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9-Phase II Testing of 20AE622, a Late Woodland Site in Allegan, Michigan

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T.R. #9

Phase II Testing of 20AE622, a Late
Woodland Site in Allegan, Michigan

Principal Investigator: Elizabeth B. Garland, Ph.D.

Report Prepared and Submitted by
Michael J. Higgins and Elizabeth Garland

April, 1982

Table of Contents

	<u>Page No.</u>
1. Introduction	1
2. Project Personnel	1
3. Summary of Phase I Investigation of 20AE622	1
4. Sampling Strategy; Field and Laboratory Methods	2
5. Lithics	3
6. Ceramics	8
7. Feature 1	10
8. Recommendations	11
9. References Cited	13

List of Tables and Figures

	<u>Page No.</u>
Table 1 Lithic Materials Recovered	4
Table 2 Measurements of Lithic Tools	7
Table 3 Ceramics: Counts, Weights and Distribution	9
Figure 1 Project Location	14
Figure 2 Phase I Project Grid	15
Figure 3 Feature	16
Figure 4 Drawings of Lithic Tools	17

1. Introduction

Phase II testing of 20AE622 was carried out under terms of a contract between Western Michigan University and Gardner Management Company of Kalamazoo, Michigan, Mr. Jeff Gardner, President.

Western had conducted a Phase I survey of the project area in May, 1981. Additional testing of the site was recommended in the Phase I report (Clark and Garland 1981). In April, 1982, Mr. Gardner requested that we undertake testing of the site and a contractual agreement was signed. The field work was done over a three day period, April 19, 20 and 21, 1982.

2. Project Personnel

Principal Investigator:	Elizabeth B. Garland, Ph.D.
Field Director:	Michael Higgins, M.A.
Field Assistants:	Christopher Cojeen, M.A. candidate Bert Ebbers, B.A. Brent Gevers, M.A. candidate Robert Hull, graduate student Joan Knecht, M.A. candidate Paul McAllister, M.A. Deborah Rhead, M.A. candidate Frances Seager-Boss, M.A. candidate

3. Summary of Phase I Investigation of 20AE622

The initial survey of 20AE622 was conducted by means of shovel probes over the relatively undisturbed central and western portions of the seven acre parcel to be affected by housing development (Clark and Garland 1981, Map 2). Sufficient cultural material was recovered to warrant recommendation for Phase II testing of the site. Thirty-six lithic flakes, including two unifaces and one utilized piece were found, along with two bifaces, a mano

fragment and a hammerstone. In addition ten small sherds of cord-marked, grit tempered Late Woodland pottery were recovered during Phase I survey. Fire-cracked rock was observed to be sparse over the site, suggesting non-intensive prehistoric occupation.

It was noted in the Phase I report that site excavation in the Lower Kalamazoo Valley has tended to focus on the more intensively occupied Woodland sites located along the main trench of the Kalamazoo, and that excavation of sites like 20AE622, located on a tributary stream, might contribute valuable data with respect to regional subsistence-settlement patterns (Clark and Garland 1981: 2, 7).

4. Sampling Strategy; Field and Laboratory Methods

The sampling strategy for Phase II investigations at 20AE622 was based primarily on the results of the Phase I survey conducted in 1981 (Clark and Garland 1981). At that time, screened shovel tests across the parcel exhibited concentrations of prehistoric material in two areas, although isolated artifacts were found elsewhere. It was decided to focus our investigations in these two areas with some minor testing in the area between. A stratified random sample of 2m x 2m units was drawn (Figure 2), with a 3% sample designated for the north and south concentrations (Strata I and III, respectively) and a 1% sample of the area between the two (Stratum II). Some modifications had to be made in the field with regard to the placement of these strata as the map of the Phase I survey was based upon paced intervals and not actual measured distances. Also, time constraints permitted achieving only a 2% sample in Stratum I, but it is felt that the area was adequately covered. A total of 19 2 x 2 meter units were excavated, 18 of which yielded pre-

historic material. All units were excavated to the base of plowzone and the floors scraped clean in an attempt to delineate features or other undisturbed deposits. Soil was processed through 1/4" screen.

Laboratory procedures followed standard practices. All materials collected were washed and labelled with site and field lot number which identifies provenience. All materials, data sheets and field notes are housed in the Department of Anthropology, Western Michigan University.

