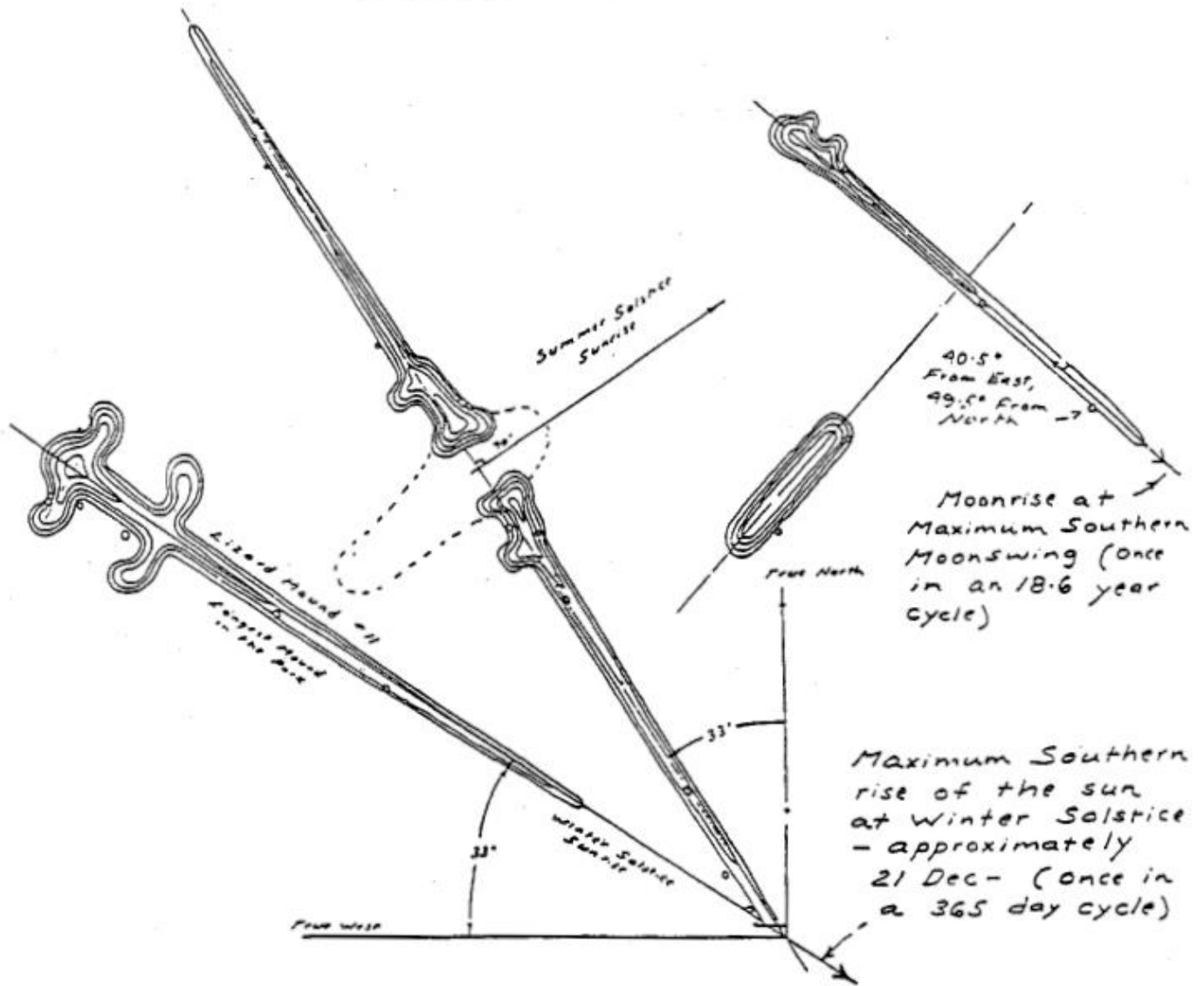


Prehistoric Geometrical-Based  
 Art Work on the Ground:  
 WISCONSIN'S EFFIGY MOUNDS



Ancient Earthworks Society, Inc.  
 PO Box 1125  
 Madison, Wisconsin 53701  
 First Edition, Oct., 1991  
 Second Edition, Feb., 2023

## INTRODUCTION

This brochure illustrates a few of the many precise maps produced of Indian Mounds in Wisconsin over the past decades by students and volunteers of the Ancient Earthworks Society, working under the direction of Professor James P. Scherz, Department of Civil and Environmental Engineering, University of Wisconsin-Madison.

The first part of this document addresses some of the basic facts concerning the unique effigy mounds of Wisconsin. Figure 1 shows some typical types of effigy mounds. Figure 2 shows the area where effigy mounds can be found.

Figure 3 shows an index of some of the mounds you can visit near the University of Wisconsin campus at Madison. You will see basic geometry (like  $30^{\circ}$ ,  $60^{\circ}$ ,  $90^{\circ}$ ) as used in modern drafting triangles; along with solar calendar functions and unit distances of layout that relate to 600 ft. and 660 ft. (land measure units found world-wide). Other aspects are self-explanatory.

## I. THE EFFIGY MOUND REGION

(By Patricia A. Arntsen)

The southern part of Wisconsin is often called the "Effigy Mound Region" because most of the Indian mounds of this unique type are found here. However, someone not familiar with the Indian mounds of southern Wisconsin is apt to have some basic questions about mounds in general. This annex asks such questions and attempts to provide some of the answers.

### What are "mounds"?

Mounds are earthen structures created by early peoples around the world for a variety of purposes.

### Why were they built?

The main reasons ancient societies built mounds were: (1) burial, (2) religious or ceremonial functions, (3) directional or other marker, (4) possibly to tell a story and (5) for reasons yet unknown.

### Who built the mounds?

Many ancient societies built mounds in the form of a dome of earth in which they interred their dead. These types of mounds are called "conical mounds". Some peoples, such as the Middle Mississippian Aztalanian Indians, built high pyramidal mounds on which they placed their temples or other structures related to the practice of their religion. This type of mound is called "pyramidal" or "temple" mounds. The people of the Effigy Mound Culture built mounds in the shapes of animals and birds as well as conical and linear forms. Figure 1 shows some of these typical shapes.

### Who were the Effigy Mound People?

The Effigy Mound Culture flourished mainly in the southern two-thirds of Wisconsin from about 600 A.D. to about 1300 A.D. They were a hunting and gathering society, had a distinctive style of pottery and probably lived in wigwams as other Woodland Indians of the period. The most unique feature of their culture was the effigy mounds.

### Where are effigy mounds found?

The vast majority of effigy mounds were built in the southern two-thirds of Wisconsin but extending into Minnesota, Iowa and Illinois. They were usually built on high ground near lakes and rivers and were usually in groups.

### What shapes did the Effigy Mound People use?

The most common forms, besides the linear and conical, were water birds or birds of prey (geese, eagles, etc.), amphibians (frogs, turtles, lizards), mammals (panthers, deer, buffalo, bears, etc.) The names assigned to these forms apparently were given by white men who discovered them long after the Effigy Mound People were gone so the names do not necessarily correlate with the intent of the builder.

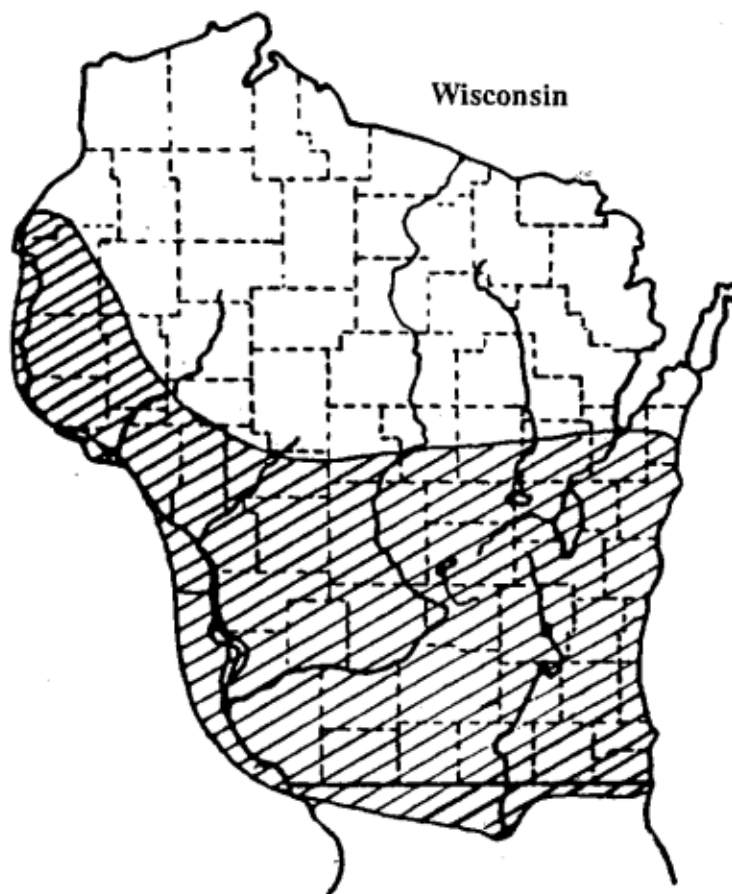


**Figure 1** Outlines of typical mounds found in Effigy Mound Groups

1 = Violin-shaped mound known as "Turtle Mound"  
 3,6 = Bird Mounds. 13 = Goose Mound  
 10,14 = Panther Mounds. 7 = Linear Mound  
 12 = Conical Mound

### How were effigy mounds built?

It is not known for sure exactly how the mounds were designed and built. It is known that some mounds were built by first digging out an impression of the form, an intaglio, then filling it in and building it up to form the mound. A cremation site, rock altar, or burial pit was often placed in the position of the head or heart of an animal effigy, in the center of a conical or along the longitudinal axis of a linear mound. The intaglio form may have been lined with clay or sealed with clay after several layers of soil were placed over the base. Some mounds were intricately layered with a variety of soils, some had soil possibly brought in from far distant areas and some were built up of "fill" from a nearby "borrow pit" then sometimes covered with topsoil. In any event, the vegetation on mounds often varied significantly from that nearby and made the mounds more visible during the growing season.



Map of Effigy Mound Distribution.  
(Milwaukee Public Museum)

Figure 2.

#### How big are effigy mounds and how many are in "a group"?

Effigy mounds vary in size but are generally 50 or more feet in length or width and from several inches to about four feet or more in height. The largest existing effigy mound is said to be the bird effigy on the grounds of the Mendota Mental Health Institute with a wingspan of 624 feet. There may be as few as three to as many as over 300 mounds in a group.

#### Why were effigy mounds built?

It is believed that the mounds were used for burial of important people in the society and thereby the mound served the function of a modern day tombstone. They also may have been designed as markers of important places or to tell a story. They probably served important social and religious functions as well.

#### How many were built? How many remain?

It is estimated that there once were about 20,000 mounds in Wisconsin and that less than 10% of them remain today. Many of the remaining mounds have been partially destroyed.

#### How are mounds destroyed?

Mounds are destroyed primarily by cultivation and construction. Grave robbers and pot hunters are also very destructive of mounds and therefore any activity of this sort should be reported to the police.

#### Why preserve mounds?

Mounds are sacred to the Native American in the same way the cathedrals of Europe are important to Euro-Americans. They are ancient burial sites and they are an important part of our cultural heritage. For these reasons it is important to preserve the mounds.

#### How can we as individuals help to protect mounds?

Individuals can become aware of where mounds are likely to exist and report locations of mounds or suspected mounds to the State Historical Society and organizations such as the Ancient Earthworks Society and local historic preservation groups for assistance in getting them documented and officially protected under the state burial sites law. ALL mounds are protected under the statute but if mounds are not documented it is difficult to invoke this protection. If you become aware of the disturbance of a mound, contact your local law enforcement department for investigation and prosecution under the burial sites law which forbids any disturbance of a burial site without a permit from the State Historical Society or any construction within 5 feet of a burial site. All mounds are considered to be burial sites under Wisconsin law.

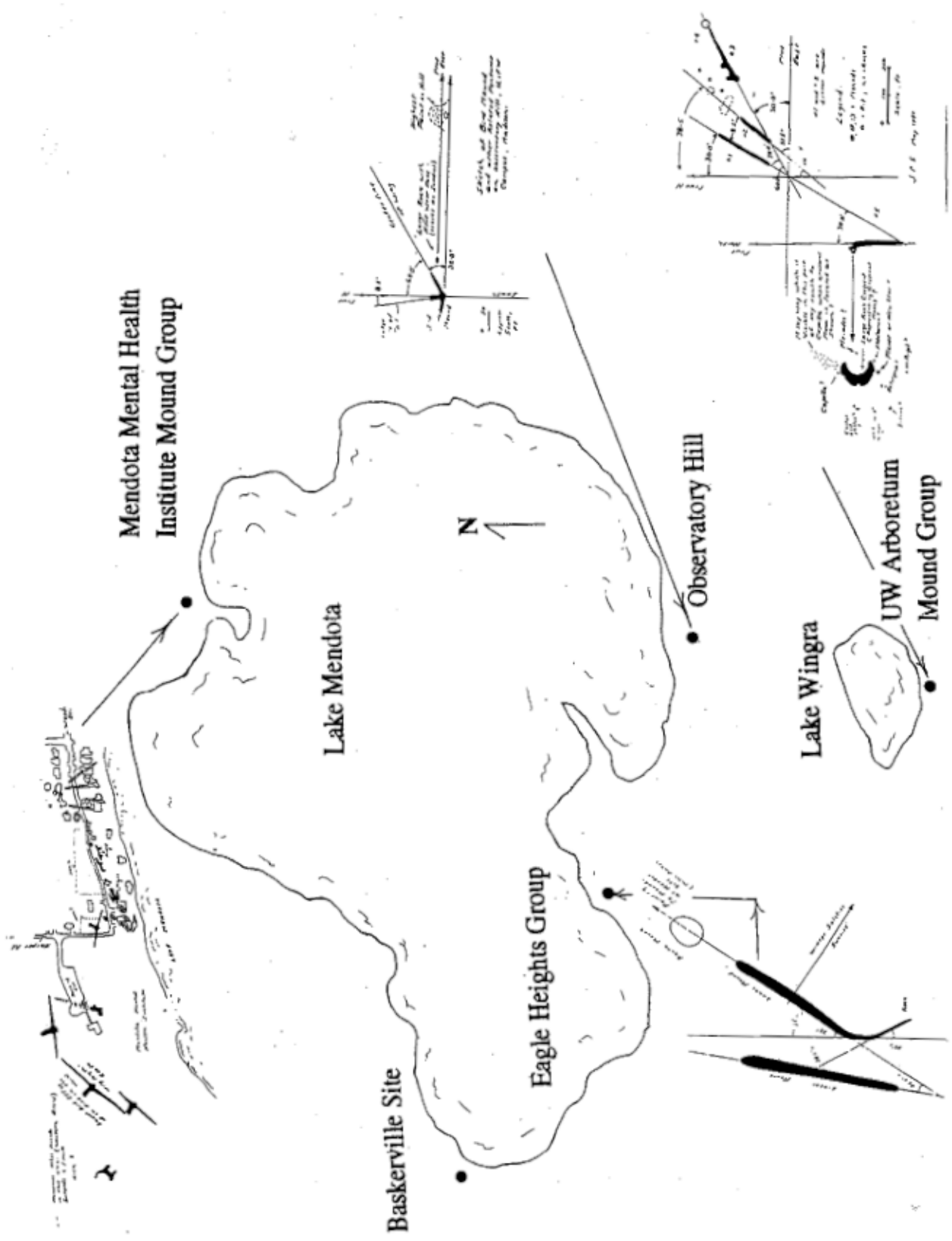


Figure 3. Mounds you can see near the University of Wisconsin campus.

