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4-Phase II Testing of Eight Prehistoric Sites in the Proposed Right-of-Way of US-31, Berrien County, Michigan

Elizabeth B. Garland
Western Michigan University

Caven P. Clark
Western Michigan University

PHASE II TESTING OF EIGHT PREHISTORIC SITES IN THE PROPOSED RIGHT-OF-WAY OF US-31, BERRIEN COUNTY, MICHIGAN

Elizabeth B. Garland and Caven P. Clark

with

Kathryn Parachini
Paul McAllister
Kevin Kincare

PROJECT AUTHORIZATION

This project was carried out under the terms of MDOT Agreement No. 80-0586 and MDOT No. 80-1247, and is a cooperative activity involving Western Michigan University, the Michigan Department of Transportation, and the Michigan Department of State, with Dr. Dr. Elizabeth Garland of Western Michigan University as Principal Investigator.

The opinions, findings, and conclusions expressed in this publication are those of the authors and not necessarily those of the Department of State, Michigan History Division, or the Michigan Department of Transportation.

ACKNOWLEDGMENTS

This report results from the cooperative effort of many people. I would like to thank Dr. Hazel Eidson of Berrien Springs for allowing us to borrow for study her collection from the Eidson site. Mr. Anderson, the farm manager at Andrews University, was helpful in many ways. The cooperation of property owners, Mrs. Wade Eidson, Mr. and Mrs. Max Stover, Mr. and Mrs. Olin Skaggs, and Mrs. Harold King is gratefully acknowledged. In particular, I would like to thank Max Stover, who disked the field east of his vineyard for us at no cost to the project, and Mrs. Harold King who provided us with helpful information concerning the King and Taylor sites.

The project field supervisors, Paul McAllister and Caven Clark, both contributed significantly to the success of the project. The project was entirely staffed by students, all with experience in field archaeology, from the Department of Anthropology at Western Michigan University. My thanks go to all of them for their hard work on a project which involved a great deal of shovel and screen archaeology, and for their care and judgment in excavating and recording features when these skills were required.

Several people have made important contributions to data analysis and report preparation. Kathryn Parachini analyzed all the flotation samples and macro-botanical materials recovered, and Kevin Kincare did the field and laboratory work on the geology of the Wymer site. Each has authored a report for inclusion in the project report.

Paul McAllister, who was in charge of mapping in the field, prepared and drafted all the site maps.

Caven Clark set up the debitage classification system and carried out a detailed analysis of all lithic materials recovered from the Phase II project.

We are all indebted to Sue Gibson for her assistance with editing, as well as for typing this report.

Elizabeth B. Garland
Principal Investigator
Western Michigan University
February, 1981

SECTION 3.

LIST OF PLATES

SECTION I. INTRODUCTION

Previous Research in the Project Area

In 1979 Western Michigan University undertook the Phase I archaeological survey of 20 miles along the proposed route of US-31, Matthew Road to I-94, in Berrien County, Michigan. A report on this work by Elizabeth Garland and William Mangold was submitted to the Michigan Department of Transportation and the Michigan Department of State in May, 1980 (Garland and Mangold 1980).

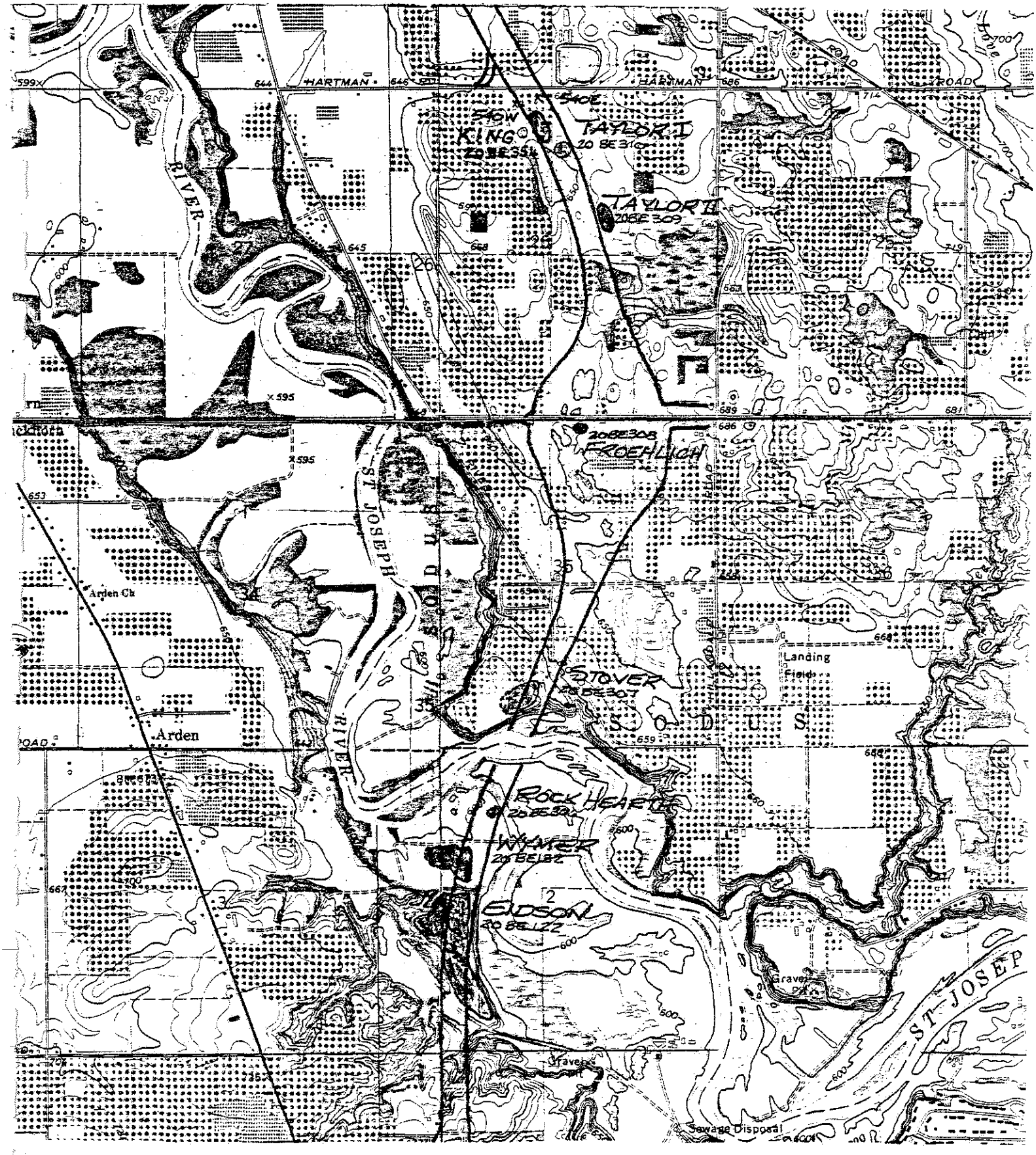
The 1979 site location survey identified eight sites partially or completely within the proposed right-of-way which were deemed to be sufficiently significant to require further testing. Site locations (on topographic maps) are provided on Maps 1-A, 1-B, 2-A, 2-B. Listed from south to north the sites are:

Eidson (20BE122)
Wymer (20BE132)
Rock Hearth (20BE306)
Stover (20BE307)
Taylor II (20BE309)
Taylor I (20BE310)
Kraklau I (20BE312)
Kraklau II (20BE313)

A work proposal for Phase II testing of these eight sites was submitted to the Michigan Department of Transportation in April of 1980. A contract was subsequently executed, and field work began on June 30. Field work terminated on August 22 and resumed again in mid-September for three weeks (September 15-October 3) in order to complete an adequate Phase II test of the Eidson site.

Project Organization

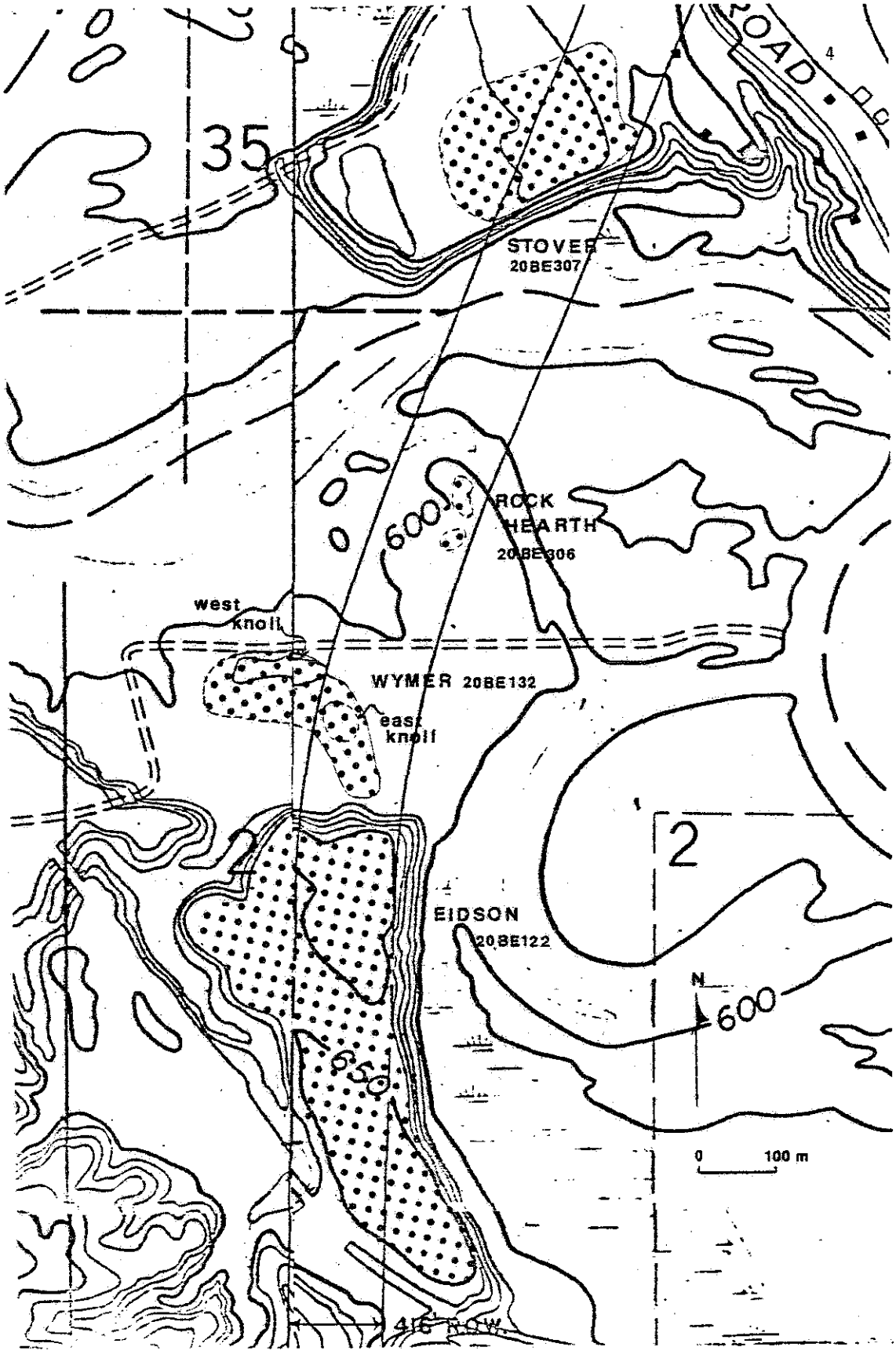
All project personnel are from the Department of Anthropology, Western Michigan University. A personnel roster for the field work portion of the project follows:


HARTMAN
HARTMAN
ROAD
ROAD
KING
20BE354
TAYLOR I
20 BE 310
TAYLOR II
20BE309
RIVER
ST JOSEPH
20BE308
FROEHLICH
Arden Ch
Arden
Landing
Field
STOVER
20BE307
S O D U S
ROCKHEARTH
20BE321
WYMER
20BE182
EDSON
20BE122
RIVER
Gravel
Gravel
Sewage Disposal
ST JOSEP

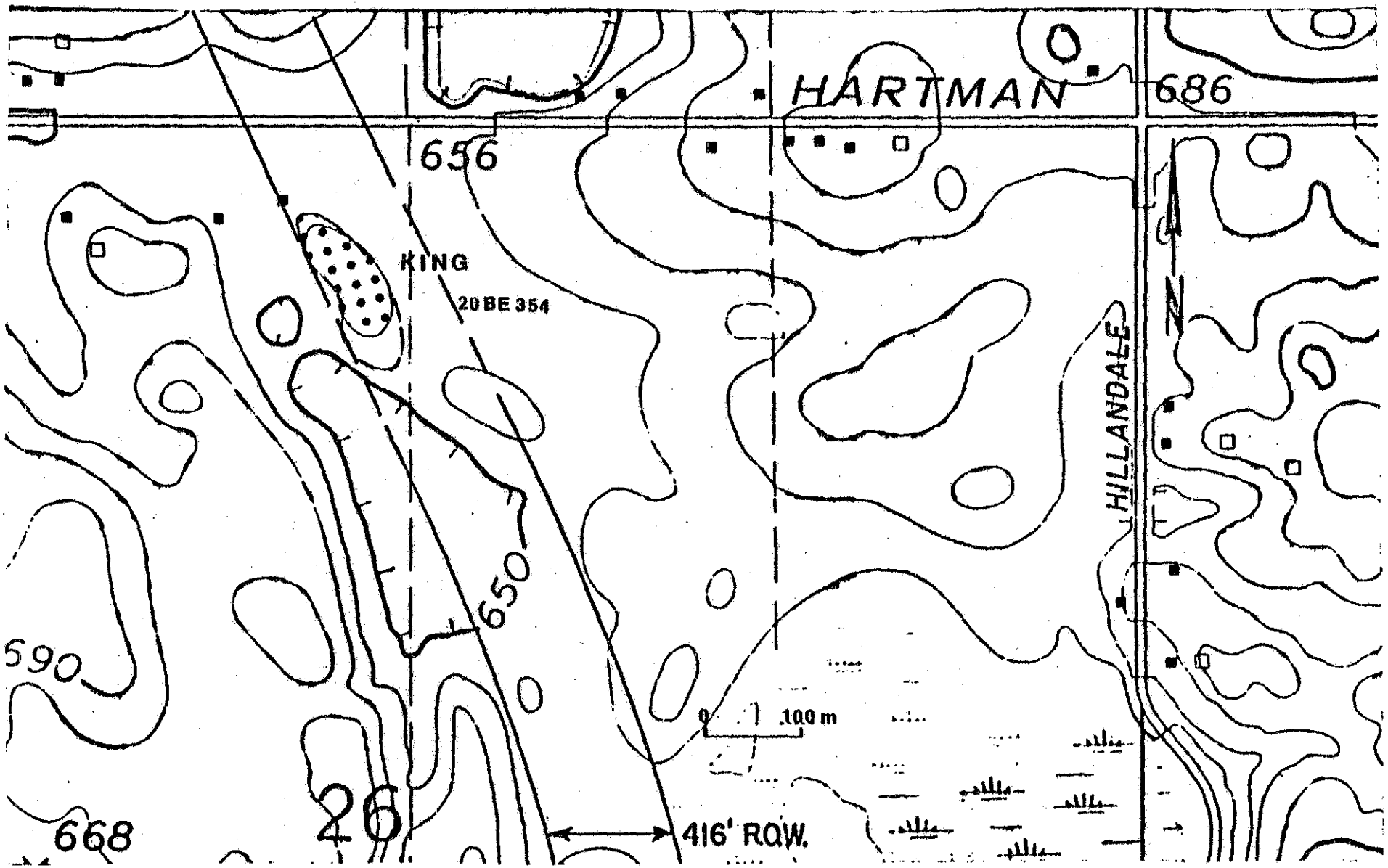
Map 1-A


BENTON HARBOR
VASTA
20BE312
KRAKLAU II
KRAKLAU II
20BE312
695B
695A
EDWARDS
House
TIDEY
20BE311
Kings Landing
Sodus
WATSON
ROAD
NAOMI
ROAD
ROAD
ROAD
ROAD
PENN
CENTRAL
RIVER
DUTCH
LANE
SODUS

Map 1-B


35
ROAD
STOVER
20BE307
600
ROCK
HEARTH
20BE306
west
knoll
WYMER 20BE132
east
knoll
2
EIDSON
20BE122
N
600
650
0
100 m
416 ROW

Map 2-A


HARTMAN
686
656
KING
20BE354
HILLANDALE
650
590
668
26
0 100 m
416' R.O.W.

