estimated at 18 ft. high, with trees of the largest size growing on it.—*Hill Rec.*

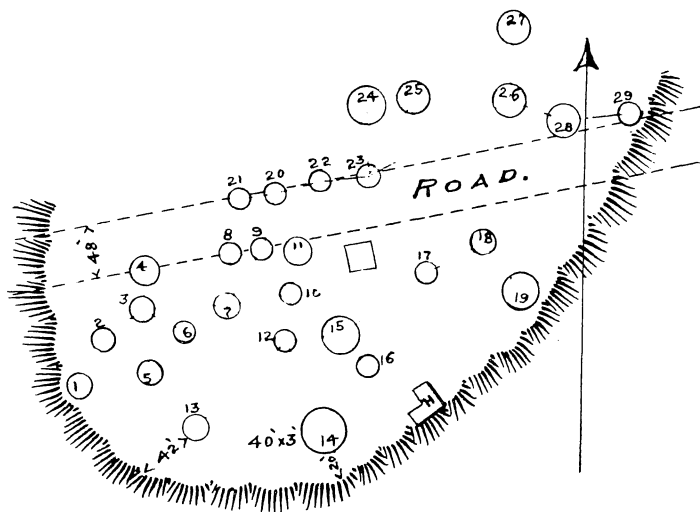


*Mounds at Rush lake* (S. E. arm), on S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$  sec. 23, T. 37-22, about 30 ft. above Rush lake. Group embraces 14 mounds, of which No. 1 has been excavated. The largest circular mound is 44 ft. in diameter and 3 ft. high and the smallest is 18 ft. by 1 ft. There are two elongated mounds in this group, 56 ft. by 40 ft. by 4 ft., and 50 ft. by 36 ft. by 2 $\frac{1}{2}$  ft. No. 1 has been excavated. Surveyed Dec. 1, 1885. (Shown on following page, right.)

*Mounds at Rush lake* (S. E. arm). This is an irregularly scattered group of 29 small tumuli, 18 ft. above the marsh. Several are 18 ft. and 20 ft. in diameter, the largest being 40 ft. Surveyed Dec. 1, 1885. (Shown on following page, left.)

There is a lone mound on lot 1, N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 15, T. 37-22, 350 ft. from the lake shore, and about 20 ft. above it. It is on a "point" of the line of the bluff, on cultivated land, and 5 ft. or 6 ft. high.

There is another situated at some distance back from the river on level land, N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ ,



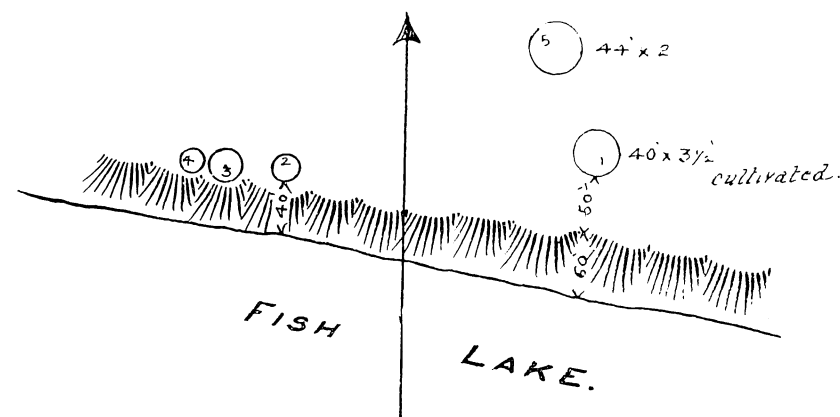
sec. 31, T. 36-19, 52 ft. in diameter, 10½ ft. high, which has been excavated.

Goose Lake mounds, S. E. ¼, S. W. ¼, sec. 3, T. 36-22, about 20 ft. above the lake, is a lone mound 30 ft. in diameter. North and west from this mound was another some 60 ft. in diameter and about 8 ft. high, now partially demolished. Surveyed July 6, 1889.

Fish Lake mounds, near Stark post-office, N. W. ¼, N. E. ¼, sec. 25, T. 36-22. Here are 5 circular mounds, the largest being 44 ft. by 2 ft. They are about 16 ft. above the lake.

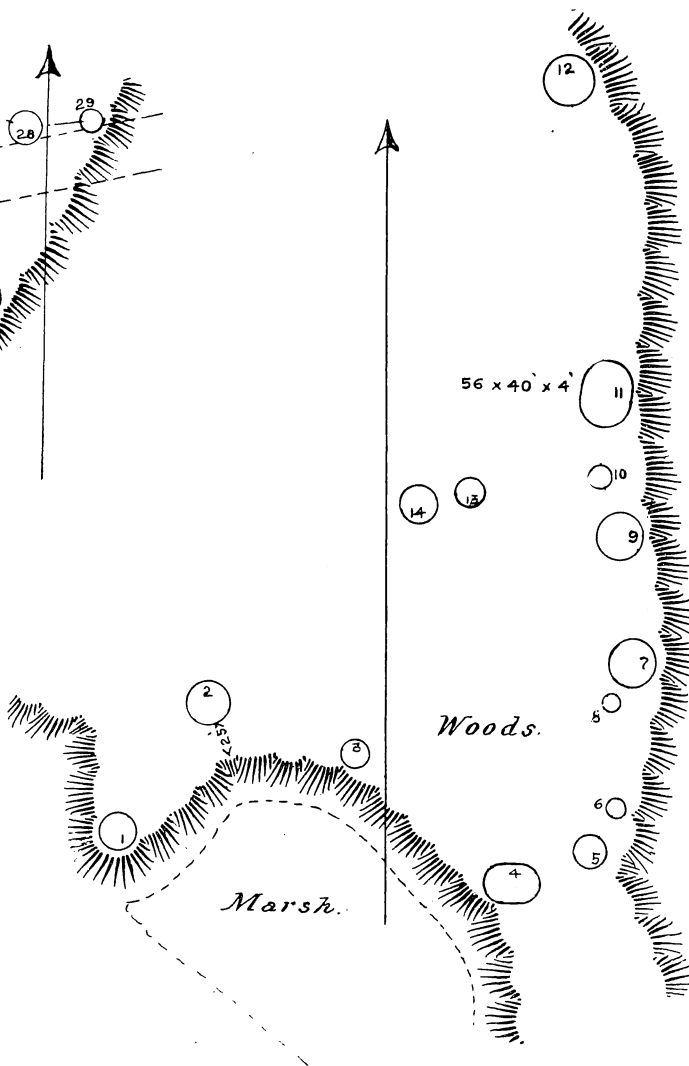
One of these mounds was opened in 1869 by Mr. George C. Lynch, who found

“one skeleton of more than ordinary size. A column of stones extended from the bottom to the summit, the largest stones being at the bottom, and decreasing in size toward the top. [There were] also four stones placed half way down the mound, forming a square, distant from the center column about 2 ft., the column being exactly in the center of the space. I saw a wagon load of small stones taken from a field near this mound, formed in one heap about 6 inches under the ground, these being the only stones found in the field, most of these having been burnt.”—*Hill Rec.*

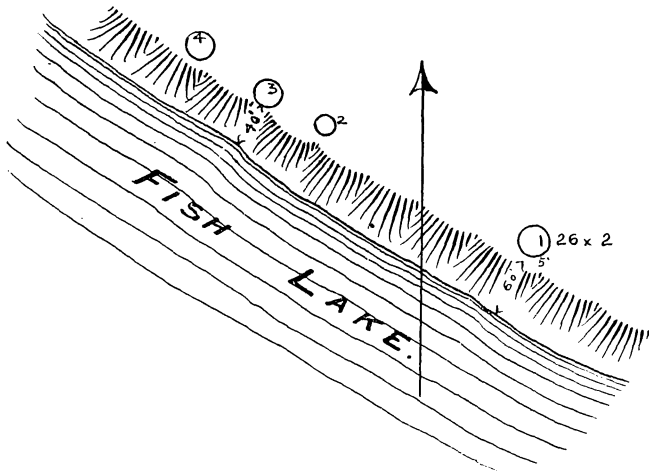


Fish Lake mounds, near Stark post-office, E. ½, lot 2, N. W. ¼, N. E. ¼, sec. 25, T. 36-22, about 16 ft. above the lake. This is a group of 4 circular mounds near the brow of the bluff of Fish lake, the largest being 26 ft. by 2 ft. Surveyed July 10, 1889. (Shown on following page, top.)

Chisago Lake mounds, S. E. ¼, S. W. ¼, sec. 6, T. 33-20, about 18 ft. above the lake. This is a group of 3 circular

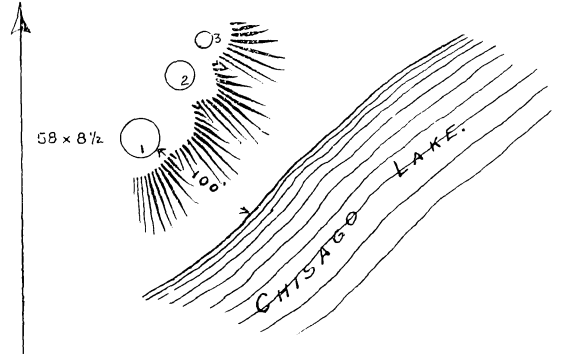






mounds, the largest being 58 ft. by 8½ ft. Surveyed Nov. 14, 1885. (Shown below.)

In 1868, Mr. N. C. D. Taylor stated (*Hill Rec.*) that he opened a mound which he shows by a map was a little south of the center of sec. 6, 10 ft. high and 40 ft. in diameter, and found "fragments of human bones from about 18 inches from the top of the mound to within about the same distance from the bottom."



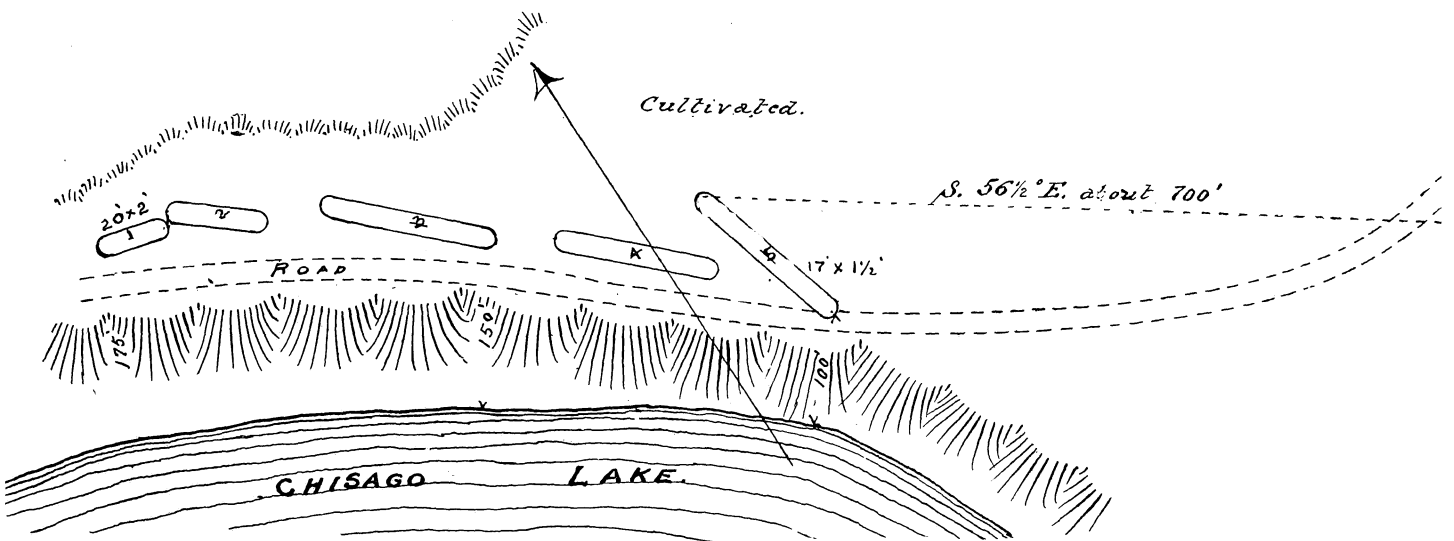
The relative position of the bones was such as to indicate a burial of bundled bones from which the flesh had previously been removed, accompanied apparently by some burning, as he also found "two pieces of burnt clay, of such shape as indicated no design in the burning, and I did not preserve them."

Lone mounds at Chisago lake, center of sec. 32, T. 34-20, 48 ft. by 3½ ft.; S. W. ¼, N. W. ¼, sec. 33, T. 34-20, 42 ft. by 5 ft.; N. ½, S. W. ¼, sec. 33, T. 34-20, 25 ft. above the lake, 38 ft. by 2½ ft.; on island in Chisago lake, near center of sec. 34, T. 34-20, 65 ft. by 10 ft., has been excavated; N. E. ¼, S. W. ¼, sec. 34, T. 34-20, 62 ft. by 7 ft., partly graded away for a road.

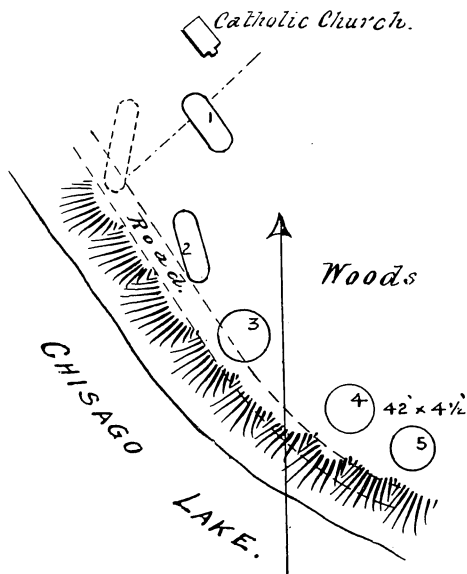
Mounds opposite Center City, S. ½, N. W. ¼, sec. 34, T. 34-20. This group of 5 contains only embankments, or elongated mounds, of ordinary dimensions. Surveyed Nov. 16, 1885. (Shown below.)

Concerning the mounds on the island in Chisago lake, near the center of sec. 34, T. 34-20, Mr. N. C. D. Taylor wrote in October, 1868, as follows: " \* \* \* \* \* was examined several years since, and I understand from a gentleman who was present at the examination that in one [the southern one] was found a large amount of hair in a better state of preservation than the bones."—*Hill Rec.*

Concerning the soil on a small island in Chisago lake, near the north line of sec. 27, Mr. Taylor also wrote: "The island contains, I should judge, about half an acre, at the highest stage of water, but at the lowest about two acres. On the top are sixteen or twenty trees, from one to two feet in diameter, in a soil of black vegetable mold from 6 inches to 2 feet in thickness, and in some places nearly as light



as chaff, the whole of which, particularly on the southern half of the island, is literally filled with bones, and broken pieces of the smallest sizes of all wild animals from the size of a squirrel to that of an elk, and bones also of fishes and birds of all kinds, and shells of all kinds to be found in this part of the country, but very much decayed. Whether this light black loam has been formed by the decay of bones is a question which occurred to me."—*Hill Rec.*



the impression that it had some other purpose. In its sweep eastward and northward it even goes beyond the further end of the elongated mound and returns upon itself a short distance before it reaches it. It also has an enlargement on the inner side of the circle which appears like the section of a small tumulus. This circuitous embankment is about 8 ft. wide and 1 ft. high, but at its union with the tumulus (No. 3) its width is about 14 ft. The other connection between these mounds is also 8 ft. wide and 1 ft. high. The largest of the tumuli is that which has this curious connection with the elongated mound, 46 ft. by  $3\frac{1}{2}$  ft.

Other lone mounds are situated as follows: Near Wyoming, S.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 28, T. 33-21, on a ridge about 20 ft. above a swamp, 60 ft. by 9 ft., has been opened; W.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 20, T. 37-20, about 18 ft. above St. Croix river, 42 ft. by  $7\frac{1}{2}$  ft.; S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 20, T. 37-20, about 40 rods north and west of the last, 20 ft. above the river and about 350 yards from it, between them being marsh next the mound and timber next the river. Surveyed Dec. 3, 1885.

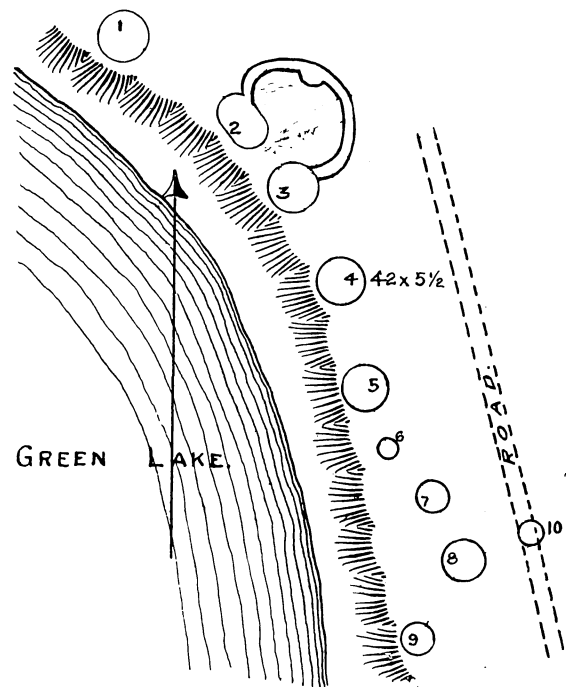
Mr. B. F. Wright describes the exploration of a mound situated near the south side of sec. 26, T. 32-24, near Coon creek, about 300 yards from its bank. The mound was about 15 ft. high and in shape almost a perfect cone. At the depth of about 7 ft. from the top he found what appeared to be the enamel of a human molar tooth, but much decomposed.—*Hill Rec.*

Mr. Clement Soest reports a mound on the N. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 14, T. 34-23. It is very large, but has not been examined. This is confirmed by Mr. Folsom, of Rushseby.—*Hill Rec.*

Mr. P. F. Pratt reported the occurrence of a mound near the right bank of Coon creek, S. W.  $\frac{1}{4}$ , sec. 30, T. 32-23.—*Hill Rec.*

*Mounds near Centre City* (east arm of lake), N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 34, T. 34-20, about 30 ft. above the lake. One embankment is partially graded away for a road. The group consists of 5 mounds, of which two are common elongated mounds. Surveyed Nov. 14, 1885.

*Green Lake mounds*, S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 6, T. 33-20, about 20 ft. above the lake, embraces 10 mounds, not including the embankments connecting two of them. No. 2, an elongated mound, is connected with No. 3, a tumulus, by two embankments. One is short, direct, and nearly parallel with the direction of the long mound, and the other is curving, circuitous and longer than seems necessary to make simply a connection between the two mounds, leaving

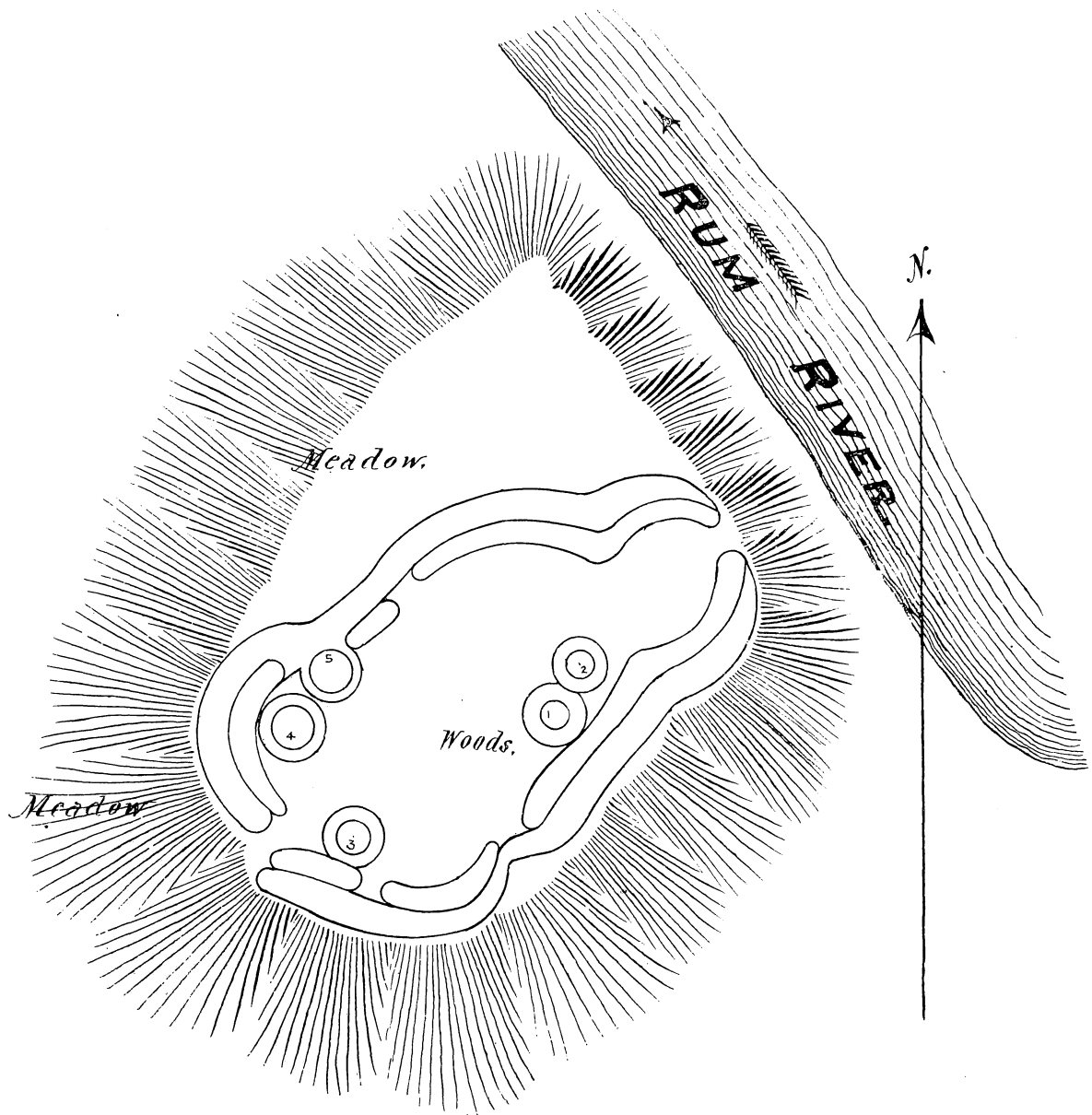


"At the head of Cedar creek, in Isanti county, to the east of the Cambridge road, are very numerous rifle pits and low embankments, evidently thrown up for warlike purposes. At the same place also bones of men are scattered for a wide distance round, showing evidences of a hard-fought battle there sometime.

"In the same county, about nine miles east of Princeton and two miles north of Stanchfield lake, is a large enclosure of earth, apparently a fort, situated on a natural knoll and including at least five acres. There are numerous mounds in the neighborhood, and one in the fort itself is about 15 ft. high and quite steep. Rifle pits are quite numerous outside of the main rampart. Traces of some of the timbers forming the pickets surmounting the walls are still to be found."—J. W. Thompson, in *Hill Rec.*, 1868.

Of the above Mr. Hill makes the following entry: "Mr. Thompson, from whom I obtained the above information June 22, 1868, taken down in pencil notes from his word of mouth and summarized here, was a lumberman, and of course well versed in the woods. He was, however, not very long after this interview, accidentally killed by the discharge of a spring gun, and I therefore have no statement on the mound subject in his own handwriting."

*Inclosure near Itasca.* Among the Hill records is a plat of an enclosure situated on the east bank of the Mississippi river, in sec. 30, T. 32-25, near Itasca, in Anoka county. This was considered by



Mr. Lewis as an "Indian fort," and as such was excluded from his field note-books, which were dedicated by him to contain only "mound-builder" remains. This is reported "to have been built by the Winnebagoes in 1848 or 1849, or in 1853 or 1854." It is quite similar to other Dakota palisaded villages, especially one in Kanabec county opposite the mouth of Rum river. Drawn to a scale, its length is about 450 ft. and its width 335 ft. It lies about 45 ft. above the Mississippi river. The ditch which is on the inside is from 1½ to 2 ft. high. About 50 "pits" are within the enclosure, and about 100 outside. This has every appearance of having been once an important village site of the Dakota. It is 200 ft. from the Mississippi, but at the top of the main bluff. (Shown on insert opposite.)

*Letter from Hon. Jared Benson.*

ST. PAUL, April 17, 1889.

*Alfred J. Hill, esq.,*

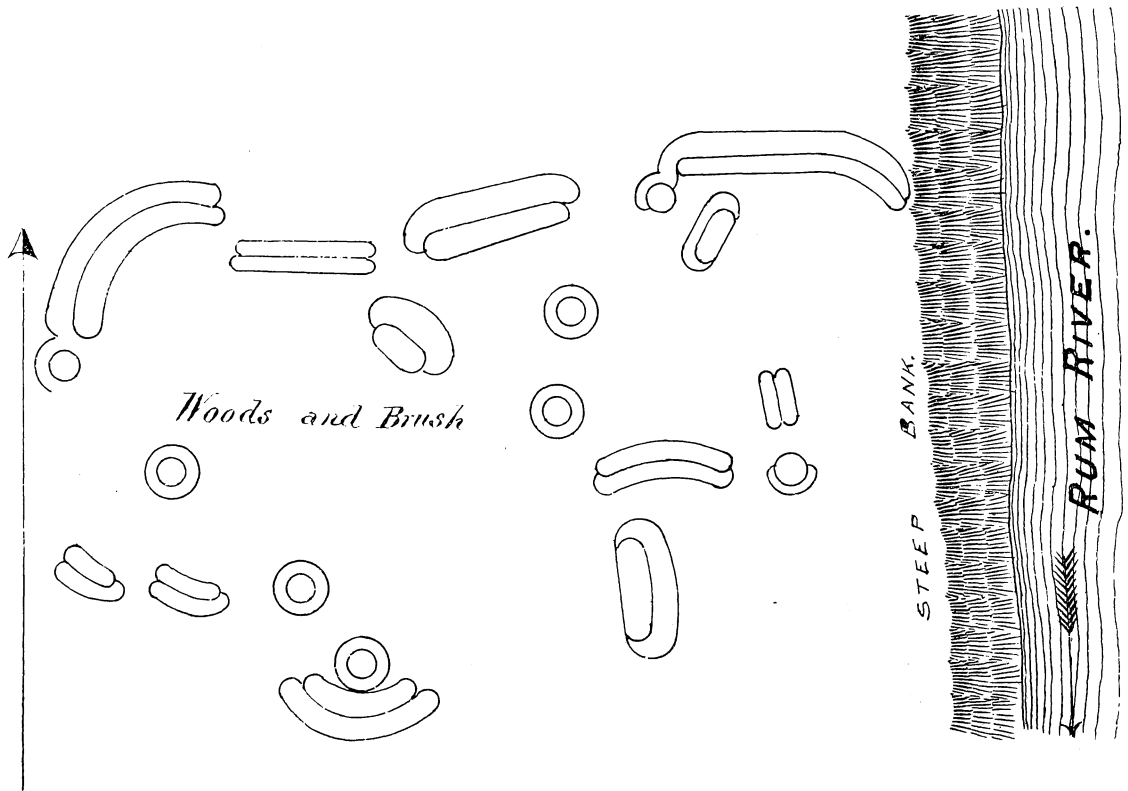
DEAR SIR: I have yours of yesterday regarding relics of the Winnebagoes near Itasca. I well remember numerous rifle-pits near there, but I do not remember any earthwork, though I doubt not such existed at the time. The affair happened a year or two before I removed to Minnesota, but the old settlers there had much to tell about it for years after. If I remember rightly, the collision that was feared was between the Winnebagoes and Chippewas, but if I remember rightly no collision occurred.

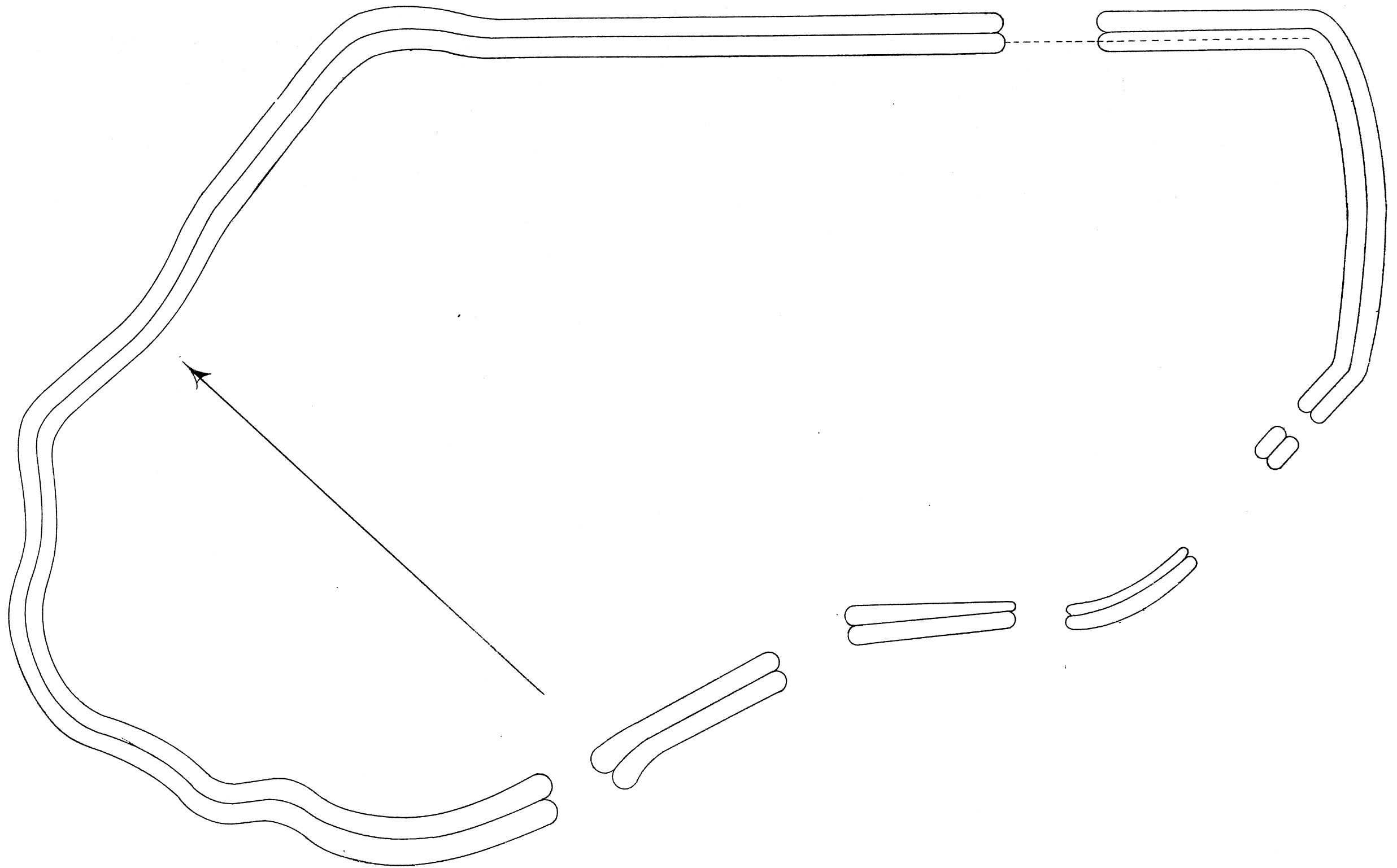
Very truly, etc.,

JARED BENSON.

*Inclosure, N. W. ¼, S. E. ¼, sec. 15, T. 34-24, on the left bank of the Rum river, and about 18 ft. above it. The outlines are somewhat irregular. The ditch is on the inside and about one foot deep, varying in width from 3 ft. to 6 ft. The embankment is about one foot high, and from 3 ft. to 6 ft. wide. It embraced, apparently, five flat-topped mounds, which were probably the sites of earth lodges. It is on a knoll in the midst of meadow-land, with one end toward the river, each end having an opening. Diagram is on a scale 1 : 400. (Shown on preceding page.)*

*Inclosure at Saint Francis, S. W. ¼, sec. 8, T. 33-24. On the right bank of Rum river, about 30 ft. above the river. The ditch and embankment are each about 1 ft. vertical and vary from 3 ft. to 5 ft. in width. In this, and in the last, the diagram shows flat-topped mounds within the enclosure, some of them encroaching on or built in with the embankment, but the field-notes designate these as "pits,"*





INCLOSURE NEAR ITASCA.

i. e., rifle-pits, these inclosures being considered "Indian forts." Their size, which averages about 5 ft. in diameter, is only about a quarter of the size of the usual earth-lodge. Diagram is 1 : 400.

These inclosures are only about one-fourth the diameter of that near Itasca (above), and perhaps have not the same origin as that. (Shown on preceding page.)

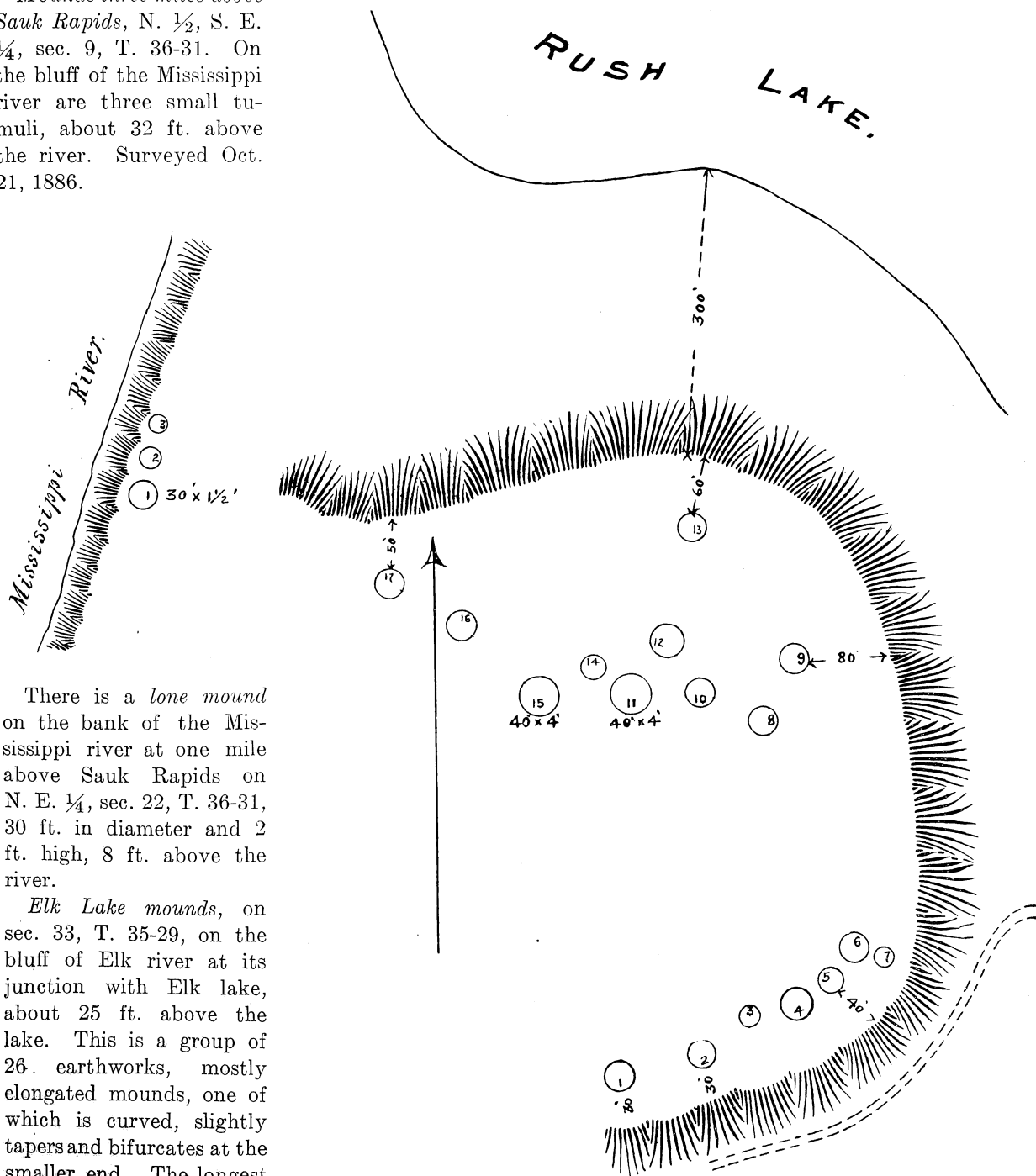
From Isanti county Mr. Lewis registered: 4 arrow-heads, 2 hoes, 2 "chipped implements" and 1 scraper.

From Anoka: 1 scraper, 1 drill (from a mound), 1 spear-head, 1 war-point.

From Chisago: 4 arrow-heads, 1 stone pipe.

EARTHWORKS IN BENTON AND SHERBURNE COUNTIES.

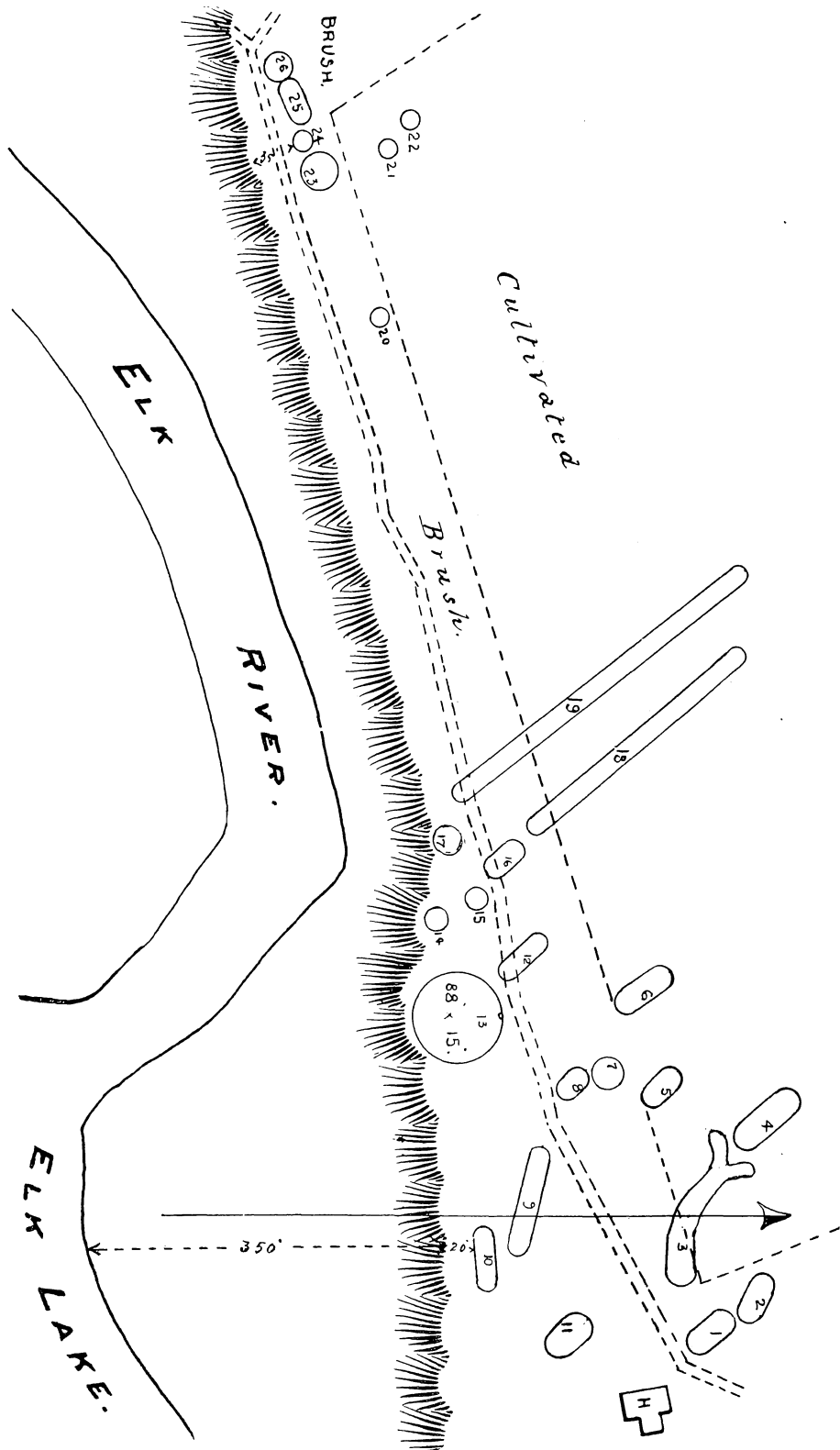
Mounds three miles above Sauk Rapids, N.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 9, T. 36-31. On the bluff of the Mississippi river are three small tumuli, about 32 ft. above the river. Surveyed Oct. 21, 1886.



There is a lone mound on the bank of the Mississippi river at one mile above Sauk Rapids on N. E.  $\frac{1}{4}$ , sec. 22, T. 36-31, 30 ft. in diameter and 2 ft. high, 8 ft. above the river.