5. Lithics

Lithic materials constitute the majority of prehistoric remains recovered from the site, with debitage being the most numerous class (Table 1). Thirteen tools were also recovered: one biface, one uniface, ten utilized flakes, and one utilized microblade. In addition, three cores and one battered chert cobble were found. No non-chipped stone tools were recovered from the Phase II excavations although three unmodified cobbles (which would not occur naturally in the soil) were recovered. Fire-cracked rock was very sparse across the site and could not be considered abundant in any of the excavated units, with eight small pieces being the most recorded, and many units recording none. While the lithic assemblage is relatively small, certain observations can be made concerning the lithic industry of the site.

With regard to the debitage, the various classes of reduction represented at 20AE622 are listed in Table 1. Descriptive terminology used in this report is taken from Geier (1973) with some minor modifications. All stages of the reductive process are represented at the site. With a relatively high percentage of the initial stages of reduction (decortication, primary, and secondary flakes) versus the recovery of only two bifacial retouch flakes, the assemblage points to a primary emphasis upon tool production as opposed to tool

Table 1Lithic Materials Recovered from Phase II
Excavations, 20AE622

<u>Debitage</u>	<u>N</u>	<u>WT(g)</u>
Decortication	18	71.4
Primary	5	23.5
Secondary	36	39.8
Tertiary	44	11.0
Bifacial retouch	2	1.0
Shatter/fragments	34	37.2
Totals*	139	183.9

Microblades

	2	1.0
--	---	-----

Cores

	4	166.3
--	---	-------

Biface (drill)

	1	2.0
--	---	-----

Total Lithic Items

	146	353.2
--	-----	-------

Unmodified cobbles

	3	1187.3
--	---	--------

*includes 1 uniface and 10 utilized flakes.

maintainance. Eight of the secondary flakes and 12 of the tertiary flakes exhibit evidence of platform abrasion prior to their removal from the tool under manufacture. In terms of distribution over the site, the debitage definitely shows the heaviest concentrations in Stratum III, with 148.4g recovered (18.55g/unit). This compares to only 23.2g from Stratum I (2.6g/unit) and 12.3g from Stratum II (6.15g/unit).

The chert types represented in the debitage at 20AE622 include 93.3 percent (by weight) unidentified chert, which is probably of local derivation from glacial till sources. This includes one decortication flake of quartzite. Non-local materials present on the site include 23 pieces of Bayport chert (12.4g), one fragment (0.1g) of Avon chert, and one fragment (0.2g) of Burlington chert. The sources for both Avon and Burlington cherts are located in Illinois with Avon occurring in the west-central part of the state and Burlington occurring further south in the lower Illinois Valley. Their presence within the assemblage of 20AE622 is somewhat enigmatic. Their small size would suggest that they probably originated from finished tools as opposed to unprocessed raw material.

The occurrence of Bayport chert (the source for which is in the Saginaw Bay area) at the site is interesting in that it is clustered in the three northern-most units of Stratum III. Of the 23 Bayport flakes recovered from the site, 22 come from these three units. The heaviest concentration of Bayport occurs in N82-W108 with 15 pieces, while the unit to the immediate northeast (N84-W106) contains six. The only other Bayport flake found was recovered from N140-W144, within Stratum I. The nature of the Bayport debitage is secondary, tertiary, bifacial retouch, and fragmented flakes, suggesting that the Bayport was processed from a preform stage, and the clustering indicates a spatially limited area for this activity. The

mere presence of Bayport chert on the site may have some temporal significance as well. In her analysis of lithic material distributions during the Late Woodland period, Luedtke (1976: 342-345) found that Bayport chert reaches a wider distribution (especially east to west) during the earlier part of the Late Woodland period than during subsequent time periods. It should be noted, however, that Bayport never reaches relatively high frequencies of occurrence in the western portion of Michigan (Ibid: Figures 19 and 20).

Also notable, from a distributional viewpoint, is the clustering of cores in one unit, N84-W106. Three cores and one battered chert cobble were recovered from this unit. Two of the three cores might be better termed core fragments with the third being a core remnant. All are of the block variety and are of unidentified (presumably local) cherts. The battered chert cobble apparently represents an aborted attempt at flake removal from the rock. The chert is of poor quality, being rather porous and exhibiting numerous internal fractures. The co-occurrence of these cores and six decortication flakes from this unit, along with the afore-mentioned Bayport debitage recovered from this same area strongly suggests a small lithic knapping activity area for that portion of the site.