Angles of  $30^{\circ}$ ,  $60^{\circ}$

There is definite geometry in the bird mound atop Observatory Hill on the University of Wisconsin-Madison campus at Madison.

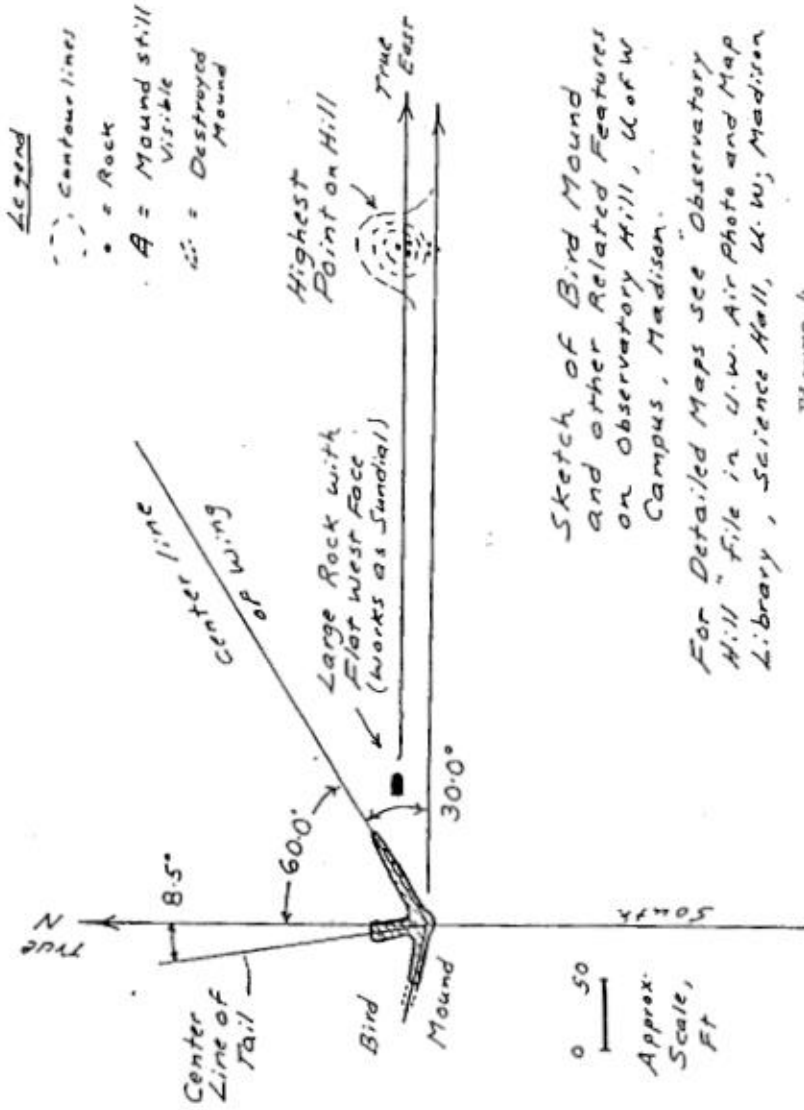
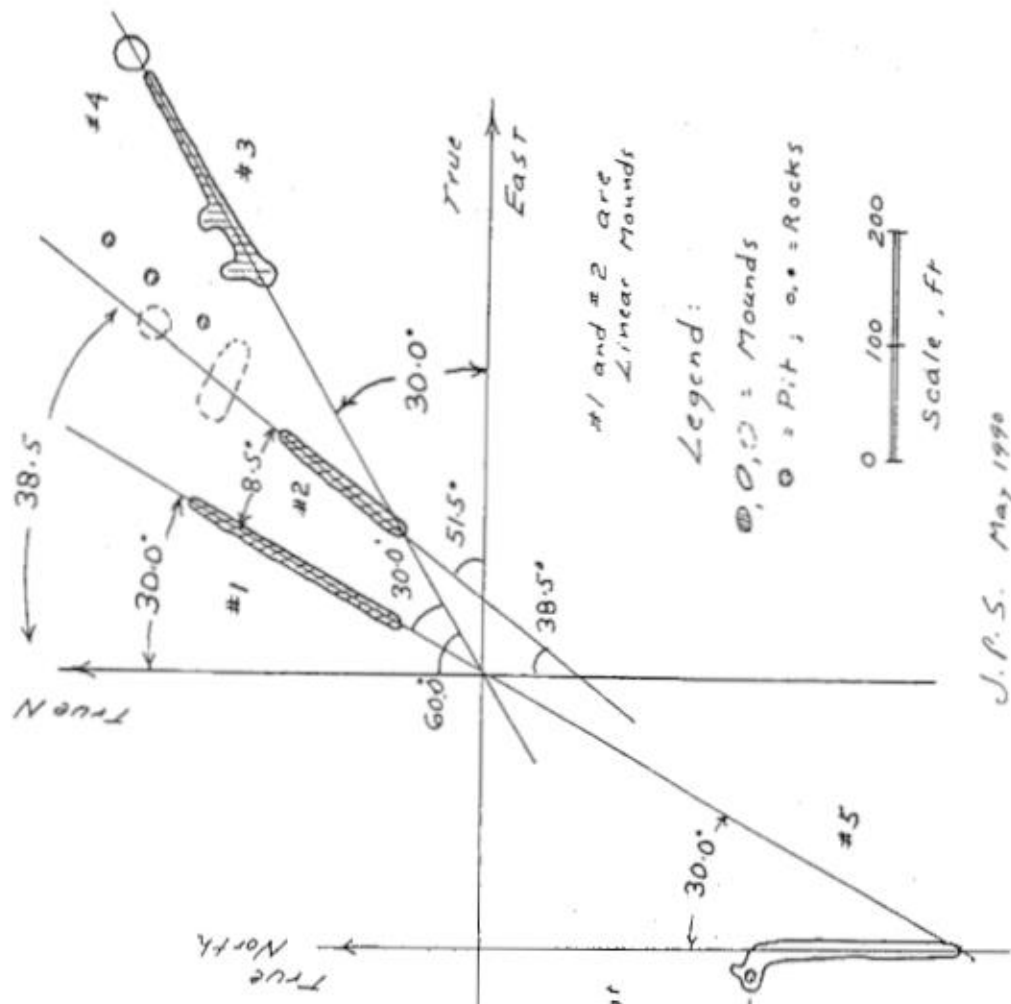


Figure 4.





Preliminary Map  
of Features in U. of W.  
Arboretum.

Angles measured from  
Large-scale Compilation  
Maps.

Note interplay between  
30°, 60°, 38.5°, 51.5° and 8.5°  
with Mounds #1, #2, and #3.

- Crescent is 120 ft  
in diameter.

Milky Way which is  
Visible in this part  
of sky south to  
Capella when Crescent  
Moon is located as  
shown?

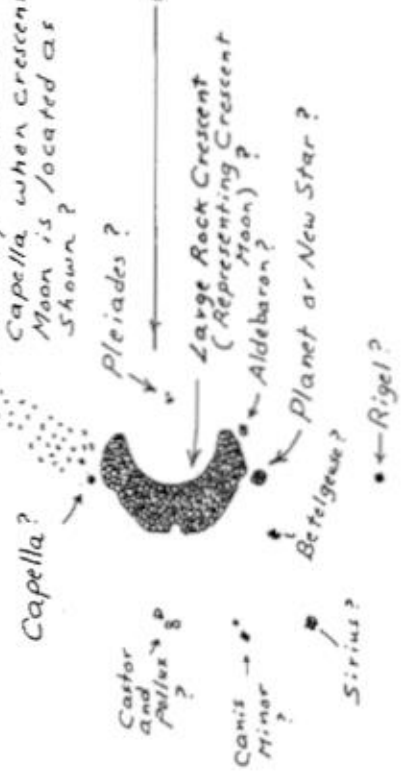


Figure 5.

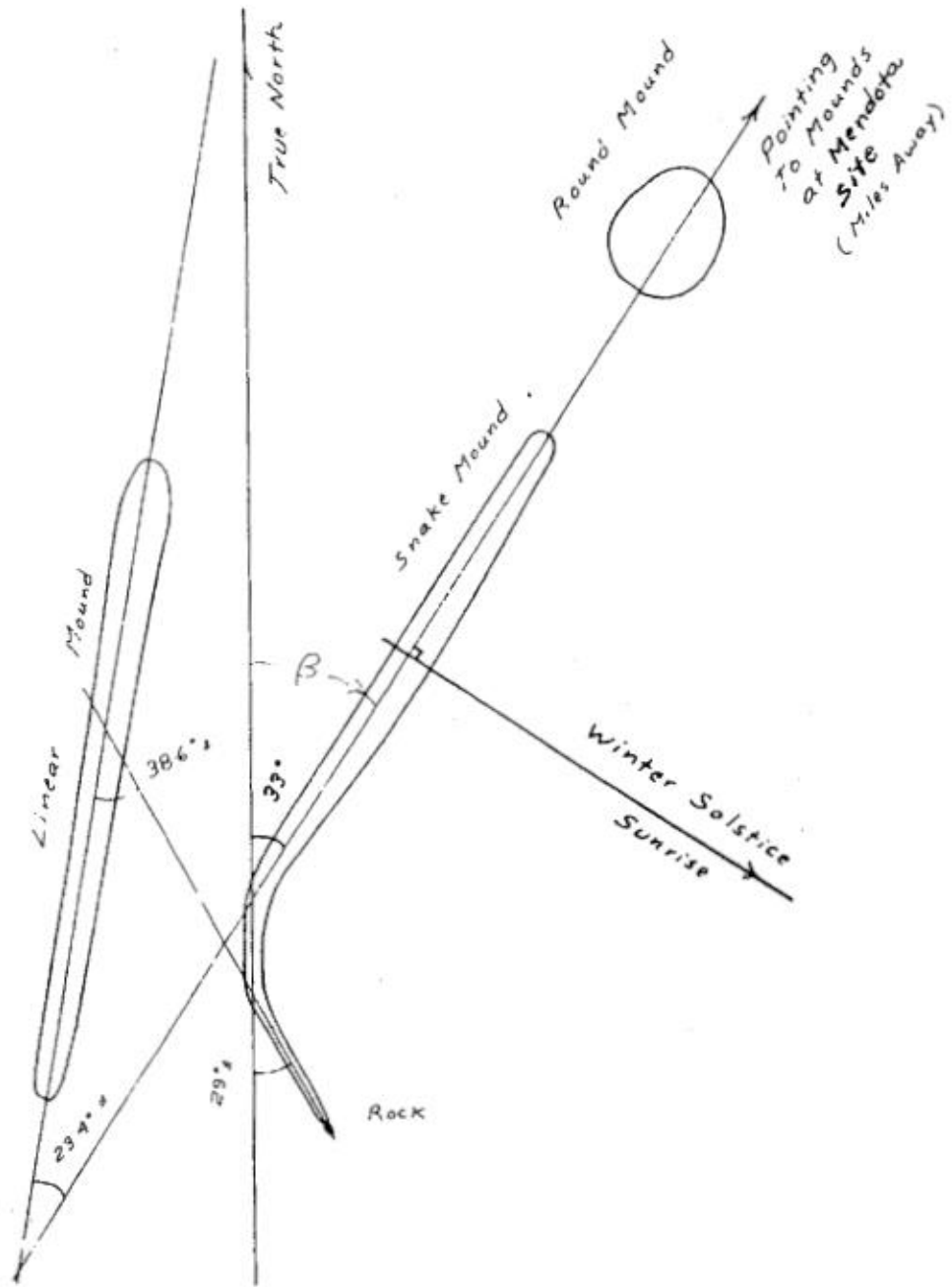


Figure 6. Eagle Heights Mound Group.