Map 2-B

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

Field Supervisors: Paul W. McAllister, M.A.
Caven P. Clark, graduate student

Field Crew (persons who worked for two weeks or longer): Kenneth Barr, M.A.
R. David Hoxie, M.A.
Karel Engstrom, graduate student
Michael Higgins, graduate student
Mara Galens, graduate student
Brent Gevers, graduate student
*William Mangold, graduate student
Kathryn Parachini, graduate student
Deborah Rhead, graduate student
Donald Sleight, graduate student
Charles Stout, graduate student
James Cogswell, undergraduate student
Diane Goff, undergraduate student
James Wojtala, undergraduate student

Paul McAllister occupied a supervisory position through the entire project. He and Karel Engstrom are the only two who worked for the entire eleven weeks in the field (8 in summer, 3 in fall). It was originally planned to use two 4 man crews, each including a supervisor, independently of each other. We started as a team of 8 in order to develop consistent procedures in all aspects of the work, and in practice continued to work together essentially as one team for the entire project. The supervisory duties were divided in certain respects, with McAllister taking over all the field mapping and Clark assuming final responsibility for field recording and logging of data during the 8 weeks of summer field work. Both men were actually involved in all aspects of the field work. McAllister served as supervisor of a crew of 7 for the three week testing of the Eidson site.

The Principal Investigator spent 17 days in the field and otherwise monitored the project on a day to day basis via contact with the project supervisors. McAllister has had extensive field experience in Michigan

*William Mangold, field supervisor for the US-31 survey in 1979, substituted for Clark as field supervisor for two weeks in August while Clark directed another project.

SECTION 2. PROJECT NARRATIVE; RESEARCH DESIGN

The 1979 site location survey in the project area was carried out in mid-summer when crops were fully mature. In many instances this meant that site boundaries could not be determined with any real accuracy. Another complicating factor was that the proposed ROW was not staked, and it was therefore difficult to be certain how much of a given site would in fact be impacted. This was particularly difficult on sites like Wymer, where the highway curves and where there were no clear landmarks amidst the sea of corn. A similar situation occurred at the Taylor sites.

It was very important that we observe and map boundaries of all of the eight sites to be tested prior to the start-up of field work with the full crew, which was not to start until mid-summer. We needed to see these sites under conditions of good surface visibility. The work plan for Phase II thus included 4 days of field survey planned for May 1980 to be carried out under terms of the Phase I contract (MDOT Agreement No. 79-1274). This survey required 3 days and was done on June 8, 9 (Garland, Clark and Mangold) and June 15 (Garland and Clark). On June 8 we examined Kraklau II. We relocated all five 1979 test pits, flagged a datum on the farm road, and constructed a site map with taped distances. Kraklau I was observed only briefly due to a heavy rainstorm. An FCR scatter was noted in a partially cleared field contiguous to the western edge of the site as mapped in 1979; it seemed likely that more than half of this site might be off the ROW. Since no ROW stakes were as yet in place, this remained to be determined.

Taylor I was also examined on June 8. The site was planted in corn and the surface visibility was excellent. We placed flags at the site periphery noting that the site is larger than estimated during the Phase I survey; the southwest slope of the knoll had the heaviest scatter of FCR. We could see

3/4 grooved axe on the gravel knoll (in the ROW), and a second fragment of the same axe in the swale between knolls (illustrated in Plate 47). A second very similar axe was found by Mr. Little next to the farm road on the western knoll, and was retained in the Andrews University collection. Mr. Little told us that to his knowledge these two are the only axes ever found on the site. This reconnaissance indicated to us that the Wymer site extends south virtually to the Eidson bluff, and that sparse FCR and debitage is present as far away as the southeastern corner of the field, which is off the east side of the ROW. Within this very large diffuse scatter we were able to delimit the main area of occupation; observations made on this day provided the basis for determination of the sampling universe which was established after ROW stakes were placed at the start-up of full-scale field work on June 30.

Walking north from Wymer to Rock Hearth, we identified two FCR scatters, one at about corn row 102 north of the farm road and a second larger one starting at row 175. Both were subsequently tested (Map 10).

On June 15, Garland and Clark mapped the two Taylor sites. Again rain hindered the work but we were able to flag and map Taylor I more accurately and completed a paced sketch map of Taylor II. Taylor II proved to be much larger than Taylor I; field notes indicate concern as to how much of the site is in the ROW. The surface concentration of FCR appeared to be somewhat heavier on the west slope of the site, but this might have been due to recent (that same morning) plowing of the east part of the site, which could have obscured visibility here. We recovered two unifaces and a pecked cobble from this survey.

On June 16 we carried out a controlled surface collection of Eidson-South. This work was done by participants in the 1980 Western Michigan University

labeling of artifacts was kept fairly well up-to-date as the season progressed. The only scheduled laboratory day was the last day of the project, in order that basic artifact processing could be essentially completed. Additional field time was lost due to sodden post-rain conditions which made digging and particularly screening very difficult. It is hard to estimate this loss in man-hours but it probably amounted collectively to another two days. Thus out of the 56 days allocated to field work, we lost about 5 days due to the weather.

We have calculated the number of man-hours spent on actual field excavation for each site in the Phase II project (Table 1). These figures do not include laboratory time or time devoted to preliminary survey and controlled surface collection, etc.; these additional project hours are summarized in Table 2.

Table 1. Man-Hours Expended for Excavation of Each Site

Site	Sampling Universe (m^2)	Area Excavated (m^2)[a]	Excavation Man-Hours
Eidson-South	8,200	104	480
Eidson-North	10,060 (random sample only)	151	704
Wymer	8,208	91	384
Rock Hearth	-	16	96
Stover	11,408	126	608
Taylor I	5,276	52	320
King	5,816	62	256
Kraklau I	1,536	16	64
Kraklau II	3,516	39	256
		657 m^2	3,168 hours

[a]Includes random, systematic, and judgement sampling.

the site and 2) identify prehistoric features and midden areas below the plow zone if these were present. Decisions regarding sampling strategy and sample size for each site had to be determined based upon information obtained during the early summer reconnaissance. Since these had to conform in a reasonable manner with the already established budget for the project, we soon learned that a 5% sample of any site would not be feasible. Preliminary survey revealed that every one of the sites except Kraklau I and Kraklau II were significantly larger than had been estimated in the Phase I survey.

On July 2, the third day of full scale field work, we completed the grid on the Wymer site and drew a 2% random sample, which would have required excavation of forty 2 x 2 meter units (160 m^2) on this site alone. We scaled this back to a 1% sample, 20 units, and found the results to be adequate in terms of our stated Phase II objectives. Subsequent testing at other sites generally was geared toward obtaining a 1% site sample with additional judgement sampling as required. Specific sampling procedures for each site will be included with the site descriptions.

Field Methods

Surveyors from the Michigan Department of Transportation had staked the ROW at each of the sites prior to the beginning of our field work. Our procedures on each site were to set up a base line with the transit and construct a 20 meter grid over the portion of the site in the ROW. The site sample was then determined and the targeted 2 x 2 meter units laid out.

Standard excavation procedures were as follows:

1) Excavate to base of plow zone, keeping plow zone as a unit. (All soil was dry screened through ¼" mesh.)

2) Trowel and map the floor of the unit at base of plow zone; determine presence or absence of features.

Field bags were marked with a provenience stamp containing blanks to be filled in as a way of standardizing record keeping. Each bag was given a lot number assigned consecutively by site, and at the end of each day every field bag was logged in by lot number on a standard form.

Laboratory Methods

Laboratory procedures were first to wash all cultural materials, separating out ceramics and historic materials from the predominantly lithic collection from each site.

All materials were labeled in India ink with the state number and lot number.

After processing in the laboratory analysis phase of the work, most cultural materials could be placed by lot in small manilla envelopes marked on the outside with the same provenience stamp used on the field bags. Larger envelopes or bags were used for large items or lots. Since most of our lots are quite small, box storage would have been unnecessarily wasteful of space. The envelopes are filed by lot number in rows with cardboard strip dividers between them, providing easy access in a minimal amount of drawer storage space.

The total amount of ceramics recovered from the project is very small; these materials will be described under each site. Faunal remains were negligible, and will be described where they occur. Botanical data is more plentiful; this will be summarized under each site and is described in detail in Kathryn Parachini's report (Section 4).

The quantity of lithic debris and artifacts recovered comprise the bulk of cultural information recovered from the project. Summaries of the lithic materials from each site are included with the site descriptions. The lithic collections as a whole and methods used to study them are the subject of this next introductory section by Caven Clark.

Only one source is considered local in the sense that it is close enough to have been visited on a seasonal basis. Deer Lick Creek chert occurs at the confluence of that stream with Lake Michigan near South Haven in Van Buren County. The material here grades from a sugary textured, light blue-gray to a very good quality, lustrous blue-gray. Cortex is present in some pieces but is usually eroded away, leaving a yellowish-brown (10YR 5/4) rind on a battered exterior. Currently, cobbles of Deer Lick Creek chert are exposed by water and wind action. Despite what one might consider a perfect visual identification, it is probable that similar chert is present in other glacial till deposits.

It should also be noted that there were three quarries producing Bayport chert in the Grand Rapids area, all of which have been lost through dam construction and landfill operations (Ehlers and Humphrey 1944:117-118). While there are no data concerning aboriginal use of this source, it does raise some important questions concerning archaeological interpretation of lithic raw materials in Michigan.

Nonlocal cherts appear, in varying proportions, throughout the state of Michigan. As a group they comprise a very small part of the lithic assemblage from the sites under investigation here, occurring almost exclusively as finished tools and small debitage. Whether they were obtained directly by long distance travel or down the line exchange cannot be determined, although one can assume that the function of distance to a resource and the structure of territories are two important variables in this regard.

The identifiable exotic cherts from excavated units are quantified in Table 3. Only a very minor proportion of the assemblage at any site (less than .005%) was involved. Bayport chert was found at the Eidson-North, Stover, Kraklau II, and King sites; Indiana Green at Eidson-North, Stover, and Wymer;

Table 3. Exotic Cherts at the US-31 Project Sites; Geologic References; Debitage Unless Otherwise Indicated

Site	Bayport	Indiana Green	Upper Mercer	Norwood	Flint Ridge, Ohio
Eidson-North (20BE122-N)	1	-	-	-	-
Eidson-South (20BE122-S)	3	3	-	-	-
Rock Hearth (20BE306)	-	-	-	-	-
Wymer (20BE132)	1	1	5/1[a]	-	-
Stover (20BE307)	3/1[b]	3/1[a]	-	3	2
Taylor I (20BE310)	-	-	-	-	-
King (20BE354)	4	-	-	-	-
Kraklau I (20BE312)	-	-	-	-	-
Kraklau II (20BE313)	3	-	-	-	-

[a]Biface fragments.

[b]Uniface.

Bayport - Rominger 1876; Lane 1900; Dustin 1927; Pringle 1937.

Upper Mercer - Stout and Schoenlaub 1945; Carskadden 1971.

Norwood - Smith 1916; Leverett 1929; Pohl 1930; Hake and Maebius 1938; Cleland 1973.

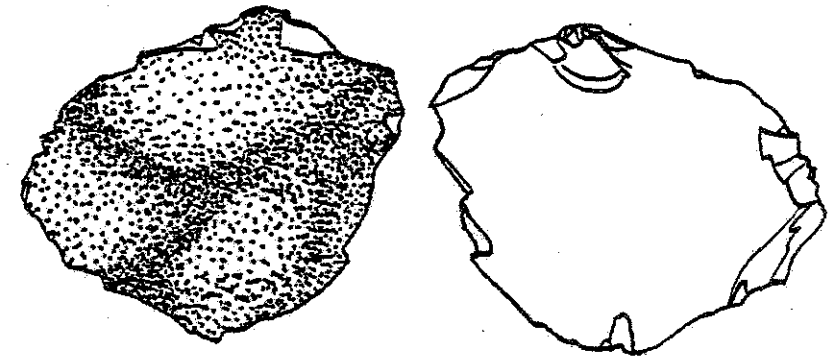
Flint Ridge, Ohio - Stout and Schoenlaub 1945; Murphy and Blank 1970.

Upper Mercer at Wymer; and Norwood and Flint Ridge, Ohio, chert at Stover. The turkey tail cache and 1 large biface (Plates 22, 20:a) are Harrison Co., Indiana chert (Wright 1967). Similarities between some local till cherts and the Burlington and Cobden chert sources in Illinois have precluded their identification. Luedtke (1976) has described many of these sources. "Indiana Green," a term used by local collectors, is found near Lafayette, Indiana (Garland and Mangold 1980:17). Indiana Green may be characterized as a green and white banded or marbled chert, often with a sugary texture.

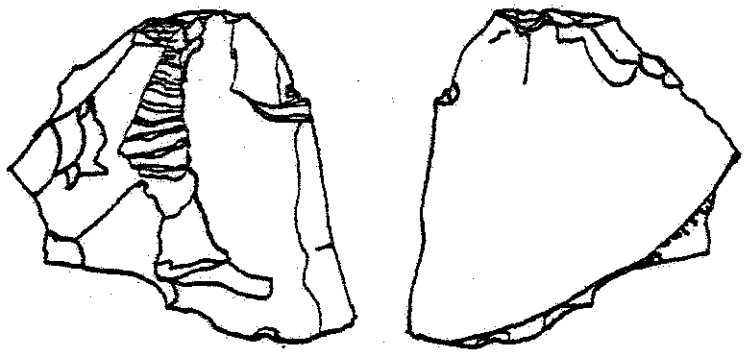
A lithic assemblage is the product of a continuum of reduction processes which can be the result of intentional modification, use-wear, or unintentional and natural agencies such as burning, frost-cracking, or plow damage. By identifying points along this continuum which constitute meaningful clusters of attributes, one hopes to observe categories which have significance not only to the investigator, but in the original systemic context of their manufacture and use as well.

A form was initiated to systematize the recording and description of specific kinds of data. Debitage was classified into mutually exclusive categories based on systems developed in previous studies, notably Geier (1973) and Wobst (1968). These categories are decortication, block, flat (including primary, secondary, tertiary, and flakes of bifacial retouch), blade, bipolar flake, and fragments (Figure 1). Only debitage obtained from excavation units was used in the analysis.

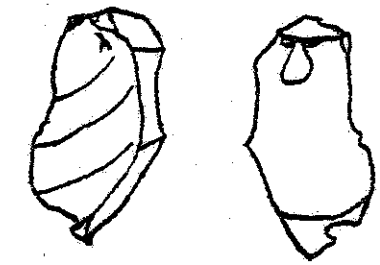
The nature of platform preparation was recorded for all debitage using a modified version of Geier's attributes (1973:13). This analysis demonstrated that the probability of intentional platform modification increases with advanced stages of reduction, i.e. with few exceptions faceting was present only on secondary, tertiary, and bifacial retouch flakes. Preparation by grinding was observed almost exclusively on bifacial retouch flakes.



Decortication



Primary



Secondary

Tertiary

Bifacial Retouch

Figure 1. Representative examples of debitage categories.

Utilized flakes and unifacial tools were first treated as debitage and then described, noting placement and shape of retouch or use-wear, type of wear (nibbled, crushed, or polished; after Wilmsen 1968). Edge angle was measured for all unifacial artifacts. It was found that the mean edge angle for unifaces at both Eidson and Stover sites was higher than that of Wilmsen's (1968) generalized use categories for end-scrapers.