Elk Lake mounds, on sec. 33, T. 35-29, on the bluff of Elk river at its junction with Elk lake, about 25 ft. above the lake. This is a group of 26 earthworks, mostly elongated mounds, one of which is curved, slightly tapers and bifurcates at the smaller end. The longest

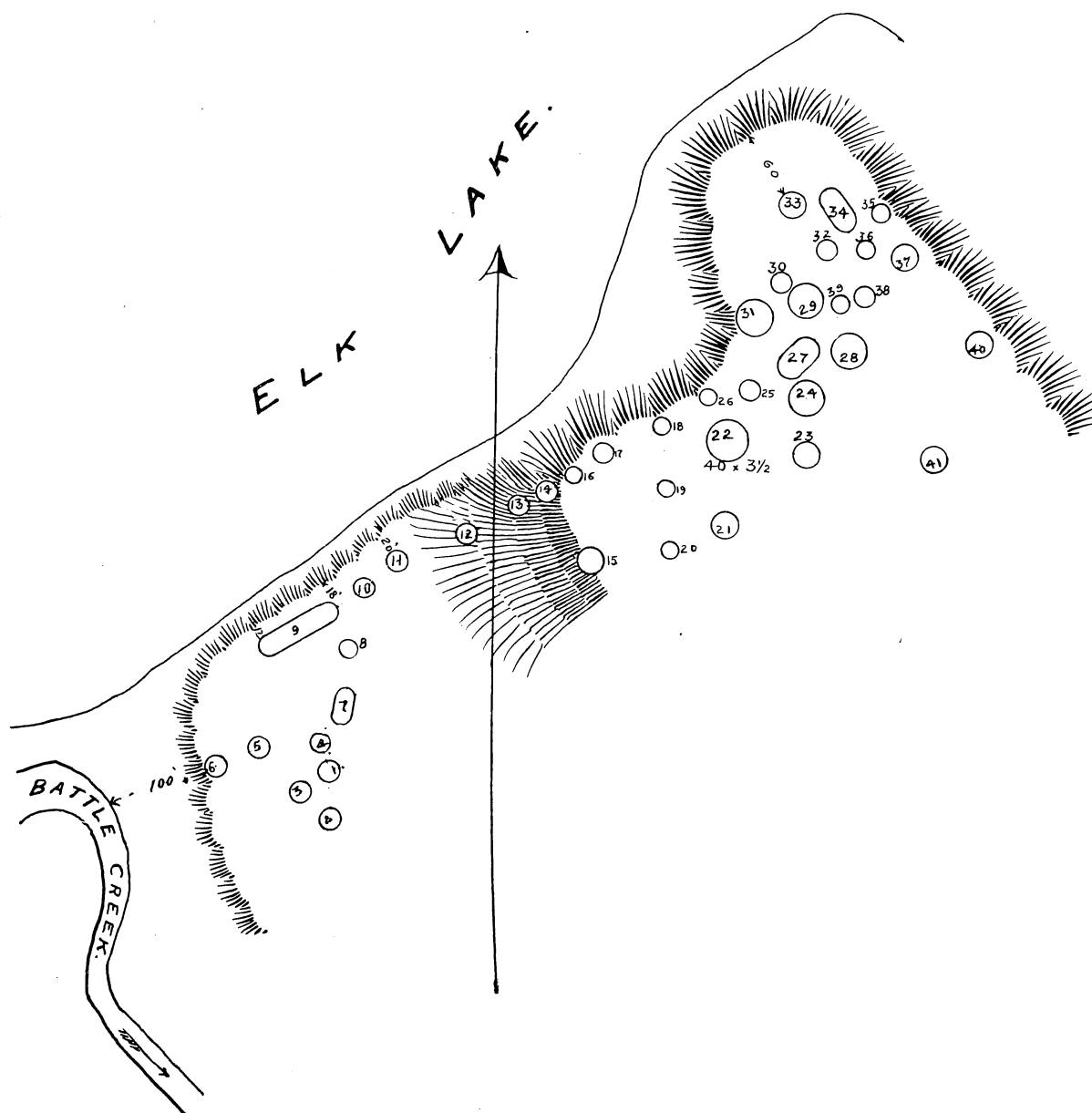
THE ABORIGINES OF MINNESOTA.



elongated mound is 350 ft., and 18 ft. wide, 2 ft. high, extending northwest and southeast, regardless of the direction of the bluff. Most of the others have the same direction, only two being parallel with the bluff. One large tumulus is 88 ft. in diameter and 15 ft. high. It stands so near the edge of the bluff that it is intersected by the present brink. The current of the river has probably impinged on the bluff in times of high water and worn away the bluff since the construction of the mound. Ordinarily the aboriginal mounds are located along a river or lake bluff with reference to a prior completion of the bluff, indicating that Glacial waters had subsided at the date of their construction. Surveyed Nov. 10, 1886. (Shown on page 290.)

*Elk Lake mounds*, N.  $\frac{1}{2}$ , sec. 34, T. 35-29, overlooking Rush lake, about 40 ft. above the lake. This is a group of 17 scattered tumuli of ordinary size irregularly arranged, of which Nos. 9, 11 and 13 have been excavated. Surveyed Nov. 11, 1886. (Shown on page 289.)

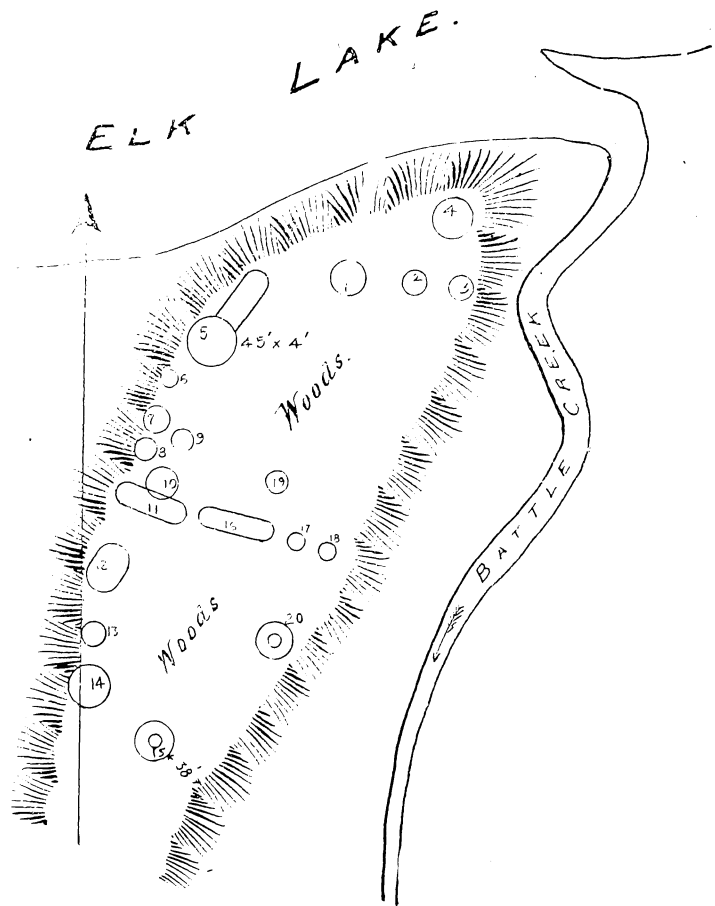
*Elk Lake (of Battle brook) mounds*, on S. W.  $\frac{1}{4}$ , sec. 31, T. 35-26. This group consists of 41 mounds along the south shore of Elk lake, and from 10 ft. to 30 ft. above it, east of Battle brook. Elongated mounds and round tumuli are heterogeneously mingled, but the elongated mounds are usually parallel with the line of the bluff adjacent. Surveyed May 13, 1890.





*Elk Lake (of Battle brook) mounds,* S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 36, T. 35-27, and S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 31, T. 35-26, about 32 ft. above the lake. This group embraces 20 mounds, of which three are elongated and one has an elongated extension. One, 34 ft. in diameter and 2 ft. high, is flat-topped, the top diameter being 12 ft. The largest tumulus is that which has an elongated extension, No. 5. It is 45 ft. by 4 ft. Surveyed May 13, 1890. (Shown at the right.)

*Elk Lake (of Battle brook) mounds,* N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 36, T. 35-27, on the west shore, from 18 ft. to 30 ft. above the lake. These mounds and earthworks being composed of sand have been flattened out by stock running over them. No. 1 has been excavated. These 30 mounds and earth-banks present a rather unusual structural arrangement, in that the large elongated mounds are overlapped and connected with each other, making a zigzag series. These embankments are from 25 ft. to 30 ft. in width and about 2 ft. high. Two others are bent. Several small elongated mounds present no unusual features. The largest tumulus (No. 1) is 83 ft. by 15 ft. (Shown on page 293.)



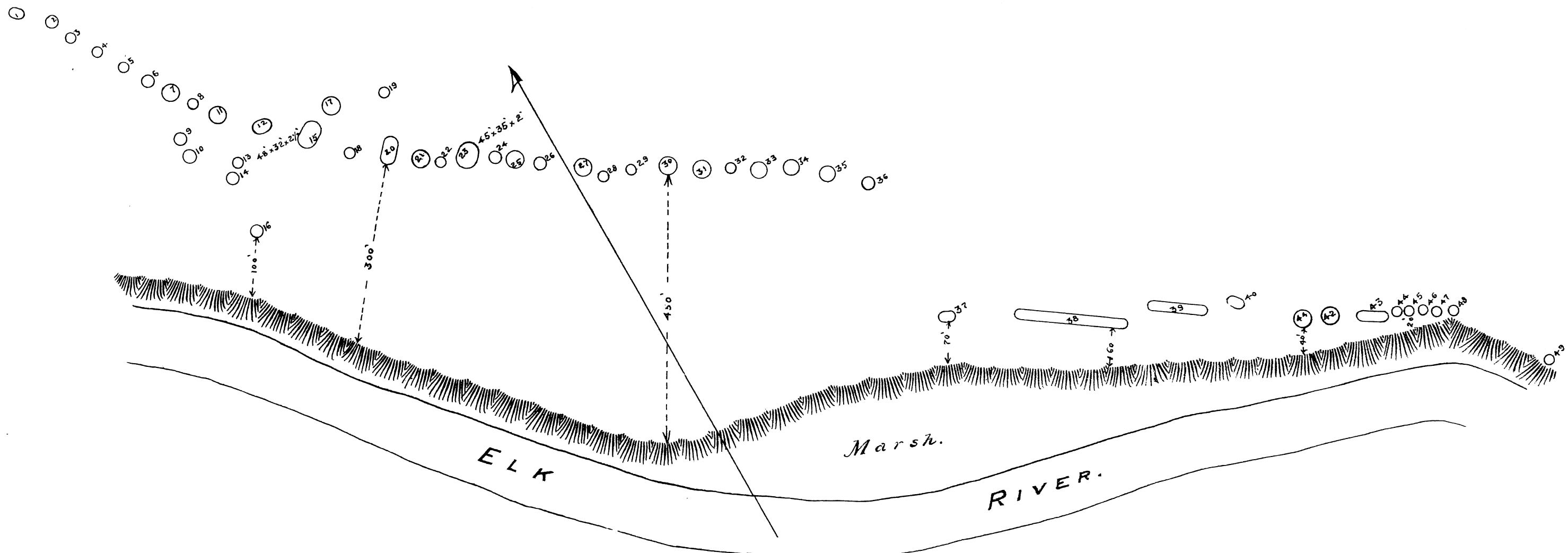
This group was visited by the writer in company with Mr. E. E. Woodworth, Oct. 24, 1907, for the purpose of examining some of the long, low mounds, or ridges, in order to ascertain the uses to which they had been put by the aborigines. A trench was dug across mound No. 25 about 3 ft. wide, at about one-fourth its length from the southwest end. Three bundles of bones were found, and three skulls. The skulls were on the top of the bundles and about 4 ft. below the top of the ridge, which is only about 4 ft. high. Two of the skulls were so fragile that they went to pieces easily, but of one several small photos were taken after its removal from its resting place.\* Both jaws were found and photographed in place. With the bundle were ribs, vertebrae and foot or finger bones. In the dirt which covered these bones, some distance separate from them, were found a flint spall and a perfect flint knife or blade, also a number of small stones that had evidently been artificially broken but showed no designed shape. These bundles were in a line about in the central axis of the main ridge, separate about 3 ft. from each other.

In the same group mound No. 12 was trenched in the same manner, but by a trench about two feet wide. Here three similar bone-bundles were encountered, accompanied by three skulls, but the skulls were not so distinctly above the bundles to which they belonged. They also were about 4 ft. below the top of the ridge, and were not entirely in the center line of the ridge, but one was southeast from the other two. The bones were more rotted than those in mound No. 25. The skulls appeared to be distinctly low-browed and neanderthaloid.

No. 13 was dug into at a point near where it joins with No. 12, but no remains were found. This hole was 4 ft. square and deep, and widened at the bottom in all directions to at least 5 ft. square. No. 20 was also thoroughly explored without result.

Directly to the south, and a little east from the big mound No. 1, that is to say, about 50 ft. south from the south end of mound No. 3, was found a large collection of bears' teeth and jaws, with a few

\*These kodak views were taken by Mrs. F. B. Waterman of Binghamton, N. Y., who happened to be present with her kodak.



A LONG ELK RIVER.

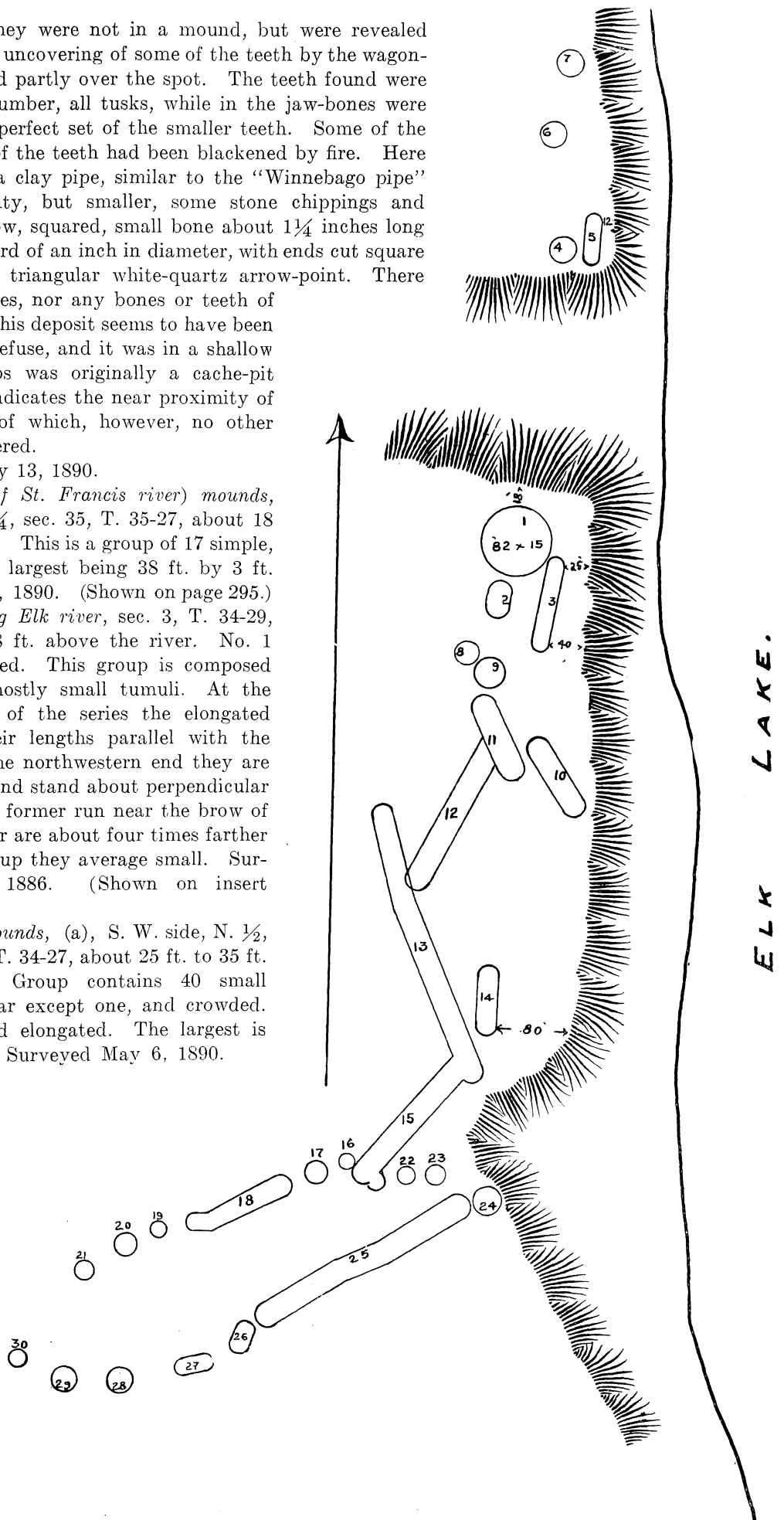
bears' skulls. They were not in a mound, but were revealed by the accidental uncovering of some of the teeth by the wagon-road which passed partly over the spot. The teeth found were perhaps 150 in number, all tusks, while in the jaw-bones were usually a nearly perfect set of the smaller teeth. Some of the bones and some of the teeth had been blackened by fire. Here were found also a clay pipe, similar to the "Winnebago pipe" of Fillmore county, but smaller, some stone chippings and potsherds, a hollow, squared, small bone about  $1\frac{1}{4}$  inches long and about one-third of an inch in diameter, with ends cut square off, and a small triangular white-quartz arrow-point. There were no long bones, nor any bones or teeth of other animals. This deposit seems to have been of the nature of refuse, and it was in a shallow pit, which perhaps was originally a cache-pit for food, and it indicates the near proximity of the village site, of which, however, no other signs were discovered.

Surveyed May 13, 1890.

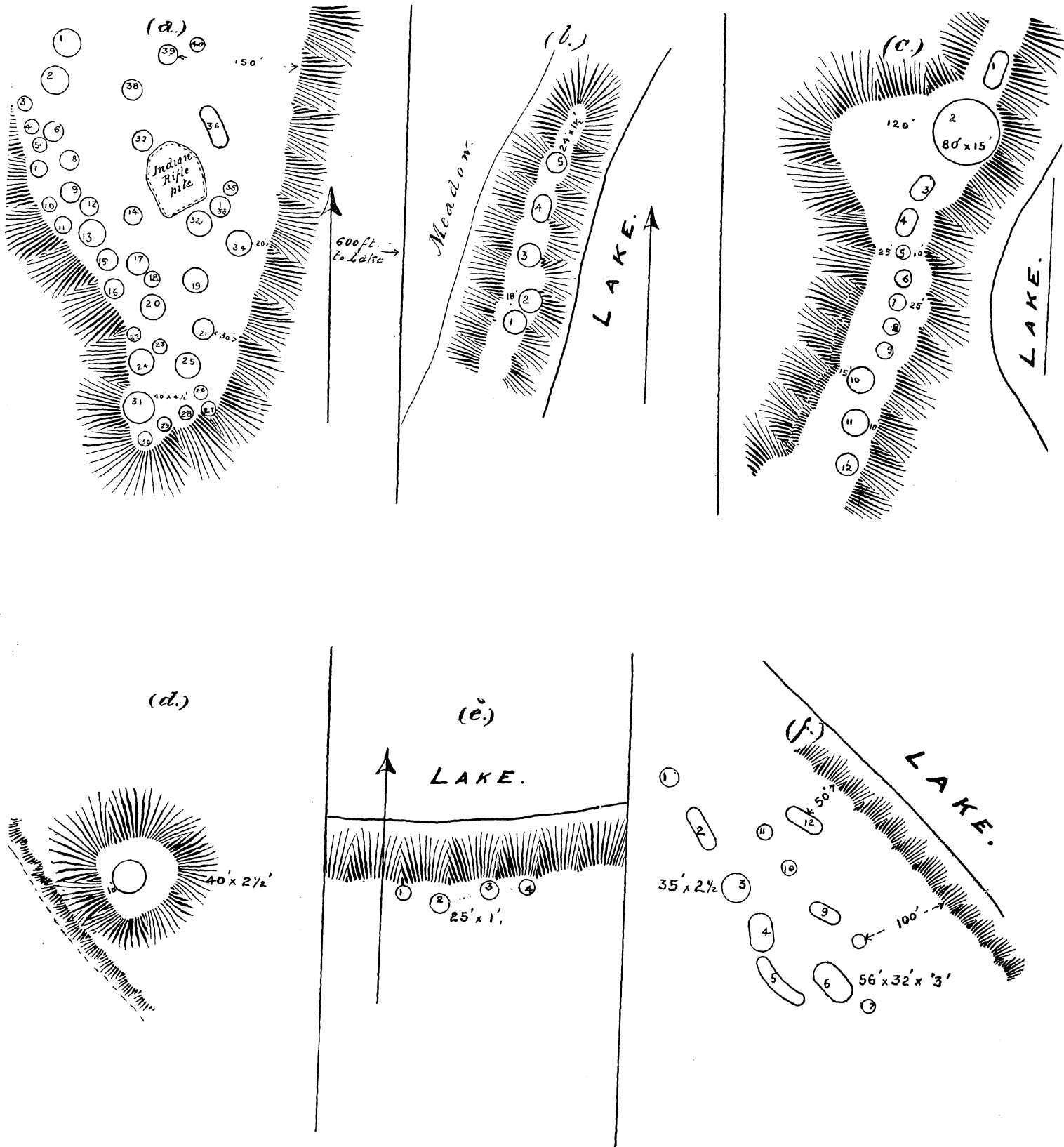
*Rice Lake (of St. Francis river) mounds*, S. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 35, T. 35-27, about 18 ft. above the lake. This is a group of 17 simple, small tumuli, the largest being 38 ft. by 3 ft. Surveyed May 13, 1890. (Shown on page 295.)

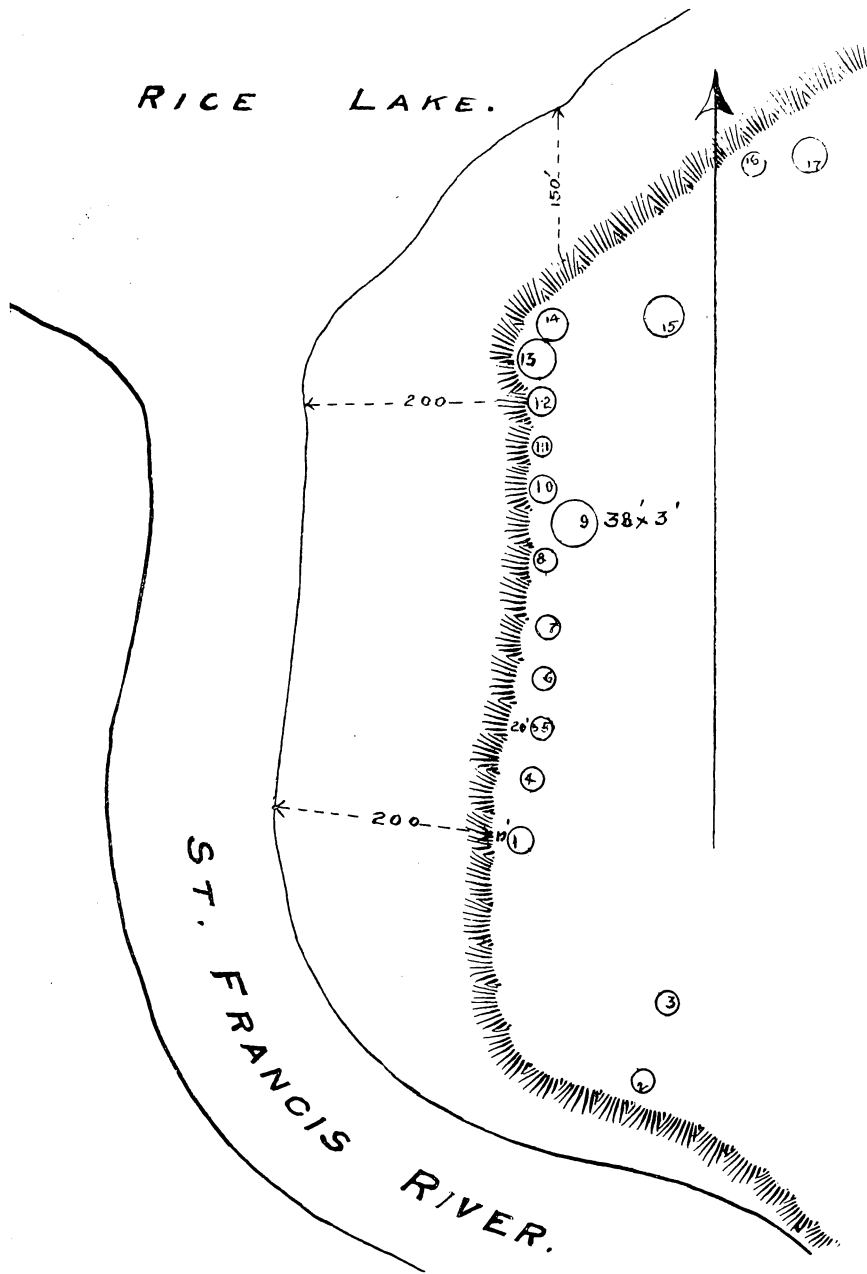
*Mounds along Elk river*, sec. 3, T. 34-29, from 20 ft. to 28 ft. above the river. No. 1 has been excavated. This group is composed of 49 mounds, mostly small tumuli. At the southeastern end of the series the elongated mounds have their lengths parallel with the river bluff. At the northwestern end they are broad-elongated, and stand about perpendicular to the bluff. The former run near the brow of the bluff; the latter are about four times farther from it. As a group they average small. Surveyed Nov. 10, 1886. (Shown on insert opposite.)

*Eagle Lake mounds*, (a), S. W. side, N.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 31, T. 34-27, about 25 ft. to 35 ft. above the lake. Group contains 40 small mounds, all circular except one, and crowded. One is curved and elongated. The largest is 40 ft. by  $4\frac{1}{2}$  ft. Surveyed May 6, 1890.



EAGLE LAKE.





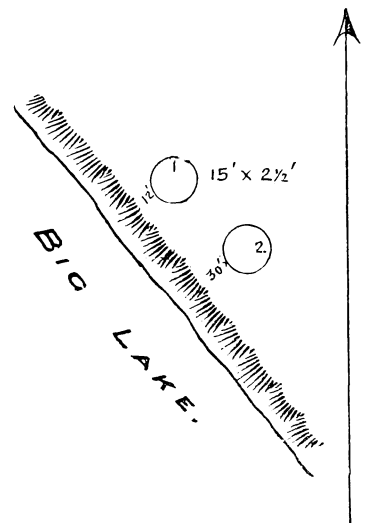
(b) S. W. side, S.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 31, T. 34-27, five in the group, on a narrow spur about 25 ft. above the lake, one being short-elongated. Surveyed May 3, 1890.

(c) S. W. side, N. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 6, T. 33-27, about 40 ft. above the lake. Group contains 12 mounds, of which three are short-elongated. One tumulus is 80 ft. by 15 ft. and has been excavated.

(d) N. E. side, N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 31, T. 34-27, a single tumulus, 40 ft. by  $2\frac{1}{2}$  ft., on a knoll which rises 30 ft. above the lake.

(e) S. E. side, N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 6, T. 33-27, four tumuli of ordinary size, about 40 ft. above the lake. Surveyed May 6, 1890.

(f) S. E. side, E.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 6, T. 33-27, group of 12, of which six are elongated, one being curved. The largest is 56 ft. by 32 ft. by 3 ft. These are about 8 ft. above the lake. Surveyed May 3, 1890. (Shown on page 294.)



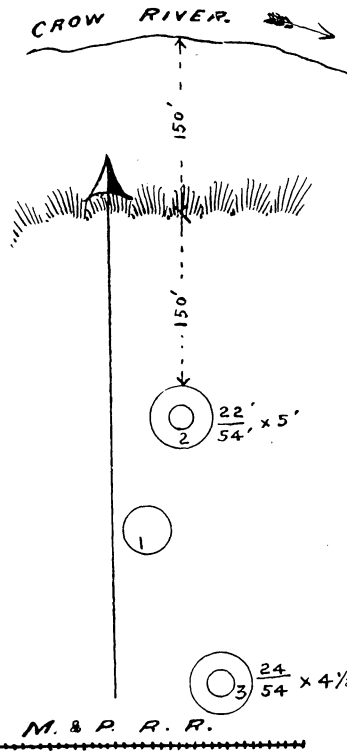
*Big Lake mounds*, E. side, N.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 19, T. 33-27. Group contains only two tumuli, the larger being 45 ft. by  $2\frac{1}{2}$  ft., about 16 ft. above the lake. Surveyed May 3, 1890.

On the west side is a single tumulus, 40 ft. by 3 ft., at about 20 ft. above the lake, on E.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 24, T. 33-28.

There is a *lone mound* on the bank of the Mississippi, S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 34, T. 33-27, 37 ft. by  $2\frac{1}{2}$  ft., in a brush-covered area, about 26 ft. above the river.

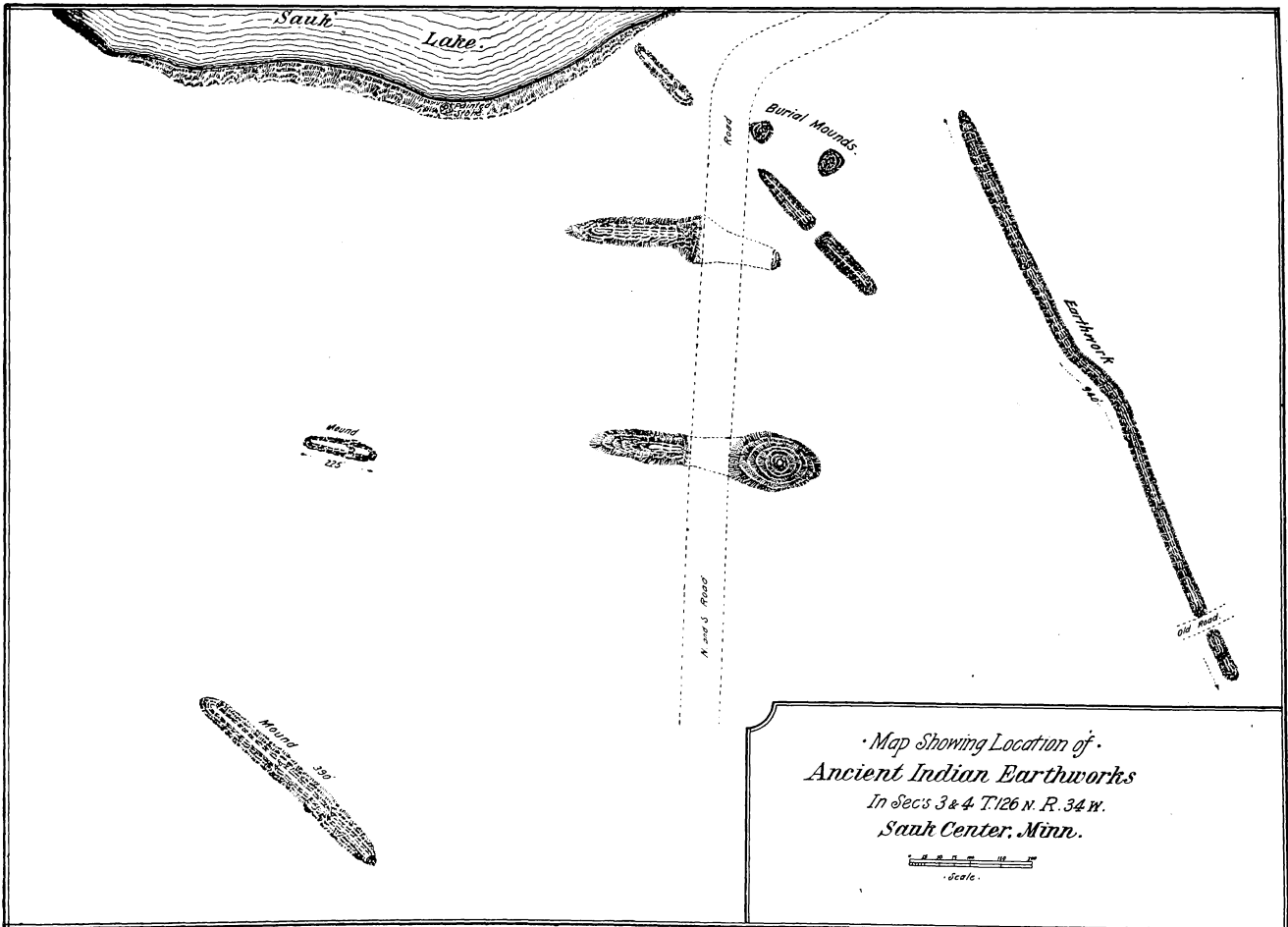
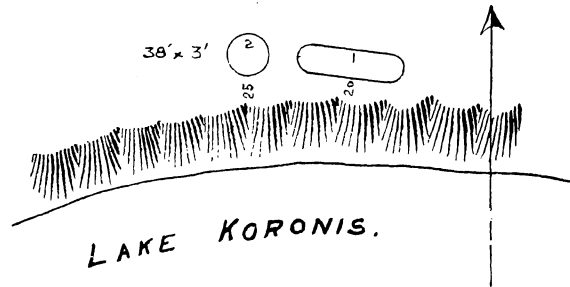
EARTHWORKS IN STEARNS COUNTY.

*Mounds on the North Fork of Crow river*, S. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 15, T. 122-32, about 22 ft. above the river. Group contains three tumuli of good size, of which two are flat-topped and have dimensions 54 ft. by 22 ft. by 5 ft., and 54 ft. by 24 ft. by  $4\frac{1}{2}$  ft. Surveyed Nov. 6, 1886.



Sauk Lake mounds, west side, S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 3, T. 126-34, about 20 ft. above the lake; group of 5 mounds, of which 3 are elongated and one has an extension resembling an elongated mound. The width of these elongations is 20 ft. to 24 ft., and height 2 ft. to  $2\frac{1}{2}$  ft. Their length is 115 ft. to 209 ft. Surveyed June 22, 1894. The circular mound has been excavated.

Lone mounds are as follows: An elongated lone mound is on S. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 4, T. 126-34, about 20 ft. above the lake (Sauk), 135 ft. by 18 ft. by 2 ft.; N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 4, T. 126-34, also an elongated mound, 20 ft. above the lake, 390 ft. by 24 ft. by  $2\frac{1}{2}$  ft. Surveyed June 22, 1894.



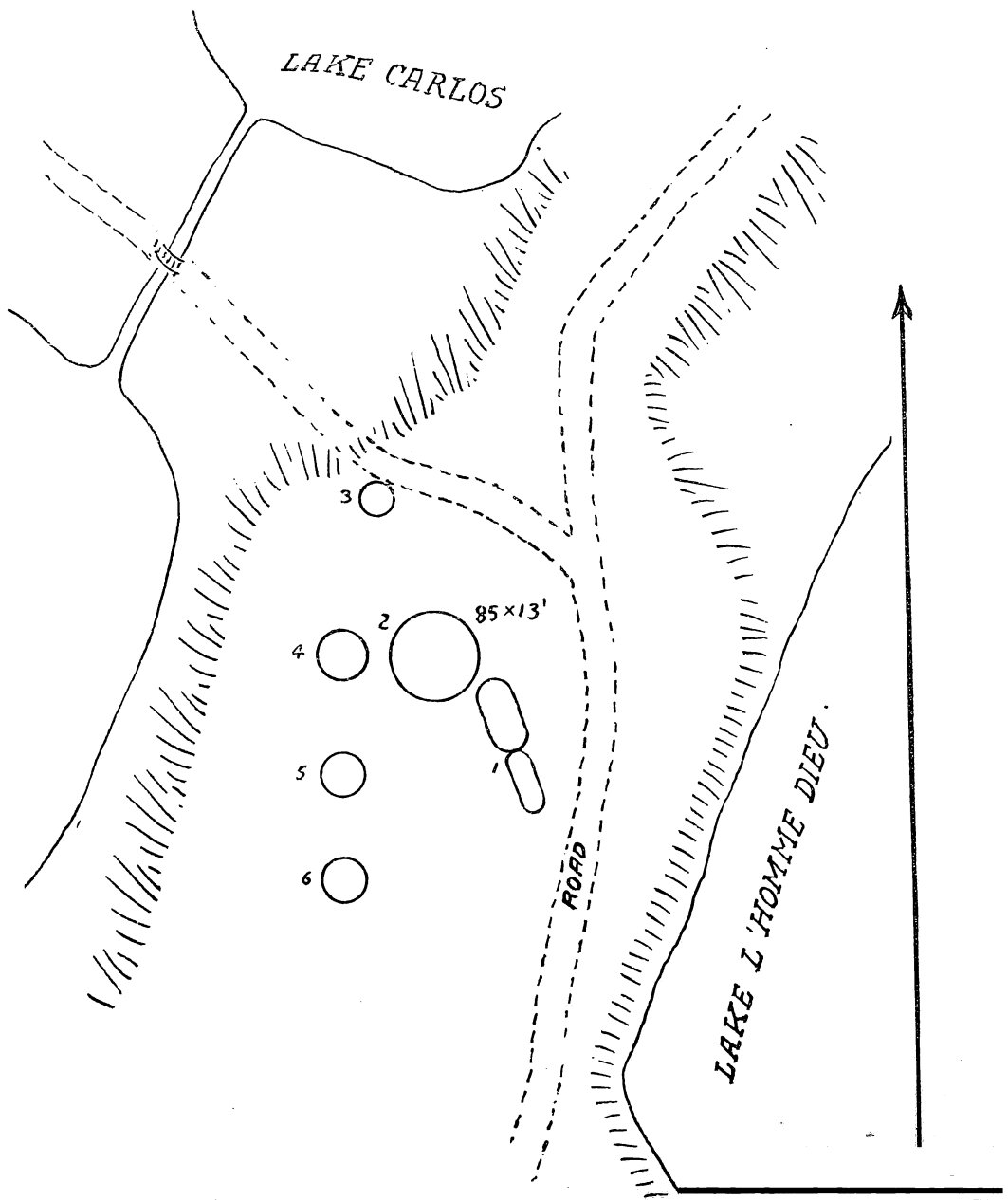
Map Showing Location of  
Ancient Indian Earthworks  
In Secs 3 & 4, T. 126 N. R. 34 W.  
Sauk Center, Minn.

TWO AND A HALF MILES EAST OF ALEXANDRIA.

# LAKE GENEVA

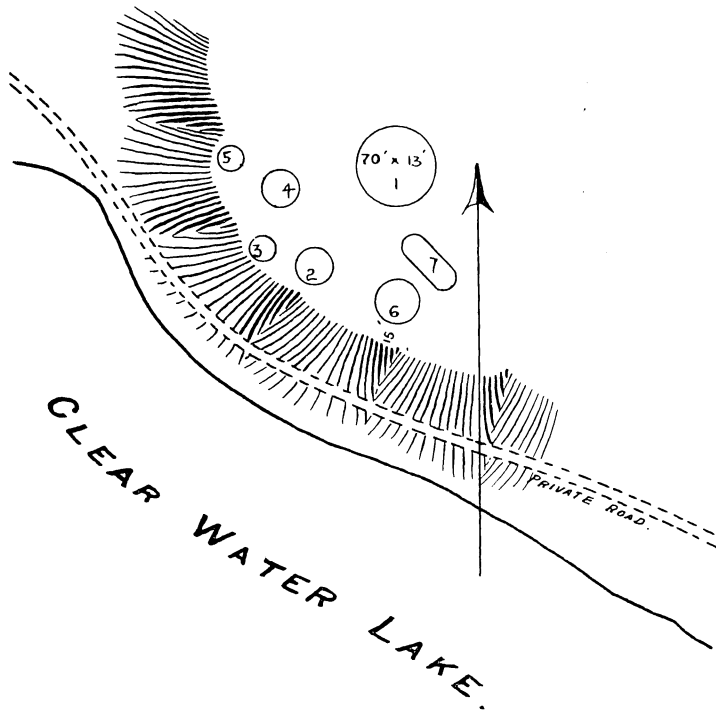


## LAKE DARLING MOUNDS.



*Lake Koronis mounds*, South of the center sec. 35, T. 122-32, about 25 ft. above the lake; group contains 2 mounds of which one is elongated. Surveyed Nov. 6, 1886.

*Clearwater Lake mounds*, S. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 31, T. 122-27, about 65 ft. above the lake; group of 7 mounds, of which one is elongated, and one, the largest, stands aside from the main assemblage and has dimensions 70 ft. by 13 ft. Surveyed July 1, 1887.



There are probably numerous other mounds in this county. Mr. Upham has mentioned elongated earthworks "like lines of fortification," about a mile north of Sauk Center on the southeast side of Little Sauk lake. They are probably like the common elongated mounds of the state.

Near Paynesville, Mr. Gerard Fowke has reported two mounds near Paynesville, for the Bureau of Ethnology, but no particulars are available regarding them.

Mr. Andrew Holes reports that some stone mounds, two or three feet high, six or eight feet long, existed in 1872 "on an island in the Mississippi river one mile below St. Cloud (Lower Town)."—*Hill Rec.*

*Mounds in Ashley Creek valley.* "Near the county line between Stearns and Pope counties, along the valley of Ashley creek, are a great many artificial mounds of

earth. They are on the north side of the railroad accompanying a marshy tract. The railroad passes up an old valley of glacial drainage, abundantly strewn with gravel, and these mounds are frequent along this valley."—*Geol. Sur. An.*, xiii, 13.

There is an *isolated mound* on the point of high land between the Sauk and Mississippi rivers, north of the Sauk river and near the Mississippi. It is to the east of the Winnebago Prairie road.

According to the *St. Paul Globe*, Aug. 12, 1896, a hatchet-shaped stone object was plowed up on the farm of Homer Beckley, near lake Koronis. It weighed about 3 pounds. In the immediate vicinity from time to time numerous stone arrow-heads have been found, and in a mound not far from Mr. Beckley's farm the skeleton of a "huge man" was exhumed.

EARTHWORKS IN DOUGLAS AND POPE COUNTIES.

*Mounds 2 1-2 miles east of Alexandria*, on the N.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 21, T. 128-37, about 25 ft. above lake Geneva. This group embraces 15 mounds, eight of which are elongated. The largest circular mound is 60 ft. by 5 ft. and stands at the end of the series. Surveyed Sept. 20, 1891. (Shown on insert opposite.)

