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Elizabeth B. Garland
Western Michigan University

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DEPARTMENT OF ANTHROPOLOGY
WESTERN MICHIGAN UNIVERSITY

TECHNICAL REPORT NO. 18

ARCHAEOLOGICAL SURVEY OF HISCOCK #1-11 WELL PAD
(20AE813) AND ACCESS ROAD, VALLEY TOWNSHIP, ALLEGAN COUNTY, MICHIGAN

ELIZABETH B. GARLAND

1. Project Inception

Michael G. Cote, District Geologist, Department of Natural Resources (Plainwell), contacted Elizabeth Garland by telephone on August 18, 1986, concerning preparation of an oil drilling locality in Valley Township, Allegan County. A map detailing the location was delivered to Garland by a representative of the Petroleum Leasing and Exploration Company (Allegan) the following day. Since the planned well site was seen to be near a stream and within half a mile of a known prehistoric site, an archaeological survey was deemed advisable. Field work was carried out on August 20 and 21 by Garland and two associates from the Department of Anthropology, WMU: David DeFant (M.A.), and Mary Jeakle (M.A. candidate).

Larry Grabowski of the DNR provided valuable advice in the field concerning the areas to be impacted. We would also like to thank Zack Anderson and Mike Roberts of Petroleum Leasing and Exploration Company for their full cooperation in seeing this project to completion. We hope that Hiscock #1-11 is a gusher.

2. Site Location

The area to be surveyed included the well pad, approximately 1.5 acres, and a portion of the access road which was to be newly constructed (about 300 meters). The location of the Hiscock #1-11 drilling site is SWSWSE, Sec. 11, T2N - R14W, Valley Township, Allegan County (Figure 1). Elevation at the well pad is 680 feet A.S.L.

The presettlement vegetation in the general site area is described as beech-maple with mixed forest associations, bordering swamp forest (Parachini 1981). Land use at the site today is agricultural. Soils in the well pad location are fine sands with minor amounts of gravel. Somewhat coarser sands with lenses of heavy gravel are characteristic at higher elevations (above 700') in the corn field east of the well pad. From west to east in the project area, topography is level to moderately

