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14-An Archaeological Survey along Portage River and Dorrance Creek above Indian Lake in Pavilion Township, Kalamazoo County, Michigan

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DEPARTMENT OF ANTHROPOLOGY
WESTERN MICHIGAN UNIVERSITY

ARCHAEOLOGICAL REPORT NO. 14

1982

AN ARCHAEOLOGICAL SURVEY ALONG PORTAGE
RIVER AND DORRANCE CREEK ABOVE INDIAN LAKE
IN PAVILION TOWNSHIP, KALAMAZOO COUNTY, MICHIGAN

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ACKNOWLEDGEMENTS

The authors of this report gratefully acknowledge the 22 members of the 1982 Western Michigan University archaeological field school. Without their considerable efforts, the data herein presented could not have been collected.

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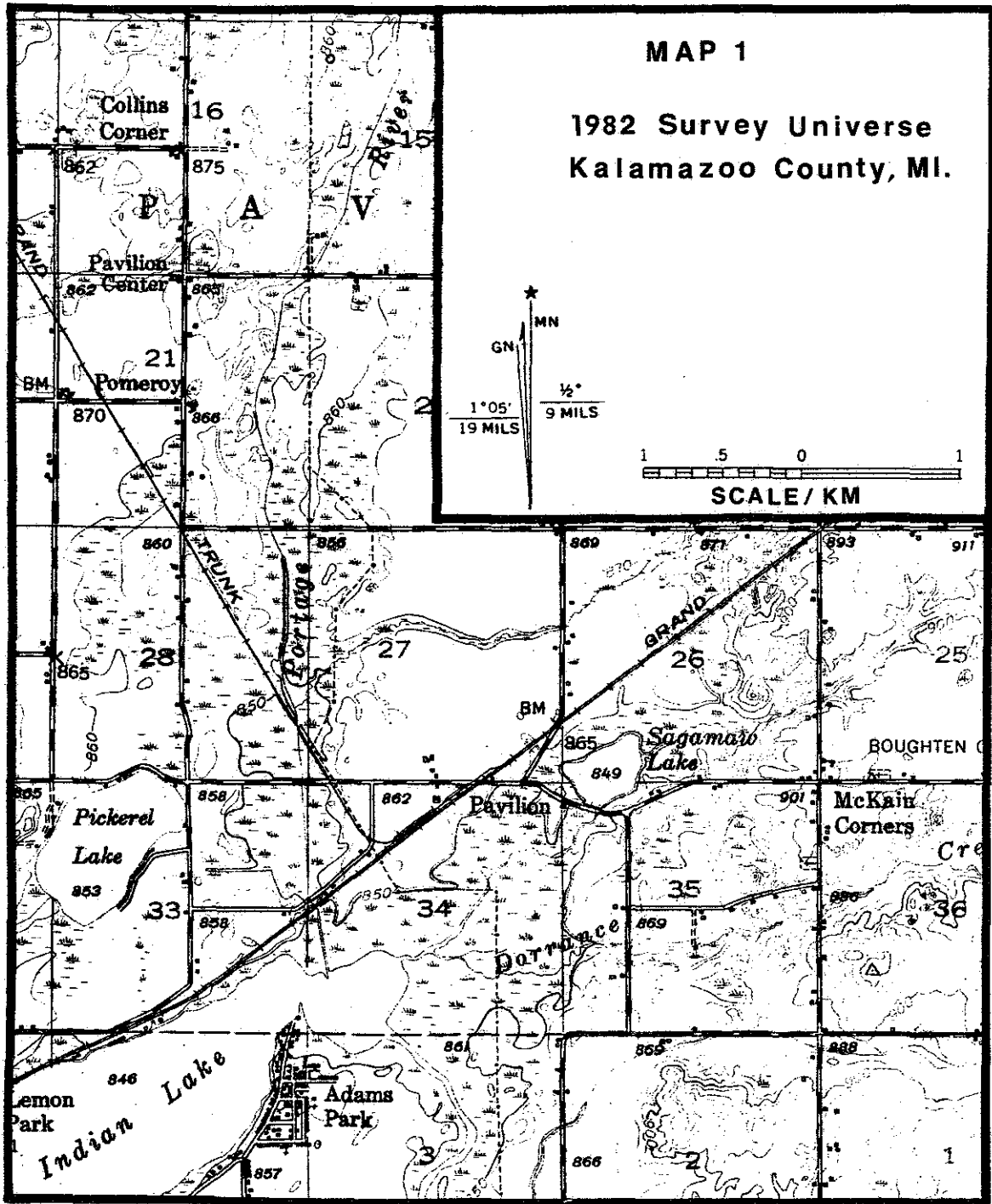
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INTRODUCTION:

For three weeks during the 1982 field season, the Western Michigan University archaeological field school was located near Indian Lake in Pavilion Township, T3S R10W, Kalamazoo County, Michigan (Map 1). As part of the research program, systematic site location survey was planned for this area; one which had not received any prior archaeological attention. With the cooperation of area landowners and the assistance of several local artifact collectors, more than 20 parcels of cultivated land aggregating 3.9 km² were evaluated by means of surface reconnaissance or walk-over survey. There follows a report of survey activity, together with descriptions of the archaeological sites recorded.

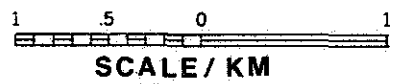
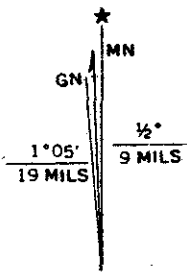
DESCRIPTION OF THE SURVEY UNIVERSE:

The research area of this study comprises most of the SE 1/4 of Pavilion Township. The dominant feature on the landscape is Indian Lake, a body of water covering an estimated 283 ha in Sections 33 and 34 of Pavilion and adjacent portions of Brady Township. Portage River, which rises in Charleston Township to the north and east of Pavilion, flows in a southerly direction across the western end of the study area before emptying into Indian Lake. A small unnamed tributary enters the research universe in the NW 1/4 of Section 26 and flows in a westerly direction across Section 27 before joining Portage River in the SE 1/4



MAP 1

1982 Survey Universe
Kalamazoo County, MI.



of Section 28 about 1.6 km above Indian Lake. The second principal stream in the area is Dorrance Creek, which enters the township from the east in the NE 1/4 of Section 36 and flows in a westerly direction across Sections 35 and 34 before discharging into Indian Lake. The only other body of water worthy of mention is Sagamaw or Mud Lake. This lake of some 20 ha straddles the line between Sections 26 and 35 and also drains into Indian Lake by means of a small unnamed creek (Map 1).

The soils dominating this portion of the township are assigned to the Kalamazoo-Oshtemo Association (USDA-Soil Conservation Service 1978) and may be characterized as nearly level to rolling, well drained, and moderately to rapidly permeable soils that have a loamy and sandy subsoil and are formed in glacial outwash and morainic deposits.

Based upon the fieldnotes and plats of the original land survey conducted in 1827 by Robert Clark, Jr., the soils of the survey universe formerly supported several distinctive plant associations. The low lying marshy areas about the head of Indian Lake and flanking streams draining into it from the north and east were characterized by southern swamp forest at the time of Euro-American settlement. American or slippery elm and red maple were dominant, with small numbers of black gum, swamp white oak, butternut, black walnut, and green ash occurring throughout. Mesic uplands supported beech-sugar maple forest; a community dominated by the aforementioned species but with some basswood, ironwood, white ash, tulip tree, and bitternut and shagbark hickory. Sites on which xeric conditions prevailed

supported oak forest, with the dominant species everywhere being the white oak. Small numbers of yellow oak, red oak, black oak, bur oak, and pignut and shagbark hickory were also common to this community. And, finally, Sagamaw Lake was surrounded on three sides by dense tamarack swamp (Hodler et al. 1981).

RESEARCH PROGRAM:

The survey was conducted over seven field days in June of 1982, with the team of researchers consisting of one graduate assistant from the field school (and on two occasions the field school director) and seven-eight field school students rotating in from the site then being excavated every two days.

Survey field procedures emphasized surface reconnaissance, with the team evaluating those parcels of cultivated land to which they gained access that afforded good to excellent surface visibility. Coverage of a field was accomplished by having team members walk in the direction of the furrows at intervals of 5-7 m. When the end of the field was reached, team members shifted beyond the person at the end of the line and commenced movement in the opposite direction. This procedure was repeated until the entire parcel had been carefully searched for cultural material.

Prior to the commencement of the survey, each participant had acquired considerable experience recognizing prehistoric debris during four weeks of surface collecting and excavating several sites. Now they were instructed to carefully scan the surface of the field for the sorts of debris that typically

signaled the presence of a former occupation or activity area. In the event that one surveyor observed an object or a scatter of debris, the entire team assembled in the area in order to delineate the extent of the site and to locate any diagnostic pieces.

Archaeological sites were defined on the basis of the presence of lithic debris, stone tools or tool fragments, prehistoric ceramics, or exposed features. A scatter of fire-cracked rock, in and of itself, was not regarded as being sufficient for the delineation of a site unless accompanied by supportive cultural material. And, in the case of historic sites, collections of typical household debris and/or structural elements (e.g. foundation stones, bricks) provided the basis for the recognition of sites.