Certain types of data, such as flake metrics and platform angle, were not obtained. The intent was to include as much of the assemblage as possible, and since the sample size of 1% itself poses limitations, the inclusion of fragmentary debitage was deemed necessary. One bias resulting from the use of fragmentary items is that average weights of debitage classes are somewhat lower than they might have been if only whole flakes had been employed.

Description of Debitage Classes

1. Decortication flakes are those which retain cortex on the dorsal surface, representing the initial stage of reduction of a core. Only items with greater than 30% cortex remaining on the dorsal surface were included. The decortication group should serve as an index to the amount of initial reduction and local chert procurement practiced at a given site. Cortex would not be expected in any significant quantity if the material had been obtained at a distance. Flake platforms of this class are usually unmodified cortex or flat.

2. Block flakes are angular items without discernible platform or orientation. These can be derived from a variety of processes including frost-cracking and heat crazing. Some are pieces of shatter which occur along natural planes, especially in cherts which have been exposed to weathering.

edge and the diagnostic dorsal scars were included. In addition to the diagnostic faceting, platform preparation by grinding was most common in this class.

4. Bipolar debitage was also treated in a very conservative manner, involving only flakes with battered platforms and scars indicative of bipolar damage. The question of bipolar lithics will be more completely addressed in the following section on lithic tools.

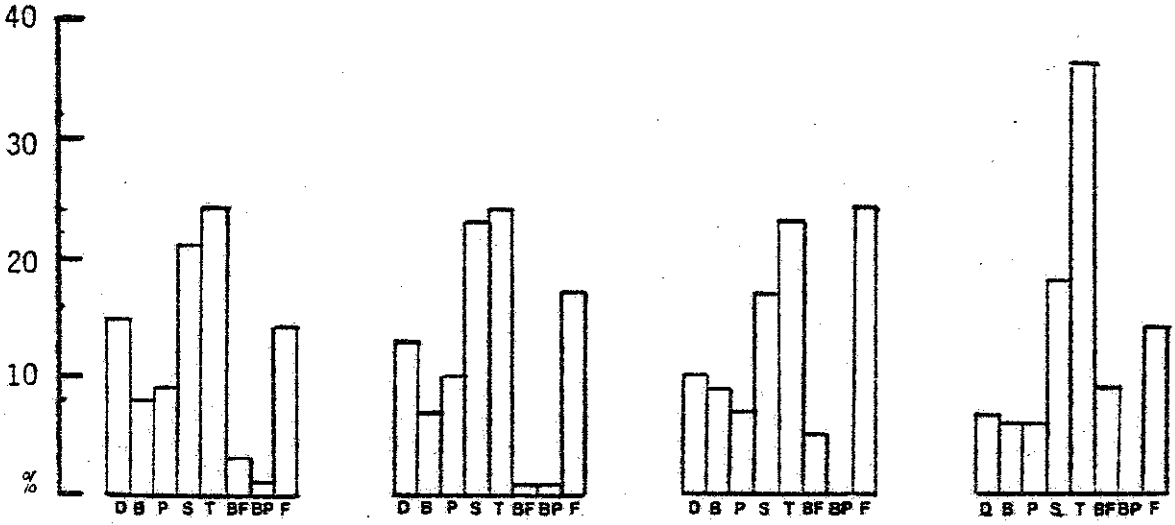
5. Blades, as a specialized type of flake, do not constitute a significant part of any of the assemblages. The category was retained for distinguishing blade-like flakes from the rest of the debitage. These are long parallel-sided flakes with one or two longitudinal dorsal ridges.

6. Fragments are nondiagnostic items which could not be placed in any of the above categories.

Recognizing that this scheme has been imposed upon the assemblages, it is hoped that evaluation of the stages of reduction, techniques of reduction, and context of use of various types of raw materials at each site can be determined. Figure 2 presents the debitage histograms for all sites.

Bifacial tools are organized by gross morphology. Projectile points/knives, preforms, drills, microgouges (Ozker 1976), and nondiagnostic fragments are familiar terms which minimize unwarranted functional inference. All metrical data for projectile points are presented in Table 4 at the end of this section.

The category of bipolar lithics was initially divided into bipolar cores and wedges. Despite the growing body of literature regarding this artifact type, it was decided that lumping would be preferable to polarizing them on the basis of dubious criteria. Both as a reduction technique and as a tool



n = 849

20BE122-S
Eidson

n = 1065

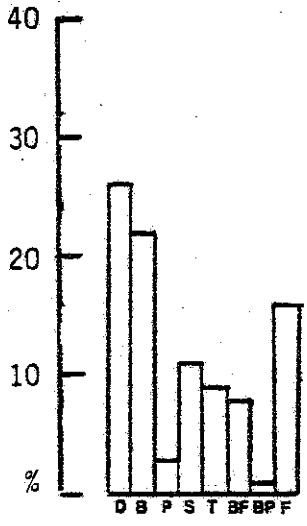
20BE122-N
Eidson

n = 420

20BE132
Wymer

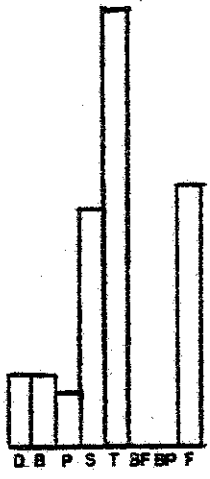
n = 1040

20BE307
Stover



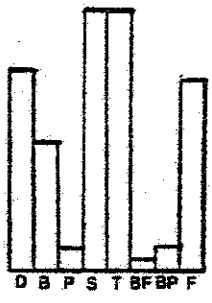
n = 61

20BE310
Taylor I



n = 58

20BE313
Kraklau II



n = 169

20BE354
King

Key: D = Decortication
B = Block
P = Primary
S = Secondary
T = Tertiary
BF = Bifacial Retouch
BP = Bipolar
F = Fragments

Figure 2. Debitage histograms for all sites.

type, bipolar lithics are well known from ethnographic and archaeological sources. Currently, there are no diagnostic elements with which to make this separation between core and tool, although the authors believe that the opposed-ridge form may relate to the tool type while the opposed-point may pertain to the core.

Cores, although uncommon, were readily classifiable into block or battered cobble varieties. Battered cobbles may represent the testing of a stone by a knapper who is considering it for reduction, or may be the product of an unsuccessful attempt at reduction. Block cores are probably also from cobble sources but are indicative of successful detachment of flakes from one or more platforms. No definite blade cores were encountered at any of the sites.

The plow zone context for most diagnostic artifacts (projectile points) has necessitated the use of typological analogs in order to assess the temporal aspect of the assemblages. An attempt has been made to be conservative in the use of point typologies, sometimes to the exclusion of items not sufficiently diagnostic to permit this level of study. While it is admittedly a low level interpretive device, typology is very important in a state where so much of the resource base is known from a surface or plow zone context. Even a careful implementation of typology is biased by certain factors. For example, Ritchie's (1961) typology is frequently used to describe materials in Michigan. This may be appropriate for the Saginaw Valley, but distinct typological variants found in southwestern Michigan make it necessary to draw complementary analogs from more geographically related areas in Illinois and Wisconsin. Other analogs are derived from distant locations where stratigraphic context has provided a sound temporal placement.

No new types have been generated by this report, a fact which should come as a relief to many readers.

Table 4. Projectile Point Measurements (cm)

Plate	Lot #	B	TW	Sh	Axis	TL	Th	Ground
EIDSON-SOUTH (20BE122-S)								
29a	80-164	2.1	-	2.2	4.1	1.1	0.8	HE
29b	80-6	3.2	2.3	3.0	5.5	1.3	0.85	Basal
30c	80-2	2.2	2.0	3.2	4.5	1.0	0.6	-
30e	80-200	2.1	1.8	2.4	3.5	0.9	0.8	-
30j	80-267	2.0	1.4	2.1	4.0	1.0	0.6	-
30k	80-117	1.5	1.4	2.2	4.7	0.7	0.7	-
30l	80-259	1.9	1.6	2.5	3.3	1.0	0.7	-
30n	80-257	1.8	1.5	2.95	3.8	1.0	0.65	-
31c	80-218	(2.1)	1.6	-	(2.4)	0.9	0.5	-
31f	80-223	1.5	1.05	1.9	3.0	1.3	0.6	-
EIDSON-NORTH (20BE122-N)								
29c	80-332	(2.0)	1.6	2.4	4.5	1.2	0.8	Basal
29d	80-13	2.0	1.55	2.1	3.55	1.1	0.7	HE
29e	80-287	2.2	1.5	2.15	(2.3)	0.9	0.6	HE
29g	80-319	1.8	1.9	2.8	5.2	1.8	0.8	HE
29h	80-287	1.5	1.1	1.65	4.4	0.8	0.5	Basal
30a	80-311	2.0	1.7	2.6	4.75	1.2	0.9	-
30d	80-288	(1.35)	1.8	3.0	(2.8)	0.9	0.7	-
30f	80-327	2.2	1.6	2.1	4.0	0.9	0.8	-
30g	80-351	(1.95)	1.7	2.3	4.1	1.05	0.8	-
30h	80-349	1.9	1.7	2.9	(2.6)	1.0	0.8	-
30i	80-337	1.7	1.3	2.0	5.1	1.05	0.8	Notches
30m	80-306	2.1	1.6	2.6	4.2	1.3	0.75	-
ROCK HEARTH (20BE306)								
41c	80-5	2.3	-	-	(2.05)	-	0.3	-

Key: B = Base
TW = Tang Width
Sh = Shoulder
Axis = Longitudinal Axis
TL = Tang Length
Th = Thickness
HE = Hafting Element
() = Fragmentary Measurement

Table 4. (Continued)

Plate	Lot #	B	TW	Sh	Axis	TL	Th	Ground
WYMER (20BE132)								
43a	80-71	3.8	1.8	-	-	-	0.75	HE
43c	80-13	1.4	1.1	(1.7)	3.5	1.3	0.95	-
43d	80-5	1.6	1.4	2.2	3.5	0.8	0.6	-
43e	80-16	1.6	1.4	1.9	3.9	0.9	0.8	-
43f	80-79	2.1	1.9	2.3	3.2	0.8	0.7	-
43g	80-31	1.3	1.45	2.1	3.4	1.0	0.7	-
43h	80-78	1.6	1.3	2.4	(3.4)	0.8	0.6	-
43i	80-4	1.8	-	2.2	3.5	-	0.4	-
43j	80-44	1.7	-	-	(1.4)	-	0.4	-
STOVER (20BE307)								
48a	80-718	2.5	2.1	3.35	4.5	1.0	0.8	-
48b	80-97	1.9	1.45	2.9	5.25	1.0	0.8	Basal
48c	80-19	1.9	1.6	2.5	4.4	0.7	0.9	-
48d	80-22	2.0	1.6	2.8	(2.4)	0.9	0.7	-
48e	80-129	2.0	1.5	2.2	(3.5)	1.0	0.8	-
48f	80-555	1.9	1.5	2.4	(2.2)	0.8	0.7	-
48g	80-78	1.8	1.7	2.6	4.2	0.8	0.9	-
48h	80-408	(1.7)	1.7	2.3	(3.3)	0.7	0.75	-
48i	80-73	1.9	2.5	2.3	3.1	0.9	0.8	-
48j	80-431	1.8	1.5	2.0	3.25	0.9	0.65	-
48k	80-44	2.0	1.8	2.5	(4.4)	0.9	1.0	-
48l	80-34	(1.1)	1.3	(2.2)	(3.2)	0.7	0.7	-
48m	80-137	1.7	1.4	1.85	3.5	0.7	0.6	-
48n	80-33	2.0	1.9	2.4	(3.4)	1.0	0.8	-
48o	79-435	1.9	1.6	1.8	3.1	1.0	0.5	-
48p	80-107	1.25	1.15	(2.2)	2.6	0.5	0.6	-
48q	79-435	1.3	1.3	2.2	(2.8)	0.7	0.7	-
48r	79-435	1.7	1.7	(2.0)	(3.8)	1.1	0.8	-
48s	79-435	2.4	(1.7)	(2.0)	3.9	1.4	0.95	Basal
49a	80-500	2.3	1.3	2.7	4.6	1.0	0.65	-

Table 4. (Continued)

Plate	Lot #	B	TW	Sh	Axis	TL	Th	Ground
49b	80-155	1.8	1.3	2.0	4.3	0.8	0.7	-
49c	80-175	1.4	0.9	1.85	4.0	0.9	0.6	Basal
49d	79-435	1.7	1.2	1.65	3.6	1.0	0.5	-
49e	80-97	2.3	1.7	2.2	3.4	0.7	0.5	-
49f	80-45	(1.2)	0.95	2.0	(2.8)	0.9	0.7	Lateral HE
49g	80-118	1.5	2.2	3.0	(3.5)	2.0	0.6	-
49h	80-117	2.5	1.5	2.4	(2.9)	1.1	0.8	-
49i	79-435	-	2.2	2.8	5.2	2.0	0.9	-
49j	79-435	1.0	1.8	2.7	(4.6)	2.0	0.75	-
49k	80-74	1.9	1.6	2.6	4.45	1.8	0.8	HE
49l	80-109	1.8	1.75	2.05	2.9	1.1	0.65	-
TAYLOR I (20BE310)								
59f	80-8	1.05	-	-	(1.9)	0.8	0.5	-
KING (20BE354)								
60f	80-12	1.6	1.0	2.6	(1.95)	0.8	0.6	-
60g	80-34	1.45	0.95	2.5	(3.5)	1.0	0.7	-
60h	80-19	1.5	1.25	1.7	4.0	1.0	0.7	Basal
60i	80-26	1.3	0.9	2.25	(1.7)	0.9	0.7	-
60j	80-3	2.4	1.4	-	(1.3)	-	0.65	HE
KRAKLAU I (20BE312)								
61a	80-2	-	1.6	2.6	(3.5)	0.7	0.7	HE
KRAKLAU II (20BE313)								
61d	80-11	2.2	1.8	3.0	(3.1)	1.1	1.0	-

Key: B = Base
TW = Tang Width
Sh = Shoulder
Axis = Longitudinal Axis
TL = Tang Length
Th = Thickness
HE = Hafting Element
() = Fragmentary Measurement

SECTION 3. SITE DESCRIPTIONS

Eidson Site (20BE122)

At the conclusion of Phase I survey, the Eidson site was largely enigmatic (Garland and Mangold 1980:21-25). We had seen and photographed for record purposes the sizable collection said to have come from the site. Fallow field conditions severely limited surface visibility, and our routine surface observation and shovel testing procedures indicated a diffuse scatter over a very large area. Our own collection consisted of a handful of chips and one projectile point.

The Eidson Collection

In June of 1980, Dr. Hazel Eidson of Berrien Springs kindly lent us her collection for purposes of this Phase II study. As best as can be determined, all artifacts in the collection illustrated in Plates 1 through 28 are from the Eidson site (20BE122) with the exception of the cache of turkey tails (Plate 22). Dr. Eidson informed us in June of 1980 that the cache comes from an unknown locality on the Eidson property but not from 20BE122.

The utility of a typological assessment of an unprovenienced collection is to recognize artifact types whose presence may be indicative of cultural components which may be encountered at a site. The Eidson collection covers a wide range of time: ca. 8000 B.C. to perhaps A.D.700.

Three Hi-Lo points (Fitting 1963) represent the late paleo-Indian period (Plate 1:a-c). Only item c has a unifacial "flute"; b and c have ground hafting elements. As spot finds, these post-Clovis points are widely distributed through southwest Michigan.

The Amos Green Collection at Western Michigan University has afforded ample opportunity to examine a large number of artifacts and an opportunity to observe a wide range of variability in the Thebes Cluster as it appears in southwest Michigan. These serve as a type set and, with published illustrations and descriptions, make secure the placement of artifacts in the Eidson Collection and from Phase II excavations in the Thebes Type Cluster of the Early, and possibly Middle, Archaic.