Along with the debitage described above, two microblades were also recovered from the site (Figure 4). One specimen, 82-1d, is 1.78 cm long by 0.79 cm in width, and has a maximum thickness of 0.33 cm. The platform shows definite indications of purposeful preparation, being faceted and abraded. The ventral surface exhibits a small area of utilization along a lateral edge. The material is an unidentified lustrous gray chert. The other specimen is less distinct in terms of blade morphology characteristics, showing no definite evidence of platform preparation. It is possible that this particular item merely represents a narrow lamellar flake.

Metric data on the tools recovered from 20AE622 are summarized in Table 2.

Table 2

Measurements of Lithic Tools from Phase II Excavations, 20AE622

All Measurements in cm

	<u>Item #</u>	<u>LA</u>	<u>BL</u>	<u>TH</u>	<u>WT(g)</u>
<u>Biface</u>					
drill	82-1	4.50		0.60	
<u>Uniface</u>	82-17a	(2.01)	2.46	0.64	8.8
<u>Utilized flakes</u>	82-1a	1.07	3.27	1.01	4.6
	82-1b	1.61	1.71	0.28	0.6
	82-1c	3.72	1.15	0.84	2.5
	82-6	1.60	1.73	0.28	0.5
	82-7	1.58	1.95	0.41	1.3
	82-9	(1.29)	2.19	0.35	0.9
	82-12a	1.20	0.79	0.18	0.2
	82-12b	1.55	2.68	0.92	2.1
	82-17b	2.47	2.35	0.38	2.1
	82-20	1.25	3.03	0.42	1.0
<u>Utilized Microblade</u>					
	82-1d	1.78	0.79	0.33	0.4

LA: Longitudinal Axis; BL: Bilateral Width;
 TH: Maximum Thickness,

All lithic tools are illustrated in Figure 4. No temporally diagnostic tools were found. As previously stated, only one biface was recovered, a drill from N56-W116. At first glance, it appeared that this specimen was broken longitudinally (see Figure 4) but closer examination reveals that this lateral edge is really cortex, or weathered rind. The other tools present on the site include one steep-edged bilateral uniface from N104-W126, and ten utilized flakes scattered over the site. The relative absence of bifacial tools from the site (two were recovered from Phase I) might be interpreted as indicative of an occupation where hunting did not play an important role in subsistence activities. However, it is felt that this relative absence may be the result of a small sample size and the light density of material on the site.

6. Ceramics

A total of 116 sherds of prehistoric pottery were recovered during Phase II excavations at 20AE622 (Table 3). The sherds were generally of small size; aggregate weight totals 108.7g, average weight per sherd is .94g. All sherds with identifiable surfaces have cord-marked or smoothed cord-marked exteriors and smoothed interiors. Tempering material in all sherds is grit in moderate amounts, generally of medium size, with occasional particles measuring up to 4 mm. Exterior color is buff to reddish; interior buff to light gray; with cores usually gray, occasionally buff. Thickness ranges from 4.6 to 10 mm.

Cord-marking tends to be rather fine, producing an evenly textured surface, but there is considerable variation in this regard. In all respects, surfaces, temper and paste, these sherds are typical of Late Woodland Allegan Ware (Rogers 1972, Kingsley 1977). Only one rim sherd was recovered. It is too small to suggest vessel profile. The rim exhibits exterior cord-marking up to the lip, which is flattened, and the lip itself is cord-marked. This rim

Table 3

Ceramics: Counts, Weights and Distributions, 20AE622

Lot #	Provenience (Unit, Stratum)	Count	Weight(g)
82-1	N56-W116, Stratum III	62 body sherds	77.1
82-3	N84-W106, Stratum III	2 body sherds	2.6
82-4	N70-W102, Stratum III	43 body sherds 1 rim	17.6 1.2
82-5	N122-W128, Stratum I	1 body sherd	0.3
82-7	N70-W100, Stratum III	1 body sherd	1.7
82-8	N154-W130, Stratum I	1 body sherd	5.7
82-9	N116-W124, Stratum I	2 body sherds	1.0
82-11	N74-W112, Stratum III	1 body sherd	0.7
82-15	N-126-W136, Stratum I	<u>2</u> body sherds	<u>0.8</u>
		116 total sherds	108.7g aggregate wt.

belongs to the type Allegan Undecorated Cordmarked, var. Flat Lip (Kingsley 1977: 168, and Plate II). This type occurs from the Early Allegan through Late Allegan phases, ca. A.D. 600-1200. No decoration occurs on any of the sherds in the collection, and a general lack of decoration is also characteristic of Allegan ware.

