THE GUNBY SITE

THE GUNBY SITE
AND LATE PICKERING INTERACTIONS

By

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A Thesis

Submitted to the School of Graduate Studies

in Partial Fulfilment of the Requirements

for the Degree

Master of Arts

McMaster University

July 1979

MASTER OF ARTS McMASTER UNIVERSITY

(Anthropology) Hamilton, Ontario

TITLE: The Gunby Site and Late Pickering Interactions

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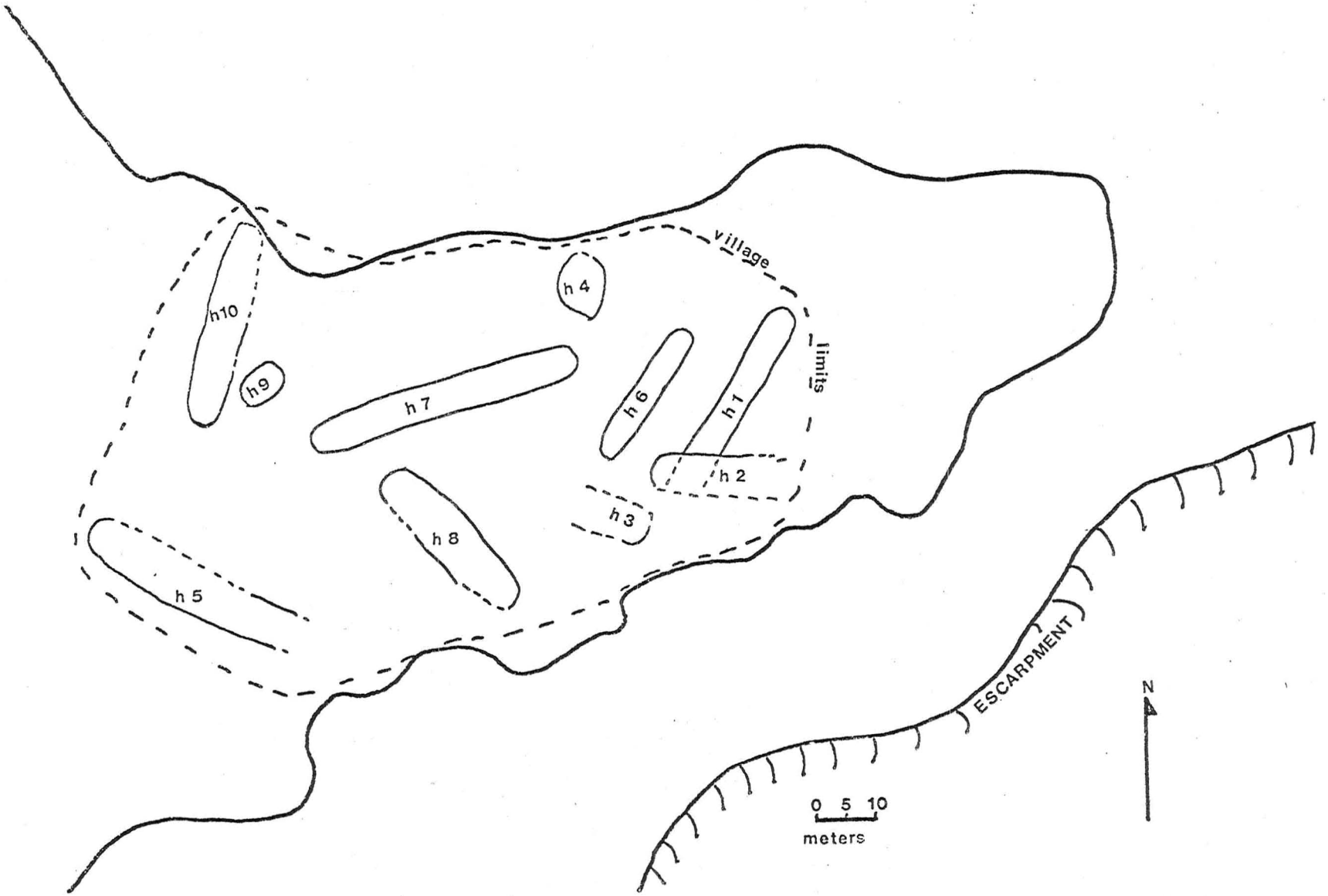
NUMBER OF PAGES: xiv + 232

ABSTRACT

The Gunby site, excavated during the summer and fall of 1977, represents a late Pickering village dating to circa 1300-1320 A.D. Ten longhouses, ranging from 10.0 to 45.2 meters in length, lie within a village estimated at 1.1 hectares (2.7 acres). This constitutes the most longhouses uncovered at a Pickering site to date.