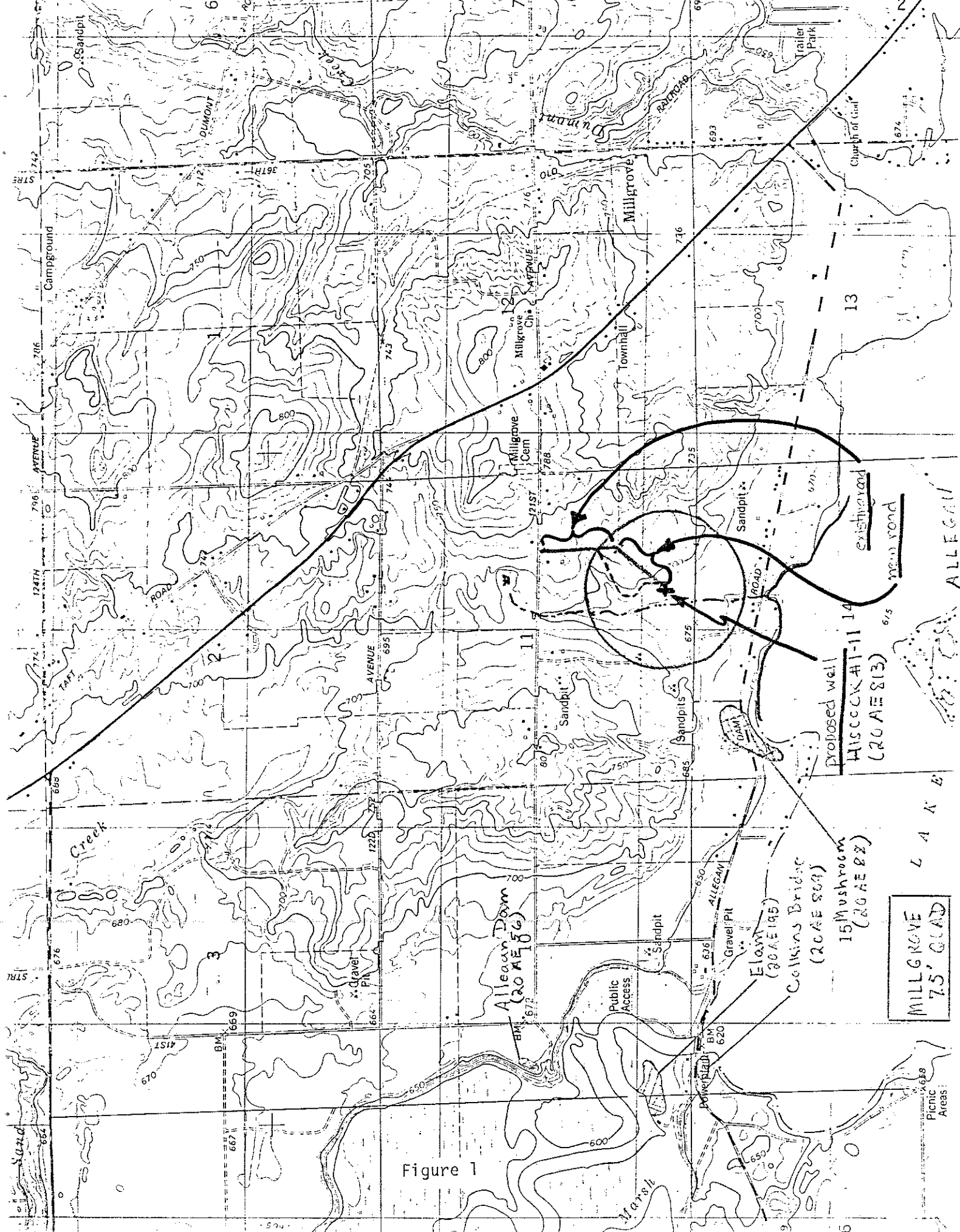


Figure 1

Proposed well
 HISCOCK #1-11
 (20AE 813)

15 Mushroom
 (20AE 82)

MILLGROVE
 7.5' QUAD

L A K E

ALLEGAN

Picnic
 Areas

rolling. An unnamed intermittent stream flows south to Lake Allegan along the western margin of the survey area.

3. Survey Procedures

The well pad is located in a field which had been left fallow this year. The weeds had been cut the week prior to survey, resulting in good surface visibility. The surface was examined by the team of three surveyors walking abreast about five meters apart in a series of 11 east-west passes across the area to be impacted (Figure 2). Each pass permitted visual examination of approximately a 15 meter strip. Larry Grabowski, Geological Survey, DNR, accompanied us on the survey. On Grabowski's advice, we examined a rectangular area from corn field to fence line and about 315 meters north-south, since (he informed us) disturbance would occur over a larger area than the well pad itself. The central drilling area was marked, but the dimensions of the intended pad were not.

The systematic surface survey comprising 11 passes across the field took two hours to complete. Thirty aboriginal cultural items were recovered (Table 1). One concentration of five items (nos. 18-22), including two points, was recorded in a 15 meter area. The center of this distribution was flagged.

After completing the systematic survey we spent another 15-20 minutes in further judgmental examination of three areas of interest: 1) a low rise termed the north knoll, 2) the area along the fence line near the stream, and 3) the previously identified concentration. A total of nine more cultural items were recovered. The north knoll and the fence line were not significantly productive, but the concentration area produced seven additional artifacts (nos. 33-39), including the only sherds recovered, resulting in delineation of the "greater" concentration sketched on Figure 2.