Ceramics were recovered in nine of the nineteen units excavated on the site, but were numerous in only two: N56-W116 (62 sherds) and N70-W102 (44 sherds). Five units in Stratum III contained sherds, including the two units with abundant pottery. Stratum III includes the area where ten sherds were recovered during Phase I shovel testing of the site (Clark and Garland 1981: 4). The remaining excavated sherds were distributed in four units in Stratum I.

7. Feature 1

Only one prehistoric feature was uncovered during the Phase II excavations of 20AE622. A pit, Feature 1, was discovered in the northwest portion of unit N104-W126, within Stratum II. Its location is somewhat surprising given the very light densities of material observed for this area in the Phase I survey and the two units excavated during Phase II. Although no cultural material or fire-cracked rock was recovered in association with it, Feature 1 appears to be of prehistoric origin. The feature is probably a small firepit, only the bottom portion of which remained, the upper portion having been truncated by the plowzone (Figure 3). Two distinct zones are apparent. Zone A is comprised of a reddish-brown sandy fill down to seven to eight cm. below plowzone. Zone B is a black fuel zone comprised primarily of charcoal and black sand. Analysis of the charcoal from flotation samples was undertaken by Kathryn Parachini of Western Michigan University. She reports that the

charcoal is comprised primarily of the whiteoak group (Quercus alba) with small amounts of a second species--probably tulip tree (Linodendron tulipifera). One carbonized acorn fragment was also recovered.

Very little can be said concerning function and seasonality of this feature. The acorn fragment recovered is probably associated with the oak charcoal and should not be considered a subsistence item. The presence of this acorn could possibly point to a late summer to fall occupation but could also be the result of incidental inclusion along with the firewood during a subsequent season. At any rate, because no cultural material was associated with this feature, its temporal placement remains unknown.

8. Summary of Phase II Results and Recommendations

The results of Phase II excavations were generally in accord with expectations generated by the initial survey of 20AE622. Ceramics were conclusively identified as Late Woodland Allegan Ware, although the single rim sherd recovered does not permit phase assignment within the Allegan tradition. Bifaces and retouched unifaces number three each from the combined Phase I and Phase II studies of the site, but a total of 12 utilized flakes (11 flakes and one microblade) make the unifacial tool component predominant. It is somewhat surprising that no projectile points have been recovered, suggesting that limited or somewhat specialized activities which did not emphasize hunting were carried out at the site. All stages of lithic tool manufacture are present with evidence of a localized knapping area in Stratum III.

Something not predicted by the 1981 survey is the incidence of exotic cherts at the site, particularly in Stratum III where small flakes of Bayport chert occurs in relatively high frequency.

The only sub-plowzone feature observed during excavation had been largely

destroyed by the plow, and unfortunately does not provide any direct inferences about site function or seasonality.

The sparse occurrence of fire cracked rock over the site contributes to an overall picture of light prehistoric occupation of 20AE622. This observation is not contradicted by the ceramic evidence, for although 126 sherds have been recovered (ten in Phase I, 116 in Phase II) they are very small, with average weight less than one gram/sherd. Sherds are strongly concentrated in two units in Stratum III, where they may represent only two or three vessels.