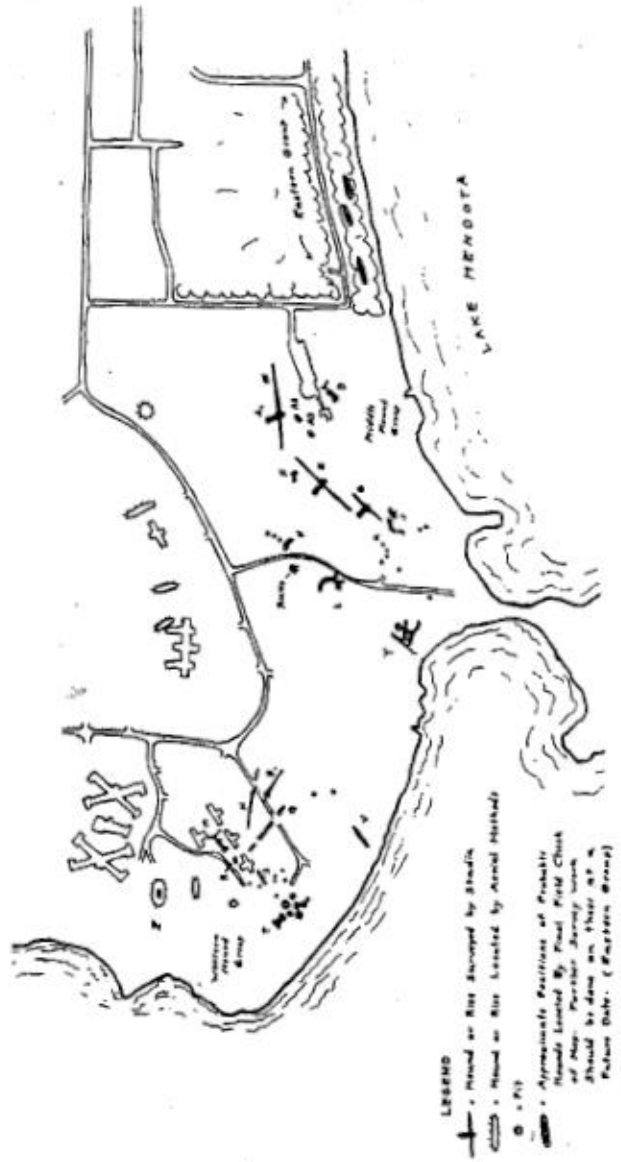
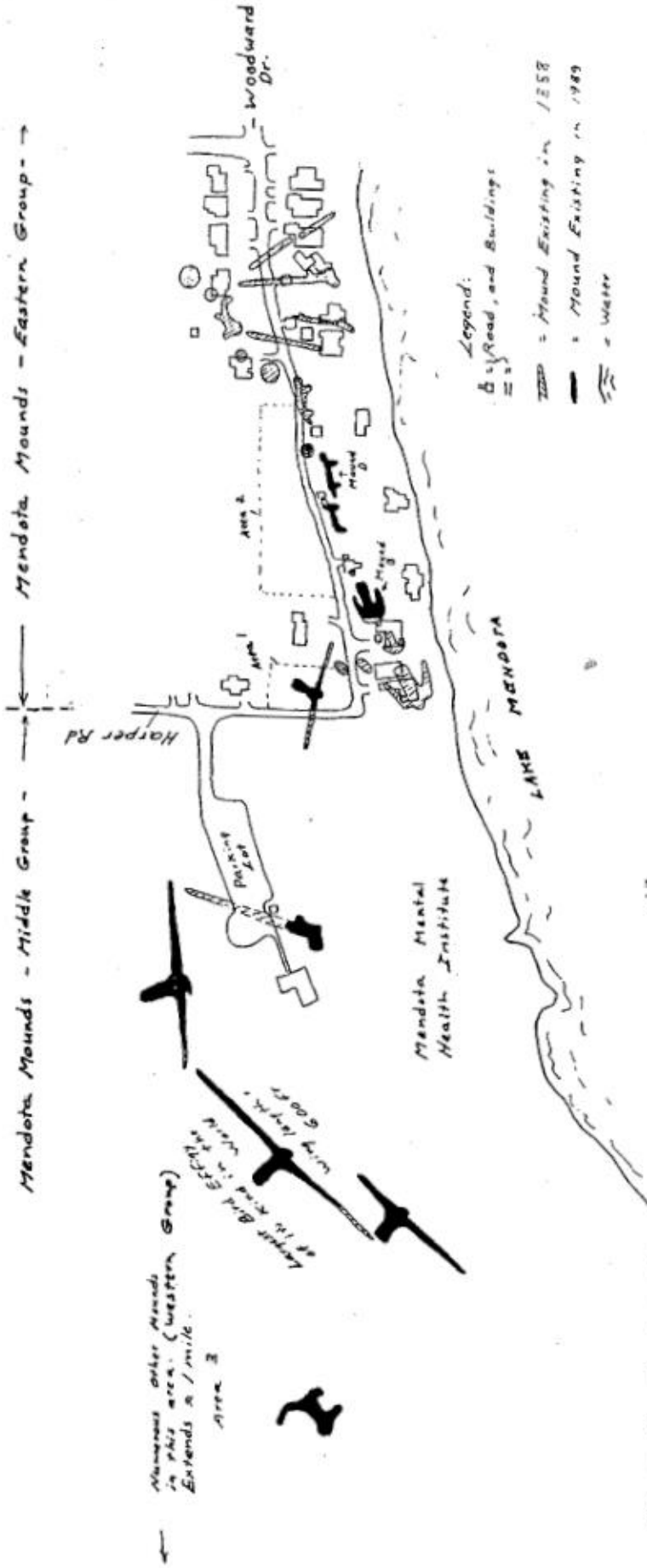
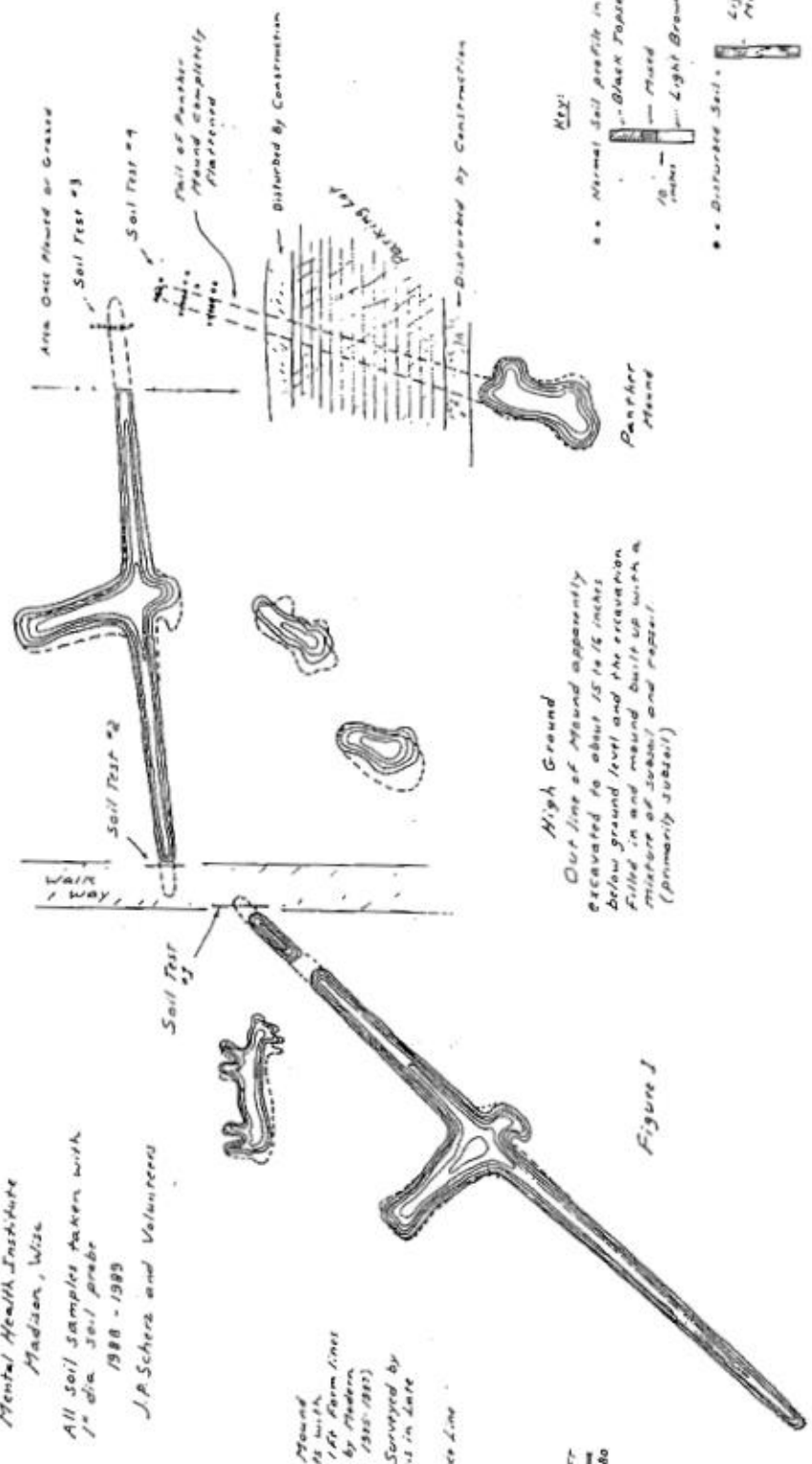


Figure 7. Mendota Site On and Around the Grounds of the Mendota Institute of Mental Health.

W. James P. Schatz  
28 Dec 1989

Soil Sample Control Sites  
on  
(Mendota Site Mound Complex)  
on Grounds of Mendota  
Mental Health Institute  
Madison, Wis.  
All soil samples taken with  
1" dia. soil probe  
1988 - 1989  
J.P. Schatz and Valerius

Legend:  
 • Visible Mound  
 Remnants with  
 Approx. 1 Ft. Form Lines  
 (Located by Modern  
 Surveys 1988-1989)  
 • Mound Surveyed by  
 P.H. Lewis in Late  
 1800's.  
 --- Old Fence Line



High Ground  
 Excavated to about 15 to 16 inches  
 below ground level and the excavation  
 filled in and mound built up with a  
 mixture of rubble and gravel.  
 (primarily subsoil)

Figure J

Figure 8. Mendota Site - Middle Group.

MENDOTA MOUND COMPLEX  
- EASTERN GROUP -

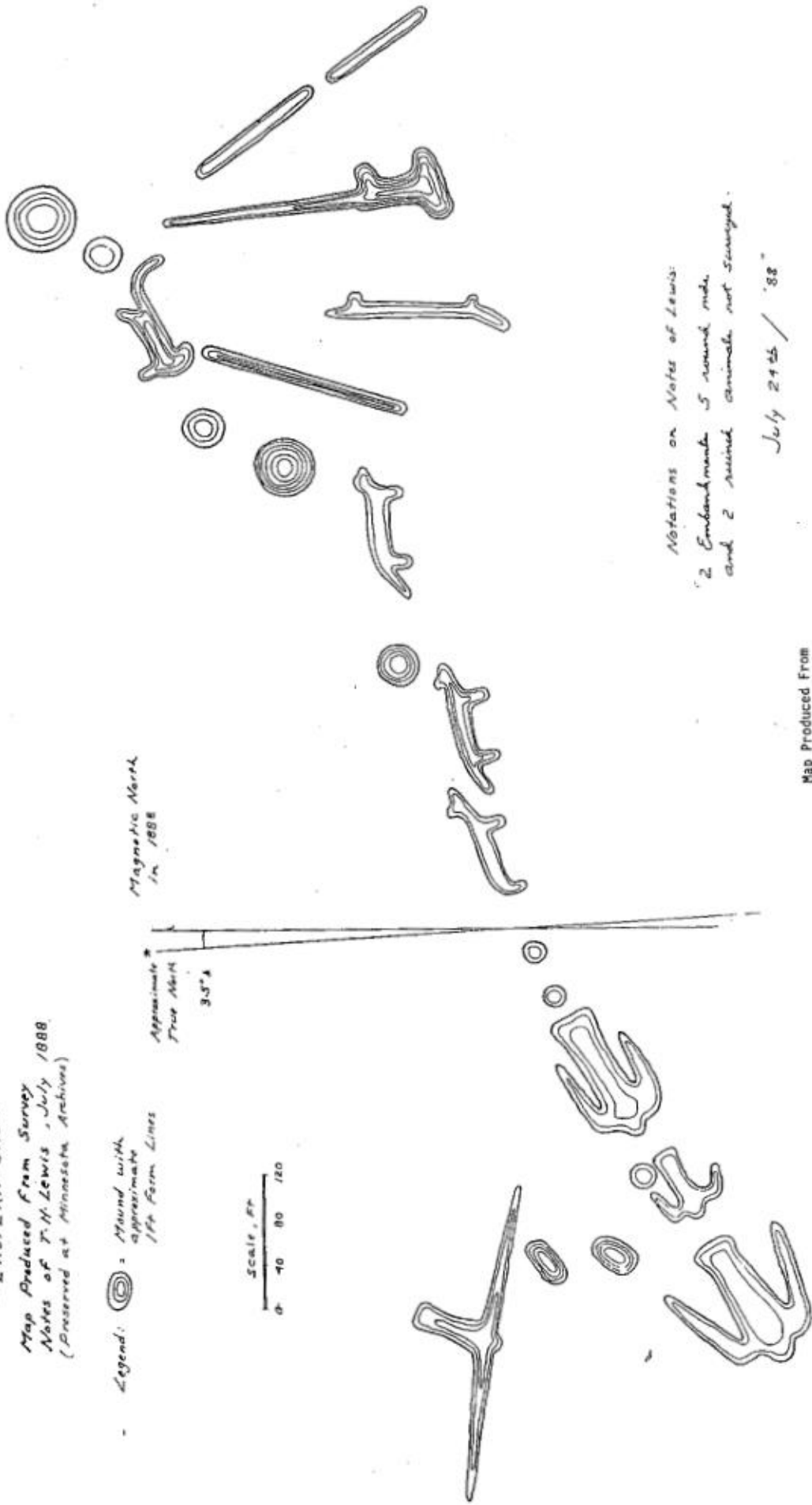
Map Produced from Survey  
Notes of T.H. Lewis, July 1888.  
(Discovered at Minnesota Archives)

Legend:  Mound with  
approximate  
1/4" Farm Lines

Scale, FT  
0 40 80 120

Magnetic North  
in 1888

Approximate  
True North  
3.5°



Notations on Notes of Lewis:

2 Enclosures 5 round mounds  
and 2 raised animals not surveyed.

July 24<sup>th</sup> / '88

Map Produced From  
Survey Notes of  
T.H. Lewis, 1888

Map Sheet Mda-EG-F1

James P. Schuyler / Dec 1989

Figure 9. Majority of mounds here were sacrificed to development in the Middle to Late 1900's.

- III. The old Baskerville Park mound group on the north shore of Lake Mendota (sacrificed to development for exclusive housing the last few years).