*Lake Darling mounds*, 2 1-2 miles north of Alexandria, on sec. 6, T. 128-37. Here is a group of six mounds of which four have been opened, viz.: Nos. 1, 2, 5 and 6. Two are elongated and in contact at their ends, one being apparently an extension of the other in the same line, but narrower. One is 20 ft. by 90 ft., and the other 30 ft. by 66 ft. The largest tumulus is 85 ft. by 13 ft. Surveyed Sept. 21, 1881. (Shown on insert opposite.)

Mr. George B. Wright, in *Hill Rec.*, mentions a large mound in very heavy hardwood timber, in sec. 4, T. 127-39. But Mr. Lewis in 1891 failed to find any mound in that section. Mr. Wright remarks that if the timber were removed this mound would command a magnificent view of the lake. He infers from this, and other instances, that formerly where timber-covered mounds now exist, the region was open prairie.

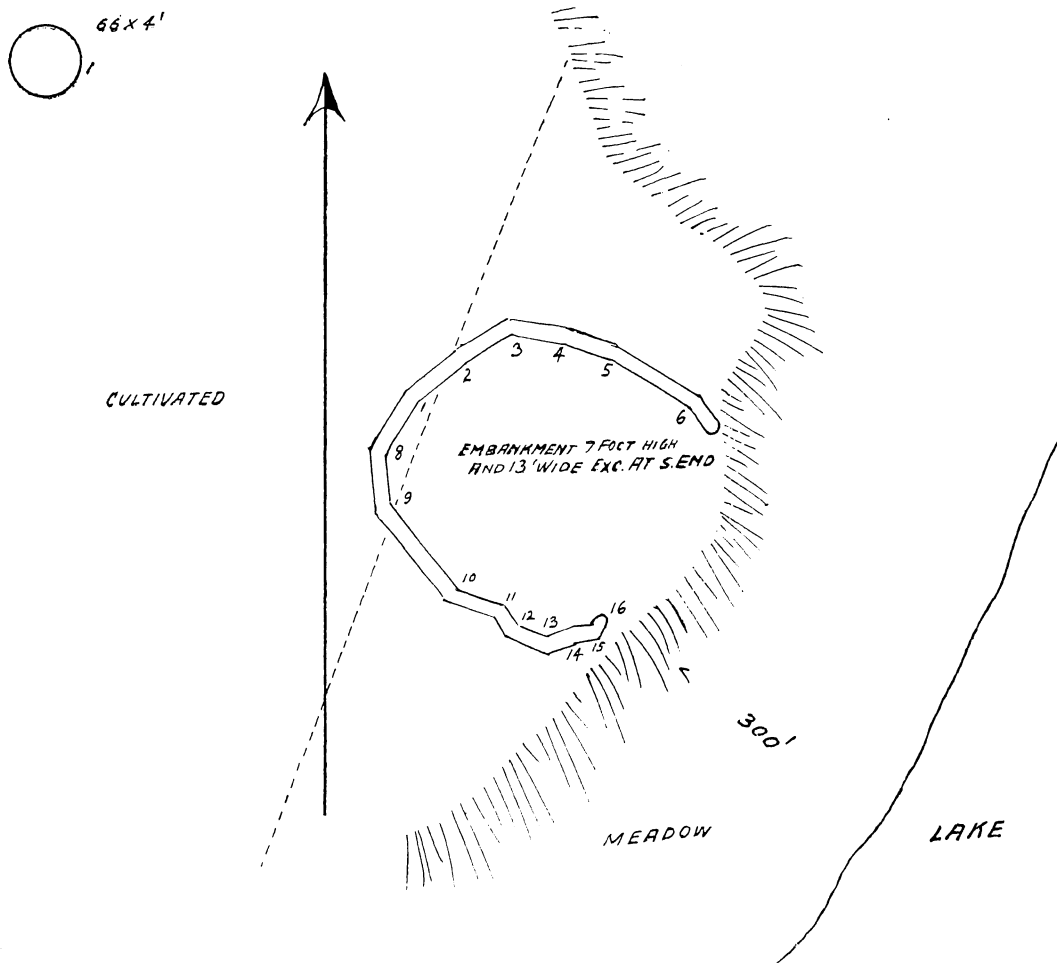
A *single tumulus*, 20 ft. in diameter, is on E.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 14, T. 128-38, 2  $\frac{1}{2}$  miles W. N. W. of Alexandria, about 20 ft. above lake Conway; and another is on N.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , of the same section, 22 ft. in diameter.

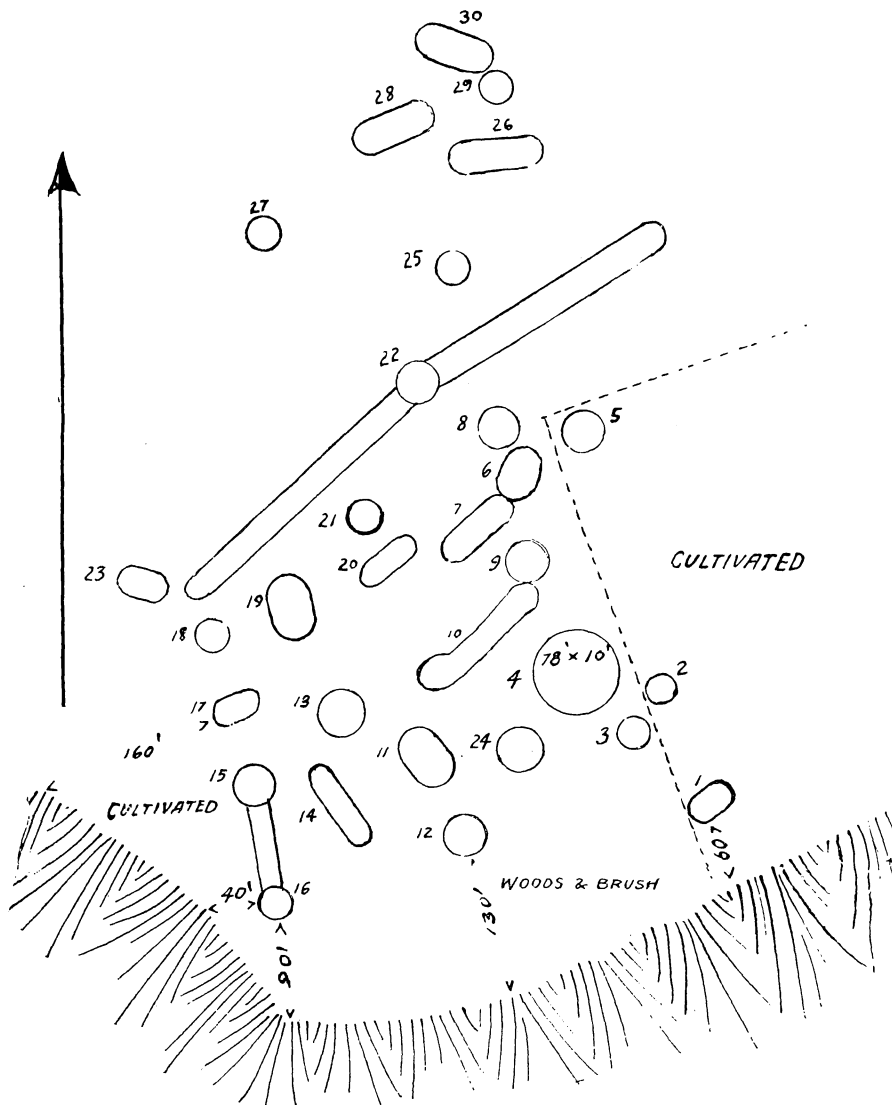


Mound and enclosure (or fort), on N.  $\frac{1}{2}$ , sec. 32, T. 126-36, at the south end of Westport lake. The mound, which is 66 ft. in diameter and 4 ft. high, is some distance northwest from the enclosure and in cultivated land. The enclosure is about 25 ft. above the lake, from which it is separated by a meadow about 300 ft. wide. There are slight traces of a ditch on each side of the embankment, which (last) is about 1 ft. high and 13 ft. wide, though at the south end it diminishes to 10 ft. and even 8 ft. Surveyed Sept. 23, 1886. Mr. K. I. Kinney says (in *Hill Rec.*): "A mound in the form of a truncated cone, about 4 ft. high, was dug into and human bones and teeth were found. (Shown below.)"

Mounds 2 miles N. W. of Glenwood, on S. W.  $\frac{1}{4}$  of sec. 2, T. 125-38, situated 80 ft. above lake Minnewaska. Here are 30 mounds and embankments, of which 14 are simple circular tumuli, the largest being 78 ft. by 10 ft. and the smallest 24 ft. The most of them are 30 ft. and 40 ft. wide. Two other circular mounds, 40 ft. and 32 ft. in diameter, are connected by an embankment 20 ft. wide and  $1\frac{1}{2}$  ft. high. Another has extended embankments toward the northeast and southwest, 20 ft. wide and  $1\frac{1}{2}$  ft. high toward the southwest, and 25 ft. wide and 2 ft. high toward the northeast. These extensions are not in the same right line, but make a slight angle at the mound. The narrower extension is 277 ft. long and the wider is 255 ft. long. Mound No. 4, the largest, has been excavated. Surveyed Sept. 21 and 22, 1886. These are probably the same as those mentioned by A. J. Comfort in the *Smithsonian Report*, 1871, p. 398, and by the writer in *Geol. Sur. An.* xiii, 13. (Shown on following page.)

There is a lone mound, said to be "White Bear's" grave, on the S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 3, T. 125-38,  $2\frac{1}{2}$  miles W. N. W. of Glenwood, near the southwest corner of the forty. It is about 90 ft. above the lake, on a knoll. The tumulus is 55 ft. by 8 ft., and has been excavated. Near the northwest corner of the same forty, also about 90 ft. above the lake, is a lone elongated mound, 128 ft. long, 18 ft. wide and 2 ft. high. Usually a lone mound is a circular tumulus, but this elongated mound is a remarkable exception to the rule.





A lone flat-topped mound is 4 miles S. S. W. of Glenwood, on N. E.  $\frac{1}{4}$ , sec. 35, T. 125-38, about 90 ft. above the lake. Its diameter is 60 ft. The top has a diameter of 20 ft. Its height is  $7\frac{1}{2}$  ft., and according to George B. Wright is "very steep on the sides."—*Hill Rec.*

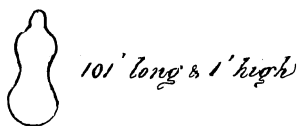
At three miles west from Glenwood, on S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 10, T. 125-38, at 40 ft. above the lake, are two tumuli, one of which is flat-topped, 56 ft. in diameter at the base, 24 ft. across the top and  $6\frac{1}{2}$  ft. high. Near it, toward the northwest, is a small tumulus, 24 ft. in diameter and 2 ft. high.

At the N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 10, T. 125-38, 65 ft. above the lake, is a mound which has an anomalous shape. It is 12 ft. wide at the north end. It then gracefully swells out to 36 ft., contracts to 24 ft., and then swells to 40 ft. Each extremity, and both enlargements, have the circular contours.

The three seem to be circular mounds, closely related, even connected, of different sizes. (Shown below.)

Lone mound at lake Ann, N.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 28, T. 126-38. It is 60 ft. in diameter and 7 ft. high, 40 ft. above lake Ann.

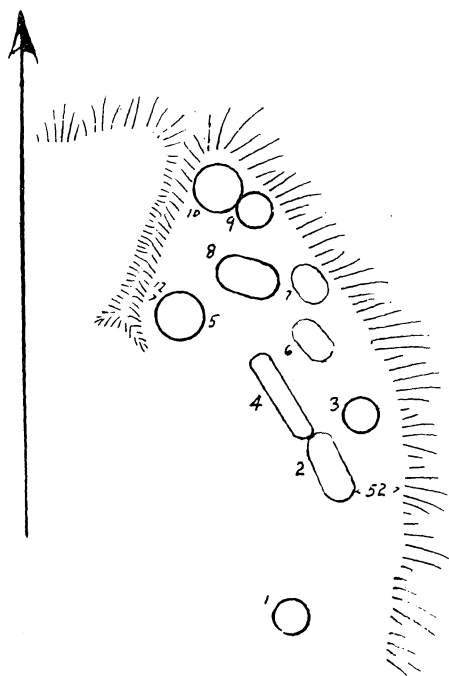
Turtle lake mounds, are on the E.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 22, T. 126-37, about 30 ft. above the bottom-land. Five are circular and five are elongated. The largest, 42 ft. in diameter, has been excavated, likewise another, 30 ft. in diameter. Surveyed Sept. 23, 1886. (Shown on following page.)



There are also lone mounds, as follows: S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 19, T. 125-38, about 10 ft. above the lake, on cultivated land, 70 ft. by 6 ft.; N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 17, T. 123-37, about 20 ft. above the lake, 82 ft. by  $7\frac{1}{2}$  ft., surveyed June 20, 1894; S. E.  $\frac{1}{4}$ , sec. 18, T. 123-37, about 22 ft. above the lake, 80 ft. by  $7\frac{1}{2}$  ft.; W.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 8, T. 123-37, about 30 ft. above the lake, 65 ft. by  $4\frac{1}{2}$  ft.

According to Mr. K. I. Kinney, in *Hill Rec.*, there is a mound or "level table, about 20 ft. above the level of the prairie, of about two acres," on the section-line between secs. 26 and 27, T. 126-37, near the north end of the line, rising in a marsh or marshy tract. From this description it is judged to be a natural mound due to circumdenudation, or to gravel accumulation somewhat in the manner of a kame.

*Osakis Lake mounds.* There are 115 mounds along and near the west shore of this lake between Osakis and sec. 6, T. 128-35, and altogether there are more than 200 about the shores of this lake, on some of which oak trees are growing 3 ft. in diameter. In the *Osakis Review* of Nov. 28, 1901, was given a brief statement of the results of observations made by Mr. Brower: "Beginning at Osakis and extending up the west shore of the lake the village sites are at and southward from the inlet on the



Curtis farm. The next town was between Little Osakis lake and the head of the principal body of water, on both sides of the creek at and near Mr. French's summer resort. There are about 60 mounds and long embankments of earth near the upper end of Osakis lake.

"Another ancient town was established south of the outlet at the crest of the hill on sec. 16, T. 128-35 [Todd county] and thence it extends southward along the shore of the lake for nearly two miles in a narrow scattered accumulation of ancient huts and lodges."

At the creek which is called Osakis river, on the west side, the indications of mound-builders' occupancy are scattered over an extensive area, and there are six additional mounds along the creek. The most extensive settlement at Osakis lake was at the watercourse between Osakis and Little Osakis lakes on both sides. The mound group near there is on sec. 35, T. 129-35, Todd county, and consists of 60 mounds and embankments. The village-site is about half a mile long and extends around the small end of Osakis lake at the inlet. The locality is a very sightly and interesting place.

At the outlet of Orakis lake is an extended mound group and another village-site, on secs. 16 and 20, T. 128-35, in Todd county. The old Sioux settlement was located on the lake shore southward from the outlet, and the mounds are scattered along without any noticeable order of grouping, 48 mounds and embankments.—*Brower Note.*

A large collection of hammers, arrow-points, pottery sherds, etc., was made about Osakis lake by Mr. Brower, aided by Mr. Otto Guy Jeffers. This collection includes a round copper medal, or plate, evidently pre-historic, consisting of two sheets, the edge of one being bent and rolled over so as to embrace the edge of the other. It is entirely covered, and particularly about the rim, by a thick coating of oxide and carbonate of copper. Throughout this rough secondary coating is also distributed a large proportion of metallic copper which forms fine mammillated projections, these last constituting the roughness of the scale.

In Mr. Brower's work, "Kakabikansing," is a plate (p. 76) showing the distribution of the mounds and village sites about Osakis lake, and also a plate (p. 79) showing the copper object above mentioned.

#### EARTHWORKS IN GRANT AND STEVENS COUNTIES.

Near *Graham's lake*, two miles southeast of Herman, near Graham's lake, S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 20, T. 127-43, an isolated mound having a diameter of 81 ft. and a hight of 5 ft. It is on a high ridge between the two larger bodies of water. Several years of cultivation have reduced its hight. On exploring this mound by a shaft sunk at the center, at the depth of 3 ft. 9 inches human bones were found deposited in an earthern pot 13 inches in diameter and about the same in hight. The bottom of the pot was 5 ft. 1 inch from the top of the mound. Within it were also six arrow-heads, five broken arrow-heads, one spear-head, one broken drill and two elliptical-shaped flints, one side of which was flat and the other convex. Outside of the pot was a circle of mussel shells, 5 ft. 3 inches in diameter. The shells were placed about 5 inches apart. The bones were all well decayed.—*Hill Rec.* See also *Am. Ant.* III, 153.

According to the *Herman Herald*, Sept., 1880, Mr. Lewis opened a mound "on John Graham's place, south of town, on the banks of the lake," and found it to contain human bones, several arrowheads, and pieces of pottery. They were in a circle about two feet in diameter, surrounded by a row of mussel shells. The bones and skull were very much decayed. They were five feet below the surface. The mound was 5 ft. in hight, and had a circumference of 255 ft.

"The best find Mr. Lewis has made thus far in Minnesota was in a mound on Graham lake, near Herman, Grant county. In this he found a vessel shaped very much like an ordinary teacup, though of course much larger and without the lower flat shoulder. The vessel was made of clay and ground granite, and on its top was placed a skull, while within were the bones, standing upright. On the vessel were rows of transverse dots, and about it were flint implements of war and the chase."

Near *Moose Island lakes*, in S. E. cor. of S. E.  $\frac{1}{4}$  of N. W.  $\frac{1}{4}$ , sec. 33, T. 127-43; surveyed Aug. 18, 1881. There are traces of a ditch round No. 1. It was formerly 6 ft. wide and 2 ft. deep. This mound eight years ago was 9 ft. high.

Mr. George B. Wright, in *Hill Rec.*, refers to this mound, saying that he dug into it 8 ft. or 10 ft. "and found it mostly composed of surface loam with occasional streaks of clay subsoil quite light and loose as though not yet thoroughly compacted together. The surface soil for the space of 150 yards about had been scraped off to construct the mound." He also mentions similar mounds in sec. 30, T. 126-41, and in sec. 20, T. 125-41. That in sec. 33, T. 127-43 (above) is mentioned in the surveyor's field-notes, date of Sept., 1861, on file in the Surveyor General's office, by David Charlton, who says: "At about 30 chains north from the quarter-section corner is a curious artificial mound, about 10 ft. or 12 ft. high and 30 ft. in diameter, raised on a high ridge of prairie nearly surrounded by lakes and ponds. This mound is constructed of soil scraped off the surface from various places in the vicinity. We dug down 5 ft. into the mound and found it composed of a variety of mixed earth and soil. It is not of recent date and appears quite ancient." Of this Mr. Hill remarks: "Though in Mr. C.'s name, the above was evidently written by Mr. Wright, who was of the surveying party; yet there seems to be some discrepancy between the two accounts as regards dimensions and supposed age." On being excavated this mound disclosed many human bones, "the owners of which must have been 7 ft. high."

Near the north end of *Morse lake*, N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 26, T. 125-41, a mound which has been excavated and more or less destroyed, about 50 ft. above the lake, 75 ft. in diameter, 5 ft. high.

A lone mound is on the Wild Rice river, N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 17, T. 144-44, 47 ft. by  $3\frac{1}{2}$  ft. Norman county.

*Mounds on Pomme de Terre river*, S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 29, T. 126-41; about 20 ft. above the river on cultivated land, three common tumuli, each 20 ft. by 1 ft. Surveyed June 15, 1894.

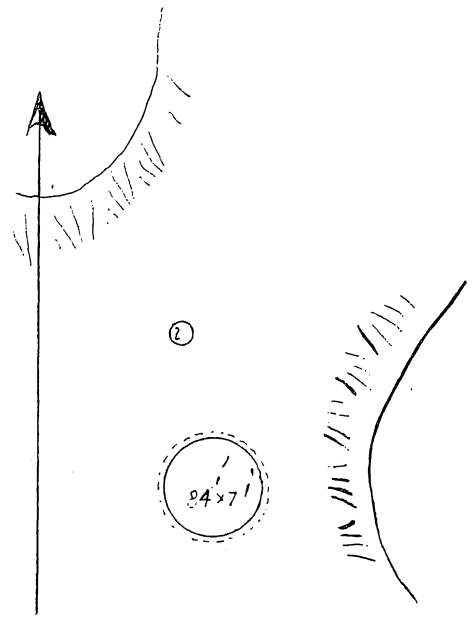
*Lone mounds* are as follows: N. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 12, T. 125-41, about 25 ft. above the bottom-land, on a knoll, flat-topped mound having dimensions 42 ft. by 20 ft. by 2 ft. Surveyed June 15, 1894; N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 30, on a high point about 45 ft. above the lake through which Pomme de Terre river flows, 85 ft. by  $8\frac{1}{2}$  ft., on cultivated land; S. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 29, T. 126-41, about 20 ft. above the lake, on cultivated land, 45 ft. by  $2\frac{1}{2}$  ft.; N. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 17, T. 126-41, on a cultivated knoll in the prairie, 75 ft. by 6 ft., excavated, and contained bones, mostly of small animals; S. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 13, T. 125-41, on a knoll about 35 ft. above the lakes, cultivated, surveyed June 15, 1894; N.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 12, T. 128-42, about 20 ft. above the lake, 71 ft. by 6 ft., cultivated, surveyed June 19, 1894.

Mr. Upham has mentioned a mound about 40 ft. by 6 ft., in sec. 12, Lien, T. 128-42, half a mile southwest from Little Pomme de Terre lake, and another at four miles southeast of Herman, E.  $\frac{1}{2}$ , sec. 3, T. 127-43, about 20 ft. above the surface of a little lake close east. (Vol. 2, *Geol. Nat. Hist. Sur. Minn.*, p. 510.)

According to Mr. E. E. Woodworth, a mound is on the top of the hill south of Barrett lake, near the town of Barrett; and another on the road to Elbow lake about half a mile from Barrett, from which, as reported, several stone implements were taken. This is near the residence of Charles Peterson.

North side sec. 18, T. 130-41, on the north side of Pelican creek, tumulus of large size, in cultivated land owned by Ole Munson.

Mr. Lewis' register shows from Grant county, 4 arrowheads (3 from a mound) and 1 "chipped implement," and from Stevens county, 1 scraper, 1 arrowhead and 1 "double bladed ax."



## EARTHWORKS IN WILKIN AND TRAVERSE COUNTIES.

A lone mound stands on the east side of the Red river on the S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 10, T. 134-48. It is in cultivated land, and 50 ft. by 4 ft. Another is  $4\frac{1}{2}$  miles below Breckenridge on S.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 16, T. 133-47, 90 ft. by 5 ft. This is also on cultivated land, and supports a small house. A part is cut off by the road.

*Mounds at Breckenridge*, W.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 4, T. 132-47. This is a group of 5 small tumuli, with others which are still just traceable, being on cultivated land. Surveyed Sept. 15, 1886. Otter Tail river is on the south and Red river on the west.

A lone mound is near the foot of lake Traverse, on the S. E.  $\frac{1}{4}$ , sec. 34, T. 128-47, in cultivated land, 60 ft. by 6 ft. Probably several low mounds have been plowed down.

*Mustinka River mounds*. Three good-sized tumuli are on W.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 32, T. 127-47, the easterly one being on E.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , of the same section. The largest is 84 ft. by  $10\frac{1}{2}$  ft. Surveyed Aug. 15, 1883.



①

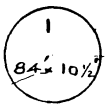
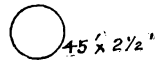
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N<sup>o</sup> 1. is S. 59° W. about 1050 ft. from N.E. mound here.

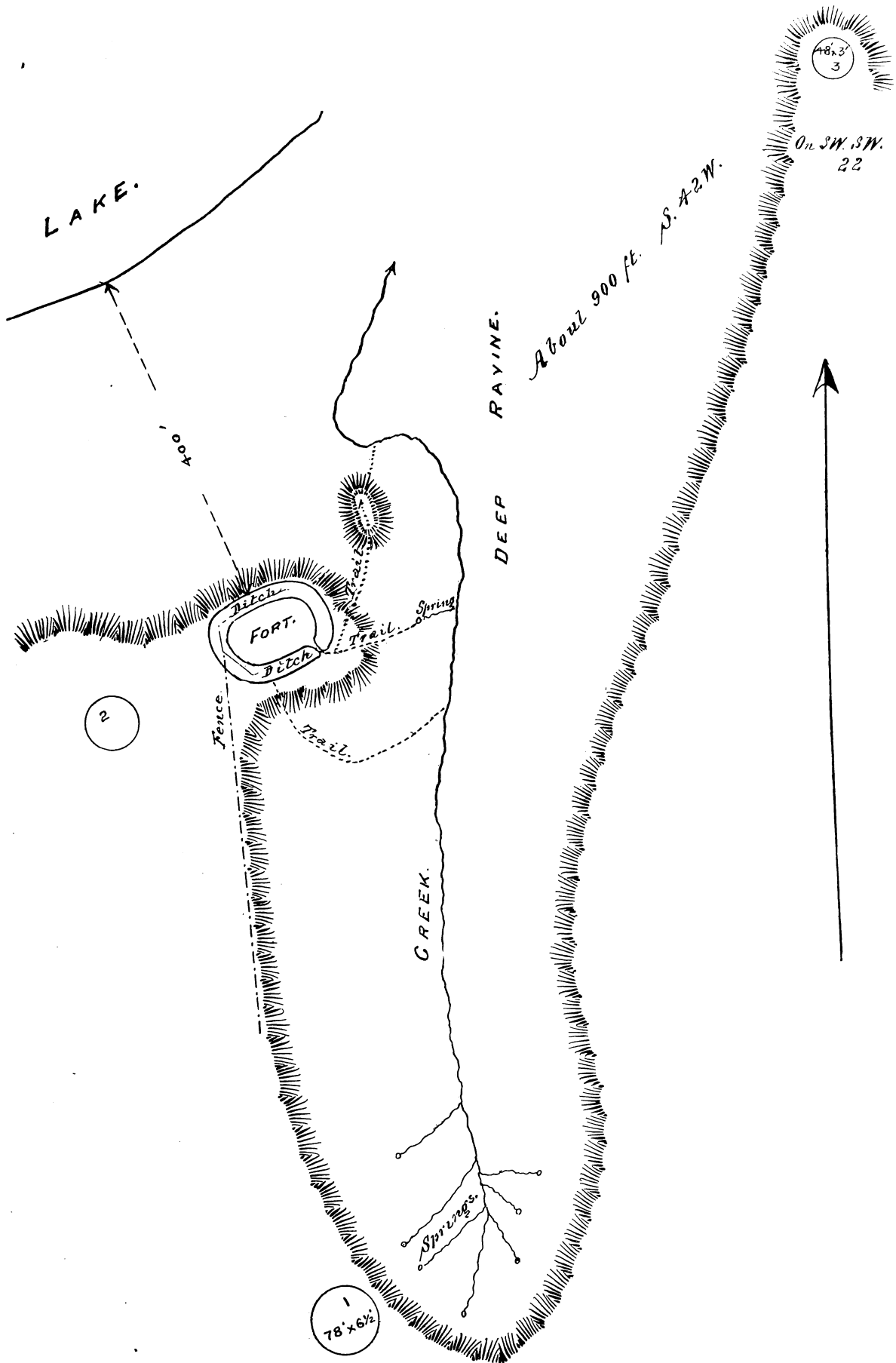


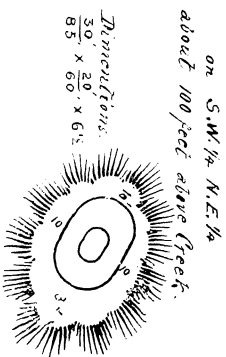
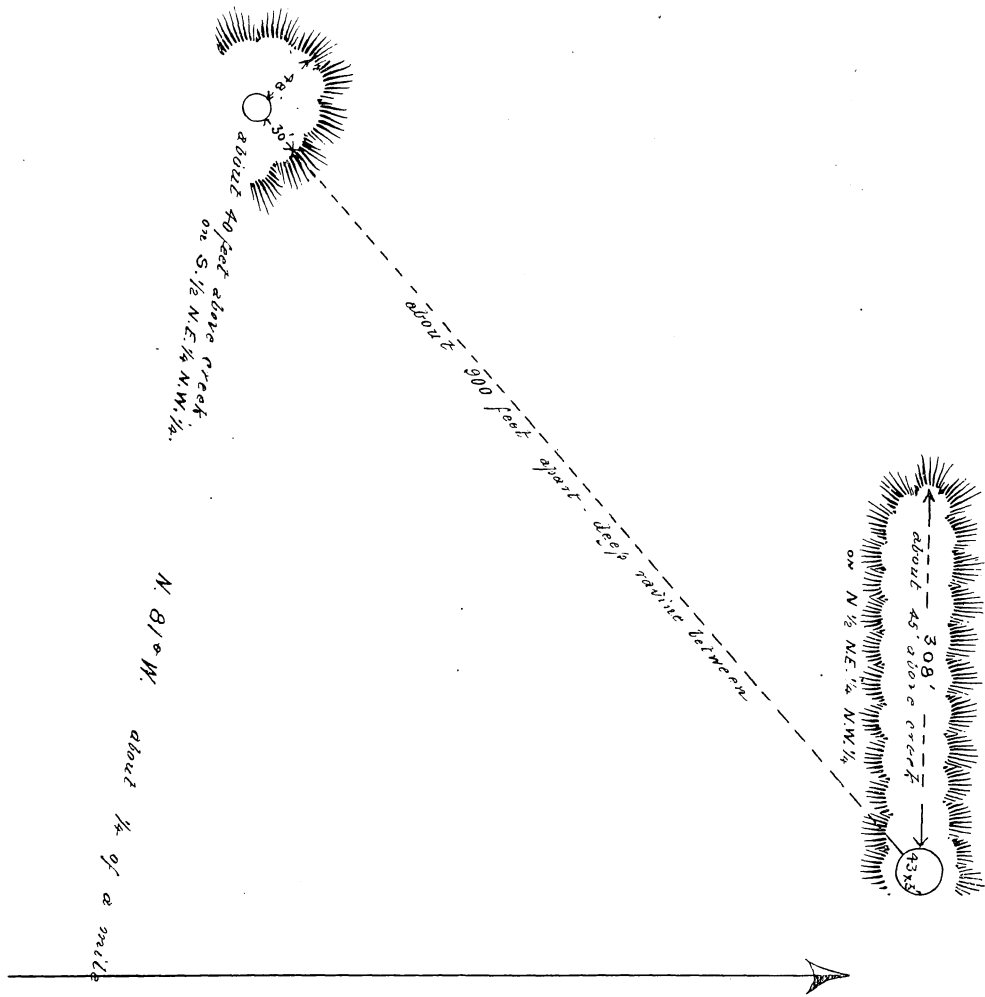
A lone mound is on N. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 35, T. 127-47. It is flat-topped, the dimensions being 60 ft. by  $3\frac{1}{2}$  ft. by 18 ft., about 100 ft. above the river.

*Lake Traverse mounds*, N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 28, and S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 22, T. 126-48. This group consists of three tumuli and one "fort," about 70 ft. above the lake. The inside of the fort is about one foot higher than the outside and nearly level. The width of the ditch is about 20 ft. and its depth is 2 ft. to  $2\frac{1}{2}$  ft. Two stumps are standing in the ditch, 2 ft. and  $2\frac{1}{2}$  ft. in diameter. Surveyed Aug. 15, 1883. (Shown on page 303.)

*Lake Traverse mounds*, sec. 23, T. 126-48. These are three mounds rather scattered, one being elongated and flat-topped, and the largest of the group. Its base is 85 ft. by 60 ft. and its top is 30 ft. by 20 ft.,  $6\frac{1}{2}$  ft. high. This is on the highest point of land and overlooks the surrounding country for miles. It is about 100 ft. above the creek. (Shown on page 304.)

*Wilson mounds*, at lake Traverse, W.  $\frac{1}{2}$ , sec. 28, T. 126-48, on the farm of W. A. Wilson, 80 ft. above the lake. The most northerly of these mounds is flat-topped, having basal diameter 65 ft. and the top



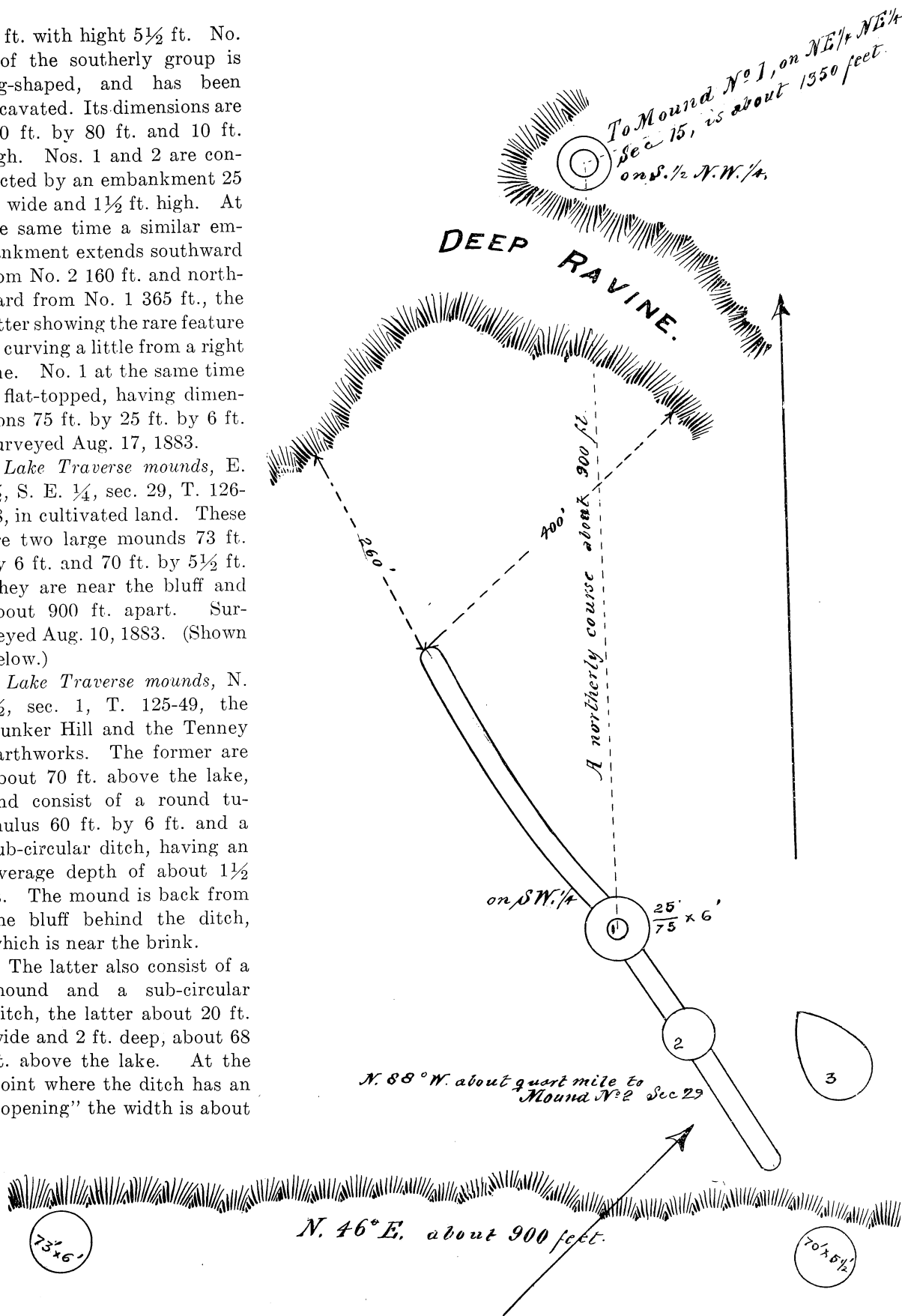


32 ft. with height  $5\frac{1}{2}$  ft. No. 3 of the southerly group is egg-shaped, and has been excavated. Its dimensions are 120 ft. by 80 ft. and 10 ft. high. Nos. 1 and 2 are connected by an embankment 25 ft. wide and  $1\frac{1}{2}$  ft. high. At the same time a similar embankment extends southward from No. 2 160 ft. and northward from No. 1 365 ft., the latter showing the rare feature of curving a little from a right line. No. 1 at the same time is flat-topped, having dimensions 75 ft. by 25 ft. by 6 ft. Surveyed Aug. 17, 1883.

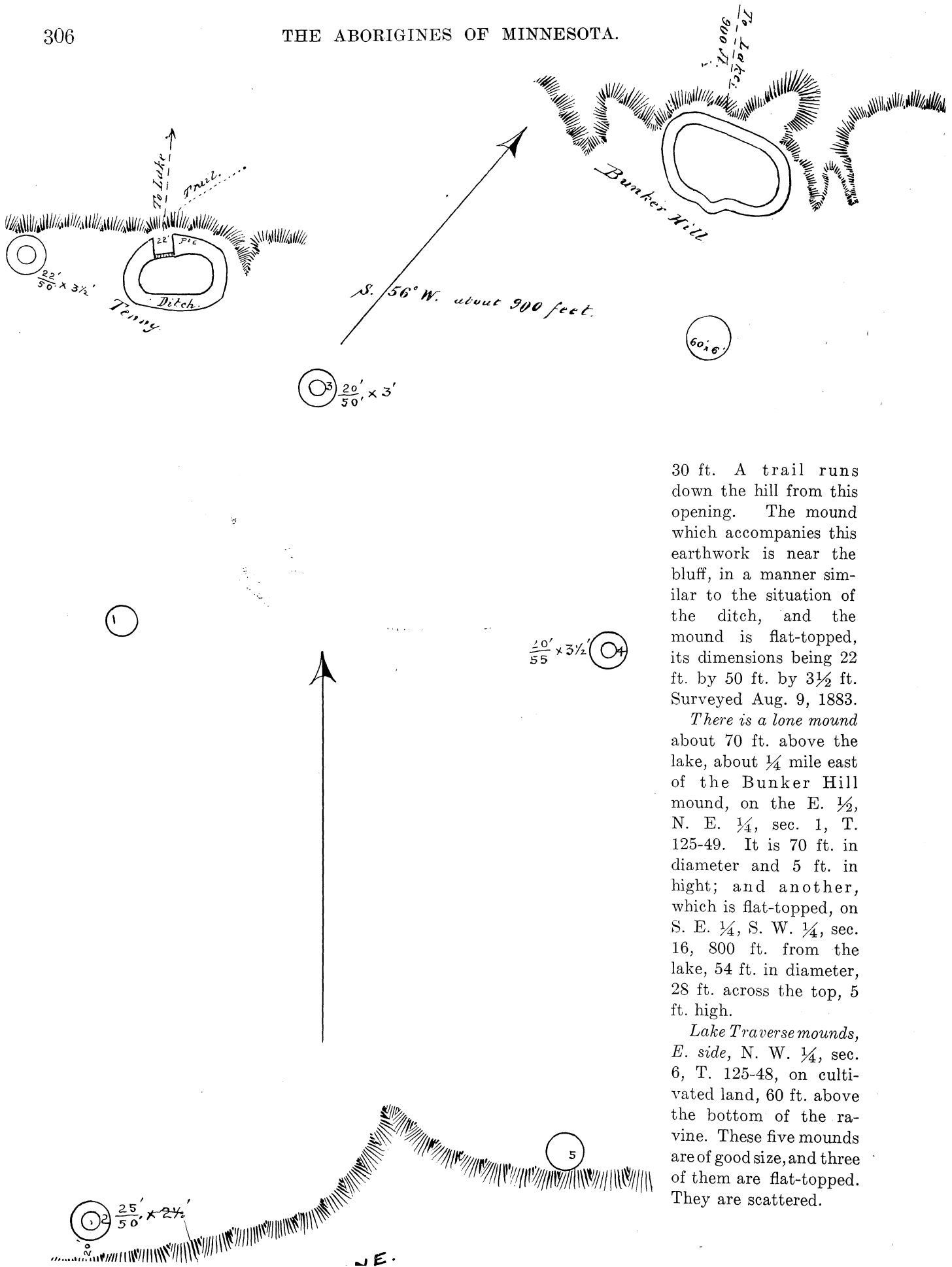
Lake Traverse mounds, E.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 29, T. 126-48, in cultivated land. These are two large mounds 73 ft. by 6 ft. and 70 ft. by  $5\frac{1}{2}$  ft. They are near the bluff and about 900 ft. apart. Surveyed Aug. 10, 1883. (Shown below.)

Lake Traverse mounds, N.  $\frac{1}{2}$ , sec. 1, T. 125-49, the Bunker Hill and the Tenney earthworks. The former are about 70 ft. above the lake, and consist of a round tumulus 60 ft. by 6 ft. and a sub-circular ditch, having an average depth of about  $1\frac{1}{2}$  ft. The mound is back from the bluff behind the ditch, which is near the brink.