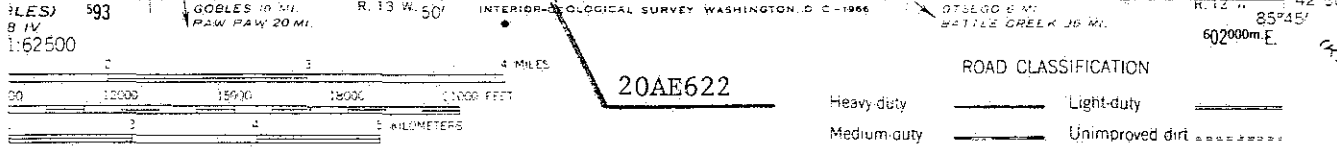
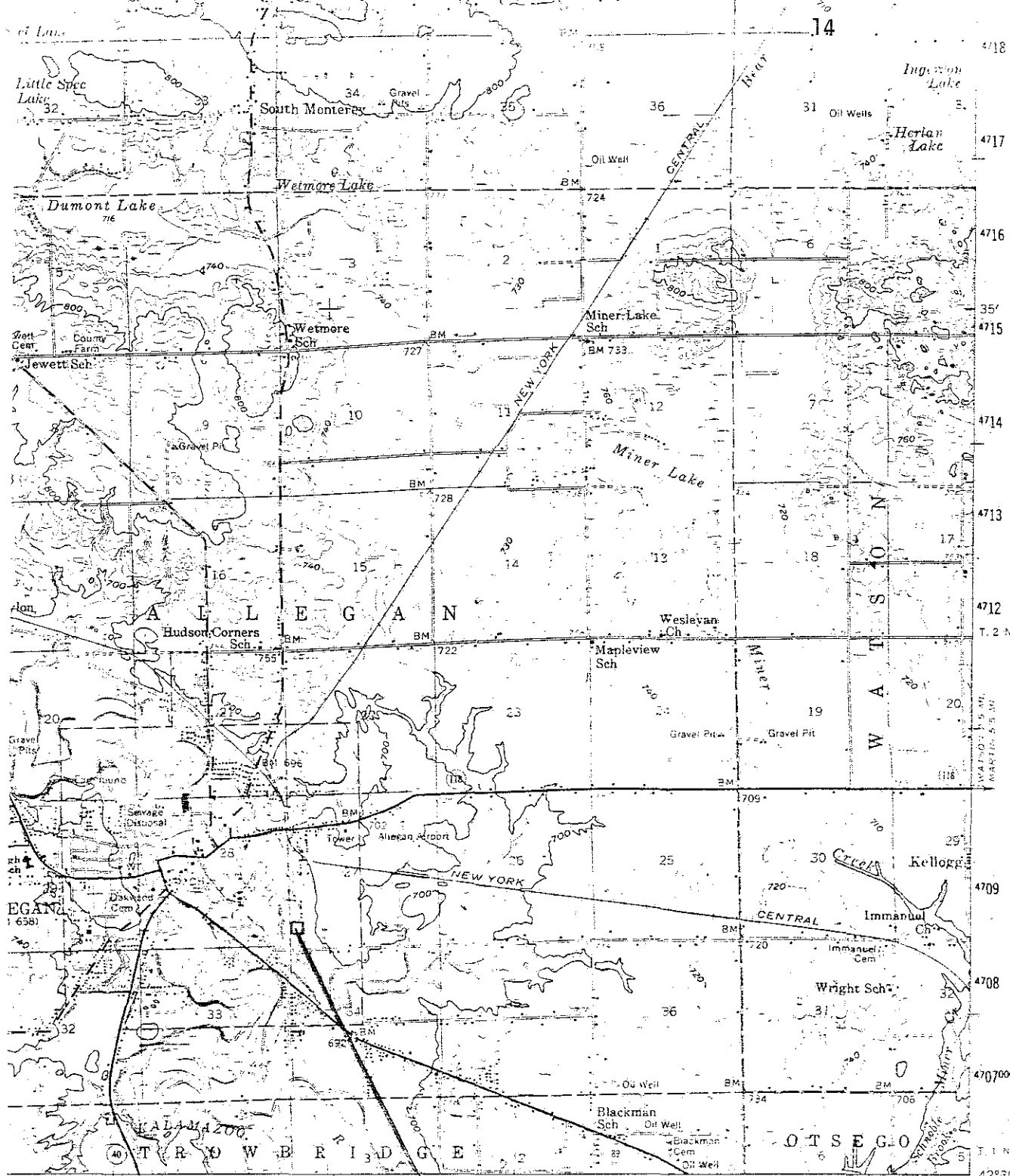
Further excavation at the site would certainly produce more prehistoric cultural material, but it is problematic whether the additional information recovered would justify the costs of a mitigation effort. While a recommendation in regard to further work at this site is not an easy or obvious one, we suggest that the following facts be considered.

1. As discussed in the Phase I report, the site has already been considerably disturbed by historic activities--house construction, plow cultivation, sewer lines, bike trails, etc.
2. The prehistoric occupation is generally very light, except in the area of Stratum III, which makes the relative impact of recent disturbance more significant.
3. The only feature was the remnant base of a small firepit. The probability that further excavation would reveal features which would permit dating and further interpretation of the site is considered to be low.