Similarly, bifurcate based points (Plate 1:g,h) have been securely dated in West Virginia (Broyles 1971) and Tennessee (Chapman 1975, 1977, 1978). Item g is similar to McCorckle Stemmed (Broyles 1971:71) which is an early bifurcate style. The other, item h, resembles a late bifurcate form, the Stanley point (Coe 1964). Both are probably sequential to Hardin and Thebes and may date from 6500 to 5000 B.C.

Argillite artifacts appear to be uncommon in this part of Michigan. There is only one stemmed argillite point (Plate 2:a) in all combined assemblages used in this report. On the basis of form alone, this point could belong to several types. But its morphology, in combination with the raw material, make an Early Archaic affiliation likely. Brose (1976) has described a series of stemmed lanceolate argillite points from the Hospital site, Monroe County, Michigan, for which he suggests a date of ca. 9000 B.P. (Brose 1976:4). The nature of the Satchell Complex is far from resolved and temporal placement solely on the basis of raw material is tenuous.

Two expanding stemmed points (Plate 3:j,k) are Durst Stemmed (Wittry 1959a: 48, 1959b:179-180), fitting the type description in all respects. The temporal placement is probably in the Late Archaic-Early Woodland transition.

Five turkey tail bifaces (Plate 22) were found in what was probably a cache situation somewhere on the Eidson farm. Three whole and two fragments are made of the same raw material, Harrison County chert. The bluffs along the St. Joseph River have produced many caches in the past, and if the quantity of Late Archaic materials present on the Eidson and Stover sites is any indication, there is a good chance that similar deposits containing caches and/or burials are present in the project area.

The remaining chipped stone tools are not amenable to typological assessment. A distinct absence of small triangular forms is intriguing, especially in light of the well documented use of this region in Late Woodland times (Bettarel and Smith 1973; Garland and Mangold 1980).

Ground stone tools in the Eidson collection include gorgets (Plate 23), pestles (Plate 24), a well worn, pitted anvil/mano (Plate 25) and seven fully grooved axes (Plates 26-28). Excluding the gorgets, which we assume had a sociotechnic or ideotechnic function, the remaining ground stone artifacts are the only material evidence for wood and plant food processing.

Phase II Field Work at the Eidson Site

Prior to contractual start-up of the project, we talked with Mrs. Wade Eidson and with officials of Andrews University, which is currently leasing the Eidson property, in order to arrange for surface survey of the southern part of the site which in the 1979 survey was termed "Concentration III." That term has been dropped in favor of "South Sample" in this report (Map 3 ff.).

On June 16, 1980 the Western Michigan University archaeological field school, directed by Dr. Elizabeth Garland, carried out a controlled surface collection of the southern part of the Eidson site. Initially the site was

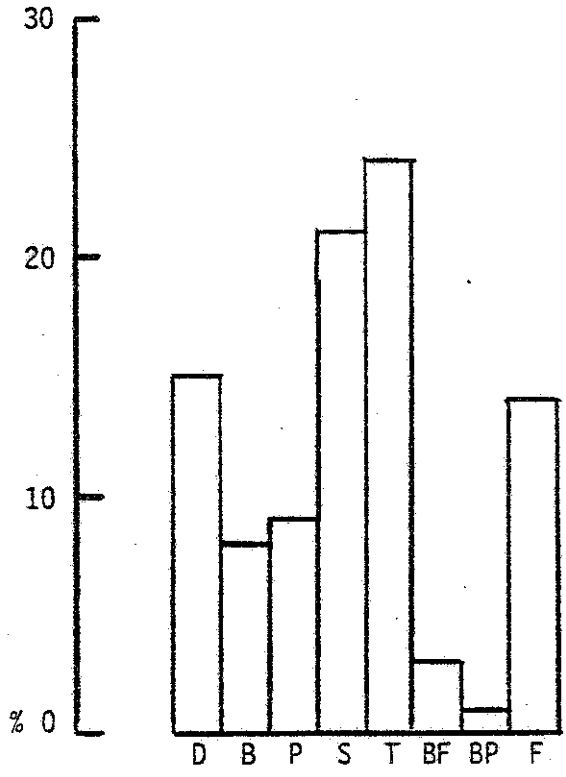
hence the discrepancy along the eastern edge of the ROW, which was not noticed until after the random sample had been drawn and excavation started.

The boundaries of the North Sample on Eidson were determined based upon survey data collected on July 3. Ten persons walked the entire site north of our South Sample universe on that date. We walked 6 corn rows apart; observations from each station were recorded at 50 pace intervals: presence/density or absence of FCR and debitage; diagnostic artifacts were recorded and flagged but were not picked up because we had no grid for reference. What this survey demonstrated was that the surface scatter diminishes but does not disappear between our North and South Samples, the lower surface densities coinciding with a swale which crosses the site from northwest to southeast. Since an increase in density of cultural material was observed on the eastern margin above the oxbow, it was decided to do a 1% random sample of the region, with additional systematic sample units placed to the west as time permitted.

The North Sample universe along the oxbow comprises 10,060 m^2. We excavated a 1% random sample of this, twenty-five 2 x 2 m units, and also excavated 12 systematically placed units. A glance at Map 3 will indicate that we have excavated less than half of 1% of the total area of the Eidson site which lies in the ROW of US-31.

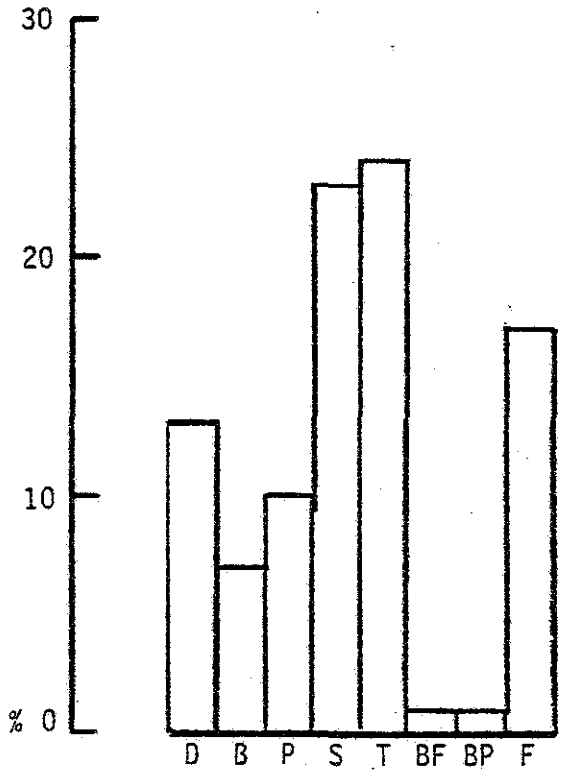
Materials Recovered

Lithics. Excavated material from the Eidson site was initially divided into two parts, North and South, for analysis. Debitage histograms (Figures 3 and 4) show a balanced quantitative relationship between areas; density was slightly higher at the north end of the site. No qualitative distinctions can be made on the basis of lithic remains, indicating that prehistoric activities in both areas may have been essentially the same.



Key: D = Decortication
B = Block
P = Primary
S = Secondary
T = Tertiary
BF = Bifacial Retouch
BP = Bipolar
F = Fragments

Figure 3. Debitage histogram, Eidson-South (20BE122-S).



n = 1065

Key:
D = Decortication
B = Block
P = Primary
S = Secondary
T = Tertiary
BF = Bifacial Retouch
BP = Bipolar
F = Fragments

Figure 4. Debitage histogram, Eidson-North (20BE122-N).

One Hi-Lo point was obtained, and is the only late paleo-Indian diagnostic recovered (Plate 29:a). Other items in Plate 29 have in common a ground hafting element, but may reflect more than one time period. The Early and Middle Archaic are suggested for one Thebes point (b) and for other notched and ground specimens (c, e, and h).

As was noted for the notched-unground points in the Eidson collection, there are intriguing similarities between the Eidson site notched (Plate 30), Stover site notched (Plate 48, 49:a-e), and Feeheley phase Late Archaic points dating between 2000 and 1000 B.C. Ritchie's (1961:16-20) Brewerton series may also be analogous here.

The Late Archaic-Early Woodland transition is demonstrated by one possible Dickson Broad Bladed (Plate 31:a; cf. Winters 1967:26-27), three Durst Stemmed (Plate 31:d-f), and a Kramer point (Plate 29:g).

Other lithic tools collected from the Eidson site include a wide range of bifaces, of which only representative items are illustrated (Plates 32 and 33). A biface can serve a multitude of tasks as a knife, gouge, or preform as different use-trajectories are selected by the knapper. Most of these bifaces were probably manufactured on the site using local cherts.

One drill (Plate 32:h) and one microgouge (Plate 32:i) are the only tools indicative of drilling activity. This class of artifacts is generally under-represented at all of the US-31 sites.

Cores (Plate 34) were also uncommon, although many amorphous battered pieces could relate to initial reduction activities and core exhaustion. All cores were made on chert presumed to be of local origin.

Unifacial tools were fairly abundant, predominantly of the form referred to as "end scrapers." These were manufactured on flat flakes and occasionally on decortication flakes. Twenty-four unifaces were measured for edge angle,

Table 5. Excavated Lithics, Eidson-South (20BE122)

DEBITAGE	N	WT (g)	$\bar{X}$ WT.	Platform: Absent	Cortical	Flat	Faceted	Battered	Ground	Utilized
Decortication	134	767.7	5.7	14	100	12		8		9
Block	72	200.2	2.8	72						3
Flat										
Primary	79	384.7	4.8	21	11	23	4	17	3 (1)	7
Secondary	180	205.5	1.1	51	11	60	25	25	8	8
Tertiary	208	57.1	.2	84	6	51	48	16	3	
Bifacial Retouch	33	14.2	.4				33		(17)	
Blade	1	1.9						1		1
Bipolar	15	20.5	1.3					15		
Fragments	127	71.1	.5	127						
TOTAL	849									

CORES	N	WT (g)
Block	10	497.0
Battered Cobble	12	99.9

BIPOLAR LITHICS	15	124.2

BIFACES		
Projectile Point/Knife	5	29.1
Preform	6	82.5
Drill	1	4.3
Microgouge		
Fragments	11	59.2

( ) = Items included in platform categories.

Table 5. (Continued)

			SHAPE OF EDGE				WEAR TYPE			FLAKE TYPE			
UNIFACES (Placement of Retouch)	N	WT (g)	Convex	Straight	Concave	Spokeshave	Nibbled	Crushed	Polished	Decort	Block	Flat	Blade
Distal	4	14.5	4				2	2		2	1	1	
Distal/Unilateral	2	8.5	2				1	1		1		1	
Distal/Bilateral													
Unilateral	5	33.0	3	2			5			2		3	
Bilateral													
Entire Margin	1	9.1	1				1			1			
Undetermined	2	5.1	2				2					2	
Other	1	15.3			1		1			1			
UTILIZED DEBITAGE (Placement of Wear)													
Distal	1	8.2		1			1			1			
Distal/Unilateral													
Distal/Bilateral													
Unilateral	7	24.3	2	5			7			1		5	1
Bilateral	3	11.6		2	1		3					3	
Undetermined	2	4.6				2	2						
Other													

GROUND STONE	N	WT (g)
Mano		
Hammerstone	1	92.9
Pitted Cobble		
Other	1	85.1

Table 6. Additional Lithics from the Eidson-South Site; Site Totals

Controlled-Systematic Surface Collection	
Debitage:	353
Block Cores:	2
Bifaces:	
Projectile Points	6
Drill	1
Misc. Bifaces	7
Bipolar Lithics:	7
Unifaces:	9
Nonsystematic Surface Collection	
Bifaces:	
Projectile Points	6
Preform	4
Unifaces:	1
Utilized Flakes:	2
Feature Associated Lithics	
Fea. 1, Soil Unit A: Flakes	11
Fea. 1, Soil Unit B: Flakes	6
Fea. 2: Flakes	26
Fea. 3: Flakes	6
Eidson-South Site Totals; All Proveniences	
Debitage:	1296
Cores:	
Block	12
Battered Cobble	12
Bifaces:	
Projectile Points	17
Preform	10
Drill	2
Fragments	18
Unifaces:	25
Utilized Flakes:	15
Hammerstone:	1
Ground Stone Fragment:	1
Total Artifacts	113

Table 7. Excavated Lithics, Eidson-North (20BE122)

DEBITAGE	N	WT(g)	$\bar{X}$ WT.	Platform: Absent	Cortical	Flat	Faceted	Battered	Ground	Utilized
Decortication	142	811.2	5.7	30	78	27	1	6		4
Block	81	338.8	4.2	81						1
Flat										
Primary	110	486.3	4.4	20	29	46		14	1	14
Secondary	251	326.7	1.3	57	20	107	27	35	5	16
Tertiary	260	94.7	.3	81	2	82	63	32		
Bifacial Retouch	17	9.5	.5				17		(3)	
Blade	1	3.3			1					
Bipolar	12	23.4	1.9					12		
Fragments	191	134.5	.7	191						2
TOTAL	1065									

CORES	N	WT(g)
Block	3	113.7
Battered Cobble	8	283.4
BIPOLAR LITHICS	14	117.1
BIFACES		
Projectile Point/Knife	12	98.1
Preform	4	27.9
Drill	2	2.7
Microgouge	1	2.5
Fragments	21	212.9

( ) = Items included in platform categories.

Table 7. (Continued)

			SHAPE OF EDGE				WEAR TYPE			FLAKE TYPE			
UNIFACES (Placement of Retouch)	N	WT(g)	Convex	Straight	Concave	Spokeshave	Nibbled	Crushed	Polished	Decort	Block	Flat	Blade
Distal	4	9.5	4				3		1			4	
Distal/Unilateral	3	4.3	3				1		2			3	
Distal/Bilateral	4	11.6	4				3		1	1		3	
Unilateral	2	11.7		1	1		2			1		1	
Bilateral													
Entire Margin													
Undetermined	1	4.1		1			1				1		
Other													
UTILIZED DEBITAGE (Placement of Wear)													
Distal	9	31.1	4	4	1		9			1		8	
Distal/Unilateral	4	17.9	2	2			4					4	
Distal/Bilateral	1	0.6		1			1					1	
Unilateral	6	15.5	1	4	1		6					6	
Bilateral	2	16.8		2			2			1		1	
Undetermined	2	34.2	1	1			2					2	
Other													

GROUND STONE	N	WT(g)
Mano		
Hammerstone	2	410.7
Pitted Cobble		
Other		

Table 8. Additional Lithics from the Eidson-North Site; Site Totals

Nonsystematic Surface Collection	
Bifaces:	
Projectile Points	1
Preform	2
Unifaces:	1
Feature Associated Lithics	
Fea. 5: Flakes	18
Fea. 5, Soil Unit B: Flakes	10
Fea. 8: Flakes	1
Fea. 9: Flakes	5
Fea. 10: Flakes	7
Fea. 11: Flakes	17
Fea. 13: Flakes	5
Fea. 13: Projectile Point	1
Fea. 13: Bipolar Item	1
Fea. 14: Flakes	3
Fea. 16: Flakes	1
Eidson-North Site Totals; All Proveniences	
Debitage:	1133
Cores:	
Block	3
Battered Cobble	8
Bifaces:	
Projectile Points	13
Preform	6
Drill	2
Microgouge	1
Fragments	21
Bipolar Lithics:	15
Unifaces:	15
Utilized Flakes:	24
Total Artifacts	108

Ceramics. No prehistoric pottery had been found on the Eidson site until Phase II testing (Garland and Mangold 1980:21-22). And indeed ceramics from the South Sample are sparse. We recovered one sherd from N126-W18. It was found below the plow zone in level 2. Although not found in feature context, this sherd might be associated with Feature 6, a pit containing FCR and abundant charcoal which was partially excavated and profiled in the west wall of this unit. The sherd is a cord marked body sherd with a smoothed interior. A round punctate is present on the exterior surface. The sherd is broken through this punctation, precluding detailed analysis of it. The sherd is .85 cm thick and contains abundant medium sized grit temper. It is probably a Late Woodland sherd, but it very likely predates the main Late Woodland (Upper Mississippian) occupation at the Wymer site. This suggestion is supported by the fact that we found not one Levanna or Madison point on the Eidson site, the types which are most common in the Wymer Late Woodland component.

