1983

12-Phase I Archeological Survey of the Proposed Fishing Access Site at Calkins Bridge Dam, Allegan County, Michigan

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WESTERN MICHIGAN UNIVERSITY

TECHNICAL REPORT NO. 12

MAY 1983

PHASE I ARCHEOLOGICAL SURVEY OF THE PROPOSED FISHING ACCESS SITE AT CALKINS BRIDGE DAM, ALLEGAN COUNTY, MICHIGAN

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Report submitted to

the Michigan History Division,

Michigan Department of State

and

the Michigan Department of Natural Resources

May 17, 1983

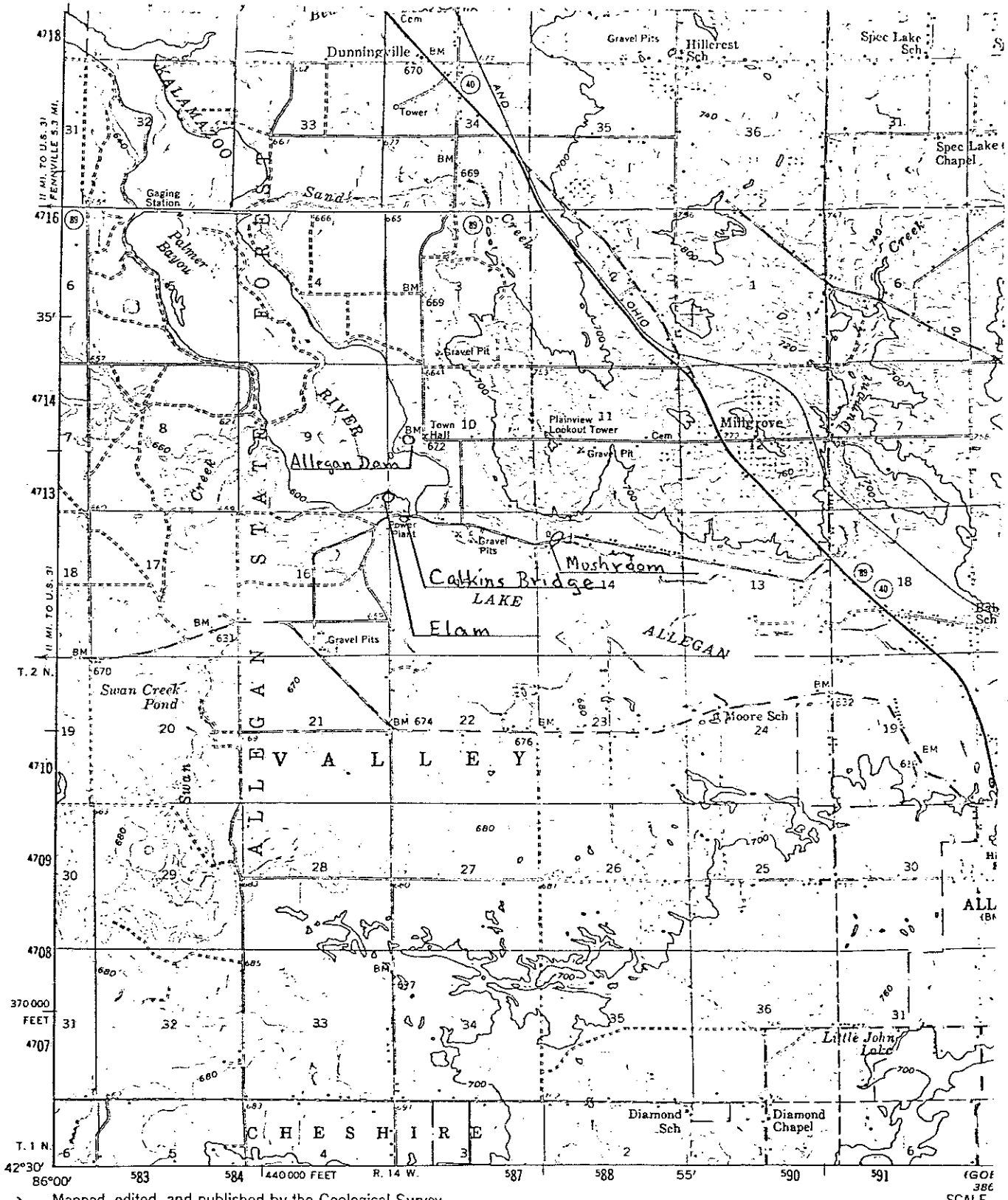
Initiation of Project

In February of 1983 I was contacted by the State Archaeologist, Dr. John Halsey, regarding plans by the Department of Natural Resources to develop a fishing access site at the Calkins Bridge Dam on the Kalamazoo River in Sec. 15 of Valley Township, Allegan County. Specifically, Dr. Halsey enquired whether this project would adversely affect the Elam Site (20AE195) an important prehistoric site situated near this locality (Figure 1). I infomed Dr. Halsey that the Elam Site would not be directly affected, but that the area for the proposed parking lot south of Allegan Dam Road should be investigated for possible prehistoric occupation because of its favorable location and proximity to Elam. In subsequent conversations with Dr. Halsey and Mr. Bruce Vollmar of the Fisheries Division, DNR, it was arranged that I would conduct an archaeological survey of the proposed access site in the spring of 1983 as part of the Western Michigan University archaeological field school in conjunction with planned field work at the Elam site. The work was to be done without cost to DNR.

The necessary Archaeological Exploration Permit to do this work was signed and returned to DNR on May 10. Field work in the parking lot area was conducted on May 12, 1983 using a field crew of 18 under the direction of two graduate student supervisors and the Principal Investigator.

Prior Land Use

The dam at this location was completed ca 1935. Prior to this time Allegan Dam Road crossed the river a short distance north of the dam. Concrete pilings for the former bridge are visible at the north edge of the presently proposed access site. Much of the affected area north of the dam is highly disturbed by slope erosion, and the upper part of it is a gravel parking area. Shovel testing in this area on May 16 (15 test units) revealed that the area is too disturbed to contain significant prehistoric remains.