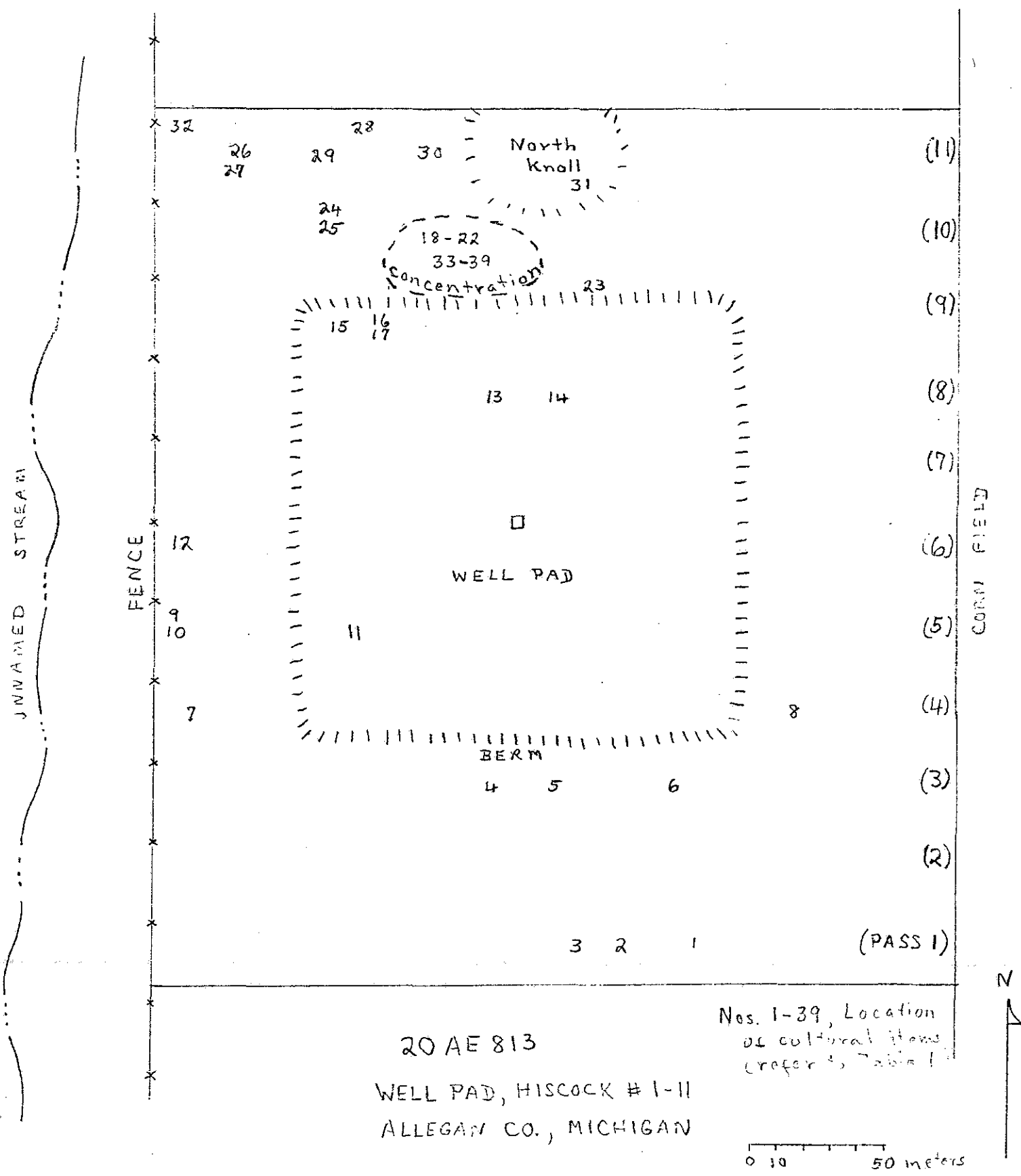


Figure 2

TABLE 1

Cultural Items Recovered from 20AE813
 All lithic items are on local glacial chert unless otherwise noted
 (Refer to Figure 2 for locations)

<u>Artifact #</u>	<u>Description</u>	<u>Artifact #</u>	<u>Description</u>
1	<u>flake (Burlington)/utilized</u>	21	flake
2	blocky flake	22	FCR
3	FCR, poss. groundstone frag.	23	core fragment
4	tested core ? quartzite	24	FCR
5	core fragment ?	25	FCR
6	flat flake	26	decort. flake
7	flake (frag.)	27	flake (frag.)
8	<u>bif. thinning flake (Burl?)</u>	28	FCR
9	flat flake	29	FCR
10	decort. flake	<u>30</u>	<u>core fragment ?</u>
11	hammerstone	31	FCR
12	FCR; poss. groundstone frag.	32	blocky flake
13	flake (shatter)	33	FCR
14	FCR	34	core
15	flake (shatter)	35	FCR
16	<u>flake/bifacial retouch</u>	36	<u>potsherd, Allegan ware</u>
17	bif. thinning flake	37	<u>potsherd, Allegan ware</u>
18	<u>Madison point</u>	38	blocky flake
19	<u>Corner notched point</u>	39	blocky flake
20	decort. flake		

Nos. 1- 30 recovered in systematic surface survey
 Nos. 31- 39 recovered in judgment resurvey

The absence of cultural material in the center of the survey area was considered to be possibly the result of obscured surface visibility caused by vehicles and people when the drilling site was staked. This central area is on a slight rise and there "should" have been material here.