The North Sample on Eidson did produce ceramics in two features and one other location. The feature associated ceramics are definitely Early Woodland and the isolated sherd might also be Early Woodland.

Feature 10 was identified in unit N560-W140, and the unit was extended to complete the feature (Figure 8). The feature consists of a large number of fragments of an Early Woodland vessel (Plates 39 and 40).

Three rim sherds (Plate 39:a,b,c) have vertical cord marking on the interior and exterior surfaces. One rim sherd has interior tool impressions like those illustrated in Plate 40:b. These interior tool impressions appear on several other sherds also; the impressions are rather carelessly applied and may reflect the manufacturing process rather than an attempt at decoration. The lip is square and thinned (tapering from 1.6 cm to 1 cm at the lip on one

The matrix of Feature 10 contained 21 body sherds with a diameter larger than 2 cm, several exhibiting strip lug placement. In addition, 4 sherds smaller than 2 cm came from the plow zone, and an additional 134 tiny sherds were recovered in the flotation sample.

From the plow zone above the feature came the only rim sherds recovered (Plate 39:a,b,c); 71 body sherds larger than 2 cm, several with strip lug placement; and 60 sherds smaller than 2 cm.

The temper is heavy grit of fine to medium size. The paste is contorted. The core color is dark gray; the interior and exterior surfaces of the vessel are buff.

A second Early Woodland vessel is represented by a single sherd, broken when cleaning the profile wall, from Feature 11 in unit N278-W88. It is a large body sherd, cord marked in interior and exterior surfaces (Plate 40:d). The sherd is 1.23 cm thick, the paste is homogeneous; it is well fired, not as friable as the sherds from the Feature 10 vessel. The temper is abundant fine grit. The core color is dark gray; interior and exterior surfaces are buff, resembling the Feature 10 pot in these characteristics.

The third ceramic locus on Eidson-North is unit N414-W94. In the plow zone was found a single, rather thick, cord marked sherd with a smoothed interior. It is 1.04 cm thick, the temper consists of a moderate amount of medium sized grit. The exterior surface is red, the core and interior light gray. Evidence is inconclusive, but this thickness suggests that this could very well be an Early Woodland sherd.

A report on the archaeological significance of the Eidson site has been submitted by Garland to the Michigan Department of Transportation at their

Eidson Feature 1. N96-W18; Figure 5.

This is a relatively shallow conical shaped fire pit containing 27 chips and a moderate amount of FCR in the gray-black fill; there were no diagnostic associations. About half of the feature was excavated. Organic remains include a tiny fragment of calcined bone, an acorn, seeds and charcoal.

Eidson Features 2 and 3. N42-W42; Figure 6.

Features 2 and 3 are very similar in structure. They are small pits, possibly refuse pits, containing gray-brown fill with flecks of charcoal. Feature 2 was about two-thirds excavated; it contained 26 chips and 1 FCR. Feature 3 was completely excavated. It contained 6 chips and 2 FCR; the burned material included some wood which was incompletely carbonized, suggesting a fairly late although not necessarily historic origin for the pit. Both features contained carbonized seeds; no cultural/temporal placement for either pit can be suggested.

Eidson Feature 4. N50-W34.

This was a rodent burrow with the occupant in situ. The excavator was startled and did not note species, but hastily covered up the burrow. It was located on the edge of Feature 5.

Eidson Feature 5. N50-W34; not illustrated.

This is a probable cooking pit, ovate in plan view, 87 x 67 cm across. It extends to a depth of 20 cm below plow zone. The fill was dark gray-brown. Small amounts of charcoal, 18 pieces of debitage and 9 FCR weighing .3 kg were recovered. The feature was heavily disturbed by root and rodent (see Feature 4) activity. Organic remains included seeds and an acorn. No diagnostics were recovered.

Feature 9. N560-W92; not illustrated.

Located in the southwest corner of the unit and approximately one-fourth excavated, this feature appears to be a circular basin shaped pit with a matrix of dark brown silty sand containing considerably less gravel than the surrounding subsoil. Estimated diameter is about 80 cm, with a maximum observed depth of 71 cm below surface. A small amount of charcoal and a few FCR were recovered from the fill, along with five pieces of debitage. A minor amount of charcoal and black walnut shell was obtained in flotation.

Feature 10. N560-W140; Figure 8.

This feature consisted of a large rim and wall segment of an Early Woodland pot, and is one of three features located in our most northerly series of test units on the Eidson site (Map 8). The feature is slightly elongate in plan view and is basin shaped in N-S profile. The matrix contains thick pot sherds and ash. The feature appears dark gray when damp and is easily distinguished from the lighter brown plow zone. No charcoal was noted by the excavators, although a small amount was recovered in flotation along with two fragments of black walnut shell. Seven small chips and nine fragments of unidentifiable calcined bone were also recovered from the float sample. The entire feature was excavated by trowel, and all of the feature fill (21 liters) was saved for flotation; none was screened. The plow zone above the feature contained 55 FCR totaling 3 kg, a higher than average amount for this part of the site. No FCR was associated directly with the feature.

of debitage and a large quartzite bipolar core (Plate 36:a) were found in the feature fill. A Kramer point was also recovered (Plate 29:g); it is considered to be an adequate diagnostic for placement of this feature in the Early Woodland period.

Feature 14. N480-W120; not illustrated.

This is a small, round basin shaped pit containing dark gray-black sandy silt surrounded, in profile, by a medium brown unit. The feature is 37 cm in diameter and extends 11 cm below plow zone. The entire feature was saved for flotation; charcoal, most of it bark, was recovered along with a fragment of calcined bone and three small chips. No other materials were associated, and no estimate of cultural affiliation is possible. The general morphology, and the presence of a bone fragment and bark suggest a possible relationship with Feature 8.

Feature 15. N480-W120; not illustrated.

This feature was located in the west wall of the unit containing Feature 14. About half of it was excavated and it was profiled along the west wall of the unit. It is a small shallow basin shaped pit, like Feature 14, and is also composed of two soil units, dark gray in the center surrounded by a medium brown unit. In it was a small bone fragment, a little charcoal, and six pieces of black walnut shell. Cultural/temporal placement is not possible.

Feature 16. N460-W120; not illustrated.

This is a small amorphous pit which extends into the west wall of the unit. The fill is dark brown-black containing charcoal and two

EIDSON - SOUTH

FEATURE 1

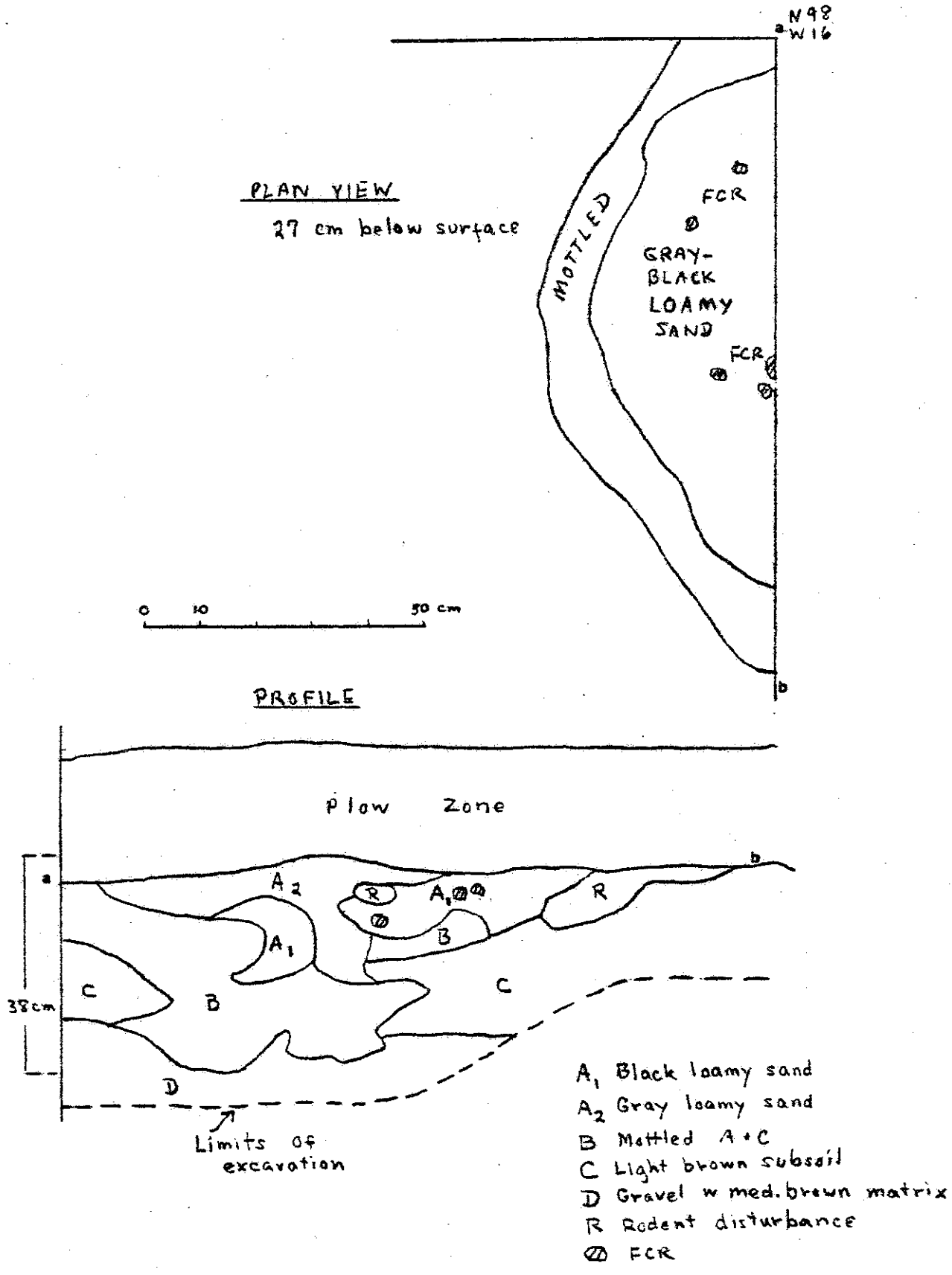
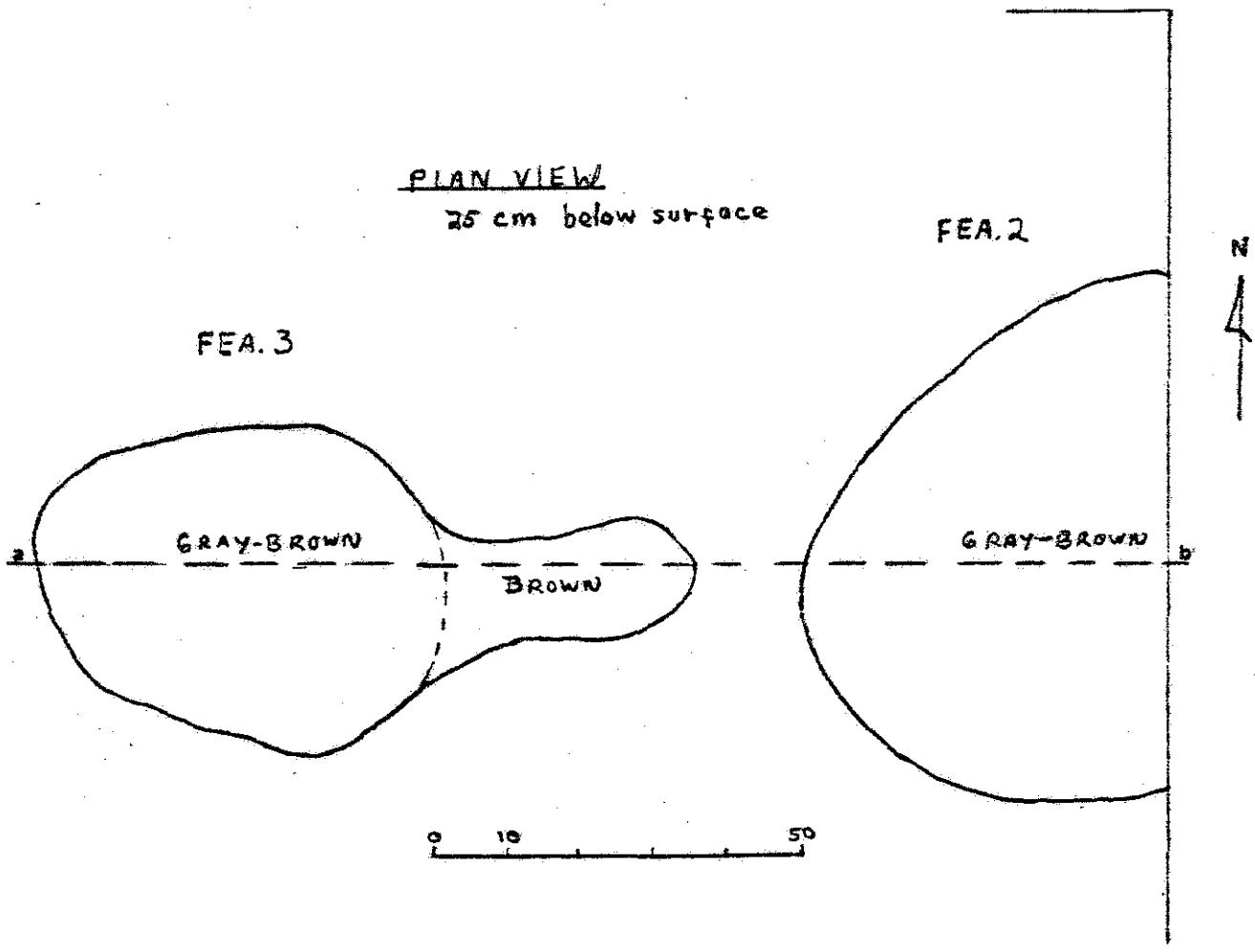