Faunal and floral samples from Gunby clearly provide important new information concerning the subsistence and dietary preferences during this middle period of Ontario Iroquois prehistory. Important horticultural evidence indicates the presence of carbonized corn, squash and bean seeds. Also, the faunal sample indicates that hunting of Virginia deer was an important aspect of Gunby subsistence.

The artifact analysis reveals that closer contact existed between the Gunby Pickering peoples and the Glen Meyer villagers to the west than has previously been suggested. The utilization of various Glen Meyer cording techniques on Gunby ceramics illustrates this phenomena.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ACKNOWLEDGEMENTS

No excavation and report production such as this endeavour can proceed without the support and encouragement of many individuals and institutions. To the Ontario Heritage Foundation, I am most grateful for their funding of the excavations and research at Gunby.

Mr. and Mrs. William Blain and Mr. and Mrs. William Mathews, present property owners, are also to be thanked for their permission to excavate, as well as for many courtesies offered during the field season. Use of the Blains' swimming pool will long be remembered by our hot and dusty crew.

My gratitude is also extended to Mr. J. M. Bennett, Rev. R. Harwood, and the members of the Carlisle United Church for their many kindnesses, and particularly for allowing us to establish a field camp on the church property.

To the capable and industrious efforts of the field crew, Shaun Austin, Penelope Thompson, Zelda Cohen, Jim McLorn, and Frank Sun, I am gratefully indebted. An especial thanks is extended to Laurie Kilpatrick who ably served as my summer assistant, as well as supervising

excavations at the site during the fall of 1977.

The Department of Anthropology, McMaster University, generously supplied laboratory space for the analysis.

Mr. Charles Turton floated the soil samples and analyzed their contents. Mr. Gary Warrick analyzed the large faunal sample recovered, and Ms. Penelope Thompson undertook the study of the worked bone assemblage. Ms. Zelda Cohen produced the site maps and Mr. David Rozel produced the photographic plates of the house structures. Among the many people who assisted, at various times, in making the contour map were: Janet MacKenzie, Connie Hall, Gary Warrick, William Fitzgerald, and Zelda Cohen.

Finally, I am indebted to Dr. William C. Noble for the opportunity to supervise the excavations at the Gunby site and for his unstinting support and advice during all phases of the excavation, analysis, and writing. He served as my thesis supervisor, editor, and chairman of the thesis committee which also included Dr. Peter G. Ramsden and Professor Patricia Sutherland.

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CHAPTER I

INTRODUCTION

The Pickering phase of Ontario prehistory (ca. 800-1300 A.D.) was first defined by Dr. Walter Kenyon (1968:50-54). After examining the material recovered during his excavation of the Miller site (Kenyon 1968) and materials surface collected from the Frank Bay (Ridley 1954), Boys and Barrie (Ridley 1958), and East Sugar Island (Ritchie 1949) sites, he defined the limits of distribution of 'Miller-like' pottery, differentiated it from the contemporary Glen Meyer material, and coined the term 'Pickering Culture'.

In 1962, Dr. James V. Wright excavated the late Pickering Bennett site (Wright and Anderson 1969) and subsequently synthesized all of the available information on the Pickering phase (Wright 1966). Relying heavily on ceramic evidence, he maintained that Pickering and its western Ontario counterpart Glen Meyer were the major foundations of the Ontario Iroquois Tradition. Although this preliminary developmental sequence has since been revised (Noble 1975a), Pickering and Glen Meyer continue to be viewed as the two developmental

bases for the Middleport Stage and, subsequently, the historic Iroquoian groups of Ontario (Noble 1975b).

Finally, the Boys (Reid 1975) and Richardson (Pearce 1977) sites have provided additional data concerning the Pickering phase. The Boys site, dated by ceramic seriation and radiocarbon analysis to circa 975 A.D., can be placed temporally between Miller and Bennett. This fact allowed Colin Reid to suggest, and discuss in detail, temporal trends in artifacts (particularly ceramics) for the Pickering sequence. Robert Pearce, using data from his excavations at the Richardson site and surface collections from other sites in the Rice Lake area, has suggested that this group of sites should be considered an eastern variant of the Pickering culture. He has also noted some regional expressions within this eastern variant.