The latter also consist of a mound and a sub-circular ditch, the latter about 20 ft. wide and 2 ft. deep, about 68 ft. above the lake. At the point where the ditch has an "opening" the width is about





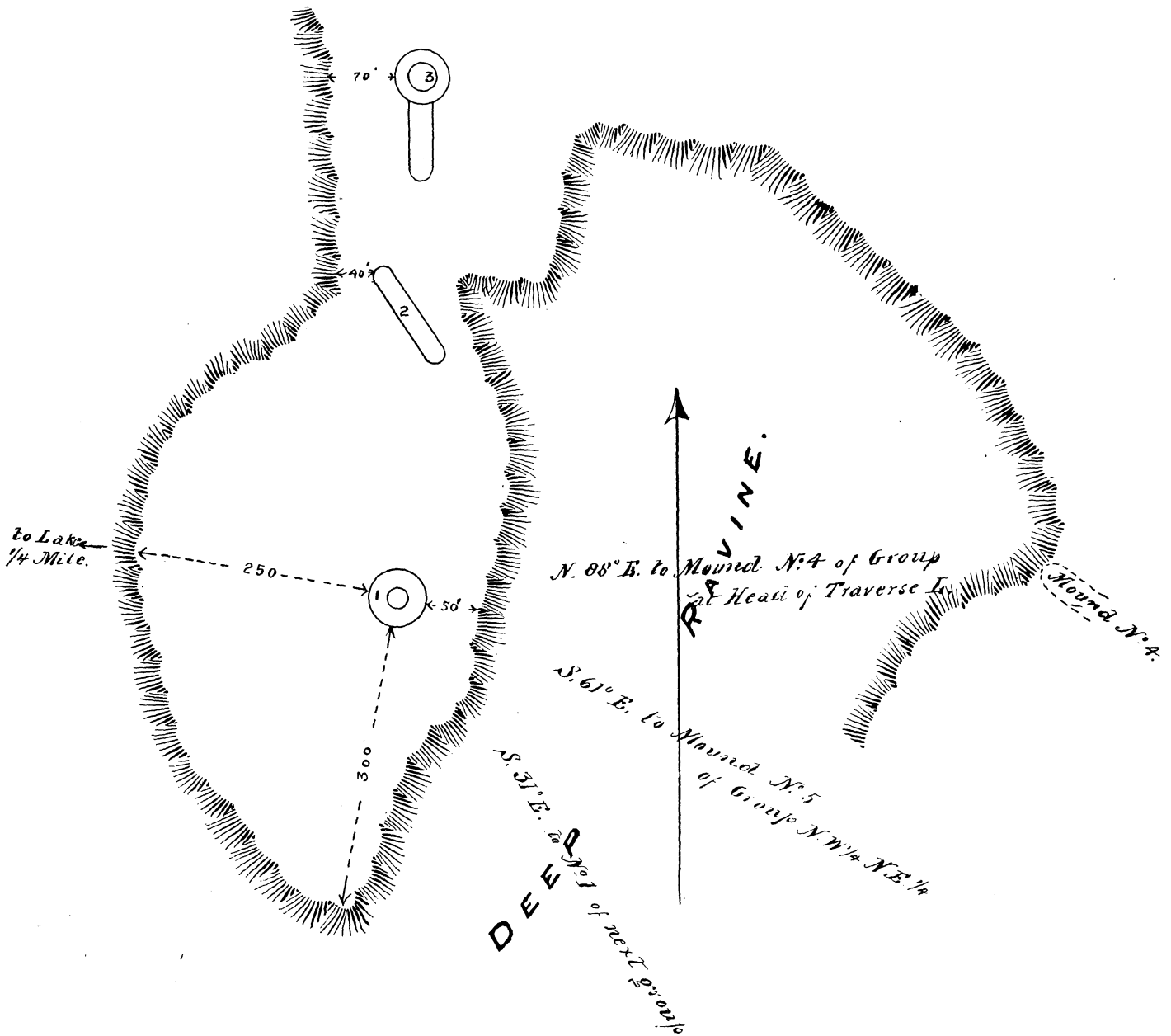


30 ft. A trail runs down the hill from this opening. The mound which accompanies this earthwork is near the bluff, in a manner similar to the situation of the ditch, and the mound is flat-topped, its dimensions being 22 ft. by 50 ft. by 3½ ft. Surveyed Aug. 9, 1883.

There is a lone mound about 70 ft. above the lake, about ¼ mile east of the Bunker Hill mound, on the E. ½, N. E. ¼, sec. 1, T. 125-49. It is 70 ft. in diameter and 5 ft. in high; and another, which is flat-topped, on S. E. ¼, S. W. ¼, sec. 16, 800 ft. from the lake, 54 ft. in diameter, 28 ft. across the top, 5 ft. high.

Lake Traverse mounds, E. side, N. W. ¼, sec. 6, T. 125-48, on cultivated land, 60 ft. above the bottom of the ravine. These five mounds are of good size, and three of them are flat-topped. They are scattered.

Lake Traverse mounds, E. side, N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 28, T. 125-49, about 70 ft. above the valley. This group embraces 3 mounds. No. 1 is flat-topped, 62 ft. wide, 20 ft. across the top, and 5 ft. high. No. 2 is an elongated mound, 120 ft. long, 20 ft. wide and  $1\frac{1}{2}$  ft. high. No. 3 is a flat-topped mound, 60 ft. in diameter, 30 ft. across the top and  $2\frac{1}{2}$  ft. high, and has an extension, or "approach," which is 83 ft. long, 125 ft. wide and  $1\frac{1}{2}$  ft. high.



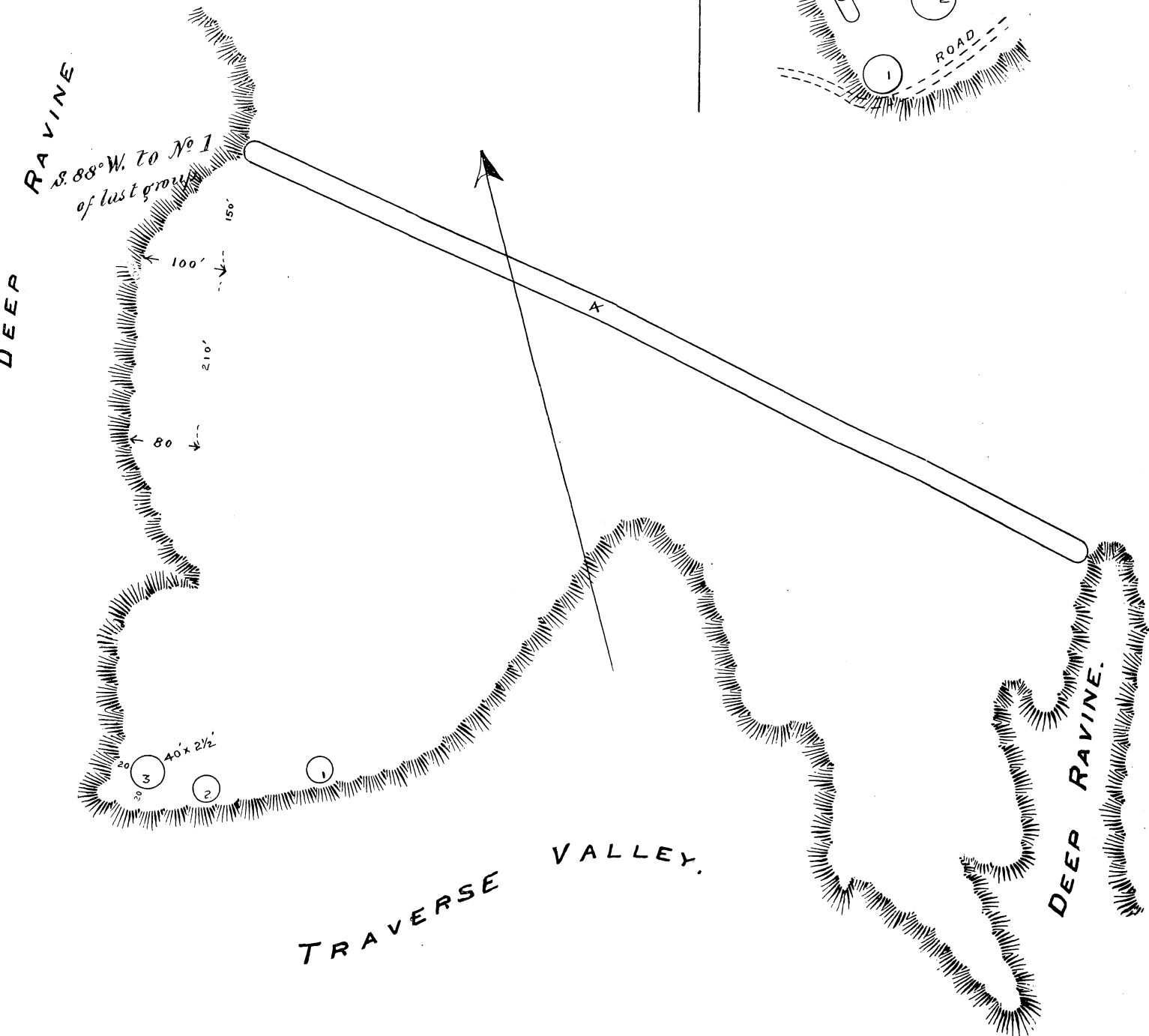
Mounds at the Head of Traverse lake, E.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 28, T. 125-49, at 70 ft. above the valley. Here are three ordinary tumuli and one embankment, the longest in the state, 1,100 ft. from one end to the other. It is nearly straight, but deviates from a right line slightly at four points. Its width is 25 ft. and it varies in height from  $1\frac{1}{2}$  ft. to 2 ft. It is simple, and disconnected from mounds, and may have been intended for defense, as it extends across a point of land from the head of one ravine to the head of another. Surveyed Aug. 18, 1883. (Shown on following page, bottom.)

Mounds one mile north of Brown's Valley, S. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 28, T. 125-49. Of these 5 mounds

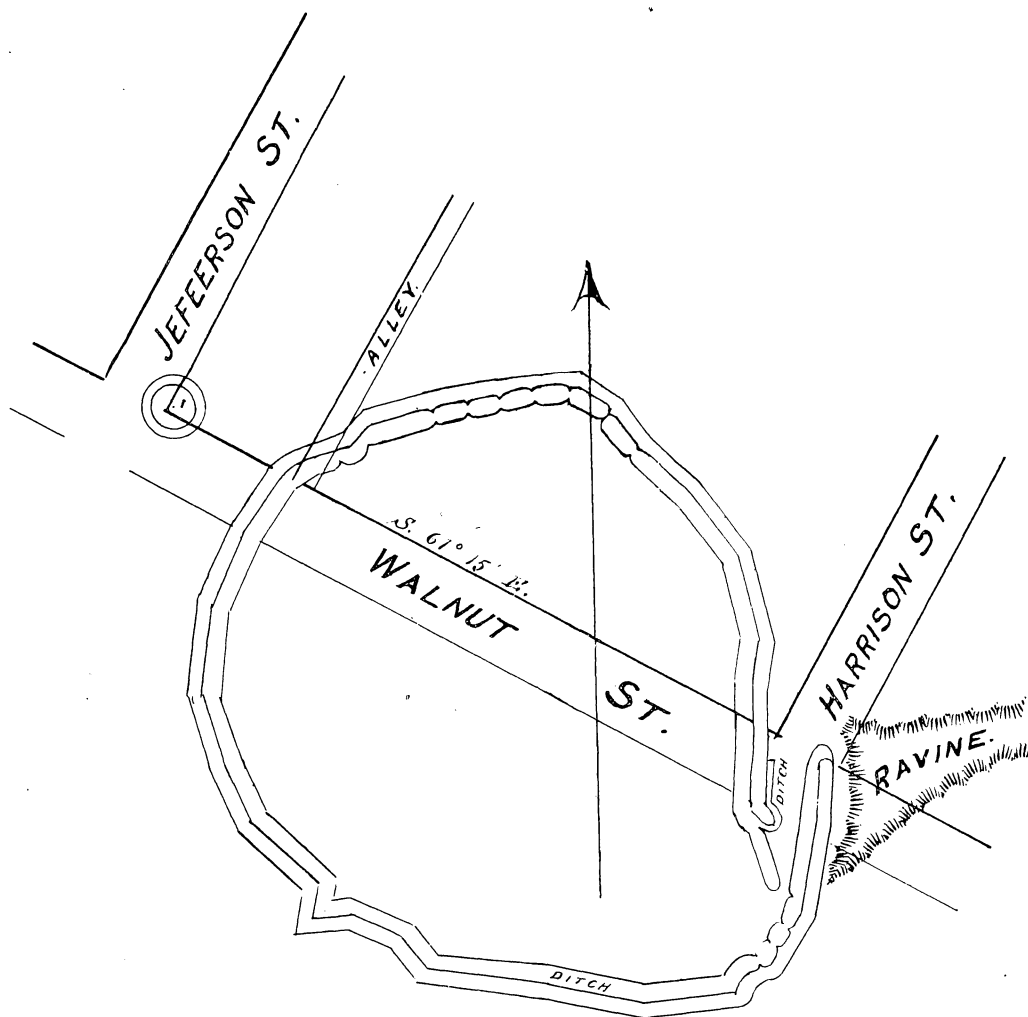
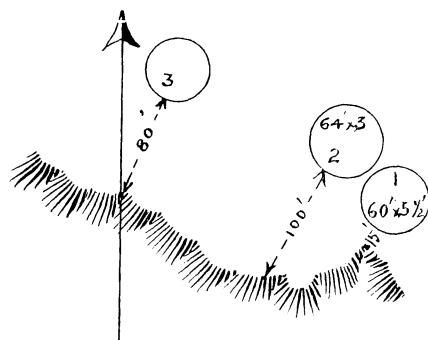
one is elongated and one is flat-topped, the latter being the largest of the group. It is 64 ft. by 5½ ft. and 20 ft. across the top. They are at the top of the bluff and near the brink.

Mounds 3-4 mile N. E. of Brown's Valley, on S. W. ¼, S. W. ¼, sec. 27, T. 125-49. This group consists of three large mounds, the largest being 64 ft. by 3 ft., and the smallest 56 ft. by 2½ ft. Surveyed Aug. 8, 1883. (Shown on following page.)

Fort at Brown's Valley, N. E. ¼, S. E. ¼, sec.



33, T. 125-49. This earthwork consists of an embankment 12 ft. wide and 1½ ft. high, within which is a ditch 16 ft. wide and 1 ft. deep. The ends of the embankment, which is roughly circular, overlap, and the ditch at both ends extends beyond the ends of the embankment. At two places the ditch is crenulated by a succession of constrictions. The fort is between Harrison and Jefferson streets, and is crossed by Walnut street. At the junction of Walnut and Jefferson streets is a flat-topped mound 56 ft. in diameter and 4 ft. high, the diameter across the top being 36 ft. Surveyed Aug. 7, 1883.



In Traverse county Mr. Lewis obtained 16 spear, lance and arrow heads, 10 war points, 4 "chipped implements," 3 scrapers, 2 grooved hammers, and one each of the following: Hammer pipe, elk horn implement, shell bead (from a mound), human skull (from a mound), shell gorget (from a mound), shell ornament (from a mound), and clay pipe.

EARTHWORKS IN OTTER TAIL COUNTY.

Four hundred and thirteen mounds have been surveyed in this county.

(a) *On and between Rush and Otter Tail lakes.*

The large Battle Lakes group, on E. ½, S. E. ¼, sec. 33, T. 133-39, varying from 30 ft. to 55 ft. above the lakes. There are 42 mounds in this group, of which 22 are elongated. While the most of these elongated mounds are straight, six of them have peculiar forms, somewhat bent or curving. No.

2, for instance, has a single bend a little south of the center. Nos. 10 and 12 show a gentle curving extending from one end to the other. No. 13 curves twice, in opposite directions, and after its second turn it expands in diameter and terminates so as to simulate the head of a salamander, and at the same time its width is slightly greater near the head than at the other end of the body. No. 9 is wedged-shaped, but terminates before reaching an edge. No. 34, a circular tumulus, 52 ft. by 7 ft., has a broad extension southward which changes its direction twice. Three of the small tumuli, Nos. 6, 7 and 8, are connected by a continuous embankment, about 18 ft. in width and from 1 ft. to 2 ft. high. The southern end of this embankment, extending beyond No. 6, is abruptly enlarged, though not into the form of a semi-tumulus, this enlargement resembling more the form of a semi-lunar meat ax. The northern end also extends beyond No. 8, terminating in the manner of an ordinary embankment. The circular mounds average small, the largest being No. 34, which has the twice-turned extension.

Of these mounds Nos. 26, 30 and 34 have been excavated. Surveyed Sept. 4, 1886. (Shown on first insert opposite.)

The *Fergus Falls Weekly Journal*, May 27, 1886, gives some interesting facts of an examination made of some of the mounds of this group by J. A. Colehour and Rev. Myron Cooley: "There are scores of mounds scattered around on the bluffs south of where the outlet from East Battle lake enters into Battle lake. They are built in semi-circles which all seem to terminate in two large mounds about eighty rods apart facing the lake. The mound on which work was first commenced was the most easterly one of the two terminal mounds. But two or three feet of earth had been removed from the top of this mound when a skeleton was uncovered; this was removed, when another was found, and before noon five had been taken out. The mound yielded up nothing but these bones and a few scraps of flint chips. While this work was going on, excavating with a spade was commenced in the other terminal mound. A hole about three feet square was sunk in the center, and at the depth of five feet a large granite boulder was found which required the united strength of three men to remove. Under this boulder was found a skeleton, and under that, at a depth from the surface of from seven to eight feet, four others were found. Among the bones were found a curious bone knife eight inches long, and an agate ornament one and a half inches long by one inch wide." This was on the land of W. H. Beardsley.

*There are two lone mounds*, one on the center of the N. E.  $\frac{1}{4}$ , sec. 3, T. 134-39, 52 ft. by 4 ft., on a high point about 90 ft. above Otter Tail lake, and one on the S. W.  $\frac{1}{4}$  of the same section, 50 ft. by 4 ft., about 25 ft. above the river.

*Otter Tail City group*, S. E.  $\frac{1}{4}$ , sec. 10, and N. E.  $\frac{1}{4}$ , sec. 15, T. 134-39. This group embraces 63 mounds and several others were too much defaced to be surveyed. Seventeen are simple elongated mounds about 20 ft. wide and averaging perhaps 50 ft. long. Similar embankments serve as connections and extensions to the tumuli. The largest tumulus is 88 ft. by  $7\frac{1}{2}$  ft., and stands in the general row. Two others are 66 ft. by 4 ft., and 76 ft. by  $3\frac{1}{2}$  ft. In general they are situated on the brow of the terrace, which rises about 20 ft. above the bottomland. This group may perhaps be taken as a fair average, in all its features, of the mounds of the state excepting the effigy mounds. Surveyed Nov. 6, 1883.

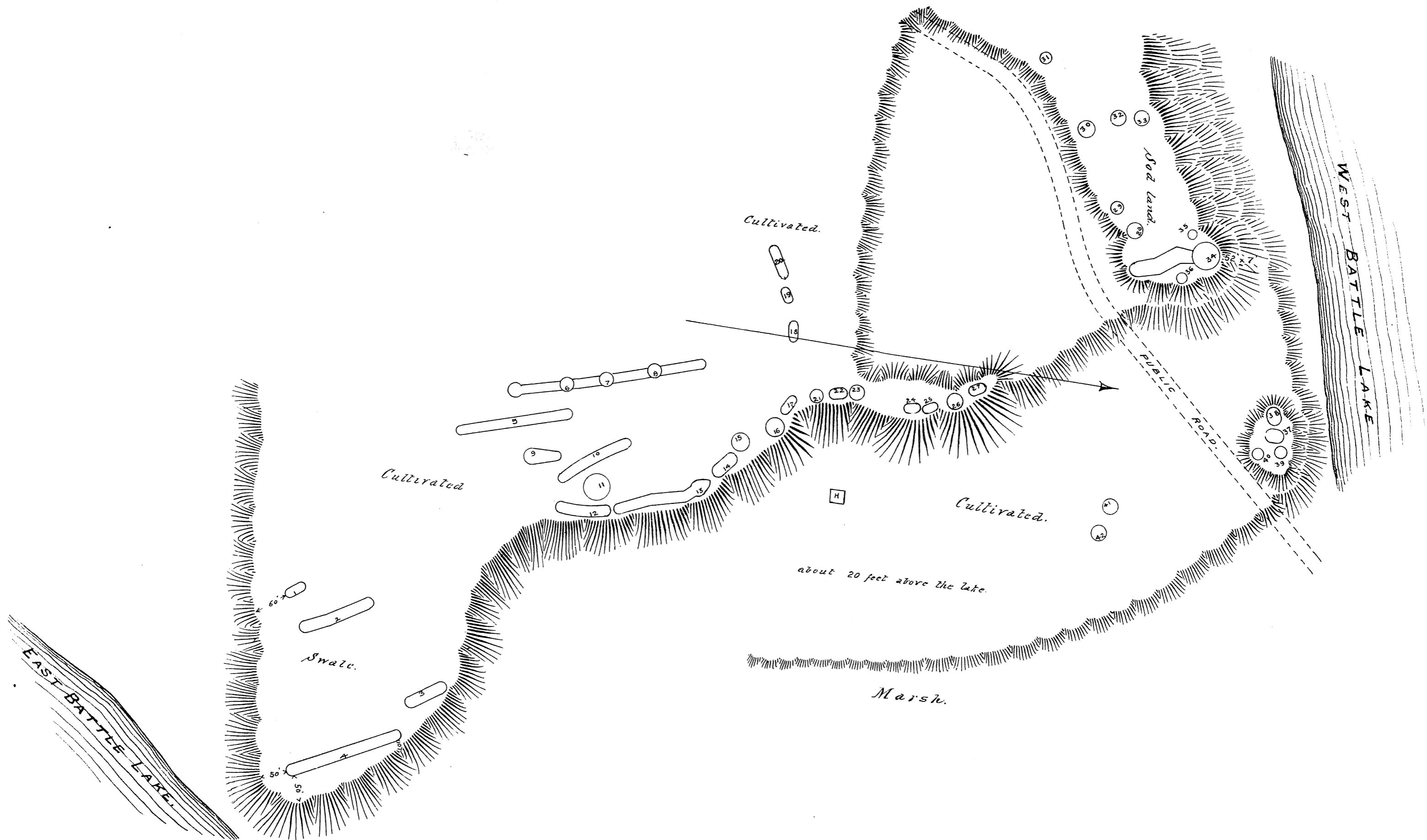
This group was partly illustrated by Mr. Brower in *Kathio*, p. 62. He noted a "hut-ring" at the base of the point, 110 ft. from the shore. It was surveyed in detail by Nathan Butler in 1868 and recorded in *Hill Rec.* (Shown on second insert opposite.)

*Mounds one mile north of Otter Tail City*, on S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 3, T. 134-39. Group contains 10 mounds, and there were traces of several others, not surveyed. This group commands a good view of the lake, looking over the river. Two are elongated mounds, or embankments, one being 370 ft. long, 20 ft. wide, and  $2\frac{1}{2}$  ft. high. Surveyed Nov. 4, 1883. (Shown on third insert opposite.)

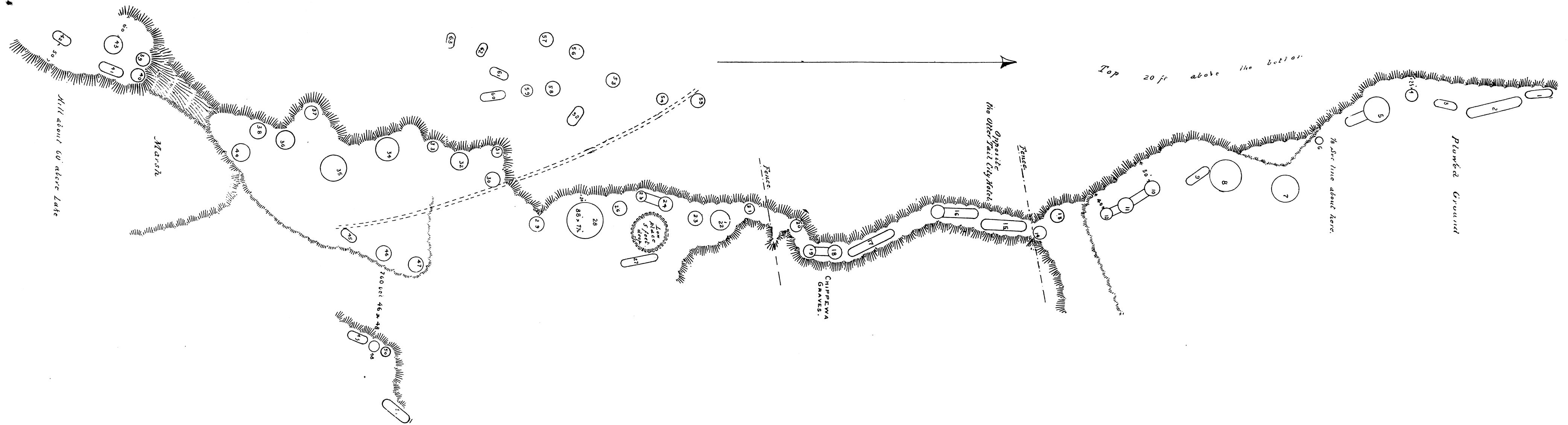
*Group at the outlet of Rush lake*, S.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 26, T. 135-39, about 24 ft. above the lake, on the east side of the river and of Mud lake. The group embraces 40 mounds, both circular and elongated, mixed, as usual, apparently without order or choice. One large circular mound 62 ft. in diameter has two enlargements on opposite sides. One extends 25 ft., the other 20 ft., with widths respectively 30 ft. and 34 ft., and heights 3 ft. and 4 ft. Surveyed Nov. 7, 1883. (Shown on third insert opposite.)

*West Battle Lake mounds*, N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 26, T. 133-40, about 20 ft. above the lake. These are all elongated mounds, except one, and that one has an embankment extension toward the south-east. Surveyed Sept. 12, 1886. (Shown on following page, top.)

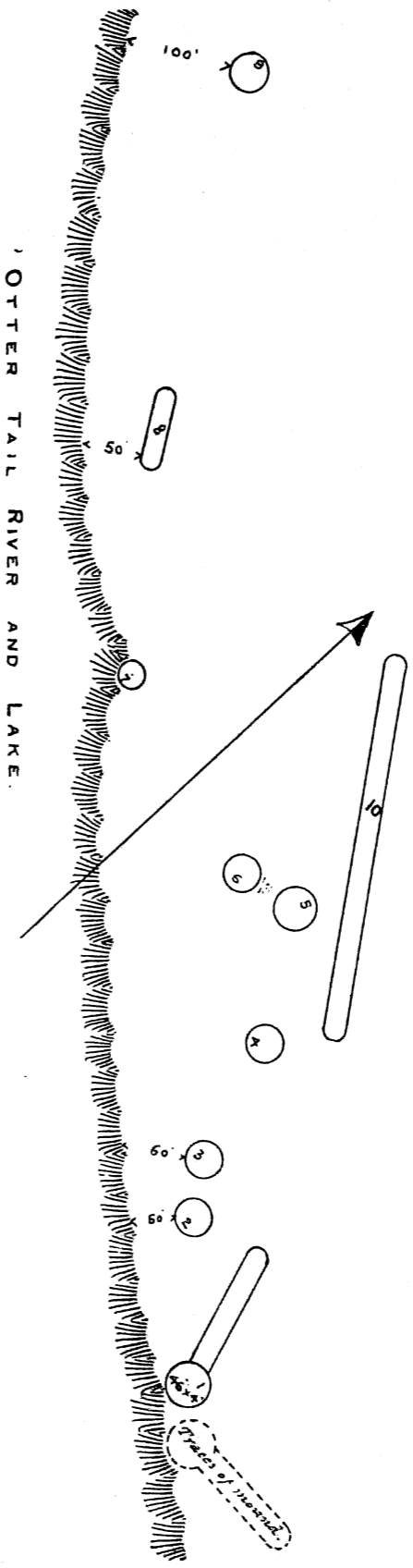
*West Battle Lake mounds, western part*, N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 26, T. 133-40, from 16 ft. to 20 ft. above the lake. Of these 12 small mounds one is elongated, 16 ft. wide and 1 ft. high. (Shown on following page, top, right.)



BATTLE LAKE MOUNDS.

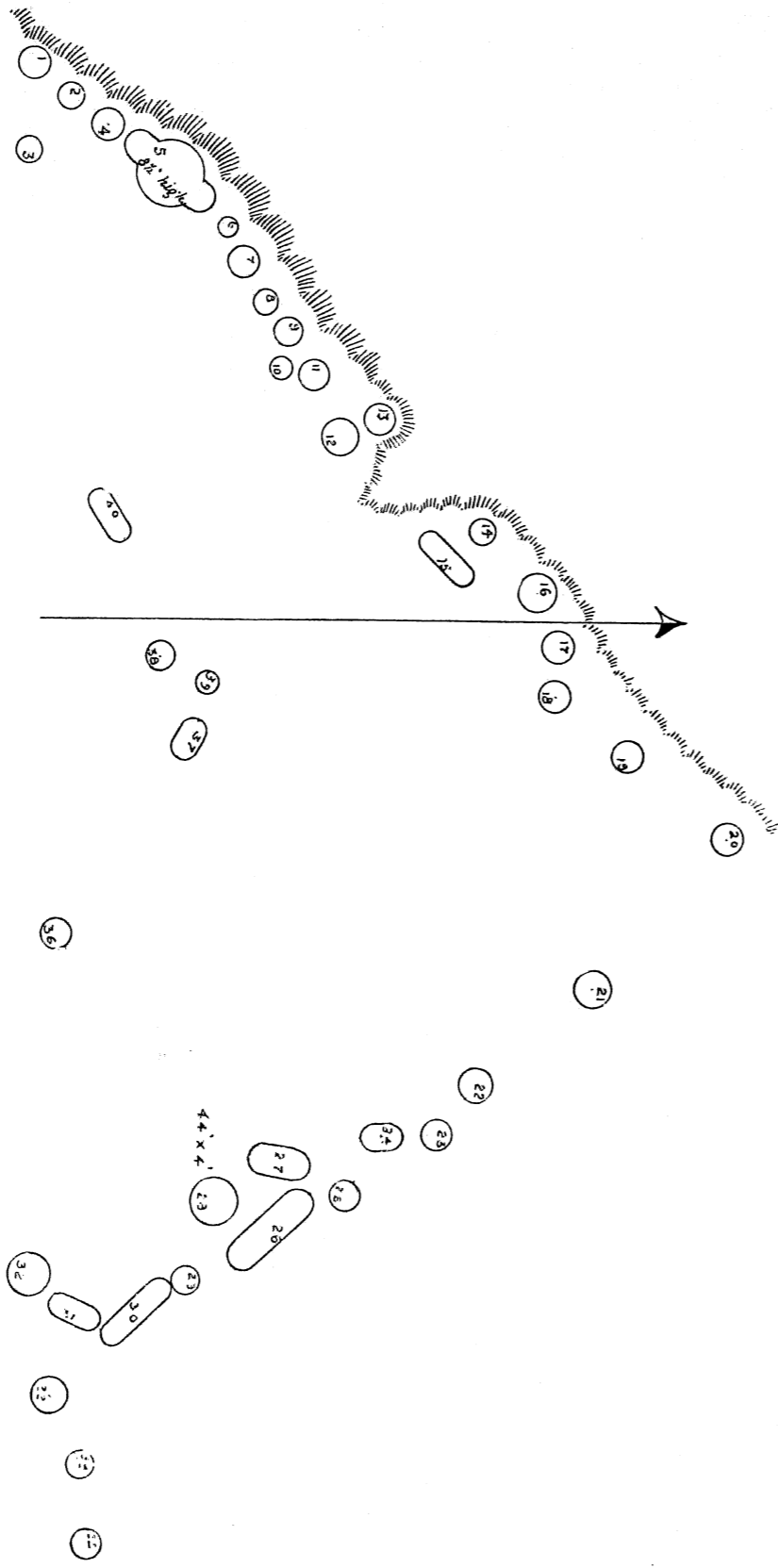


ONE MILE NORTH OF OTTER TAIL CITY.

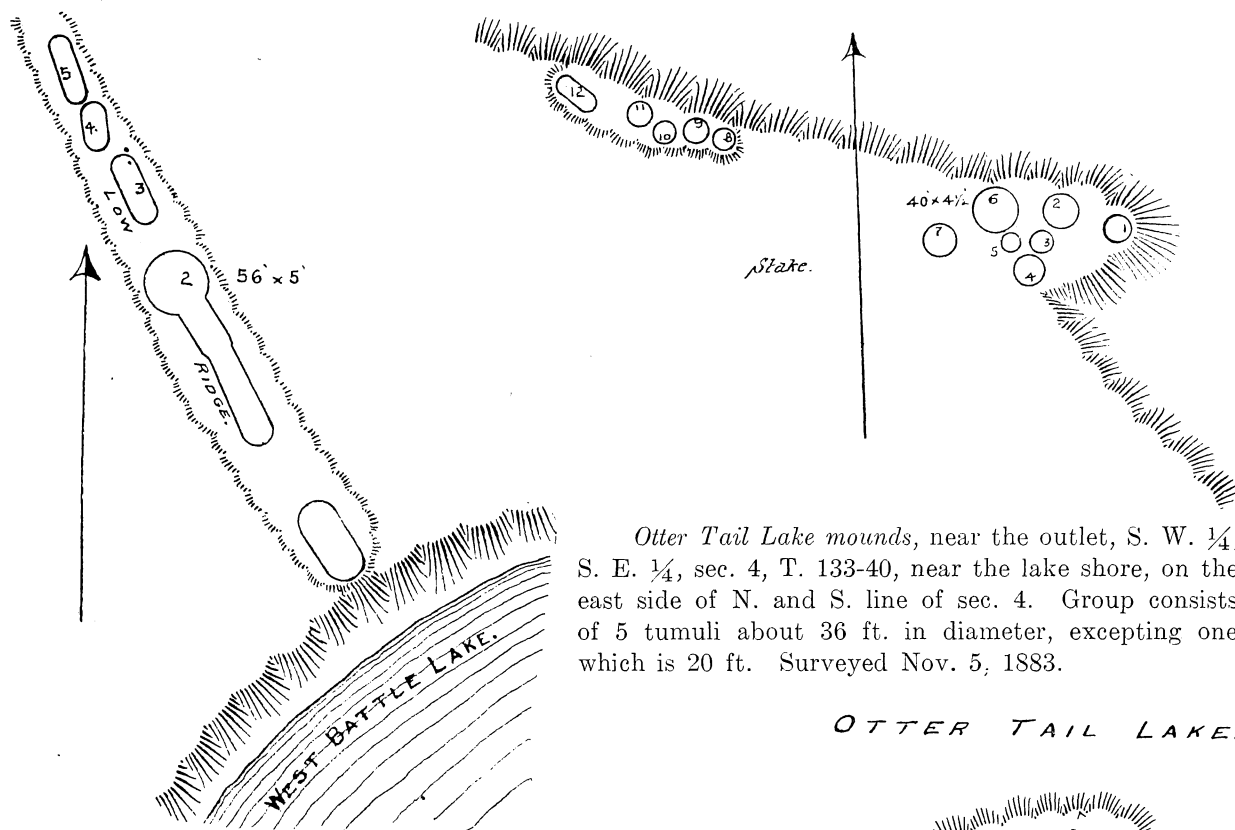


OTTER TAIL RIVER AND LAKE.

OUTLET OF RUSH LAKE.

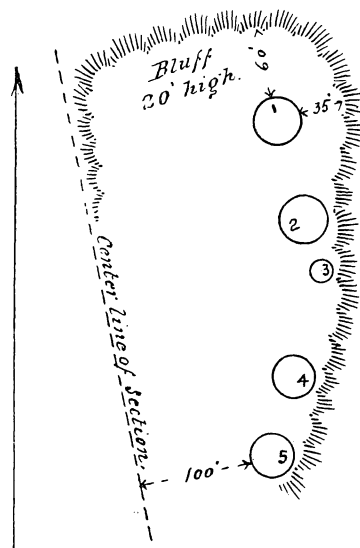






Otter Tail Lake mounds, near the outlet, S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 4, T. 133-40, near the lake shore, on the east side of N. and S. line of sec. 4. Group consists of 5 tumuli about 36 ft. in diameter, excepting one which is 20 ft. Surveyed Nov. 5, 1883.

OTTER TAIL LAKE.



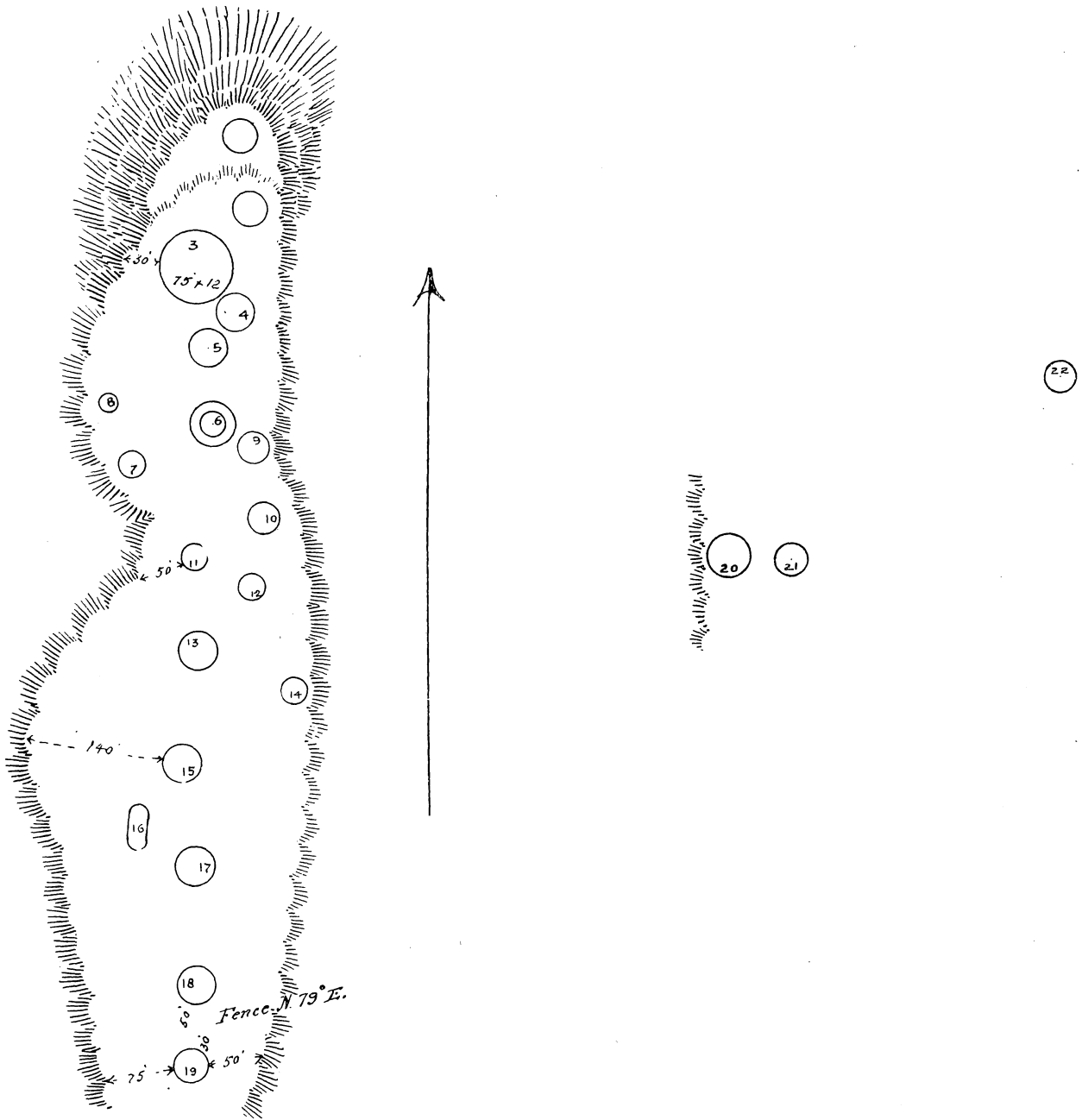
Red River mounds, at the outlet of Otter Tail lake, S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 4, and N. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 9, T. 133-40, about 45 ft. above the river. The group embraces 22 mounds, of which only one is an elongated mound. One is unusually large for this region, being 75 ft. by 12 ft. One is flat-topped, having dimensions 40 ft. by 3½ ft. by 22 ft. No. 1 of this group is 500 ft. south of the Red river. These mounds command a fine view of the lake and surrounding country. Surveyed Nov. 5, 1883. (Compare Upham's sketch, Vol. 2, *Geol. and Nat. Hist. Survey*, 1888, p. 558.) (Shown on following page, top.)

"One more rather singular phenomenon was discovered about midway between the above named point and Pelican river. This was a mound in all respects similar to the others, about 30 ft. in diameter and above the surrounding surface some eight feet. In the center of its upper surface was a depression some six feet in diameter and quite deep, filled with water, which was boiling up from a spring below and flowed down its sides. The water seemed strongly impregnated with some mineral substance, probably iron, and was quite cold. This mound was higher than any of the immediate surrounding country." William A. Smith, Feb. 8, 1871, formerly Asst. Eng., Minn. Div. N. P. R. R.—*Hill Rec.*

"On one of the elevated points commanding the entrance to Red river, on the south, are six conspicuous dome-shaped mounds, bearing N. W. and S. E. They appear to be tumuli of the aborigines."—*Owen's Geological Report.*

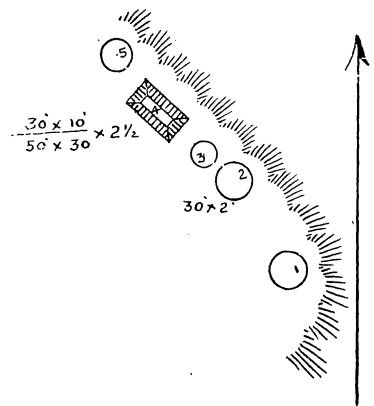
(b) Otter Tail river above Rush lake.

Mounds 1-2 miles north of Rush lake, on the west side of the river, S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 1, T. 135-39, about 15 ft. above the river. A group of 6 tumuli scattered loosely along the river. Surveyed Sept. 7 1883 (Shown on page 313, top)



Mounds below Pine lakes, S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 36, T. 136-39. In this group of 5 tumuli one is rectangular and flat-topped, a very rare feature. It may originally have been surmounted by a structure for residence. Its dimensions are, base 50 ft. by 30 ft., top 30 ft. by 10 ft., high  $2\frac{1}{2}$  ft. The round mounds vary in diameter from 22 ft. to 30 ft. Surveyed Nov. 7, 1883.

