A PRELIMINARY SITE REPORT

FOR THE

CUMBERLAND PALISADED VILLAGE SITE

CALVERT COUNTY, MARYLAND

AUGUST, 1983

Submitted to: Maryland Historical Trust
Southern Maryland Regional Preservation Center
The American University

Prepared by: M. Christopher Williams

ABSTRACT

The excavation of the Cumberland Palisaded Village site (18 CV 171) has contributed to a better understanding of the local and regional development of prehistoric cultures during the Late Woodland period in Tidewater Maryland. Located on the Patuxent River, within an estuarine environment, with resources available for hunting, gathering, and cultivating, the site was a defensively fortified settlement strategically built on a promontory and surrounded by a palisade. The excavation of the site has provided opportunities for the statistical testing, recovery, analysis and interpretation of data essential to the reconstruction of the culture of the Patuxent Indians in particular and to the building of culture theory in general.

A multi-phase sampling program was devised for the direction of the fieldwork, which was an innovative approach in research methodology. Such a methodology should provide both statistically valid analyses of the archaeological record as recovered and test-cases against which to refine this methodological program. While not all of the data are not yet available for analysis, it is apparent that contributions have been made to:

(1) the testing of local and regional models based on the ethnohistorical record and comparisons with previous research and excavations;

(2) the methodological development of sampling programs and procedures;

(3) the analysis of artifact typologies and local phase definitions, especially based on ceramic traditions;

(4) the building of hypotheses as problems for future archaeological research.

The first two parts of this report (the Introduction and Fieldwork) are basically descriptive, including both the background to and the direction of the fieldwork. The third part of the report analyizes the research problems and suggests interpretations based on the field observations and the data available at this time. While the hope of uncovering a Late Woodland settlement pattern was disappointed, the excavtion of the Cumberland Palisaded Village has nevertheless made a significant contribution to a better understanding of the prehistoric development of Indian culture in the Patuxent River Valley.

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INTRODUCTION

The Cumberland Palisaded Village site (18 CV 171) was the subject of an archaeological excavation in June and July of 1983. It was and remains the private property of the Cumberland family in Lusby, of Calvert County, Maryland. Co-operative agreement and mutual co-ordination of the fieldwork between the Cumberland family and the various sponsors of the excavation made this effort possible.

Sponsorship for the excavation was by:

Maryland Historical Trust
St. Mary's City Commission
Southern Maryland Regional Preservation Center
Calvert County Government
Calvert Marine Museum
St. Clement Island-Potomac Museum
The American University

Direction of the fieldwork was the responsibility of Michael A. Smolek, Field Director, and Dennis J. Pogue, Assistant Field Director, both from the Southern Maryland Regional Preservation Center in St. Mary's City, Maryland. The field direction was assisted by M. Christopher Williams as part of a graduate internship program for The American University. A total of twelve students participated in the excavation as a fieldschool program, for which credit was granted by St. Mary's College (9), Millersville University of Pennsylvania (1), The American University (1), and George Washington University (1). The students were:

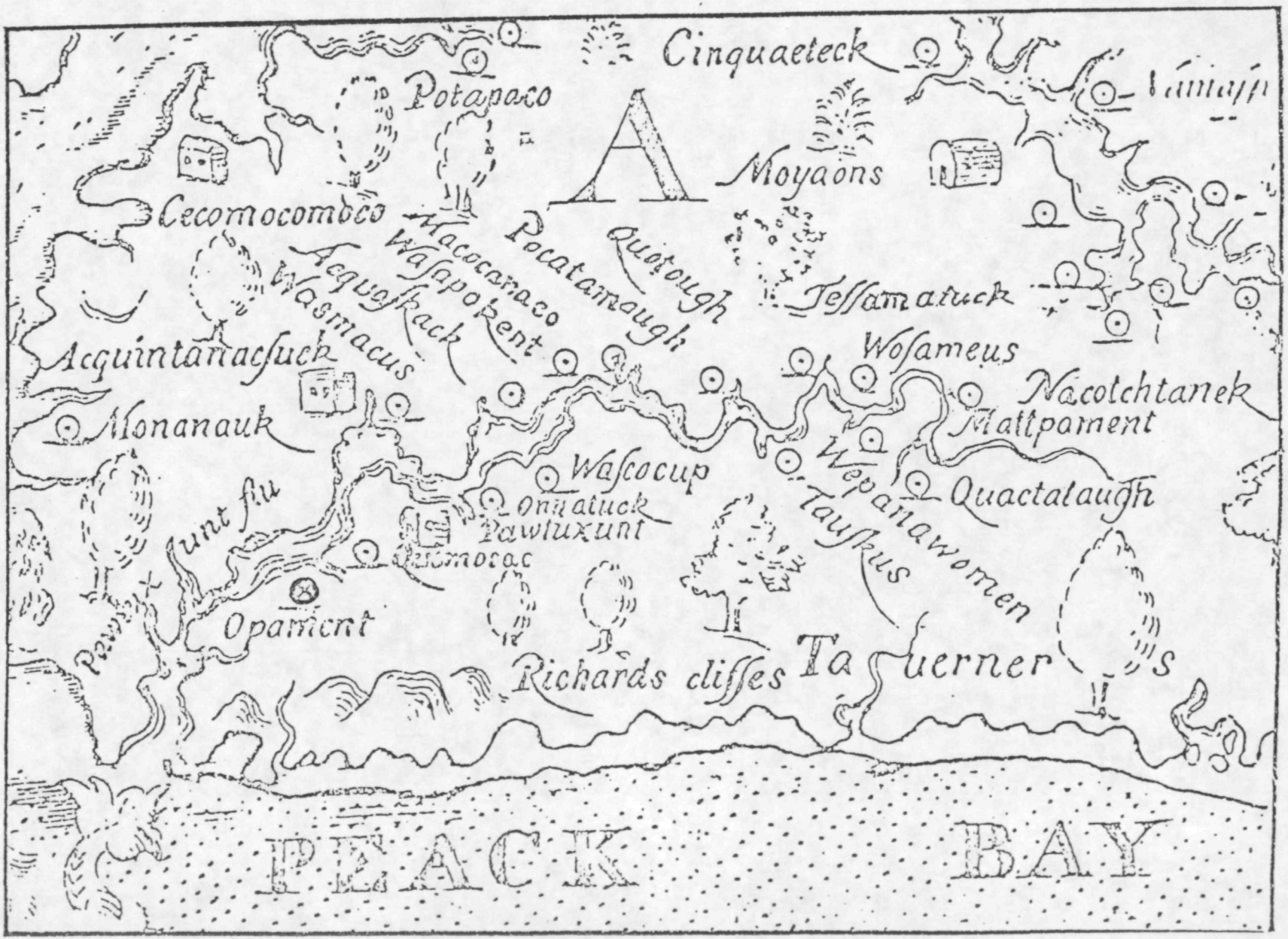
James Tyler Bell
Cara Burton
Stephanie Crockett
Roby Fields
Jill E. Greene
Jane F. Kostenko
E. Gail McDiffett
Trish Meissner
Fred Parks
Melanie Ryan
Jeannie Yuill
Jill Zitnick

The Cumberland Palisaded Village site was open to public volunteer participation, in order both to receive the much needed help that volunteers had to offer and to give to the public an opportunity to experience and participate in a major excavation. The greatest share of the fieldwork could not have been done without this public support, and a large share of the success of this excavation has been due to the personal, steadfast and sincere interest of the nearly two hundred men and women who gave so generously of their time and talents.

(A) Background to the Cumberland Palisaded Village

The Cumberland Palisaded Village was a settlement of the Patuxent Indians on a promontory over the Patuxent River. This settlement was probably occupied primarily in the late 16th and/or early 17th century. A radio-carbon sample taken from a feature containing oyster shell and artifacts has yielded a date of A.D. 1575 $\pm$ 65 years. This temporal range of dates places the site occupation within the Late Woodland period of mid-Atlantic prehistory. It also places the occupation as probably within the time during the initial contact of European explorers and the native Indian populations. Very little is known about this proto-historic and early historic period of cultural development of the indigenous peoples of the Patuxent River. Most of what is known has been learned from the written accounts and illustrations of the European explorers. These ethnohistorical data have provided observational information about the native Indians, but it has been a rare opportunity to make observations from the extant archaeological record.

Captain John Smith travelled the Patuxent River in 1608 and he made note of his observations and mapped the areas of his discovery. It may be possible that the Cumberland Palisaded Village was the Indian village of Opament, mapped in 1612 (see Map 1). The excavation of the site has neither confirmed nor dismissed this possibility. The Patuxent



MAP 1

~~FIGURE 1~~ The Patexent River Section of Capt. John Smith's Map. (1612)

River Valley was then inhabited by three petty chiefdoms, the Acquintanancksuak, the Patuxent, and the Mattapanient.

> The fifth river is called Pawtuxunt, and is of a lesse proportion then the rest....Here are infinit skuls of divers kinds of fish more then elsewhere.
>
> Vpon this river dwell the people called Acquintanacksuak, Pawtuxunt and Mattapanient. 2000men was the greatest strangth that could bee there perceived. But they inhabit togither, and not so dispersed as the rest. These of al other were found the most civill to giue intertainement.(Smith 16ØØ, in Arber 1910: 53).

Each of these tribes was powerful enough to maintain its autonomy from hostile tribes to the south, west and north. The ethnohistorical accounts describe the inhabitants as horticulturalists who hunted, gathered, fished and farmed, with the technical skills in making and using the bow and arrow and pottery. However, by the end of the third quarter of the 17th century, historical references to these Indians had ceased. The location of this palisaded village on the Patuxent River provided for the subsistence adaptation, strategic defense and socio-political order of its inhabitants at a time when changes due to European contact were imminent (each of these aspects of the settlement is discussed below). The excavation of the Cumberland Palisaded Village site was to have provided material data on the Indian occupation of this site during a time period for which other sources of information have been insufficient or lacking altogether.

Attempts have been made by various persons at different times to locate the sites of Indian villages as mapped in the 17th century. One such effort was made by Richard Stearns who first identified the location of shell middens on the Cumberland property in the 1930's. However, the Stearns survey did not include any subterranean testing, and there were no surface indications that this site had been a palisaded village. While Stearns' field maps indicated the location of the Cumberland site which was then recorded on Maryland state archaeological maps, the site was not registered or assigned a site number at that time (Clark and Hughes 1983: 6). Long before, and ever since the Stearns survey, the land had been used for agricultural production. So long as the land was under cultivation by plow, no greater damage could be done to the site than had been done already, and whatever features had survived below plowzone were thus still preserved.

It was not until 1982 that the significance of the site was recognized. Having received notice of pending plans for construction of a house on the site by the Cumberland family, Michael A. Smolek conducted both a controlled surface survey and test-pit excavations on the land. Identification of artifacts on the surface included a range of Woodland ceramics and several Late Archaic projectile points. The test-pit excavations revealed both the presence and general extent of a hitherto unknown palisade line and features

with a dense concentration of oyster shells and atifacts, one of which later yielded the radio-carbon date of A.D. 1575 ± 65 years. This radio-carbon date was obtained from the shell content of a pit within the interior of the palisade line, in which were also found diagnostic wares of Late Woodland ceramics (Yeocomico and Rappahannock Fabric Impressed). The date range of A.D. 1575 ± 65 years was accepted as a reasonable estimate for the palisade ditch construction and thus of settlement occupation (Clark and Hughes 1983: 4).

As this was only the second palisaded village found in Tidewater Maryland, and the first in almost fifty years, the rediscovery of this site as a palisaded village of the Late Woodland period, and its imminent destruction, provided a unique opportunity to excavate the site in hopes of recovering such material data as could better explain the cultural development in an area and at a time about which too little has been known. Therefore, the decision to excavate the Cumberland Palisaded Village was made in co-operative agreement between the Cumberland family and the Maryland Historical Trust and other sponsors. That decision was based on several factors, all things considered:

(1) that the construction of a house on the site would necessarily result in the permanent destruction of the yet surviving archaeological record;

(2) the the survey and test-pit excavations by Michael A. Smolek in 1982 had revealed the presence of a palisaded

settlement which had been unknown up to that time;

(3) that this palisaded village was the first found in the state in fifty years, it was only the second one known in Tidewater Maryland, and it was the first found on the Patuxent River within an estuarine ecological context;

(4) that it might have been the village of Opament as mapped by Captain John Smith at the time of historical contact, for which the ethnohistorical record was available but the archaeological record was substantially lacking.

(5) that diagnostic ceramic and lithic materials and the radio-carbon dating had placed the settlement within the Late Woodland period about which little is known;

(6) that too little attention has been given to prehistoric sites in Calvert County;

(7) that it could offer an opportunity for public participation in and contribution to archaeological fieldwork as a public service;

(8) that a well planned, professionally directed and publicly supported excavation could provide data essential to the multiple archaeological problems for both local and regional research (which are discussed below).

Therefore, the Maryland Historical Trust, through the Southern Maryland Regional Preservation Center, in cooperation with the Cumberlands, in co-sponsorship with State, county, local and private institutions, and by the work of students and two hundred volunteers, initiated and concluded the largest excavation ever undertaken in the Patuxent River Valley.

(B) Site Description

This Late Woodland Indian village was located on a promontory on the eastern bank of the Patuxent River, situated on bluffs approximately 23 feet above the current level of the river. These bluffs are mostly composed of a fossilized limestone formation called Choptank, of the Devonian Age, which has acted as a natural barrier against erosion, especially with the natural rise of the river level. From this height, the Indian village commanded a view several miles both north and south on the river, and provided immediate access to the river for their own needs, including transportation and interaction between settlements. At this location, less than ten miles from the Chesapeake Bay, the Patuxent is an estuary of the Bay and therefore subject to the variations of seasonal maritime ecology, tidewater fluctuations, relative salinity, and sedimentary deposition, etc. Thus the location of this site had much to offer its inhabitants both in maritime resources for subsistence and strategic defense for protection. The presence of so much oyster shell on the surface of the site and in the features alone would indicate the seasonal exploitation of oysters as a substantial supplement to the subsistence adaptation within the ecological setting.

The land surrounding the location of the village is generally composed of a sandy loam, often and extensively mixed with a compact, dense clay. If appropriately

cultivated, such land would be adequate for agricultural production and thus had provided the soil needed for prehistoric horticulture at the site during the Indian occupation. As the present environmental conditions of climate, precipitation, flora and fauna, etc. are not substantively different from those of 500 years ago (although qualitative and quantitative differances are significant), the Indian inhabitants had access to lands that combined deciduous woodlands, and marshlands from which they were able to gather foods, hunt animals and obtain fresh water. To the southeast of the present site there is an area of marshland formed by inland drainage (see Map 2: Calvert County Topographic Map J 37). In all probability this area has silted up over the 500 years since Indian occupation due to topsoil runoff from agricultural use, but might well have been the source of fresh water for the village occupants. The lands and waters in the immediate vicinity thus provided resources for subsistence adaptation. The ethnohistorical record and illustrations of the Indian inhabitants of the region include descriptions of hunting and gathering on both land and water, as well as the cultivation of crops. Captain John Smith also included a very detailed description of the regional flora and fauna, both wild and domesticated, and recorded his observations of the native use of these plants and animals (Smith 16~~08~~12, in Arber 1910: 56 - 64).


N
PATUXENT RIVER
MAP 2
18 CV 171
TURNER
22.6
17.8
18.8
22.4
22.6
23.6
23.8
4.1
20
10
10
20
23.3
24.6
23.0
24.3
24.1
24.1
26.8
27.9
21.0
20.6

The site had been used ~~for~~ during the past centuries as an agricultural field, especially for corn. Thus, what had remained of the prehistoric settlement over time had been either disturbed and dispersed by plow action or had remained preserved below plowzone. The methodology of the fieldwork, explained below, was designed to recover data both from within and below the plowzone layer of topsoil down to subsoil.

II

FIELDWORK

(A) The Site Survey

A datum point was fixed at the farthest south and center end of the site, physically set in place by a pipe on the edge of the bluff. On a baseline along Magnetic North, two other pipes were set in place: one, at mid-point 40 meters distant; the other, at the farthest north end of the site, 8o meters distant. Thus, the site was 80 meters south to north along the Magnetic North baseline. From this baseline, at 90° angles, lines both east and west were set, the farthest length in either direction determined in part by topography (to the west end, at the bluff edge) and by construction (to the east end, at the bulldozed water basin). Both the baseline and the east/west lines perpendicular to it were marked at 4 meter intervals, so that the site was divided into an overall grid pattern of 4 meter squares.

The datum point was given an arbitrary location of N 100 /W 100 , so that: each square to the north increased by increments of 4 meters; each square to the east decreased by increments of 4 meters; each square to the west increased by increments of 4 meters. The mid-point of the baseline (with a fixed pipe) was N 140 / W 100 , and the farthest northern point on the baseline (with a fixed pipe) was N 180 / W 100 . For both of the surface collections discussed below, tape measures were adequate

for laying out the grid. The transit was used for survey of the grid pattern in order to proceed with the excavation of test squares and features.

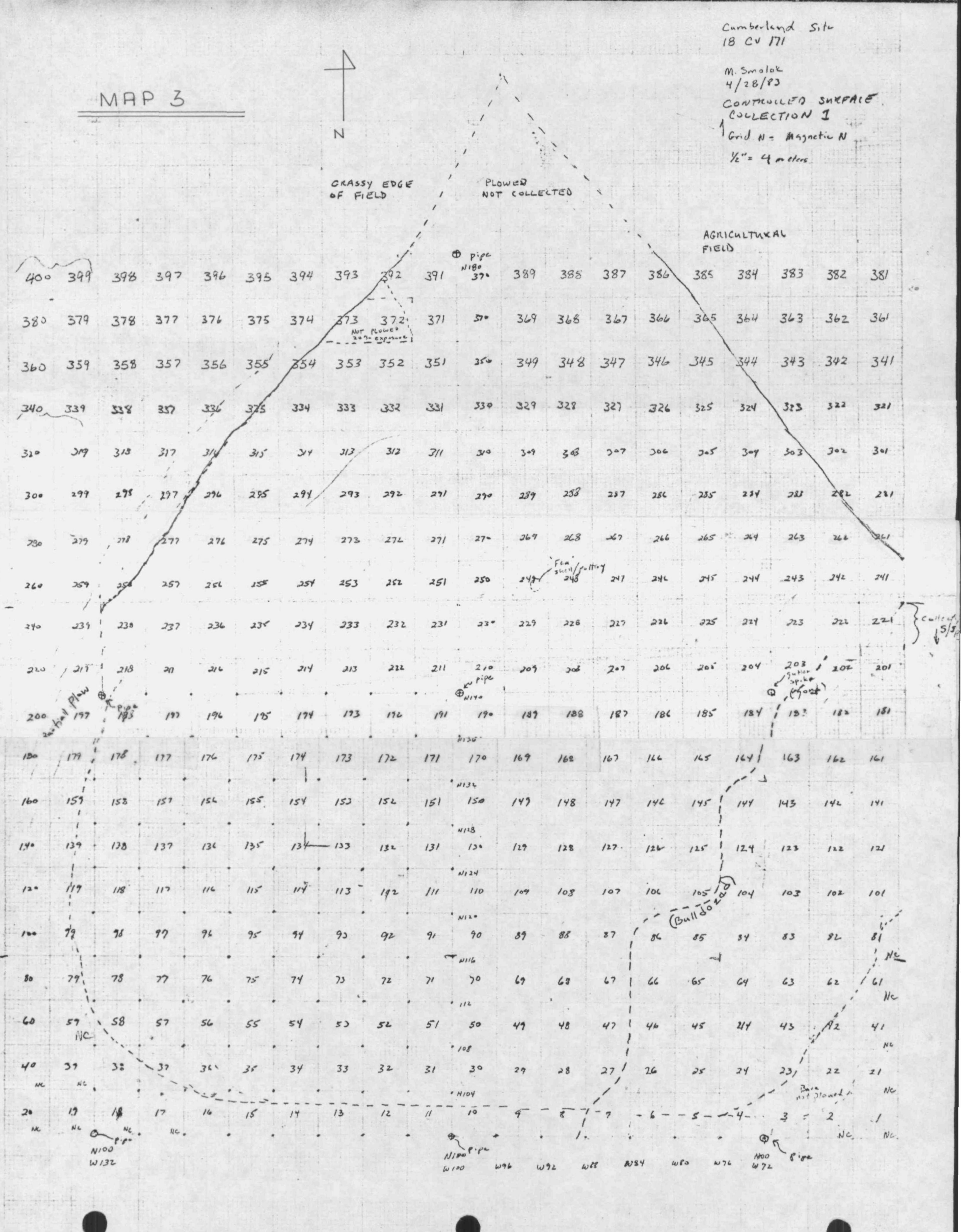
An idealized 80 meter x 80 meter grid square was used for the numerical order and identification of the squares. Thus, the individual 4 meter squares were numbered east to west, numerically increasing by 1, in rows of twenty. Therefore, from any given square on the site: the square to its north was numbered +20; the square to its south was numbered -20; the square to its east was numbered -1; the square to its west was numbered +1 (see Map 3).

In actuality, while the numerical order remained fixed for an idealized total of 400 squares, the total number of real squares was less. In fact, the site was made up of a total of 276, four meter squares, for a total site area of approximately 4,416 square meters. The actual parameters of the site were irregular due to the topographic relief and the areas under construction or plowed.