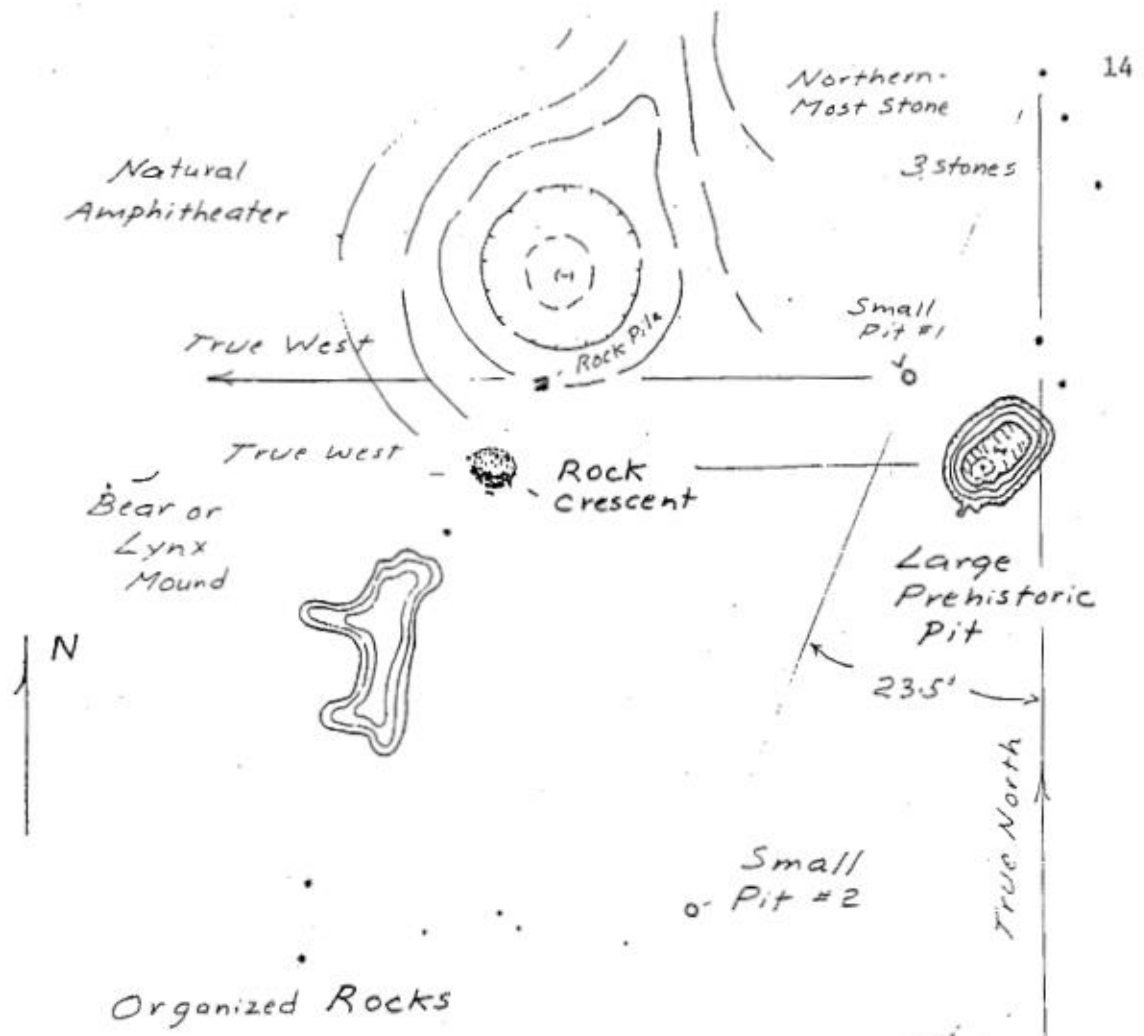
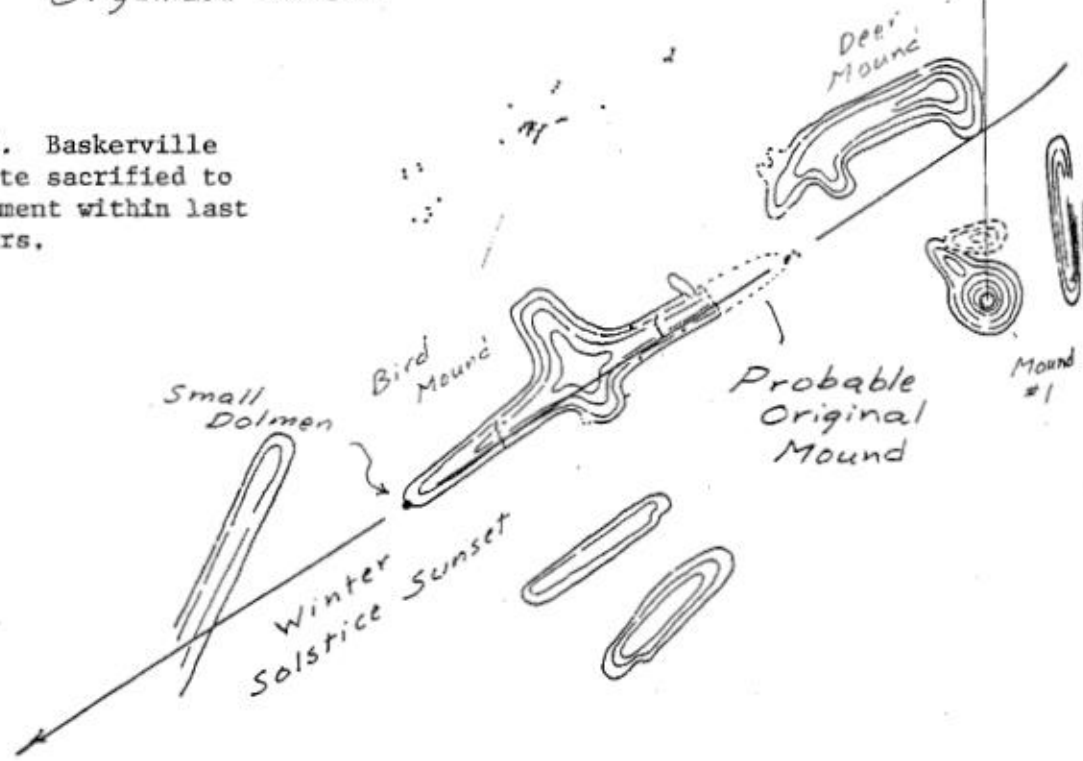
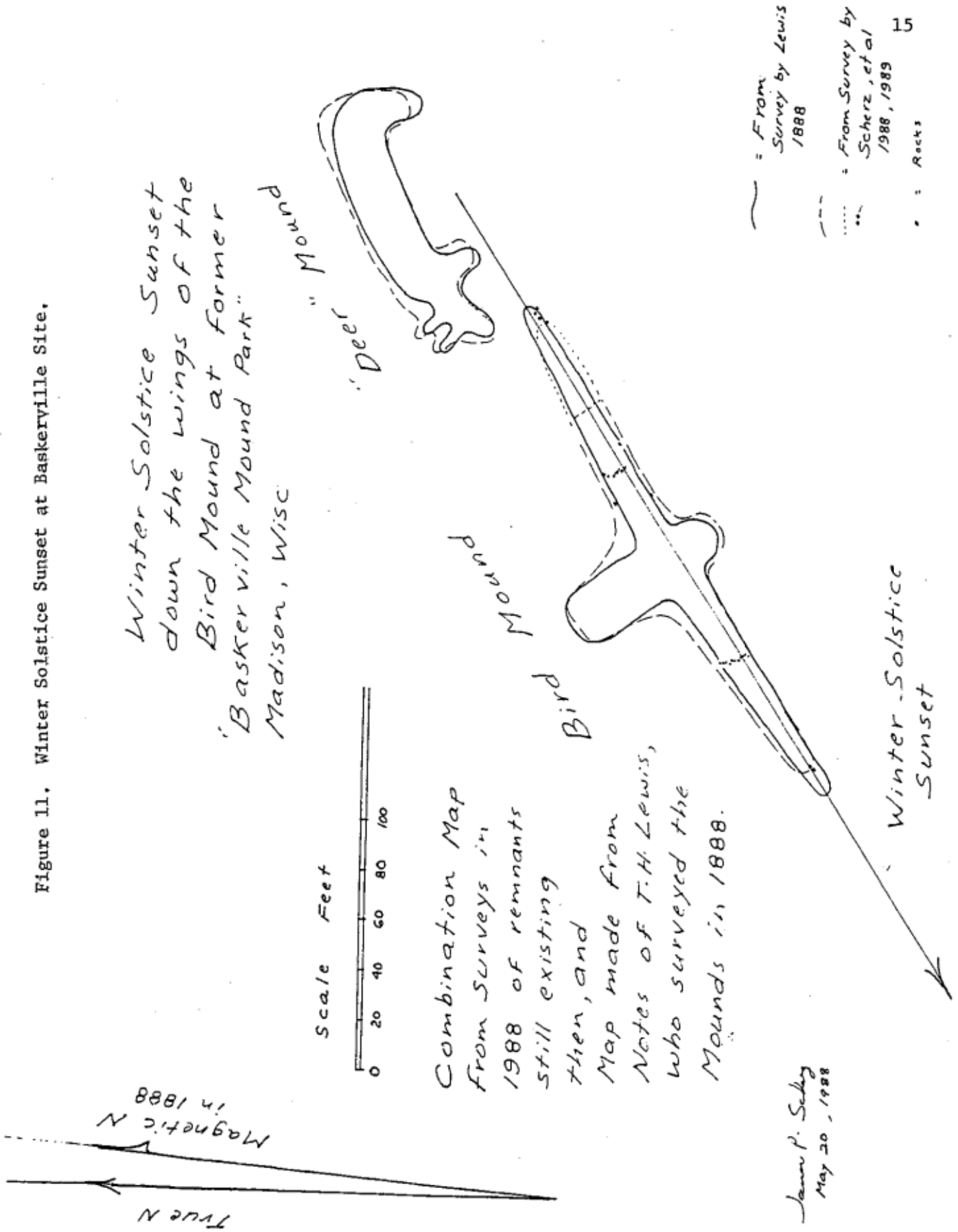


Figure 10. Baskerville Park site sacrificed to development within last few years.



Overall View of Prehistoric Mounds and Related Features at Baskerville Mound Park Site.

Figure 11. Winter Solstice Sunset at Baskerville Site.





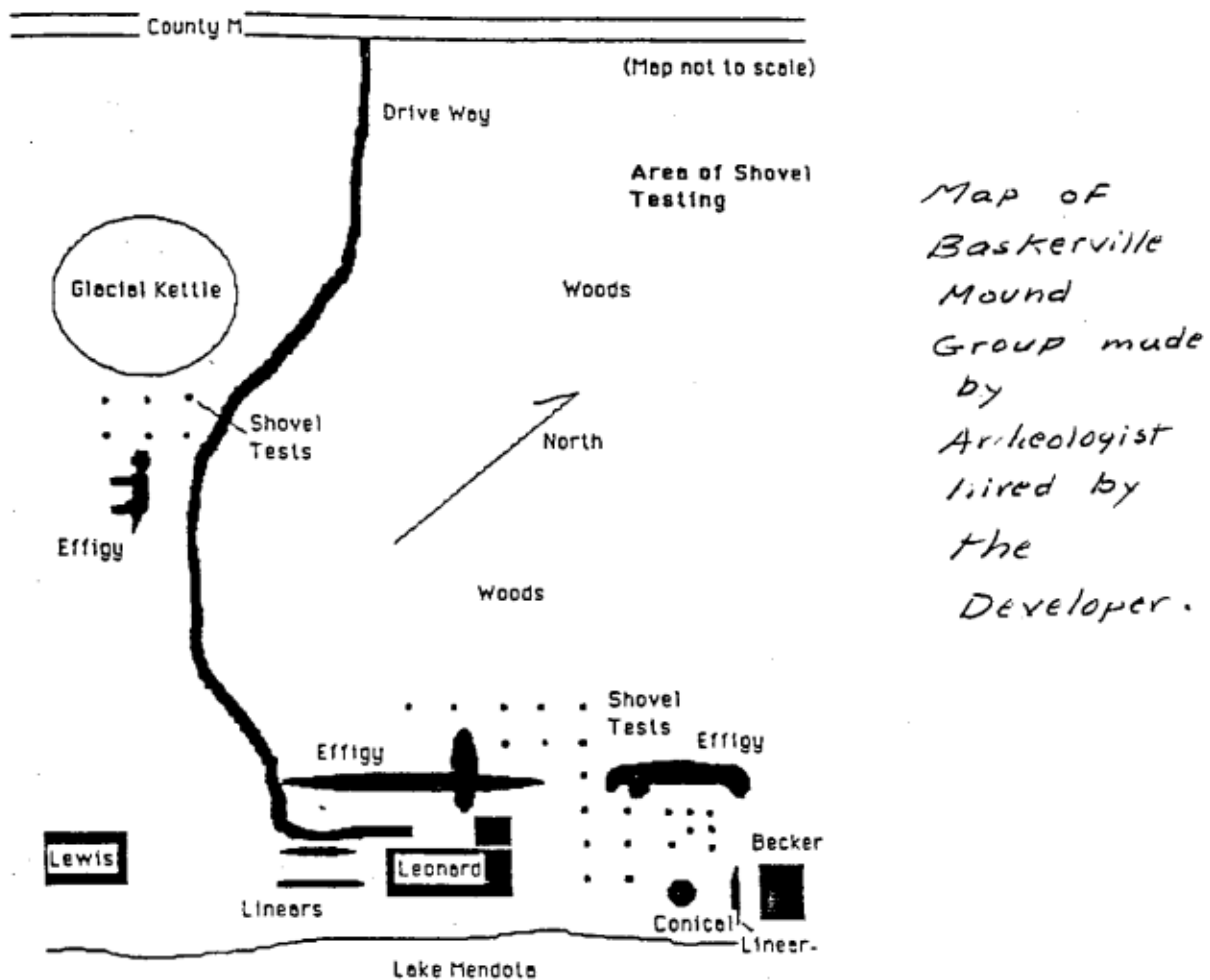
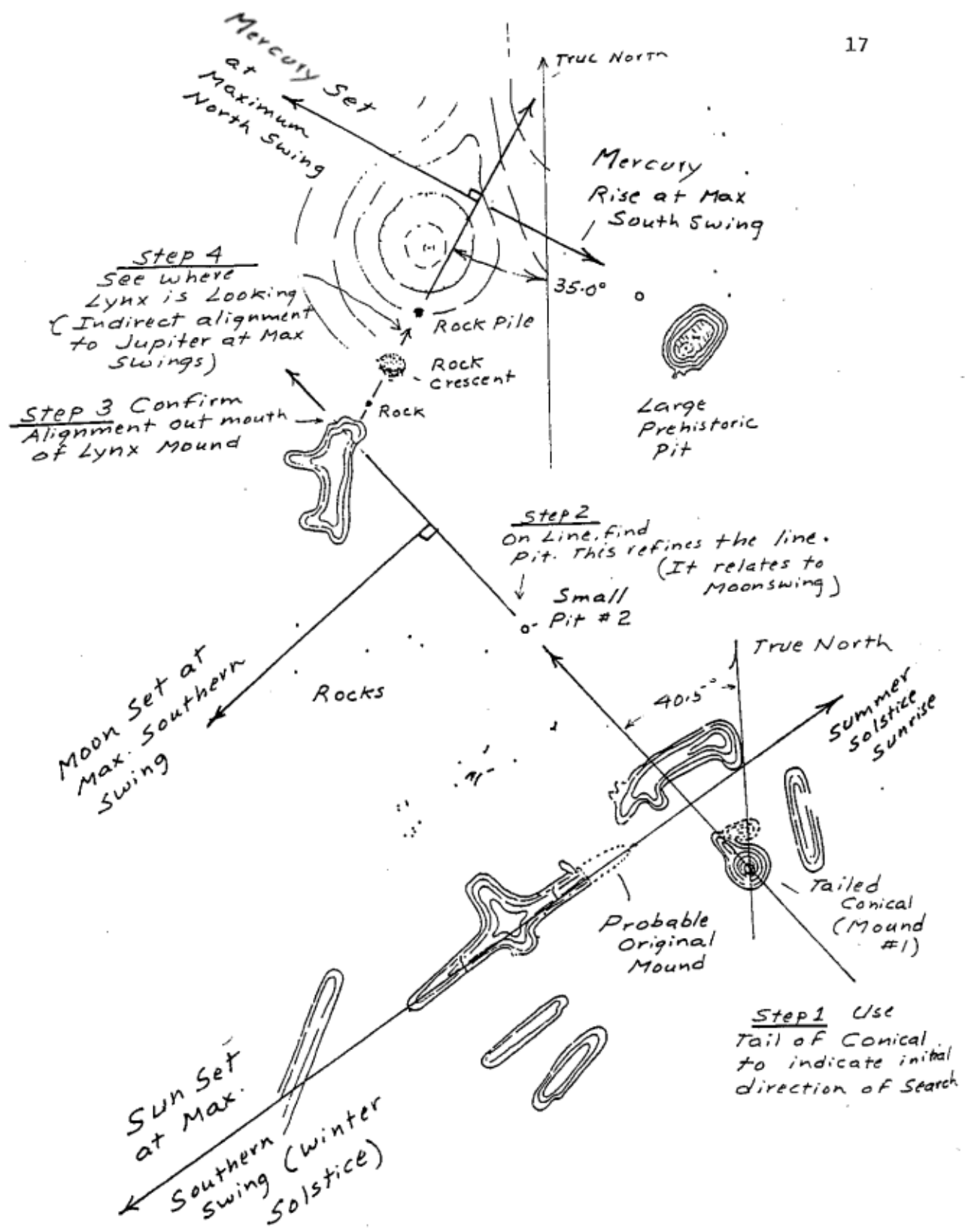


Figure 12. Archeologist's map produced for developers - is not accurate enough to show important geometry used in mound layout.



Reading the Geometry of the Mounds from South to North using The tail of Mound #1 as the initial Key.

Figure 13. Precise maps show sophisticated geometry used in mound layout.