Daily survey records were maintained in a log in the possession of the graduate supervisor. Throughout the day, parcels of land surveyed were discussed by team members, and all observations of potential significance were entered in the log. Other sorts of log entries included comments about site locations, local topography and drainage, field conditions, informant data, and the artifact collections from sites. New sites were recorded on forms adopted from the Kalamazoo Basin Survey program, and site locations were also plotted on seven sectional aerial photographs (see Appendix 1) and the USGS quadrangle sheet covering the survey universe. Cultural material collected from sites was placed in labeled bags and submitted to the field school laboratory for processing and analysis at the end of each field day.

Finally, with respect to the curation of cultural material,

all items were cleaned, labeled with state site numbers, examined, and then accessioned into the collections housed in the Department of Anthropology. The inventory of cultural material is included with the site descriptions in the following section of the report.

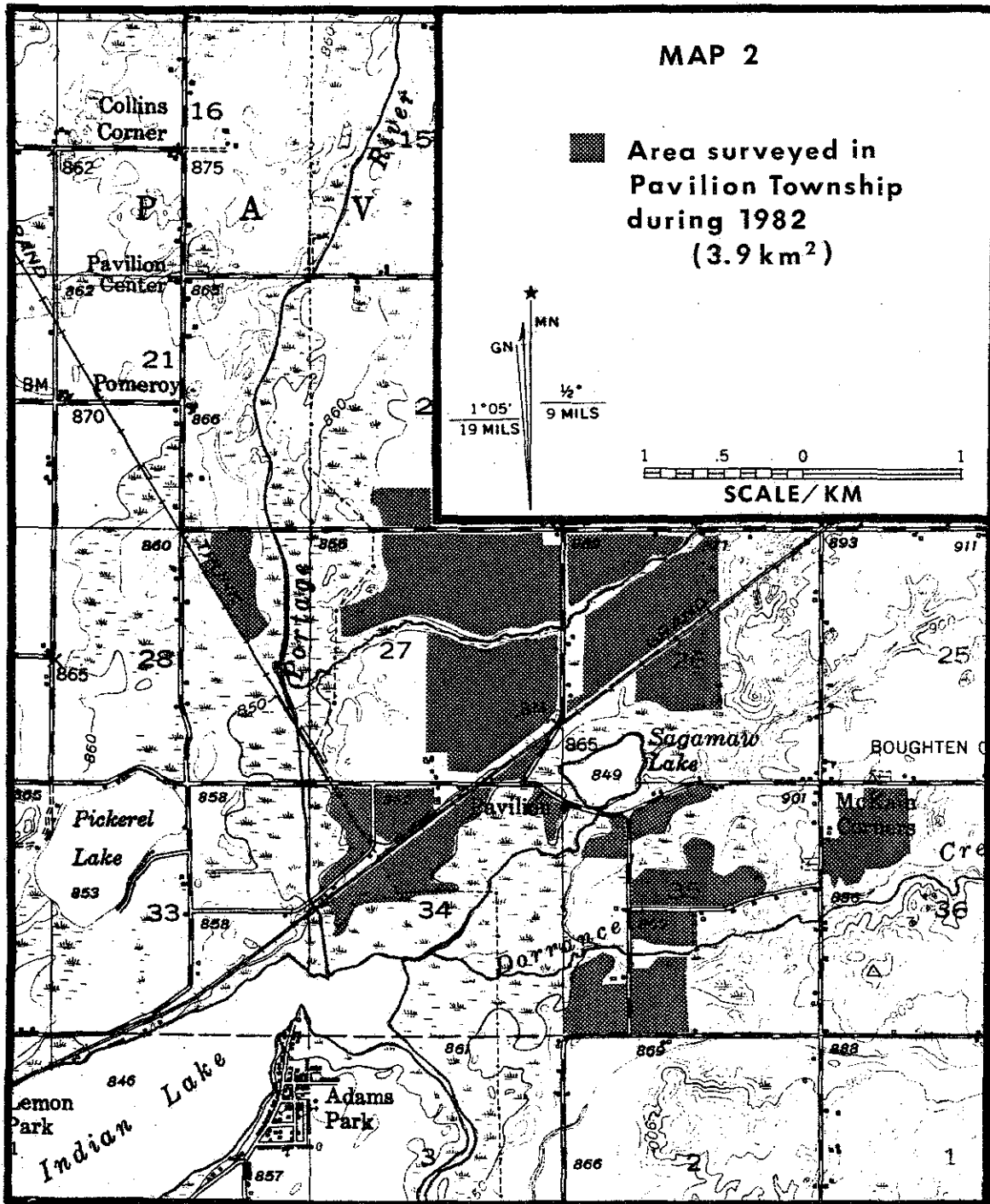
SITE DESCRIPTIONS AND CATALOG OF SURFACE COLLECTIONS:

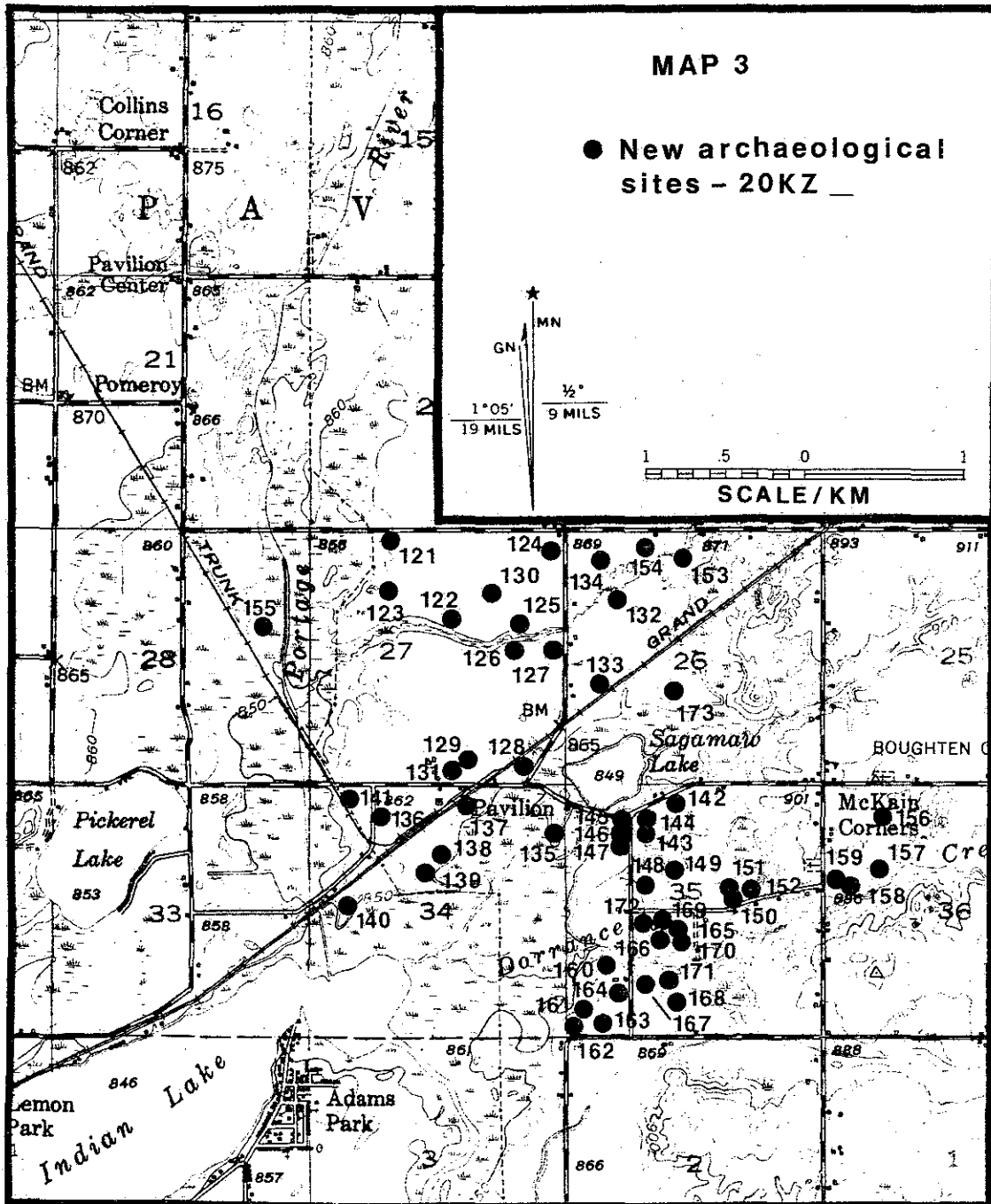
Surveyor coverage of 3.9 km² in 1982 resulted in the recording of 53 new archaeological sites near Indian Lake in Pavilion Township, Kalamazoo County, Michigan. Coverage by section is shown on Map 2 and may be summarized as follows:

Section 22 - 10.1 ha
 Section 26 - 69.1 ha
 Section 27 - 139.3 ha
 Section 28 - 24.3 ha
 Section 34 - 59.3 ha
 Section 35 - 59.9 ha
 Section 36 - 26.9 ha

388.9 ha

In this section each of the 53 sites is briefly described. Cultural affiliation and temporal placement are derived from typological assessment of the diagnostic artifacts in surface collections. The statement of relative significance, whereby a site is accorded "low, moderate or high priority", reflects our tentative interpretation of each site's potential for further study (i.e. excavation) and for erecting a cultural chronology and interpreting past land use patterns in this area. Map 3 which accompanies this section shows the locations of the 53 sites in question.