The area of primary impact, due for destructive construction, was generally within the area N 124 to N 136 and W 92 to W 136. This was the minimal area from which plowzone would be stripped. When the stripping was done, the area exposed extended approximately N 116 to N 140 and W 88 to W 136, for the removal of ± 4800 cubic yards of topsoil. *

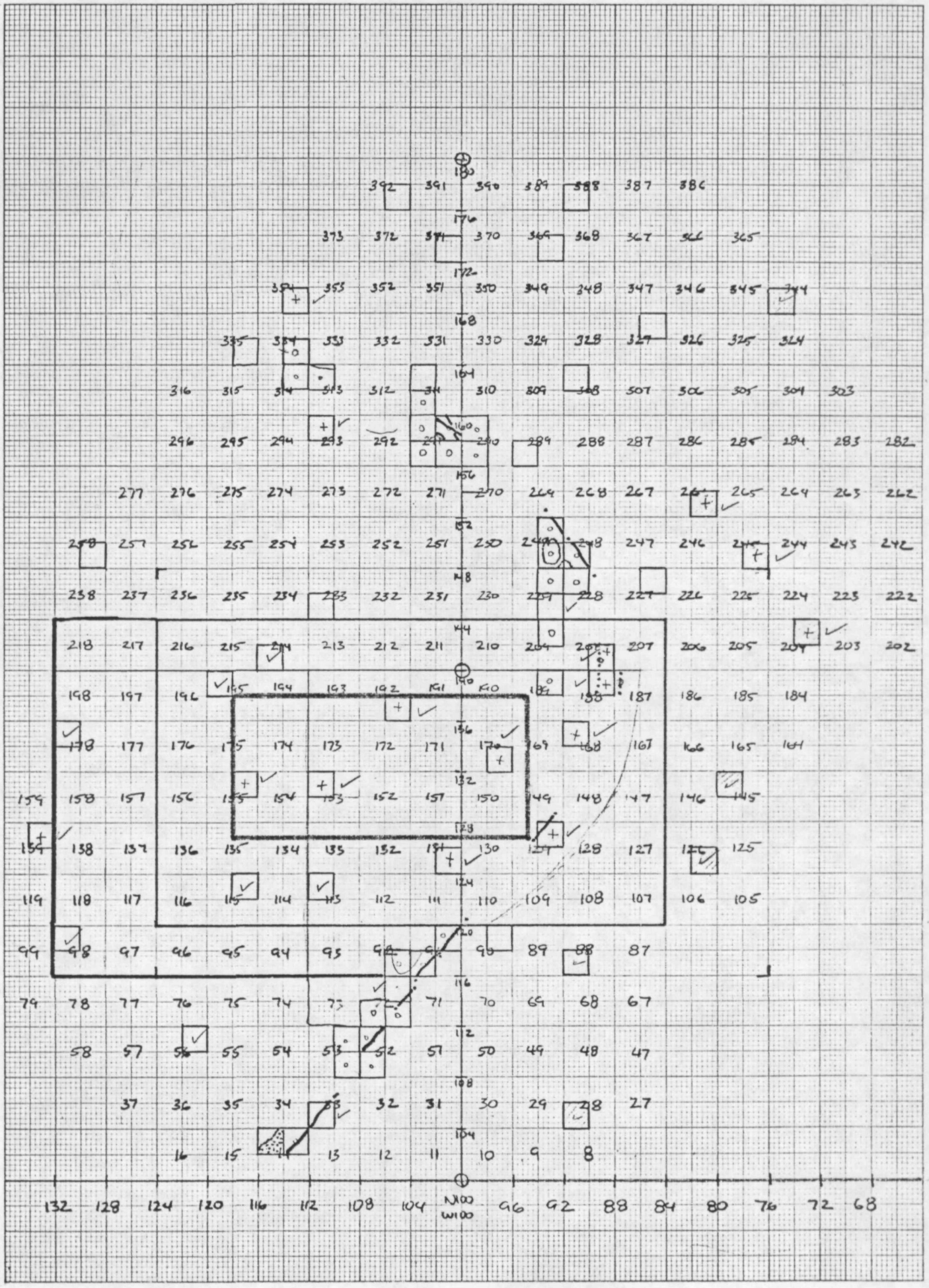
The datum point at N 100/ W 100 was given an arbitrary elevation of 100 meters above sea level. All subsequent site elevations were taken in relation to this datum point as a fixed standard.

*(See Map 4).


Cumberland Site
18 CV 171
M. Smolok
4/28/83
CONTROLLED SURFACE COLLECTION 1
Grid N = Magnetic N
½" = 4 meters
MAP 3
N
GRASSY EDGE OF FIELD
PLOWED NOT COLLECTED
AGRICULTURAL FIELD
pipe N180
NOT PLOWED
partial plow
pipe
pipe N170
Few shell/pottery
Collected 5/5
Bulldozed
NC
Bare not plowed
N100 W132
N100 W100 pipe
W96
W92
W88
W84
W80
W76
N00 W72
Pipe
N136
N132
N128
N124
N120
N116
112
108
N104

NATIONAL
12-188
Made in U. S. A

MAP 4



10 Millimeters to the Centimeter

(B) Methodology

A multi-stage archaeology sampling program was proposed for the Cumberland Palisaded Village site by the Maryland Historical Trust and the field directors. This program, which dictated the direction and demands of the fieldwork, was organized in four sequences:

(1) multiple controlled surface collections;

(2) stratified, non-aligned, random test square excavation;

(3) systematic soil sampling;

(4) stripping of plowzone for subsoil exposure.

Each of these stages is discussed below.

Such a multi-stage program was intended to provide data of both independent values and inter-related variables, the better then to analyze and interprete the archaeological record. This program was planned and then presented to the Baltimore Gas and Electric Company for a financial grant:

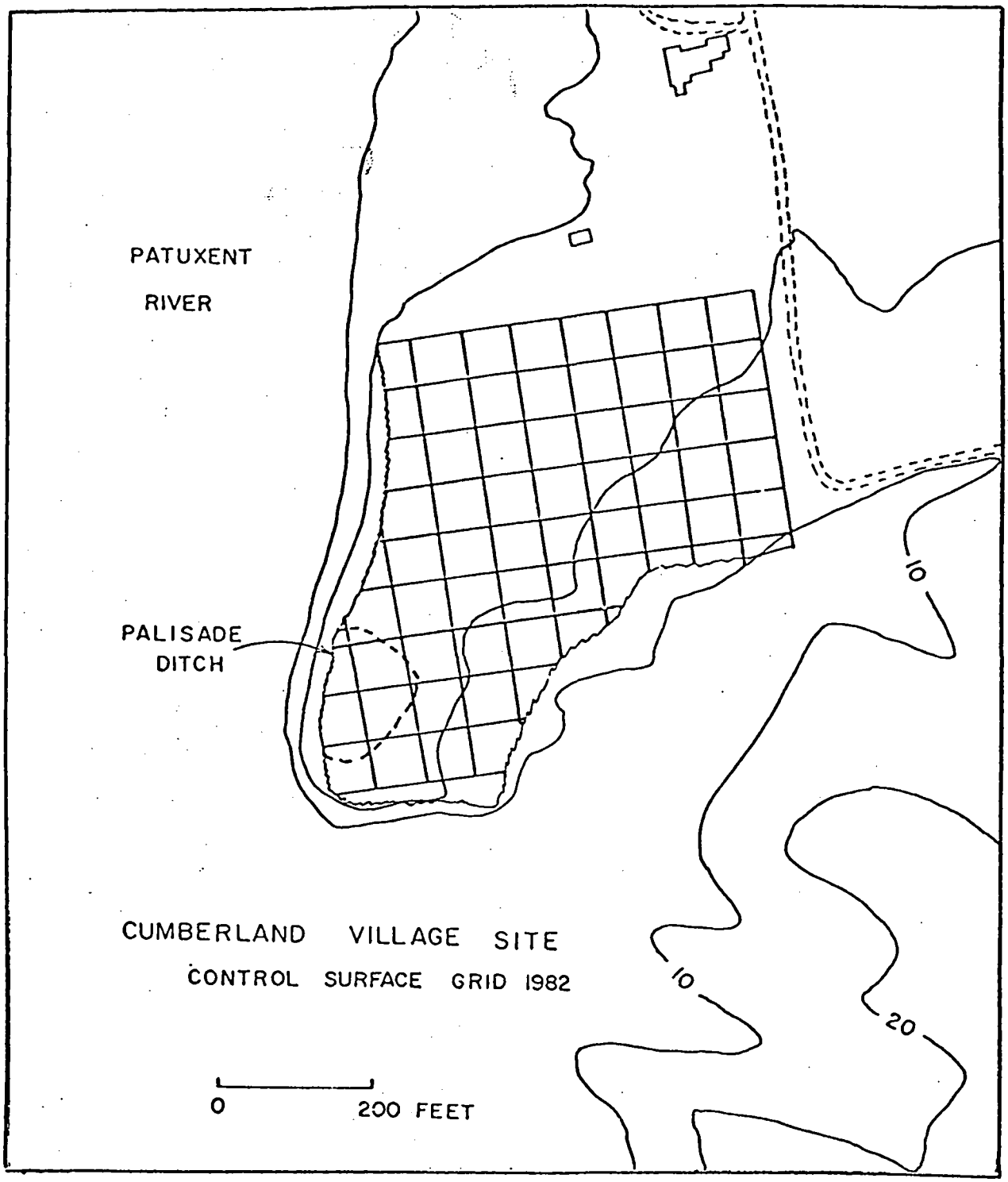
> Rather standard methodologies have been developed over the past ten years in Maryland to sample both the plowzone and sub-plowzone spatial associations of artifacts and features. However, all of these procedures have never been applied to a palisaded village site to answer problems of regional importance....In short, the proposed sampling program to be developed at the Cumberland site will provide unique insights and previously unavailable data for Maryland archeology (Clark and Hughes 1983: 12).

The program was generally followed as was written in the proposal, but revisions were necessary due to various factors of both choice and circumstance.

(1) Controlled Surface Collections

Three controlled surface collections were taken at the Cumberland Palisaded Village site. The first one was in May, 1982, conducted by Michael A. Smolek who completed a rapid assessment control collection within standard 20 meter squares (see Map 5). Data on the densities of artifacts were used for plotting their relative distributions on a map. "The resultant contour frequency map of the artifact distributions revealed that the peak concentration of prehistoric artifacts occured within the shell midden area and extended beyond the midden for a distance of 50 meters to the north" (Clark and Hughes 1983: 6).

The second controlled surface collection was conducted a year later in May, 1983, as directed by Michael A. Smolek. In contrast to the first collection, the second was completed within standard 4 meter squares, and it was the only one of the three collections to include oyster shell (approximately the size of a quarter coin). The shell was weighed and its distribution and density were plotted on a map.(see Map 6). Contour lines were drawn over the site at 200 gram intervals which indicated approximate areas of relative



~~FIGURE 3~~ Location of 1982 Control Surface Grid.

MAP 5

concentrations. Furthermore, the distribution and relative density of ceramic sherds collected on the surface were mapped (see Map 7). There were apparent areas where concentrations of both shell and pottery overlapped and thus corresponded.

The third surface collection was completed a month later in June, 1983, within standard 4 meter squares. In the interim between the second and third collections, the site had been intentionally plowed and subsequently rained upon in order to expose artifacts from plowzone to the ground-surface. However, upon arrival on the site in the first week of June, it was found that the southeast portion of the site had been inadvertently bulldozed; thus, this area could not be collected. In contrast to the second collection, shell was not collected the third time.

The surface collections were made based upon certain assumptions and known factors. The program of shovel test pits in 1982 made clear that the artifacts of the site were substantially if not exclusively contained within plowzone. The many years use of the land as an agricultural field meant that the site had been frequently and regularly plowed, necessarily disturbing the deposition and distribution of artifacts. However,

> this re-distribution follows a normal pattern with the original source of the artifacts representing the center of the original artifact distribution. While a single controlled

Oyster Shell

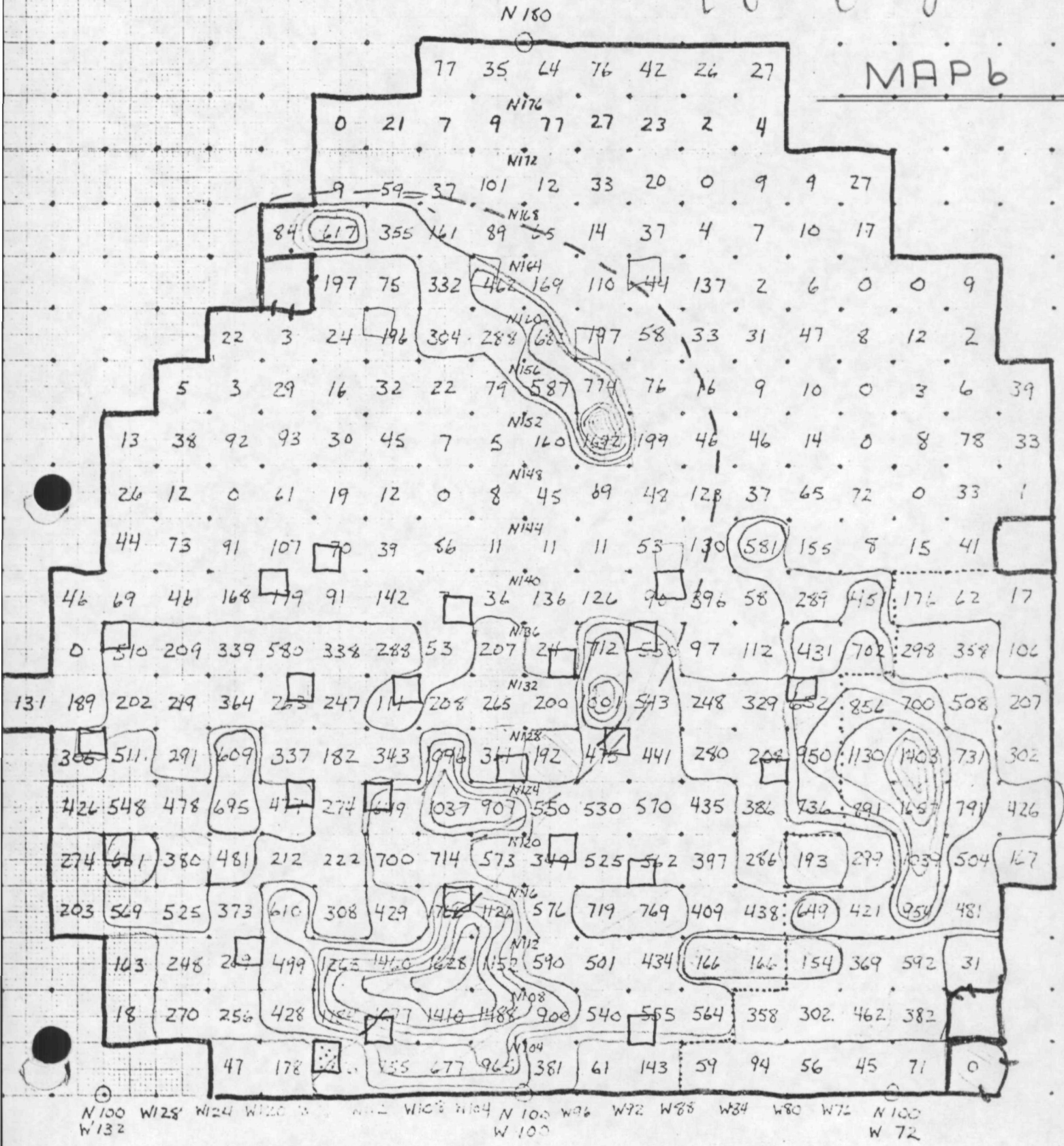
200 interval

(by weight grams)

2nd of 3 collections (1983)

5-5-83

MAP 6



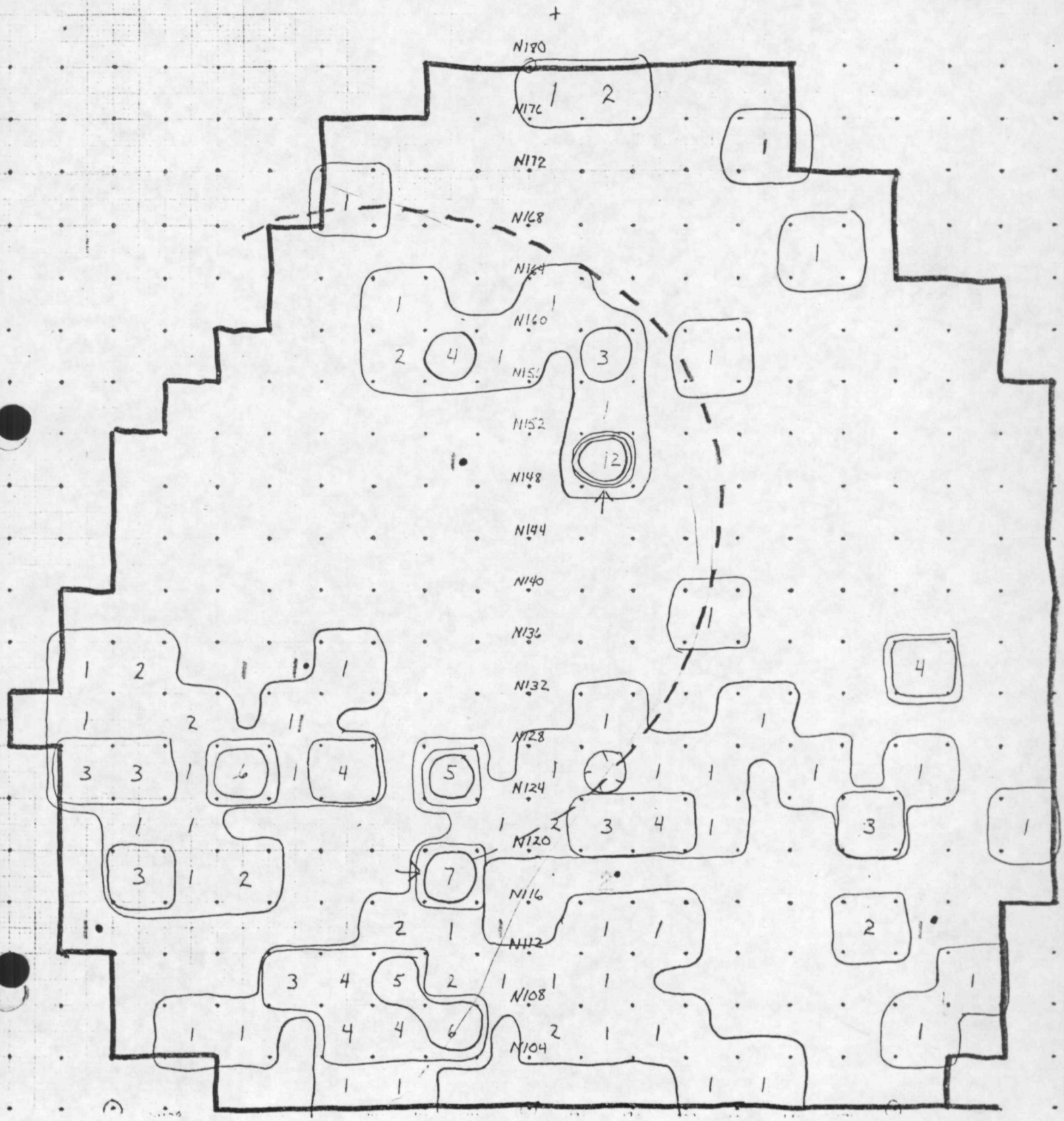
Total Abo Pottery

1-3-5-7 int.

2nd of 3 collections
(1983)

6-5-83

MAP 7



> surface collection from a site obtains approximately a 1% sample of the artifacts in the plowzone, this sample will be sufficient to define site limits and to interpret the nature and location of activity areas (Clark and Hughes 1983: 12).

Data from the three controlled surface collections should provide information which can be compared independently to each other, especially in order to see whether or not the distribution and density of materials on groundsurface consistently correspond to each other. Moreover, once the individual collections are compared, they can be used to observe the possible correlations between the spatial and density analysis of the surface distribution and the subsurface exposure of features and location of activity areas. Preliminary analysis of the second controlled surface collection has been done by Wayne Clark by his identification and classification of the artifacts by diagnostic attributes (see Appendix, and pages 46 - 48). The loss of the southeast corner of the site to the bulldozer is regrettable both because this area could not be included in the third collection and therefore its data will lack comparative analysis and because both artifact and shell concentrations in the area indicated promising evidence of subsoil features too soon destroyed.

The collection of lithic and cermic artifacts from the groundsurface, the preliminary analysis by Wayne Clark, the

contour maps showing density and distribution of artifacts and shells, altogether indicated both an extensive prehistoric occupation of this site over time (e.g., the presence of Archaic lithic material), and an intensive settlement of this site during the Late Woodland period (e.g., the preponderance of Yeocomico wares). Further comparative analysis of the separate contolled surface collections to each other and the correlation of the cumulative data to the location and extent of subsoil features remain to be done.

(2) Test Square Excavation

The second procedure of the multi-phase sampling program for the Cumberland Palisaded Village site was the systematic excavation of standard 2x2 meter test squares. This sampling procedure was conducted in order to provide:

(1) a statistical quantification and evaluation of artifacts as found within plowzone;

(2) a statistical sample of subsoil feature data as found below plowzone;

(3) a correlation between plowzone content, the presence or absence of subsoil features, and surface indicators as found in controlled surface collections.