On the basis of these observations, we recommend that the Phase II excavations, comprising 92 m², be considered to have adequately mitigated the effect of planned construction activities on 20AE622, and that no further archaeological work be carried out at the site.

9. References Cited

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1972. The 46th Street Site and the occurrence of Allegan Ware in Southwestern Michigan. The Michigan Archaeologist 18 (2): 47-108.



FEDERAL MAP ACCURACY STANDARDS
 SURVEY, WASHINGTON, D. C. 20242
 AND SYMBOLS IS AVAILABLE ON REQUEST

Figure 1
 Location of 20AE622

ALLEGAN, MICH.
 N4230-W8545/15
 1958
 AMS 3869 III-SERIES V762

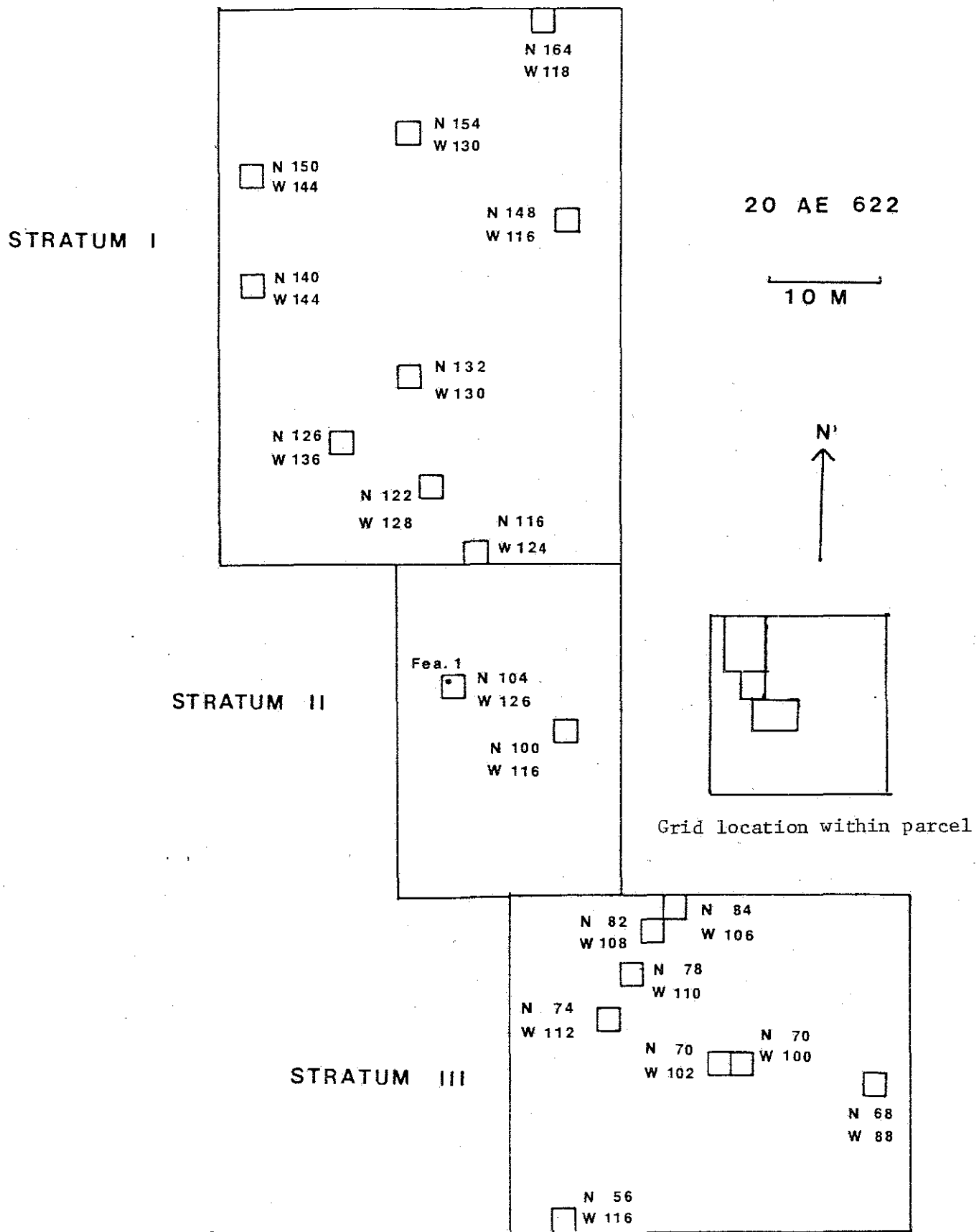


Figure 2

Sampling Grid for Phase II excavation at 20AE622

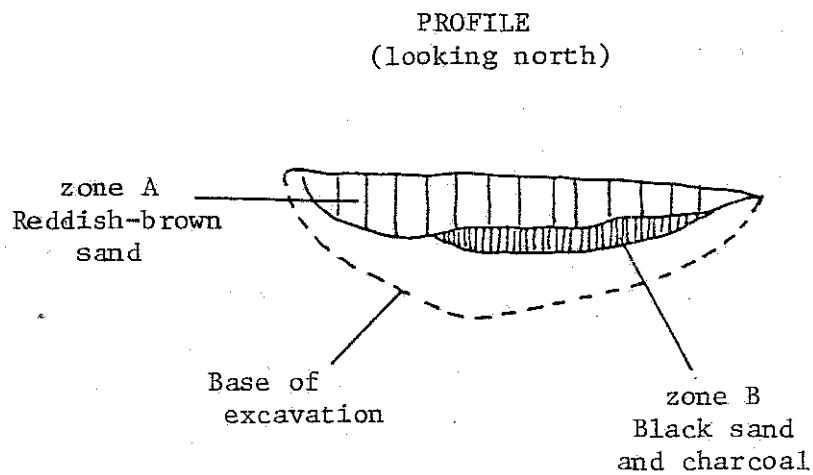
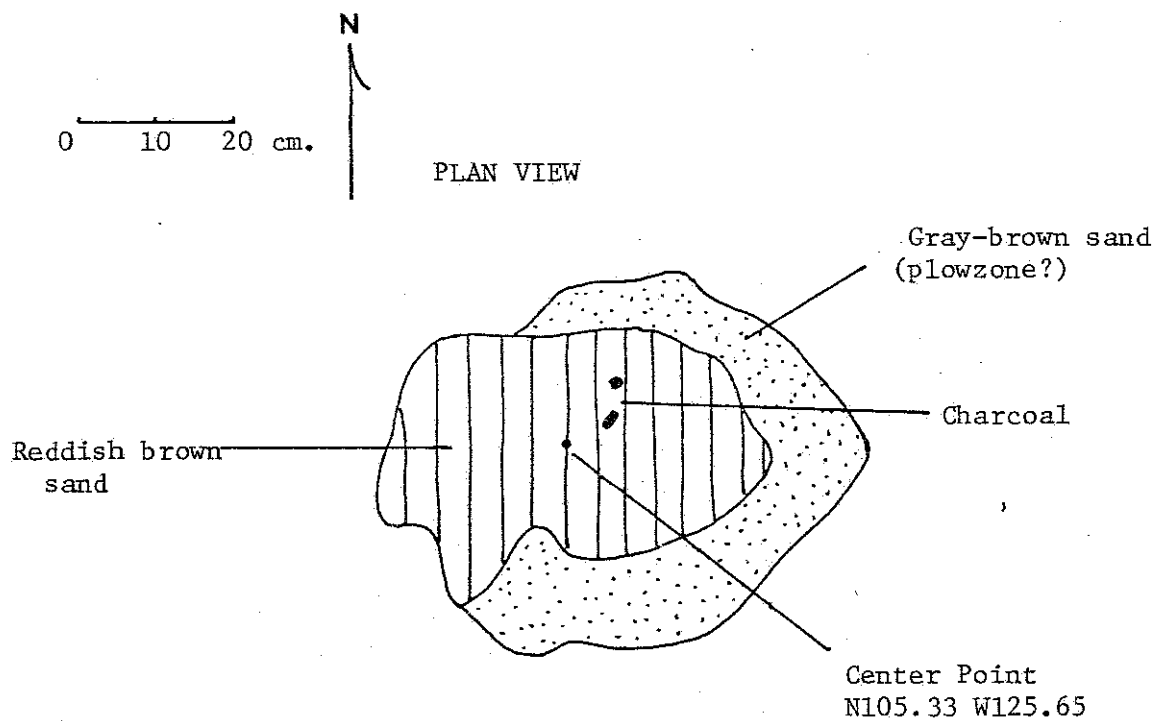