Larry Grabowski showed us the route the new access road would take. It follows the dashed line north from the well location (Figure 1) rather than the straight diagonal "new road" line indicated by DNR. We surveyed this road using two methods. From the well pad the road runs north along the edge of the corn field to its northern edge. Although the corn was high it was weed-free and we had good visibility of the ground. We walked three abreast along the edge of the field and between the first few rows of corn as a way to survey the access road. We recovered only three possibly worked pieces of chert; no definite artifacts were found. From the northern edge of the corn field the access road crosses a pasture, following the stream bed along its eastern bank and then crossing the pasture on a northeast trajectory where it meets the existing road (see Figure 1). This second stretch of access road was the new part, some 300 meters long, referred to in the DNR request. There was no surface visibility except in isolated patches along the stream bank. We examined these patches, finding no cultural material. We placed 10 shovel tests in the pasture at 20 meter intervals along the access road, digging to subsoil and then trowling through the contents of each test pit. The soils were generally fine sands with little or no gravel, and we judged that flakes or sherds would be detectable by the methods employed. No cultural material of any kind was found in the shovel tests.

4. Artifact Description and Interpretation

Artifacts recovered comprise a light to moderate scatter of prehistoric material in the vicinity of the well pad, with a distinct clustering toward

the northwest corner where fully half of all the items were found on perhaps 10% of the area surveyed. Fire-cracked rock (FCR) was extremely sparse, and none of the 11 pieces recorded showed evidence of blackening or reddish coloration. Some pieces may have been cracked by the plow and/or frost action rather than direct heat. The overall scarcity of FCR suggests non-intensive use of the site.

A summary of cultural materials by artifact class is presented in Table 2. Local raw materials dominate the lithic inventory with the exception of a utilized flake (#1) of Burlington chert which indicates contact with the Illinois source area, and a bifacial thinning flake which may also be Burlington (#8). These two flakes are the most southeasterly items recovered during survey. A third example of unusual raw material is flake #20, a very fine grained, dark gray-brown mottled chert with a high luster and small bluish-white fossiliferous inclusions. The source of this material is unknown; it could be from local glacial till, although the weathered cortex is deeper than usually seen on local material.

The debitage categories present (Table 2), along with cores and a hammerstone, indicate that tool manufacture including biface reduction occurred on the site.

The Madison point (Figure 3b) is well made and fully retouched over both surfaces. It exhibits careful basal thinning for hafting as an arrowpoint. There is a small impact fracture at the tip suggesting its use and subsequent loss in hunting. The presence of the basal portion of a corner-notched point (Figure 3 a) could reflect weapon refurbishing at a short term encampment. Both points were found in the localized concentration defined in the systematic survey, however they are of different ages. Madison points appear in the Lower Kalamazoo Valley after about 1100 A.D., while the corner-notched point is almost certainly of Middle Woodland age (100 B.C. - 600 A.D.). It is very similar to the modal Middle Woodland type at the Mushroom site (20AE88) where the main



1:1

Figure 3. Points from 20AE813
a. Corner-notched
b. Madison

Table 2

Classes of Cultural Items from 20AE813

LITHICS

	<u>Number</u>	<u>Artifact #</u>
Formal tools		
Projectile points	2	18, 19
Retouched/utilized pieces	2	1, 16
Debitage	16	
Decortication (2)		
Secondary/shatter (12)		
Bifacial thinning (2)		
Cores	5	4, 5, 23, 30, 34
Hammerstone	1	11
Fire-cracked rock	11	

CERAMICS

Body sherds, Allegan ware	<u>2</u>	36, 37
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39 total cultural items

occupation has been dated at 295 A.D. (Mangold and Garland 1979, Stout 1983). This point exhibits heavy basal grinding, an attribute which is also indicative of pre-Late Woodland temporal placement.