Test squares were excavated on the site both in accordance with the sampling program and at the discretion of ~~the field direction of~~ the field directors. These two types of test square excavtions are discussed separately.

(a) Random test square excavation

It was determined that a stratified (i.e., by division of the site into quadrants), random, unaligned sample would provide statistically valid data for the desired information concerning the location, extent, and type of features to be found below plowzone (Clark and Hughes 1983: 13-14). Originally, in the proposal to Baltimore Gas and Electric Company, it was decided that it would be necessary to use an 11% sample of the total area of the site; however, given the constraints of time, labour, equipment, etc., it was agreed that the test square excavations would encompass a 3% sample over the entire site, and an additional 2% (for a total 5%) sample over that part of the site which would be impacted by construction. Of the total of 1,104 two meter squares of the site, 42 were excavated as test squares for the stratified, random, unaligned sample (see Map 8).

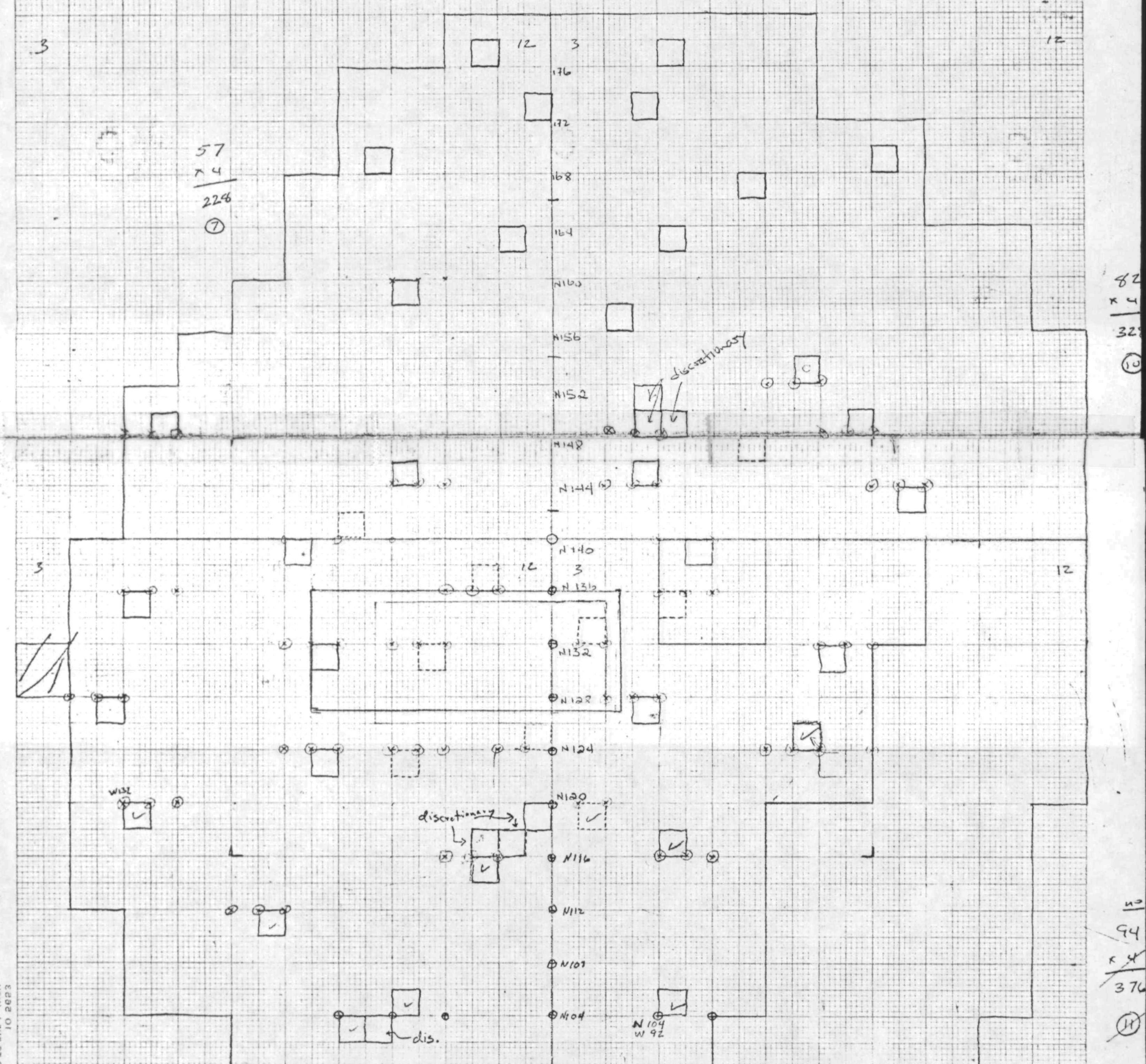
The loss of that part of the site which had been bulldozed did not substantially alter the random selection of test squares or diminish the percentage sampled. The estimated original area of the site was to have included a total of 1,246 two meter squares, but this was reduced to 1,104 two meter squares due to the loss of the bulldozed area. In effect, 42 test squares were excavated rather than the 46 originally planned.

Each 4x4 meter square was divided into quadrants, thus into four 2x2 meter squares. The plowzone stratum was

designated alphabetically in a clockwise direction (A,B,C,D,) from the northwest corner. The plowzone soil was shovelled and dry screened (3/8 inch, center-to-center mesh), with separate bags kept for lithic and ceramic materials, and a quantification count taken of oyster shells (of quarter coin size or larger), per number and/or fraction of buckets (four gallon standard). Each sqaure was taken down to the subsoil surface, usually distinguished by a light yellow (10 YR 6/4) to dark orange or yellowish brown (10 YR 5/8) colour, frequently mottled, with a more dense, compact, clayish texture. It was at the subsoil surface that intrusive distinctions could be seen, especially the prehistoric features, but also including a high frequency of plowscars. Squares with features at the subsoil stratum were mapped, coded by the Munsell Code standards, and photographed. All test square excavation data were recorded on standard provenience cards and an inventory was maintained for the artifact collections.

Of the 42 squares completed, 27 revealed evidence of possible, but sometimes dubious, features. It was a disappointment that so few squares had exposed any trace of subsoil features, especially as the test pit excavations in May, 1982, had revealed substantially more and potentially significant evidence of prehistoric features. While a statistical analysis and a comparative correlation would be necessary to make clear the relative adequacy of the stratified, random, unaligned sample procedure, it was clear that there was much more to be found by expanding the number of test squares.

MAP 8



86
x 4
344
(10)

51
x 4
204 = (6)

319 total 4x4s
1276 total 2x2s

3% = 38 + 8 = 46 total

→ 276 4x4s
1104 2x2

3% = 33 + 9 = 42 total

(b) Discretionary test square excavation

With nearly all of the 42 test squares opened and completed, it was decided at the discretion of Smolek and Pogue to open squares either in areas contiguous to squares with evidence of features or in areas where features were thought to probably exist. A total of 42 such discretionary squares were excavated. These will not be included in the final analysis of the original 3% - 5% test square sampling program. By the fact that these additional squares were opended at the discretion of the field directors, these were not systematic, or random, or unaligned, and therefore must be considered separately from the original sampling program. All of the discretionary squares were excavated and their data were recorded as described above.

By opening these discretionary squares, it was possible to open increasingly wider and longer areas, the better to trace the palisade line and to follow the full extent of features as they came to be exposed. All the discretionary squares were opened either on or within the palisade line. (By doing so, a discrepancy was found between the palisade line as traced by the excavation trenches in 1982 and the graphic map initially used to outline the palisade on the site in June, 1983). Thus, by the time of the stripping of the major impact area of the site, large areas outside the impact zone, but within the palisade line, had already been exposed and the excavation of such squares was continuing.

The opening of the discretionary squares was not a departure from the sampling program (since the 42 stratified, random, unaligned squares were excavated first), but neither was it a consistent direction of the fieldwork as pre-planned. While that data from the discretionary squares must be excluded from the analysis of the original 3% - 5% sample, the additional 42 squares have provided substantial data inclusive for an overall analysis of the site. With both the original sample test squares (42) and the discretionary squares (42), approximately 7.6% of the site was excavated in 2x2 meter squares. total area of the

(3) Systematic Soil Sampling

Soil samples were taken as an integrated part of the multi-phase sampling program. While samples were taken at various times and places in the overall strategy of the excavation, the general goals of these samples have been to provide data for both:

(a) natural analysis, e.g.: chemical content of phosphates, calcium, ph readings; sequence of stratigraphic deposition; reconstruction of the prehistoric environment, etc.;

(b) cultural analysis, e.g.: floral and faunal contents as possible subsistence resources; possible location of activity areas or midden deposits; plow disturbance, etc.

Four types of samples were taken: (a) soil samples from plowzone and features; (b) pollen samples; (c) carbon samples; (d) flotation samples. These last three types of samples were an integrated part of the procedures for the excavation of features and will be discussed below. This present discussion concerns soil samples taken at plowzone.

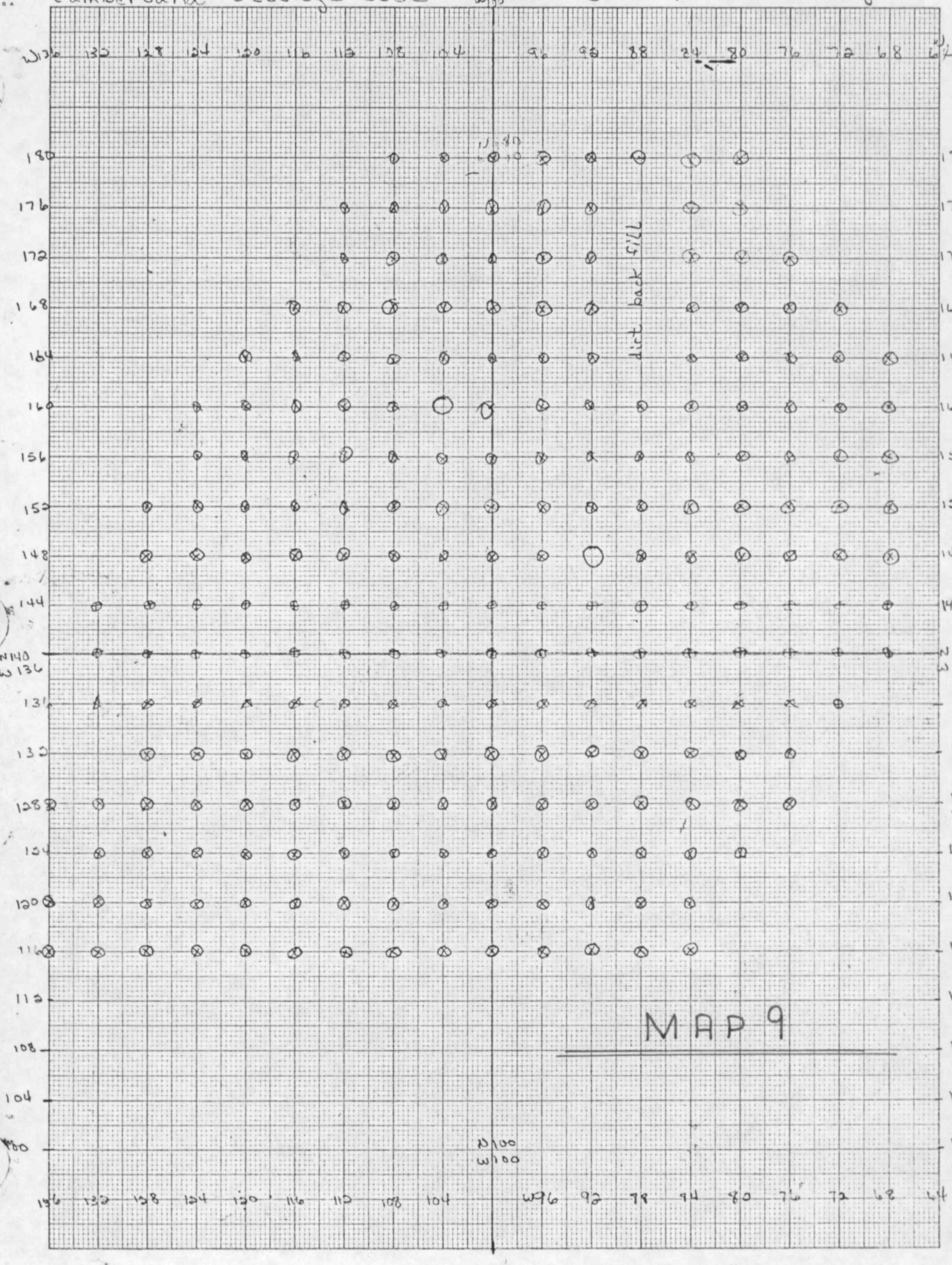
The site covered an area of approximately 4,416 square meters, which had been divided into 276 four meter squares. At each point of intersection of the linear grid pattern, a sample of plowzone soil was taken at several centimeters below groundsurface. Each sample was bagged in plastic, sealed, and boxed with identification of the co-ordinate numbers of the squares from which the samples were taken. Precautions were observed against possible contamination.

While plowzone, as a stratum, is generally regarded as homogeneous in composition and disturbance across the site, and contains no differential deposition, the analysis of these soil samples has the potential for providing data for plotting soil values (e.g. ph readings, calcium, etc.). These can aid in the identification of possible activity areas, settlement pattern, midden deposition, etc. Moreover, with the soil samples taken also from subsoil features, the differences can be comparatively determined between the disturbed and undisturbed chemical distributions.

For the points at which the surface soil samples were taken, see Map 9.

18 CV 171 6-24-83 Soil Sample

Cumberland Village Site W100 ⊗ - Sample taken O - gone



10 Millimeters to the Centimeter

(4) Stripping of Plowzone

An extensive exposure of subsoil by stripping off the plowzone by Gradall machinery was determined as an effective procedure for the Cumberland Palisaded Village site because:

(a) the area selected for stripping would soon be permanently destroyed by the construction of the house;

(b) the soil for removal was restricted to plowzone, which was at a generally consistent depth (not greater than one meter) and of a wholly homogeneous composition;

(c) the controlled surface collections and test square excavations would independently provide statistically valid data, uncompromised by the stripping, but

(d) the two sampling procedures would provide insufficient data concerning the sub-surface features (quantity, location, pattern, dimensions, etc).

Therefore, a 5% test square excavation of the major impact area having been completed, that mid-section of the site which was to be destroyed was stripped on two consecutive Saturdays by a Gradall and dump truck. The backfill of ± 4800 cubic yards was removed to the edges off site. The area which was stripped was wholly within the perimeters of N 116 to N 140 and W 88 to W 136. Sections within this area had already been exposed by test square excavation.

In the effort to expose features at the subsoil surface below plowzone, the Gradall operator removed plowzone topsoil

while the site personnel hoed and flat-shovelled the just-exposed surface. Any traces of positive or possible features were pinned with flagging tape. Plowscars were removed as time and labour permitted. As best possible, extensive areas with feature tags were covered in plastic sheets. In the weeks intervening this procedure and the closing of the site, a major effort was made to survey, map and photograph the area and to excavate the features uncovered.

While an analysis of the data so far available and conclusive interpretations have not yet been made, it is apparent that the area stripped had not uncovered substantive evidence of a village settlement. It was hoped that subsoil features would have displayed and defined such important information as prehistoric structures, their types, dimensions, spatial relationships and community patterning. While several features may indeed prove to provide some such information, the initial results were disappointing. Moreover, plowscars were common throughout the area stripped, running in directions both north/south and east/west. While it was apparent that the plowscars had not severely damaged any extensive features, they nonetheless intruded the subsoil surface enough to have caused damage would can only be estimated.

A possible explanation for the lack of settlement features sufficient for interpreting intra-site patterns may be that the Patuxent Indian occupants had built their

structures into shallow foundations which did not survive later damage by plowing and so were lost to plowzone. However, other explanations are as feasible and are suggested below. Until the available data have been adequately analyzed, no definitive statements can be made conclusively concerning the reasons for the absence of features and the interprtation of the features present.

While the multi-sampling procedures for fieldwork had been an integrated program, the test square excavations (especially including the discretionary square features) and the relative lack of substantial features in the area stripped, separately posed options for the further direction of the fieldwork: either to concentrate on the features outside the area stripped as providing potentially more and better data; or, to concentrate on the area stripped since it was the land to be disturbed by the house construction. While both efforts could and were conducted simultaneously, it was decided by Clark, Smolek and Pogue that priority must be given to the area stripped since it was the area to be permanently destroyed whereas the features outside the major impact area might survive and remain thus preserved. Theoretically, these features might be accessible for excavation at a later time, although that possibility is recognized as most unlikely.

(C) Feature Excavations

(1) Procedures of Excavation

Standard procedures were used for the excavation of each feature. Data for each feature were recorded on provenience forms, with maps, code descriptions, elevations, etc. These forms provide the substantive record for the features. The standard procedure for the excavation of features is decribed below: All features were found below plowzone, and excavations proceeded in the sequence as here decribed:

(1) Plan view map - Upon exposure of each feature and before any disturbance was irreparable, it was mapped in plan view within its quadrant of the four meter square, on a scale of 5 centimeters = 1 meter.

(2) Identification - The feature was identified for provenience control and record by: (a) the number of the grid square; (b) the letter of the feature within that square *; (c) the number of the stratum if there were differentiated levels.

(3) Segmentation - Each feature was excavated in segments of the whole, so that: circular features, such as postholes, were bisected in halves; linear features, such as the palisade line and the borrowpits, were segmented by the grid survey lines at 4 meter intervals; the "localized depression" was segmented in checkerboard squares of 1 meter each.

* and/or plowzone stratum, so that A = NW quadrant
B = NE quadrant
C = SE quadrant
D = SW quadrant

(4) Opening elevations - Opening elevations were taken from the surface of the feature, either by transit and stadia survey or by benchmark readings from the elevation of the grid points as recorded in the survey log. All elevations were taken from the standard datum point N 100/W 100 at an arbitrary elevation of 100 meters.

(5) Excavation - All cultural and natural materials were removed from each feature in the reverse order of deposition. If more than one stratum was apparent, then each of the steps in the procedure as described was used for the separate excavation of strata within the feature.

(6) Screening - All materials from the feature were screened either by dry screen method (3/8 inch mesh) or wet screen (1/16 inch mesh). While the ideal intention was to have wet screened all feature contents, the screening methods were mixed or alternated due to time pressures, re-evaluation of field priorities, limited equipment, etc. Each provenience form has recorded whether dry or wet screening was used for the excavation of each feature or its segment.

(7) Quantification - All amounts of material removed from each feature were quantified according to the total number and/or fraction of buckets, using a four gallon volume as standard meaure.

(8) Sampling - From each feature, and also from each stratum within a feature, there were four kinds of samples taken: (a) soil samples: all samples were bagged, sealed,

and numbered for laboratory analysis; (b) floatation samples: most samples taken were 20% of the total quantity of all the material removed from the feature; (c) carbon samples: pieces of carbonized organic materials were removed if at least several centimeters in size, untouched, and sealed in containers or wrapped in aluminum foil; (d) pollen samples: these were taken horizontally from the differentiated strata within the borrow pits and several other features, hermetically sealed and bagged.

20% + Shell samples

(9) Closing elevations - Closing elevations were taken at the bottom of each stratum within a feature and finally at subsoil level below each feature.

(10) Photography - Most, but not all features, were photographed both in black/white and in colour, for the record of both plan and profile views.

(11) Profile map - Most features were mapped in profile view at the line of bisection or grid line at the feature, on a scale of 10 centimeters = 1 meter.

(12) Munsell soil code - Soil colours, types and mixtures were recorded using the Munsell code as the standard code description.