20KZ121

The Henry Vliek 1 site encompasses about one hectare in the NW 1/4, NE 1/4, NW 1/4 of Section 27 and extends very slightly into the SW 1/4, SE 1/4, SW 1/4 of Section 22, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site has an elevation of some 260 m above sea level and drains into Portage River which passes by the site at a distance of 100 m to the west. Surface debris density may be characterized as moderate to heavy across the site. The material collected from the surface includes a large quantity of chippage and many bifaces, unifaces, and utilized flakes. There is also much historic debris on the surface. Five of the bifaces date to the Late Archaic, with two being similar to the Feeheley point and fabricated from Bayport chert. The other three are serrated and have Warner School affiliation. Two points are like the Middle Woodland specimens from the Schultz site. And also diagnostic are a Hi-Lo point, a Madison point, and a corner-notched specimen typical of the Middle-Late Archaic period. Thus, this site spans almost the entire period of human occupation of southwest Michigan. High priority.

- 18 bifaces
- 5 unifaces
- 15 utilized flakes
- 3 cores (two of which are quartzite)
- 2 hammerstones
- 130 flakes
- 24 pieces of historic ceramics
- 15 pieces of glass
- 3 fragments of metal (common to a farm field context)

This site was selected by the 1982 field school for limited test excavation, and the surface of the site was also recollected on several occasions. The 27 test squares placed here yielded material confirming the broad temporal placement of the site determined from survey, and our work also resulted in the delineation of eight subsurface features. However, none of these provided evidence of firm cultural context.

20KZ122

Henry Vliek 2 is located in the NW 1/4, SW 1/4, NE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Situated on the north bank of a southwest flowing tributary of Portage River, the site covers an area of approximately 400 m². Here, the survey team observed a moderate scatter of both pre-historic and historic debris, several fragments of bone, and a light scatter of fire-cracked rock. There is nothing in the surface collection to aid

in fixing the temporal placement/cultural affiliation of the prehistoric component. Low priority.

- 1 utilized flake
- 7 pieces of debitage
- 1 canning jar lid
- 3 fragments of glass (one is decorated)
- 2 sherds of dishware
- 1 crock fragment

20KZ123 The Henry Vliek 3 site consists of a light scatter of debitage and FCR in the NW 1/4, SE 1/4, NW 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, an area of some 225 m² can be clearly distinguished by a marked decline in FCR as one moves out of the site area. Some of the material collected by surveyors was lost prior to cataloguing, but nothing from this site was thought to be diagnostic, and the site's cultural affiliation remains undetermined. Low priority.

- 2 flakes
- 1 historic crock fragment

20KZ124 Henry Vliek 4 lies on very flat terrain in the NE 1/4, NE 1/4, NE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site is characterized by a light scatter of lithic debris and fire-cracked rock over an area of about 250 m². The nearest water is a small, unnamed tributary of the Portage River which passes by the site at a distance of 450 m to the south. Low priority.

- 4 flakes

20KZ125 Henry Vliek 5 is located in the NW 1/4, SE 1/4, NE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site, situated along the north bank of the same stream noted above, produced the distal end of a large and very worn drill, together with a moderate scatter of lithic material and FCR. Site size is estimated at about 300 m². Temporal placement/ cultural affiliation are at this time unknown. Low priority.

- 1 drill fragment
- 1 utilized flake
- 3 flakes

20KZ126 The Henry Vliek 6 site is represented by a scatter of FCR, lithic debris, and several tools in the

SW 1/4, SE 1/4, NE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site is situated on a low ridge 10 m south of the aforementioned unnamed tributary of the Portage River and covers an estimated 3750 m². A stemmed projectile point in the surface collection suggests a Late Archaic/ Early Woodland age, while the presence of Upper Mercer chert argues for placement in the Middle Woodland-Late Woodland transition. Moderate priority.

- 1 stemmed projectile point
- 1 biface
- 1 unifacial scraper
- 1 utilized flake
- 19 flakes (one of which is Upper Mercer chert)

20KZ127

Henry Vliek 7 consists of a dense scatter of historic debris dating mainly to the early 20th century and is located some 200 m east of 20KZ126 on the south bank of an unnamed tributary of the Portage River in the SE 1/4, SE 1/4, NE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site covers an estimated 900 m² and evidences large quantities of glass, ceramic, and metallic debris. In all probability this site is the location of a former homestead. Although the platbook for Kalamazoo County shows a house to be standing on this location as recently as 1977, surveyors did not observe any structural remains (e.g. foundation stone, brick) on the site. Low priority.

- 61 fragments of glass, including pieces of crystal, mason jar lids, bottle neck fragments and a variety of colored pieces
- 49 pieces of ceramic dishware
- 25 pieces of crockery
- 1 rubber heel of a shoe
- 1 galvanized canning jar lid
- 3 rusted pieces of farm equipment
- 2 bone fragments

20KZ128

The Henry Vliek 8 site is located in the SW 1/4, SE 1/4, SE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It lies on a ridge overlooking the wetland extending about 100 m west from Sagamaw Lake. It appears that the main portion of the site has been separated from a small area on the northern periphery by a railroad grade. In aggregate, the site probably occupies about 1500 m². The main portion of the

site is characterized by a moderate scatter of lithic debris and FCR. Several passes over the site resulted in a rather sizeable collection, including a stemmed projectile that closely resembles an Early Woodland form from the Schultz site. High priority.

- 7 bifacial tools, including the distal portion of a drill, the proximal fragment of a stemmed point, two fragmented expanding stem specimens, two ovate bifaces, and a bifacially flaked blade
- 2 unifacial blades (one of Upper Mercer chert)
- 4 utilized flakes
- 43 flakes
- 3 unifaces (one of quartzite)
- 2 pieces of glass
- 1 clam shell button

The 1982 field school excavated 14 test squares on 20KZ128, recovering additional prehistoric tools, debitage, and FCR. More importantly, a 30 m² block revealed the badly disturbed foundation of what appears to have been a schoolhouse. Although the plow has scattered foundation stones about the area investigated, great quantities of historic debris were recovered and the general outline of one wall (and possibly, a corner) of the former structure was delineated.

20KZ129

The Henry Vliek 9 site represents the findspot of a bifacial tool in the SW 1/4, SW 1/4, SE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. This isolated find occurred in a relatively flat expanse of field about 150 m north of S Avenue and 400 m west of Sagamaw Lake. The cultural affiliation is unknown. Low priority.

- 1 bifacial tool (scraper?)

20KZ130

Henry Vliek 10 follows a ridge extending in a southeasterly direction from 20KZ121 and is located in the NE 1/4, SW 1/4, NE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. A few pieces of FRC, several tools, and some debitage were observed over 1250 m². A corner-notched projectile similar to the Late Archaic Feeheley point indicates the site's probable temporal placement. Moderate priority.

- 1 corner-notched projectile point
- 1 bifacially worked tool
- 2 unifacial tools

3 utilized flakes
1 flake

20KZ131

The Henry Vliek 11 site represents the findspot of a prehistoric artifact amidst a dense scatter of recent debris adjacent to the outbuildings on the Vliek Farm in the SW 1/4, SW 1/4, SE 1/4 of Section 27, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. This tool is not diagnostic, and the cultural affiliation and temporal placement of the prehistoric component are unknown. Low priority.

1 fragmentary bifacial tool
22 pieces of historic ceramics (the vintage appears to be quite recent)
12 glass fragments
16 pieces of metal, representing mainly farm equipment

20KZ132

The Raymond Vliek 1 site consists of a light scatter of lithic debris and FCR in the NE 1/4, SW 1/4, NW 1/4 of Section 26, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site is situated on a low ridge flanking an unnamed tributary of the Portage River on the south. In an area estimated to encompass about 3750 m², the survey team observed widely dispersed prehistoric debris. None of the items recovered is diagnostic, and the cultural affiliation/temporal placement of the site are undetermined. Low priority.

1 core
1 utilized flake
3 flakes

20KZ133

The Raymond Vliek 2 site was encountered by surveyors in the NE 1/4, NW 1/4, SW 1/4 of Section 26, Pavilion Township, T3S R10W, Kalamazoo County, Michigan and yielded five artifacts amidst a light scatter of FCR. The site flanks the Grand Trunk Western railroad grade and extends approximately 25 m north of the tracks into a bean field. The closest water source is Sagamaw Lake, located 200 m to the south. Site area is estimated at 5000 m². One of the tools is a side-notched lanceolate point of Flint Ridge chert and probably dates to the Early Archaic period. A second artifact resembles specimens from Holcombe Beach and dates to the Late Paleo-Early Archaic transition. Two points, a corner-notched Feeheley point and an eared and serrated specimen of gray-white chert, suggest a Late Archaic temporal placement. The fifth specimen is very fragmentary, and its cultural affiliation is undetermined. Moderate

priority.