Figure 5

FEATURES 2&3



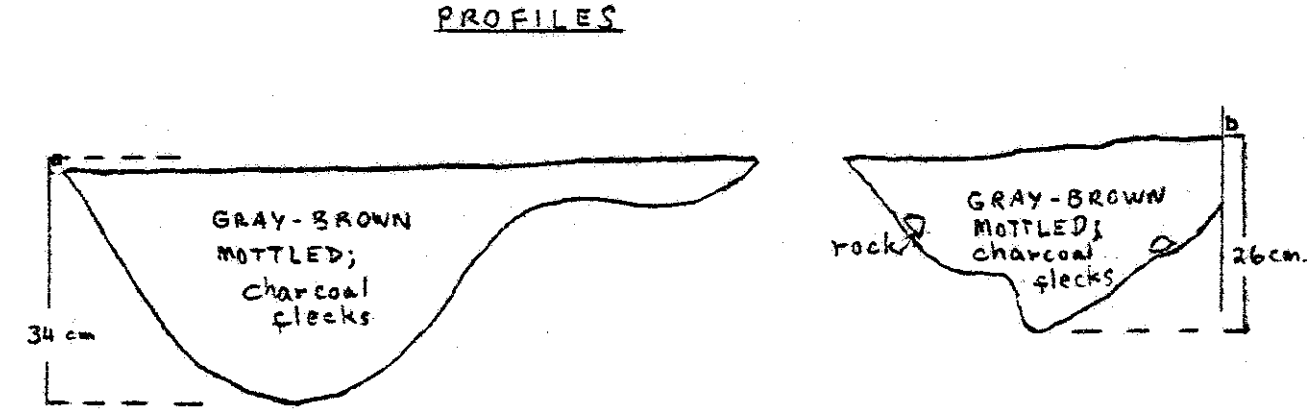


Figure 6

EIDSON - NORTH

FEATURE 8

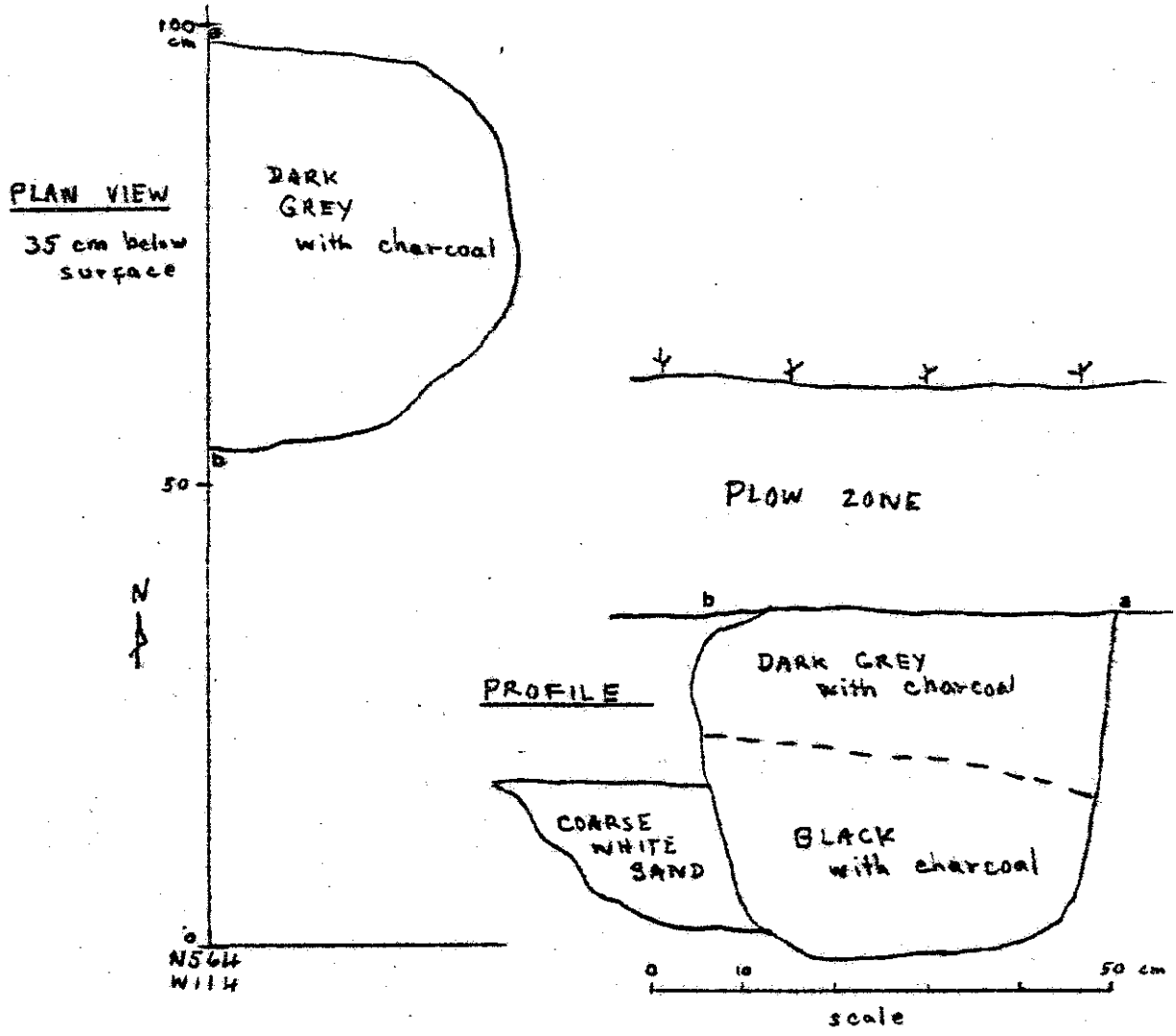


Figure 7

EIDSON - NORTH

FEATURE 10

EARLY WOODLAND

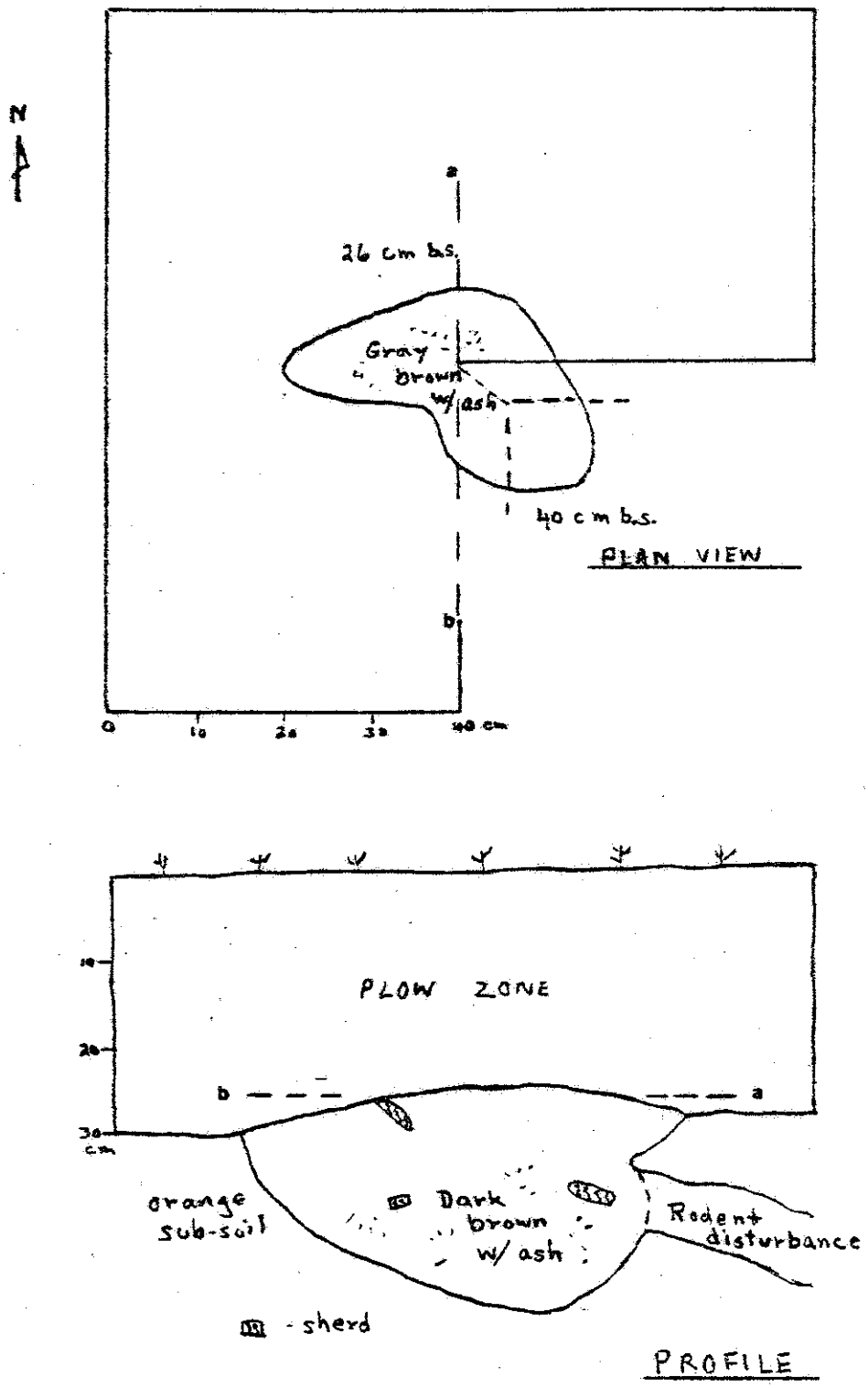


Figure 8

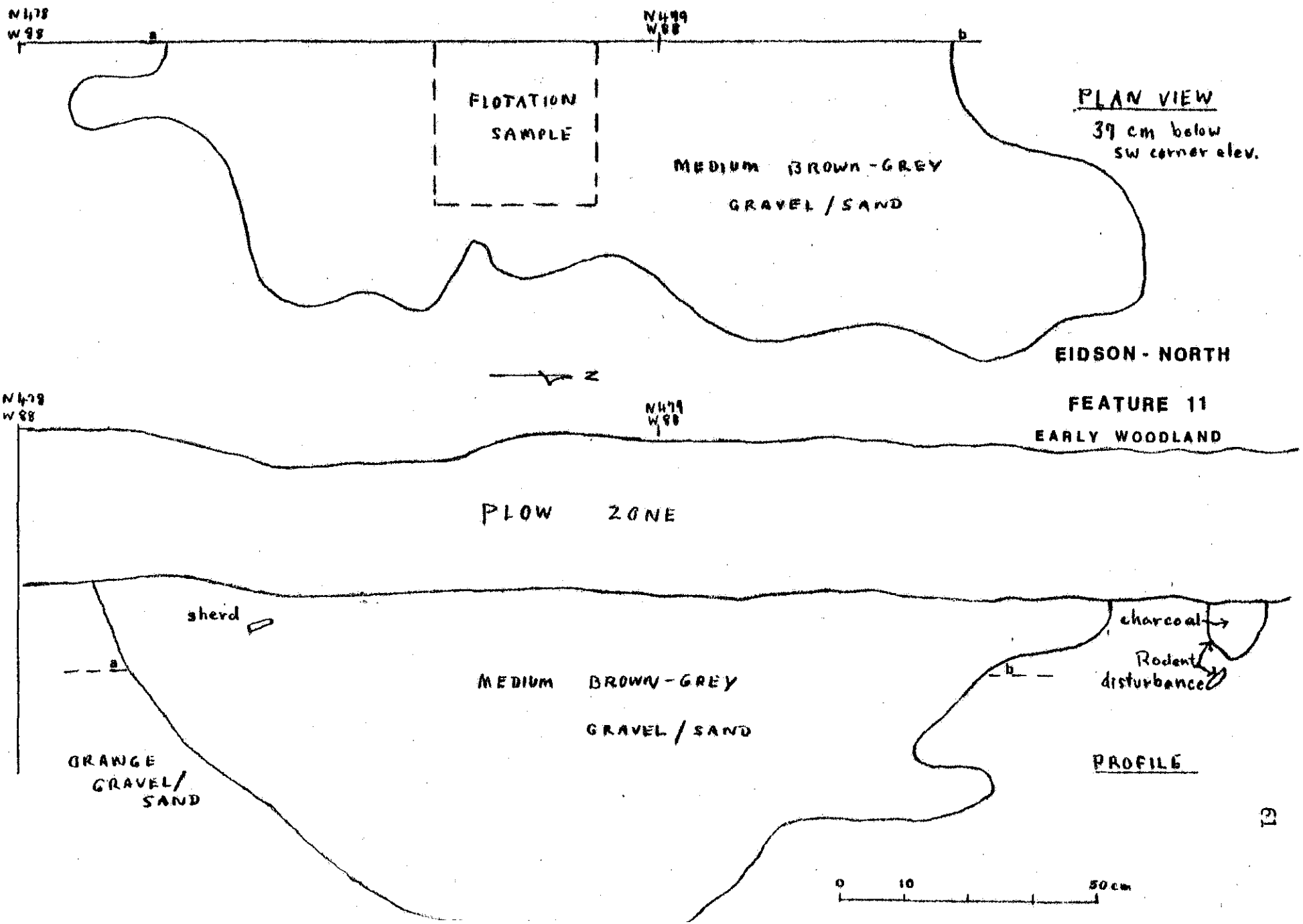

N498 W98
a
N499 W98
b
FLOTATION SAMPLE
PLAN VIEW
39 cm below SW corner elev.
MEDIUM BROWN-GREY GRAVEL / SAND
N
EIDSON - NORTH
FEATURE 11
EARLY WOODLAND
N498 W98
N499 W98
PLOW ZONE
sherd
charcoal
Rodent disturbance
a
b
MEDIUM BROWN-GREY GRAVEL / SAND
GRANGE GRAVEL/ SAND
PROFILE
0 10 50 cm