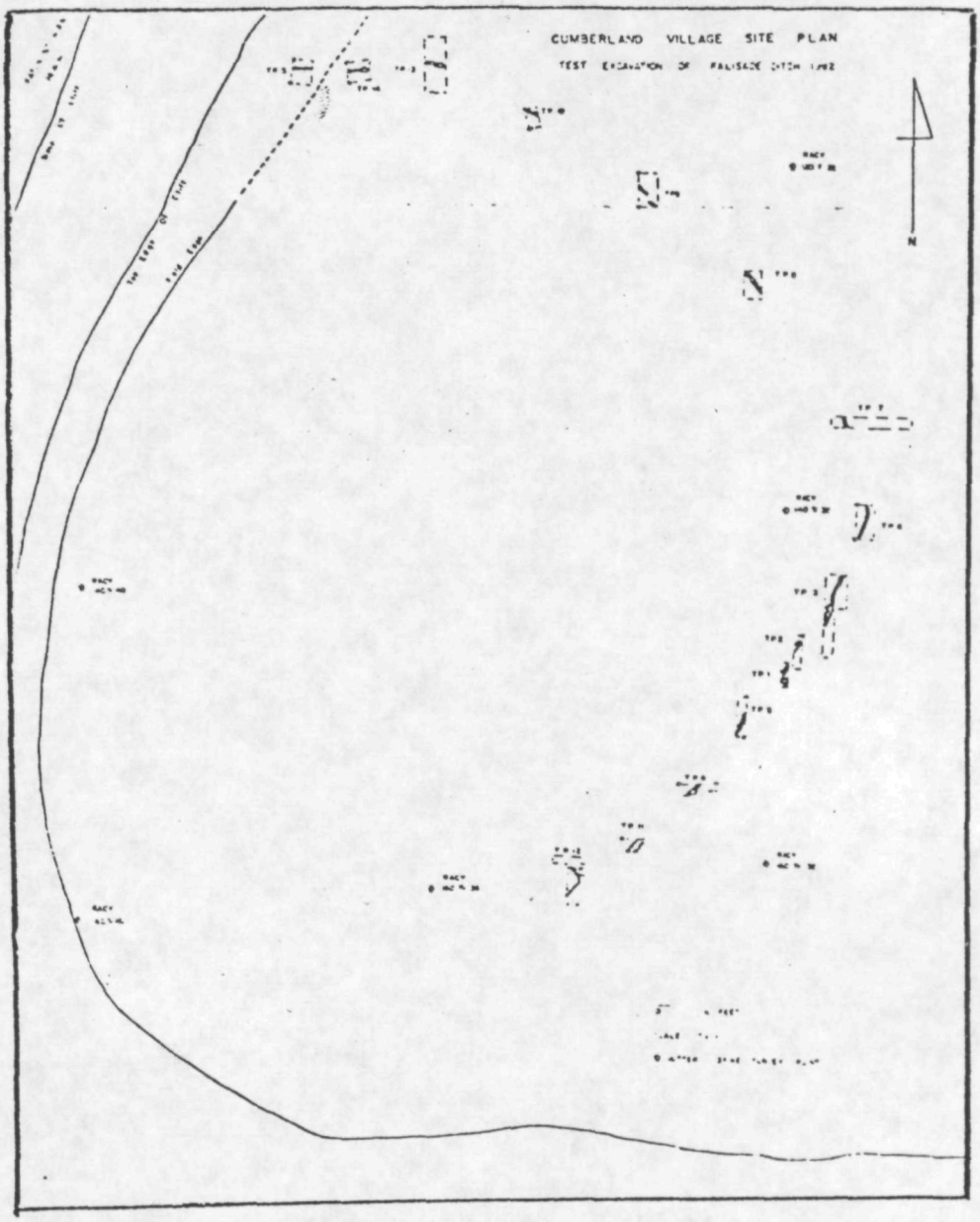
With the completion of this sequence of procedures, the remaining segment/s of the feature were excavated in the same order of sequence, but without the replication of data already recorded from the first or alternate segment of the same feature.

Inevitably, each type of feature, and often each individual feature, presented different or unique problems for excavation and data control. The above description is generally an accurate account for the excavation of features on the site. Specific variations in these procedures are indicated on each provenience form, and are included in the description of the major features which follows.

(2) Description of features

Palisade: It was as a result of the test pit and trench excavations by Michael A. Smolek in 1982 that the Cumberland Palisaded Village site was recognized as a fortified settlement with a palisade (see Figure 1). A major effort of the 1983 field season was to expose, map and excavate the palisade line, and to collect such sampling data as would be representative of the structural feature as a whole.

The palisade line was in a general arch formation, approximately 87 meters in total length. It was 62 meters distant at its north to south length and 45 meters distant from its eastern side to the bluffs on the river, enclosing an area of approximately ± 624 square meters. That the palisade was built as an arch and not as a full circle to enclose the settlement is assumed both by evidence (the north end of the line continued straight outwards on the



~~FIGURE 4:~~ Site Plan of the Cumberland Village Site Showing Excavated Test Squares, 1982.

FIGURE 1

bluff rather than curving or angling inwards) and by inference (a full enclosure would have blocked strategic view of the river, breezes, and the bluff was a substantial natural barrier). Originally, the palisade line had been dug as a trench, with posts set into the trench and then filled with earth, with oyster shell and limestone used for chinking. The depth of the trench line varied, sometimes as shallow as tens of centimeters but sometimes to a depth of hundreds of centimeters. The probable reason for such variations in depth is that the original land surface during occupation had a greater topographical relief so that the trench foundation would have cut through mounds and depressions which have been either truncated or filled by plow, thus levelling the field. Distances between posts within the trench were difficult to estimate, due not only to the irregularity of the gaps as mapped, but also to the amorphous nature of the post moulds themselves.

Only that part of the palisade line which was to be destroyed by the house construction was excavated, i.e., the southeast segment. Thus, of the total line of 87 meters thought to exist, 75% was exposed and mapped. 32.5% was totally excavated, 42.5% was backfilled after mapping (the northeast segment), and 25% was never exposed. That portion of the palisade line which was excavated (approximately 28.3 meters) was divided into segments at the lines of intersection with the 4 meter grid, and excavated in the sequence of procedures as described. See Figures 2 and 3 for examples.

FIGURE 2

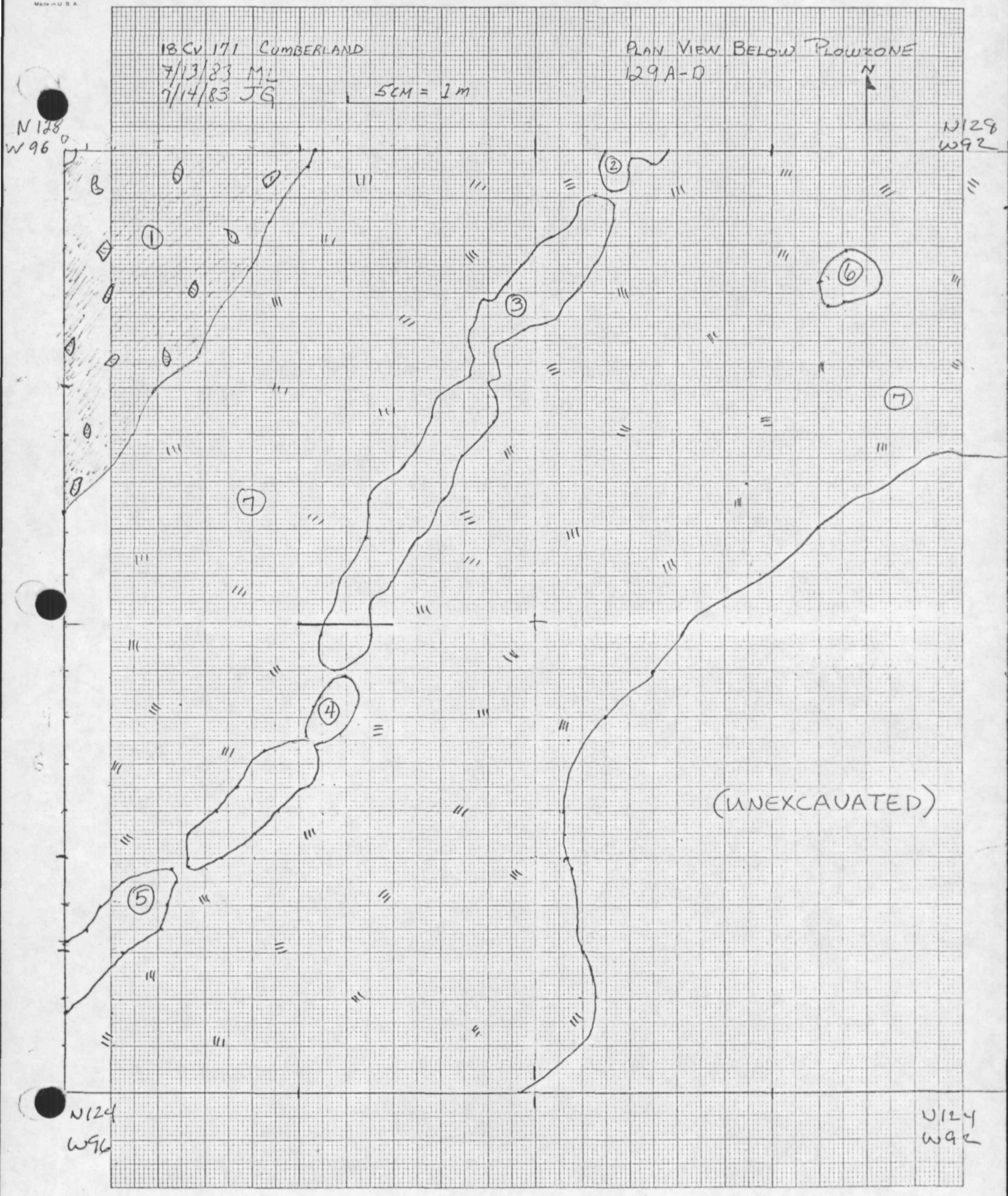


FIGURE 3

18CV 171 CUMBERLAND
7-9-83 JKZ

PLAN VIEW BELOW Pz
334C

5CM = 1 METER

N

(UNEXCAVATED)

334 D

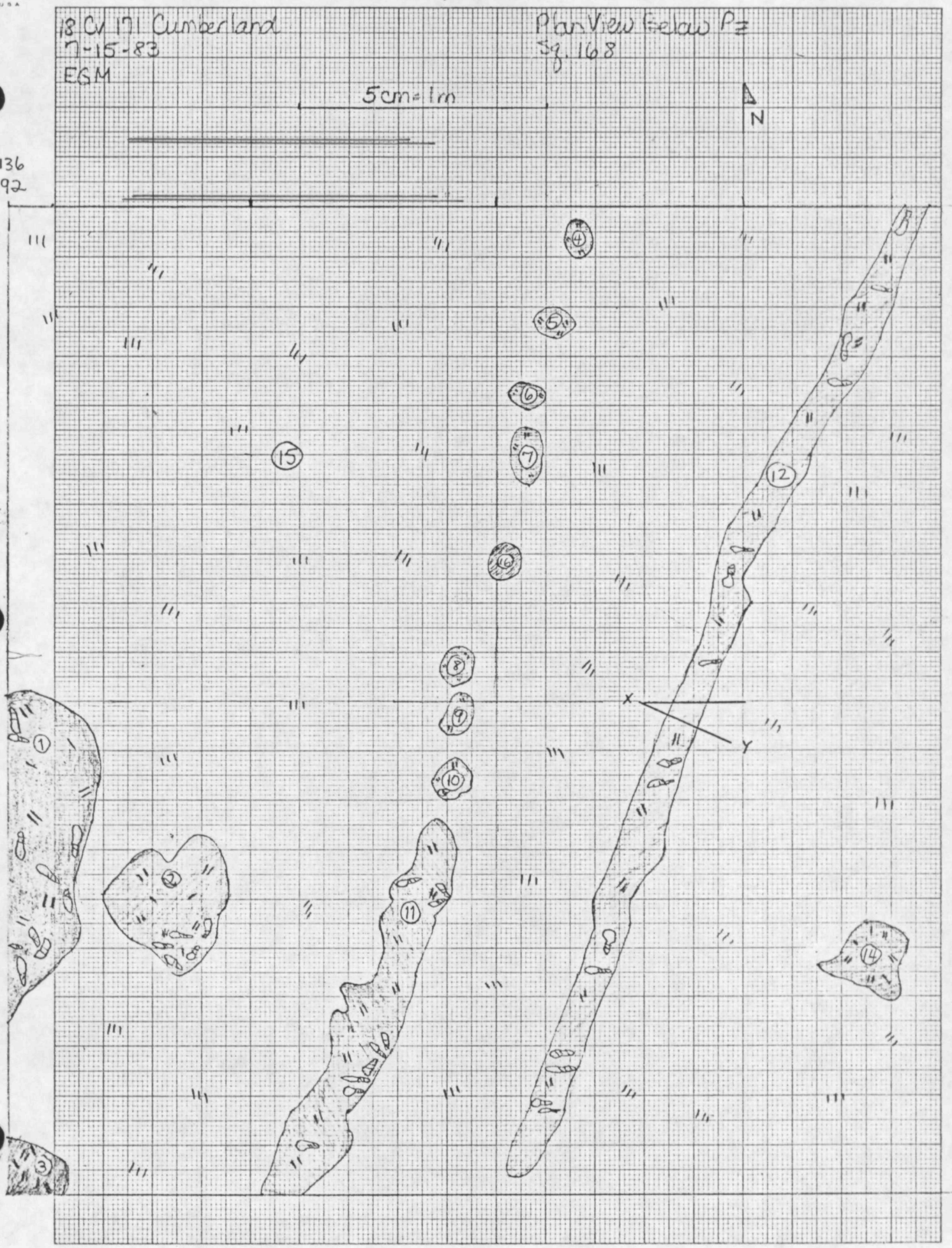
334 C

N 164
W 116

N164
W112

Entrances: A series of postholes was found within the interior of the palisade line, running along its eastern edge, approximately 8.3 meters in length. It was clearly distinct from the palisade in that it was a series of separate postholes rather than a trench (see Figures 4, 5, and 6). It was interpreted as a structural construction in contemporaneous association with the palisade as an integrated part of the feature rather than a line of earlier or later construction. This series of postholes began at the palisade line where there was a distinct space of discontinuity in the line, interpreted as an entrance (between squares 148 and 168; see Figure 7). Directly opposite this break was a short trench (168 F), interpreted as an interior screen at the entrance, which continued to the north in the series of postholes (in squares 168, 188, 208 FGR4, FGR5, FGR6), some with inner post moulds. The distance between these holes was irregular, but the line was in clear sequence, with one hole after another. Depths of the holes varied between 6 to 35 centimeters. This line of postholes was interpreted as a possible interior screen, or as a support structure for an elevated defensive structure, such as a parapet. For each of the post holes in the series, the following data were recorded: (a) "PH" number identification; (b) north to south measurement; (c) east to west measurement; (d) depth; (e) profile type; (f) content; (g) Munsell code; (h) volume of content.

FIGURE 4



10 Millimeters to the Centimeter

FIGURE 5

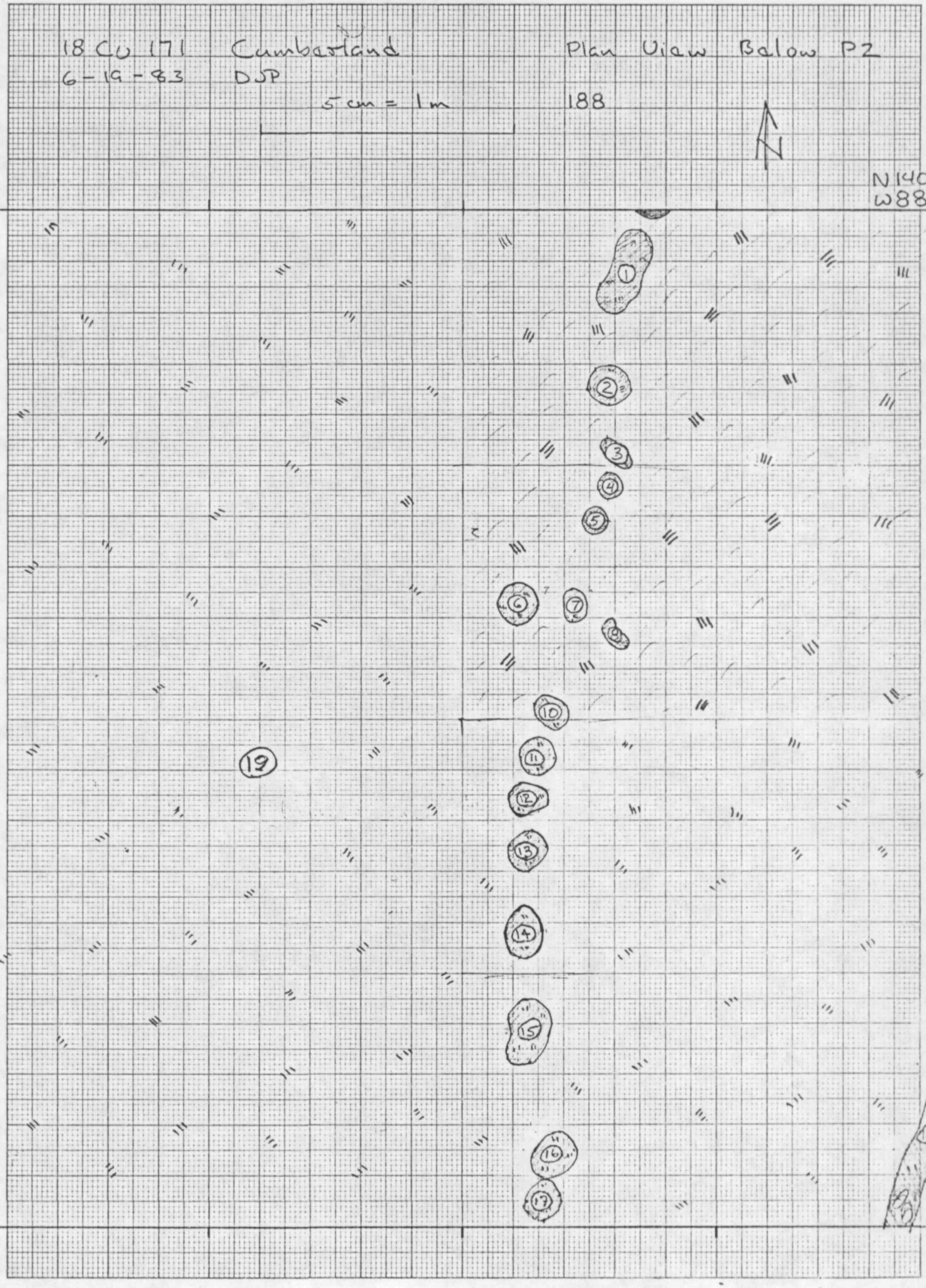


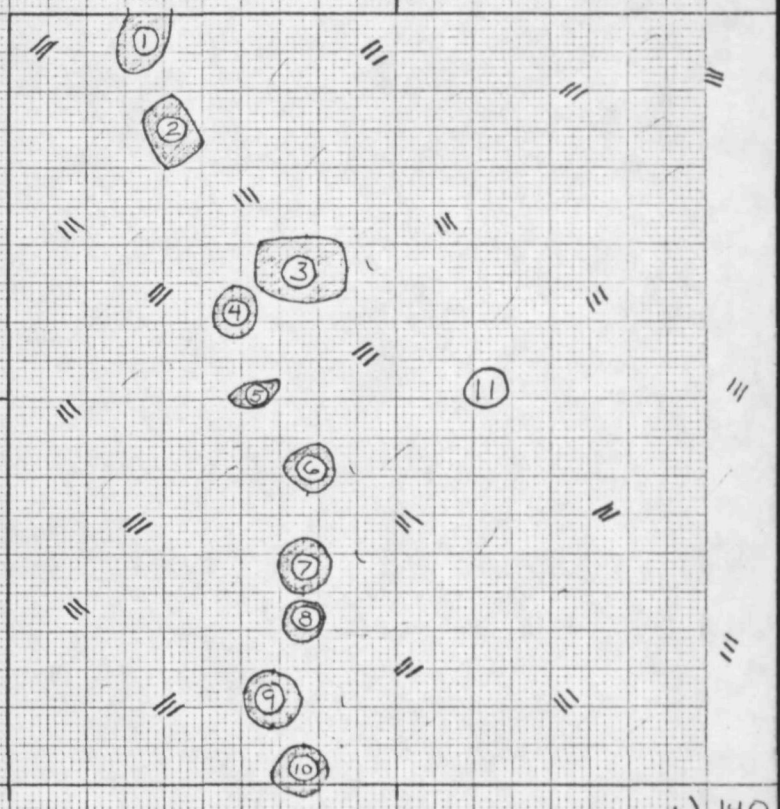
FIGURE 6

18 Cu 171 Cumberland
DOP 7/1/83
5 cm = 1 m

Plan View Below P2
208 C

N

(UNEXCAVATED)