IV. Mounds around the State Capitol and Lake Monona, destroyed by development from mid-1800s to mid-1900s.

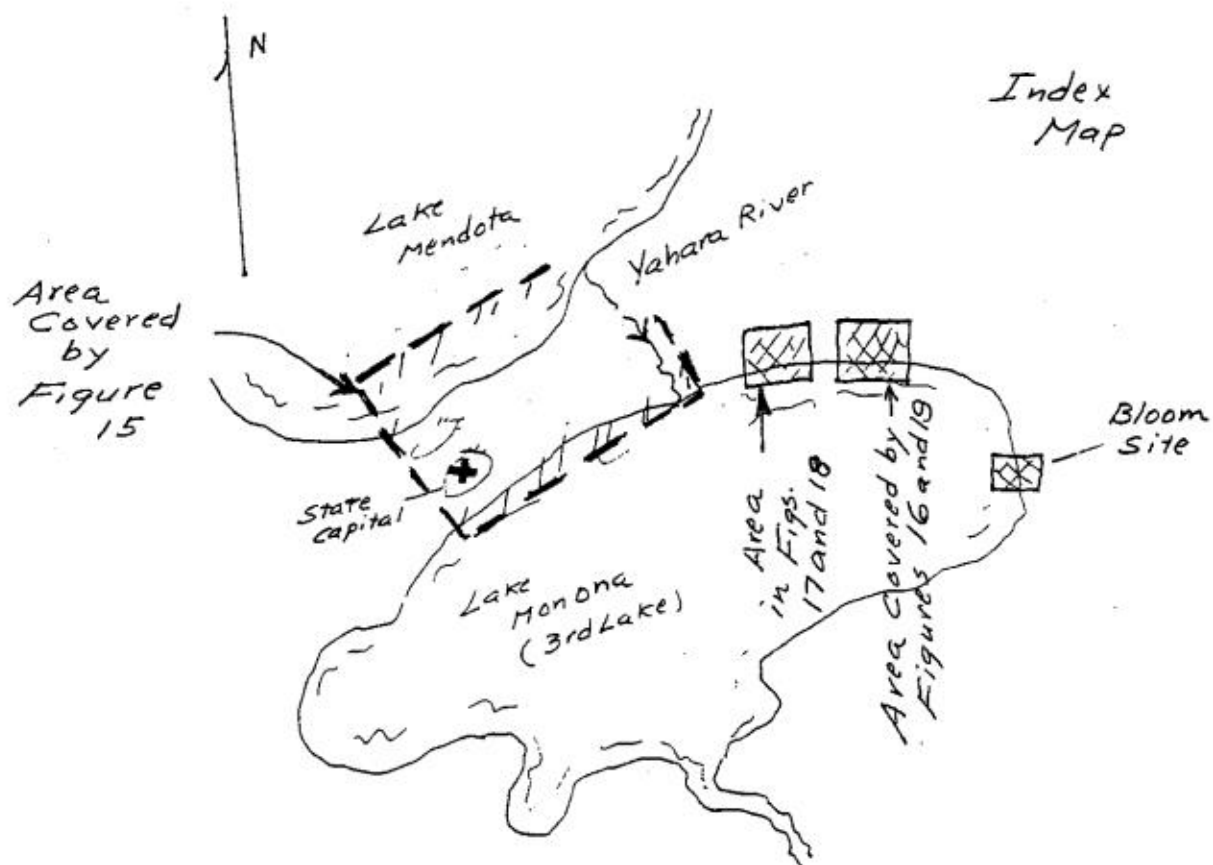
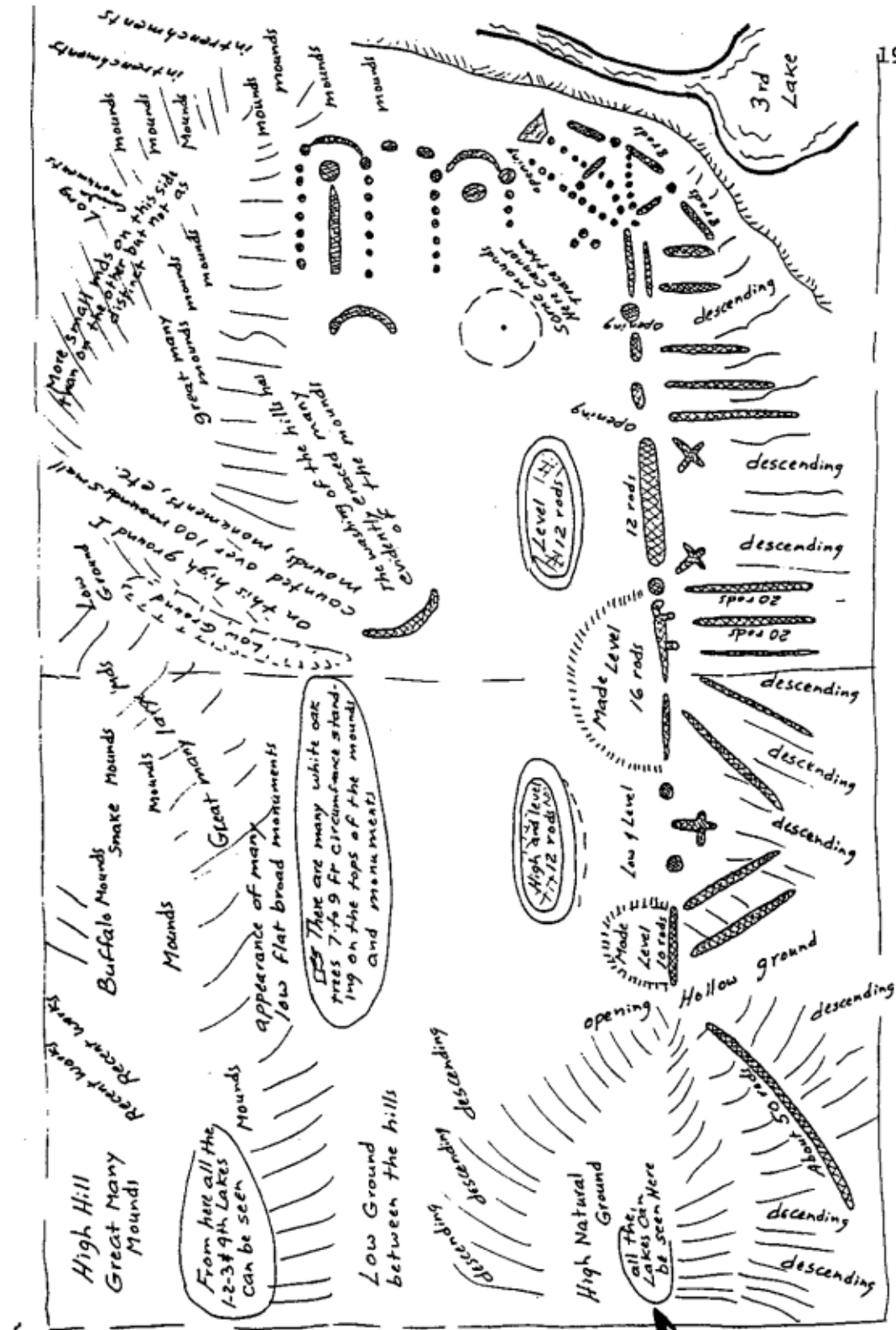


Figure 14. Index map of mound group around Lake Monona.

Figure 15.



Madison

Lapham WSHS  
Wis  
MS  
DB  
Box 32

Madison on  
Rev:  
" Sketch made  
by Samuel Stone  
& Leando Judson  
July 1836  
TODAY'S  
STATE  
CAPITAL

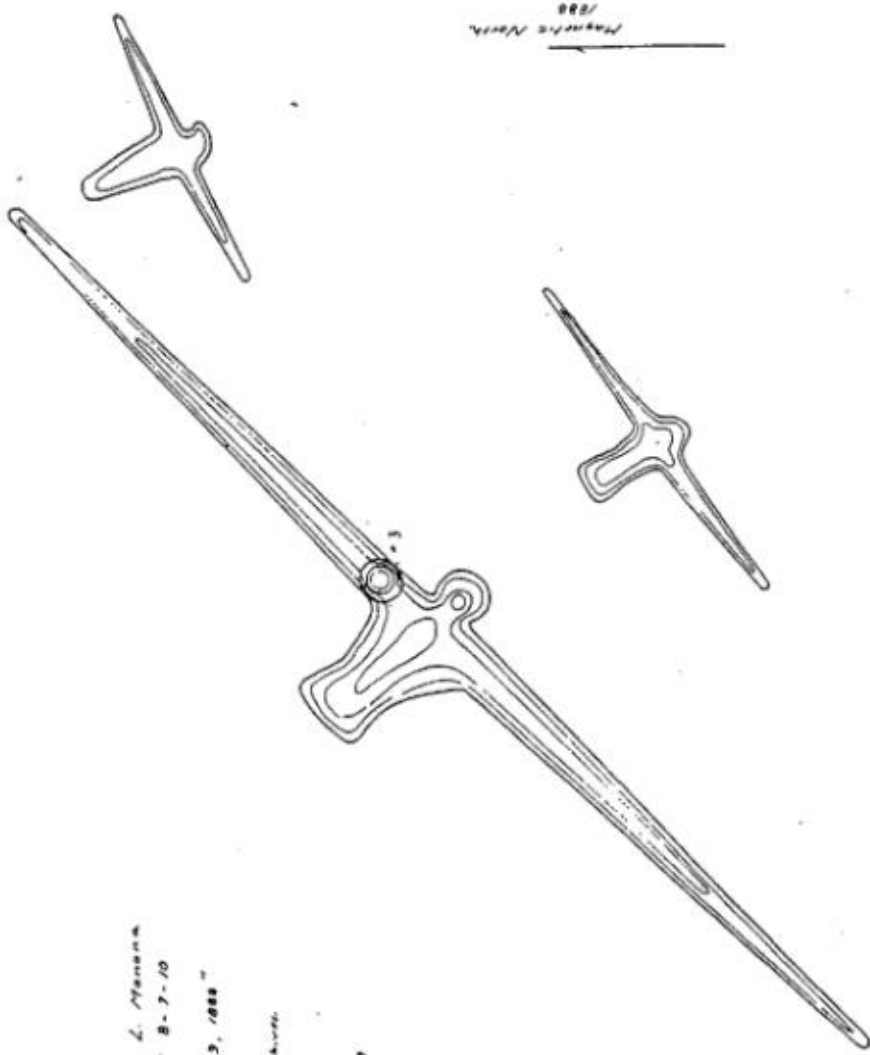
Map Made from Survey Notes of  
 F. H. Lewis  
 Four Lakes Mounds, N. Side of L. Monona  
 On SE SW of S and NE NW of B-7-10  
 Dane Co. Wisconsin  
 Surveyed by F. H. Lewis Aug 3, 1888

Original Notes of Lewis are  
 prepared by Minnesota Iron Archives

Reduction of Notes and Drafting  
 was done in the Surveying and  
 Mapping Lab., Dept. of Civil and  
 Environmental Engineering, Univ.  
 of Wisconsin, Madison, Wis.  
 March 1989

Scale - Feet  
 0 20 40 60 80 100

John P. Sving  
 March 1989



Magnetic North  
 1888

From the Notes of Lewis:  
 "There are 9 mounds and 10 round  
 mounds belonging to the group which were  
 that were observed in the field to the  
 North  
 about 30 ft above lake.  
 The mounds are more or less elongated  
 to being roughly in  
 the S to influence having been built about  
 1800 of the time was not."  
 Aug 3rd 1888

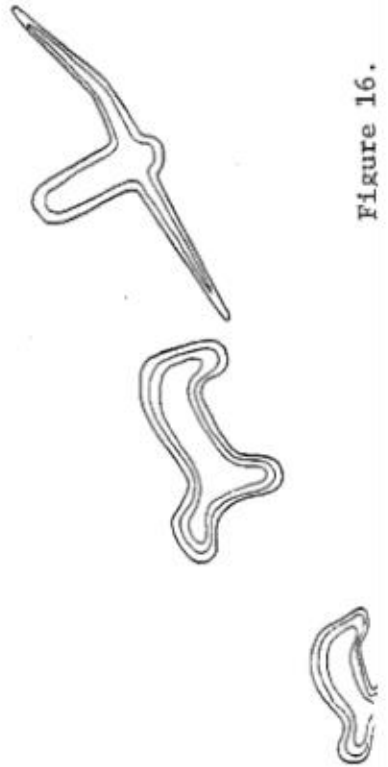


Figure 16.

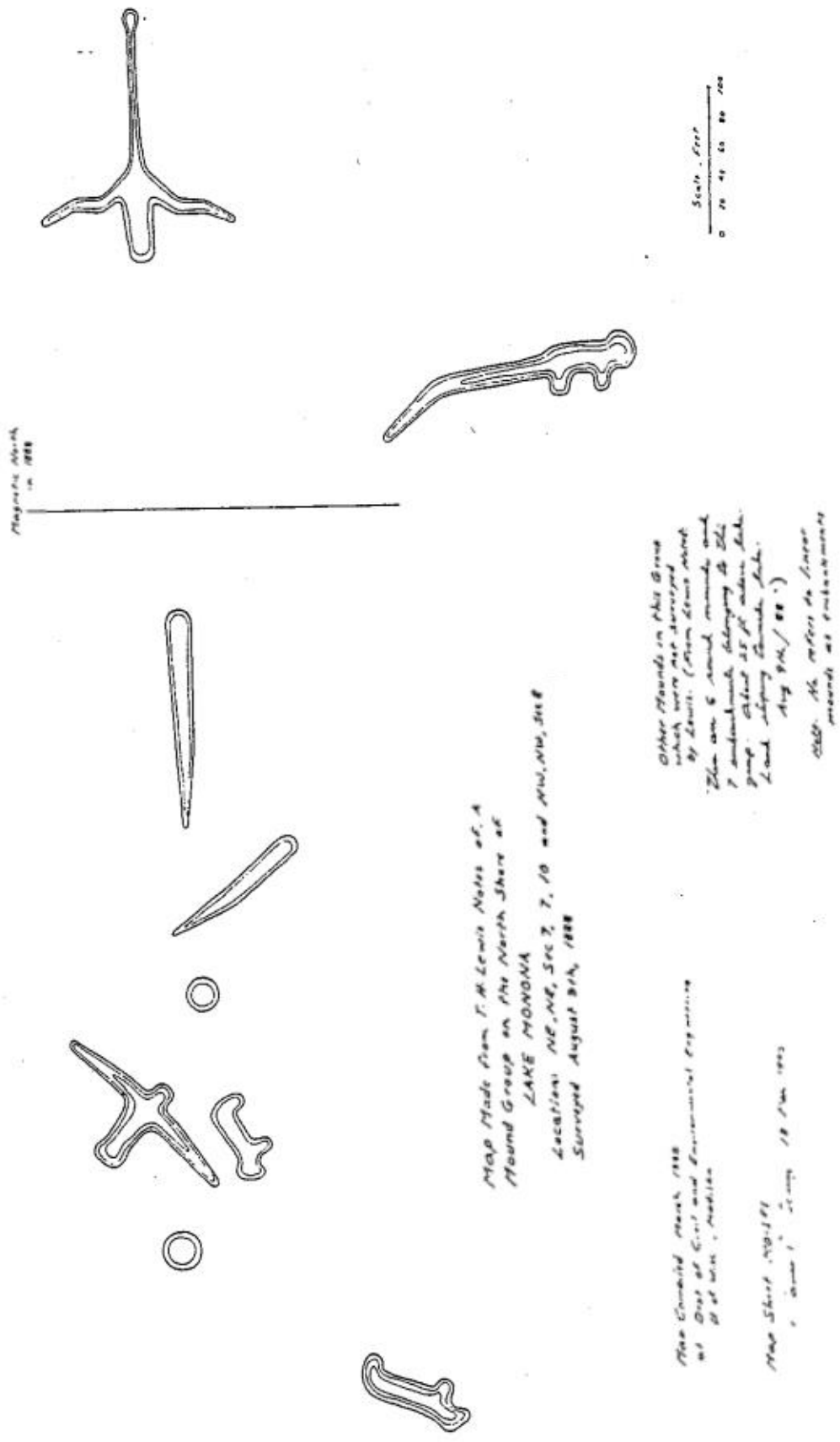


Figure 17.