Figure 9

EIDSON - NORTH

FEATURE 13

EARLY WOODLAND

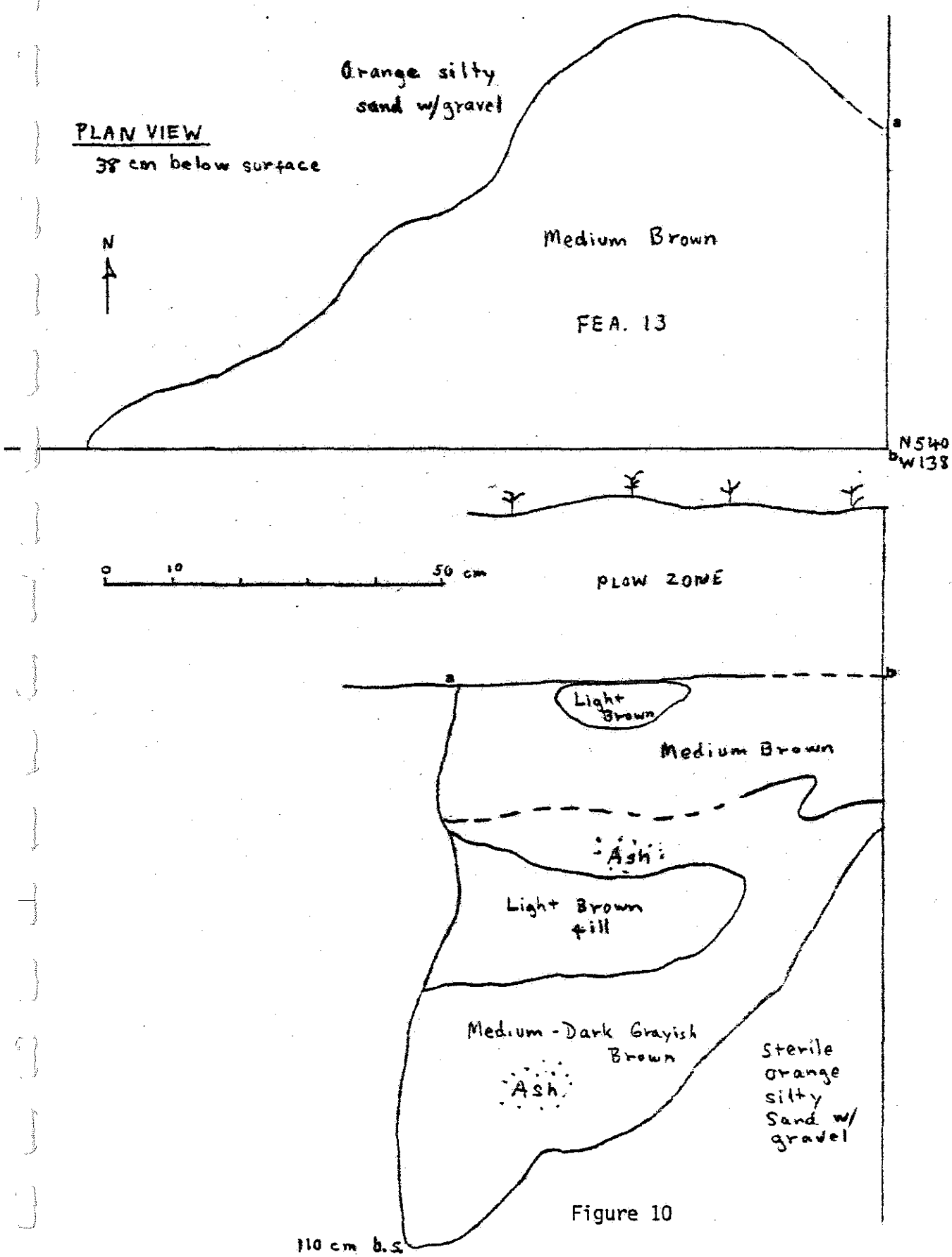
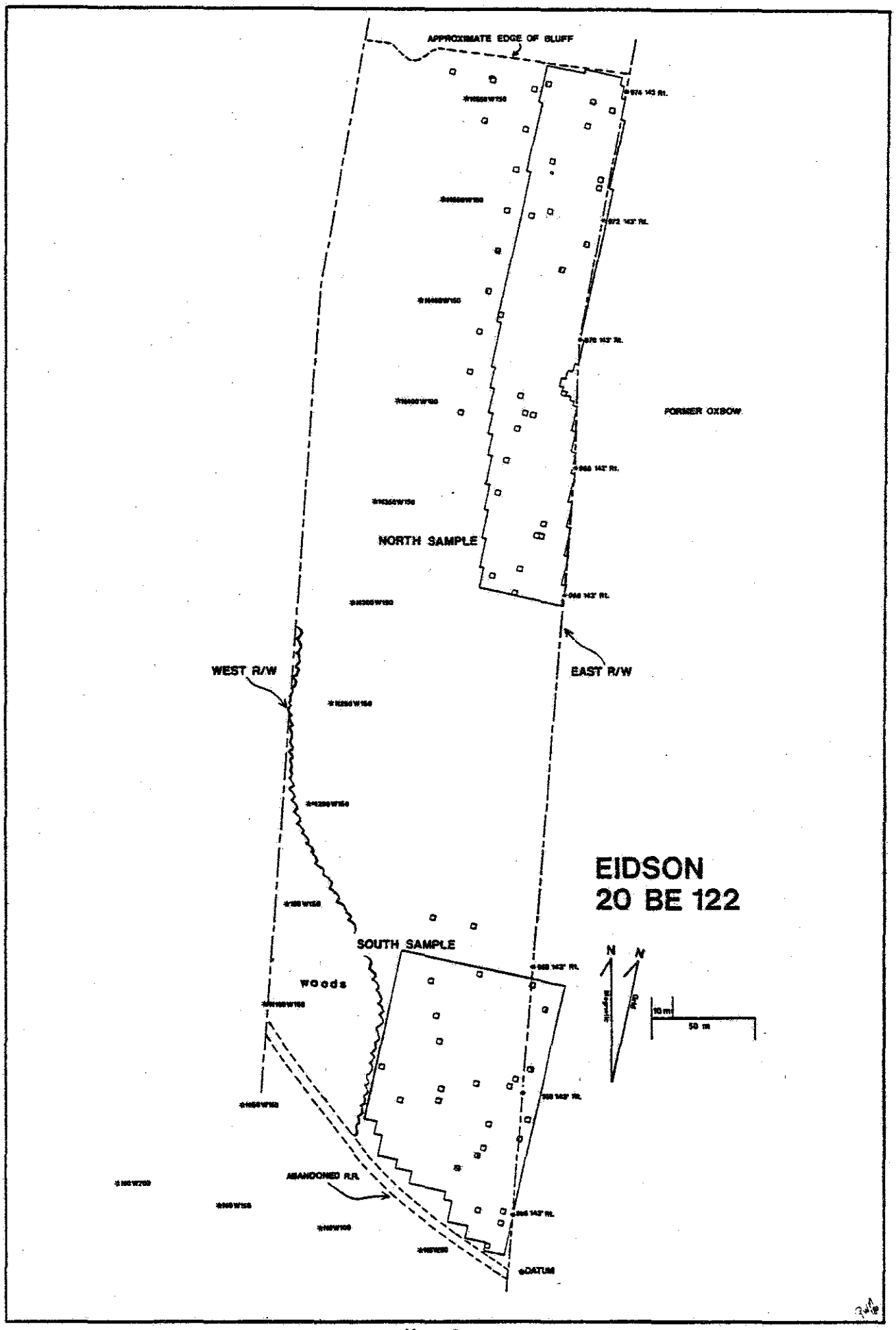
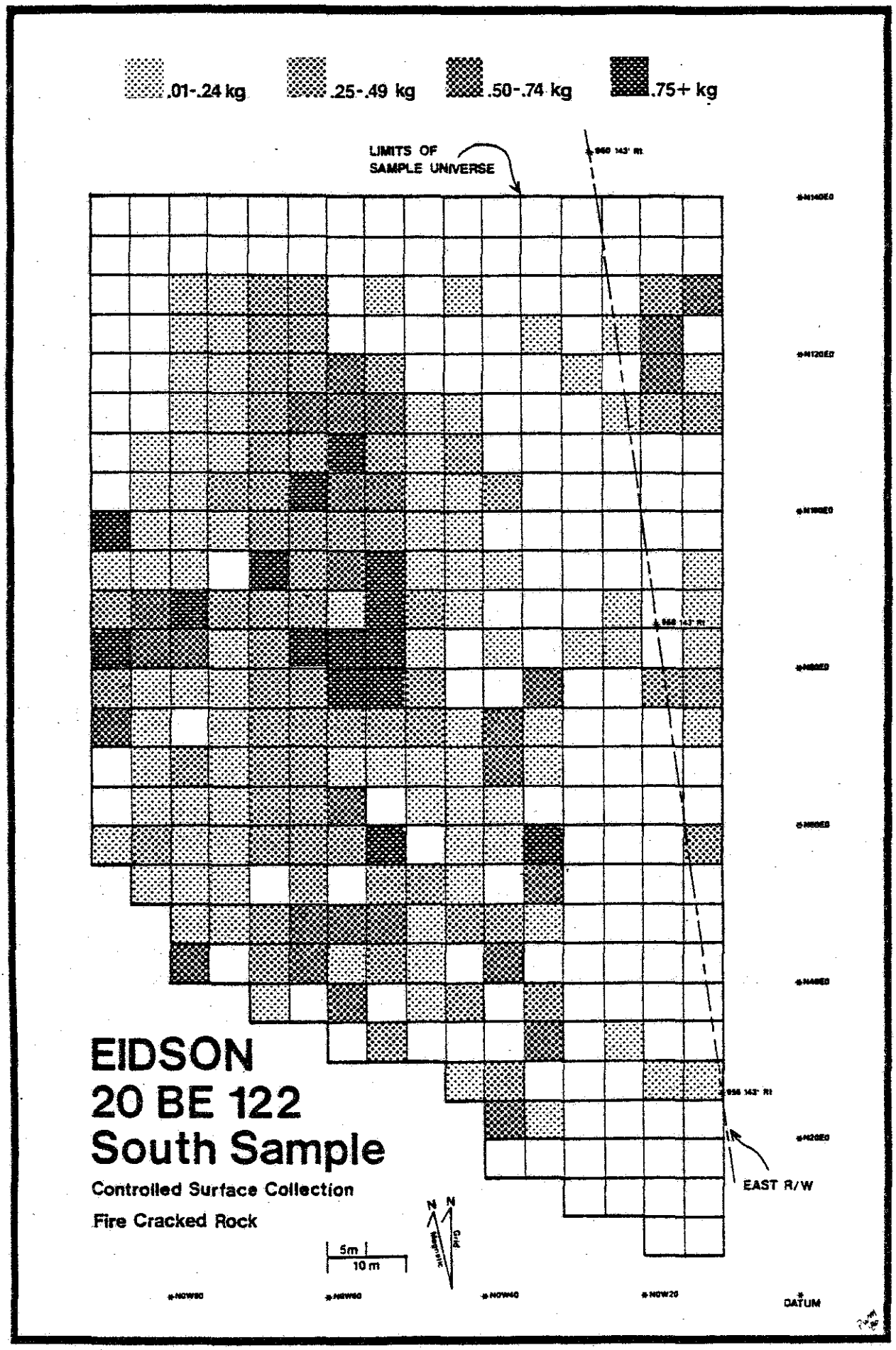


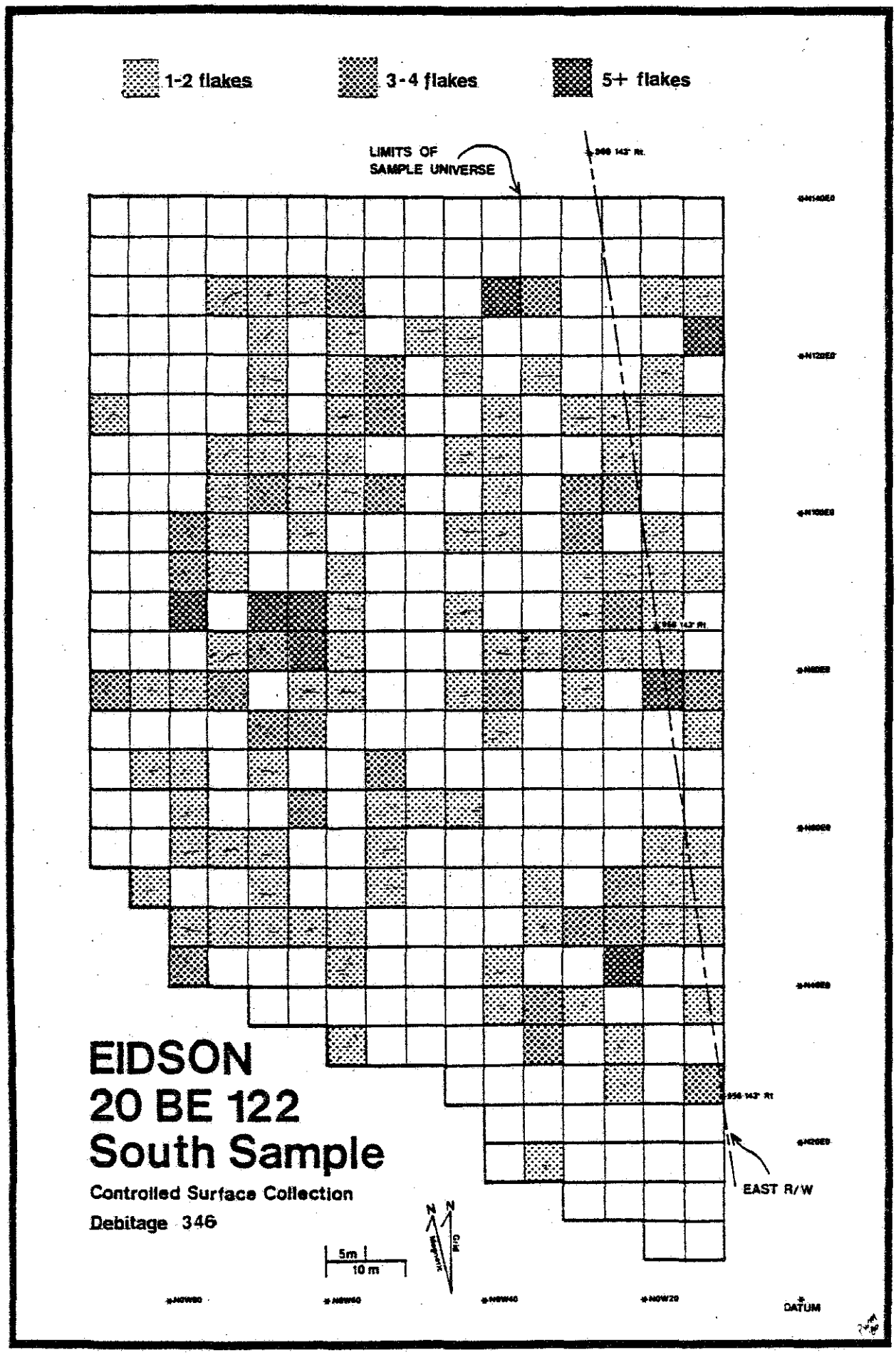
Figure 10


APPROXIMATE EDGE OF BLUFF
FORMER OXBOW
NORTH SAMPLE
WEST R/W
EAST R/W
SOUTH SAMPLE
woods
ABANDONED R.R.
DATUM
EIDSON
20 BE 122
N
N
10 m
50 m

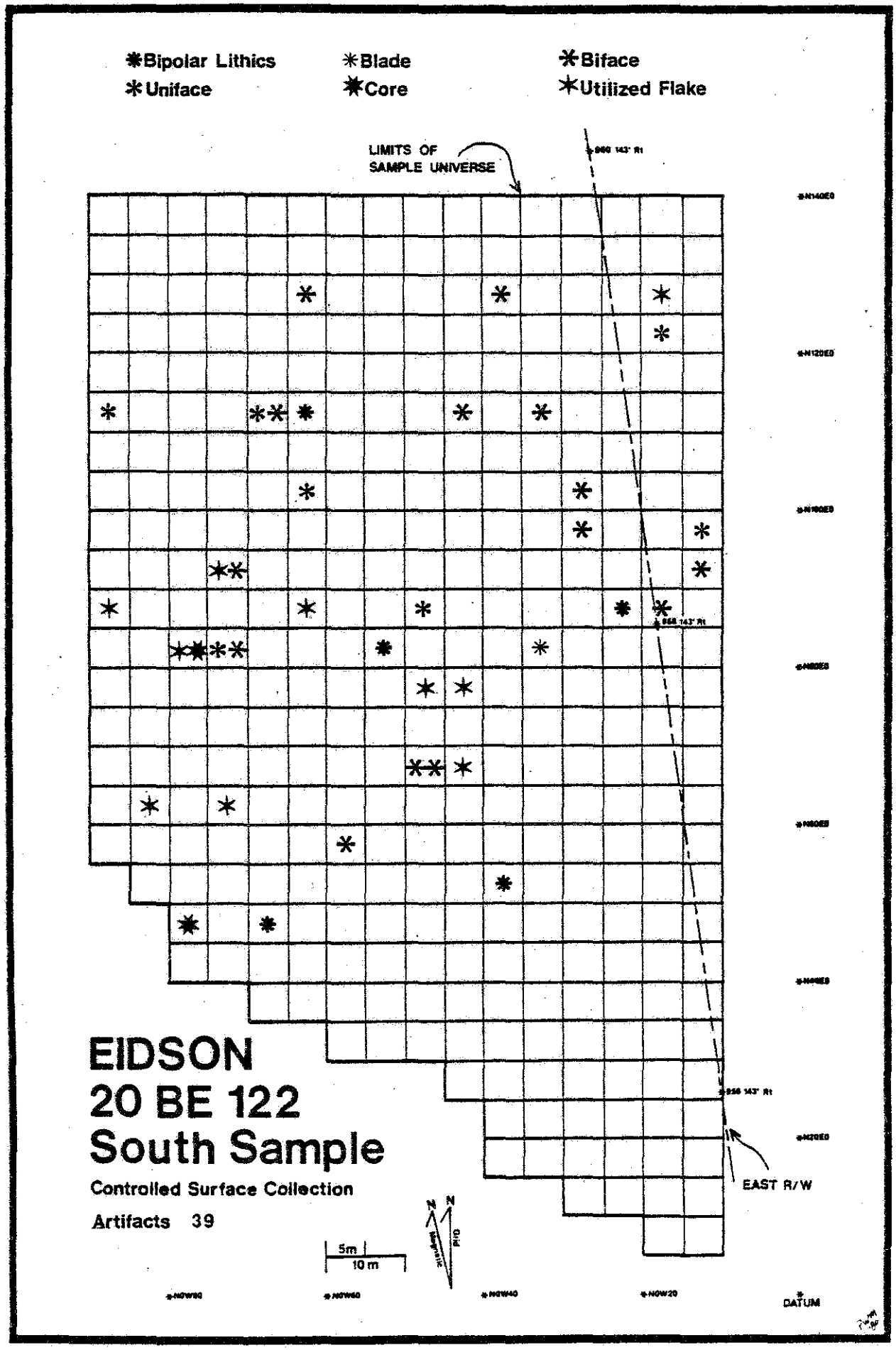
Map 3


.01-.24 kg
.25-.49 kg
.50-.74 kg
.75+ kg
LIMITS OF SAMPLE UNIVERSE
EIDSON
20 BE 122
South Sample
Controlled Surface Collection
Fire Cracked Rock
EAST R/W
5m
10 m
N
Magnetic
Grid
DATUM