N 140
W 88

10 Millimeters to the Centimeter

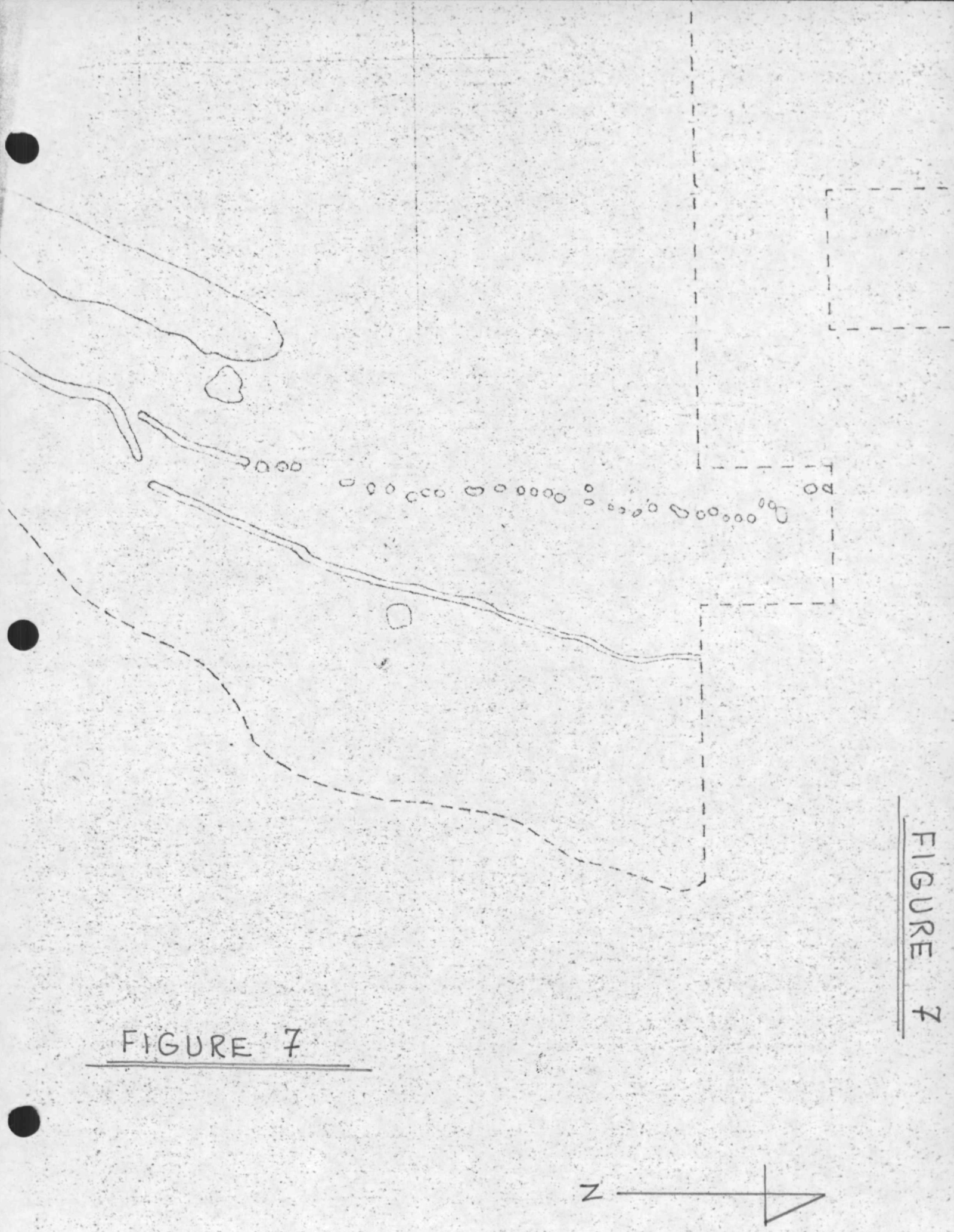


FIGURE 7

FIGURE 7

FIGURE 8

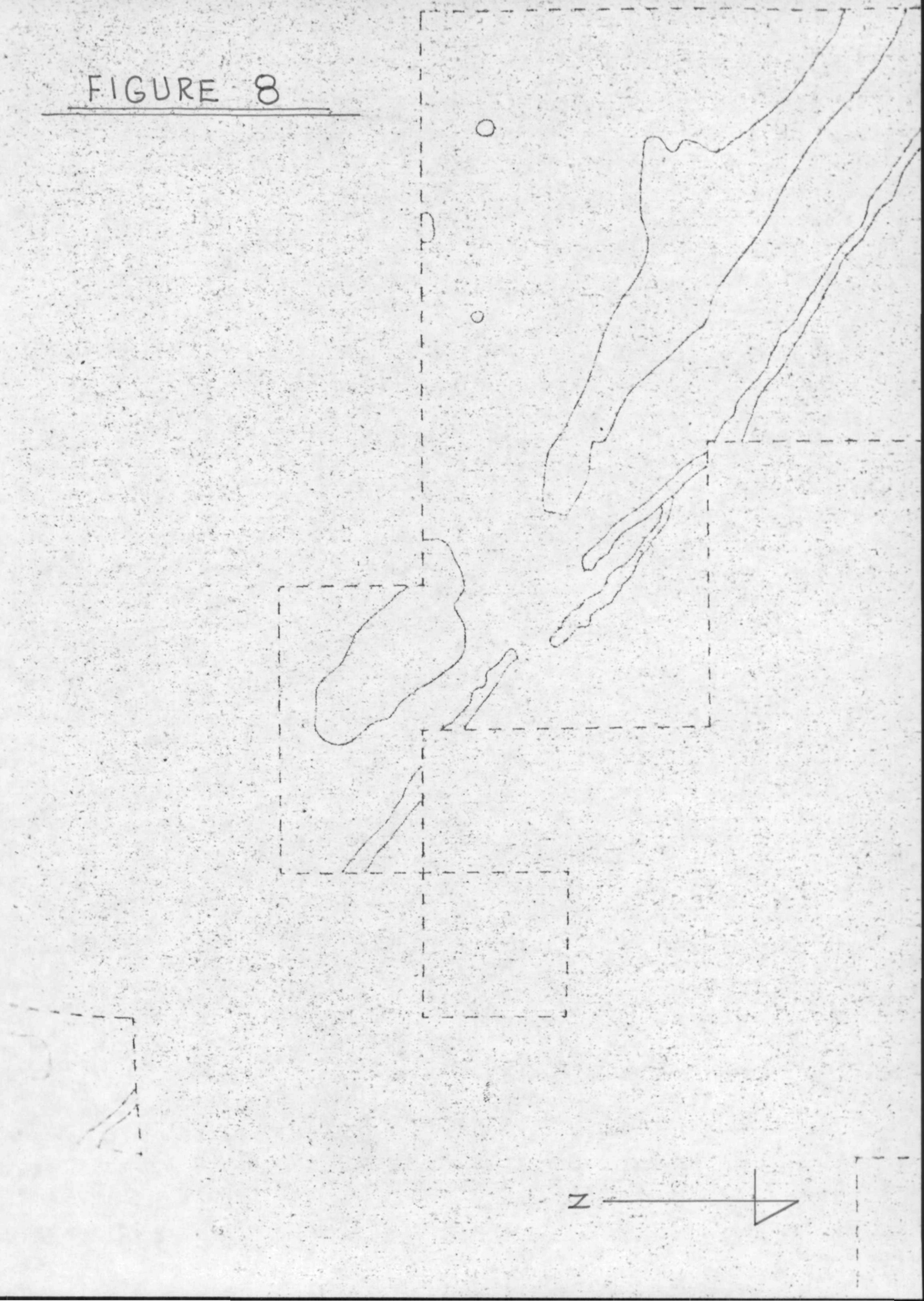
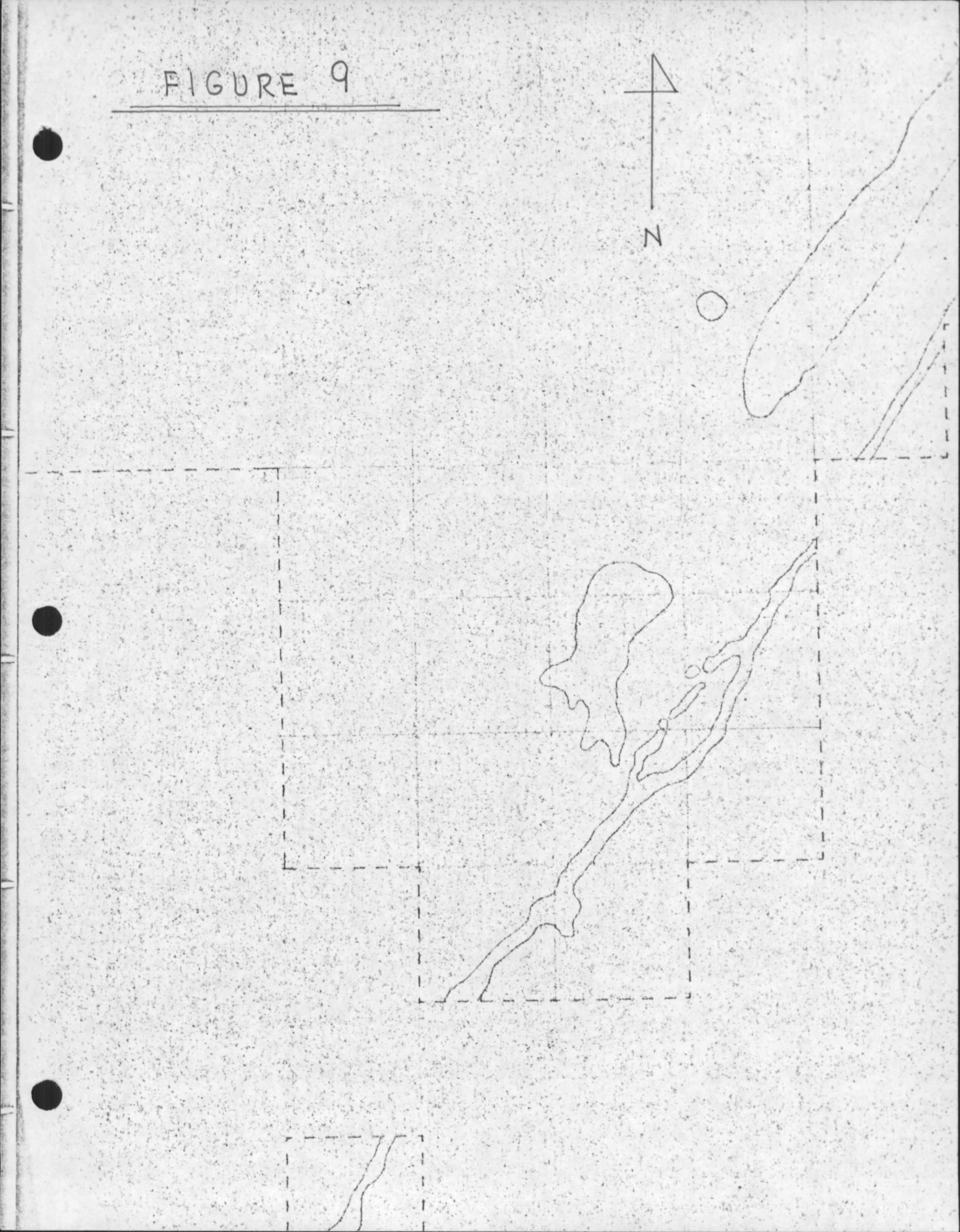


FIGURE 9



The entrance at the east side of the palisade line (square 169) was similar to a second entrance located in the north curvature of the arch (square 190; see Figure 8) and a possible third entrance located in the south (squares 52 and 72; see Figure 9). The entrance at the north had a fork-shaped gap in the palisade line and a space of undisturbed soil at the entrance (i.e., a discontinuity in the borrow pit), similar to the entrance at the east. However, the entrance at the south did not show a distinct break in the palisade line, and as time could not permit its excavation, it cannot be identified as an entrance with confidence.

In the east entrance, a wide and deep posthole had been dug at just that point where the palisade line turned outward at a distinct angle. It was probably an endpost, and it had been supported by a large limestone rock still in place.

Quite similar entrances were constructed by the Indian occupants at the Moyaone Area of the Accokeek Creek site:

> Each of the stockade lines at Mayaone was interrupted occasionally by a gate 2.5 feet wide. All the stockades had gates to the east and south at relatively the same places....Each gate was protected by a screen to prevent the enemy from seeing what was going on in the village and to make it impossible to shoot arrows through the openings. The final posts by the gates were larger than the others and in places they were

> further reinforced by a few small posts very near them either inside or outside the line (Stephenson, et al: 1963: 51).

Borrow pits: There were several separate pits following within the interior of the palisade, at a regular distance of approximately one meter in parallel length. These pits varied in length, width, depth and form, but were altogether generally in a linear formation at a regular space from the palisade line. These pits were interpreted as "borrow pits", having been dug as a part of the original construction of the palisade to "borrow" dirt to throw up against the inside of the line for structural support. The smallest of these borrow pits was 1 meter in both length and width (thus nearly circular) and the largest was 21 meters in length and 1.3 meters in width, while the greatest depth was reached at 600 centimeters (130 F).

The content of the borrow pits was generally consistent across the site, but there was evidence of stratigraphic deposition more complex than expected. It is assumed that these pits had been dug originally in their full dimensions at one time, i.e. at the same time as the construction of the palisade. There was no evidence that these pits had served other functional purposes (e.g., storage, structures, etc.). While each borrow pit did not contain the same sequence of deposition, most parts of most of the pits contained a layer of shell at the surface. This shell layer was excavated down to a mottled layer of loamy fill, often mixed with carbon

and shell flecks, which was excavated down to subsoil. It may have been that much of the borrow pit had had an overall layer of dark sandy loam above the oyster layer (as in 130), but that that layer had generally been lost within plowzone (see Figures 10A and 10B; 11A and 11B; and Figures 12 and 13 for comparisons). A possible interpretation for the sequence of deposition may be:

(a) the aboriginal digging of the pit/s to the full dimensions, into surrounding subsoil;

(b) a period of time during which the empty pit spaces were partially filled by natural erosion, wash, etc., mixing particles of carbon and shell;

(c) the deposit of trash in the pits, including oyster shell, charcoal, ceramics, fire-cracked rock, faunal and floral remains, etc.;

(d) possibly another layer of fill, in localized depressions, due to wash and surface erosion.

Similarly, the "refuse pits" at the Accokeek Creek site, dug along the interior of a stockade built in the late period of the village occupation, were comparably described:

> A striking feature on the map of the village is the long regular arc of the refuse pits, closely following the "I" stockade....Although these large refuse pits almost completely encircled the village, they probably contained only a small fraction of the village waste accumulated during a relatively short period in the life of the village....When the village expanded and built the "I" stockade, the inhabitants apparently heaped dirt against the

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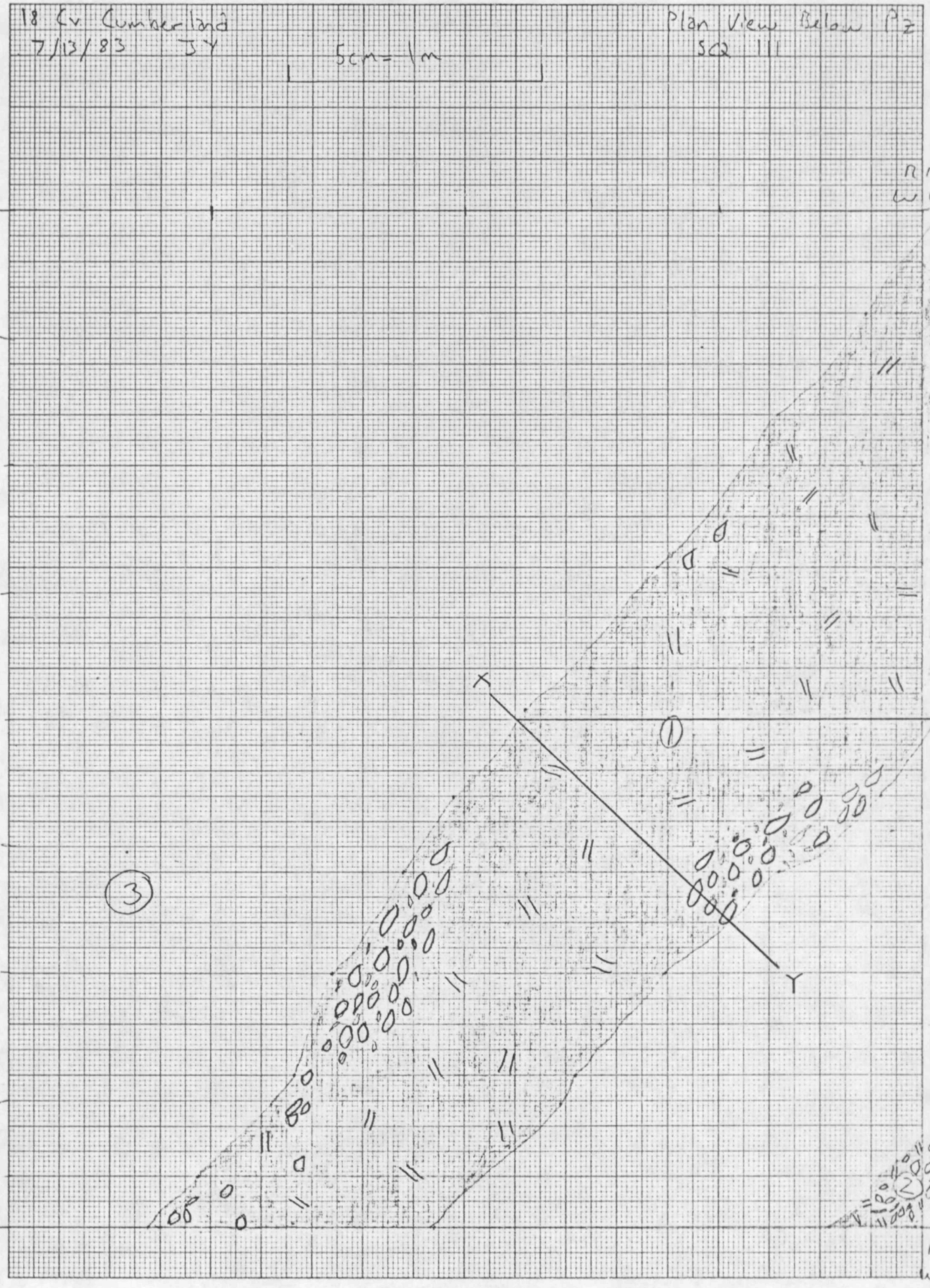
FIGURE 10A



10 Millimeters to the Centimeter

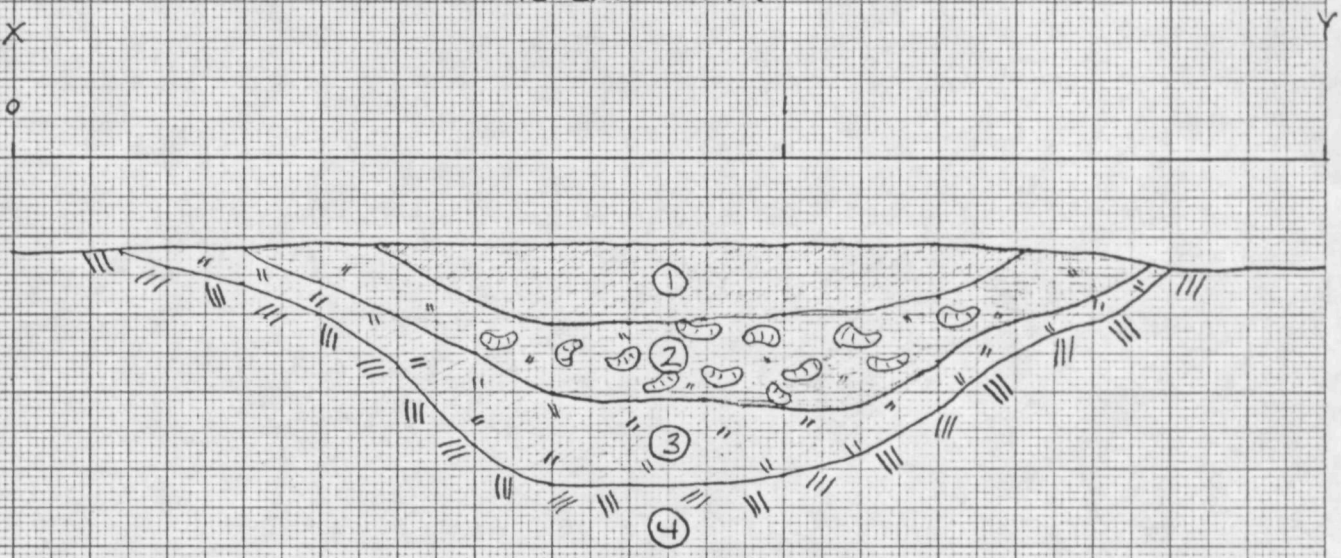
FIGURE 10B

18 Cu 171 Cumberland

Profile View III F

DJP 7/20/83

10 cm = 1 m



① Dark Brown loam (III F-3 = post, excavated w/F-1 south of section)

② Borrow Pit (III F-1)

③ Mottled Layer (III F-2)

④ Subsoil.