5 projectile points

- 20KZ134 The Raymond Vliek 3 site encompasses about 12,500 m² in the NE 1/4, NW 1/4, NW 1/4 of Section 26, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Located about 50-75 m south of the unnamed tributary of the Portage River, this site is characterized by a diffuse scatter of FCR and lithic debitage. Cultural affiliation is undetermined. Low priority.
- 1 unifacial tool
4 flakes
- 20KZ135 Raymond Vliek 4 is located in the SE 1/4, NE 1/4, NE 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It is a confirmed informant site situated on a ridge about 75 m southwest of Sagamaw Lake and consists of a very light scatter of lithic debris and FCR over an area of 900 m². Cultural affiliation and temporal placement are unknown. Low priority.
- 1 bifacial tool of argillite
1 flake
- 20KZ136 The Marjorie Vliek 1 site represents the findspot of a unifacial tool in the NW 1/4, NE 1/4, NW 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The area of this isolated find is relatively flat and devoid of any other cultural material. Cultural affiliation cannot be determined from the single specimen in the WMU collection. Low priority.
- 1 unifacial tool (scraper?)
- 20KZ137 Marjorie Vliek 2 is a light scatter of lithic debris and FCR covering an area of 3000 m² in the NW 1/4, NW 1/4, NE 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It lies on a bluff overlooking the unnamed creek draining Sagamaw Lake. When the site was examined, surface visibility was adversely affected by a dense crop of oats. Be that as it may, surveyors did recover five pieces of lithic material. Cultural affiliation and temporal placement of the site cannot be ascertained from specimens in the surface collection. Low priority.
- 1 unifacial tool of argillite

1 unifacial scraper of an exotic chert
 1 core
 2 flakes

- 20KZ138 The Marjorie Vliek 3 site is located in the NW 1/4, SW 1/4, NE 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It, too, lies upslope from the creek draining Sagamaw Lake. Estimated to encompass 7500 m², this site yielded but one artifact amidst a moderate scatter of FCR. Collectors have worked this area for many years, and the dense crop of oats also affected our efforts to locate cultural material. The projectile point recovered suggests a Late Archaic/Early Woodland temporal placement. Low priority.
- 1 stemmed projectile point
- 20KZ139 Marjorie Vliek 4 represents the locus of a fragmentary projectile point approximately 150 m southwest of 20KZ138 in the NE 1/4, SE 1/4, NW 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. This site also occupies a topographic setting similar to the two previously mentioned sites. Cultural affiliation/ temporal placement are not known. Low priority.
- 1 projectile point fragment
- 20KZ140 Marjorie Vliek 5 is characterized by a moderate scatter of FCR and one large biface fragment in the SE 1/4, SW 1/4, NW 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It is estimated to occupy 2500 m² of a high bluff overlooking Indian Lake. As with the aforementioned sites, 20KZ140 was in oats at the time of our survey; surface visibility was minimal at best. The single artifact recovered suggests an Archaic temporal placement. Low priority.
- 1 fragmentary projectile point
- 20KZ141 The Ken Jones site is located in the NE 1/4, NW 1/4, NW 1/4 of Section 34, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. This lithic debitage and FCR scatter encompasses about 600 m² on a bluff overlooking the Portage River wetlands about 25 m to the west. One of the bifaces recovered from the site is a large corner-notched point with serrated edges and suggests a Late Archaic-Early Woodland temporal placement. The second artifact is too fragmentary for typological assessment. Moderate priority.

2 projectile points (one is fabricated from
Avon chert)
4 chert flakes
2 flakes of quartzite

20KZ142 The Briggs-Carter 1 site is a light lithic and FCR scatter covering an estimated 900 m² in the NE 1/4, NE 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site is situated on a ridge overlooking a rather dense wetland area to the south and Sagamaw Lake to the west. The single diagnostic item in the collection suggests a Late Archaic temporal placement. Low to moderate priority.

1 projectile point
1 utilized flake
4 flakes
1 fragment of ground slate

20KZ143 Briggs-Carter 2 is located in the SW 1/4, NE 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It consists of a moderate FCR and lithic debris scatter occupying about 1775 m² of the same ridge as 20KZ142, but approximately 175 m to the southwest of it. The site lies 30 m upslope from a dense wetland area and 200 m southeast of Sagamaw Lake. The cultural material found here is not diagnostic, and cultural affiliation of the site is unknown. Low to moderate priority.

3 projectile point fragments (one is of
argillitic material)
2 cores
2 flakes

20KZ144 Briggs-Carter 3 is a light lithic and FCR scatter in the SW 1/4, NE 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Site area is estimated at about 1600 m², and it occupies a high bluff overlooking Sagamaw Lake to the northwest. Cultural affiliation and temporal placement cannot be determined from the items comprising the WMU surface collection. Low priority.

1 biface blank or preform
2 flakes

20KZ145 Briggs-Carter 4 lies in the NE corner of the SE 1/4, NW 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site

comprises an estimated 225 m² and is characterized by a light scatter of lithic debitage and FCR. This site is separated from 20KZ144 by about 40 m of space presently occupied by 33rd Street. They may be related (constitute a single site), but it was not possible to determine this from the material evidence at hand. The prehistoric debris is nondiagnostic, and it is therefore impossible to determine the prehistoric component's cultural affiliation. The kaolin pipe stem suggests the possible presence of an historic component as well. Low priority.

1 kaolin pipe stem
2 flakes

20KZ146

Briggs-Carter 5 is a light lithic scatter located in the SE 1/4, NW 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site is situated on the edge of a swamp about 100 m east of the creek draining Sagamaw Lake. In an area of about 100 m², surveyors found two artifacts and a flake, but no fire-cracked rock. The small triangular, side-notched point is indicative of a Late Woodland temporal placement. Low priority.

1 projectile point
1 unifacial "thumbnail" scraper
1 quartzite flake

20KZ147

The Briggs-Carter 6 site is also a light scatter of lithic debris, but in this case the lithic material is associated with a dense concentration of FCR. Located in the SE 1/4, NW 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan, this site comprises about 500 m² of a ridge top flanking the wetland drained by the creek linking Sagamaw and Indian Lakes. The material lacks any diagnostic items, and the site's cultural affiliation is unknown. Low priority.

1 unifacial scraper
1 core
2 flakes

20KZ148

Briggs-Carter 7 is located in the SW 1/4, SE 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. On a sandy rise, the survey team delineated an area of approximately 2500 m² where a light scatter of lithic debris and FCR occurred. The nearest source of water is a small tributary of Dorrance Creek to the south of the site. The collection contains nothing that would permit determination of the site's age or

cultural affiliation. Low priority.

1 utilized flake
4 flakes

20KZ149 Briggs-Carter 8 is a findspot located in the NE 1/4, SE 1/4, NW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, the proximal portion of a stemmed projectile point of probable Late Archaic/Early Woodland affiliation lay downslope from a north-south trending ridge overlooking a wetland area drained by the small tributary of Dorrance Creek mentioned in the above site description. The margins of this lithic specimen are heavily worked and thinned, but there is no evidence of grinding. Low priority.

1 projectile point

20KZ150 Briggs-Carter 9 is an historic site encompassing an area of 500 m² in the SE 1/4, SW 1/4, NE 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Situated on a slope overlooking a secondary road to the south, this dense scatter of glass, dishware, and crockery appears to date to the early 20th century. Low priority.

6 pieces of glass
23 fragments of decorated dishware
3 sherds of an earthenware crock

20KZ151 Briggs-Carter 10 is the findspot of a stemmed projectile point upslope from 20KZ150 in the SE 1/4, SW 1/4, NE 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The artifact is made from a purple till chert having its origin in Cass County, Michigan. It appears to date to the Late Archaic/Early Woodland transition. Low priority.

1 projectile point

20KZ152 The Briggs-Carter 11 site occupies an eroded slope in the SE 1/4, SW 1/4, NE 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, an area of 450 m² is characterized by a light scatter of chippage and FCR, together with several pieces of historic crockery. The surface collection is without diagnostic material, and the cultural affiliation/temporal placement of the site are unknown. Low priority.

1 uniface
 2 utilized flakes
 1 flake
 2 pieces of crockery

20KZ153 Howard Wallace 1 is located in the NE 1/4, NE 1/4, NW 1/4 of Section 26, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Accompanying a moderately dense scatter of FCR is a small amount of prehistoric and historic cultural material. The site area comprises approximately 1800 m² along the south bank of the small unnamed tributary of the Portage River that was noted in the descriptions of 20KZ122-127. The presence of Upper Mercer chert is suggestive of a Middle Woodland-Late Woodland temporal placement for the prehistoric component. Low to moderate priority.