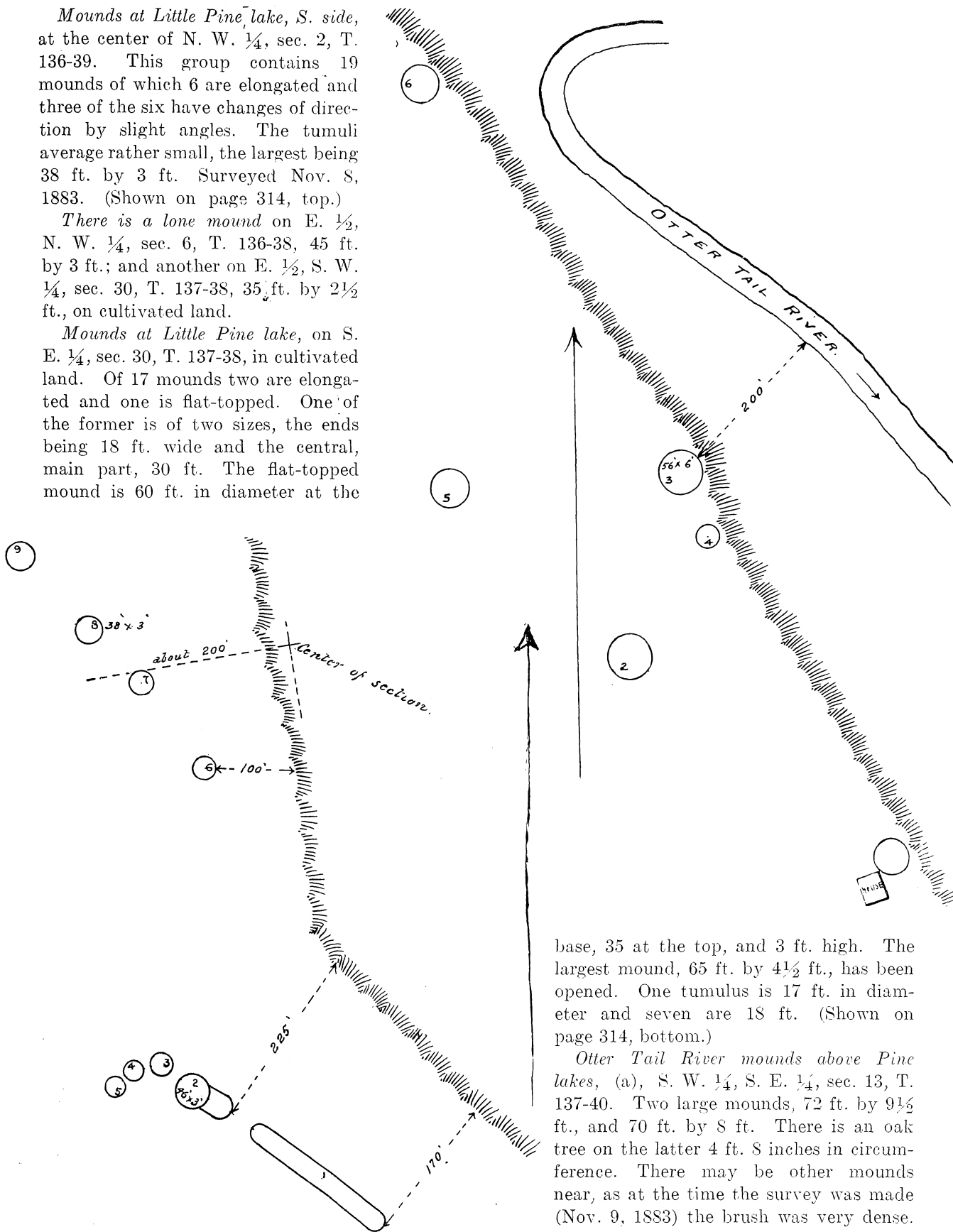
Mounds below Pine lakes, S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , and N. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 36, T. 136-39. Here are 9 mounds of which one is elongated, and one has an extension in the same direction as the elongated mound, this also being the largest of the group, 46 ft. by 3 ft. (Following, bottom.)



Mounds at Little Pine lake, S. side, at the center of N. W.  $\frac{1}{4}$ , sec. 2, T. 136-39. This group contains 19 mounds of which 6 are elongated and three of the six have changes of direction by slight angles. The tumuli average rather small, the largest being 38 ft. by 3 ft. Surveyed Nov. 8, 1883. (Shown on page 314, top.)

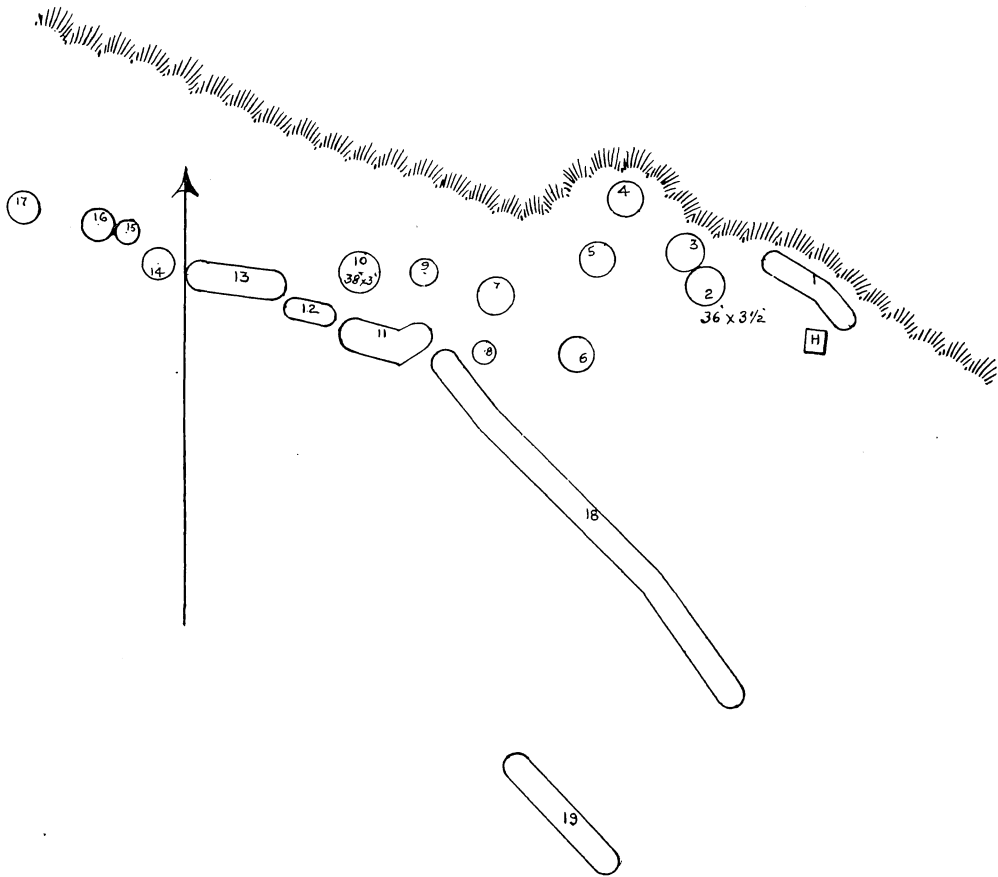
There is a lone mound on E.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 6, T. 136-38, 45 ft. by 3 ft.; and another on E.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 30, T. 137-38, 35 ft. by 2  $\frac{1}{2}$  ft., on cultivated land.

Mounds at Little Pine lake, on S. E.  $\frac{1}{4}$ , sec. 30, T. 137-38, in cultivated land. Of 17 mounds two are elongated and one is flat-topped. One of the former is of two sizes, the ends being 18 ft. wide and the central, main part, 30 ft. The flat-topped mound is 60 ft. in diameter at the



base, 35 at the top, and 3 ft. high. The largest mound, 65 ft. by 4  $\frac{1}{2}$  ft., has been opened. One tumulus is 17 ft. in diameter and seven are 18 ft. (Shown on page 314, bottom.)

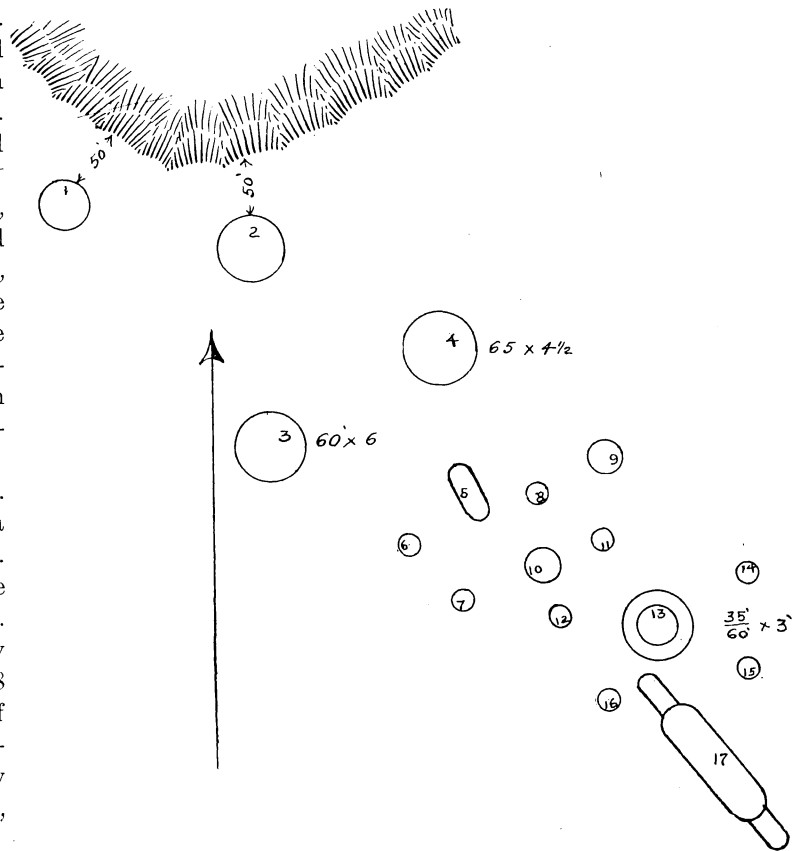
Otter Tail River mounds above Pine lakes, (a), S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 13, T. 137-40. Two large mounds, 72 ft. by 9  $\frac{1}{2}$  ft., and 70 ft. by 8 ft. There is an oak tree on the latter 4 ft. 8 inches in circumference. There may be other mounds near, as at the time the survey was made (Nov. 9, 1883) the brush was very dense.

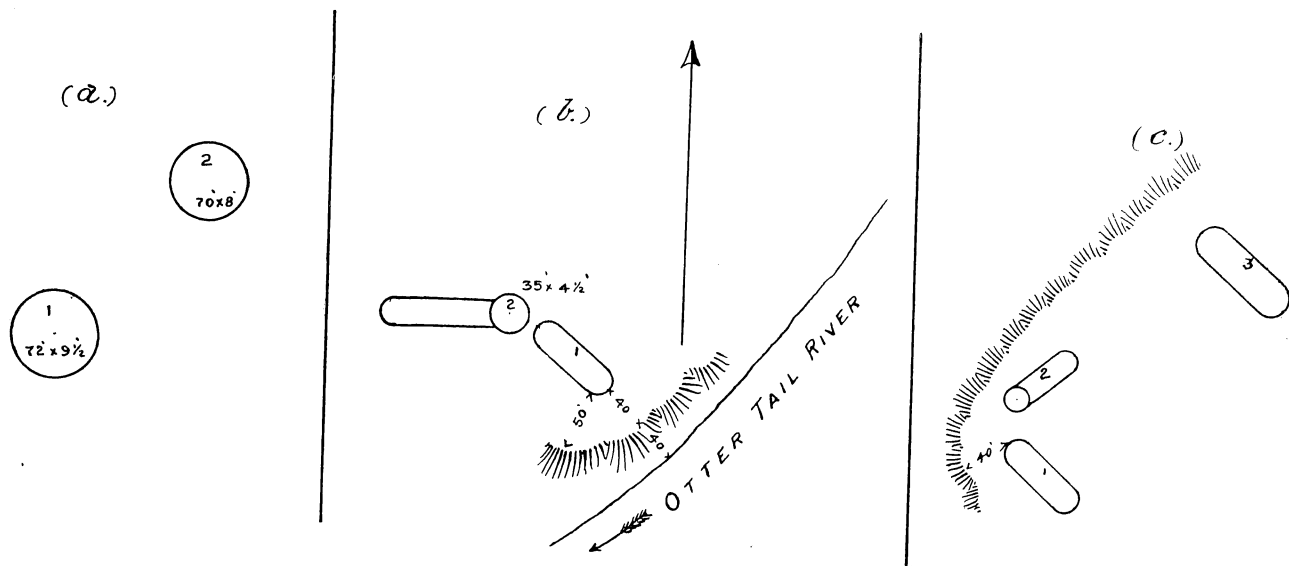


(b) S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 13, T. 137-40, near the Otter Tail river. Here is one elongated mound, and one round mound with an extension in the form of an embankment 2 ft. high and 25 ft. wide. The elongated mound is 24 ft. by 86 ft.

(c) N. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 19, T. 137-39. Here are two elongated mounds and one small circular mound, which has an extension nearly as wide and as high as the mound itself. The mound is 22 ft. by 2 ft., and the extension is 18 ft. wide and  $1\frac{1}{2}$  ft. high and 52 ft. long. (Shown on following page, top.)

*Mounds near Frazee City, N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 3, T. 137-40, on a plateau about 40 ft. above the river. Group contains 19 mounds, and there may be others in the heavy brush. Two of these tumuli are 52 ft. by  $5\frac{1}{2}$  ft., but the largest is 58 ft. by 8 ft. Another is 52 ft. by 5 ft. Of the group six mounds are short-elongated, the length being only double the width. Surveyed Sept. 7, 1886. (Shown below.)*

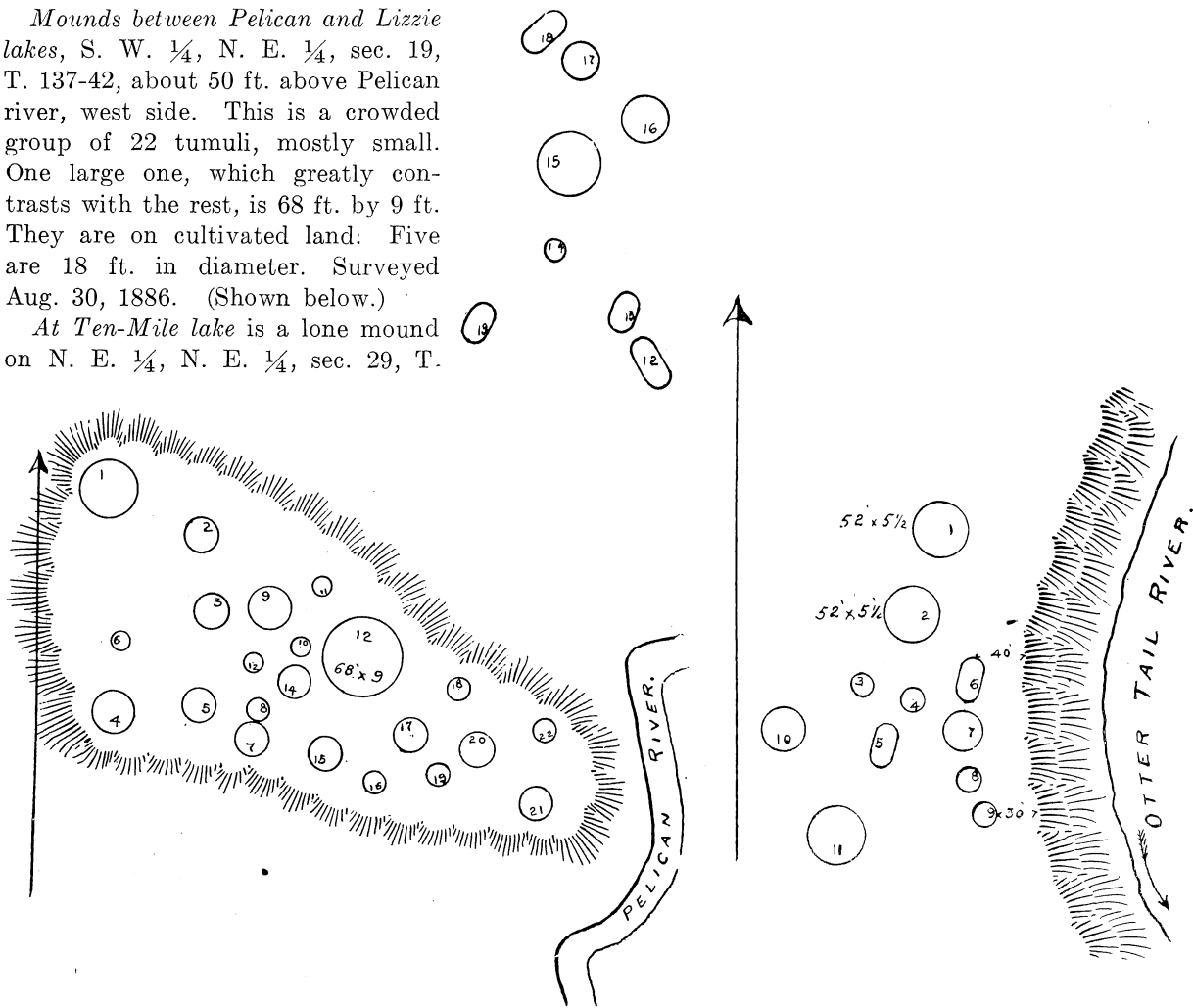


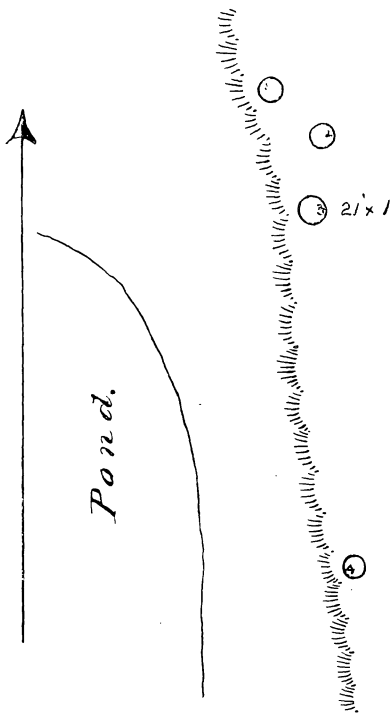


(c) Other parts of Otter Tail county.

Mounds between Pelican and Lizzie lakes, S. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 19, T. 137-42, about 50 ft. above Pelican river, west side. This is a crowded group of 22 tumuli, mostly small. One large one, which greatly contrasts with the rest, is 68 ft. by 9 ft. They are on cultivated land. Five are 18 ft. in diameter. Surveyed Aug. 30, 1886. (Shown below.)

At Ten-Mile lake is a lone mound on N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 29, T.





131-42. It is 62 ft. in diameter and 5 ft. high. Land has been cultivated for years. This is near the old stage road from St. Cloud to Breckenridge, via Dayton, and about one-half mile from the lake. Numerous fragments of pottery are turned up by the plow in the vicinity. It is a rolling prairie. (Wright and McComber, in *Hill Rec.*) The township of Tumuli was so named from the mound on McComber's farm. O. Jorgens, in *Hill Rec.*

There is a small lone mound on the east side of Lizzie lake, S. E.  $\frac{1}{4}$ , sec. 32, T. 137-42, about 22 ft. above the lake, 18 ft. in diameter and  $1\frac{1}{2}$  ft. high.

Mounds 1-2 mile N. E. of Grove lake, N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 32, T. 137-43, about 18 ft. above a pond, a group of four small tumuli, about 20 ft. in diameter. Surveyed Aug. 28, 1886. (Shown at left.)

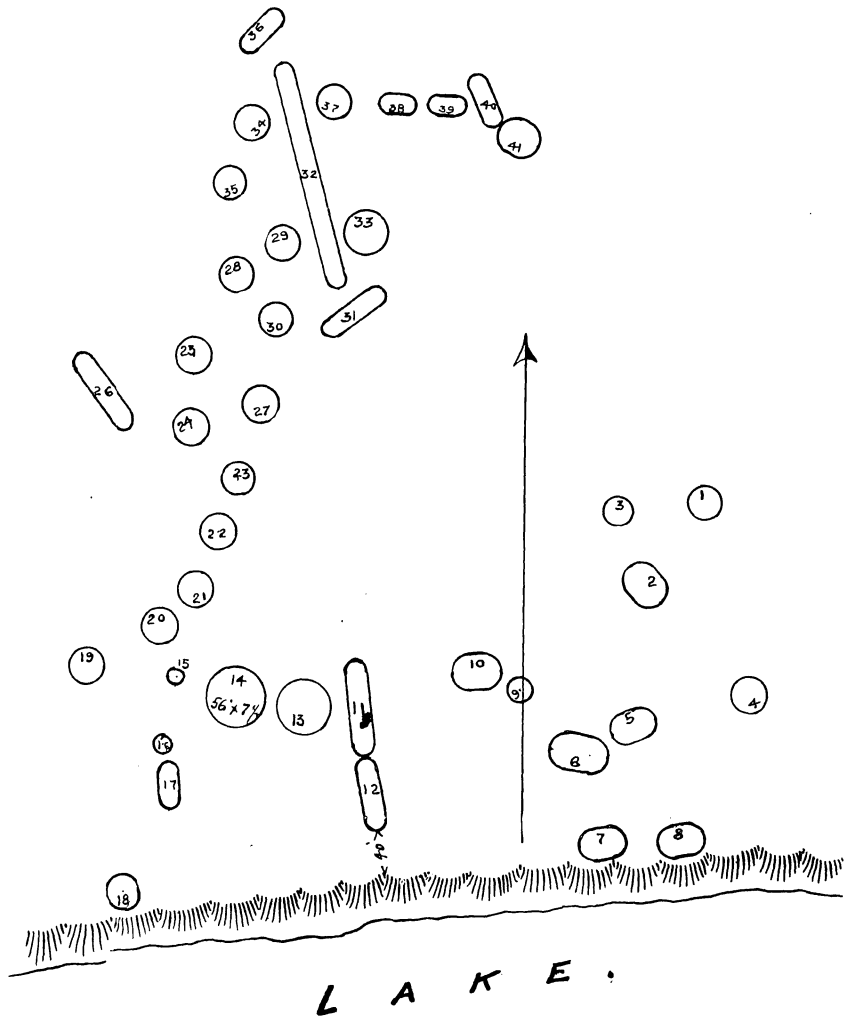
Mounds at N. W. end of Pelican lake, N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 2, T. 137-43. On a ridge 30 ft. high are two tumuli, each 30 ft. in diameter, 2 ft. and  $2\frac{1}{2}$  ft. high.

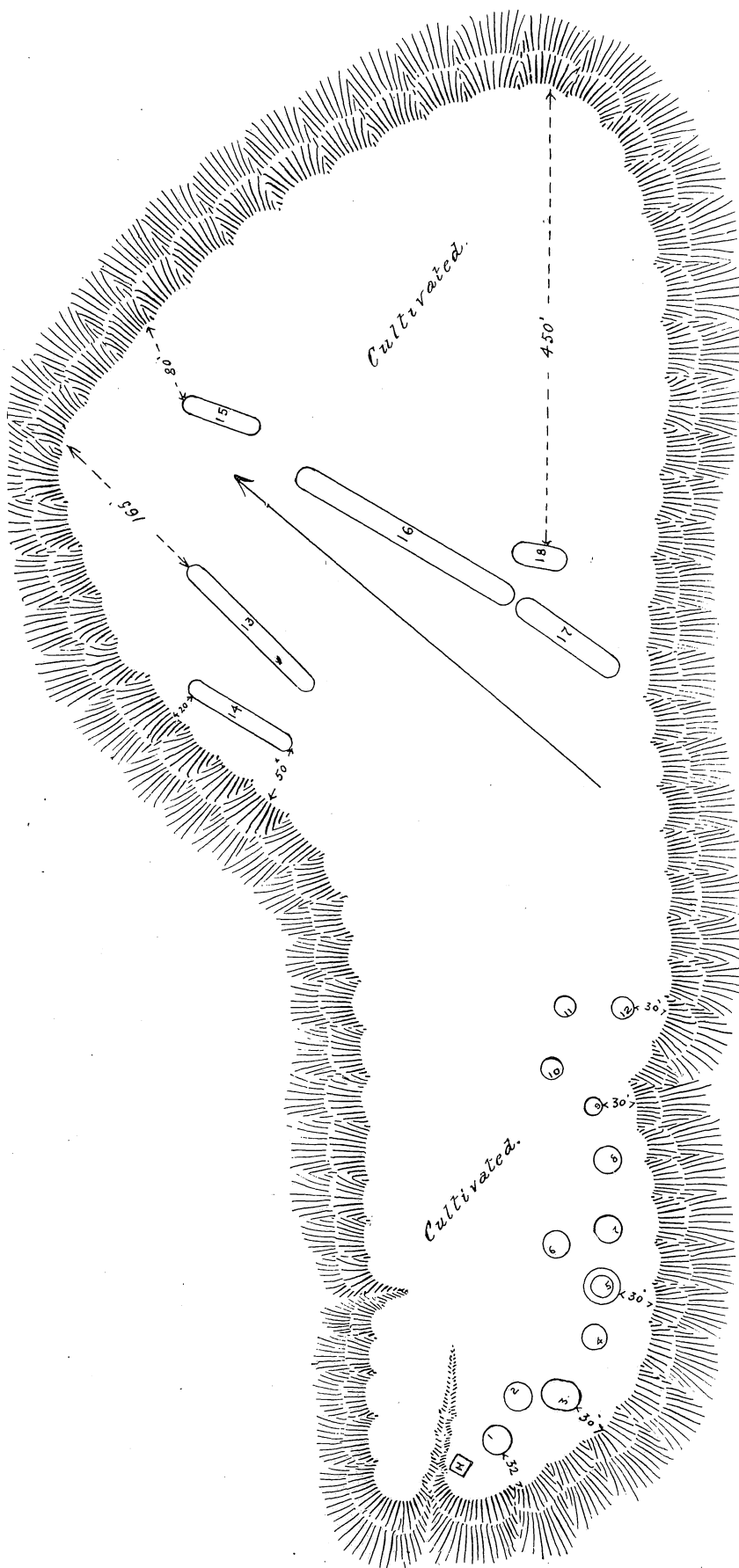
A lone mound is at the northwest end of Pelican lake, on the S. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 1, T. 137-43. It is 50 ft. by 5 ft. and has been excavated.

Dead Lake mounds, W.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 8, T. 135-40, from

25 ft. to 35 ft. above the lake. The land is more or less broken with ridges and swales. This group contains 41 mounds, of which 16 are simple elongated mounds, one being 208 ft. by 18 ft., and the rest ordinary, short-elongated embankments. There is here, however, a type which in isolated cases has been seen elsewhere, i. e., a broader mound whose width is about two-thirds of its length, i. e., about 25 ft. by 38 ft. The average elongated mound is about 18 ft. by 40 ft., the length increasing indefinitely, even to several hundred feet. Of this rare type we have six units in this group. The largest circular mound is 56 ft. by  $7\frac{1}{2}$  ft. and has been excavated. Surveyed Aug. 28, 1891.

Mr. Cooley discovered evidences of prehistoric village sites on this lake, near the residence of J. Westover, on the south shore, and at the place of W. L. Carpenter on the north shore.



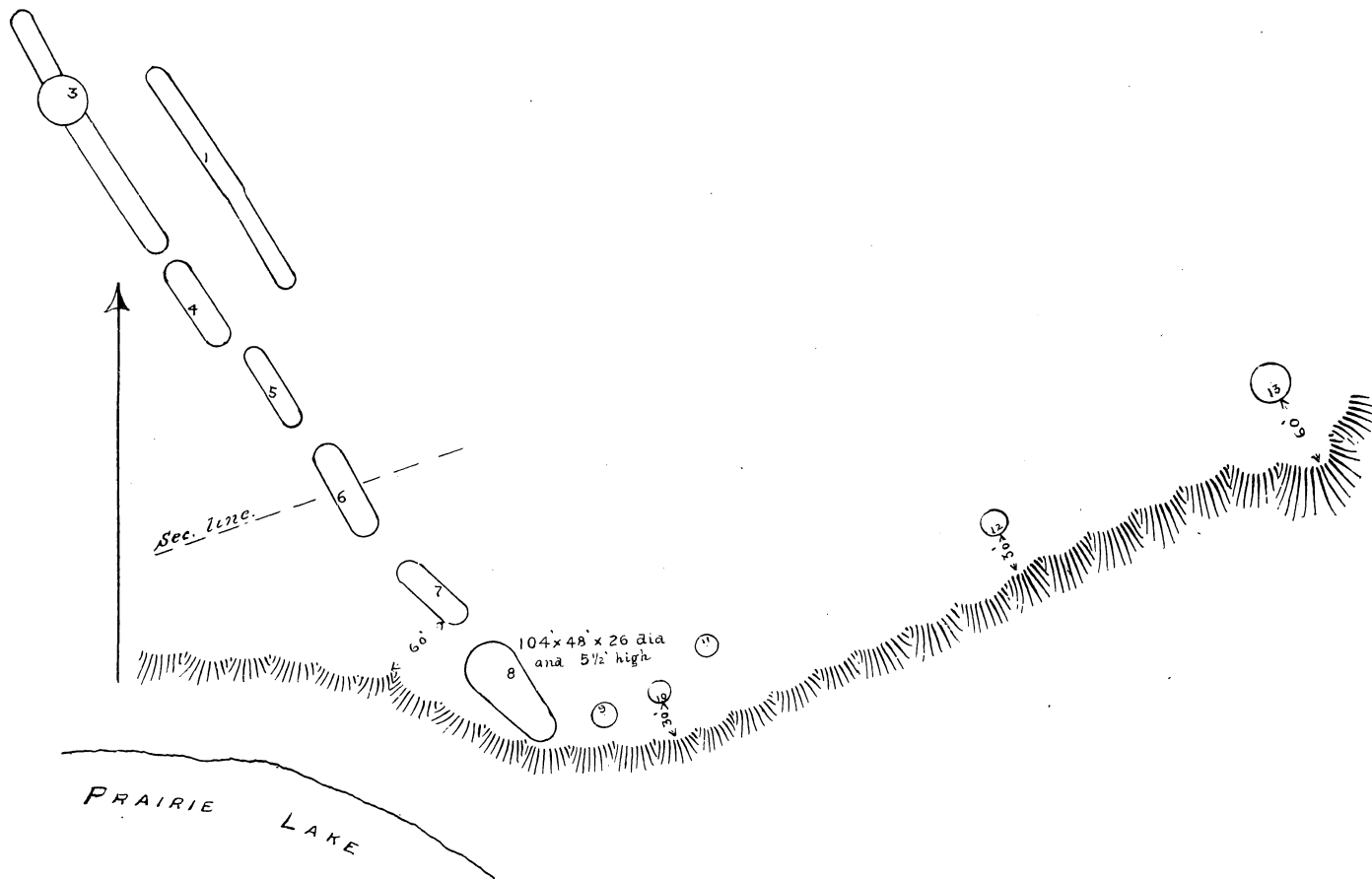


An excavation was made by Messrs. Cooley and Colehour into the large mound, No. 14, of the Dead Lake group, "revealing an arched cavity inside, the arch being made of common cobble stones from the lake shore; within the cavity were found decayed bones, ashes, charcoal, chips of agate, flint and many stones, which had been broken by action of fire."—*Fergus Falls Weekly Journal*, Sept. 23, 1886.

*Mounds near the N. W. end of Lizzie lake, S. W. ¼, N. E. ¼, sec. 30, T. 137-42, about 60 ft. above the lake. This group contains 18 earthworks, six being elongated embankments, and one a short elongated mound. One of the tumuli also is flat-topped, 40 ft. by 22 ft. by 2½ ft. Mounds numbered 7, 8 and 9 have been excavated. Surveyed Aug. 30, 1886.*

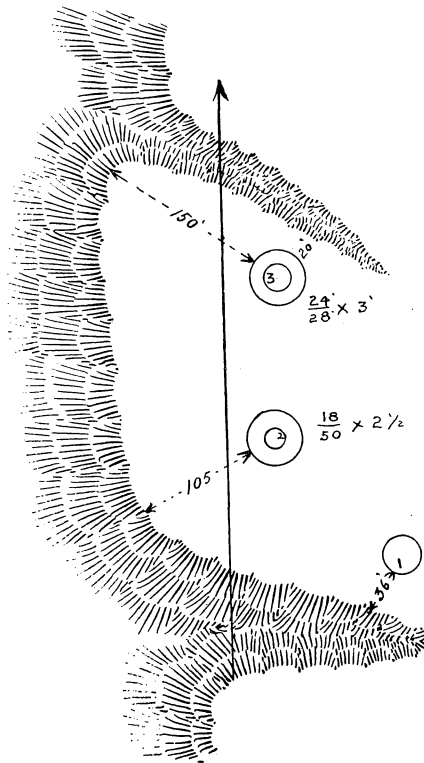
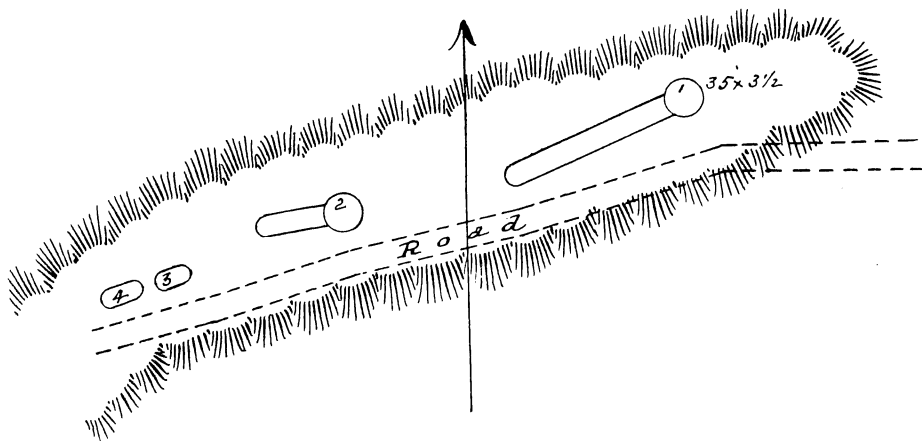
*Mounds at the north end of Prairie lake, S. W. ¼, S. E. ¼, sec. 2, and lots 3 and 4 of sec. 11, T. 136-43, about 35 ft. above the lake. This group embraces 6 small circular mounds and 7 elongated. The largest of the circular mounds, however, has long embankments extending from its opposite sides in the same direction as the other embankments, one being 156 ft. in length and the other 84 ft., the former 21 ft. wide and the latter 18 ft., each 2 ft. high. One of the elongated mounds is coffin-shaped, 104 ft. long, greatest width 48 ft., tapering to 26 ft., terminating at each end in a segment of a circle. Its height is 5½ ft. Surveyed Aug. 26, 1886. (Shown on following page, top.)*

*Mounds at the south end of Prairie lake, lot 4, sec. 15, T. 136-43, about 35 ft. above the lake and 200 yards from*



it. These 4 mounds are elongated, parallel with a spur of higher land, on which they are situated. Two of the embankments are terminated at one end by circular mounds. (Shown below.)

Red River mounds, below Fergus Falls, W.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 33, T. 132-44, about 40 ft. above the river, near the north line of the section. Here are three tumuli, of which two are flat-topped, 50 ft. and 48 ft. in diameter, 18 ft. and 24 ft. respectively across the top, and  $2\frac{1}{2}$  and 3 ft. high. As to this locality Mr. Upham states: "On the upper or Herman beach of lake Agassiz, about

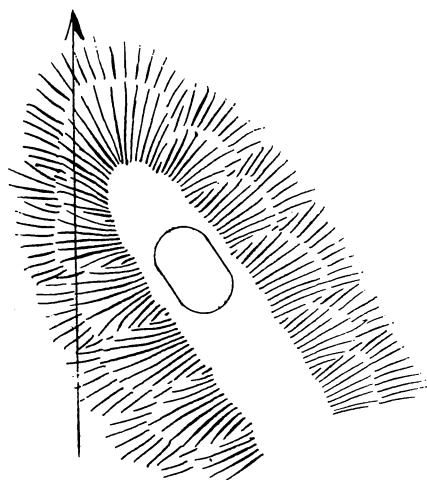




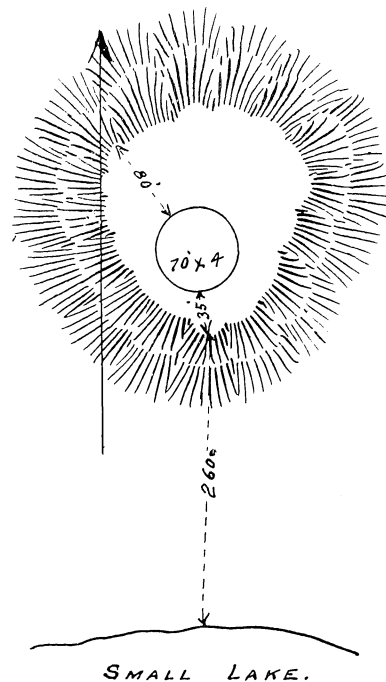
half a mile south of the Red river, and near the center of sec. 33, T. 132-44, is a mound six feet high; and within 40 rods further south are several others one to three feet high."—(*Geol. Sur.*, vol. 2, p. 560.) (Shown on preceding page, right.)

According to Mr. John W. Cobb, the largest of the tumuli on the Herman beach has been dug into, but not deep enough to find any remains or pottery.—*Hill Rec.*

There is a lone mound at Carlisle lake, S. E. side, on N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 3, T. 133-44, 70 ft. by 4 ft., about 50 ft. above the lake. Surveyed Aug. 25, 1891.

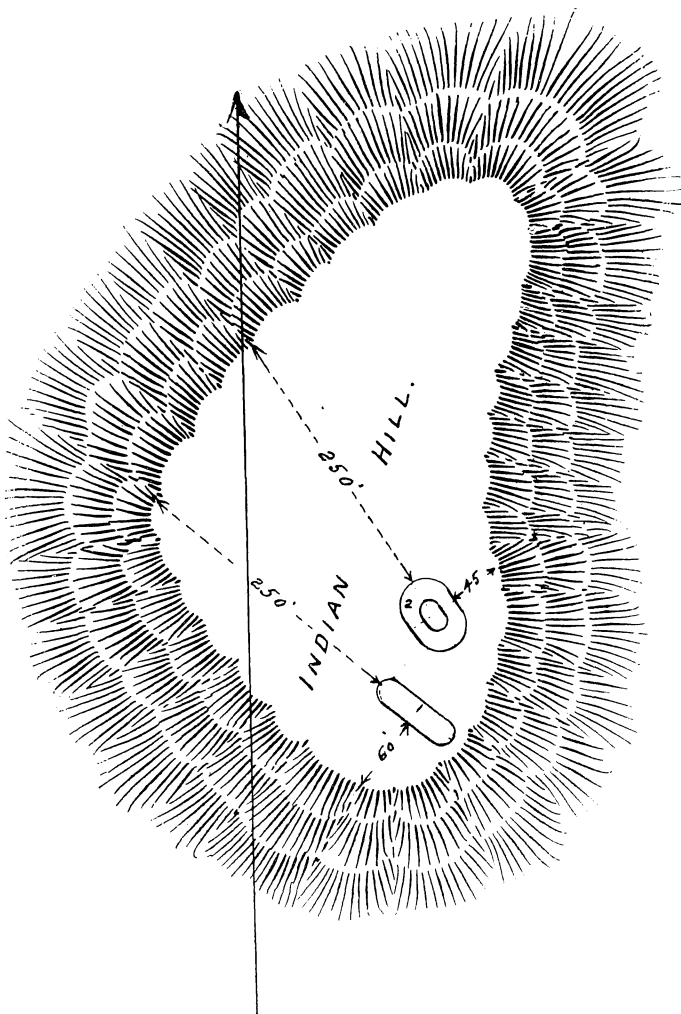


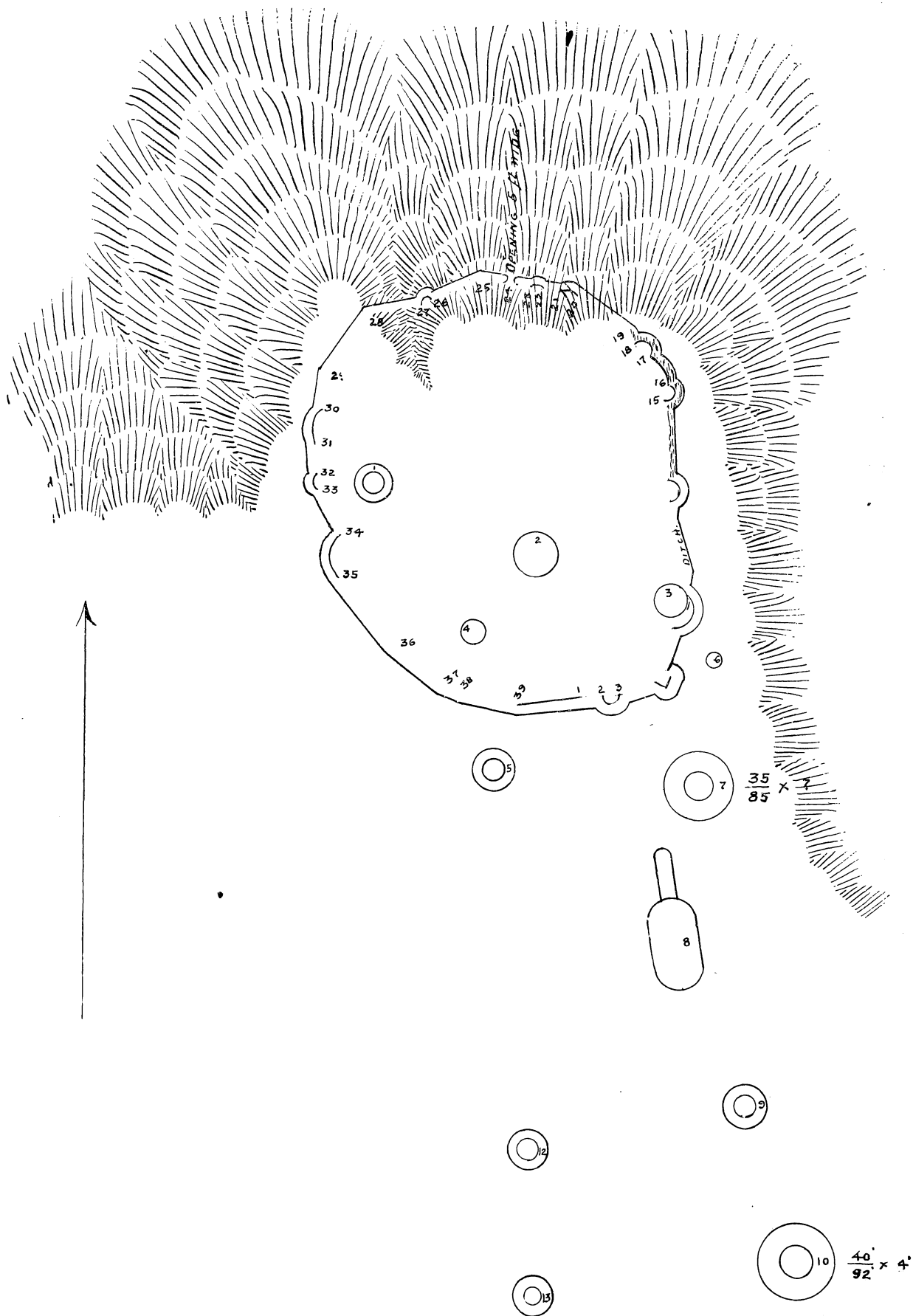
A lone elongated mound is found at the west side of Carlisle lake, on the N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 5, T. 133-44, about 65 ft. above the lake and 350 ft. from it. Its dimensions are 80 ft. by 48 ft. by  $3\frac{1}{2}$  ft. This mound is remarkable not only for its size and proportions but for its isolation as an oblong mound.