Our present knowledge of the Pickering phase, then, rests on some small surface collections (e.g., Barrie) and five reported major site excavations (Fig. 1). None of the five sites are contemporaneous and most are spatially distant. Miller (ca. 800 A.D.) and Boys (975 A.D.) are approximately two miles (3.2 km) apart but are separated by 175 years; Richardson, dated by ceramic seriation to 900 A.D. lies 66 miles (107.2 km) east of Miller and Boys; Bennett, dated to 1250 A.D., lies one

mile northeast of Gunby (ca. 1320 A.D.), and both are 48 miles (78.3 km) from the nearest eastern group in Pickering Township.

Gunby first came to the attention of Dr. William C. Noble of McMaster University in 1970, at which time he noted similarities in the ceramics to those at the Bennett site, where he had served as foreman. Since Gunby was located only one mile from Bennett, the possibility existed that the two villages were related in a sequence of local movement. Such a possibility warranted further attention, but it wasn't until seven years later that attention could be directed towards this research.

With this background, the following research objectives were formulated:

(1) To investigate settlement patterns at the site, including longhouses, palisade(s), and middens. The primary goals were to completely excavate three longhouses, determine the size of the village, locate the palisade(s), and determine the size and orientation of as many other longhouses as possible. This data could then be compared to that known from other Early Ontario Iroquois villages.

(2) To obtain a representative sample of artifacts in order to determine a seriational date for the site and to further define Pickering tool kits.