2 argillite bifaces
 1 uniface
 1 core of Bayport chert
 1 utilized flake of quartzite
 1 flake of quartzite
 8 flakes (one is of Upper Mercer chert)
 1 piece of historic crockery

20KZ154 Howard Wallace 2 lies in the NW 1/4, NE 1/4, NW 1/4 of Section 26, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. This site produced a very light scatter of prehistoric debris over an area of 2 ha on flat terrain about 200 m north of the stream noted in the above description. Cultural affiliation/temporal placement are undetermined. Low priority.

1 piece of worked slate
 1 utilized flake
 6 flakes

20KZ155 The Alleshouse site is situated on a bluff overlooking the Portage River in the SW 1/4, SE 1/4, NE 1/4 of Section 28, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It consists of a light scatter of chippage and FCR covering an area of about 600 m². The river flows by the site at a distance of 75 m to the east of this location. The site's temporal placement is undetermined. Low priority.

3 flakes

20KZ156

Briggs 1 is a findspot in the SE 1/4, NW 1/4, NW 1/4 of Section 36, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, on a pronounced rise of sandy soil, a crude biface of deep reddish-brown till chert was encountered. This artifact is not diagnostic, and the site's affiliation is unknown. Low priority.

1 biface

20KZ157

Briggs 2 is situated on the downslope or south side of a steep ridge overlooking the wetland flanking Dorrance Creek in the NE 1/4, SW 1/4, NW 1/4 of Section 36, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Over an area of some 3500 m² there occurs a light scatter of FCR, together with a moderate amount of lithic debris and historic dishware. One corner-notched point of Burlington chert argues for a Late Archaic temporal placement, and the dish fragments suggest an early 20th century date. Low priority.

1 projectile point
5 utilized flakes
7 flakes
4 pieces of ceramic dishware

20KZ158

The Briggs 3 site is characterized by a light scatter of lithic debris and FCR over an area of 800 m² in the SW 1/4, SW 1/4, NW 1/4 of Section 36, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It occupies the north bank of Dorrance Creek. Temporal placement cannot be determined from the WMU surface collection, but one of our informants has several good Late Archaic specimens from this location. Low priority.

1 uniface
3 flakes

20 KZ159

Briggs 4 is in the SW 1/4, SW 1/4, NW 1/4 of Section 36, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, an area of approximately 400 m² overlooking a county road to the west produced a very dense scatter of historic material and a small amount of prehistoric debris. The distance to Dorrance Creek, the closest source of permanent water, is 150 m to the south of the site. The prehistoric component cannot be dated on the basis of the contents of the surface collection, but the several pieces of historic material recovered suggest a late 19th century placement for this component. Low priority.

2 flakes
 1 piece of seamed bottle glass
 2 sherds of decorated dishware

20KZ160

John Haas 1, a very well known and frequently visited collector site, is situated on a small hill overlooking Dorrance Creek in the SE 1/4, NW 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It covers an area of about 1875 m² and has, albeit collected by artifact hunters just prior to the arrival of the WMU survey team, an exceedingly dense scatter of tools, flakes, and FCR. Moreover, several areas of soil discoloration denoting probable subsurface features were observed here. Nothing in the material collected by our survey team is diagnostic, but artifacts in the collection of the landowner suggest a broad temporal placement encompassing most of the Archaic and Woodland periods. Very high priority.

3 bifaces (one of quartzite)
 1 uniface
 19 utilized flakes
 35 flakes

20KZ161

The John Haas 2 site is situated in the SW 1/4, SW 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It consists of a light scatter of lithic tools and debitage, historic material, and FCR over an area of some 5125 m². Although this site overlooks a small wetland area, the nearest permanent source of water is Dorrance Creek located 250 m to the north and west. Temporal placement of the prehistoric component is undetermined, and the historic debris is quite recent in age. Low to moderate priority.

2 unifaces
 2 utilized flakes
 9 flakes
 10 pieces of dishware
 1 crock fragment

20KZ162

John Haas 3 encompasses 3750 m² in the SW 1/4, SW 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It lies upslope of 20KZ161, and the closest source of permanent water is Dorrance Creek. Fire-cracked rock was observed to be scattered only lightly over the site area. The lithic material provides no clue as to the age and cultural affiliation of the site. Low priority.

2 utilized flakes

6 flakes

20KZ163 John Haas 4 is characterized by a moderate scatter of lithic tools and debitage, fire-cracked rock, and bone along a ridge in the SE 1/4, SW 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The ridge overlooks wetland vegetation occupying a depression between several interconnected ridge systems. The site covers an area of about 1.5 ha, and the nearest source of permanent water, Dorrance Creek, is 400 m to the northwest. The age of the site is unknown, but one of the authors leans toward a Late Archaic temporal placement. Moderate priority.

2 projectile points
8 utilized flakes (two are of quartzite)
10 flakes
2 pieces of worked argillite

20KZ164 John Haas 5 lies on flat terrain in the NE 1/4, SW 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, surveyors found a moderately dense scatter of FCR, together with a small amount of lithic debitage. One of the flakes is long and blade-like and shows evidence of use along its margins. The area of the site is about 625 m², and the closest water source is Dorrance Creek a little more than 300 m to the north of the site. The site's age and cultural affiliation are unknown. Low priority.

1 utilized flake
3 flakes

20 KZ165 The John Haas 6 site is located in the NE 1/4, NE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, a flat area of about 1.56 ha is characterized by a light scatter of FCR and lithic debris. In addition to chippage, two bifaces were collected from the site; one of which is a corner-notched specimen with delicately serrated edges. A Late Archaic temporal placement is suggested for the site on the basis of this artifact. Low priority.

2 bifaces
2 utilized flakes
2 flakes

20KZ166

John Haas 7 has all the appearance of a special use area--a knapping station. It is located just 75 m north of Dorrance Creek in the NW 1/4, NE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. From an area of no more than 25 m², surveyors recovered a large serrated biface and a handful of flakes. There is no FCR in the vicinity of this dense concentration of lithic material, and the site limits are very distinct. This station is probably of Late Archaic age. Low priority.

1 projectile point
11 thinning flakes

20KZ167

The John Haas 8 site lies atop a gentle rise about 130 m south of Dorrance Creek in the NW 1/4, SE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It consists of a light scatter of nondiagnostic lithic material and FCR covering an area of approximately 1350 m². Cultural affiliation/temporal placement are not known. Low priority.

1 uniface
2 utilized flakes
9 flakes

20KZ168

John Haas 9 is situated on the margin of a shallow pond occupying a depression between two ridges in the NE 1/4, SE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The site covers an area of about 300 m² and has a moderate scatter of lithic debris, together with dense concentrations of FCR and small areas of soil discoloration suggestive of subsurface features. The closest flowing water is Dorrance Creek located 320 m to the north of the site. Nothing about the three projectiles found here provides a clue as to the site's probable age and cultural affiliation. High priority.

3 projectile point fragments

20KZ169

John Haas 10 is located in the NW 1/4, NE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. Here, a scatter of historic debris, together with several fragments of bone and one utilized flake of chert, covers an area of about 2000 m². The site area is flat, and the closest source of water is Dorrance Creek some 210 m south of the site. The historic component probably dates to the early 20th century. Low priority.

1 utilized flake of chert
 1 piece of heating coal
 2 pieces of bottle glass
 3 fragments of ceramic dishware
 2 bones of mammalian origin

20KZ170

John Haas 11 flanks Dorrance Creek on the north in the NE 1/4, NE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It consists of a moderate scatter of lithic debitage and FCR over an area of about 7000 m². Cultural affiliation and temporal placement cannot be determined from the WMU collection. Low priority.

2 utilized flakes
 7 flakes

20KZ171

John Haas 12 is a site of about 5600 m² and is situated on a rise overlooking a shallow depression flanking the south bank of Dorrance Creek in the NE 1/4, SE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. It exhibits a very dense scatter of lithics and FCR. No historic material was observed on this rise. Inasmuch as none of the lithic material is diagnostic, the site's age and cultural affiliation remain undetermined. Moderate priority.

2 bifaces
 1 unifacial tool
 4 utilized flakes (one is of agrillite)
 16 flakes

20KZ172

John Haas 13 is represented by a light scatter of lithic debris covering an estimated 1800 m² in the NW 1/4, NE 1/4, SW 1/4 of Section 35, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The nearest source of water is Dorrance Creek which flows by the site at a distance of 270 m to the south. The lithics are not diagnostic, and the cultural affiliation/temporal placement of this site are unknown. Low priority.

2 unifaces (one is of Flint Ridge chert)
 3 utilized flakes

20KZ173

Sagamaw Lake is an informant site located 300 m northeast of the lake of the same name in the SE 1/4, NE 1/4, SW 1/4 of Section 26, Pavilion Township, T3S R10W, Kalamazoo County, Michigan. The collection from this site is in the hands of a local artifact

hunter consists of four bifaces; one of them is a diagnostic small triangular point of Late Woodland affiliation. However, our informant tells us that he has never observed pottery on the site. When visited by the WMU survey team, the field in which this site occurs afforded very excellent surface visibility. Be that as it may, no cultural material was recovered. Only a few fragments of fire-cracked rock were noted in the area from which our informant collected his artifacts and serve to confirm the site's location. The FCR scatter did not permit surveyors to estimate site area. Low priority.