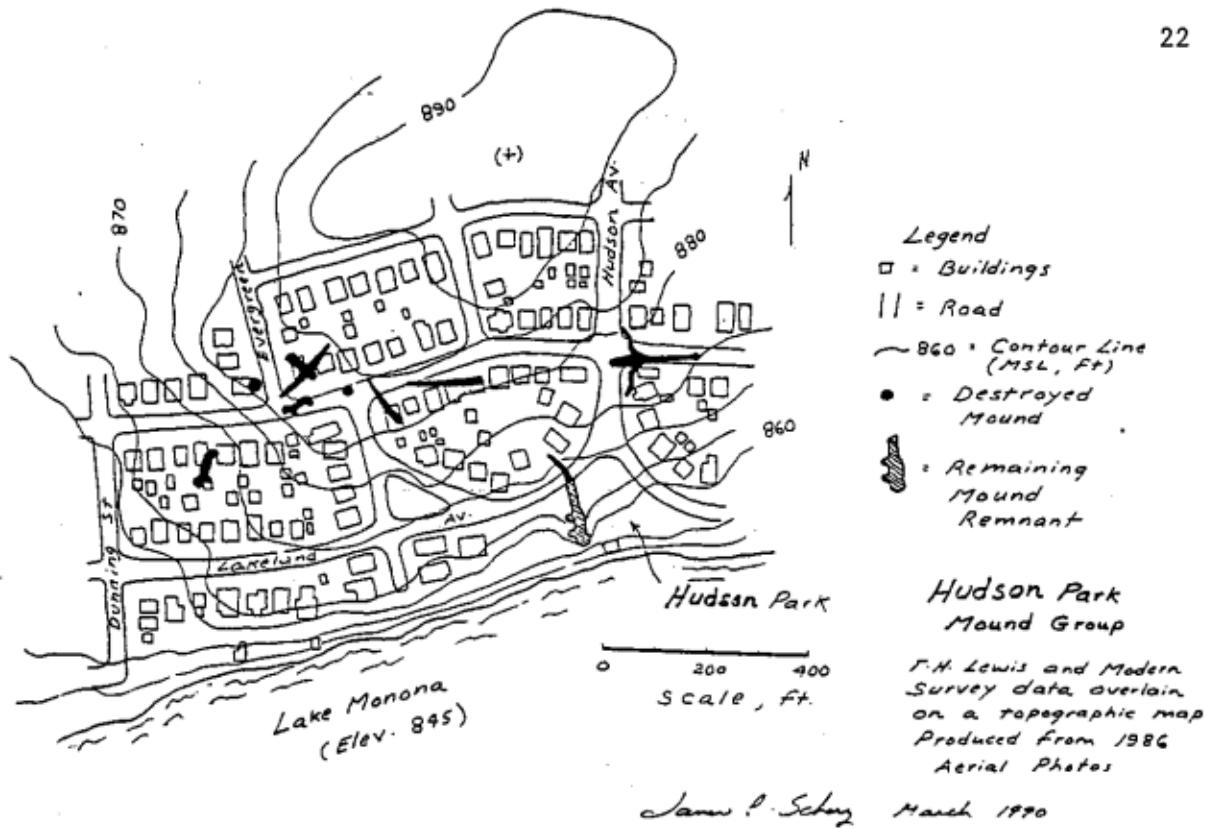


Figure 18.

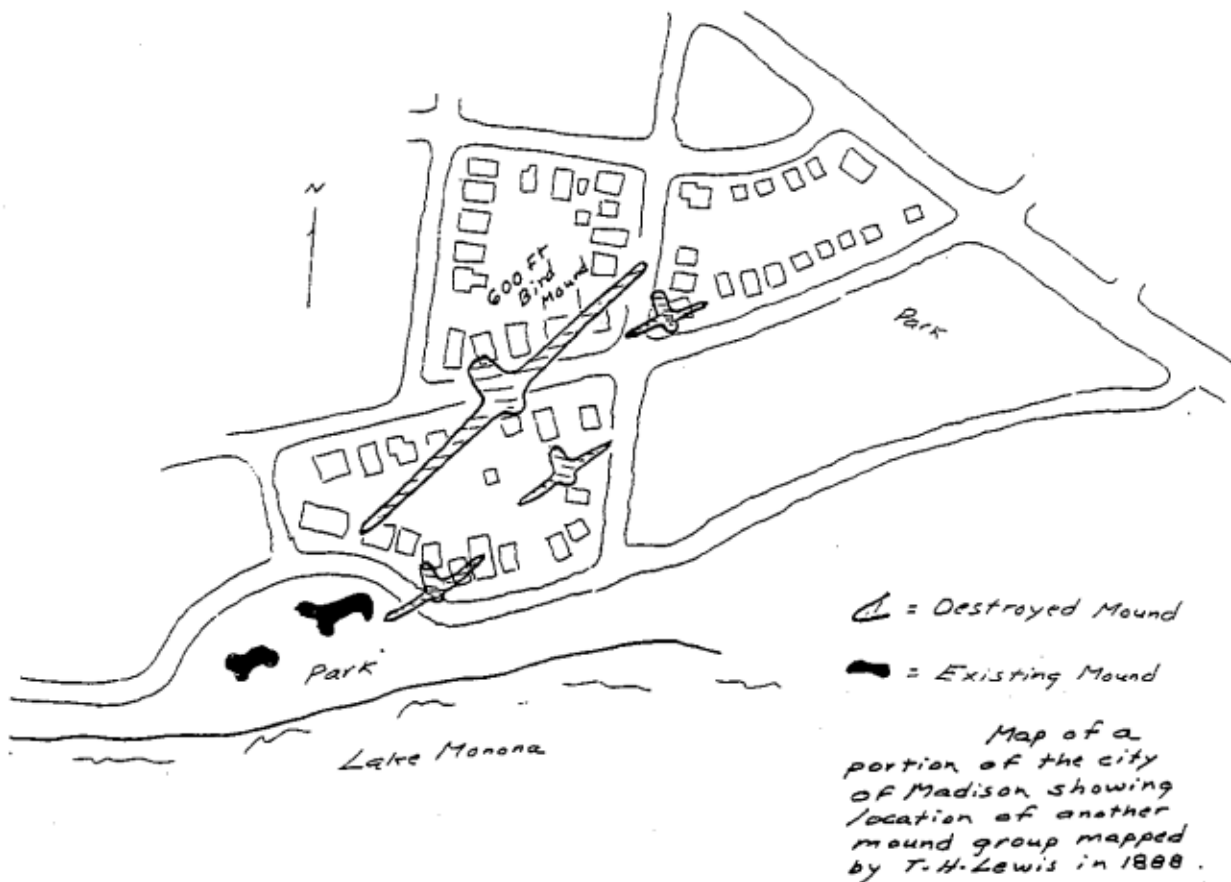
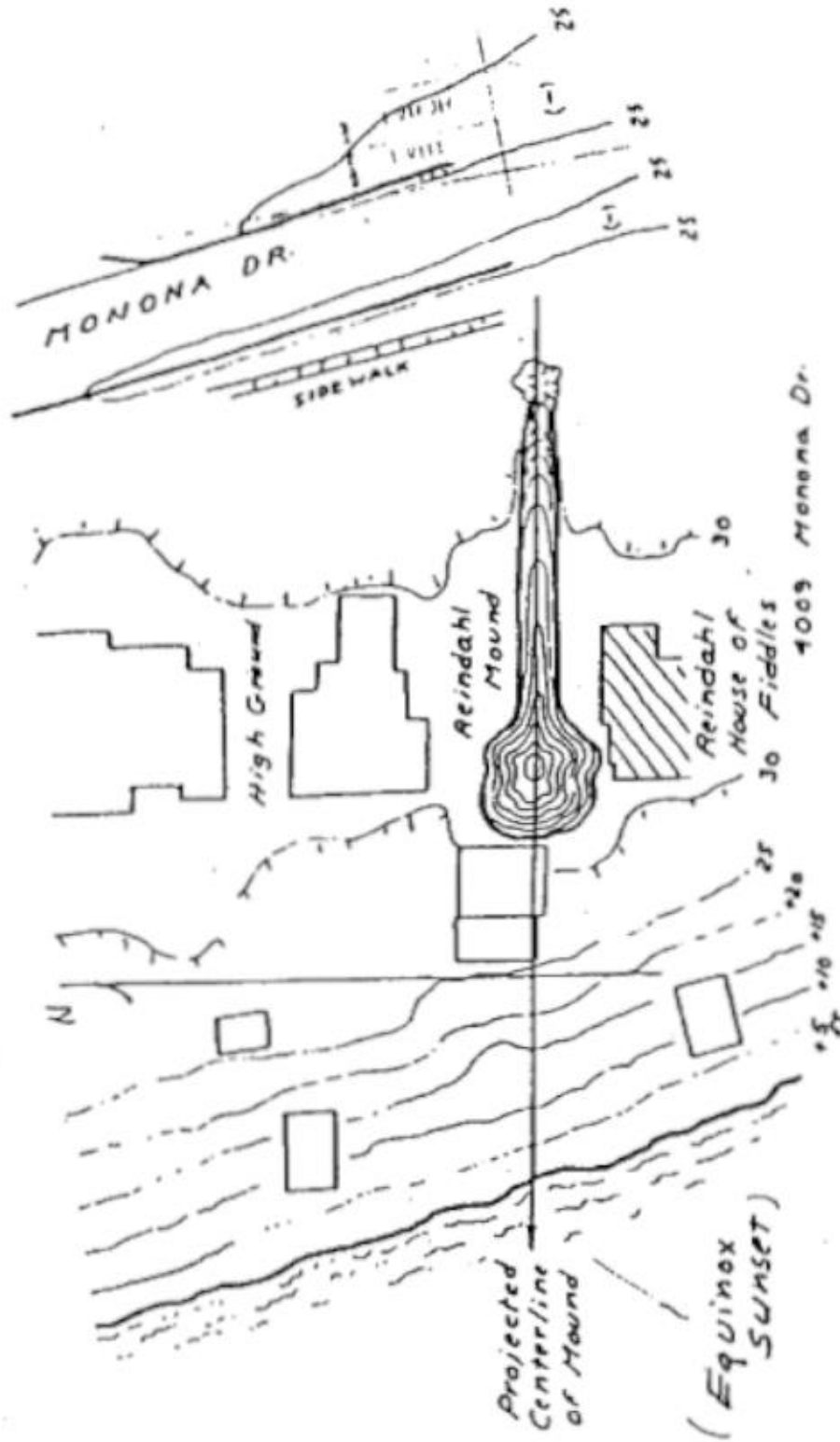


Figure 19.