The Burlington flake (artifact #1) exhibits steep-edged unifacial wear from use as a scraping tool. Another flake with partial bifacial retouch (#16) may have served a scraping or cutting function.

Two potsherds were recovered from the "greater" concentration during the judgment resurvey. These are of particular interest because they indicate use of the site as an encampment, however short term. The pottery is Late Woodland Allegan ware (Kingsley 1977, Rogers 1972) with the characteristic cordmarked exterior and smoothed interior, reddish oxidized exterior surface, and a moderate amount of medium sized grit temper. Allegan ware is present in the Lower Kalamazoo valley from about 700 A.D. until 11-1200, with dated occurrences falling into the latter half of this time range.

5. Evaluation of Site Significance and Recommendations

In evaluating the assemblage from 20AE813 it is important to note that several different time periods are represented. The corner-notched point is Middle Woodland; the Madison point is late Late Woodland and probably post-dates the Allegan ware. The Burlington chert probably reflects Middle Woodland activity at the site. Given the temporal spread of at least 1000 years represented by three artifacts, in conjunction with the sparse occurrence of FCR, the probability of the existence of sub-plowzone features (cooking or storage pits, post patterns of houses etc.) was considered to be low. Without the presence of such features, mixed assemblages such as this cannot inform us about site function and seasonality much beyond the inferences presented above.

Based on prior experience at sites such as nearby Calkins Bridge (20AE809) (Garland 1984), and 20AE622 in the city of Allegan (Higgins and

Garland 1982), it was felt that while Phase II testing of this site (a 1% or half of 1% excavated sample) would produce more artifacts, this testing would in all likelihood not encounter features. At the same time it was difficult to write off 20AE813 as not warranting further investigation since if features with diagnostic associations were present in this tributary stream setting, they could be of considerable importance for understanding the settlement systems of the larger and higher density Kalamazoo River sites in the vicinity such as Mushroom, Allegan Dam, and Elam (Figure 1), all of which exhibit cultural relationships to 20AE813 based on the materials recovered during survey. Madison points are numerous at Allegan Dam and Elam. Allegan ware is present as a minor type at Elam and Allegan Dam (Spero 1979), and has been radiocarbon dated to 1050 A.D. at Calkins Bridge (Garland 1984:70). Middle Woodland ties to the Mushroom site are seen in the corner-notched point and probably also the Burlington chert.

The cultural evidence recovered in survey suggested that further study of the site might be worthwhile, but only if subsurface features could be found. In view of these considerations it was felt that an opportunity to observe the bulldozer stripping in preparation of the well pad, including the right to excavate subsurface features of interest, would be the potentially most useful way to further study 20AE813. This recommendation was made by telephone on August 20 to the State Archaeologist, Dr. John Halsey, who concurred with this plan and so notified DNR. Arrangements were made with the Petroleum Leasing and Exploration Co. to meet the bulldozer the following morning, August 21. Stripping began at 10:30 and continued uninterrupted for four hours. We had an excellent view of the entire well pad area at the interface of plowzone and yellow subsoil. We would not have missed pit features had they been present. Occasional lenses of red oxidized soil and scattered areas of burned wood were noted, but

these seemed to be related to historic land clearing (stump removal) or possibly forest fires. No prehistoric pit features were observed, and none of the burned lenses had associated cultural material.

As shown in Figure 2, well pad construction did not impact the northwest corner of the survey area where the greatest cultural density was observed. We believed however that if features were present at the site at least some would be located in the primary stripped area. In an additional search for features, the bulldozer stripped an east-west zone 20 meters long and 3 to 4 meters wide through the center of the primary concentration which had been flagged during survey the previous day. No subsurface features were observed in this area of heaviest artifact concentration.

We can conclude that 20AE813 reflects short-term, nonintensive use by peoples in Middle and Late Woodland time, for activities related to hunting, limited tool manufacture and maintenance, and other extractive tasks. This study further suggests that many . . . perhaps most . . . of the Woodland period sites located off the main trench of the Kalamazoo river and its major tributaries may be short term extractive camps similarly devoid of features.

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