4 bifaces in the possession of an informant
No cultural items were recovered by the
WMU survey team

SUMMARY:

WMU survey coverage of 3.9 km² in that area about the head of Indian Lake in the SE 1/4 of Pavilion Township, T3S R10W, Kalamazoo County, Michigan has resulted in the discovery and recording of 53 new archaeological sites, suggesting that this is, indeed, a very rich archaeological zone!

Two sites are historic in age, while the remaining 51 yielded principally prehistoric material. However, seven of these prehistoric sites also yielded some historic cultural debris. In summary, 73 cultural components have been tentatively identified:

Prehistoric components -64

Paleo-Indian	- 2
Archaic	- 2
Early Archaic	- 1
Middle Archaic	- 1
Late Archaic	-14
Woodland	- 1
Early Woodland	- 5
Middle Woodland	- 3

Late Woodland	- 5
Undetermined	-30
<u>Historic components</u>	- 9

A brief comparison of this information with the Kalamazoo Basin Survey data set (Cremin 1981) will serve to illustrate the great potential this area of southern Kalamazoo County affords the professional archaeological community. First, with respect to the matter of site size, the mean area for 52 sites for which it has been possible to estimate size is 2890 m². The Indian Lake sites are on the average almost four times larger than the mean calculated for 290 sites in the Kalamazoo Basin. Secondly, site densities (derived by dividing the number of sites by the number of km² surveyed) for the Kalamazoo Basin range from 3.19 in the lower valley to 1.67 in the upper valley. And the highest density calculated for any of the nine KBS transects was 102 sites/ 17 km² = 6.0 for Transect 1978A. By way of comparison, the site density observed this year is 51 (prehistoric sites)/ 3.9 km² = 13.08 sites per km². Sites in the Indian Lake area would appear to be more than twice as numerous as was observed for the most productive KBS transect.

As a final check on the potential significance of these empirical observations, an index of occupation intensity has been calculated for the Indian Lake data set and compared with OI values derived from our work in the Kalamazoo Basin. In this instance, the values assigned to the various sites are as follows: findspot - 1; debris scatter - 5; and component - 10. The mean OI value derived from KBS is 4.39. By valley segment the scores are: lower valley - 5.40; middle

valley - 3.84; and upper valley - 3.30. The Indian Lake data set yields an OI of $247/51 = 4.84$. This observation suggests that prehistoric activity in the Indian Lake area was slightly greater than for the Kalamazoo Basin at large, but less intense than the Lower Kalamazoo Valley.

Before the real significance of these observations can be determined, much more archaeological research will have to be undertaken in this previously unstudied area of Kalamazoo County. But, clearly, the data currently available to us after only three weeks of fieldwork in the Indian Lake area do strongly suggest that future research efforts will be amply rewarded.

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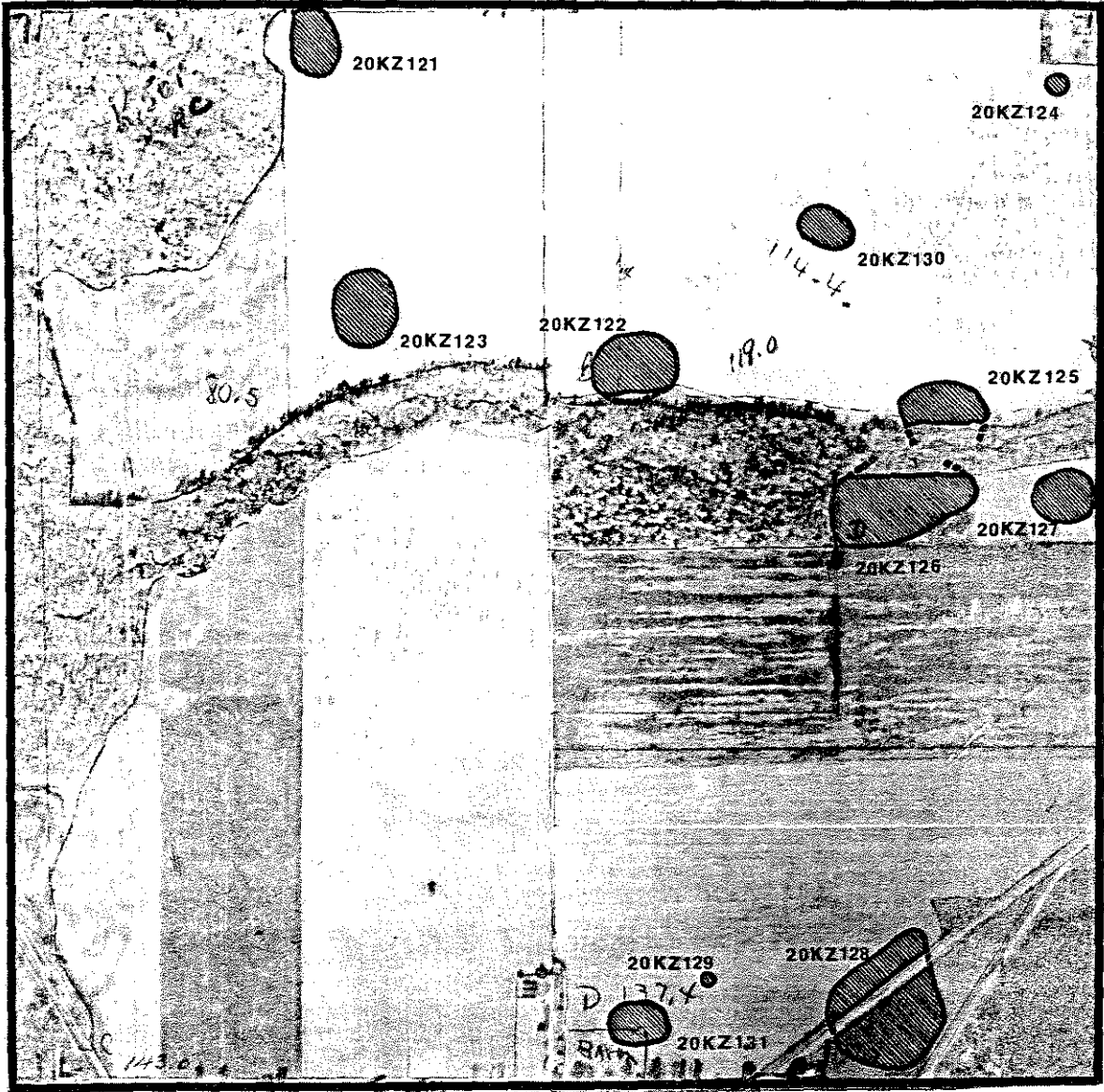
1978 General soil map of Kalamazoo county, Michigan. Michigan agricultural experiment station. Lansing.