V. Some Solar Calendar Functions.



Reindahl Mound  
at Bloom Site

Figure 20, Spring Equinox Sunset,



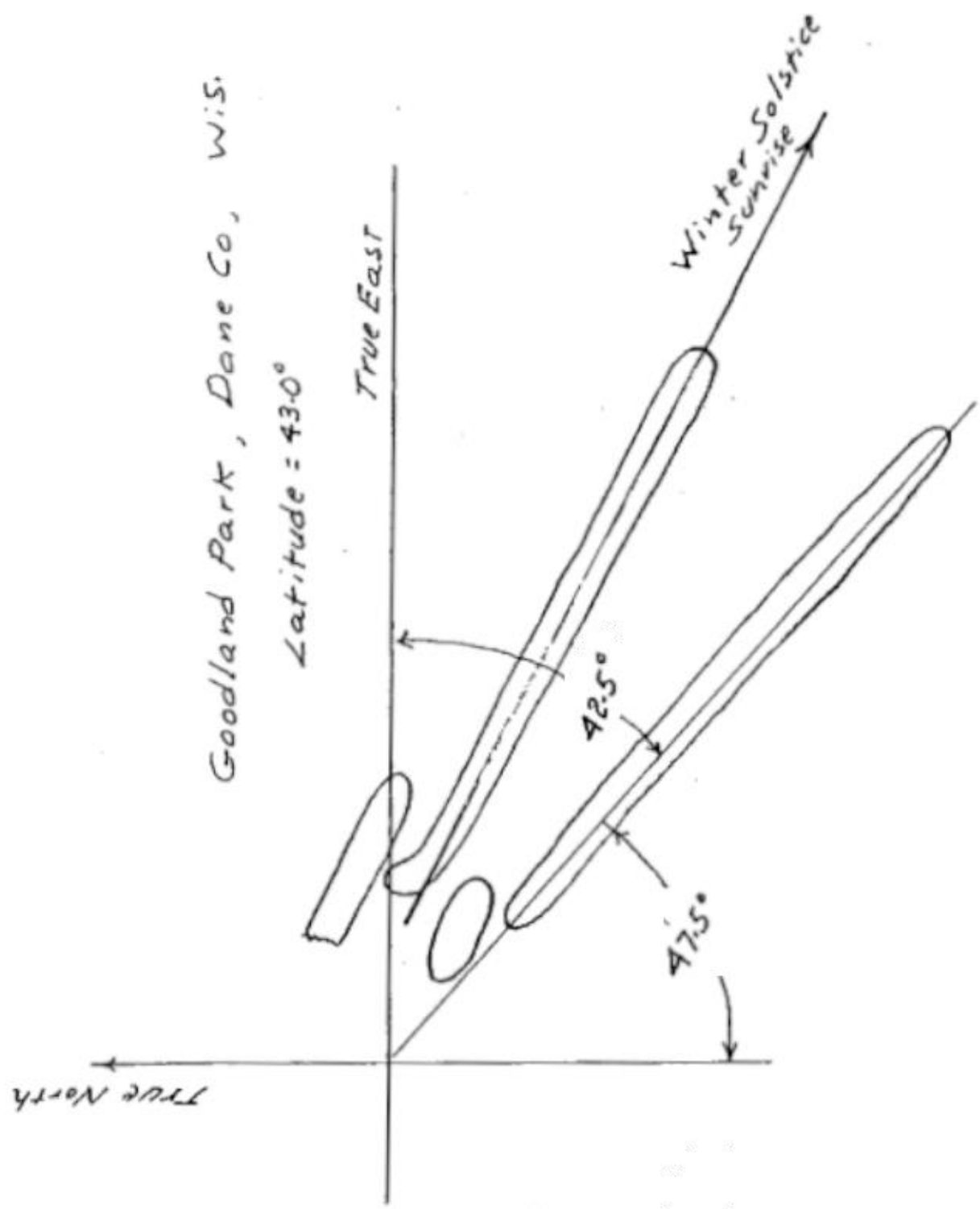
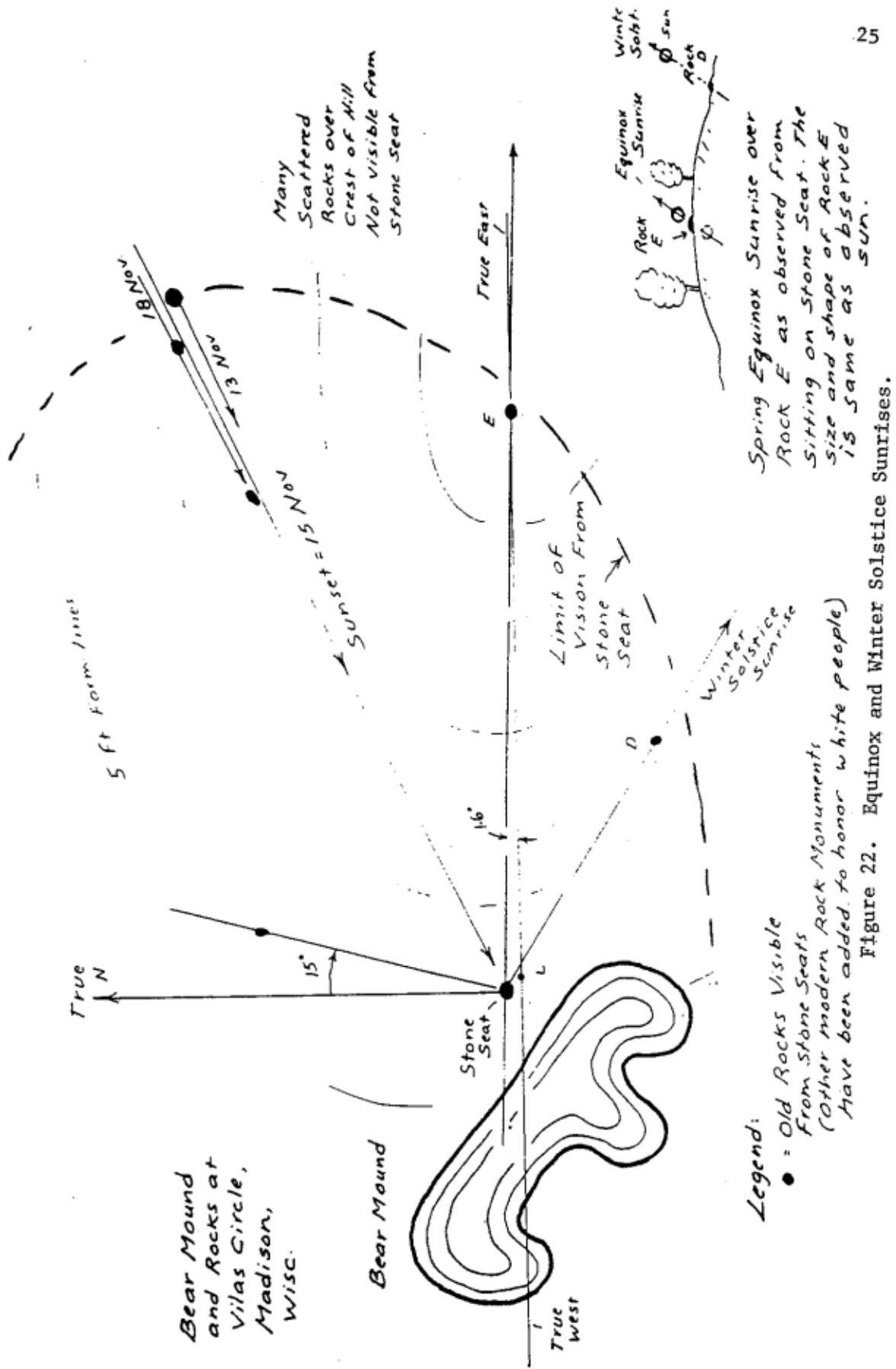


Figure 21. Winter Solstice Sunrise.

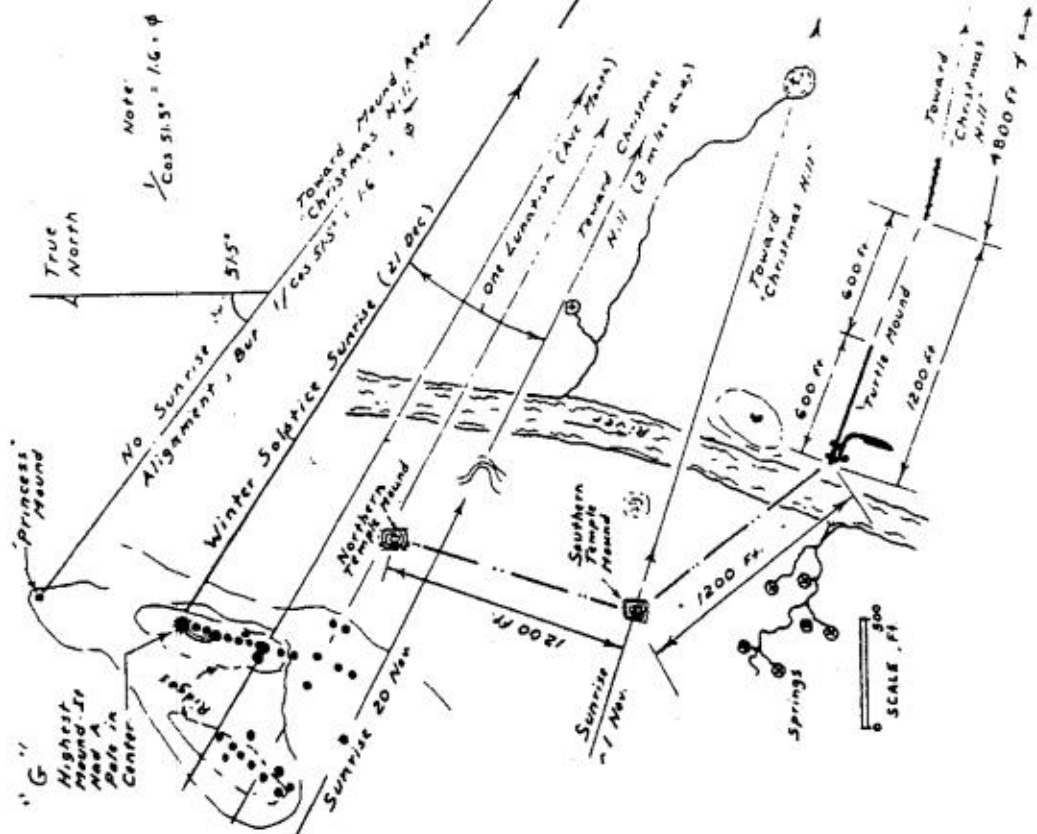


- VI. Some distances relating to fractions and multiples of 600 ft. (the ancient unit called the "stade").

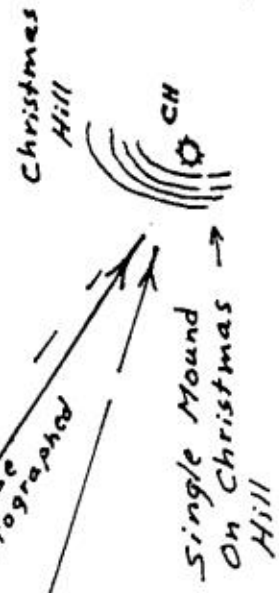
Figure 23. Long-range Alignments

at Aztalan Park, Wisconsin which correspond to winter solstice sunrise, a 1-month, or lunation, count-down to winter solstice (29 days), and a non-sun related alignment of 51.5° from North-South (or 38.5° from East)

G is tallest round mound (and highest elevation at Aztalan). It supposedly once had a single pole protruding from its top. CH is a single mound on Christmas Hill to the South East.



Seemingly Important Alignment (But not to Sunrise) - Winter Solstice Sunrise (Observed and Photographed in 1985)



Sketch. Angles taken from large-scale compilation maps

J. P. Schlegel May 1990

Winter Solstice  
Sunrise Alignment  
at Aztalan, Wisc  
(Short Alignment  
A to C)

Christmas Hill is a very high hill to S.E. (about 1 mile)

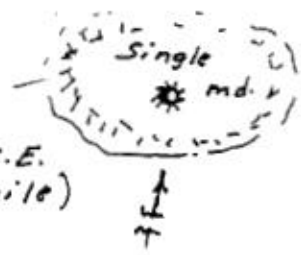
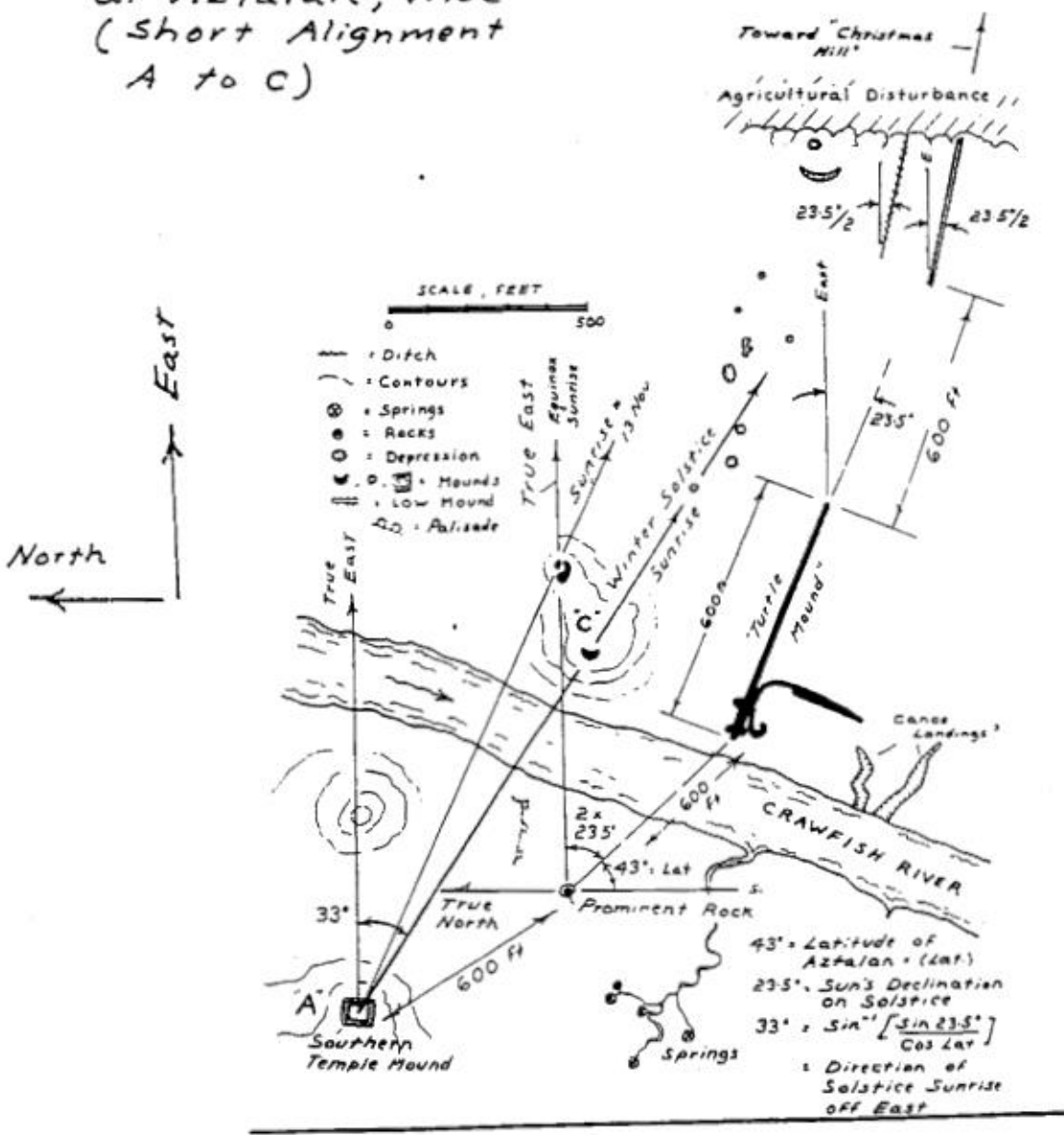
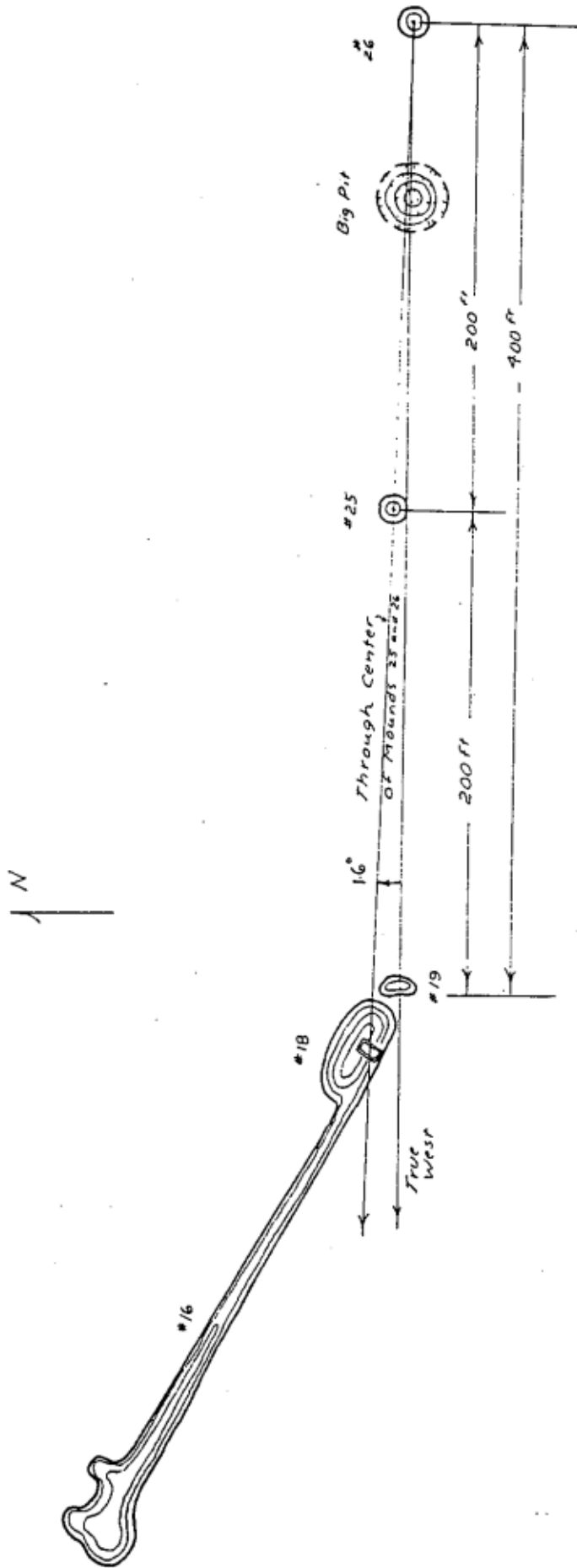



Figure 24.