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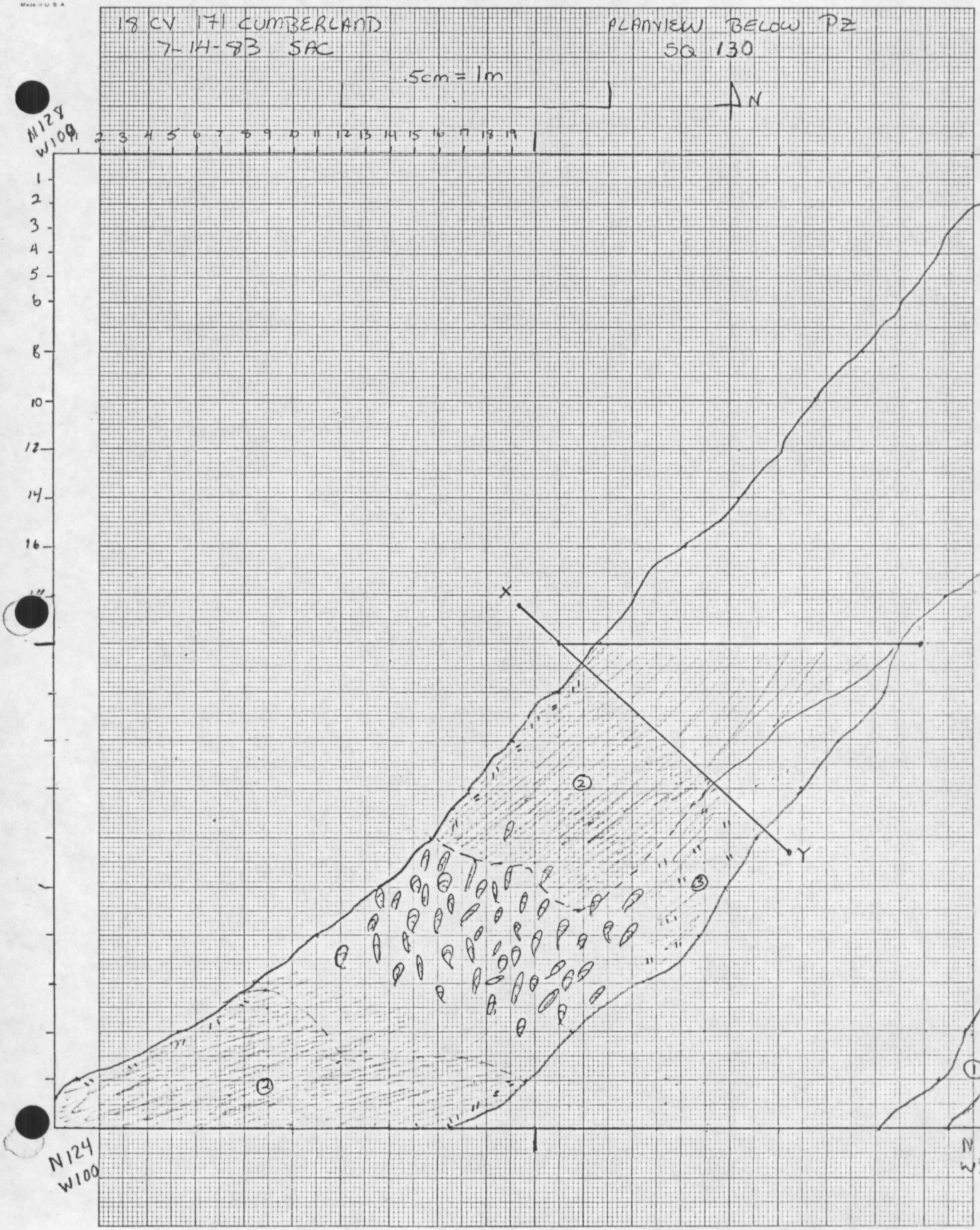
FIGURE 11A



10 Millimeters to the Centimeter

FIGURE 11B

1050

18 Co 171 Cumberland

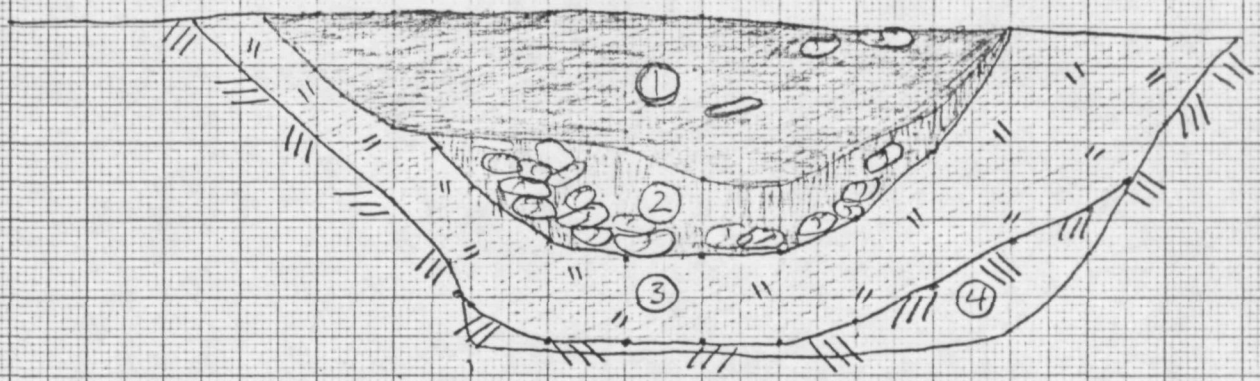
Profile View
130 F 1-3

DJP 7/21/83

10 cm = 1 m

X Y

Datum =



④

① Borrow Pit (130 F-1)

② Shell Lens (130 F-2)

③ Mottled Layer (130 F-3)

④ Subsoil

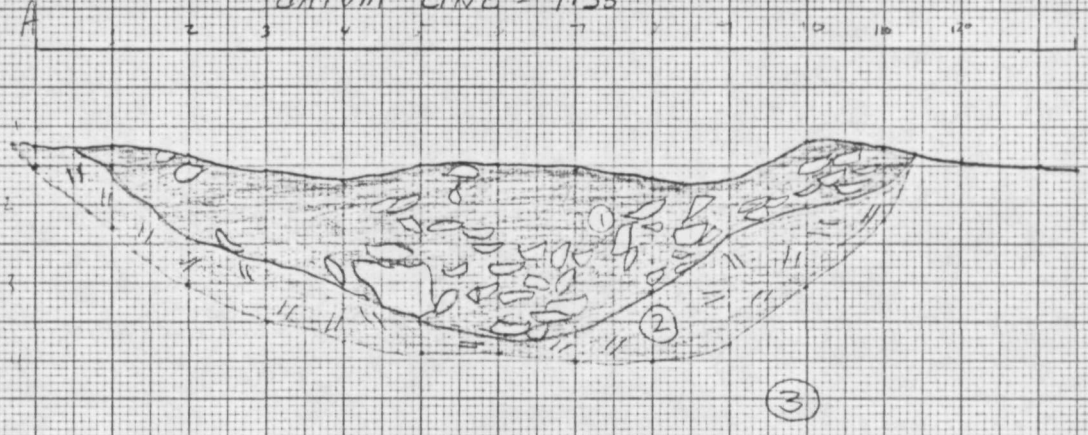
FIGURE 12

18CV171 CUMBERLAND
7-16-83

PROFILE VIEW
SQ 92 F-2

10 dm = 1 m

DATUM LINE = 1.35



① Borrow pit (92 F-1) - OYSTER LAYER

② mottled layer (92-F-2)

③ Subsoil

FIGURE 13

18 CV 171 CUMBERLAND
MWM: 22 JUL 83

PROFILE VIEW
169 F-1 / F-2
BORROW PIT

10 CM = 1 METER

① OYSTER LAYER = 169 F-1

② MOTTLED LAYER = 169 F-2

③ SUB-SOIL

> inside of the stockade and made an earth rampart. If this had been done they would have used the nearest dirt, which would have resulted in an irregular and discontinuous trench just inside the stockade. An open trench like this would have been a nuisance in the village life, and it would have been natural to have utilized it by filling it in with village trash....The entire line of refuse pits belonged to the same period (Stephenson, et al. 1963: 55-56).

The significance of the borrow pits is that it can be assumed that the pits were dug at the same time that the palisade was erected, and that artifacts found in the borrow pits will be accurate indicators of the period and length of occupation.

As the borrow pits were not in a continuous line as was the palisade, and sections of borrow pits were not uncovered, it is not possible to estimate the full length of the borrow pit, although it surely paralleled the palisade line along the greatest part of its length. Of those pits which were exposed (approximately 42 meters), 27 meters were excavated. As with the palisade, the borrow pit was excavated in segmented sections of 4 meters, following the sequence of procedures as described above.

Postholes: The stripping of the site south of the N 140 / W 100 line exposed various features, some with obvious distinctions in colour, texture, shape, etc.; however, the majority had amorphous contours, vague

discolourations or ~~with~~ indiscernible dimensions. While all of these were mapped, only as many as could be excavated within the time given and according to field priorities were in fact dug. The notice that the basement of the house must be dug 48 hours sooner than expected was an extenuating circumstance which compelled the excavation of only those features which appeared of greatest interest.

However, of the total of 57 such features excavated (not including the palisade entrance screen series), only 15 were identified as "postholes", with maybe only one-third of these identified definitely. The excavation procedure as described above was followed for those very few definite postholes, for which the following data were recorded: (a) "PH" number identification; (b) north to south measurements; (c) east to west measurements; (d) depth; (e) profile type; (f) content; (g) Munsell code; (h) volume of content. Soil samples were taken from each. Each such feature was excavated in bisection down to subsoil or until beyond arm's length. Most of these features were subsequently identified as probably tree taproots, many continuing to a depth out of reach.

Similar evidence of postholes/tree taproots was found at the Accokeek Creek site, and a possible interpretation was given for these:

> Some of the post moulds of the smaller stockades were not what are usually considered typical post moulds. They were apparently made by live poles which took root. When they were first uncovered they appeared as round post moulds like all the others. Digging down a few inches deeper, root marks began to appear and after digging a few inches still lower, the root marks spread out and became very clear. Some of the live poles apparently failed to take root for here and there were intervals of several feet with post moulds showing no indications of roots. Nothing could have given a better minor defense than a close line of growing honey locusts with their terrific thorns and it is possible that this is what they used. (Stephenson, et al. 1963: 50).

The absence of well-defined postholes (except the entrance screen series) in the interior space of the palisade enclosure was a disappointment, since it was hoped that an inter-site settlement pattern might be available for archaeological analysis. No such settlement pattern was found. This absence of postholes as evidence of settlement structures might have been due to various reasons:

(a) that such postholes did exist, but had been lost in the plowzone;

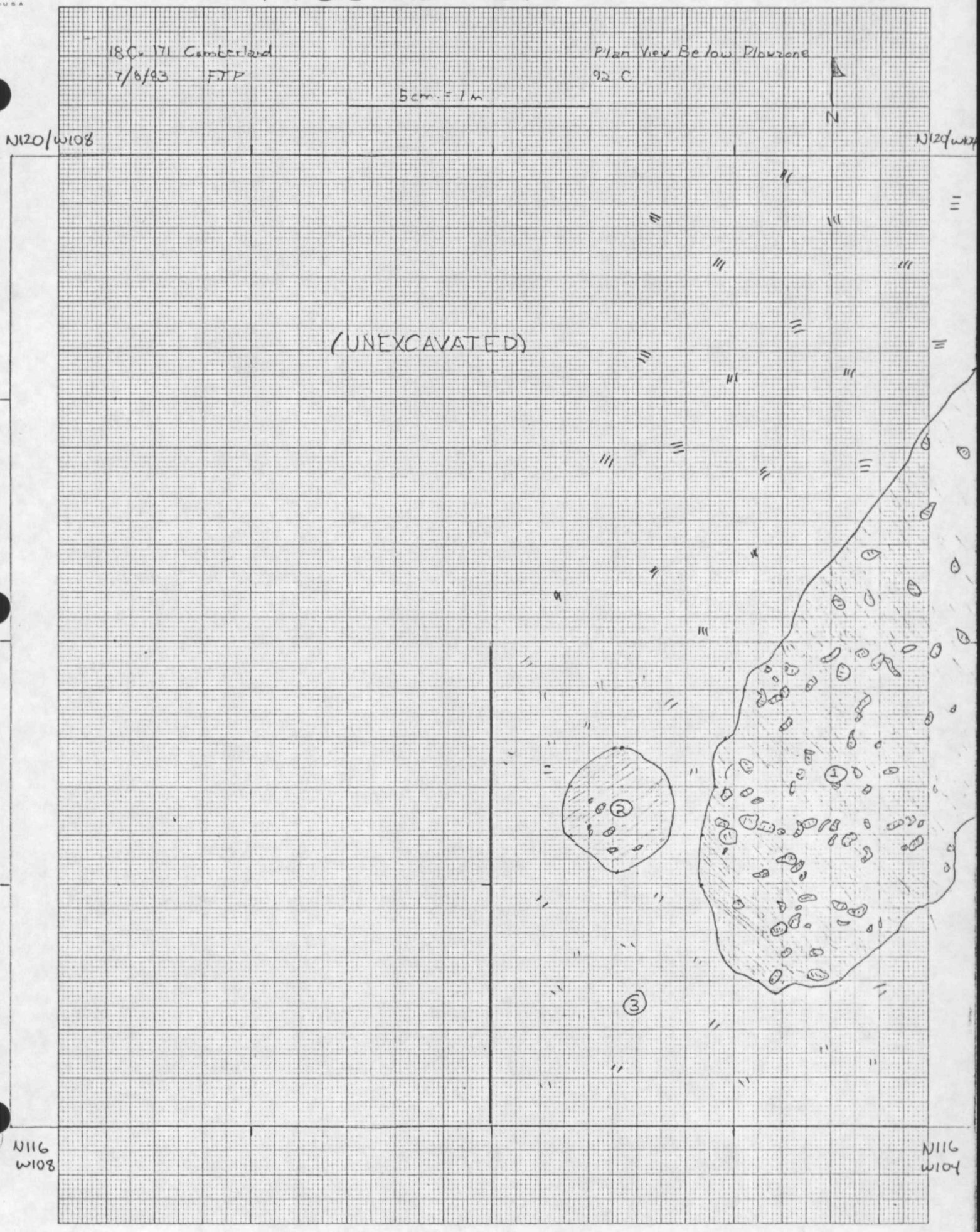
(b) that such postholes did not exist except as shallow foundations for such surface structures as were built;

(c) that such postholes did not exist because the palisade interior was never occupied as a settlement, but rather as a vacant space for refuge for the local population in circumstances of emergency.

While it was a disappointment not to have found a distinct settlement pattern, it is as important to explain this absence of a pattern. The above explanations are suggestions which are neither comprehensive nor conclusive; however, some reasonably viable explanation should be included in the final analysis.

Circular intrusions: Two features were identified as hearths. Both exhibited a dense concentration of whole oyster shell at the subsoil surface. Content of the fill included many and large samples of carbonized materials. Feature 190 F was excavated in a single stratum, to a depth of 8 centimeters. The entire contents were bagged for soil and floatation analysis. Feature 92 G was excavated in two strata, with the first containing oyster shell fill and the second a mottled layer with chunks of carbon, surrounded in part by fire-baked subsoil. The total depth was 280 centimeters, and the entire contents were bagged for sampling analysis. Both circular intrusions have been identified as hearths, but neither has been interpreted as functionally associated with other features. See Figures 15 A and 15 B.

FIGURE 15A



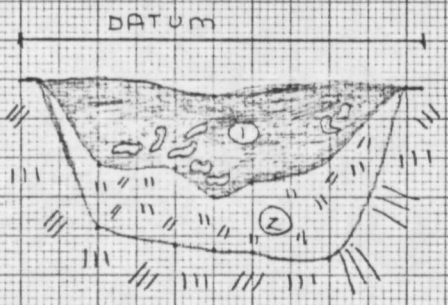
10 Millimeters to the Centimeter

FIGURE 15 B

18 CV 171
92 G 1/2 MWM

CUMBERLAND
CIRCULAR INTRUSION

10 cm = 1 meter



① = 90% dark brown (10 YR 3/3) sandy loam, mottled lightly w/ (10 YR 6/6) clay and 10% oyster shell.

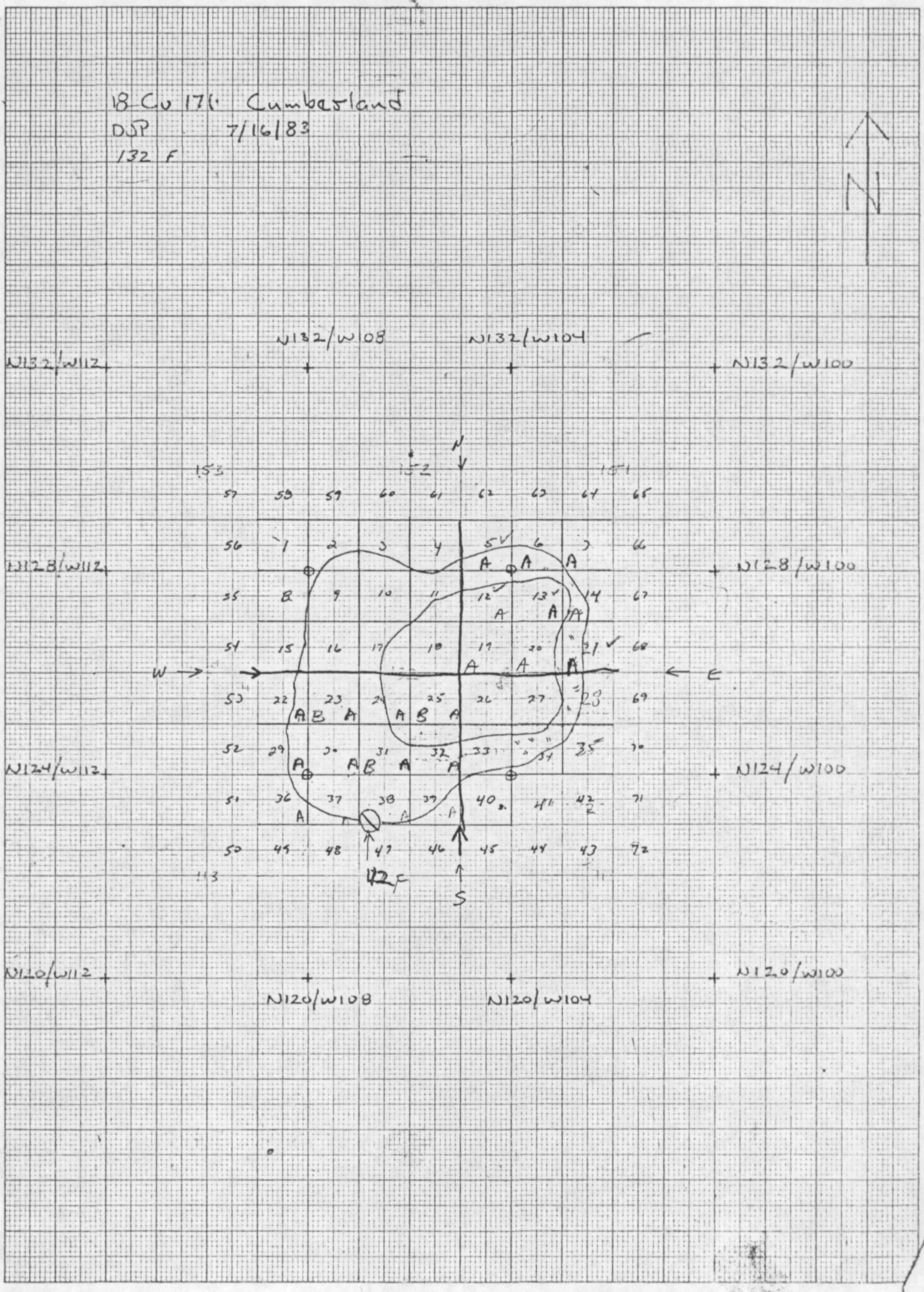
② = 75% of black (5 YR 2.5/1) loose loam, w/ 15% brownish yellow (10 YR 6/6), mixed w/ 5% reddish yellow (5 YR 7/8) burnt earth and 5% pure carbon.

Localized depression (Squares 131 - 132): In the process of stripping the site, a large area of dark greyish brown sandy loam was found. It measured approximately 4.5 meters north to south and 5.5 meters east to west. Within this large area, a differentiated area of very dark greyish brown sandy loam was found. It measured approximately 2.8 meters north to south and 3.4 meters east to west. (see Figure 16).

For purposes of excavation, the entire area was subdivided into 1x1 meter squares, within four quadrants, with two strata identified and excavated separately. The southwest and northeast quadrants were each excavated in the one meter unit squares and wet screened, with soil, pollen, carbon and floatation samples taken. At its greatest depth, it reached to approximately 23 centimeters, with the upper stratum grading into the lower with only minute distinctions. Given the scarcity of artifact content, lack of features or activity areas, overexpenditure of time and labour, it was decided to excavate the northwest and southeast quadrants as a single unit, continuing to process the strata separately, and dry screening all the content removed.

The initial field interpretation, before excavation, was that this area might be the interior midden of an area which had been structurally enclosed, i.e., a house floor. However, it is presently thought that it was an area which

FIGURE 16


18 Cu 171 Cumberland
DSP 7/16/83
132 F
N132/W108
N132/W104
N132/W112
N132/W100
N128/W112
N128/W100
N124/W112
N124/W100
N120/W112
N120/W108
N120/W104
N120/W100
N
S
E
W
42 F

had been a shallow depression in the topographic relief of the site which may have collected the remains of an occupation earlier than the Late Woodland period. This is partially supported by its anomalous presence without structural associations, and its contrasting soil colour and texture, and the presence of Mockley ware in the fill content. It may be, then, that the dark topsoil below plowzone was already a stratified deposition at the later time of the Late Woodland occupation. While the presence of this localized depression does not substantially contribute to the interpretation of the Cumberland Palisaded Village as a Late Woodland site, neither does it necessarily compromise such conclusions concerning that later occupation. It remains an anomaly which is best explained as an earlier accumulation of older topsoil and artifacts which pre-date the Late Woodland occupation of the site.

(D) Repository for Data

At this writing, all materials from the Cumberland Palisaded Village site are in storage at the Patterson Memorial Park and Museum, under the supervision of Michael A. Smolek. All materials are the personal property of the Cumberland family. The newly-founded Patterson Memorial Park and Museum has already demonstrated its committed concern to Cultural Resource Management by acting as the present repository for these data and by expressing an interest in a reconstruction of an Indian village, based on the available data, for public education and entertainment.

III

RESEARCH PROBLEMS AND SUGGESTED INTERPRETATIONS

The excavation of the Cumberland Palisaded Village site was an opportunity to collect data which would be essential to the research value of the project. Thus, the recovery of the material remains at the site has and will provide significant information in five general areas:

(A) theoretical model-testing and hypothesis building;

(B) methodological sampling and excavation procedures;

(C) descriptive artifact analysis for phase definition;

(D) interpretive reconstruction of prehistoric lifeways;

(E) analytical explanation of general culture process.

Each of these is examined below. While the excavation of the site has been concluded, it must be understood that at the present writing very little material or theoretical analysis has been done, and that until laboratory analyses, diagnostic identification of artifacts, computer programming, etc. have been done, significant data are as yet unavailable for site-specific analysis and general theory building. What follows, therefore, are various lines of inquiry and suggested interpretations as are possible to put forward at this time.