APPENDIX I

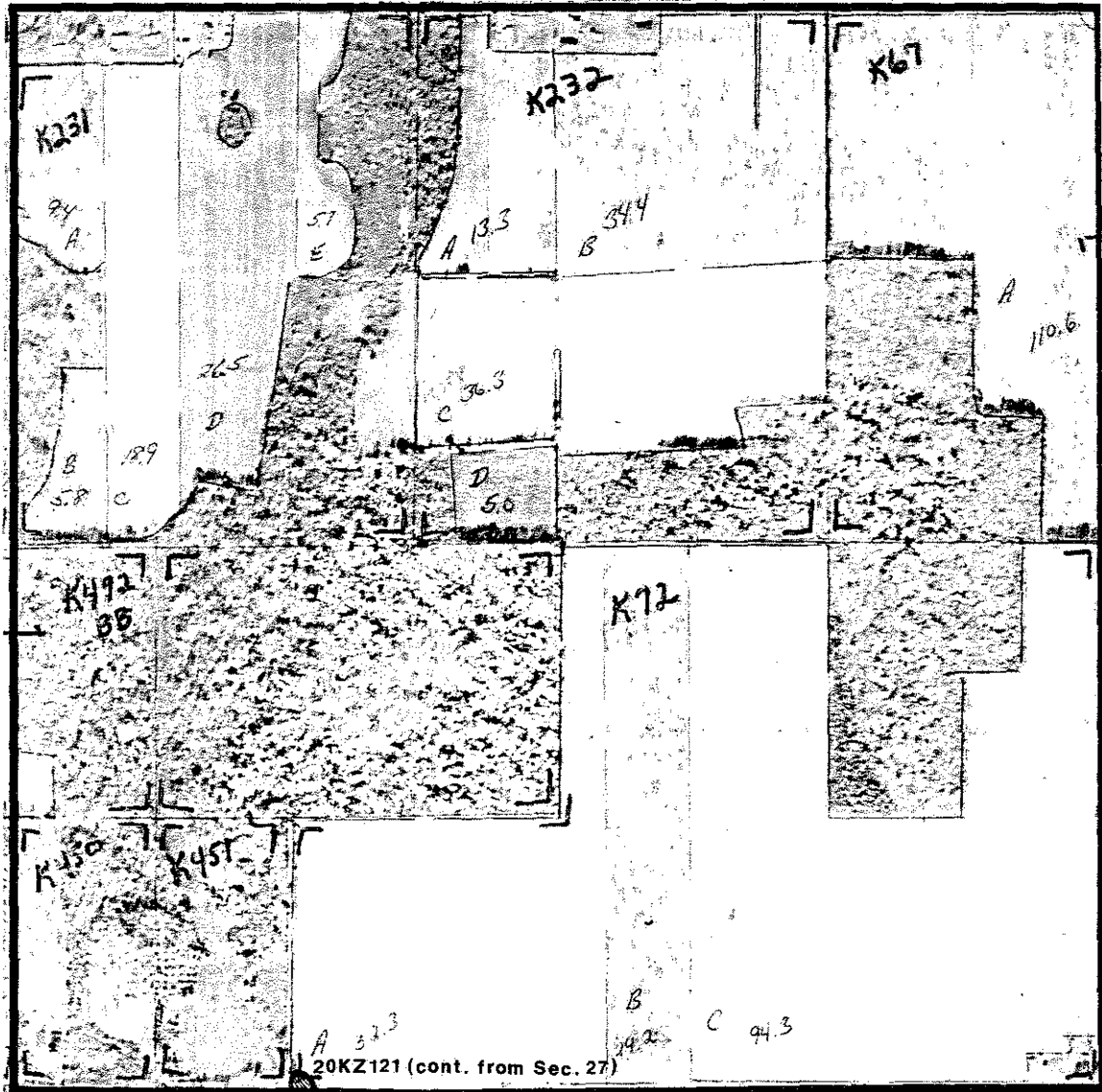
SECTIONAL AERIAL PHOTOGRAPHS
SHOWING THE LOCATIONS AND APPROXIMATE SPATIAL
CONFIGURATIONS OF 53 ARCHAEOLOGICAL SITES

(NOT TO SCALE)

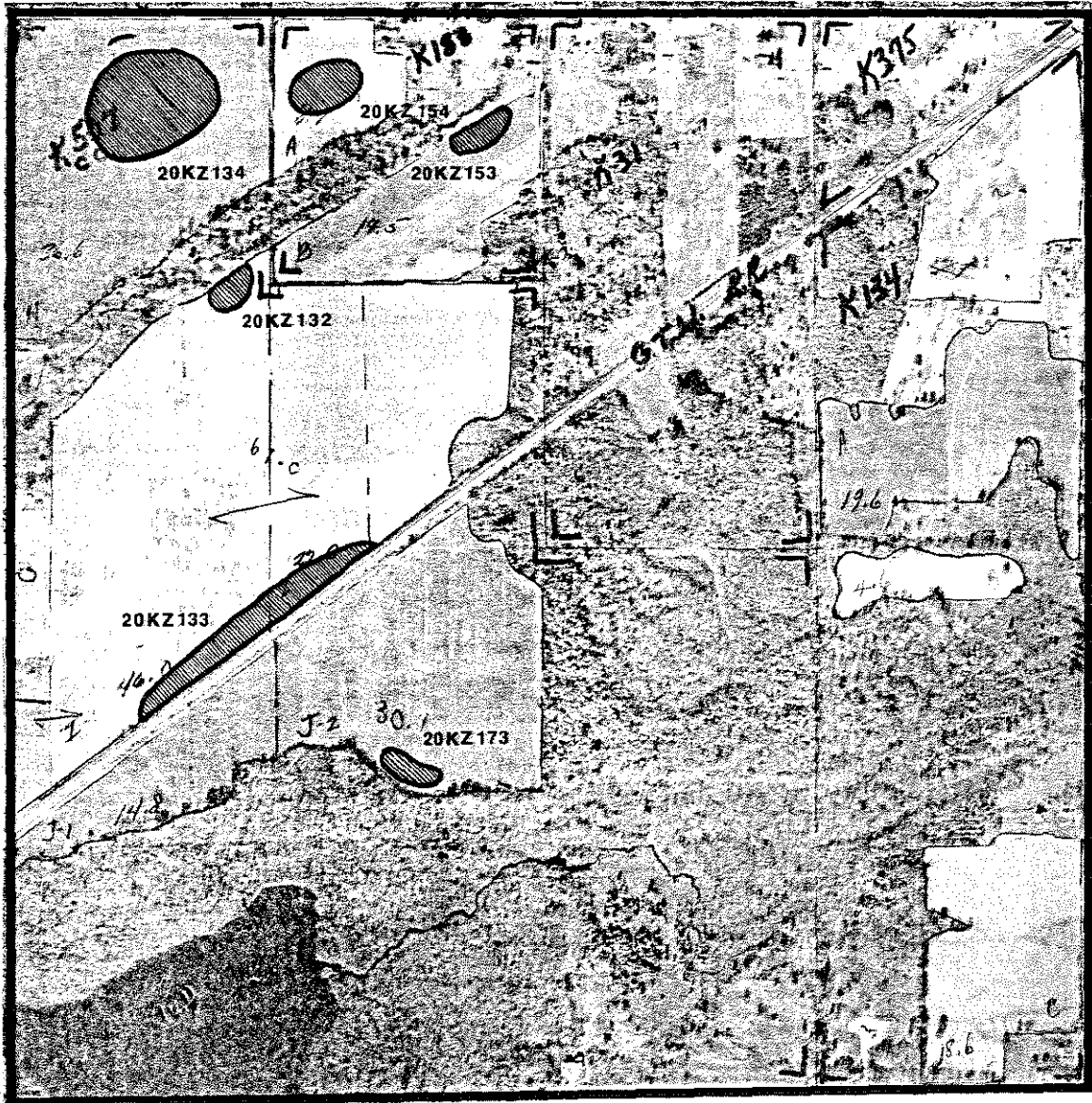
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SECTION 27