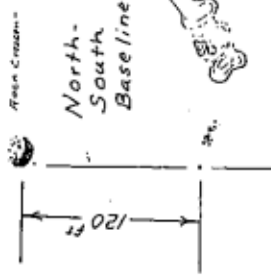
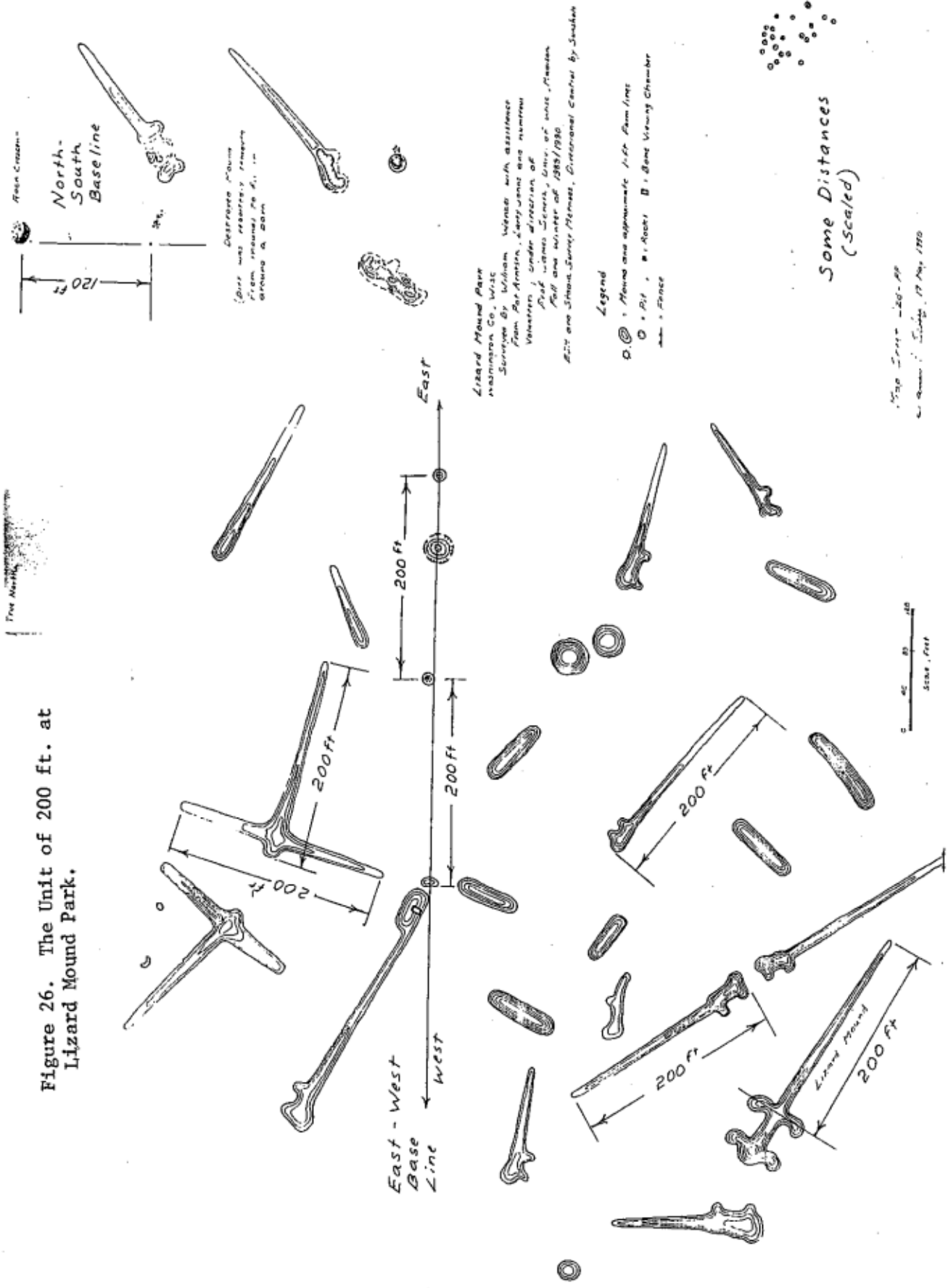
"A" is tall 2-tier Temple Mound  
 "C" is moon-shaped crescent Mound on highest elevation on hill across river towards the southeast

Figure 25, Eastwest Base Line at Lizard Mound Park,  
 400 ft = 2/3 x 600.  
 200 ft = 1/3 x 600



An East-West Base Line From  
 Mound #26 to Mound #19,  
 An Alignment Shifted 1.6°  
 North of West, and Repeating  
 Distances. (all distances ± 2ft)

Figure 26. The Unit of 200 ft. at Lizard Mound Park.

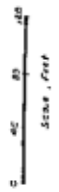


Lizard Mound Park  
Washington Co. Wis.  
Surveyed by William Winters with assistance  
from Dr. Aronson, Kampwiese and numerous  
Volunteers, under direction of  
Prof. James Lewis, Univ. of Wisconsin, Madison  
Fall and winter of 1985/1986  
Site and Street Survey Methods, Directional Control by Southon

Legend  
 (●) : Mound and approximate North-South line  
 (○) : Pit, (■) : Rocks, (□) : Bone Viewing Chamber  
 (---) : Fence

Some Distances  
(Scaled)

Map Sheet 26-PP  
 Wisconsin State Survey, 17 May 1980



VII. Some distances at Steinhorst site based on the ancient unit of the furlong (660 ft) and fractions of the furlong (half a furlong = 330 ft. = 5 x 66 ft., where 66 ft. is the Gunter's chain, which defines our acre as  $66 \times 66 \times 10 = 43560 \text{ ft}^2$ ).

Other distances at this site: 220 ft. & 220 ft. ( $200 = 2/3 \times 330$  or  $1/3 \times 660$ ).

Two other distances are 155 ft. and  $220/155 = 1.41 = \sqrt{2}$ , etc.



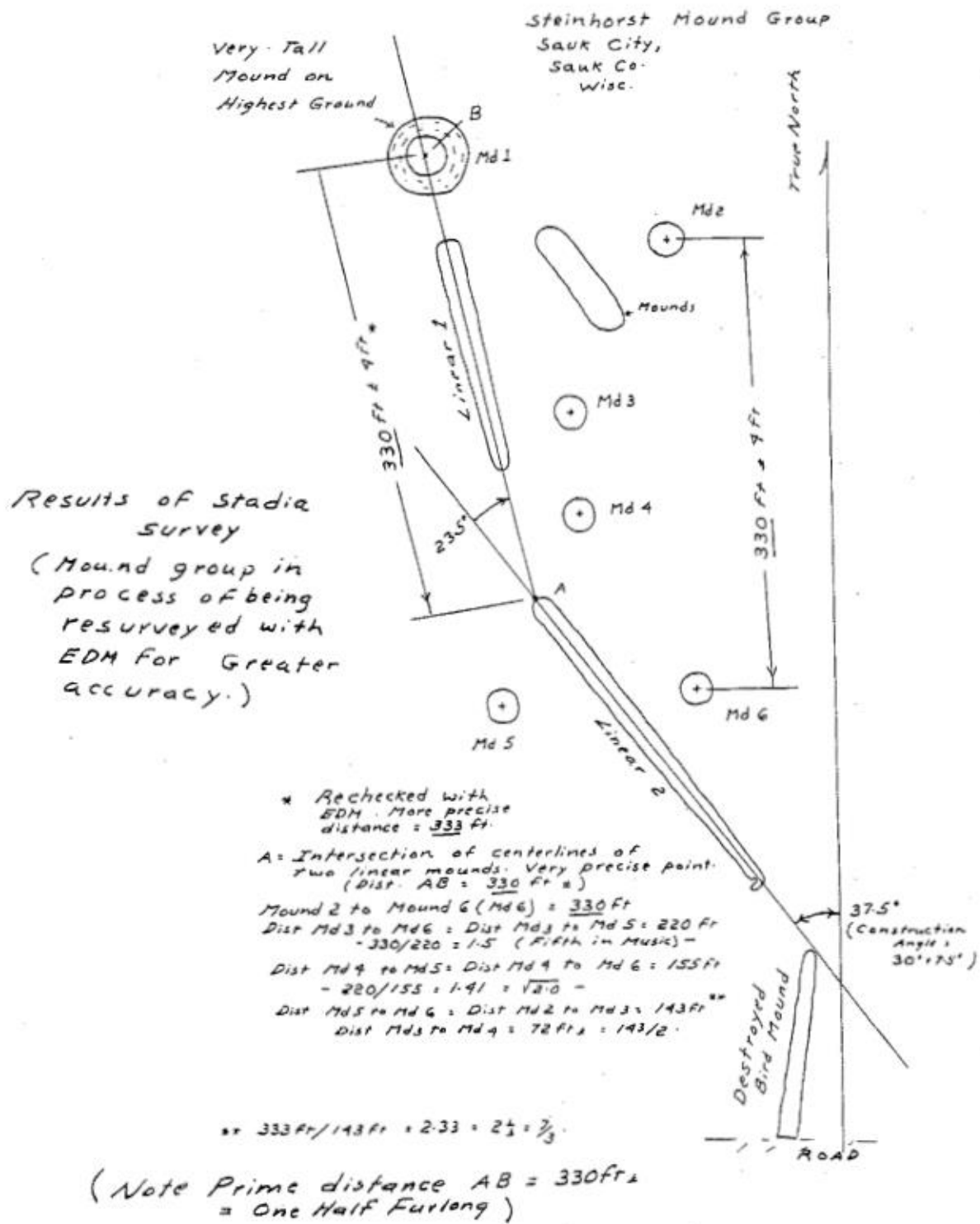
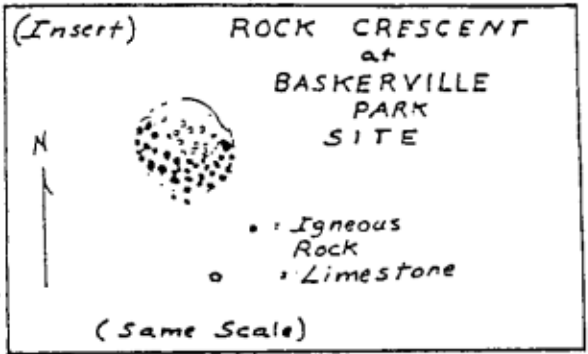


Figure 27.

VIII. Two similar crescent rock structures in separate parts of the state indicate that mound art work was done according to a plan.

Lizard Mound Park in Washington Co, Wisc.

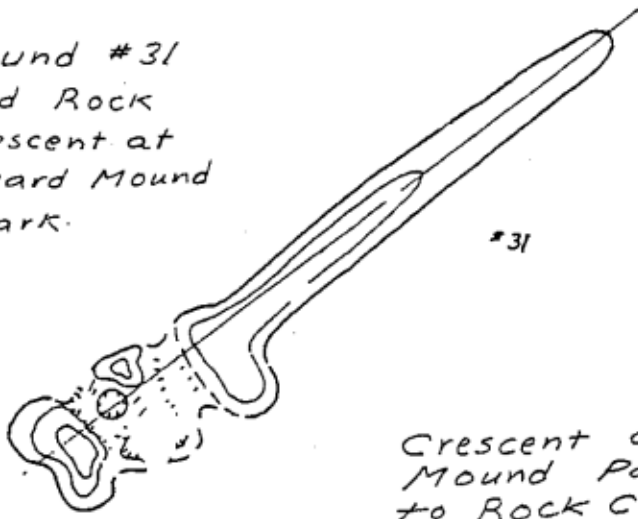
Old "Baskerville Mound Park" Mound Group in Dane County, Wisc.



Rock Crescent

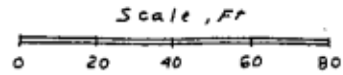
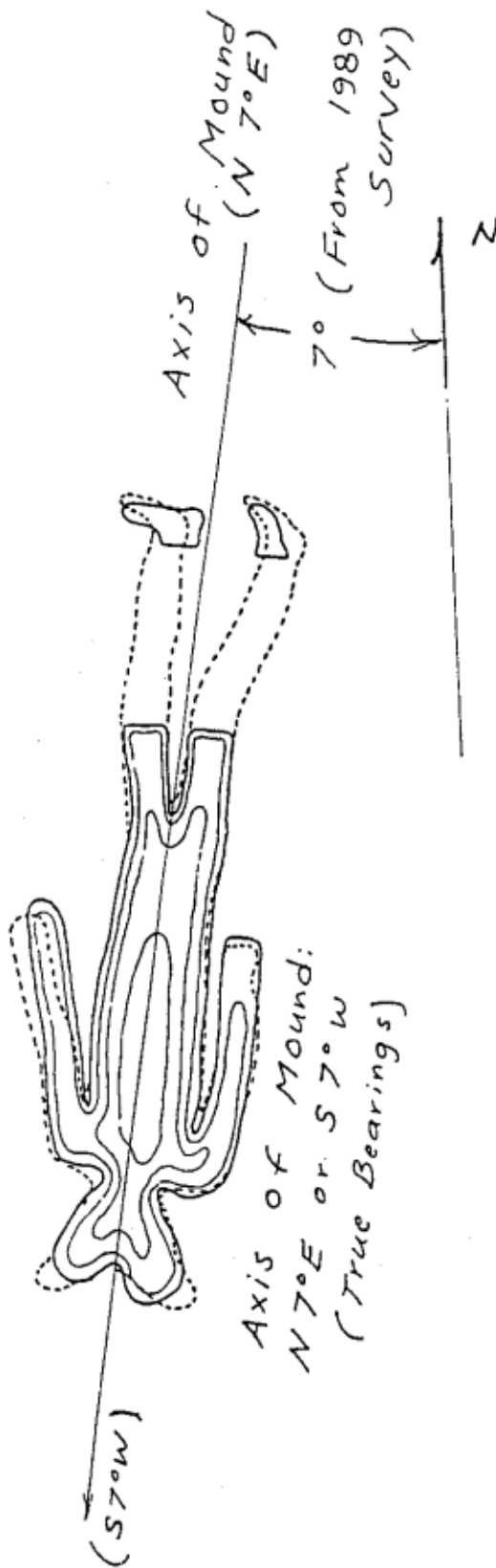
Exact N-South Base lines Between Rocks

Mound #31 and Rock Crescent at Lizard Mound Park.





Rock Crescent at Lizard Mound Park Compared to Rock Crescent at Baskerville Mound Park at Madison, Wisc.

IX. The People who built the mounds were real people like you and I, but in the artwork, seem to have long ears or horns.




Overlay of Modern Survey Data with Historical Data

Modern Data:

-  = Visible Mound with approximat 1 Ft. Form Lines
-  = Boundary of Area with Anomalous Soil Profiles

Survey by William Wenzel, Pat Arntsen and James Scherz, 1989

Historical Data:

-  = From Survey by Wm. H. Canfield 1859

TEST OF SOIL PROBE MAPPING  
at

Man Mound Park  
Baraboo, Sauk Co., Wisc.

Map Sheet 57sr-2  
James P. Scherz Dec 1989