Mapped, edited, and published by the Geological Survey

Control by USGS and USC&GS

Topography from aerial photographs by photogrammetric methods
Aerial photographs taken 1957. Field check 1958

Polyconic projection. 1927 North American datum
10,000-foot grid based on Michigan coordinate system, central zone
1000-meter Universal Transverse Mercator grid ticks,
zone 16, shown in blue

Red tint indicates areas in which only
landmark buildings are shown

UTM GRID AND 1958 MAGNETIC NORTH
DECLINATION AT CENTER OF SHEET

SCALE

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A FOLDER DESCRIBING TOPOGRAPHIC MAP

FIGURE 1

South of the road, adjacent to the power plant for the dam is a generally level area encompassing about 1 ha (estimated) which is presently a cleared fallow field. The area is sheltered on the west and south by a concave bluff line, part of the Valparaiso glacial moraine, and is bordered on the east by impounded Lake Allegan (Figure 2). This flat area at 630 ft. (192.02m) a.s.l. appears to be a remnant Pleistocene river terrace. Test excavation revealed heavy gravels at 45 cm below present surface. The gravels are overlain by 45 cm of sand, the upper 25 cm of which is an organically enriched plow zone with an average depth of 25 cm. A house and barn were located here within memory of local residents, and the land has been farmed for an unknown length of time. There is a large pine tree, probably 100 years old, at the topographic high point of the field. The land appears to follow natural contour lines except for a graded area some 30 by 60 meters along the road just west of the existing chain link fnece which encloses the power plant.

Field Procedures

Examination of the site surface revealed an evenly developed sod layer with no ground visibility whatever, so that it was necessary to shovel test the entire area. Recent trash is evident on the surface at various locations. One of the dam operators told us that they routinely collect and burn trash which washes up on the shore of Lake Allegan.

We shovel tested at 5 meter intervals on transects placed 5 meters apart. Eighteen or nineteen stations were dug on each transect. Each test was dug as a small square of about shovel width (ca. 25 cm^2) to a depth well into the yellow sand below plow zone. Some 160 shovel tests were made over an area of 4050 m^2 (.4 ha). Contents of each shovel test was screened through 1/4 inch mesh. In addition to historic material relating to recent trash