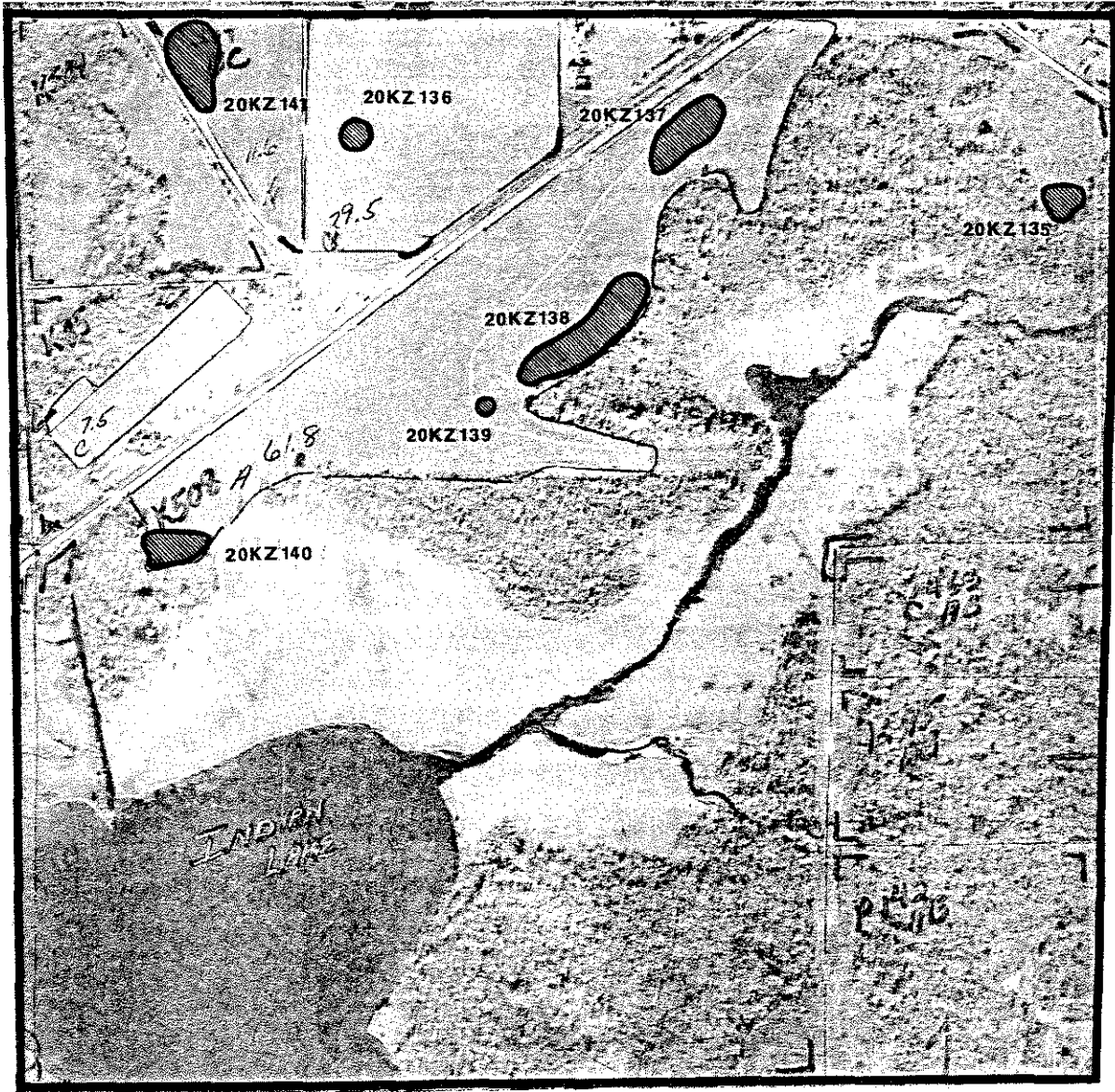
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PAVILION TOWNSHIP
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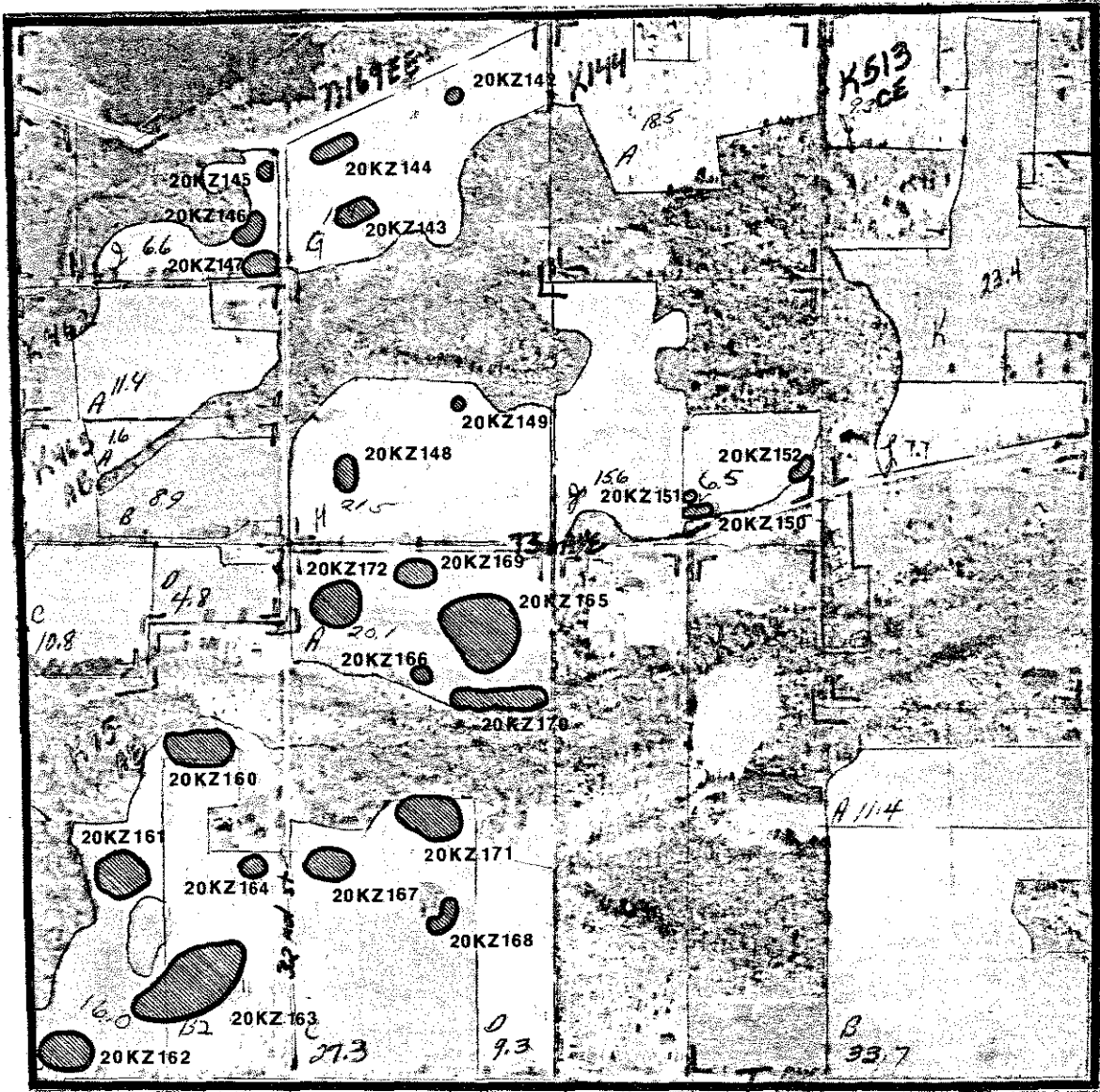
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PAVILION TOWNSHIP
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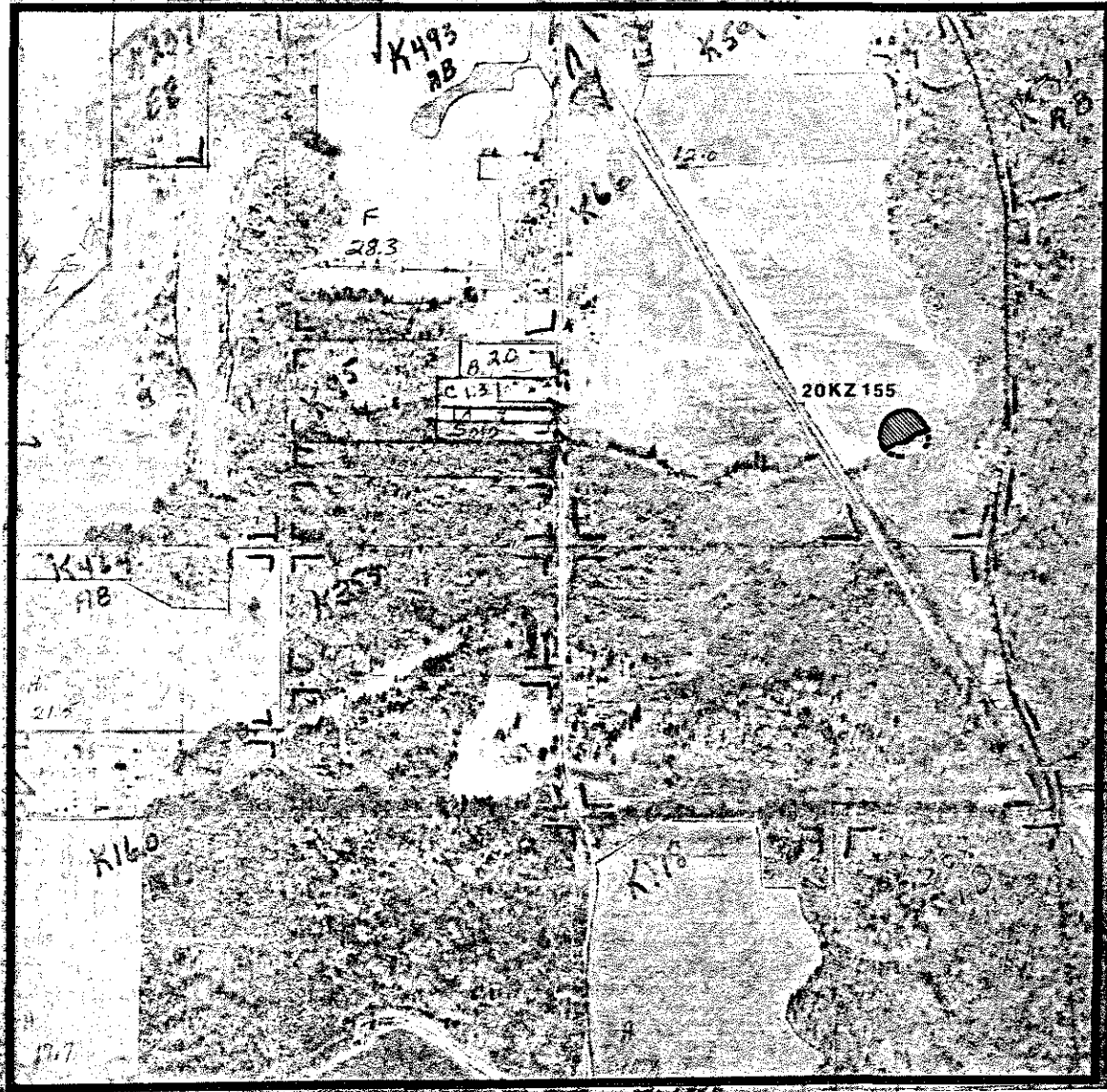
KALAMAZOO COUNTY
PAVILION TOWNSHIP
SECTION 34



KALAMAZOO COUNTY
PAVILION TOWNSHIP
SECTION 35



KALAMAZOO COUNTY
PAVILION TOWNSHIP
SECTION 28



KALAMAZOO COUNTY
PAVILION TOWNSHIP
SECTION 36