Figure 3

Feature 1, 20AE622

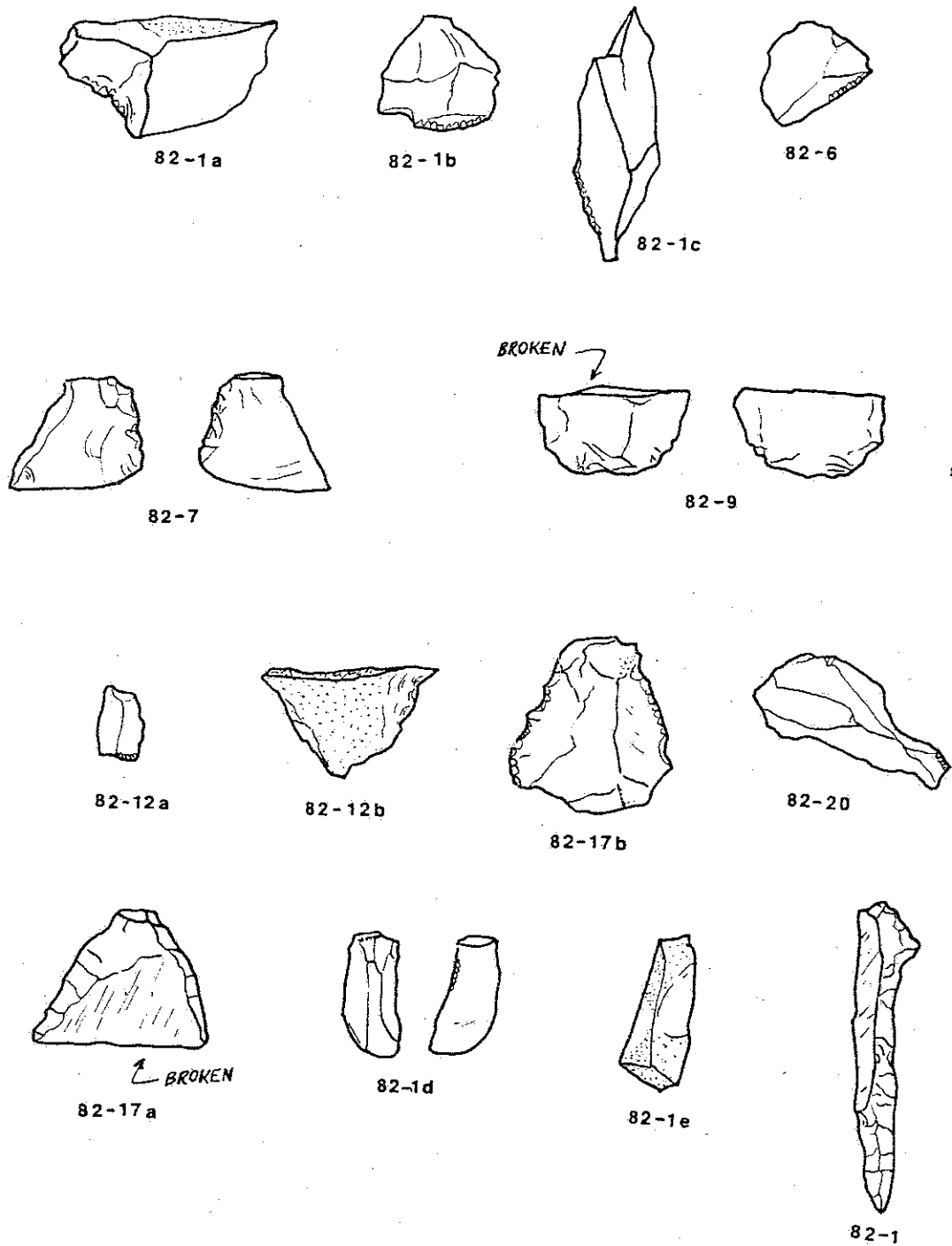


Figure 4

Lithic Tools from 20AE622.

Top three rows: utilized flakes. Bottom row (L-R): uniface, microblades, drill. (All artifacts shown actual size.)