(A) Theoretical model-testing and hypothesis building

As noted above, there is very little which is confidently known about the Late Woodland cultural development in Tidewater Maryland; indeed, throughout the Mid-Atlantic region. Of particular interest is the recent research in

the socio-political development of petty chiefdoms in the Patuxent River Valley (Clark 1976; Turner 1976; Potter 1982), which has derived models of Indian lifeways based on both the ethnohistorical record and the previous excavation of other palisaded villages (especially the riverine Accokeek Creek site in Maryland, which is the only other known palisaded village in So. Md. on the Patuxent). Of particular interest is Potter's development of "a diachronic model of areal settlement patterning for one Tidewater Virginia locality". Based on both ethnohistorical data and archaeological manifestations, Potter has proposed five criteria of site catchment which were involved in the selection of a chief's (werowance) village in the estuarine coastal plain in Tidewater Virginia. (Potter 1982: Abstract). In addition, he has described features and structures of settlements whereby the patterns of socio-political divisions within a population having separate powers and ranked status should be differentially observable in the archaeological record (Potter 1982: 52-61). Moreover, in his summary of those sites which were palisaded villages, Potter has observed that each village was located on a socio-political boundary as a defensive outpost at which geographical point it was in hostile relation to populations outside its own defined territory (Potter 1982: 63). Moreover, Waselkov (1982) has attempted to demonstrate a correlation between shellfish gathering and midden formation with the intensification of agriculture and the socio-political development of chiefdoms in the lower Potomac River Valley.

Comparisons have been made in this paper with the excavation of the Accokeek Creek site (1963), and further comparisons with other sites of palisaded settlements should be encouraged. From such comparisons, it should be possible to build hypothetical models concerning site locations, predicatable patterns in settlement features and spatial relationships, subsistence adaptive strategies, etc.

While the Cumberland Palisaded Village site did not provide the evidence of settlement structures as had been hoped for, it should nonetheless have provided data for significant testing of these models as have been theoretically proposed and allow for the building of new hypotheses for the continuing growth of this field of research.

(B) Methodological sampling and excavation procedures

The excavation of the Cumberland Palisaded Village site had been designed and conducted by a methodology of a "multi-stage archaeological sampling program". As detailed ~~below~~ above, this program involved a multi-phase sequence of procedures and techniques whereby statistically valid data were obtained to test a range of hypotheses, both site-specific and regional. The sampling program included (1) several controlled surface collections; (2) stratified, random, unaligned test square excavations; (3) samples of soil, carbon, pollen, and floatation; (4) subsoil exposure by stripping. Each is described above.

The significance of such a methodology has been stated clearly :

> Excavation of the Cumberland Village site will employ the full range of sampling techniques currently available to obtain statistically valid data to test a range of hypotheses....The site data can provide the first test case for interpreting regional patterns of settlement, subsistence and sociopolitical development as predicted on the basis of ethnohistoric and ethnographic sources (Clark and Hughes 1983: 12).

Each of the procedures in the multi-phase sampling program should provide both independent and correlated data, important for both an evaluation of the procedures themselves and the interpretation of the data they have provided.

Various approaches may be taken in order to evaluate the adequacies and deficiencies of this methodological program:

(1) Each of the sampling procedures can and should be examined separately for its own inherent merits and faults;

(2) Correlations can and should be found between the independent sampling data, thus increasing the variable factors against which that data can be tested, while reducing the chances of error or statistical deviation;

(3) The overall methodology can and should be evaluated as either satisfactory or unsatisfactory, both as it was executed at the Cumberland Palisaded Village site for its unique opportunities, and as it compares with past excavtions elsewhere (e.g., the Brown Johnson site in Bland County, Virginia, 1971).

Within these three very general approaches to an evaluation of the multi-phase sampling methodology, there are specific opportunities for research into the means and ends of the excavation. All persons involved in the planning and direction of this program were confident both: (a) that the excavation was conducted at a high level of the present "state of the art" of field archaeology, and (b) that provisions were made, both in what was removed from the field and what was left in place, for future advances in field and laboratory techniques.

(C) Descriptive artifact analysis for phase definition

Much attention has been given recently to the refinement of local and regional ceramic typologies in order to delineate the sequence and span of cultural developments, both locally and regionally. In particular, Clark has completed a spatial analysis of the distribution of the Townsend and Potomac Creek ceramic complexes of the Late Woodland period (1976), and separately linked these ceramic traditions with differentiated cultural adaptations to estuarine and riverine populations (1980). Stephonaitis (1980 and n.d.) has attempted to link these ceramic complexes with regional shifts in settlement patterns and social relations between the two separate but interactive cultures. Wanser (1982) has pursued the study of the relative prevalence of certain ceramic wares as possible indicators of estuarine/riverine adaptations. Potter (1982) has demonstrated the value of ceramic analysis as it applies to models of the socio-political strucutre of

Tidewater Virginia, while Waselkov (1982) has provided a cogent summary, with revisions, of regional pottery types as found in separate components of a local shell midden site. Therefore, as much interest has been and continues to be focused on the closer refinement of local ceramic types, it was hoped that the excavation of the Cumberland Palisaded Village site might contribute to this research.

Preliminary analysis of the available data has been started and has been helpful in the early interpretive analysis of the site, especially concerning both time and length of occupation. Wayne Clark has conducted an analysis of the diagnostic attributes of the ceramics collected from the second controlled surface collection, May 1982 (see the Appendix). Specific attributes were selected for examination, and the total collection of sherds was identified and quantified by individual types (see Figure 17). This analysis indicates that the site was probably occupied by different populations over an extensive period of time, but that the site was intensively occupied for only a short time as a palisaded village. The definite preponderence of Yeocomico ware is a favourable indicator of both the period of occupation (late 16th century), while the dominance of this ware as derived from the Townsend ceramic tradition might indicate the span of occupation of the site with the palisade (25 to 40 years). Clark has concluded:

> The major occupation dates to the Yeocomico Plain potters associated with the palisade and can be dated to 1575 A.D..... This is as close to a single component site as we had hoped, given the low density of previous ceramic types. We expected a larger percentage of Rappahannock Fabric Impressed.... (T)he palisade village as assigned to the Sullivan Cove phase is probably wrong since no Sullivan pottery was found. Rather, a new phase needs to be defined for this site, perhaps Yeocomico after the pottery type. Thus in the Patuxent, we would have the Little Round Bay phase (marginally represented at the site), the Sullivan Cove phase (not represented at all), and the Yeocomico phase, the primary Late Woodland occupation.

Subsequent excavation of the features has provided a valuable collection of sherds, with two outstanding finds: in square 169, the recovery of sherds which should reconstruct maybe 40-60 percent of a complete vessel; in square 129, the recovery of nearly a complete vessel for 80-100 percent reconstruction. The first has been tentatively identified as Rappahannock Fabric Impressed, and the second as Yeocomico Plain. As both had been found as contents within the borrow pit which is considered contemporaneous with the building of the palisade, these reconstructed vessels should help in more precisely dating the site and its features while refining local typologies of the various material and stylistic components

14CU171

C&E1 Table 5 Clark

Type Name	Quantity	Percentage	No of Squares	etc.
Potomac Creek Plain	2	1%	2	
Accokeek Cord Impressed	2	1%	2	
Mockley Cord & Net Impressed	7	5%	6	
Rappahannock Incised	3	2%	3	
Rappahannock Fabric Imp.	31	20%	25	
Yeocomico Plain	111	71%	58	
TOTAL	156	100%	n/a	

FIGURE 17

of these ceramic traditions. Therefore, the descriptive analysis of the ceramic types found at the Cumberland Palisaded Village site should make a worthy contibution to the study of local manufacture and regional distribution of ceramic ware traditions.

(D) Interpretive reconstruction of prehistoric lifeways

As has been noted throughout this report, there is relatively little known about the prehistoric cultural development of the Indian peoples along the Patuxent River during the Late Woodland period (A.D. 900 - 1500). The discovery of a palisade at the Cumberland Palisaded Village site, with the radio-carbon date of 1575 ± 65 years, the distribution of Yeocomico and Rappahannock ceramic wares, and the ethnohistorical accounts of the early 17th century, altogether created an excitement in the prospect of excavating 18 CV 171. The excavation was to have provided - and may yet provide - important data which will be essential in a reconstruction of environmental conditions and cultural manifestations. Inevitably there were both unexpected surprises on the one hand and disappointments on the other hand when expectations fell short of what was found in fact. While much of the data for conclusive interpretations are not yet available at this writing, it is nevertheless valuable to explore various aspects concerning possible reconstructions for which there is potential data and, no less important, for which the data are recognized as insufficient.

(1) Subsistence base: The development of cultural patterns of behavior for human survival must have been based on the immediate (and maybe distant) resources available for adaptive exploitation of the environment. A significant part of the methodological program was the systematic collection of soil, carbon, pollen and floatation samples. These should separately and collectively provide information on the flora and fauna of the paleoenvironment which were exploited for the Indian's strategies of adaptation to an ecological context of which they were an integrated part. Analysis of these data should provide information on such questions as: the proportionate exploitation of maritime, marshland and arboreal resources; the relative amounts and types of foods either hunted, gathered or cultivated; the seasonality of available foodstuffs; the possible use or re-use of certain by-products (e.g., oyster shell for palisade ditch chinking or temper in ceramic ware production); the proportionate amounts and values of foods for nutrition, storage, etc. While some of this information was apparent in the field (e.g., the abundance of oyster shell, carbonized seeds and kernels, etc.), the greater part of the data must await laboratory analysis of the samples taken.

(2) Settlement pattern: It was expected with some excitement that the exposure of a large area of the Cumberland Palisaded Village site by the stripping of plowzone would reveal a well-defined settlement pattern of a Late Woodland

Indian village. Such a settlement pattern, by its spatial arrangement of postholes, would have been invaluable for: the model-testing as proposed by Potter (1982); the ethnohistoric record of the explorers in the 17th century; the reliability of the multi-stage sampling results; the reconstruction of intra-site cultural patterns. Unfortunately, the excavation of the Cumberland Palisaded Village site produced no such pattern, and what postholes there were on the site were insufficient to describe any structural patterns. The probable reason for this lack of postholes may be due to the original foundations of structures having been dug and filled at a depth so shallow as to have been lost to the plowzone stratum.

However, it is possible that there were no - or very few - structures within the interior of the palisade. If the enclosed area was built and intended primarily as a place of refuge for defense from enemies, then the Indians must have lived outside the palisade, possibly in a dispersed hamlet-type or nuclear family settlement pattern. There is some support for this theory from the ethnographic record, and such an interpretation would be most valuable for the building of models to be tested on a regional basis.

The outstanding structural feature that was excavated was the palisade itself, with its entrances, interior screen, and the associated borrow pits. These are described and discussed above. The very presence of the

palisade as a defensive structure, with its associated artifacts and shell content dated to the Late Woodland period, raises the question of why such a fortified settlement was needed at that time, in that place. It is unlikely that the excavated materials will provide answers to these socio-political questions alone, but they should provide supplementary support to the ethnohistoric record and complementary data to earlier excavations and those to follow.

(3) Length of occupation: The radio-carbon date of 1575 ± 65 years, taken in 1982, gives the approximate range of dates within which the palisade itself was built, which may or may not be contemporaneous with the initial Woodland period occupation of the site. Many additional carbon samples had been taken and analysis of some of these may give different or consistent dates, and/or may narrow or extend the range of dates as already given.

The length of occupation is a significant question to raise, in part because an answer may:

(a) explain the absence of a well-defined settlement pattern;

(b) more clearly delineate the seriation of types of ceramic wares found and not found on the site;

(c) confirm or dismiss the identification of the Cumberland Palisaded Village site as Opament;

(d) explain the necessity of the palisade and the presence/absence of associated features;

(e) explain the socio-political forces behind the establishment and abandonment of the fortified village;

(f) help to establish a chronological sequence of events both locally and regionally.

The Cumberland Palisaded Village site was probably occupied for a short-term in the late 16th - early 17th century. Reasons for this tentative conclusion have been based on: the preponderence of Yeocomico ceramics (a proto-historic/early historic ware, 1500 - 1650); the absence of any evidence of re-building of the palisade line; the absence of any well-defined settlement pattern, especially lacking any evidence of features of later occupations intrusive upon or through features of any earlier occupations; the relatively simple stratigraphy without a well-defined sequence of deposition due to differentiated periods of occupation.

If in fact the Cumberland Palisaded Village site proves to have been a single component site of short occupation, then that timeframe should be helpful in the further refinement of the analysis of material culture as indicative of cultural developments.

(4) Material culture: The recovery of both lithic and ceramic artifacts should be helpful in reconstructing the material culture of the Indians, which in turn can be useful for:

(a) a diagnostic identification of lithic and ceramic types in order to define phase typologies with greater accuracy;

(b) an evaluation of the relative skill in the technological processes of making tools, weapons, pottery, etc.;

(c) on the one ~~and~~, an identification of resources that were indigenously available for exploitation;

(d) on the other hand, an identification of exotic resources which were procured from outside the locale or region;

(e) an artifact analysis of the uses, re-uses, repairs, etc. of the artifacts, whether for utilitarian or aesthetic purposes;

(f) any evidence of cross-cultural influences between the Indian occupants and the Europeans at the time of contact;

(g) a correlation between the distribution and concentration of artifacts as found on the surface by controlled surface collections, artifacts as found in plowzone by random and discretionary excavation, and the location and content of subsoil features;

(h) an identification of the several types of ceramic wares and projectile points, the better to understand their manufacture and uses;

(i) the association of particular artifacts and their attributes with structural features for dating, relative sequence of chronology, stratigraphic interpretations, etc.

These approaches to the value of the recovery of the artifacts from the Cumberland Palisaded Village site are not meant to be exhaustive, but rather to suggest some of the various means which might be used towards the end of reconstructing the prehistoric patterns of behavior and the cultural developments of the Patuxent Indians.

(E) Analytical explanation of general culture process

The archaeological record provides the materials, both natural and cultural, which are the data from which an interpretive reconstruction is drawn of the past life-ways of a human population in space and time; in this case, the Patuxent Indians at the Cumberland Palisaded Village site in the late 16th / early 17th century. Such a reconstruction should correlate with and add to the broader reconstruction of cultural development throughout a given region through time; in this case, the proto-historic / early historic periods of Tidewater Maryland within the still more general reconstruction of the mid-Atlantic prehistory. Such reconstructions are both cumulative (often based on an inductive approach to the data of material culture) and comparative (often based on a deductive approach to cultural differences and similarities as made manifest locally, regionally, or universally). Such reconstructions in and of themselves are valid pursuits for research, and can have practical goal orientations. For example, it is the hope of the

Jefferson Patterson Memorial Park and Museum to build an Indian village as a demonstrable reconstruction of the lifeways of the Patuxent Indians for public education and enjoyment.

However, archaeology as anthropology has a paramount duty to that discipline to further its field of knowledge and to develop the methods and techniques of fieldwork. It is the unique contribution of archaeology that it can provide a temporal perspective to an analysis of culture as a process that manifests itself in human nature differentially through space and time. Thus, this diachronic dimension, relying on the material remains of past lifeways that have survived to the present, contributes significantly to the greater understanding of cultural change and continuity through time.

The excavation of the Cumberland Palisaded Village site has and will contribute to the better understanding of both local and regional prehistory. The data it has provided should be a wealth to those who will make uses of them, sooner or later. But the excavation itself must be seen no less as a modest contribution to the greater pursuit of anthropological knowledge, to understand and explain the human experience, for our own good.

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Analysis Summary Cubberland site, 10 Cv 171, control surface collection number 1. By Wayne Clark June 1983

Analysis was conducted on June 29, 1983. purposes of analysis was to conduct attribute analysis on ceramics and points obtained from control surface collection ofsite. Surface collection was made on 4 meter grid . Only ceramics and points were washedand available for study. These results should be comparedto lithic distributions for better definition of possible Selby Bay phase occupation areas.

The ceramic attributes selected were sherd thichness, exterior surface treatment, decorative technique, temper, if shelltempered leaching was noted as indicator of possible subsurface features. color of interior and exterior of sherd. Results of Attribute analysis

Accokeek Cord Impressed sherds (Accokeek Phase 800-500 B.C.).

only 2 sherds were noted in the surface collection, table 4. They were very fragmentary and were identified as Accokeek based on the presence of crushed quartz and high sand content in low fired orage colored paste. Suggest very light occupation. The one possible Calvert like point noted may be associated with this occupation and was found in the general area of the sherds.

Mockley Cord and Net Impressed sherds Selby Bay phase, 100-800 A.D.

mockley ware represents only 7 percent of the ceramics collected, indicating that occupation of the siteduring this phase may have been very limited. however, the distribution of these sherdss , figure 1, suggest that three areas of the site were occupied. Attribute analysis of the sherds suggest that both an early and a late Mockley occupation ofthe site occupred. The early sherds are inferred tobe those in thickness around 12 cm which are orange in coloer and have very large shell temper. later sherds are 10 cm inthichness, are orange to tan in color, and have smaller shell temper. Decrease in temper size is a good indicator of relative age of ceramics as a general rule. Both mockley sherd concentrations on the south side of the site correspond to the shell concentration but the absence of shell in the sherds suggest that they are not derived from features and so suggest that selby bay phase features have not been plowedput during the past several years. Thus Mockley pits , if present, cannot be located on the basis of the surface collected data.

APPENDIX

Rappahannock

Rappahannock Incised Sherds Little Round Bay phase , 900-1350 AD /

only three sherds of Rappahannock ~~Incised~~ Incised pottery were found. Two of the sherds falls within the general area of the two concentration of Rappahannock Fabric Impressed pottery to the south of the site. Only one sherd has enough area to suggest a possible variety, R-15, in the Griffith classification. R-15 is a complicated incised design motif which would date to the Little Round Bay phase. The Rappahannock incised sherds suggest occupation during the Little Round Bay phase, one sherd has a applied rim, rare for Rappahannock ceramics and suggested of early influence from potomac creek potters. May also date to Yeocomico ware Because body appears plain.

Rappahannock Fabric Impressed. Sullivan Cove 7 little Round Bay phase.

The 31 sherds representing 20 percent of the assemblage represents the second largest artifact type found in the surface collection. plotting of the distribution reveals as three major concentrations and scatter in the southeastern portion of the site. The Rappahannock sherds are barely descerable as fabric impressed in most instances, ~~which~~ is attributed in part to the possible smooting of some of the fabric impressions. Given the overlap of the Rappahannock and the Yeocomicio ware distributions, it is apparent that most of the Rappannaock ware was produced at the same time as the yeocomico ware. However, attribute analysis shows clearly that both older and younger forms of Rappahannock ware are represented. The older ware is generally 6.5 to 8 mm in thickness, has a grey interior and an orage to tan exterior, has larger size shell temper then the subsequent eocomico ware, and has less sand temper as the latter ware.- The latter Rappahannock Fabric Impressed ware has more sand inclusion, smaller shell size, does not have as many grey interiors and was fired at a higher temperation. This latter ware has the same paste and firing charecteristics as some of the sherds of Yeocomico Ware. The data supports the general tought that the site was first a hamlet or individual family units in the early woodland. The low percentage of Rappahannock Fabric Impressed and Rappahannock incised and the absence of Corded doecorations or Sullivan Cove ware suggest that pre-palisade occupation was present but not extensive.

eocomico plain ware, x, sullivan Cove pahse 1500- ?

With 111 sherds or 71 percent of the collection yeocomico plain dominates the collection. Attribute analysis shows that exterior treatment is uniformly smoothing of the surface. only one sherd appears to be burnished and this was from the concentration of sherds exposed when the shell feature was disturbed. The smooth sherds range in attributes. Some smooth sherds are purely shell tempered with no sand but most are shell and sand temper with the percentage of shell to sand varying widely. Some of the high shell temper is suggestive of what should be defined as Rappahannock Plain because of the larger shell size, firing and sherd thichness. Overall sherd thickness varies with rim sherds 5cm in thickness, body sherds between 6 to 7 cm with most fallin between 6.5 and 7 and base sherds 8 cm thick.

The sand temper appears to be both accidental when in the minority and purposeful when in the majority. I think this reflects the individual preferences of the potters and the potters needs to work the clay. Except for those sherds which should be called a new type, Rappahnaoock plain, the Yeocomico plain sherds have the smallest size temper and least temper of all the shell temper wares at the site. This small size and amount of temper when combined with the presents of sand is a key attribute in identifying this type even from small nerds. The color of the Yeocomico ware varies as well but is more frequently a tan to bluff color and ranges on occasion into the brown color.

Many of the sherds studied are classic colono-indian wares derived from the Towsend ceramic tradition as opposed to the potomac Creek ceramic tradition. The prevalence of these sherds in the surface collection indicates that the largest population at the site during the woodland period appears to be associated with the palisaded village dating to 1575 a.d. While the quantity appears small, it is large given the time period of occupation 25 to 40 years.