The "Indian Hill" mounds, on E.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 9, T. 134-44, about 150 ft. above the country to the east and south, and 225 ft. above a small lake to the northwest. These are two elongated mounds, one being of the style of that at the west side of Carlisle lake but flat-topped, having dimensions, base 66 ft. by 45 ft., top 30 ft. by 18 ft., and 4 ft. high. This is a rough morainic country.

Mounds and enclosure 9 1-2 miles S. W. of Fergus Falls, on S.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 33, T. 132-44. This group consists of 13 mounds and an enclosure about 40 ft. above the river. Four of the mounds are within the enclosure, one of them being flat-topped. Seven of those outside are also flat-topped. One tumulus is only 18 ft. in diameter, and two are large, being 90 ft. and 85 ft. in diameter, 40 ft. and 24 ft. across the top, and 4 ft. and 7 ft. high, the latter having also been excavated. The other exterior flat-topped mounds are of about the same size, viz.: 48 ft. in diameter and 2 ft. high. One broad oblong mound is 110 ft. by 55 ft. and 3 ft. high, and has a narrow extension at one end parallel with itself, 60 ft. long, 20 ft. wide and 1 ft. high.





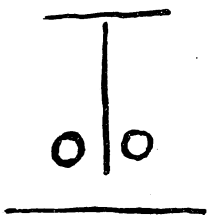
The enclosure is a ditch with the dirt thrown inside. The inside is from 1 ft. to 2 ft. above the bottom of the ditch, and the outside about 1 ft. high. The width is 12 ft. but sometimes 15 ft. It has not a smooth, even curvature, but sways outward at irregular intervals in the form of bows. It has a narrow opening on the north side, which is 5 ft. wide. This enclosure is near the upper, or Herman, beach of lake Agassiz, where it is crossed by the Red river of the North. Surveyed Aug. 21, 1891. (Shown on preceding page.)

*Other references to the mounds of Otter Tail county.*

In the report by Mr. Upham on the geology of Otter Tail county, published in 1888,\* is a sketch of the aboriginal earthworks of the county, with statement of facts furnished by Rev. C. M. Terry and Rev. Myron Cooley. Mr. Upham gives a sketch map of the mounds in sec. 4, Evarts, at the mouth of Otter Tail lake, of which he says: "The largest group of artificial mounds observed in the county is on the south side of the Red river about 50 rods west from the mouth of Otter Tail lake. Here sixteen mounds, all having the usual dome-like form, were counted on a space extending some forty rods from north to south, and about a dozen rods in width, elevated about 35 ft. above the lake. One of these is ten feet high, but the others are small, varying from one to four feet in height. The ten-foot mound, and another close southeast of it, three feet high, have been partly excavated, and were found to contain human bones, being burial mounds."

He also says that the Indian Hill mounds, having been opened by a small excavation, disclosed two skeletons.

According to Mr. Cooley: "This county is rich in mounds and relics of that pre-historic people known as mound-builders. In the townships of Evarts, Girard, Amor, Perham and Star Lake, numberless mounds are found of every shape and size, together with many sites of historic villages. In the woods on the north shore of East Battle lake there is a group of mounds; they have never been examined and are covered with a heavy growth of timber. A few pieces of pottery have been picked up occasionally in the vicinity. At the east end of Battle lake there are scores of mounds scattered around on the bluffs south of where the outlet from East Battle lake enters Battle lake. The general plan seems to have been a great semi-circle terminating in two large mounds about 80 rods apart, facing the lake. One of these large mounds has been opened and parts of several skeletons taken out, also a curious bone chisel, eight inches long, and an agate knife blade, two inches long. One of the smaller mounds yielded up five skeletons and a mass of flint and agate chips. At the west end of Battle lake, near the outlet, there is another group of mounds which seem to be very ancient, as they have been weathered down more than any of the others, and those which have been examined show nothing but bone-dust, ashes, bits of charcoal, and, in one instance, a fragment of coarse woven matting. One of these mounds is 12 ft. high, another is 75 ft. long by 5 ft. high. There are about a dozen mounds in this group. On a bold bluff, overlooking the Red river, a short distance below where it leaves Otter Tail lake, is a group of eighteen mounds; seventeen of these are small, from two and a half feet to four feet high, and from twelve to twenty feet in diameter. The eighteenth mound, which stands on the highest part of the bluff, is as large as all the others put together. Several of these mounds have been partially excavated, and several skulls and parts of skeletons taken out; also some clay balls, the size of medium sized marbles, some stone implements, agate knife blades and flint and agate chippings. Dead lake seems to have been a favorite haunt of these people. At two places on the south shore there have been extensive villages, and many specimens of pottery, arrow-points, spear-heads, stone hammers and other utensils have been found. One of these village sites, where the Dead river leaves the lake, seems to have been protected on two sides by the lake, on the third by the river, and on the fourth by a canal cut from the lake to the river, thus practically making an island of the village site. On the north shore of Dead lake, in Perham township, is a most interesting group of mounds. The bluff here is densely wooded and hard maple trees, 18 inches in diameter, are growing on some of the mounds. The mounds here are very numerous and of great variety. The largest round mound is about 10 ft. high and 60 ft. in diameter. A partial examination of this mound brought to light a few agates, pieces of stone hammers, a quantity of charcoal and fragments of human bones. Directly north of round mound is found a group in this position.



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\**Geol. and Nat. Hist. Survey*, vol. 2, p. 558.

"The longest mound in this group is 240 ft. long by 12 ft. wide and 4 to 5 ft. in height. The long mounds on the north and south are of the same width and height but only 60 and 42 ft. long respectively.\* The round mounds are exactly alike, about 15 ft. in diameter and 5 ft. high. None of the mounds have been thoroughly examined. Of the structure of these mounds, all that have been excavated are similar. At a level with the surrounding surface a layer of coarse gravel is found, then a layer of sand, then more gravel, and over this a layer of black surface soil, varying in thickness from 2 to 10 ft. If the mounds have been used for burial, the skeletons are in nearly every case found on the layer of sand. \* \* \* \* \* In all cases the sand and gravel have been brought from the lake beach, and fragments of shells are frequently found in these layers."

Mr. H. T. Thorn, in the Smithsonian report for 1880, p. 447, mentions the occurrence of a group of mounds "one mile northeast of Prairie Lake post-office," probably on the north shore of Prairie lake in sec. 10, T. 136-43, Pelican.

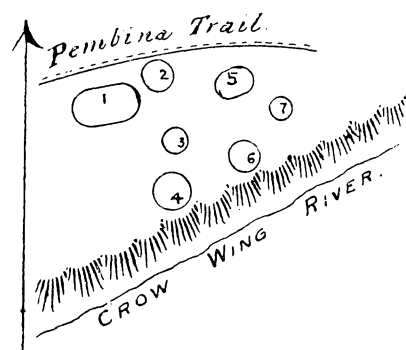
Of the earthworks at Otter Tail city Mr. C. M. Miller, engineer in charge of the survey of the Winona, Alma and Northern Ry., in 1883 wrote: "The Indian graves are all on a ridge back of the hotel you speak of, and it is the old burying ground of the Indians. The bodies are put under the ground, not on top, and have a small covering over the grave, made of boards, something like a dog-house." This probably refers to modern Chippewa graves.

Mr. Brower notes further, in this county, a group of mounds on sec. 24, and a village site on sec. 25, T. 134-39, near Gourd and Portage lakes, on the line of pre-historic travel from the waters of the Mississippi to those of the Red river of the North.

The Lewis collection from Otter Tail county comprises 8 arrowheads and 2 war points, according to the register prepared by him.

#### EARTHWORKS IN TODD AND WADENA COUNTIES.

*Crow Wing River mounds.* E.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 14, T. 134-33, about 22 ft. above the river. Group embraces 7 mounds of which two are broad-elongated, i. e., 30 ft. and 24 ft. wide by 2 ft. and 1  $\frac{1}{2}$  ft. high. The tumuli are about 25 ft. wide and 2 ft. high. Surveyed Oct. 3, 1886.



There is also a lone mound about 300 yards below this group, 40 ft. by 3 ft., also about 22 ft. above the river.

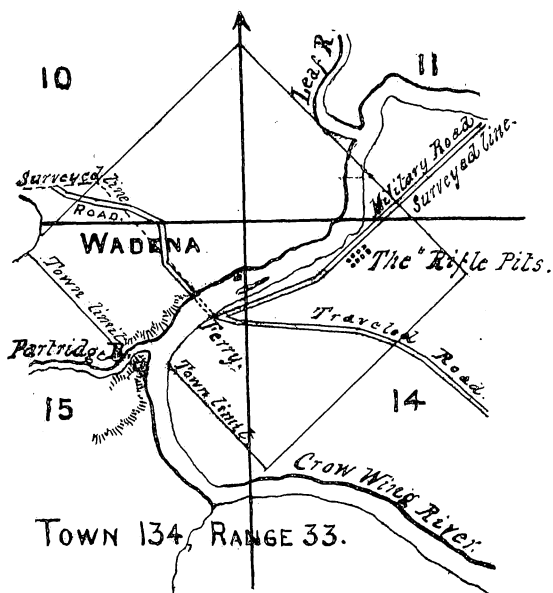
In 1868 Mr. William Wallace described about half a dozen "rifle pits," situated on the townsite of Wadena, on the left bank of Crow Wing river, "excavated in the side of the bluff on the east side of the road." [Fort Ripley and Red river Military road.] They were square in form and from 6 ft. to 8 ft. by 12 ft., and from 2 ft. to 6 ft. deep, some of them with large trees growing in them. He judged that they were from 70 to 100 years old. They were partially refilled by lapse of time. Mr. Lewis examined them in 1886, and

considered them modern house foundations.—*Hill Rec.*

Near these supposed "rifle pits" are two other excavations, "circular in form and similar to the dirt lodges of Sitting Goose. There are also two smaller ones that are probably caches. The smaller of the two houses is some fifty feet from the river bank, which is deep at this point. The river directly in front cannot be seen from any of these excavations. They are too well-constructed to be the work of Indians. At one time this region was noted for its fur-bearing animals, and it is a well-known fact that hunters and trappers have roamed over this region for 100 or 200 years. It would seem strange if no traces were left by them to show that they had occupied this region."—*Lewis.* (Shown on following page, top.)

This is the old site of Wadena. At the present site of Wadena Mr. Brower observed signs of an old camping ground, in the northwestern part of the village, north from the railroad crossing, near the

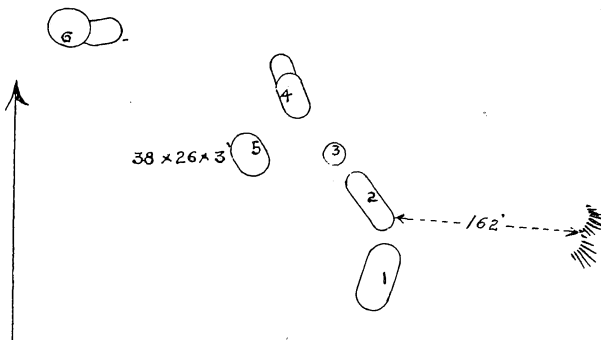
\*It is evident that in this figure Mr. Cooley intended to represent mounds Nos. 31, 32, 36, 29 and 33 of the *Dead Lake mounds* already given, regardless of the other associated mounds.—*N. H. W.*



**"RIFLE PITS"  
AT WADENA. 1868.**

creek, where he saw burned human bones, potsherds, and a white quartz chipped knife, but observed no mounds.—*Brow. Note.*

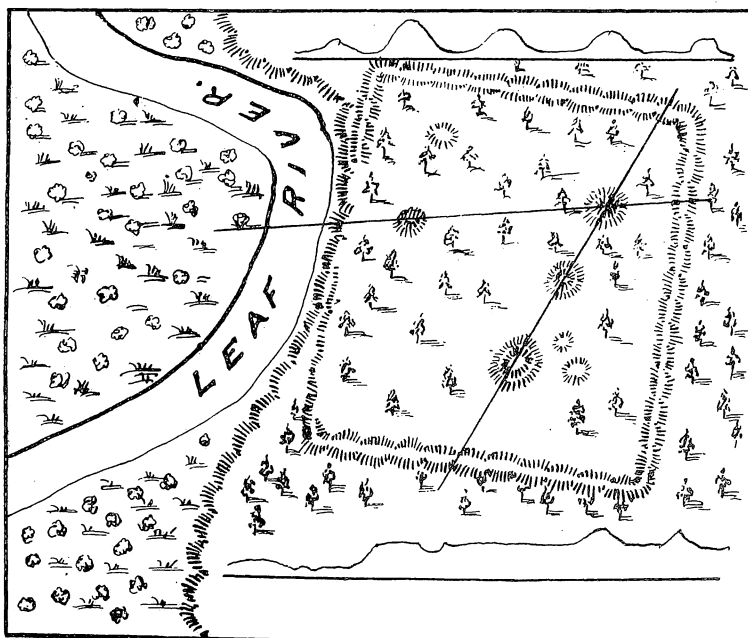
*Crow Wing River mounds*, S.  $\frac{1}{2}$ , S. W.  $\frac{1}{4}$ , sec. 1, T. 137-34, about 18 ft. above the river, and 250 yards distant. Nos. 3, 4 and 5 were excavated by Hopewell Clark in 1888. Five of this group of six are elongated, two of them having smaller extensions. Surveyed Sept. 8, 1891.



*Embankment and mounds*, sec. 27, T. 135-34. Mr. O. E. Garrison has mentioned and surveyed an earthwork and mounds on the Leaf river (Ninth annual

report of the Geological Survey, p. 176, pl. 1) of which the following is a copy from his plan. Mr. Brower visited this in May, 1901, and he described it as a ditch forming two sides of an irregular triangle, the open side facing south toward Leaf river, with diamond-shaped excavations at the two extremities. Within the triangle he discerned a "pit" and several graves that were covered by boulders brought from a distance. From this he judged the defence was erected during the war between the Ojibwa and the Sioux. It is probable that he did not see the work mentioned by Mr. Garrison, which probably shows the ruins of a palisaded village of earth houses.

"Mr. O. E. Garrison, in the account of his canoe voyage on the Crow Wing and Mississippi rivers, published in the ninth annual report of this survey, gives the following note of aboriginal earthworks in Wadena county: 'In section 3, T. 136-33, on the left bank of the Crow Wing river, near the head of a rapids, are two ancient mounds: I landed and made the following rough measurements. The one nearest the river is 56 paces from the top of the river bank, here about 12 ft. high; its longest diameter is nearly parallel with the course of the stream; the shape is oval, the longer diameter being 45 ft., and the height 4 ft. The second mound is 33 paces farther west,



**FORTIFICATIONS AND MOUNDS  
ON THE LEAF RIVER  
(AFTER O. E. GARRISON.)**

having about the same size and direction as the first, but is somewhat higher. North of both is a depression, as if the earth had been excavated in making them.\* The soil is sandy, with no boulders except in the river channel, where they are large and numerous.

"Five mounds, of the usual dome-like form, 5 ft. to 7 ft. high, arranged in a somewhat quincuncial group, the central one being the largest, with a distance of about 100 ft. from it to each of the others, lie on Ole Swanson's land, in the N. E.  $\frac{1}{4}$ , sec. 4, Burnhamville, 10 ft. or 15 ft. above Little Swan lake and nearly a fourth of a mile from its shore. About half a mile farther north, in sec. 33 of the north township of Burnhamville, several aboriginal mounds one and a half to two feet high occur on the land of C. D. Bachelor on the north side of the road some 50 rods northeast from the Bear Head mill."—*Warren Upham, in vol. 2, Final Report of the Geol. and Nat. Hist. Survey, p. 579.*

There are probably other mounds in these counties, and especially in Todd county, that have not been visited.

*Philbrook mounds.* These are east of the railroad bridge over Long Prairie river, south of the railroad track, and only a few rods from the village limits, and comprise 7 or 8 mounds and one embankment.—*Brow. Note.*

*Shell River mounds.* "There is a fine group of mounds at the mouth of Shell river, on the north side of the river."—*Brow. Note.*

Mounds are in sec. 2, T. 138-35, extending northward into sec. 35, T. 139-35.—*Brow. Note.*

*Blueberry Lake mounds.* "The mound group near the end of this lake is neither important nor extensive. A copper crescent and a copper ax were found there, the former by Stephen Miller."

*Osakis Lake mounds.* (See Douglas county; also Mr. Brower's *Kakabikansing*, pp. 76, 79, 85.)

Mr. E. E. Woodworth noted, at four or five miles northwest from Round Prairie, a peculiar serpentine mound, apparently about 100 ft. long, gradually rising in height toward its head. Its mouth appeared to be open, and to grasp an oval mound.

#### EARTHWORKS IN CROW WING AND MORRISON COUNTIES.

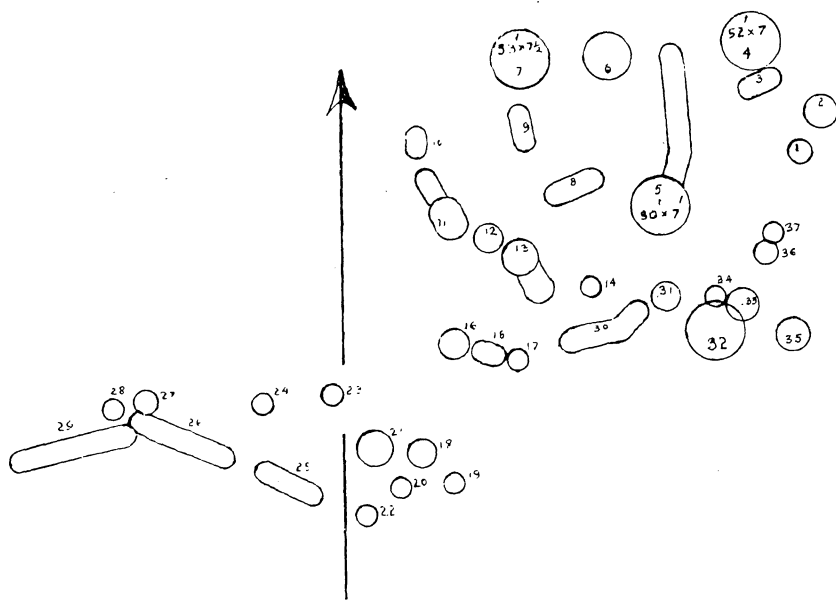
*Mille Lacs group* (N. W. side) is on S. E.  $\frac{1}{4}$ , sec. 12, T. 44-28, and comprises 37 mounds, of which 26 are circular and the rest elongated. The largest circular mound is 53 ft. by 7 $\frac{1}{2}$  ft., and the smallest

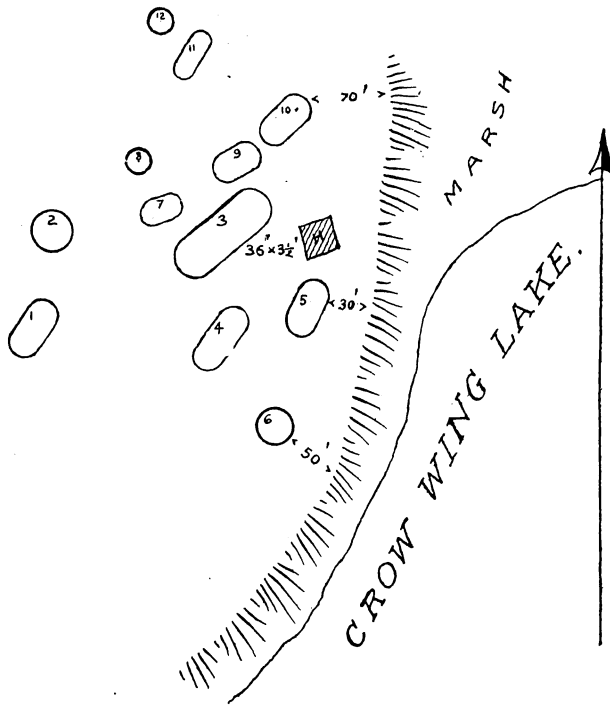
is 16 ft. by 1 ft. Nos. 4, 5, 6, 7, 19 and 22 have been excavated. Two of the oblong mounds are not continuous in the same right line, but have small changes of direction, and one oblong mound is prolonged by another built on in the line of its extension but narrower. These mounds are about 25 ft. above the lake. Surveyed Sept. 16, 1891.

This group seems to be that which is represented by Mr. Brower on his "Archeologic Map of Mille Lac," on the north side of Garrison creek. Besides these Mr. Brower shows other mounds on the shore of Mille Lac within the limits of Crow

Wing county, viz.: at the head of Dinwiddie bay, in the vicinity of Garrison, and at the head of Jabe bay north of Pasquaminnissance creek. He has also mapped this group in more detail, along with a

\*According to Mr. Brower, this group consists of six long mounds and three round ones, and a village site is on the north side of the mouth of the creek at sec. 10, T. 136-33; also a small group of mounds on secs. 26 and 35, T. 136-33, east side of the river.





series extending westward to Borden lake, in *Kathio*, plate vi, and he calls them all *Garrison mounds*.

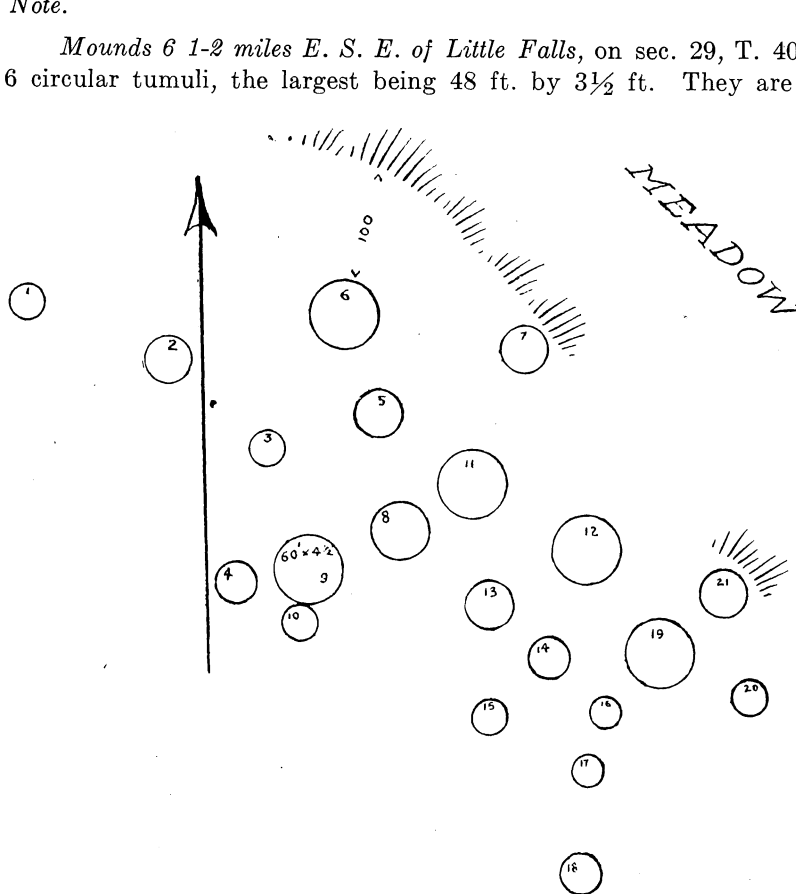
Mr. C. W. G. Hyde has stated that in 1883 a mound on the claim of Mr. O. E. Garrison was opened by himself and a party from the St. Cloud Normal school. It had a height of six or seven feet. At 5 ft. below the surface, near the center, was a lot of bones "in a heap" when they were entirely uncovered. Near the bones were a number of small stones that appeared to have been arranged in some order, as for a pavement or a floor. This mound was one of a series which formed part of the enclosure of three sides of a quadrangle, "of which I think a creek formed the fourth side."

*Crow Wing Lake mounds*, N. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 1, T. 43-32. This group embraces 12 mounds of which 8 are elongated. They are about 10 ft. above the lake, and the land is cultivated. Surveyed Oct. 14, 1886.

*Farm Island Lake group*, near the east line of sec. 6, T. 45-27. Here are several mounds and

embankments that have been much disturbed, one of the embankments having been partially obliterated. There remain two embankments and two broad-elongated mounds. The former are 180 ft. by 14 ft. by 2 ft., and 75 ft. by 14 ft. by 2 ft. They are on a ridge between Rice bay and Mud river.—*Brow. Note.*

*Mounds 6 1-2 miles E. S. E. of Little Falls*, on sec. 29, T. 40-31, group of 6 circular tumuli, the largest being 48 ft. by  $3\frac{1}{2}$  ft. They are about 10 ft.



above the meadow. Another mound is in the same region, on a knoll 14 ft. above the meadow. Its size is 52 ft. by  $3\frac{1}{2}$  ft. Two others, of which the larger is 64 ft. by  $4\frac{1}{2}$  ft., are also on sec. 29, T. 40-31. The exact location of these mounds was not obtained.

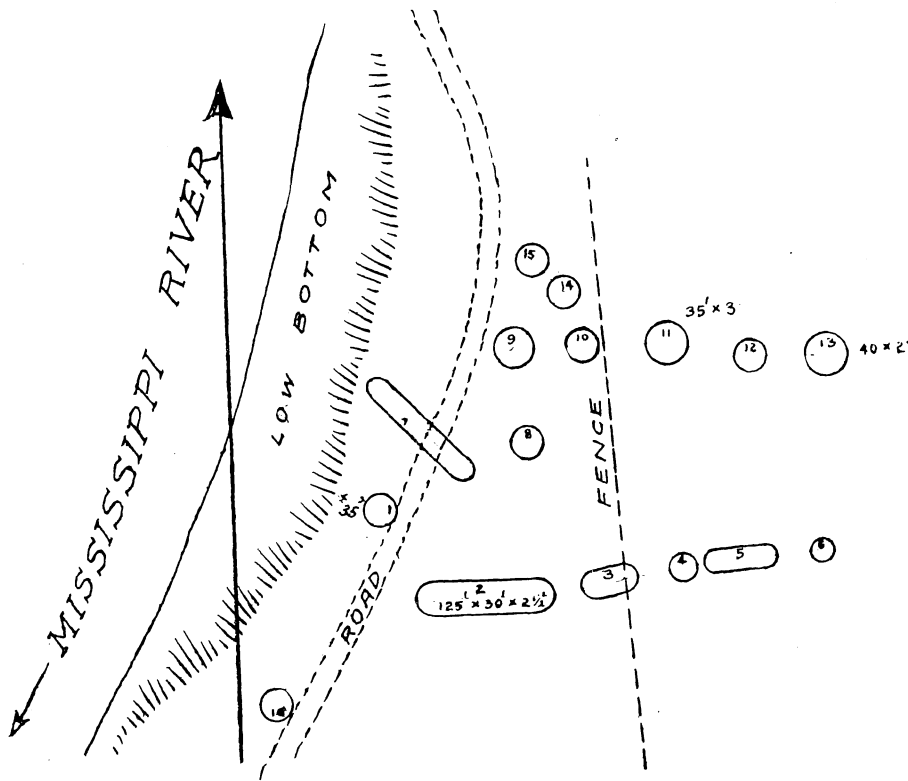
There is also another group of circular tumuli on sec. 29, T. 40-31, the largest being 60 ft. by  $4\frac{1}{2}$  ft. They are 10 ft. above the meadow. Surveyed Sept. 18, 1891.

Dr. E. K. Jaques and Prof. E. A. Parks explored some mounds "about eight miles" east of Little Falls, according to the *Little Falls Transcript*, about 1889, which were about 40 ft. in diameter at the base and about 5 ft. high. From

excavations made in two of these mounds they obtained a skull and thigh bones of a man estimated to be about 6 ft. tall. The mounds were composed of a top layer of "hard sand impenetrable by water, and 2½ ft. in thickness." The relics were found in the lower part of the sand. The black soil of the land adjacent is only 6 inches thick.

*Mounds on sec. 35, T. 41-31.* According to Mr. Nathan Richardson, aboriginal mounds are to be seen in the "south edge of Belle Prairie, six miles east of Little Falls, nearly 40 in number, about the shore of a lake which was called by the Indians 'the lake between the hills.'" A mile east of this lake is a group of about a dozen mounds, two of which were dug into a few years ago, a skeleton being found in each. "Going from these nearly south about two miles, on the point of dry land running down to

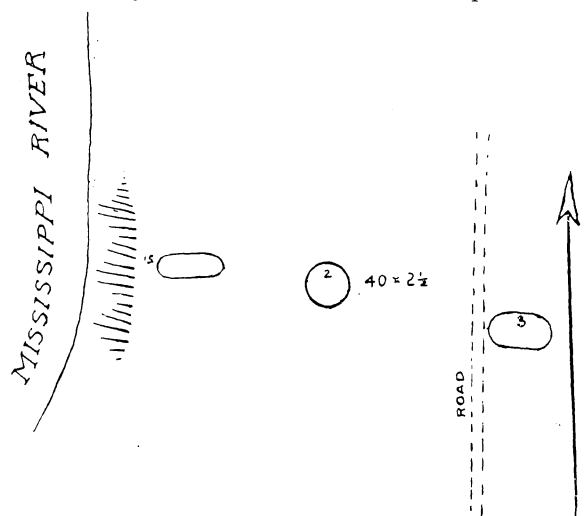
the thoroughfare between the two Rice lakes, there are three mounds together, much larger than those I have mentioned. Then by crossing the stream connecting the two lakes and following down the strip of dry land between them about half a mile, you come to the largest mound known in the county. It is about 25 feet high. Passing on about one mile, on the S. W. bank of East Rice lake, eight or ten more of the smaller size are found. Occasionally one or two small ones are met with in other parts of the county."—*N. Richardson*, as quoted by Mr. Upham in vol. ii, of the final report of the Geological Survey, p. 610.



*Mounds at Little Falls, on lots 3, sec. 34, and 4, sec. 35, T. 41-32,* about one mile north of Little Falls, is a group of mounds which have a line bearing away from the river, i. e., about E. and W. The group embraces 16 mounds, of which 4 are elongated. They are about 30 ft. above the river.

On lot 3, sec. 35, T. 41-32, are three mounds which evidently are a somewhat detached portion of the group foregoing, as they present the same peculiarity of bearing away from the river about perpendicular to the line of the bluff, and are all on the same terrace flat at about 30 ft. above the river, on cultivated land.

In 1877 the writer observed earthworks in the north limits of Little Falls, and, without exact measurement, made a sketch of their location, which was published in his sixth annual report on the geological survey, p. 59. Since then great changes have been wrought in the terrace flat on which these earthworks are located, and although twice re-visited these mounds and embankments could not be found. They have evidently been removed by the lumbering and other industries which have covered the spot. It seems quite probable, in the light of the



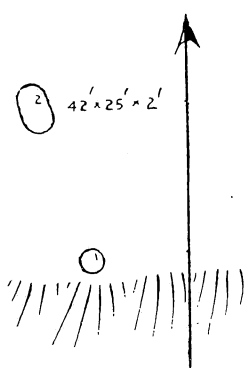


diagrams foregoing, that the "artificial ridge" represented in the writer's sketch of 1887, is included in the mounds and embankments Nos. 2, 3, 4 and 5, of the drawing by Mr. Lewis. Further southwest, and on the immediate bluff of the river, were seen, in 1877, a number of circular lodge circles, "consisting of low circular ridges from eight to twelve feet across, rising but two or three feet above the general level." These may reasonably be referred to modern, even historic, time.

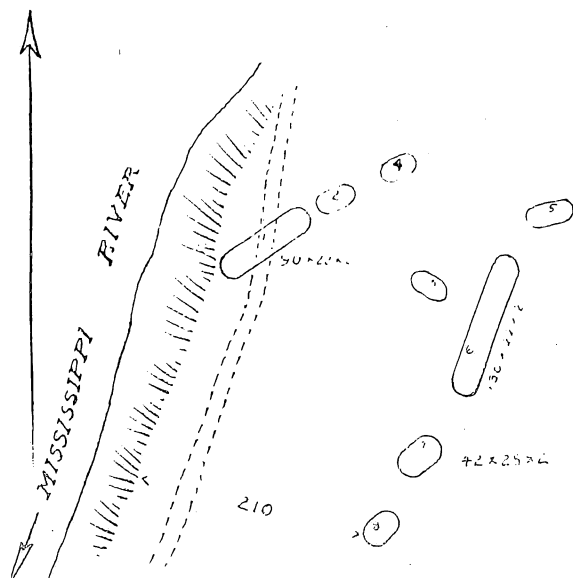
*Mounds between Belle Prairie and Little Falls,* near the north line of sec. 23, T. 41-32, on the bank of the Mississippi river and 30 ft. above the river. This group of 8 consists wholly of elongated mounds, the longest having the length of 130 ft., width 25 ft., high 1½ ft.

There is a lone tumulus 18 ft. in diameter on N. W. ¼, S. E. ¼, sec. 14, T. 41-32, about 30 ft. above the river.

Two others, one oblong, are 28 ft. above the river, on S. ½, S. F. ¼, sec. 23, T. 42-32, 4 miles above Belle Prairie. The tumulus is at the brink of the bluff, and the oblong mound is N. N. W.



*Long (or Anoka) lake mounds,* N. E. ¼, sec. 5, T. 44-29, are on the northeastern side of the river and very near to the upper extremity of Long lake. This is a beautiful group of 27 ancient earthworks, which assume nearly or quite the form of an enclosure or fort, along the lines of which are also a number of mounds. This splendid series was only casually observed. The ancient village site is on both sides of the river at and near the mounds extending across the section line eastward, and probably northward.



Mounds have also been reported in sec. 18 of this township, and in sec. 22, T. 45-29, at the lakes in that region.

Embankments, one of which is 265 ft. long, are on sec. 27, T. 44-30, west side of Long lake.—*Brow. Note.*

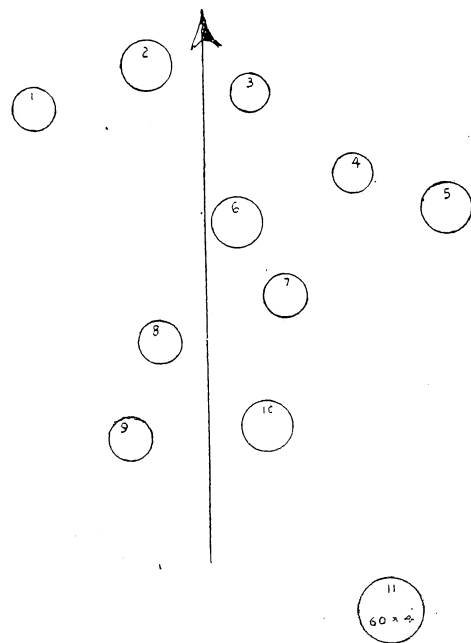
*Nokasippi River mounds,* sec. 27, T. 43-32. Mr. Brower noted mounds on both sides of the river on this section.

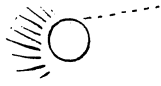
There is a mound group on each side of the river at the outlet of Grave lake, sec. 23, T. 45-29.—*Brow. Note.*

*Rice Creek (of Platte river) mounds,* N. ½, S. W. ¼, sec. 35, T. 41-31. This group embraces 41 mounds, of which the most are simple tumuli. The largest tumulus is 60 ft. by 5 ft. and is connected by an embankment with another which is 45 ft. in diameter and 3½ ft. high. This connecting embankment is slightly curving. The smallest is 16 ft. in diameter and 1 ft. high. These mounds are about 20 ft. above the lake, of which they are on the east side. Surveyed May 1, 1890. (Shown on page 328.)

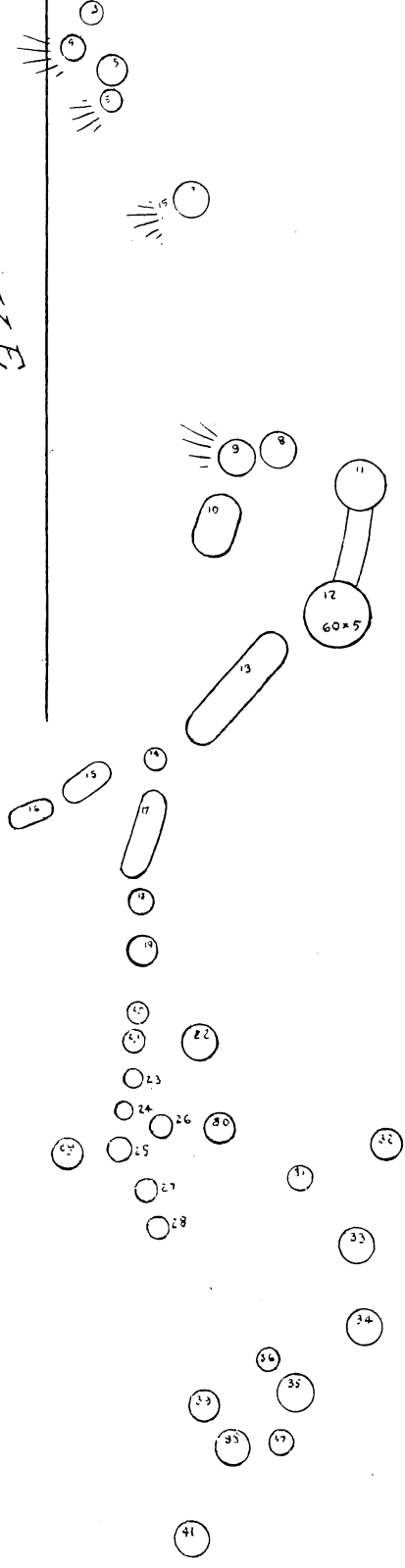
On the S. W. ¼, S. W. ¼, sec. 35, T. 41-31, are more Rice creek mounds, 11 being visible, while one other, north of No. 1, has been graded down. No. 11, also, the largest of the group (60 ft. by 4 ft.) is partially graded away. They are all on cultivated land, and average unusually large in size. Surveyed May 1, 1890.

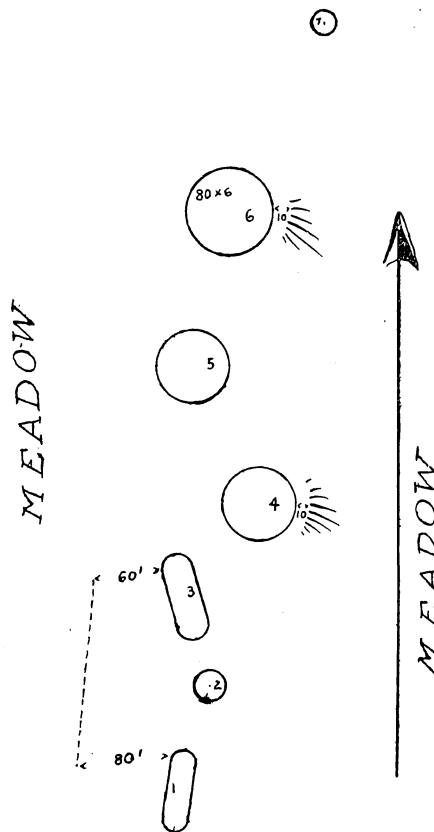
*Motley mounds,* are at the northwest corner of Morrison county and 4 in number, examined in 1898 by Mr. Brower. One





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is an embankment 200 ft. long, 30 ft. wide, 3 ft. high. Two are broad-elongated mounds, and one is a large tumulus, 80 ft. by 6 ft., with two low extensions, one toward the north, 100 ft. long, and one toward the south, 35 ft. long. Village debris is further north along a bluff which overlooks a swamp and a little creek.