FIGURE 2

SYSTEMATIC SAMPLE : PREHISTORIC MATERIAL

ARCHAEOLOGICAL SURVEY of CALKINS BRIDGE SITE,

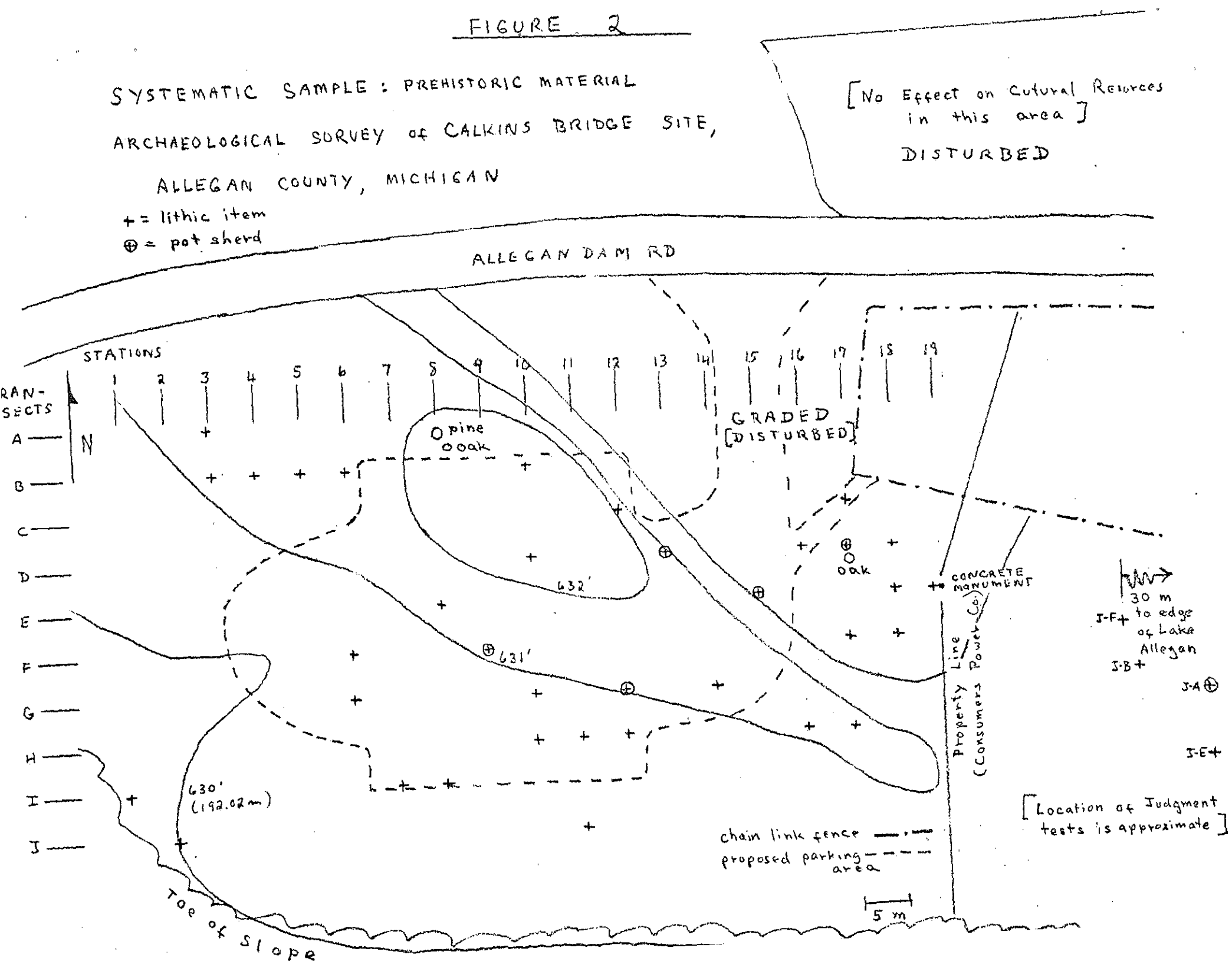
ALLEGAN COUNTY, MICHIGAN

+ = lithic item

⊕ = pot sherd

[No Effect on Cutural Resources in this area]

DISTURBED



burning and the former farm (glass, a white ware sherd, a few nails, a staple, scraps of sheet metal), prehistoric cultural material was encountered in 35 of the shovel test stations in the systematic sample. Distribution of this material is plotted in Figure 2, and a catalog of items recovered is presented in Table 1.