Potomac Creek plain, potomac Creek complex 1500 a.d - 1600

The 2 sherds of potomac creek plain are on first inspection close to the attributes of yeocomico plain. Indeed they could have been manufactured by the Yeocomico potters who simply had to included more sand and no shell to produce the two pots from this sample. The fact that one sherd comes from the cluster of Rappahannock and Yeocomico cluster in the north west section of the site suggest that this may be the case. The two sherds are not classic potomac creek because of the lack of interior smudging and the general lower firing of the sherds compared to the potamac creek site. The sherds may have readily been made in the adjacent lower potomac or at the site and need not necessary be attributed to "trade"

Summary. The major occupation dates to the Yeocomico plain potters associated with the palisade and can be dated to 1575 ad Given that Steponaitis only found about 15 colono indian sherds in her collection, this site is amazing. one could not ask for better initial results if one were looking for Opacum. This is as close to a single component site as we had hoped given the low density of previous ceramic types. We expected a larger percentage of Rappahannock Fabric Impressed. While this low percentage can be contributed in part to the small size of tehe sherds and the assignment to questionable sherds to the plain type, based on other attributes as discussed above- still the small sapple is encouraging. Excavations of the features will help clarify the important question of the persistance of Fabric impressed surface treatemtn during the Sullivan cove occupation of the site. I am saying that the palisade village is assigned to the Sullivan cove phase which is probably wound sinse no sullivan pottery was found. Rather, a new phase needs to be defined for this site, perhaps yeocomico after the pottery type. Thus in the patuxent, we would have the little round bay phase (marginally represented at the site,) the sullivan cove phase (not represented at all) and the yecomocio phase, the

primary late woodland occupation. The projectile points, as few as they are, support this interpretation of the woodland period No selby bay points are present althogh they should be found. Lavana points and ack Reef points associated with the terminal selby bay and Little Round bay phases are absance (jack reef) or represented by only one possible quartz point. The madison points which are associated with the Yeocomico ware are made of jasper and may reflect a shift from early use to quartz in the latewoodland to a increased use of peble jasper. ~~latter.~~

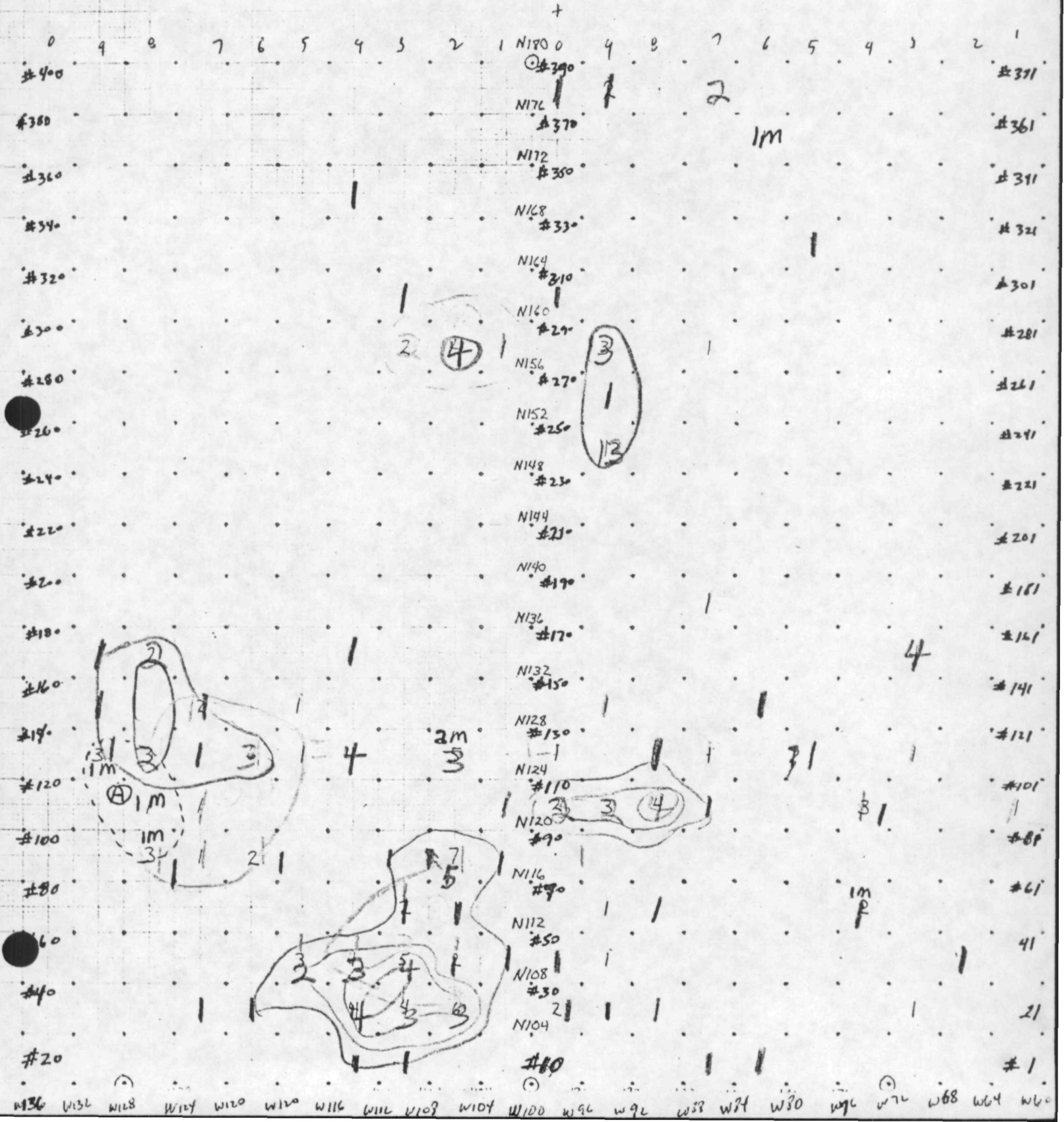
(A) Selby Bay Phase concentration based on [illegible]

(B) Little Round Bay Phase concentrations based on Rapp Fabric and Rapp Incised Distributions.

(C) Yeocomico Plain major concentrations.

Figure 1

Abo Pottery



44CU171

CSE1 tables clark

Type Name	Quantity	Percentage	No of Sherds	etc.
Potomac Creek Plain	2	1%	2	
Accokeek Cord Impressed	2	1%	2	
Mockley Cord + Net Impressed	7	5%	6	
Rappahannock Incised	3	2%	3	
Rappahannock Fabric Imp.	31	20%	25	
Yeocomico Plain	111	71%	58	
TOTAL	156	100%	n/a	

Figure

table 2

19cu171

csc#1

Lithic Analysis

Sq. No	Lithic material	Point Type	Proximal width	Blade Length	Stem length	Comment
252	Fossil Jasper	Madison	18.5 cm	22.5	—	Δ point LW
63	"	Madison	17cm	31cm	—	Δ point-elongated. LW
79	Quartz	Lavanta	29cm	39cm	—	Δ point LW
147	Quartzite	Savannah River/Stemmed	32cm (scaled)	45cm	—?	L.A. Point. no stem
71	Quartzite	Guilford	16.cm	69cm	—	complete. M.A
176	"	Blank	24cm	60cm	—	Flake Based cache Blade. Archaic.
175	Jasper	Madison	14.5cm	22cm	—	Δ point. LW
171	Quartzite	Holmes	23cm	51cm	15cm	L.A.
	Quartz	Calvert-like	20cm	32cm	12cm	co convex blade outline with straight stem. EW

Table 1

18CU171

CSC1 = Ceramic Analysis.

①

Sh No	Thickness	Exterior Surface	Decoration	Temper	Leached	Un Leached	Type	Comment	
33 ✓	8mm	Fabric	0	Shell	✓		RFI	orange ext Brown int.	
	6.5mm	Smooth	0	"	✓		YP	TAN BLUFF INT & EXT.	
	6.5mm	"	0	Shell & Sand	✓		YP	" "	
	6.0mm	"	0	" "	✓		YP	" "	
29 ✓	7.5cm	Smooth	0	" "	✓		YP	ORANGE EXT BROWN INT.	
32 ✓	7.0cm	Smooth	0	Shell		✓	YP	BROWN BLUFF EXT. BLUFF-ENT	
	9.0cm	"	0	" Sand		✓	YP Basal	EXT. Brown	INT BLUFF
	7.0cm	"	0	" & "		✓	YP	"	BROWN
	—	—	—	Shell		✓	— (Rapp)	BLUFF	BLUFF
	6.0cm	Fabric	0	"	✓		~~RFI~~	GRAY	BROWN
	7.5cm	~~Smoothed over~~ Cord & Fabric	0	"		✓	~~SCCI~~ RFI	"	LIGHT BROWN
30 ✓	9.5cm	Smooth	0	"		✓	YP	BROWN	BROWN
89 ✓	—	—	—	Sand			Accokeek	—	—
	—	—	—	Shell		✓	Rapp. ?	ORANGE	—
28 ✓	7.0	Fabric	—	Shell	✓		RFI Larger Shell size	~~EXT~~ Brown	GREY
36 ✓	6.5	Smooth	0	" & sand		✓	YP	LIGHT Brown	LIGHT BROWN
34 ✓	7.5	"	0	" "	✓		YP more sand than shell	"	"
	8.0	"	0	Shell		✓	YP	BLUFF	BLUFF
	7.0	"	0	Shell	✓		YP	TAN	TAN
	—	"	0	Shell & Sand	✓		YP	BROWN	—
37 ✓	6.5	"	0	Shell	✓		YP	ORANGE	BROWN
42 ✓	6.0	"	0	Shell & Sand	✓		YP	BLUFF	BLUFF
50 ✓	7.0	"	0	Shell	✓		YP	BROWN	BROWN
51 ✓	6.0	"	0	" & Sand	✓		YP mostly sand	DARK BROWN	DARK BROWN
32 ✓	6.5	"	0	Shell	✓		~~Rapp~~ mostly shell	GREY	BLUFF
	5.5	"	0	Shell & sand	✓		YP mostly sand	DARK BROWN	DARK BROWN

Sq No	Ga Thickness	Exterior Surface	Decoration	Temper	Leached	Unleached	Type	Color Ext	Color Ext	Comments
53	10.0	smooth	—	shell hard	✓		YP	Br	TAN	Base
	4.0	"	0	" "		✓	YP	TAN	TAN	
	4.0	Fabric	0	shell		✓	RFI	OR	OR	
	4.0	smooth	0	shell sand		✓	YP	D Br	D. BR.	
	4.5	—	0	shell		✓	Rapp—	Gry	TAN	
54	7.0	Fabric	0	shell	✓		RFI	Gry	Gry	wrist shell
	7.5	smooth	0	shell hard		✓	YP	Buff	Buff	
	7.5	"	"	" "		✓	YP	"	"	
	5.5	"	"	" "		✓	YP	BR	BR	
55	6.0	"	"	" "	✓		YP	"	"	
	7.0	Fabric	—	shell	✓		RFI	Gry	"	
	7.0	smooth	"	shell hard	✓		YP	BR	BR	
64	11 cm	net	—	shell	✓		MNI	Buff	Buff	—
	6.5	~~Fabric~~ smooth	—	shell hard	✓		YP	BR	BR	
68	4.0	smooth	—	" "	✓		YP	OR	OR	
72	7.0	"	—	shell		✓	YP	"	"	
73	9.0	Fabric smooth	—	shell hard	✓		RFI	White	White	
(63)	8.0	"	—	" "		✓	YP	Gry	OR	
91	7.0	smooth	—	" "	✓		YP	BR	BR	
92	8.0	Fabric	—	shell	✓		RFI	Buff	Buff	
	7.0	smooth	—	shell	✓		YP	"	"	
	6.5	"	—	shell hard	✓		YP	TAN	TAN	
	6.0	"	—	" "	✓		YP	BR	BR	
	8.0	Fabric	—	shell	✓		RFI	BR	OR	
	7.0	smooth	—	shell hard	✓		YP	TAN	OR	
	6.5	"		shell	✓		YP	Gry	OR	

Sc. No	Thickness	Exterior Surf.	Decoration	Temper Shell	Temper Band	Leached	Un Leached	Type	Color Int	Color Ext	Comment.
96	6.0	Fabric	Incised	✓		✓		RI	Gry	BR	Incised with tick mark at base
	7.0	Smooth	—	✓	✓	.	✓	YP	Br	Br	
97	—	Fabric	—	✓		✓		RFI	—	OR	
99	12.5	Net	—	✓	.	✓		MNI	GRY	GRY	dark grey
	7.0	Fabric	—	✓		✓		RFI	OR	OR	
	6.5	Smooth		✓	—	✓		YP	"	"	
101	6.0	Fabric	—	✓	—	✓		RFI	GRY	Br	
104	8.5	Smooth	—	✓			✓	RFI	BR	BR	Base
	5.0	"	—	✓			✓	YP	BUFF	TAN BUFF	
	6.0	"		✓	✓		✓	YP	Br	Br	
93	10.5	Net	—	✓		✓		MNI	TAN	TAN	
107	8.0	Smooth	—	✓	✓	✓		YP	Br	O. Br.	
108	5.0	"	—	✓		✓		YP	Br	Br	
	6.5	"	←	✓	✓	✓		YP	TAN	TAN	
	6.0	"	—	✓	✓	✓		YP	Br	Br	
	—	"	—	✓	✓	✓		YP	—	—	
109	6.5	"	—	✓	✓	.	✓	YP	TAN	TAN	
	—	—	—	✓	✓	✓		YP?	—	—	
110	5.0	"	Rivin Plain	✓	✓	✓		YP	BUFF	BUFF	
	5.5	w/ Fabric "	—	✓	—	✓		YP	Br	Br	
111	7.5	~~Fabric Click~~	~~Stamp Band Slicer~~	✓	—	✓		~~RCH~~ RFI	Br	Gy	"
117	8.0	Fabric	—	✓			✓	RFI	~~Br~~ GRY	TAN	Border sample.
118	11.0	Net	—	✓		✓		MCI	OR	OR	
123	7.0	Fabric	—	✓		✓		RFI	OR	GRY	
125	5.0	Smooth/scraped	—	✓	—	.	✓	I/P	OR	OR	scraped
127	7.5	Fabric	—	✓	✓	✓		RFI	Br	Br	- basketweave.
128	8.0	Smooth	—	✓	—	✓		YP	Br	Br	
130	7.0	—	Incised R-15	✓	✓	✓		RI	Br	Br	sand in layers, largest at R-15 pedestal base

Sq. Ws	Thickness	Exterior Surface	Decoration	Temper Shell	Temper Sand	Leached	Un Leached	type	Color Int	Color Ext	Comment
132	12.0	Wet	—	✓		✓		MRI	OR	OR	massive shell
	4+	—	—	✓		✓		MNI?	〃	—	〃
	7.0	Smooth		✓		~~✓~~	✓	YP	OR	OR	
	7.0	〃		✓	✓	✓		YP	BR	TAN	
	5.0	〃		✓	✓	✓		YP	BR	BR	
134	7.0	〃	—	✓	✓	✓		YP	BUFF	BUFF	
	7.0	〃	—	✓		✓		YP	BR	BR	
	6.5	—	—	✓			✓	YP	〃	〃	
	—	—	—	✓	✓		✓	YP?	—	—	-
135	7.0. Rim - 9.5	Smooth.	Incised Applied Rim	✓	✓	✓		~~RF~~?			
136	6.0	〃	—	✓		~~✓~~	✓	YP	BR	BR	
	7.0	~~+~~ —	—	✓	✓			RFI	GRY	BR	
	6.5	Smooth	-	✓	✓	✓		YP	BR	BR	
	6.0	〃		✓	✓		✓	YP	OR	OR	
	—	—	—	✓	—	—	✓	RF?	BR	—	
137	—	Smooth	—	✓	—	—	—	YP	BR	BR	
138	6.5	Fabric Smoothed.	—	✓	✓		✓	~~R~~RFI	BR OR	BR OR	- Pomo
	7.5	Smooth		✓	✓	✓		YP	BR	BR	
	5.0	〃		✓	✓	✓		YP	TAN	TAN	
139	6.5	Smooth	—	✓	✓	✓		YP	OR	OR	
	9.0	Cord	—	✓		✓		MCI	OR	OR	
	6.0	—	—	✓	✓	✓		~~R~~F?	—	—	
146	7.0	Smooth	—	✓	✓	✓		YP	BUFF	BUFF	
149	8.0	~~Fabric~~	—	✓	✓	✓		RFI	BR	BR	
155	7.0+	?	—		✓ OR Z			Accokeek	OR	OR	
163	6.5	Smooth	—	✓		✓		YP	TAN	TAN	
	5.5	〃		✓		✓		YP	OR	OR	
	9.5	〃		✓	✓	✓		YP	〃	〃	

Sq. No	Thickness	Exter surf	Decoration	Temper Shell	Temper Stand	Reinforced	Un reinforced	Type	color Ext	color Ext	Comment
157	6.0	FABRIC	—	✓	✓	✓		RFI	BR	GRY	
	7.5	Smooth		✓	✓	✓		YP	TAN	TAN	
159	6.0	"		✓	.	✓		YP	Buff	Buff	Rim ✓
174	6.5	"		✓	✓	✓		YP	BR	BR	
178	7.0	"		✓	✓	✓		YP	BR	OR	
	4.0	"		✓	✓	✓		YP	OR	BR	
179	5.0	"		✓	✓	✓		YP	BR	BR	
187	7.0	"	Incised	✓	✓	✓		RI			▭
249	7.0	"	—	✓	✓	✓	✓	YP	BR	BR	Fan feature
	6.5	Burnished		✓	~	✓	✓	YP	"	"	
	6.5	Smooth		✓	~	✓	✓	YP	"	"	smudging
	6.5	"		✓	✓		✓	YP	"	"	
	6.5	"		"	"		"	"	"	"	
	6.0	"		"	"		"	"	"	"	
	6.0	"		"	"		"		"	"	
	5.0	"		"	"		"	"	"	"	
	7.0	"		"	"		"	"	"	"	
	6.5	"		"	"		"	"	"	OR	
	6.0	"		"	"		"	"	"	BR	
	6.0	"		"	"		"	"	"	"	
	6.5	"		"	"	✓		AM	Buff	Buff	- dull reserved.
269	7.0	"		✓	✓	✓		YP	Buff	BR	
287	6.0	"		.	X			PEP	OR	OR	.
289	5.5	"		"	"		"	YP	BR	BR	
	6.5	"		"	"		"	YP	"	"	
	6.0	—		"			"	YP	-	-	
291	6.5	Fabric		"	"		"	RFI	BR	BR	

(2)

(6)

Eq. No	Thickness	Exterior Surface	Decoration	Temple Shell	Temple Sound	Trenched	Un Trenched	Type	Color Int	Color Ext	Comment
292	7.5	Smooth	—	✓	—	✓		YP	Gry	Br	
	7.5	"	—	✓		✓		YP	"	"	
	7.0	"		✓	✓	✓		YP	—	"	
	6.5	✓		✓	✓	✓		YP	Gry	BR.	
293	10.0	Fabric	—	✓		✓		RFI	OR	OR	early Rapp Fabric
	10.0	Fabric	—	✓		✓		RFI	"	"	700 mm AD
310	6.5	Smooth		✓		✓		YP	TAN	TAN	
313	7.0	"		✓	✓	✓		YP	BR	BR	
325	8.0	"		✓	✓	✓		YP	BR	BR	add sand.
354	8.0	Fabric Smoothed		✓	✓	✓		YP	TAN	BLACK	
366	7.5	Net		✓		✓		MNI	Br	Br	Extra molding
387	7.5	Smooth		✓	✓	✓		YP	Br	Br	
	4.0	"		✓	✓	✓		YP	"	"	
389	5.0	"			SAND			PCP	TAN	TAN	X
	6.0	"		✓		✓		YP	"	"	
390	6.5	"		✓	✓	✓		YP	"	"	
6	7.0	"		✓	✓	✓	✓	YP	Red	Red	
7	5.5	"		✓			✓	YP	Gray	TAN	
13	6.0	"		✓	✓	✓		YP	Br	Br	
14	7.5	"		✓		✓		YP	ORY	BR	
15	7.0	"		✓	✓	✓		YP	Gry	BR	

[illegible] | [illegible] #55 -2

[illegible]

CSCI TABLE 4

(2) = 1%

P.C.P Quan.	P.C.P Square	(MNI) Nuckle [illegible] Quan.	Square	(MCI) Rapphuil R.I Quan.	Squ.	R.F.I Quan.	Sq.	Y.P. Quan.	Sq.	Y.P. ~~[illegible]~~ con. Qu.	Sq.	Y.P. cow. Qu.	Sq.
								1	6				
1	287	1	64	1	130	3	32	1	7	2	104	1	313
1	389	1	98	1	135	1	33	1	13	1	93	1	325
		1	118	1	187	1	28	1	14	1	107	1	354
		2	132			1	52	1	15	4	108	2	387
		1	139			2	53	1	29	2	109	1	389
		1	366			1	54	1	30	2	110	1	390
						1	55	3	32	1	125		
						1	73	3	33	1	128		
						1	89	4	34	3	132		
						2	92	1	36	4	134		
						1	96	1	37	3	136		
						1	97	1	42	1	137		
						1	98	1	50	2	138		
						1	101	1	51	1	139		
						1	104	1	52	1	146		
						1	111	3	53	4	163		
						1	117	3	54	1	157		
						1	123	2	55	1	159		
						1	127	1	64	1	174		
						2	136	1	68	2	178		
						1	138	1	72	1	179		
						1	149	1	73	13	249		
						1	157	1	91	1	269		
						1	291	5	92	3	289		
						2	293	1	96	4	292		
								1	98	1	310		

~~Breakdown~~

TOTAL (2) = 1% | (7) = 4% | (3) = 2% | (31) = 20% | (111) = 71%