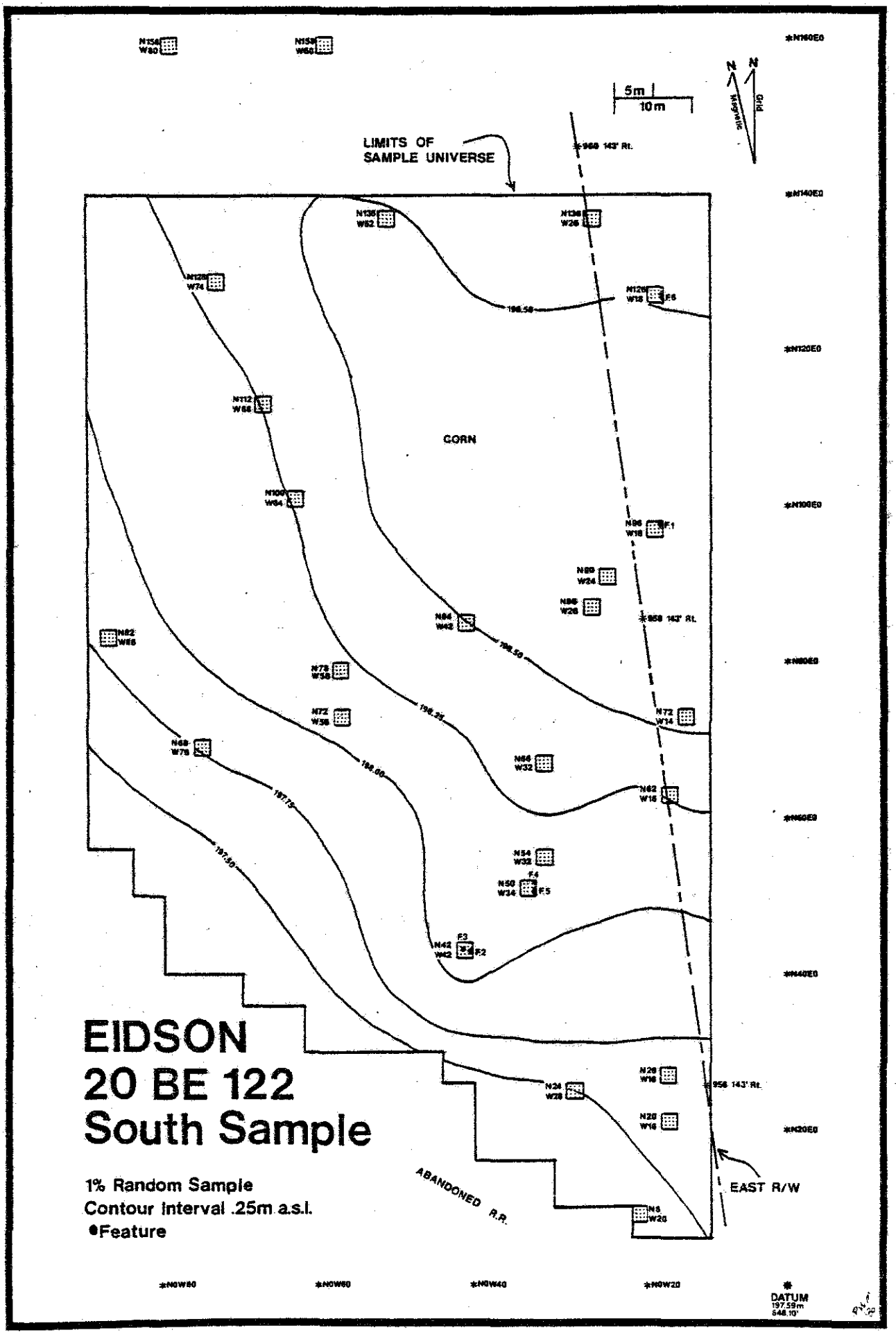
Map 4


1-2 flakes
3-4 flakes
5+ flakes
LIMITS OF SAMPLE UNIVERSE
EIDSON
20 BE 122
South Sample
Controlled Surface Collection
Debitage 346
EAST R/W
5m
10 m
DATUM

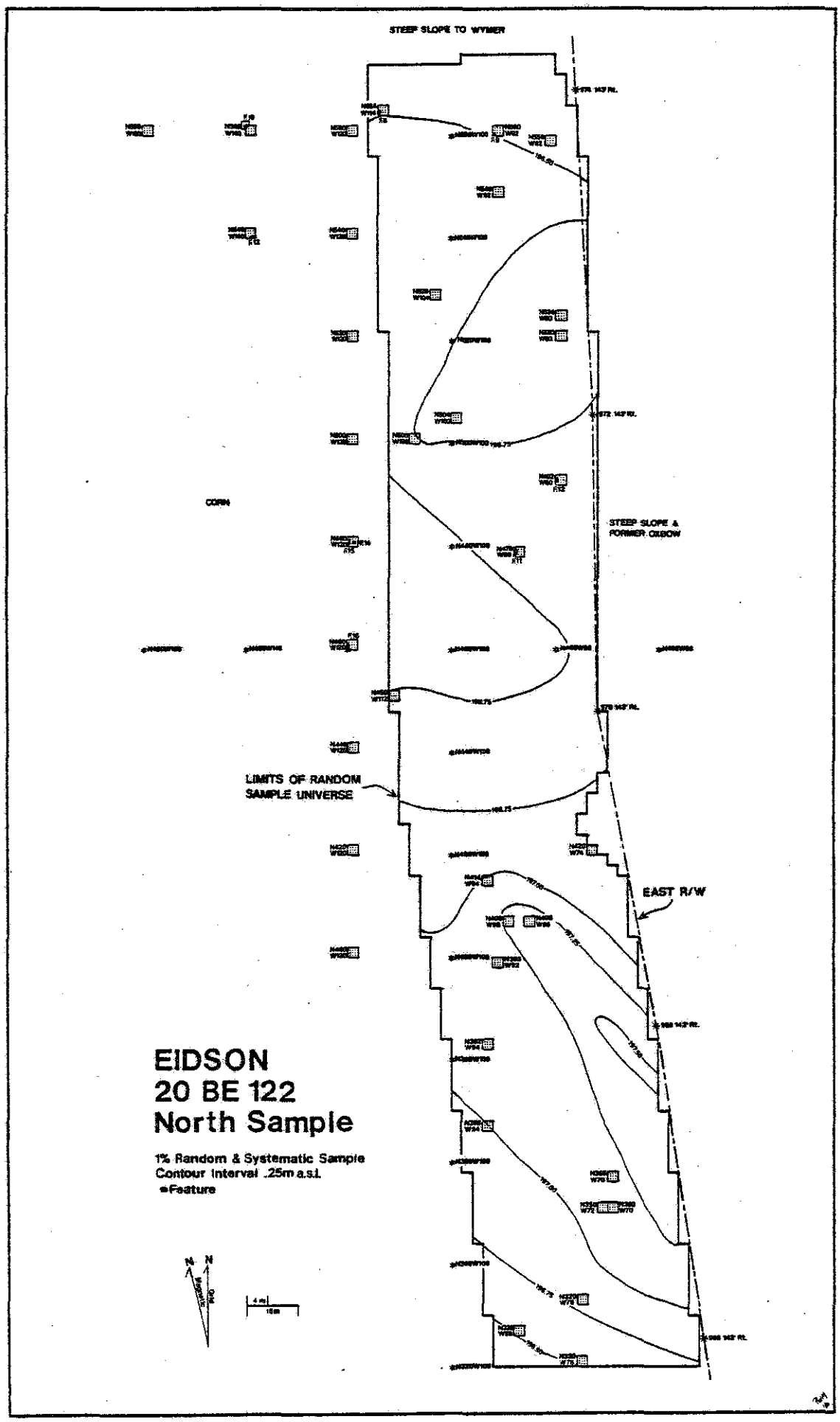
Map 5


*Bipolar Lithics
*Blade
*Biface
*Uniface
*Core
*Utilized Flake
LIMITS OF SAMPLE UNIVERSE
EIDSON
20 BE 122
South Sample
Controlled Surface Collection
Artifacts 39
5m
10 m
EAST R/W
DATUM

Map 6


5m
10m
Magnetic
Grid
LIMITS OF
SAMPLE UNIVERSE
CORN
196.50
196.25
196.00
197.75
197.50
ABANDONED R.R.
EAST R/W
DATUM
197.59m
648.10'
EIDSON
20 BE 122
South Sample
1% Random Sample
Contour Interval .25m a.s.l.
•Feature

Map 7


STEEP SLOPE TO WYMER
CORN
STEEP SLOPE & FORMER OXBOW
LIMITS OF RANDOM SAMPLE UNIVERSE
EAST R/W
EIDSON
20 BE 122
North Sample
1% Random & Systematic Sample
Contour Interval .25m a.s.l.
•Feature

Map 8

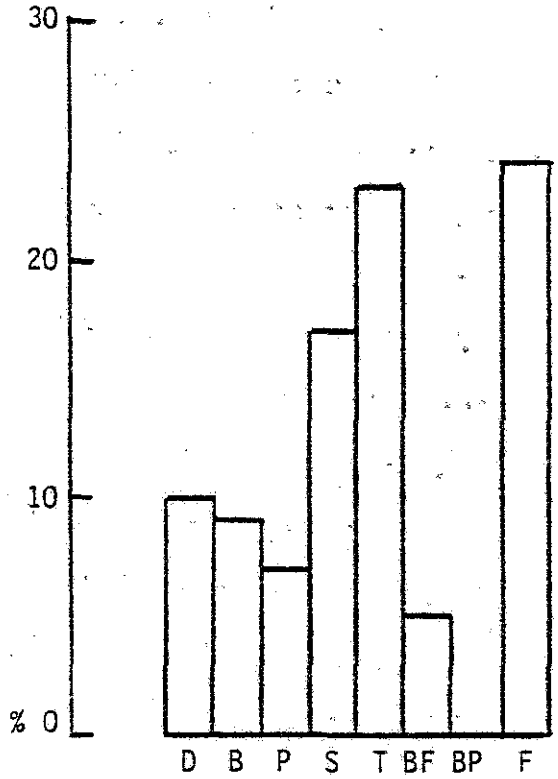
Wymer Site (20BE132)

The major question at the Wymer site as we entered the Phase II project was whether or not the Late Woodland component on the site was significantly represented in the area to be impacted by US-31. The site occupies two knolls and the low swale between them. Our conclusion at the end of the Phase I survey was that the major Late Woodland component is located on the westerly knoll or ridge with perhaps only minimal occupation of the eastern knoll which lies in the ROW (Map 9). A small group of artifacts from the eastern knoll found over a period of years by Andrews University collectors suggests that a Late Archaic component is represented here.

An important consideration was the discovery in 1979 of a Late Woodland feature (Feature 1) on the eastern slope of the western knoll, which is indicated in the upper left of Map 9. This feature contained deer and sturgeon remains relating to the major Late Woodland occupation of the site.

Phase II Field Work at the Wymer Site

Surface examination in June of 1980 permitted delineation of site scatter, but did not reveal any notable areas of concentration of cultural debris. Accordingly we elected to excavate a 1% sample of the part of the Wymer site which lies in the ROW (Map 9). We first excavated two judgement units near the farm road east of Feature 1. These two units (S6-E122, S12-E120) were almost devoid of prehistoric material; the former had 3 chips and 2 FCR, the latter had 1 chip and 2 FCR. Likewise the random sample units in this northern part of the site (S14-E132, S28-E118) produced very little material. It appears that we are definitely on the periphery of the Wymer site from the point where the 183.5 m contour line intersects the west edge of the ROW north to the farm road. Since the Late Woodland Feature 1 lies 45 meters to the west it was particularly important that we test this area.



Key: D = Decortication
B = Block
P = Primary
S = Secondary
T = Tertiary
BF = Bifacial Retouch
BP = Bipolar
F = Fragments

Figure 11. Debitage histogram, Wymer (20BE132)

Notched points (Plate 43:b, d-h), once again, are not readily typed but could relate to either Late Archaic or Woodland occupations. The basal configuration of one item (Plate 43:h) is suggestive of a Middle Woodland expanding stem point.

The small triangular Madison point (Plate 43:j; cf. Ritchie 1961:33-34) is a good match with materials from the nearby Andrews University excavations on the west knoll of the site (Map 11). Also possibly associated with this Late Woodland occupation are three bipolar items and a triangular biface (Plate 45:f) from Feature 4.

Bipolar lithics were less common at Wymer, compared with the Stover or Eidson sites. Two items (Plate 46: top row) are unique in that they appear to be distal biface fragments utilized as wedges. Bipolar battering superimposes bifacial flake scars on both.

During the June 9, 1980 preliminary survey, two articulating fragments of a three-quarter grooved axe (Plate 47) were found on the surface of the site some thirty meters apart. A second three-quarter grooved axe found west of the ROW on the west knoll was retained in the Andrews University collection.

Only two unifacial tools were found for which edge angles could be measured (Plate 45:c,d). They are 60° and 65°, respectively. Other minority tool classes include two hafted bifacial scrapers (Plate 45:a,b) and a single microgouge (Plate 45:e).

Table 9. Excavated Lithics, Wymer (20BE132)

				Platform						
DEBITAGE	N	WT (g)	$\bar{X}$ WT.	Absent	Cortical	Flat	Faceted	Battered	Ground	Utilized
Decortication	46	186.0	4.0	9	25	8		4		
Block	42	126.5	3.0	42						
Flat										
Primary	32	126.0	3.8	5	3	16	3	6	(1)	2
Secondary	74	95.5	1.3	22	2	28	6	15	1	3
Tertiary	100	32.6	0.3	35		25	23	15	2	
Bifacial Retouch	22	9.3	0.4				22		(3)	
Blade										
Bipolar	1	2.0						1		
Fragments	103	45.8	0.4	103						1
TOTAL	420									

CORES	N	WT (g)
Block	2	57.7
Battered Cobble		

BIPOLAR LITHICS	7	60.3

BIFACES		
Projectile Point/Knife	6	21.3
Preform	2	33.4
Drill		
Microgouge	1	2.7
Fragments	5	57.0
Hafted Scraper	1	4.7

( ) = Items included in platform categories.

Table 9. (Continued)

			SHAPE OF EDGE				WEAR TYPE			FLAKE TYPE			
UNIFACES	N	WT (g)	Convex	Straight	Concave	Spokeshave	Nibbled	Crushed	Polished	Decort	Block	Flat	Blade
(Placement of Retouch)													
Distal	1	1.9	1				1					1	
Distal/Unilateral													
Distal/Bilateral													
Unilateral													
Bilateral													
Entire Margin													
Undetermined													
Other													
UTILIZED DEBITAGE													
(Placement of Wear)													
Distal	2	10.6	1	1			2					2	
Distal/Unilateral													
Distal/Bilateral													
Unilateral	1	0.9		1			1					1	
Bilateral	1	2.4		1			1					1	
Undetermined	1	0.5				1	1					1	
Other													

GROUND STONE	N	WT (g)
Mano	1	34.6
Hammerstone	2	295.3
Pitted Cobble		
Other		

Table 10. Additional Lithics from the Wymer Site; Site Totals

Nonsystematic Surface Collection	
Bifaces:	
Projectile Points	5
Hafted Scraper	1
Misc. Bifaces	2
Bipolar Lithics:	1
Unifaces:	1
Pitted Cobble:	1
Three-Quarter Grooved Axe:	1

Feature Associated Lithics	
Fea. 2, Soil Unit A: Flakes	40
Fea. 2, Soil Unit C: Flakes	8
Fea. 4, Soil Unit A (Upper):	
Flakes	22
Triangular Biface	1
Bipolar Lithics	2
Fea. 4, Soil Unit A (Lower):	
Flakes	3
Fea. 4, Soil Unit B (Upper):	
Flakes	4
Bipolar Lithics	1
Hammerstone	1
Fea. 4, Soil Unit B (Middle):	
Flakes	3
Fea. 4, Soil Unit B (Lower):	
Flakes	3
Fea. 4, 48-111 cm BS:	
Flakes	15
Fea. 5, Soil Unit A: Flakes	2
Fea. 5, Soil Unit A-B: Flakes	2

Wymer Site Totals; All Proveniences	
Debitage:	522
Cores:	
Block	2
Bifaces:	
Projectile Points	11
Preforms	4
Hafted Scraper	2
Microgouge	1
Misc. Bifaces	2
Fragments	5
Bipolar Lithics:	10
Unifaces:	2
Utilized Flakes:	5
Mano:	1
Hammerstone:	3
Pitted Cobble:	1
Three-Quarter Grooved Axe:	1
Total Artifacts	50