There are several things to be noted in particular about the distribution map. Prehistoric cultural material is not distributed uniformly over the sampled area. The main axis of the occupation appears to follow the elongate low ridge defined by the 632' and 631' contours with material below 631' occurring adjacent of this ridge on its northeast and southwest sides. Except for a flake at station I-1 and another at J-2, the far west and southwest parts of the field, occupying the lowest elevation, was devoid of prehistoric material in our sample. Pottery sherds are a particularly sensitive indicator for the location of a prehistoric Woodland camp site of some duration, as contrasted with brief or transient use of an area. It can be noted that the pot sherds concentrate along the ridge in the central and northeast part of the sampled area.

We determined that the site extends eastward to the former river bluff margin, now the bank above Lake Allegan, on land owned by Consumers Power Company. In order to establish this we put in nine Judgement tests, labeled J-A, J-B...in this area. Five of the 9 units produced prehistoric material, and in generally larger frequencies than in the systematic sample to the west (refer to Table 1). These Judgement units were not surveyed and are actually situated some 10-15 meters further east than indicated on the map. Their relative positions are sketched in order to establish site extent in this direction. Judgement units A, C, and E are located ca. 5 meters from the bank, which slopes down over another 10 meters to the waters edge.

Analysis of Prehistoric Material Recovered

Flakes (waste flakes from the manufacture of stone tools) and lithic tools are of local glacial chert except as indicated in Table 1. Most of the waste flakes are small chips from the latter stages of tool manufacture.

The occurrence of several flakes and tools of non-local origin is of particular interest. At station D-10 a uniface on a blade of Burlington chert occurs. This chert source is in Northern Illinois, and blades similar to this tool occur in the Early and Middle Woodland in that area and more rarely in Michigan (e.g. the Eidson site in Berrien County where a blade very similar to this occurs in Early Woodland context). A bifacial thinning flake of heat altered Burlington chert comes from station F-6. Other exotic lithic materials include a small flake which is probably from the Upper Mercer formation in Ohio, a chert which is often found in Middle and early Late Woodland contexts in Michigan. Finally a small flake of chalcedony at E-19 may be from the Flint Ridge Ohio source.

Fire-cracked rock (FCR) was identified at 8 stations (11 pieces). "Possible" FCR were not plotted, only those pieces typical of hearth or firepit detritus as observed in area sites were tabulated.

The sherds of prehistoric pottery are summarized in Table 2.

All of the pottery probably belongs in the Late Woodland time period. No rim sherds were found but criteria of temper and thickness indicate Late Woodland placement. Some 20% of the Late Woodland pottery at the Elam site is shell tempered. Two sherds of this ware were recovered at the Calkins Bridge site and the very thin gray sherds tempered with fine grit can also be duplicated at Elam. This pottery is considered to reflect an "Upper Mississippian" ceramic tradition which came into southwest Michigan after 1000 A.D., perhaps as late as 1200 A.D. in the lower Kalamazoo Valley.

Table 1 Catalog of Prehistoric Materials Recovered

Systematic Shovel Tests

Transect/Station	FCR	Flake	Sherd	Lithic Tools
A-3	X			
B-3	X			
B-4				util. flake (shale)
B-5	X			
B-6	X (2)			
B-10				util. flake (shale)
C-12	X	X		
C-17		X (probably Upper Mercer)		
D-10		X		uniface on blad (Burlington)
D-13		X	X	
D-16		X (3)		
D-17			X	
D-18		X		
E-8	X (2)			
E-15		X	X (shell temper)	
E-18		X		
E-19		X (chalcedony-possibly Flint Ridge)		
F-6		X (bifacial thinning flake, heat altered Burlington)		
F-9			X	
F-17		X		
F-18		X (2)		
G-6	X			
G-10		X		
G-12			X (shell temper)	
G-14		X		

Table 1 (continued)

Transect/Station	FCR	Flake	Sherd	Lithic Tools
H-10		x		
H-11		x		
H-12		x		
H-16		x (2)		
H-17		x		
I-1		x		
I-7		x		
I-8		x		
J-2		x		
J-11	X (2)	x (2)		biface (small Unfinished)
Totals	11	29	5	4

Judgment Tests East of Systematic Sample (9 excavated, not mapped)

A		x (2)	x	
B		x (4)		
C		x (3) including 1 core fragment		uniface
E	x	x (3)		
F		x	x	
Totals	1	13	2	1