*Mounds between Rice creek and Platte river*, on N. E.  $\frac{1}{4}$ , sec. 20, T. 40-31, from five to twelve feet above the lakes. Two of these are elongated. The largest circular mound is 80 ft. by 6 ft.

Mr. J. V. Brower in 1897 observed two mounds near the mouth of Long Prairie river, on the west side, lot 5, sec. 20, T. 133-31. The large round mound is 75 ft. by 6 ft. The long mound is low and unimportant. The former had been excavated.

There is a *single mound* near the end of a small lake in S. W.  $\frac{1}{4}$ , sec. 8, T. 46-29, a little north of the western extremity of the lake.—*Brow. Note.*

Mr. Lewis registered from Morrison county the following: 6 arrow-heads, 2 war-points, 1 chipped implement, and an indefinite number of white quartz spalls; and from Crow Wing 2 scrapers, 1 ceremonial knife (from a mound), and 1 war-point.

EARTHWORKS IN MILLE LACS AND KANABEC COUNTIES.

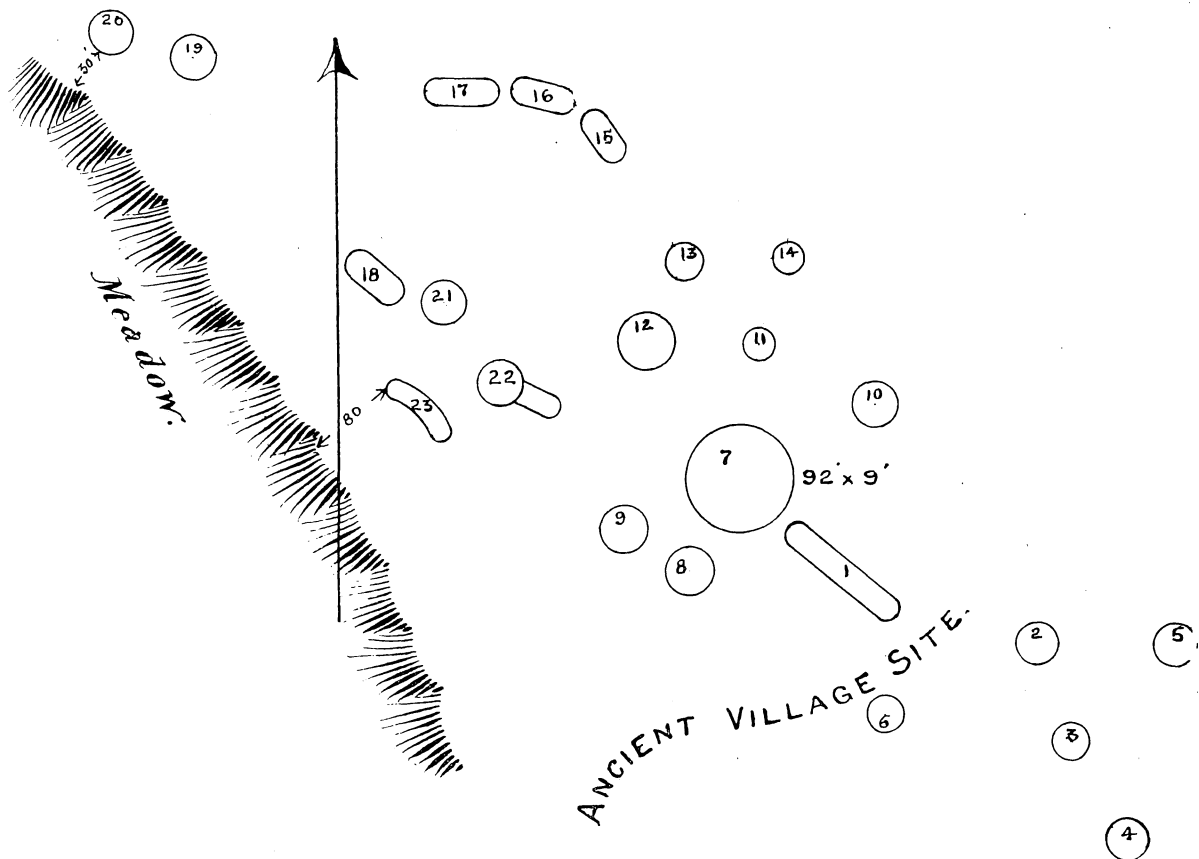
*Mounds near Rice lake, 3 miles west of Princeton*, S. E.  $\frac{1}{4}$ , sec. 25, T. 36-27. Nos. 19 and 20 are about 12 ft. above the lake. The group consists of 23, of which 6 are elongated and one curved-elongated. One large tumulus, No. 7, is 92 ft. by 9 ft. They are on a plateau overlooking a meadow. At the outlet of Fish

lake, Kanabec county, is a similar curved mound. Surveyed April 24, 1890. (Shown on following page.)

“There is a tradition that three Dakota warriors, killed in a fight with the Chippewas, were buried in the largest mound. In plowing over this mound, the plow struck and splintered a log of wood inclosed in it near the surface.”—*Upham.*

The writer visited the mounds near Rice lake, in company with Mr. E. E. Woodworth, Oct. 18, 1907, for the purpose of examining some of the long mounds of the group, with the view of getting evidence as to the purpose for which such mounds were made. It was very difficult, and even impossible, to identify some of the mounds indicated by Mr. Lewis. This was in part due to the cultivation which the ground has undergone since, and partly due to an error made in the original survey, viz.: No. 1 was formed by dirt thrown out in digging a drain ditch made 25 or more years ago by “Doc Marshall,” who then owned the farm. Nos. 8 and 9 are due to the same agency. Nos. 18, 21, 22 and 23 are alongside the same ditch, and are now either invisible, or are to be attributed to the dirt thrown out in digging the ditch. The earth in the vicinity of these is sandy and when piled up easily flattened out by wind and rain, and the piles are lost; but the ditch remains. It was impossible to find Nos. 15, 16 and 17. Nos. 7 and 12 were found still distinct. No. 1 was thoroughly explored, and was found to consist of nothing but black soil (being on lower ground) such as would be thrown out from the ditch which runs alongside of it. The material below the black soil is clean sand like that of the region in general.

Mound No. 7 was then examined by a trench and a series of pits. This mound is now about 6 ft. high. It has been excavated by several parties. The mass of the mound is merely sandy loam such as the soil of the region, without implements. At the depth of 4 ft. or 4½ ft., we found a bundle of bones, in which were so many femurs that it was estimated that three individuals were represented. On the bundle, which was carefully uncovered, were fragments of at least two skulls. The teeth were displaced, though near together. They had probably dropped from the upper jaw as the bones decayed. There were no vertebræ, but some smaller bones were thought to have been arm-bones. The long bones lay piled parallel, except that one long bone was diagonal with the others, and about horizontal, almost or quite in contact with each other. At another place, a trench-like excavation was made. It revealed



a few bones, scattered and much decayed, also the more fresh bones of some rodent which had perished in burrowing in the ground. From both of these excavations was obtained a considerable amount of charcoal (about half a bushel) which was scattered promiscuously. It was remarked that we found no ashes. This excavation was carried through the central part of the mound, but was not so deep as to reach the natural original surface.

We passed over the ancient village site adjacent, and still further toward the southwest, and all along found sherds of pottery, chipped white quartz, flint, chert, and an occasional arrow-point, the last usually imperfect. We also found burnt stones, some of which had apparently been heated for the purpose of boiling water. Another trophy was a disk stone, cupped on both sides and somewhat battered on the edge. It is a natural pebble, not quite circular,  $3\frac{1}{2}$  inches in diameter.

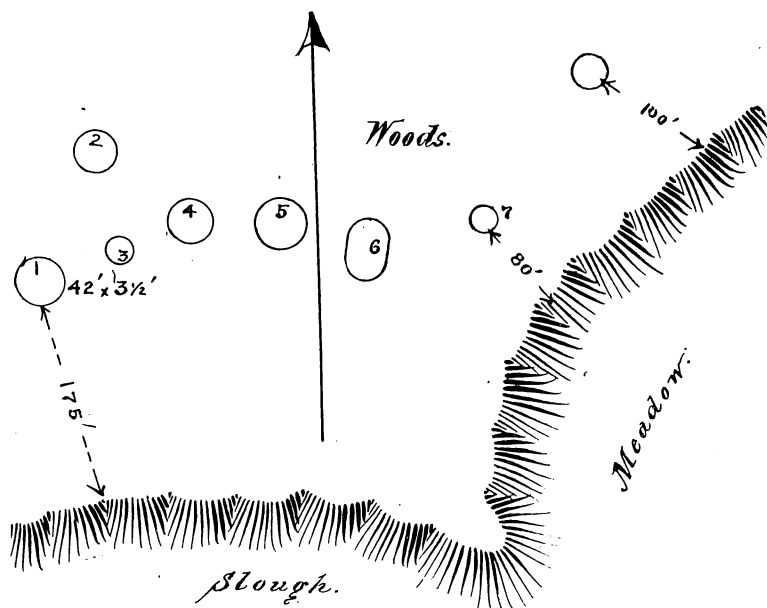
Formerly (1906) Mr. Woodworth obtained from mound No. 7, wampum beads and a white porcelain ball about an inch in diameter.

*Rum River mounds*,  $1\frac{1}{2}$  miles southeast of Princeton, W.  $\frac{1}{2}$ , S. E.  $\frac{1}{4}$ , sec. 34, T. 36-26, about 25 ft. above meadow. These are ordinary tumuli, one being broad-elongated. Surveyed April 26, 1890. (Shown on following page.)

*Mounds at Mille Lacs lake.* Mille Lacs county contains a great many other mounds, particularly in the vicinity of Mille Lacs lake and the small lakes through which the Rum river flows. They have been described and mapped by Messrs. Brower and Bushnell in their work, *Mille Lac*,\* and from that admirable discussion the following is quoted, page 107:

"Lodge circles of earth, and numerous conical and elongated mounds, have been discovered at and near Mille Lac. The lodge circles as a rule show depressions in the center, and at various excavations made into them charcoal and the effects of fire were observed. The original deposits of human remains in the mounds at Mille Lac, as a rule, are bundles of leg and arm bones, upon which the skull and lower jaw rest, occasionally in contact with a section of vertebra; the whole covered over by conical or

\*The "Archeologic chart of Mille Lac" is repeated in "Kathio," 1901, Appendix.



elongated mound structures from one to ten and twelve feet in height, and of various diameters from fifteen to eighty feet, the largest number indicating an average size about twenty feet in width and three feet in height. Exploration of mounds at different groups has demonstrated that they contain no quantities of archeological objects, only single specimens being occasionally found in contact with human bones which lie in various stages of decomposition, from well-preserved remains to the disappearing ashes of the dead, distinguishing the builders of the mounds at Mille Lac as a people who occupied the region during a long period of time, from an ancient to a comparatively recent date. Explored mounds in

distinct groups of identical size, height and structure, yielded the remains of original interments in widely different stages of decomposition, indicating that the process of grouping the mounds was a continued custom controlled by the necessity of occasions when the accumulated bones of the dead required additional mound structures over deposited remains of one or several subjects. The Ojibwa intrusive burials at the crest of various mounds have been of an entirely different nature from the mortuary customs of the people who preceded them, in that the flesh, arms of the chase, ornaments, knives, pipes and other objects, the whole usually incased in a birch bark, constitute the Ojibwa preparation usual within a short time after death. The excavated grave holding the deposited remains is then covered over with earth and barricaded in various ways, often with a box or [a] puncheon, and, in a few instances, fenced, on or near which the 'O-do-daim-un' of the deceased is cut in wood, painted or penciled, showing what family clan mourn the recent death."

Messrs. Brower and Bushnell give the following list and number of tumuli observed by them at and near Mille Lacs:

Malmö group at Big bay .....	128 mounds
Number obliterated and one isolated .....	6 "
Isolated mounds at Wealthwood shore .....	3 "
One Portage group near Knox point .....	7 "
Group on Mud river, below Spirit lake .....	72 "
Nichols group at Duck Flutter portage .....	55 "
Garrison Creek and Borden Lake groups .....	74 "
Group at Dinwiddie bay .....	14 "
Group north of Pasquanimissance creek .....	7 "
Group westward from Fenley shore .....	9 "
Wigwam Bay group .....	64 "
Earthworks at Shoreview bay .....	3 "
Mounds at and near Outlet bay .....	41 "
Portage Bay group .....	34 "
Group at Cove, extremity of South End bay .....	23 "
Scattered groups at Sagawamick bay .....	100 "
Giminissing bay and river group .....	27 "
North Courage Bay group .....	4 "
Accault Bay group .....	6 "
Mounds near Sunset bay .....	3 "
Extensive group of mounds and embankments at Rice lake and creek, northeast from Malmö (Big Bay portage) .....	208 "
Extensive and extended group of mounds near Aquipaguetin island, Halfway and Third lakes, about .....	180 "
Group at Round lake, northeast of Nichols .....	11 "

Mounds at Farm Island lake (reported).....	30 mounds.
Group on Nokasippi, at camp No. 14 at Long lake.....	16 "
Total.....	1,125 mounds.

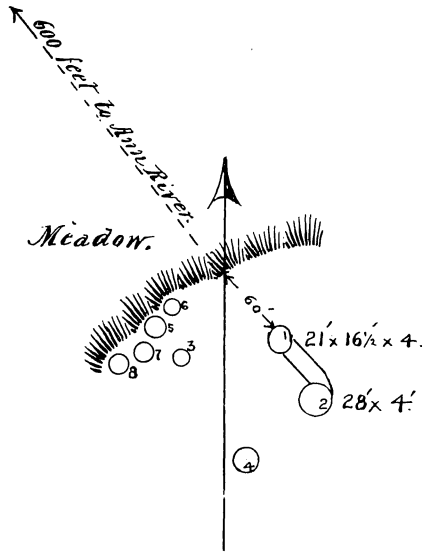
"It is not claimed that all of the mounds and earthworks at and near Mille Lac have been discovered. One isolated mound at Nichols is omitted from Mr. Bushnell's chart. The village sites and groups at Garrison creek and Borden lake, connected by trails, appear to have been one lengthened Indian community."



The earliest known statement concerning the earthworks at Mille Lacs is that of Mr. W. W. Warren, in his history of the Ojibwa:

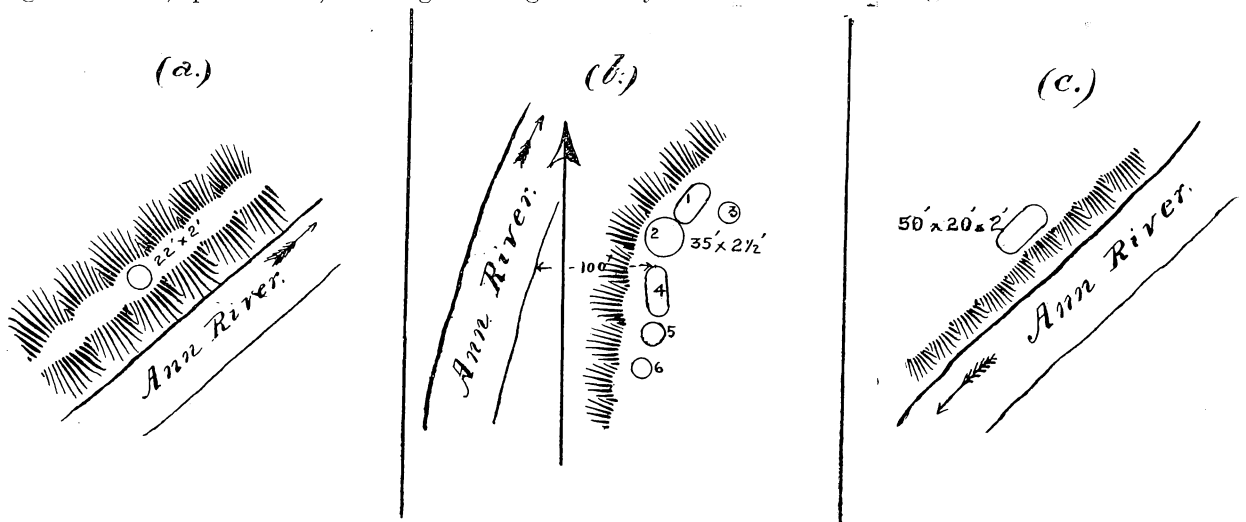
"The numerous mounds on the shores of Mille Lacs are accounted for in Ojibwa tradition as the remains of the former earthen lodges of the Dakota, whom their ancestors drove from this lake."

There is also a mound group at Ericksonville, sec. 32, T. 42-26.



*Ann River mounds*, S. E.  $\frac{1}{4}$ , sec. 23, T. 39-24. The land is rolling. The mounds are from 8 ft. to 20 ft. above Ann river, with meadow to the south and the northeast. The Indians (Chippewa) have dug many holes in and around the mounds in which to store their rice. The surveyed group embraces 105 mounds. They are of average dimensions and considerably crowded, but seldom interfere with each other. One tumulus is 64 ft. by 7 ft., another 62 ft. by 10 ft., and another 52 ft. by 5 ft. Another is 48 ft. by 7 ft., others 48 ft. by 5 ft., 36 ft. by 5½ ft., and 50 ft. by 5½ ft.; but the majority of them are less than 30 ft. in diameter. Twenty-seven are elongated, without noticeable characters except that one (No. 9) has a slight angle at one end which deflects it from a right line. Beyond the angle it extends 18 ft. and its width is reduced from 18 ft. to 12 ft. On the other side of this angle the embankment is 106 ft. long. The embankment and tumuli are heterogeneously mingled and the direction of the former shows no systematic parallelism with the adjacent bluffs. Surveyed Oct. 25 and 26, 1886. (Shown on preceding page.)

*Ann River mounds*, N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 26, T. 39-24, 35 ft. above the river. The group contains eight mounds, quite small, the largest being 28 ft. by 4 ft. One small elongated mound is connected

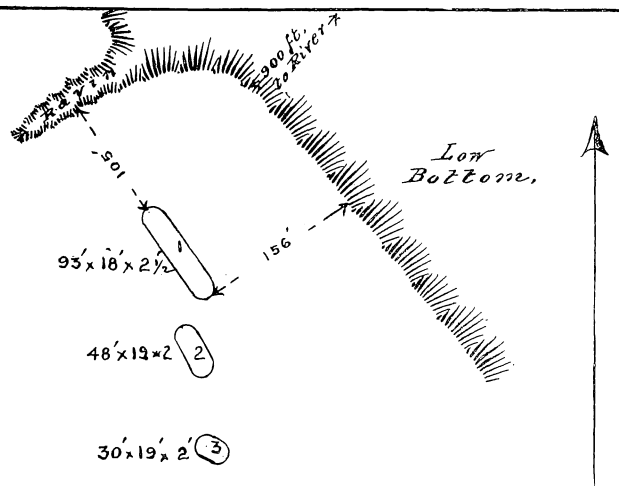


obliquely by an extension embankment with a tumulus, on which it makes a tangential attachment. The elongated mound is 4½ ft. high, the extension embankment being 2 ft. and the tumulus 4 ft. This is a very rare form of connection between two mounds.

In 1901 Mr. Brower found some of the Ann River mounds had been demolished for the construction of a lumberman's dam in Ann river.—*Brower Note*. (Shown above, top.)

*Ann River mounds*, (a), N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 26, T. 39-24, about 30 ft. above the river; a solitary tumulus, north side of the river, 22 ft. in diameter.

(b) S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 27, T. 39-24, about 20 ft. above the river; a crowded group of 6 mounds, two of them being elongated, on the right bank of the river near the brink of the bluff. Surveyed April 28, 1890.



(c) A single elongated mound on the right bank, N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 26, T. 39-24. It is rare to see an isolated elongated mound. Its dimensions are 50 ft. by 20 ft. by 2 ft. Twelve feet above the river. Surveyed April 28, 1890. (Shown on preceding page.)

*Knife Lake mounds*, sec. 2, T. 40-23. Six or seven mounds are on the east side of the lake, on a wide point of land, and a few at about a mile further south.

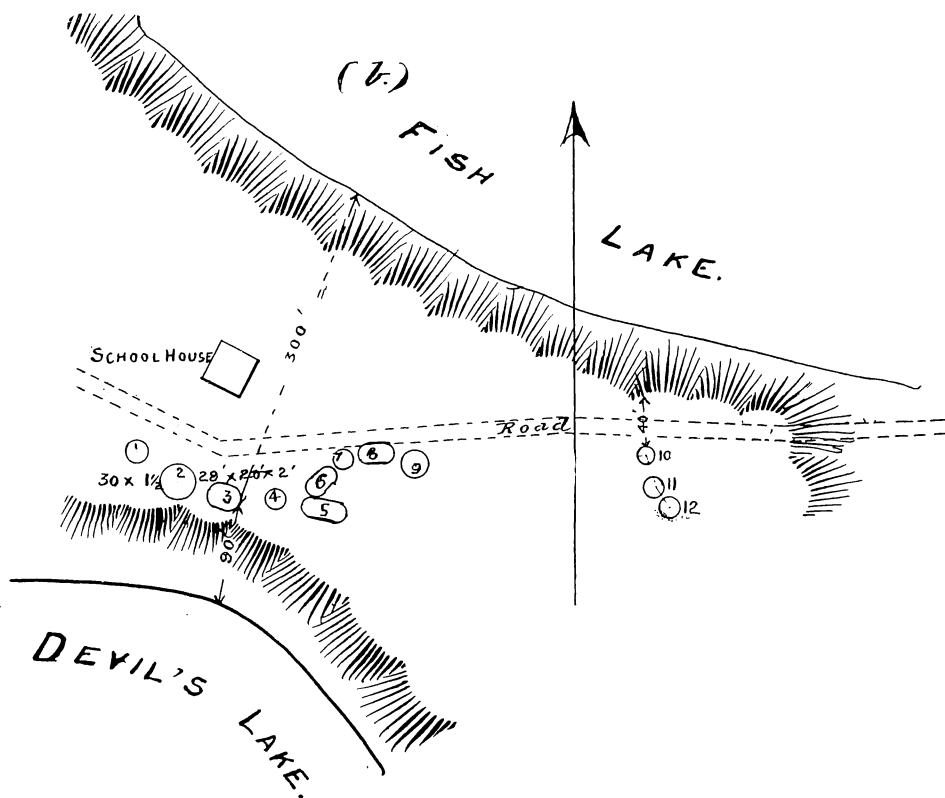
*Snake River mounds*, N. E.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 2, T. 38-24; about 18 ft. above the bottomland. Group of three small elongated mounds, the largest being 93 ft. by 18 ft. by  $2\frac{1}{2}$  ft. Surveyed Nov. 1, 1886. (Shown on preceding page, bottom.)

*Fish Lake mounds*, (a), Lot 3, sec. 34, T. 39-24, about 30 ft. above the lake. There are many rice cellars along the edge of the bank and around the mounds. This group contains 76 mounds, which have a small average diameter. But there is one noticeable exception—mound No. 35 has a diameter of 72 ft. and a height of 13 ft. It stands aside from the rest of the group. Its cubic contents are 17,507.5 feet. If the average diameter of the rest, including the widths of the embankments, be 19 ft., and height 1.4 ft., one of the average large size contains 130.4 cubic feet. The large mound, therefore, is as large as 124 of the average diameter. What may have been the motive in erecting one so much larger than the rest, and why it is placed in an isolated position, is a matter wholly unknown. But it is reasonable to presume that a person of distinguished merit, or some chief or brave warrior, was selected to receive greater honor at burial. It may also be supposed that this mound became large because of successive burials from the same distinguished family, or by successive burials of a certain class. In several other instances it has been noticed that the largest mound of a large group is situated outside the general group, or at least somewhat free from the rest. In this group are 25 elongated mounds of small size. Eleven of the tumuli are 17 ft. in diameter, and 15 are 18 ft. in diameter. Surveyed Oct. 27, 1886. (Shown on page opposite.)

*Fish Lake mounds*, (b), S. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 33, T. 39-24, about 24 ft. above the lake. This group

embraces 12 mounds, of which four are elongated. They are partly on the bluff of Devil's lake. They average small. Surveyed Oct. 29, 1886.

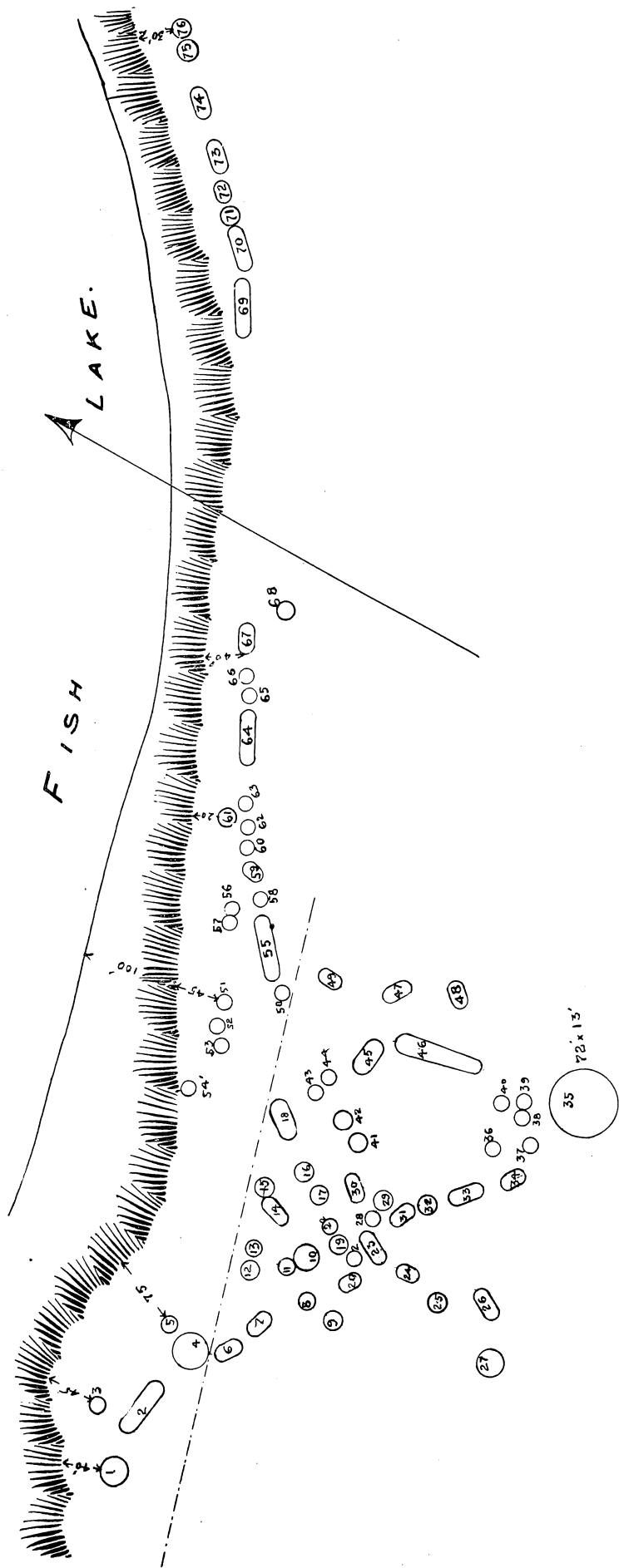
*Fish Lake mounds*, (c), S. E.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 33, T. 39-24. Nos. 1 to 4 and 17 are about 8 ft. above the lake. The others are from 18 ft. to 22 ft. above it. The group contains 17 mounds, of which 7 are elongated, and one has a short extension. No. 11 is 16 ft. in diameter, being perhaps the smallest mound measured in the state. The largest is 50 ft. by  $7\frac{1}{2}$  ft. Nos. 6 and 10 have been excavated. Surveyed Oct. 29, 1886.

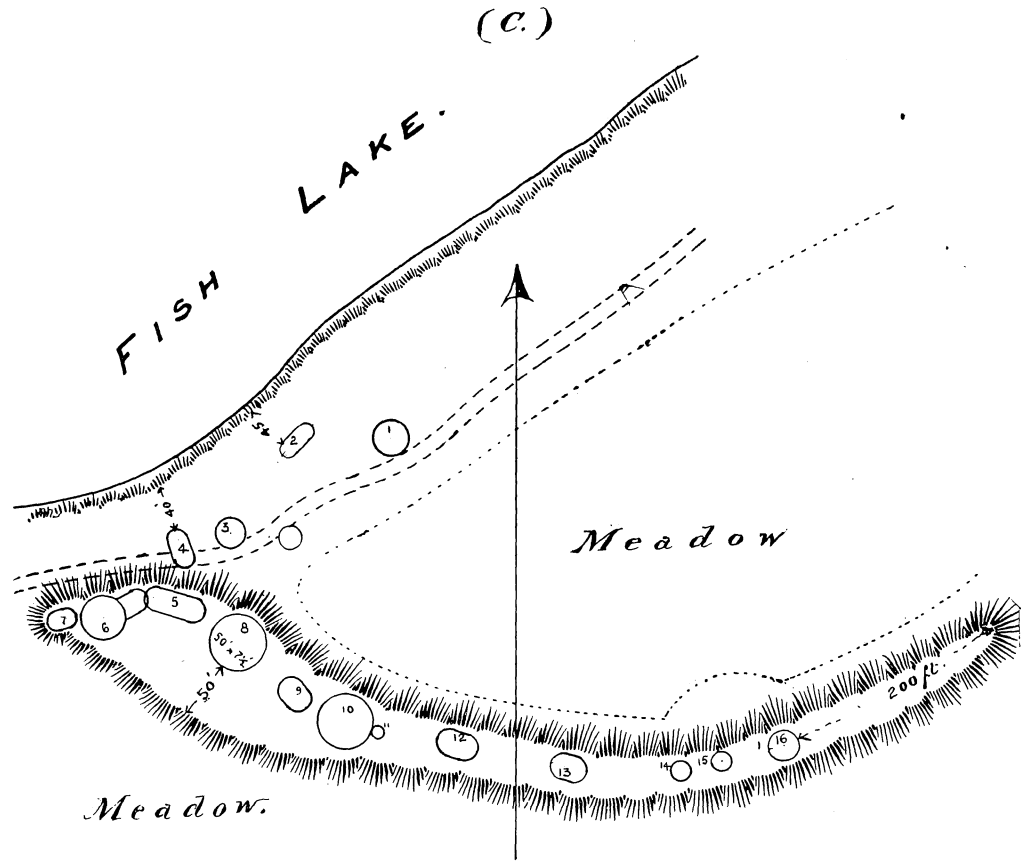


Surveyed Oct. 29, 1886. (Shown on following page, top.)

*Fish Lake mounds*, (d), N. E.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 33, T. 39-24, about 50 ft. above the lake. The group embraces 8 small mounds of which two are circular tumuli. (e) A lone mound S. E.  $\frac{1}{4}$ , N. W.

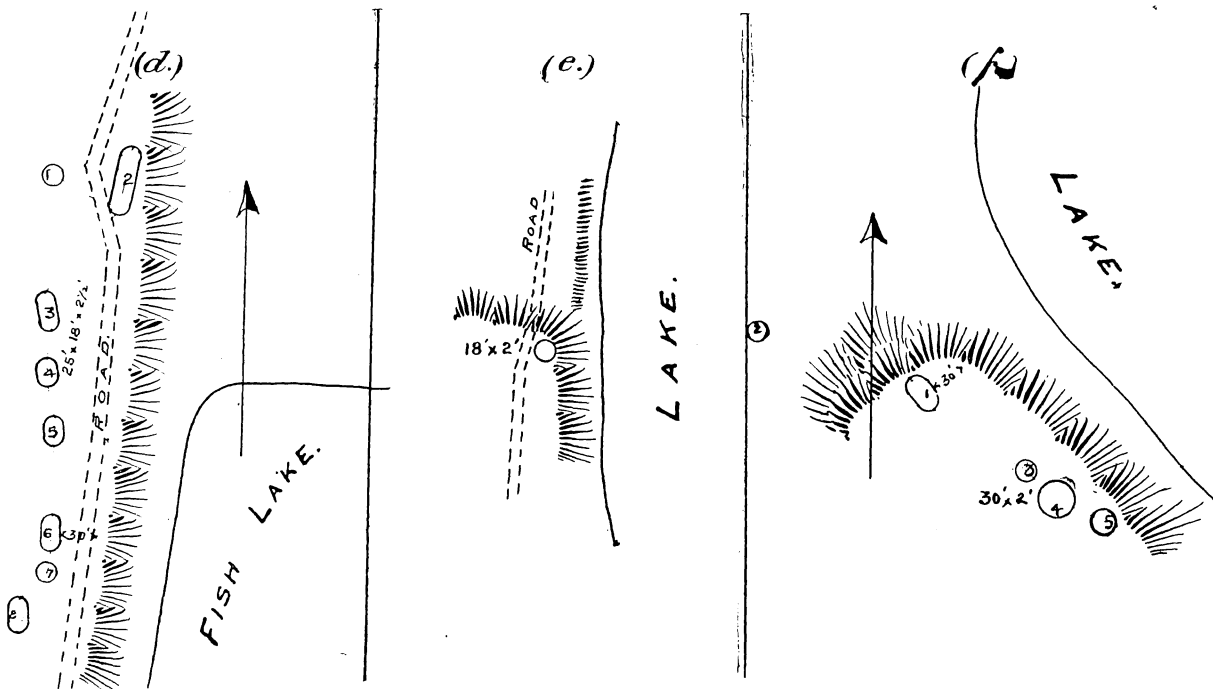


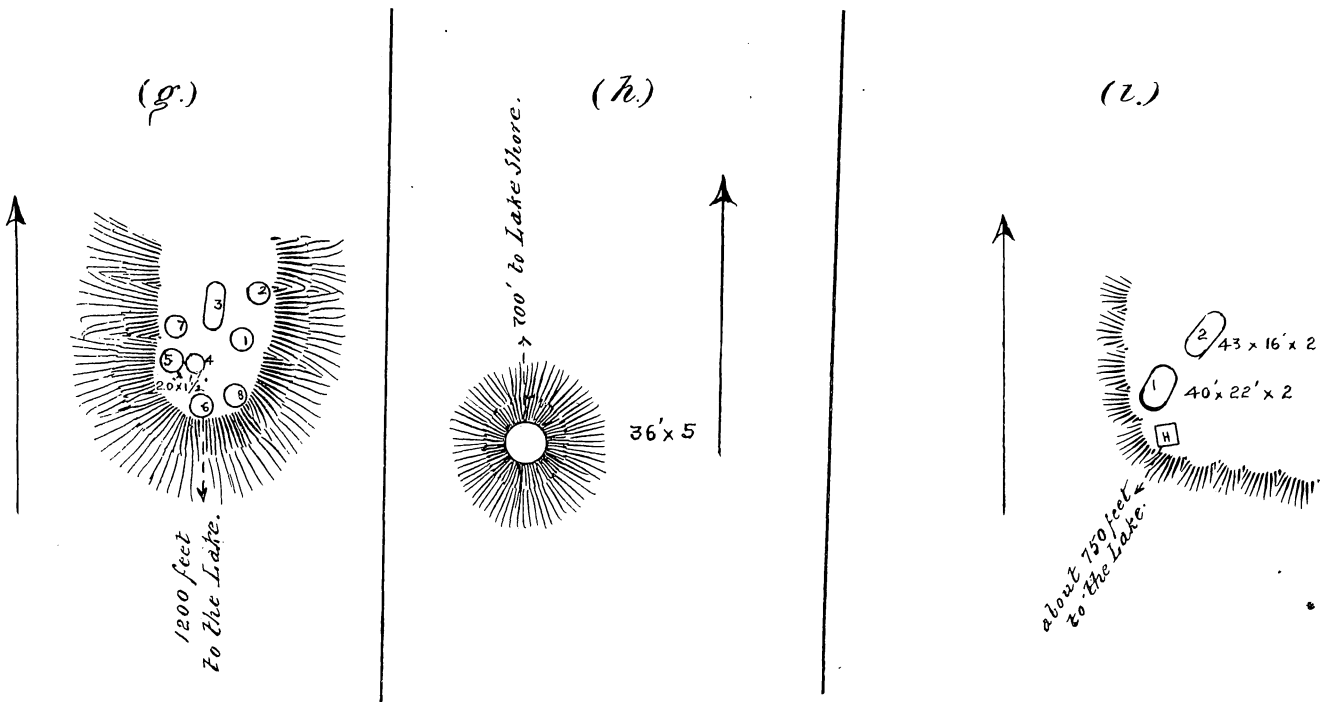




$\frac{1}{4}$ , sec. 33, T. 39-24, about 35 ft. above the lake. (f) N. E.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , and N. W.  $\frac{1}{4}$ , S. E.  $\frac{1}{4}$ , sec. 33, T. 39-24. No. 1 is about 30 ft. above the lake and No. 2 about 18 ft.

Fish Lake mounds, (g), N.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 34, T. 39-24, about 60 ft. above the lake. A group





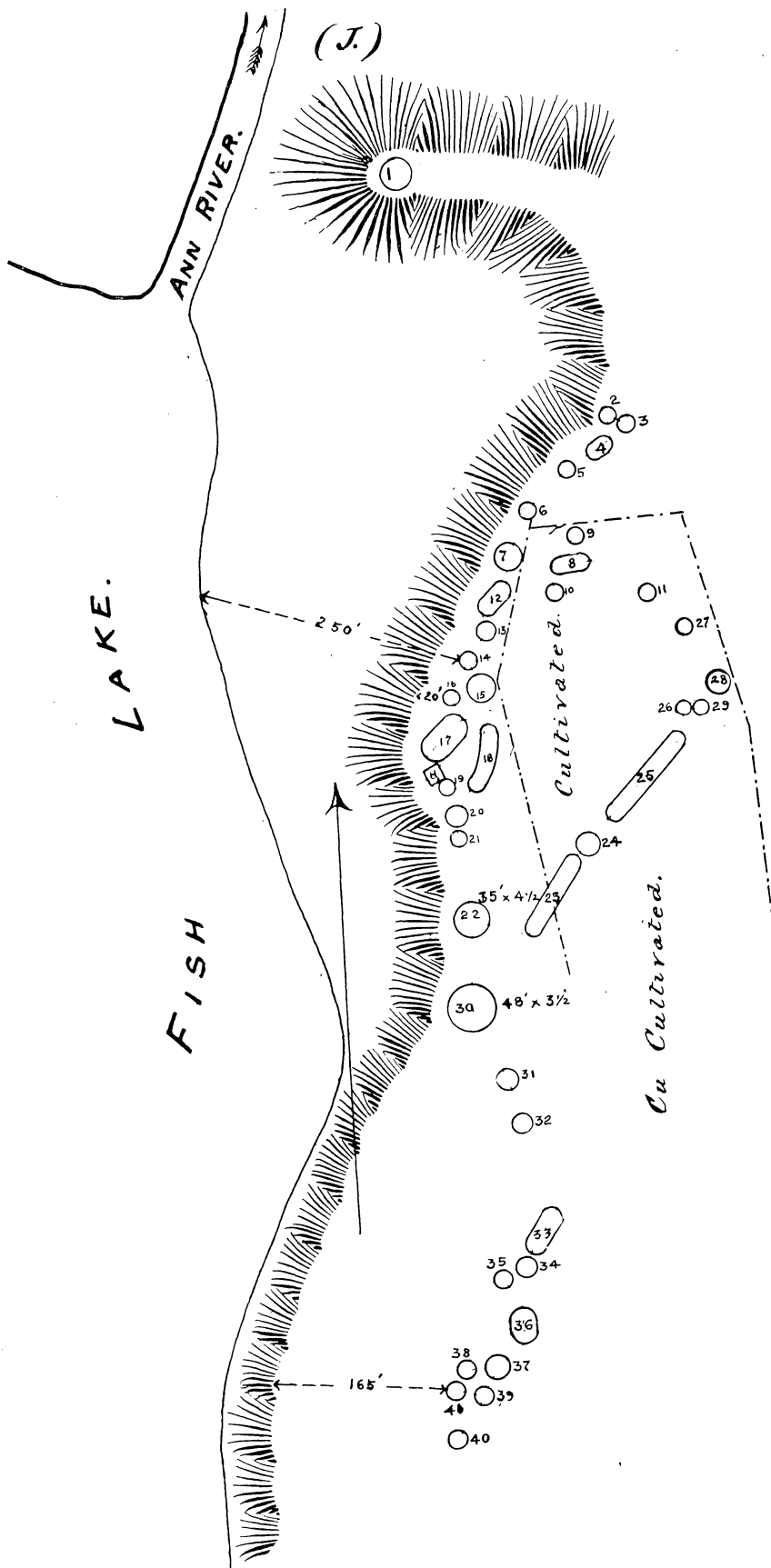
of 8 small mounds somewhat crowded. (h) S. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 34, T. 39-24, a lone circular mound, 36 ft. by 5 ft., about 20 ft. above the lake. (i) N. W.  $\frac{1}{4}$ , S. W.  $\frac{1}{4}$ , sec. 34, T. 39-24. Two elongated mounds at 40 ft. above the lake.

*Fish Lake mounds*, (j), N. W.  $\frac{1}{4}$ , N. E.  $\frac{1}{4}$ , sec. 34, T. 39-24, about 30 ft. above the lake. Group contains 41 rather small mounds, of which 9 are elongated, one being curved. The largest mound of the group (48 ft. by  $3\frac{1}{2}$  ft.) is in the general row, but is not near any other. The elongated mounds are partly parallel with the bluff and partly oblique. Surveyed Oct. 28, 1886. (Shown on following page.)

*The Groseilliers and Radisson fort.* "The time was now nigh that we must goe to the rendezvous: this was betwixt a small lake and a meadow. Being arrived, most of ours [the Hurons] were already in their cottages. In 3 dayes time there arrived eighteen severall nations, and came privately, to have done the sooner. As we became to the number of 500 we held a councell. The shouts and cryes and the encouragements weare proclaimed, that a fort should be builded. They went about the worke and made a large fort. It was about 603 score paces in length and 600 in breadth, so that it was a square. There we had a brooke that came from the lake and emptied itself into those medows, which had more than foure leagues in lenght. Our fort might be seen afar off, and on that side most delightful, for the great many stagges that took the boldnesse, to be carried by quarters where at other times they made good cheare."—(*Radisson*. Quoted from Mr. Upham's "Groseilliers and Radisson, the first white men in Minnesota," *Minn. Hist. Coll.*, vol. 10, part 2, p. 496.)