	FCR	Flake	Sherd	Lithic Tools
Site Totals:	12	42	7	5

Table 2

Prehistoric Pottery Sherds (body sherds, n=7)

Station	Surface	Thickness	Temper	Color
Judgment A	cordmarked	very thin, 4 mm	fine grit	gray
Judgment F	cordmarked	thin (split)	fine grit	gray
G-12	cordmarked (eroded)	rel. thick, 9.7 mm	medium size shell	buff
F-9	cordmarked	thin, 4.3 mm	fine grit	gray
E-15	cordmarked	rel. thick, 7.5 mm	fine shell	dark gray
D-13	cordmarked	very small sherd	grit	buff
D-17	cordmarked, incised line	6.0 mm	grit	reddish ex gray int.

Evaluation of Findings; Relationship to Known Sites in the Area

The ceramics at Calkins Bridge suggest a close relationship with the Elam site late period occupation which is dated by radiocarbon at 1265 A.D. Elam is situated on a low terrace of the Kalamazoo at 600' (182.88m) a.s.l. We know that spring spawning sturgeon were an important resource for the Upper Mississippian people here (Barr 1979). However the botanical remains indicate occupation in the late summer and fall as well (Parachini 1981). It is likely that the Calkins Bridge site on a higher terrace represents another aspect of settlement by the Elam people. It is almost certain, based on observed densities of cultural material, that sub-plow zone features such as pits and hearths exist at Calkins Bridge. The nature of these features and their accompanying faunal, floral and artifact associations might provide significant new information on Upper Mississippian settlement in the Lower Kalamazoo Valley. The site is located at a point where the Kalamazoo Valley constricts to afford a relatively easy crossing of the river above an extensive marsh. Upriver from this point the river meandered prior to dam construction (Kingsley 1981), but its margins were dry enough that cattle were run here (personal communication, Paul Armintrout).

In addition to relationships with Elam and probably also to the Allegan Dam Site, which has Upper Mississippian and Late Allegan phase ceramics (Spero 1979), the Calkins Bridge site exhibits in its stone tool inventory relationships to Early and perhaps Middle Woodland occupations in the area. There is an Early Woodland component at Elam which has been dated at 590 B.C. The blade and bifacial thinning flake of Burlington chert suggest affinities with this time period. Mercer chert occurs at the extensive Middle Woodland Mushroom site (Mangold and Garland 1979) which lies 1.6 km upriver on the opposite side of the river. Mushroom is the only extensive Middle Woodland

site thus far identified in the lower Kalamazoo or elsewhere in Allegan County.

It may be concluded from the foregoing evaluation that the Calkins Bridge site is an important archaeological site which might be expected to yield data pertinent to both Upper Mississippian and earlier periods of settlement in the immediate area, with implications of regional significance. It by no means appears to be a "redundant" site which would simply duplicate information already available.

Recommendations

1. The site could be avoided if DNR can find an alternative parking location. There does not appear to be a way to put a lot in on the south side of the road in any location which would not damage the site. Could parking be accomodated on the north side of the road, or possibly across the river in the area already developed by DNR?

2. If the site can not be avoided, it should be salvaged. The routine procedure of Phase II testing and evaluation of significance would, I am virtually certain, result in recommendation for mitigation and would involve both time delay and costs. I believe that the Phase I survey has for all practical purposes demonstrated significance.

3. The DNR site plan calls for grading the parking area to the 630 foot contour. The major significance of the prehistoric site lies in the sub-plow zone features and the information they contain. If DNR could ask its contractor to cooperate with us by first stripping the plow zone and then allowing us the necessary time (possibly five days) to excavate the features, my field school could do the work at no cost. I understand that DNR would like to proceed in a matter of a few weeks from now (May 15). It must be understood that we are in the field only through June 21. It is essential that we have at least 5 working days prior to this date in order to do the

feature excavation. Some plow zone excavation by us prior to stripping would be desirable, but not absolutely necessary.

4. There will be costs for laboratory analysis and report preparation following field work. Without the benefit of Phase II testing which might predict feature density, it is quite difficult to estimate these costs. The University would contribute in that I could involve a graduate assistant and perhaps a work-study student in this work. However, cartography, drawing, and photographs of artifacts, sorting of flotation samples, botanical and faunal identifications, and analysis and write up of the cultural material will require substantial laboratory hours and report preparation time.

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