Concerning this passage it is necessary to make some qualifications. This was not a fort in the ordinary sense. It was midwinter or early in the spring, 1660. The frost was in the ground and snow was on the surface. "In two dayes it was finished." With no implements for excavating the frozen ground, it is quite probable that the so-called fort was an enclosure, hastily thrown together by the "yong men," of bushes and bows of fir, covered as much as possible to protect them from the winds, lined and bedded with "deale tree bows," the innermost portion being "covered with long poles with skins over them, that we might have a shelter to keep us from the snow."

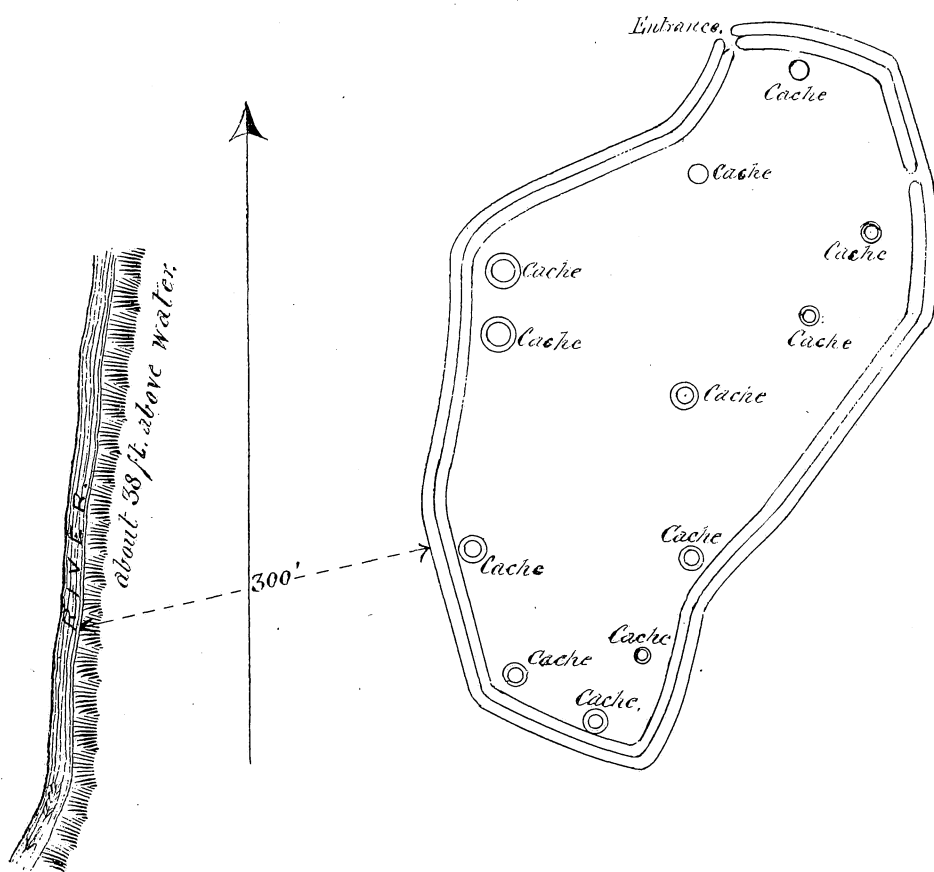
It is not credible that any such structure should have had literally the dimensions given by Radisson, i. e., 36,180 ft. by 36,000 ft. Some correction should be made in his figures. Perhaps the fort was 603 ft. by 600 ft., the words "score paces" having been erroneously interpolated by copyists or translators. Mr. Colin Campbell says: "They built a fort 600 by 603 feet," and that is probably nearer the truth than the words of Radisson as they have reached us. It is probable that the structure was



designed simply for the convenience of the great "council," and the attendant games and festivities.

This "fort" signaled the earliest treaty of "peace and union" made by the whites with the Dakota. Where was it located? Mr. Upham has identified it with the region of Knife lake, which is tributary to Knife river, in Kanabec county. It is evident that it was in the region of the Isanti, or Izatys, and hence it is very probable that it was in the region of the river on which they lived. Had it been on Mille Lacs, Radisson would not have failed to mention that body of water and some other of the natural features. Accepting Upham's identification in general, it may be possible to fix the location of the fort which was built on the occasion of this great rendezvous a little more closely. According to Mr. Brower, "An exploration of that locality [Knife lake] did not result in the discovery of any considerable evidences of populous occupancy previous to the Ojibway advent." \* \* \* "A few miles below the mouth of Knife river, at a wild rice bed, Ann river also unites with Snake river. Between and about the localities described, the ancient Isanti band maintained an occupancy for a long period of time previous to the Ojibway warfare which resulted in a change of possession. Ancient and recent earthworks were constructed there, as indicated on the accompanying map, and pot-shards and flint implements recovered from the locality explored are exactly similar to the same class of objects gathered at Kathio." This statement, coupled with

the enumeration of mounds above given in the vicinity of Ann river and Fish lake, and accentuated by the words of Radisson that the rendezvous "was betwixt a small lake and a meadow. \* \* \* \* \* We had a brooke that came from the lake and emptied itself into those meadows which had more than four leagues in length," points clearly to the vicinity of Fish lake and its outlet to Snake river. This was a "rendezvous," hence a place of meeting of parties coming from different directions, viz.: the French and the Hurons from Wisconsin and the Dakota from their great central seat of power and population on Mille Lacs. It was the "convenientest" place for both parties, being not only "in their country," but an outlying place of residence where doubtless were a considerable number of winter-dwellers, some cultivated fields; stores of rice, and numerous wild "staggess," i. e., elk, deer and moose; and at the same time was on the great trail and portage-route from the Rice lakes of northern Wisconsin to Kathio on Mille Lacs.



*Enclosures at the mouth of Ann river.* On Mr. Brower's "sketch-map" of the Knife lake and Ann river region, in Kathio, are shown two enclosures, both near the mouth of Ann river. One is rectangular and is described as a ditch. It has an opening at the northeast corner and a rounded enlargement or bastion at the southwestern. Its dimensions are about 40 ft. by 65 ft. Within this ditched enclosure are two mounds represented, called kilns. Mr. Brower found burned human bones at these kilns. (*Brower Note.*) This is on the west side of Snake river but near the Ann river

river mounds. The same map represents an enclosure overlooking Snake river, opposite the mouth of Ann river. This is rudely ovate in general outline, extending north and south, and consists of an embankment with an inner ditch. Its diameters are about 120 ft. and 80 ft.\* Within this enclosure Mr. Brower found buttons, pieces of old dishes, fragments of iron and animal bones. According to Mr.

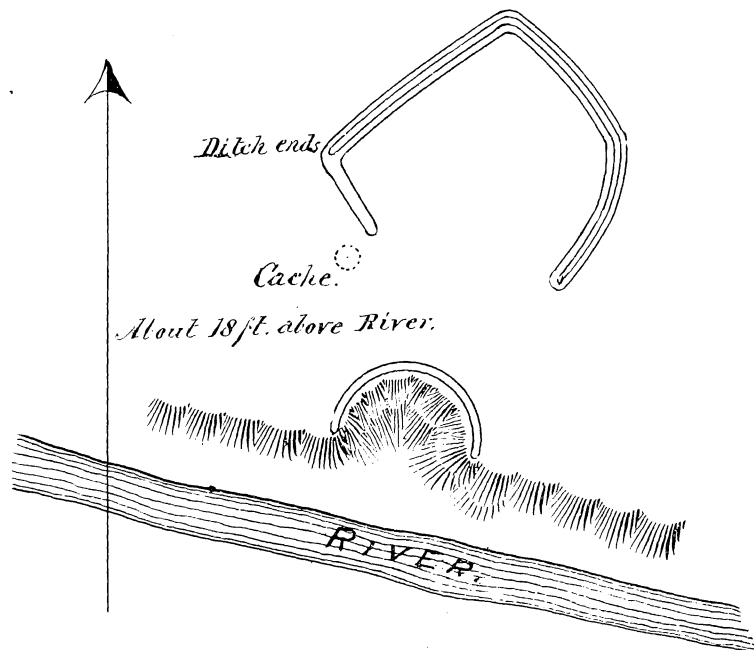
\*Of this enclosure Mr. Upham has made the following note, in vol. 2, Final Report of the Geological Survey, p. 628: "On the east side of Snake river, opposite the mouth of Ann river, on land about 35 ft. above the river, and a quarter of a mile from it, are the earthworks of an 'old Indian fort.' Embankments, having a height 3 ft. to 5 ft. above the bottom of a slight trench on their inner side, extend in an irregularly four-sided outline about nine rods long from N. E. to S. W., and five rods across the ends. It is supposed to have been the work of the Chippewas in their wars with the Dakotas, probably aided by the superintendence of some white man."

Alva J. Conger, this was built by the Ojibwas about 1850. Mr. Conger was an old trader of these parts.—*Brow. Note.*

The last mentioned of these enclosures was surveyed by Mr. Lewis, from whose notes the foregoing plat has been made, on a scale of 1 : 2000. Its dimensions, according to this, are about 650 by 325 ft. The "circles" represented within the enclosure are about 21 ft. in diameter, and probably are the remains of earth houses such as those made by the Dakota. Hence the enclosure, notwithstanding the foregoing opinions, is unquestionably the ruin of a palisaded village. (Shown on preceding page.)

Possibly the Isanti dwelled typically (as supposed by Mr. Brower) along the Knife river and on Ann river below Fish lake, and about Fish lake, spreading in smaller numbers to the adjacent streams and lakes. The Sioux who dwelt at Mille Lacs were kindred and allied, as shown by their coming to the rendezvous to meet Groseilliers and Radisson, but they were distinctively known sometimes as M'dewakontonwan, or Spirit lake dwellers. Yet Hennepin on his map shows the Issati near (S. W. from) Mille Lacs, probably meant to indicate the villages at the outlet of that lake. It is also clear that Du Luth visited the Issati at Mille Lacs in 1679, since in 1680, in rescuing Hennepin, who was held in captivity by them at Mille Lacs, he upbraids them with the remark that he did not "take calumets from people who, after they had seen me and received my peace presents and had been for a year always with Frenchmen, robbed them when they went to visit them." If, therefore, the designation *Issati* originated, as supposed by Mr. Brower, from their having first received knives from the French in 1660, and that hence the river along which they chiefly dwelt became known as Knife river, the period of 19 years between Radisson and Du Luth, was sufficient not only to establish the tribal name *Issati*, but to transfer it to the chief settlement at Mille Lacs. The improbability of the spread of the name in that manner in that space of time casts a doubt on such supposed origin. Elsewhere it is suggested that the term *Issanti* is a preservation of the term *Santee*, a tribe of the Dakota stock originally from South Carolina. The river may have taken its name from these Indians, instead of *vice versa*.

In 1867 Mr. E. T. Ely reported the existence of breastworks or embankments of some sort, on the townsite of Brunswick, about the center of sec. 6, T. 38-23, opposite the mouth of "Ground House creek." According to Mr. Ely the term *earth fort* would more correctly express the idea of the original Chippewa name of the Ground House river.—*Hill Rec.*



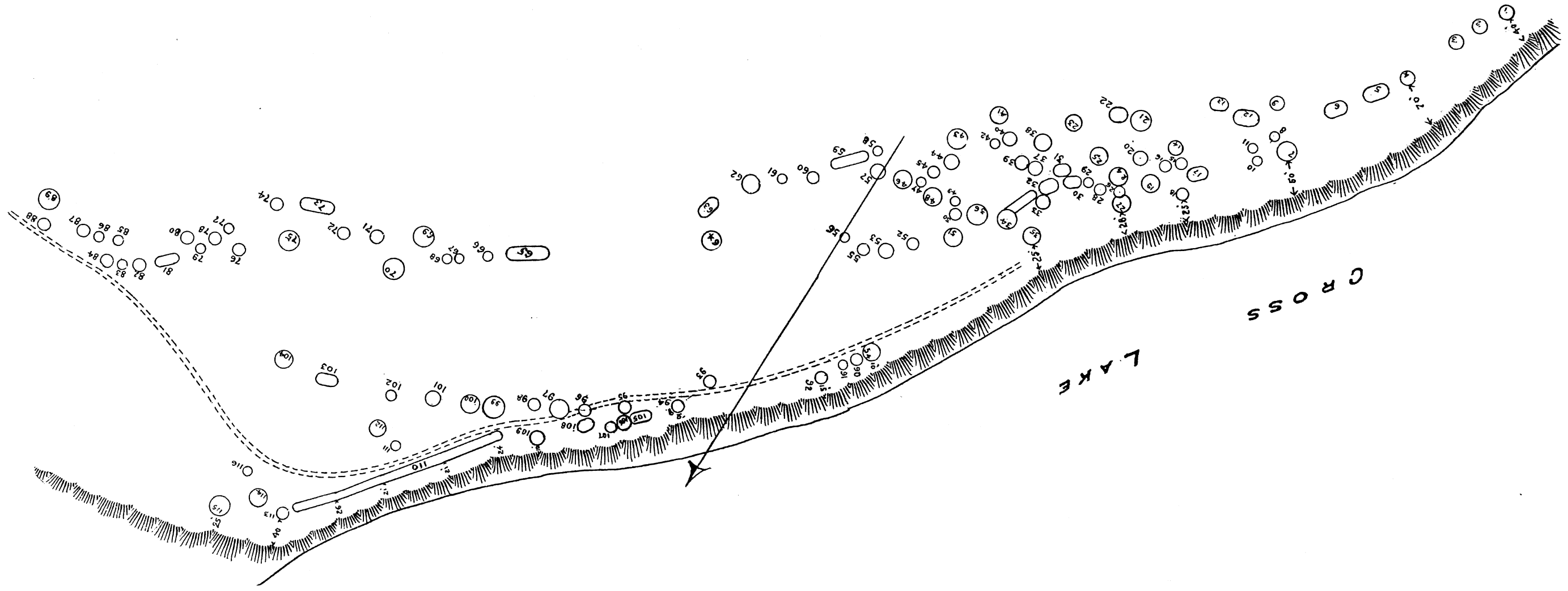
The enclosure near Brunswick is on S. W.  $\frac{1}{4}$ , N. W.  $\frac{1}{4}$ , sec. 6, T. 38-23, and was surveyed by Mr. Lewis in 1886, whose notes furnished the data for the adjoined illustrations. It is about 18 ft. above the river. It is 310 ft. in diameter. The wall was 18 ft. wide and 2 ft. high. (Shown adjacent.)

Mr. Butler Comstock noticed rude entrenchments at the junction of Spring creek with the Snake river, sec. 11, T. 51-23. "They appeared to be of modern date, and are said to have been thrown up by the Chippewa under the guidance of a white man."—*Hill Rec.*

Snake river is not a region of snakes, no more than Knife river is a region of sharp or slaty stones and it may be suggested that the name is simply a translation from the Ojibwa, who termed the

Dakota *Nadouessi*, or *Nadowe*, i. e., enemies, or snakes. It was a common practice to name a lake or a river from the Indian tribe residing there. Snake river was certainly a route of travel between two important parts of the Dakota domain, i. e., Mille Lacs and Ann river, and to the Ojibwa, whose geographic names we have received, it must have appeared always as the chief center of power of their enemy, whom they called *Nadowe*, or snakes, and nothing would be more natural than that they should call it the *river of snakes*.

CROSS LAKE MOUNDS.



In *Science*, Sept. 1, 1893, Mr. Albert Schneider has given a short account of the opening of a mound at lake Warren, which is a small lake near the outlet of Mille Lacs lake. "Acting under the impression that they were burial mounds, I located a central point and dug perpendicularly downward. At the depth of about 5 ft. I reached the level of the surrounding soil. Nothing was noticed but some ashes and fragments of charcoal, indicating that a fire had been kindled on the grave before the mound was built. Continuing the excavations, I found the opening of the grave, which was about  $4\frac{1}{2}$  ft. long by 3 ft. wide and gradually tapering downward to a rounded bottom at the depth of 4 ft. [i. e., below the surface of the original soil. —N. H. W.] The hole was evidently dug with some crude instrument, as the roughness of the sides would indicate. In this one grave were found the bones of four human bodies, and the scales of some fish. The bodies were arranged side by side in a sitting posture, with the legs and arms strongly flexed upon the body and the back toward the side of the grave. From the examination I made out the following points: One was a child of about six years, another that of a young person of sixteen or seventeen years, the third that of a middle-aged, medium-sized woman, the fourth that of a short, heavy-set, muscular man about 50 years of age. This man's teeth were very much worn, though none were decayed. In fact, all the teeth found were in good condition. Some of the vertebrae, the leg, arm and hip bones were well preserved. Only a few bones of the child were found, and it was difficult to determine its position in the grave. It was apparently placed in a sitting position in the woman's lap. No utensils or implements of any kind were found. The sandy soil which made up the mound and filling of the grave was taken from a spot some ten rods distant, leaving a shallow depression.

"Numerous pieces of pottery have been found in this region, mostly plain, some with crude ornamental markings near the rim. All pots or vases were rounded. Stone implements were also found. Copper implements were reported to have been found, though I was unable to see them.

"The most interesting feature of the grave described is that it contained four bodies, apparently an entire family. How came they to be in one grave? and evidently placed there at the same time? The probable supposition is that some epidemic carried away large numbers. In that case would it be likely that the survivors would build mounds over all graves? Or were only those of distinction honored with burial mounds? It is necessary that more mounds be studied before these questions can be answered. No scientific examinations have as yet been made of the Minnesota mounds."

The *St. Paul Dispatch*, May 18, 1900, mentions the discovery by James Golden, "of a square sixty feet long and thirty feet wide, surrounded by a trench." It is situated on land overlooking Snake river, but a short distance from some mounds "in the Fish lake bottoms from which were extracted a few years ago skeletons and relics of a now extinct race." The soil within the enclosure has the appearance of burnt clay and ashes.

In Mille Lacs county Mr. Lewis obtained 1 grooved ax and 1 grooved hammer; and from Kanabec county, 3 arrow-heads, 1 "chipped implement" 1 stone pipe, 1 scraper, and one copper spear-head from a mound.

#### EARTHWORKS OF PINE COUNTY.

*Cross Lake mounds*, S. E.  $\frac{1}{4}$ , sec. 27 and N.  $\frac{1}{2}$ , sec. 34, T. 39-21, on the east side of Cross lake, 10 ft. to 18 ft. above it, on land which is covered with timber and brush. This large group embraces 116 mounds, of which 16 are elongated. They are all rather small, 17 being 16 ft. wide and 2 but 15 ft. The largest is 35 ft. in diameter and has been excavated. The elongated mounds, like the tumuli, are small and simple. They are mingled irregularly amongst the tumuli. One of them serves as an enlargement of a circular mound. The whole group is distributed, mostly in two lines, along the shore of the lake. Surveyed Nov. 19 and 20, 1889. (Shown on insert opposite.)

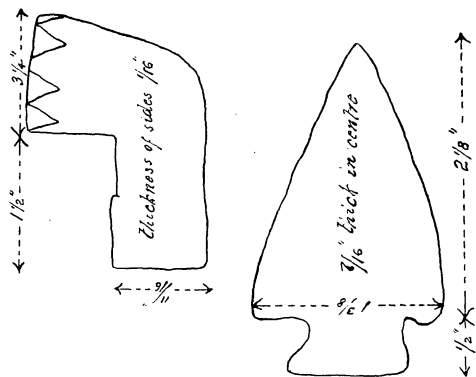
*At Pine City* are two lone mounds. They are both on W.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 33, T. 39-31. One is on a spur of higher land between a slough and Snake river, 16 ft. above the latter, with dimensions 38 ft. by  $3\frac{1}{2}$  ft. The other is on the east side of the slough, about 4 ft. above it, and has the dimensions 24 ft. by  $2\frac{1}{2}$  ft.

Mr. Upham says, in his geological report on Pine county: "At Pine City a mound about 12 ft. high was leveled down on the land used for the lumber yard of the steam sawmill. It was some 20 rods south of Snake river, and a quarter of a mile west from Cross lake on land 10 ft. or 15 ft. above the river. Captain Sod, a Chippeway about 100 years old, says that after a battle with the Sioux some of them were buried in this mound, one being a very large man. This was an intrusive burial, the mound having been built at some much earlier date. In its removal several skeletons were exhumed, some being found in erect position, and one of gigantic size. \* \* \* On an island in Pokegama lake an aboriginal earthwork about 6 ft. high, possibly designed for military defense, is now flowed round by the waters of Chengwatana dam. A musket and a skull are said to have been dug from this mound."

According to the description of Mr. F. von Tagen, the mound leveled by the lumber company, and which contained four human skeletons, was directly south of Third avenue and was 72 ft. in diameter and 8 ft. in height.

"In the spring of 1864, at Changwatana, on Snake river, I found a flint arrow-head of the shape and dimensions shown [below], also later in the same neighborhood a pipe of the red pipestone of the shape and size shown [below]. These were at the depth of, say, 4 inches, and were found whilst digging





PIPE AND ARROWHEAD FOUND 1864 AT CHENGWATANA BY GUSTAV MÜNCH.

in a garden. On showing the pipe to the Chippewas, they at once exclaimed, 'Sioux! Sioux!' and it may be that this spot was once the site of one of the ancient villages of that tribe." —(Gustav Münch in *Hill Rec.*)

Mr. Donald McKenzie in 1870 gave information of the original location of mounds at Pine City, as shown on the attached plat.—*Hill Rec.* See also Mr. Hill's note in vol. vi, p. 319, *Minn. Hist. Soc. Coll.*

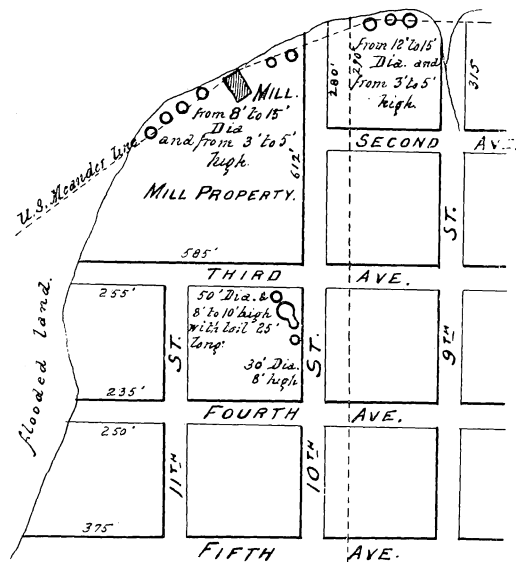
In the *St. Paul Globe*, Nov. 20, 1887, a correspondent has given description and figures of some articles found on the shore of Pokegama lake, by A. F. Hodge. These articles consist of an earthen vessel of a capacity of about two quarts, shaped like a modern wide-mouthed water-bottle, or urn, with decorations; a larger earthen vessel supposed to be adapted for carrying water, holding about four quarts; a circular, disk-like vessel or casket and a stone arrow-head with a barbed base about 2 1/2 inches long.

Mr. E. F. Ely, in 1867, reported the following earthworks in Pine county.—*Hill Rec.*

N. E. 1/4, sec. 2, T. 38-22, between a tamarack swamp and Snake river, on the first rise from the river, ditch and embankment, more or less perfect, facing toward the river, evidently defensive.

S. E. 1/4, sec. 35, T. 39-22, on the west side of the old government farm (Russell's), about halfway between Pokegama lake and the marais, or pond, backing from Snake river: two small mounds on the point of and, lone directly south of the other, about 5 ft. high.

Two copper objects found in Pine county are described in "First series of the Macalester College Contributions," p. 180, viz.: "No. 2233, Copper knife, from lot 3, sec. 34, T. 39-21. It is over five inches in length, and nearly one inch wide at the broadest part. The tang is short and flat and slightly turned at the point, but the latter is probably acci-



MOUNDS AT PINE CITY 1870.

idental. It was found on cultivated land and is finely shaped. See engraving."

"No. 2250, Copper awl, from an ancient village site N. E. 1/4, sec. 31, T. 39-21."

Pine county afforded Mr. Lewis 10 arrow and lance heads, 6 "chipped implements," 5 grooved hammers, 3 war-points, 2 hoes, 1 copper knife, 1 stone disk and 1 rubbing stone.

EARTHWORKS IN CARLTON COUNTY.

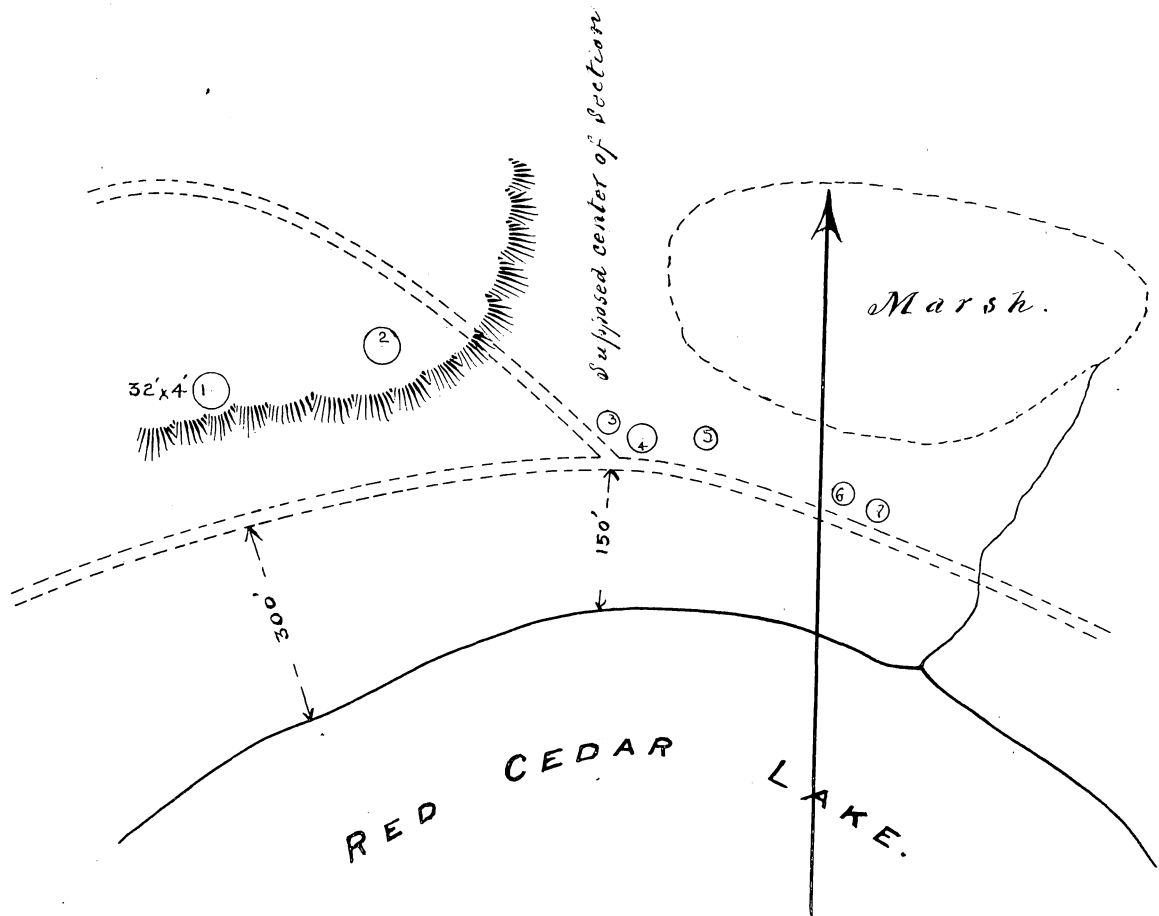
*Flat-topped mound near Tamarac creek*, N. W. 1/4, S. W. 1/4, sec. 6, T. 48-21. According to Mr. W. P. Payte this mound has a diameter of probably 100 ft. and across the top of 30 ft., its height being about 10 ft., with hardwood trees growing on it. He met with it in surveying the "Air line railroad" to lake Superior in 1860, and was not sure that it was not natural.—*Hill Rec.*

A copper spear, or lance, was found some years ago near Barnum, and in digging the well of Dr. Thomas, at Moose Lake, a copper nugget was found which was said to have weighed about 50 pounds.

According to Frank Cole, formerly engineer of the St. Paul and Duluth railroad, many pieces of native copper were found in the drift in grading the railroad from Carlton to Cloquet, the aggregate being nearly or quite a ton. There were many hundred pieces. It lay in the clay, or at the foot of the clay bluffs where the grade approaches them at about three miles north from Carlton, and among gravel and stones that constitute the roughly stony surface over which the St. Louis river formerly ran all the way from Cloquet. This shows that the aborigines were not compelled to extract all the copper used by them, from the solid rock by laborious mining. It was reported that at Otter Creek station a copper nugget was found in a gravel pit, which weighed several hundred pounds.

EARTHWORKS IN AITKIN COUNTY.

*Red Cedar Lake mounds.* On the S. E. 1/4, S. W. 1/4, and the S. W. 1/4, S. E. 1/4, sec. 29, T. 47-27. Mounds Nos. 1 and 2 are about 20 ft. above the lake, and the rest about 9 ft. The group embraces 7 simple tumuli. Surveyed Oct. 7, 1886. (Shown on following page.)



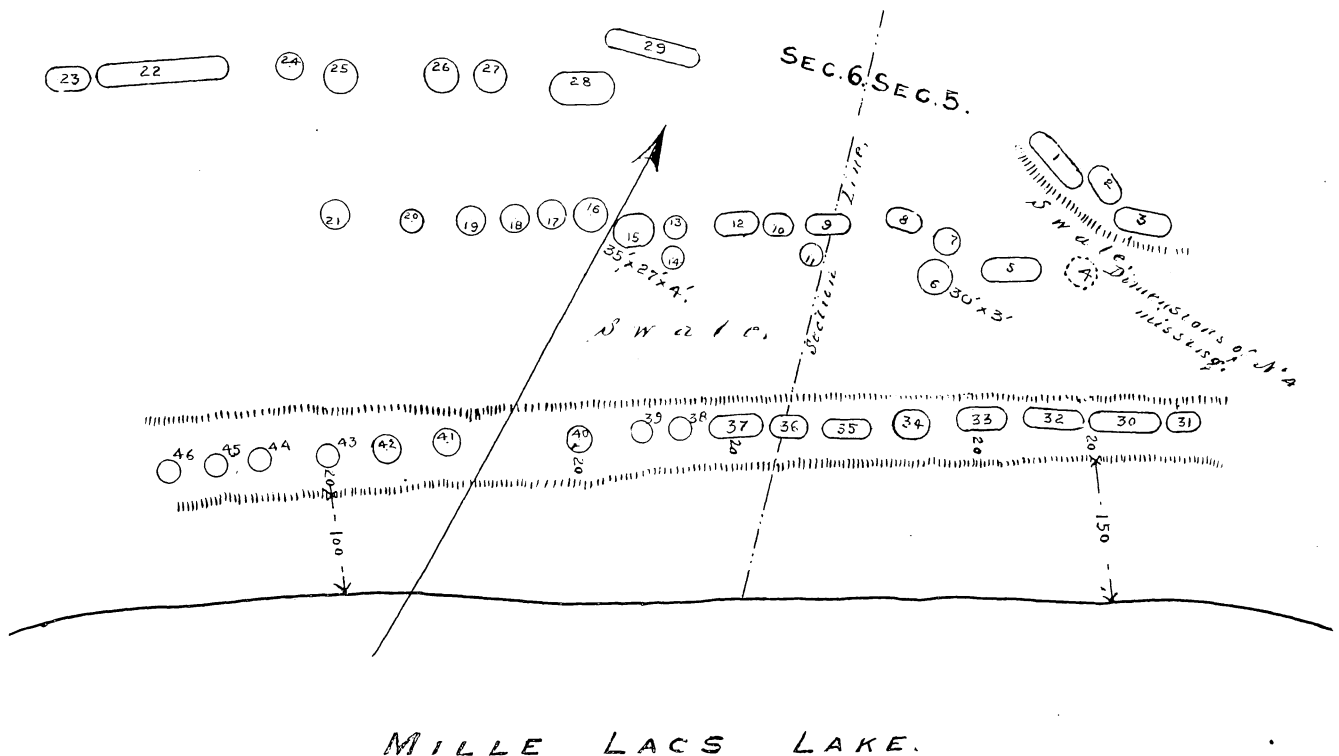
According to Mr. Brower the mounds at the outlet of Red Cedar lake are on the east side of the outlet stream, and on the west side are still visible the cellars of the old trading station.—*Brow. Note.*

*Mille Lacs Lake mounds.* N. W. shore, on E.  $\frac{1}{2}$ , N. E.  $\frac{1}{4}$ , sec. 6, and W.  $\frac{1}{2}$ , N. W.  $\frac{1}{4}$ , sec. 5, T. 44-27. Nos. 1, 2 and 3 are about 14 ft. above the lake. The beach ridge is about 12 ft. above the lake. The swale between is only 5 ft. above. The group embraces 46 mounds, arranged with distinct reference to parallelism with the lake shore, and on its ancient beaches. No. 15 has been excavated. It is noteworthy that the tumuli and the elongated mounds are so mingled that no difference of purpose can be assumed. They are all of ordinary sizes, from 18 ft. to 30 ft. in diameter, and from 1 ft. to 3 ft. high. Surveyed Sept. 15, 1891.

These mounds are at Nichols post-office, and have been mapped along with others further east along the shore of the lake, by Mr. Brower in his work on *Mille Lac*. Others are found near the mouth of Mud river, at the head of Big bay (Malmo), and of Sunset bay. The Malmo group at Big bay has 128 mounds, according to Brower.

The mounds about Mille Lac are not all here enumerated, since Mr. Brower's volumes, *Mille Lac* and *Kathio*, are devoted to that region. The reader should examine the charts and descriptions of those volumes for further details; also *Mille Lacs county* in this volume. (Shown on following page.)

*Bromley Lake mounds.* These are in secs. 22, 23 and 24, T. 47-24, and extend, according to Mr. Brower's chart (*Kathio*, Appendix) over a distance of about 2 miles east and west. They are on a point of land nearly surrounded by a marsh, south of Bromley lake, and along Rice creek further west, extending to the northeast side of Rice lake, the whole number being 186. They are along the line of the bluffs overlooking the marsh through which Rice creek flows, and along the bluff at the south shore of Bromley lake. They are composed of tumuli and elongated mounds. The latter are mingled with the tumuli, and prevailingly not parallel with any bluff-line or river. Mr. Brower considered this one of the important pre-historic village sites of the Dakota Indians, perhaps the "Hanctons" of Hennepin.



MILLE LACS LAKE.

"At One Portage, which leads from the Wealthwood shore of Mille Lac to the most southerly bend of Mud river, in Aitkin county, there exists an old trail two miles long which has been used by natives for many generations. Near that old trail, at sec. 20, T. 45-26, there is a group of seven small, low mounds, which appear to be of great age. They are flattened and compact heaps of earth containing no indications of sepulture, and the appearance of the trail and mounds, and their location indicate quite certainly that One Portage was discovered and resorted to by the race of men who built mounds at Mille Lac, at a very ancient period, and of such long duration that it is nearly impossible to accurately determine the date of the event."

One of the mounds overlooking the lake at Nichols "is a well-defined, compactly and regularly constructed platform mound, perfectly flat on top."—*Brow. Note.*

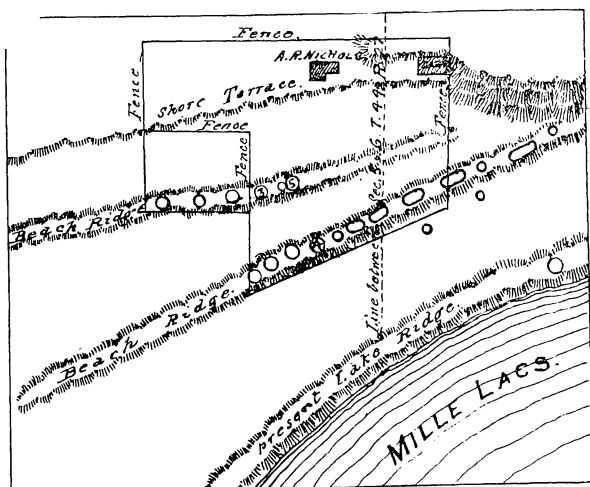
Of the beach ridges and mounds at Nichols and eastward, Dr. Upham has written an interesting description (Final Report, Geological Survey, vol. 4, p. 51), viz.: "The accompanying sketch map (figure 5) shows the arrangement, relative size and height of twenty mounds lying between the house of Mr. A. R. Nichols, postmaster, and the present Mille Lacs shore. The house stands upon and two or three feet above a former shore of the lake, which is marked by a slight terrace of sand and gravel, seven or eight feet above the present highest stage of water. Between this old shore and the prominent lake ridge, now being accumulated of sand and gravel with occasional boulders, there are two very small beaches, marked by sand ridges, fifteen to twenty-five or thirty feet wider and rising only about two feet above the flat, somewhat clayey land on which they lie. The crest of the northern one of these is about six feet, and that of the southern one from four to five feet above high water in the lake. Five mounds, varying from two to five feet in height, are found in a nearly straight series, extending about a dozen rods, on the upper one of these little beach ridges. All of these mounds are round, excepting the most eastern and highest, which is prolonged in a lower portion toward the west. Twelve mounds are situated on the lower sand beach, forming a very straight series along a distance of nearly thirty rods. Beyond each series of mounds the beaches continue westward, having in some portions an irregularly uneven contour, with elevations and depressions of one to two feet, due to the dune-producing action of winds. These surface inequalities of natural origin are smaller and less noticeable than the artificial mounds, among which little or no wind-channeling is observed.

"The mounds of the second series, like those of the first, are mostly built to a height of about two feet above the beach crest, with a diameter of fifteen to twenty feet; but one, the fourth from the west end, is nearly four feet high. Several of the mounds in the eastern half of this series are elongated,

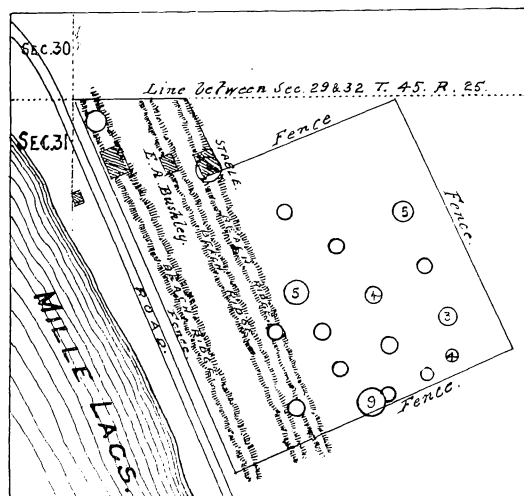
having about twice as great length as width. In the depression on the south two small round mounds lie near the oblong mounds of the beach ridge. About two rods southeast from these, and south from the east end of the longer series, a round mound rises to a height of two feet upon the crest of the large modern beach ridge.

"In Mr. Nichols' garden, which comprises most of the mounds of this group, numerous fragments of Indian pottery have been found; and they occur more plentifully in one of his cultivated fields, a quarter of a mile distant to the northeast and near the lake shore.

"Passing along the northeastern shore of Mille Lacs, on the road from Aitkin to Malmo and Opstead post-offices, the traveler sees, at the store of Mr. E. A. Bushey, which is in the northwest corner of section 32, T. 45-25, and on his cleared field of a few acres, extending some thirty rods to the east and southeast, a group of eighteen aboriginal mounds, of which a sketch map is given in figure 6. More than half of these mounds are from two to (mostly) three feet high; a half a dozen have heights of four or five feet, and only one is larger, having a height of nine or ten feet above its base, with its crest twenty feet above the lake. All of these are round and dome-shaped, with diameters varying, in proportion to their heights, from fifteen or twenty feet to fifty feet; except that the highest mound has another about three feet in height adjoining and united with its northeastern side. The tract on which they lie is stratified gravel and sand, rising to a height of ten to twelve feet above the lake. It has a rich black soil and was cultivated as a cornfield at the date of my visit in June, 1893.



ABORIGINAL MOUNDS AND BEACH RIDGES  
IN SECS. 5 & 6, T. 44, R. 27.  
(AFTER UPHAM.)



ABORIGINAL MOUNDS AND BEACH RIDGES  
IN N.W. 1/4 SEC. 32, T. 45, R. 25,  
(AFTER UPHAM.)

"An arrangement in three series, nearly parallel with each other and with the lake shore, each comprising four or five mounds, is observable. Between the lake and the nearest one of these series three small beach ridges of sand, similar to those at Nichols post-office, are well defined across the entire clearing. On the beach farthest (eight or ten rods) from the lake, three mounds are situated, and the highest and most northern of these is the site of Mr. Bushey's stable. This beach ridge, and its parallel companion, which lies about two rods nearer the lake, each rise only two feet above the intervening hollow and above the land on the side away from the lake. Between the second of these ridges and the one nearest the shore, on which Mr. Bushey's store and a mound close north of it are situated, there is a continuous long hollow five feet below these beach crests, which, like that of the first beach, are each ten feet, very closely, above the lake level. Intervening between the last beach and the present shore is a gently declining belt of sand and fine gravel on which the road lies. None of these mounds have been excavated.

"Nearly thirty miles northeast from these Mille Lacs village sites, two similar groups of mounds lie on the southeast side of the Sandy river, near its entrance into the most southern arm of Sandy lake. One of these groups, comprising several mounds three to six feet high, is at the river's mouth in the S. W. corner of sec. 17, T. 49-23. The other, marking the place of a larger village, includes about twenty