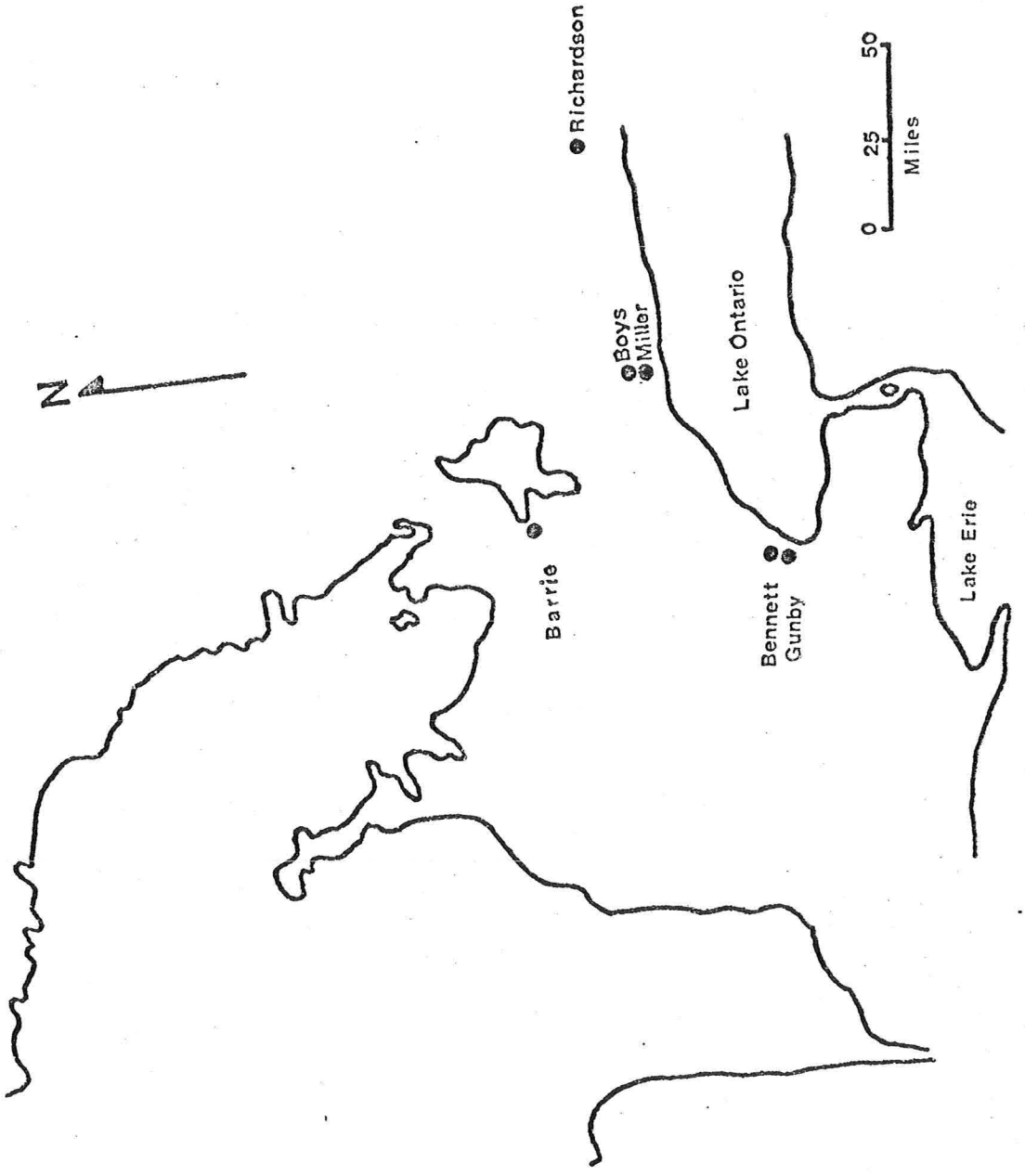


Fig. 1. Location of select Pickering sites.

(3) To investigate the faunal and floral remains from the site in order to establish whether Gunby was occupied year round, or on a seasonal basis and in order to ascertain the horticultural practices as well as dietary preferences of the villagers.

(4) Since Gunby appeared to be late in the overall Pickering sequence, and spatially close to the Glen Meyer sites, it offered the possibility of clarifying the ultimate fate of Pickering culture. Wright (1966:54) has previously speculated that the Glen Meyer culture conquered the Pickering branch, but Noble (1975a:52) has maintained that the precise nature of the Glen Meyer-Pickering fusion remains uncertain.

In the following study, the description, analyses, and interpretations of the Gunby site are organized as follows: a chapter on settlement patterns, a chapter dealing with artifact analyses, a chapter outlining the investigation of floral and faunal material recovered at Gunby, a chapter of comparative syntheses, and a final chapter presenting the conclusions.

CHAPTER II

SETTLEMENT PATTERN ANALYSES

The Gunby site (AiGx-5) is located approximately 20 kilometers (12 miles) north of Hamilton on parts of Lots 3 and 4, Concession VIII of the Township of Flamborough in the Regional Municipality of Hamilton-Wentworth. It is situated on an outcrop of the Niagara Escarpment adjacent to, and partially surrounded by, sand plains which represent the northern extremity of the Norfolk Sand Plain (Chapman and Putnam 1973:251 and Map 2226).

Steep declivities on the south, east, and northeast edges of the village create a naturally defensible position. Only from the west and northwest is there a level and unexacting approach. On the south side of the village, flowing along the base of the escarpment, Bronte Creek eventually discharges into Lake Ontario, 16 kilometers (10 miles) to the southeast. The general topography, then, is very similar to other excavated Pickering villages which "...are all situated on hills near streams, but distant from navigable bodies of water" (Pearce 1977:106).

A dark brown to black sandy loam constitutes most of the overburden which lies 30 to 35 cm deep. The white

to yellow sandy subsoil made possible clear delineation of most features. In the past the site was used for market gardening such that ploughing had disturbed deposits to a depth of 45 cm in some places and had therefore obscured certain features such as hearths. Generally, postmoulds and pits were easily recognized and recorded.

Method

Overall, 1736 square meters (18,689 square feet) of the Gunby village was excavated utilizing a grid system of five-meter squares superimposed over the entire site. The plough zone of each square was removed by shovel and this backdirt was examined for artifacts. Because of our concern for settlement patterns and the disturbed nature of the site, it was decided that the plough zone would only be screened when middens were encountered. Each square was shovel-shined to subsoil and all features, numbered as encountered, were recorded by cross-tape triangulation. Profiles and dimensions of the features were recorded, as well as the nature of the material remains (if any) located within the feature. Several large features (up to two meters in length) were encountered and these pits were screened

(¼ inch mesh) in arbitrary 10 cm levels. Approximately one in every five postmoulds was sectioned for verification and to ascertain depth.

Back in the laboratory, all features were renumbered. Specifically, features located within houses were given a number prefixed by the number of the house. Thus, feature 1-4 is feature 4 of house 1. Those features not located within a house were given a number prefixed by a V for village. Thus, feature V-48 is feature 48 located outside a house, but within the village. One of the problems arising from this system involved features that overlapped house walls. In most cases, a decision was made based upon whether the major portion of the feature was inside or outside the house; however, two large pits (1-12 and 1-89) are now believed to postdate House 1.

Portions of ten longhouses were uncovered during the excavation (Frontis and Fig. 2), and Houses 7 and 9 were completely excavated. Also, a major portion of House 1 was revealed although its southwestern end was not discovered. During the fall of 1977, two lines of posts were discovered on the northern side of the village which probably represent palisading. Although no definite middens were uncovered during the excavations, several large refuse pits provided a useful artifact

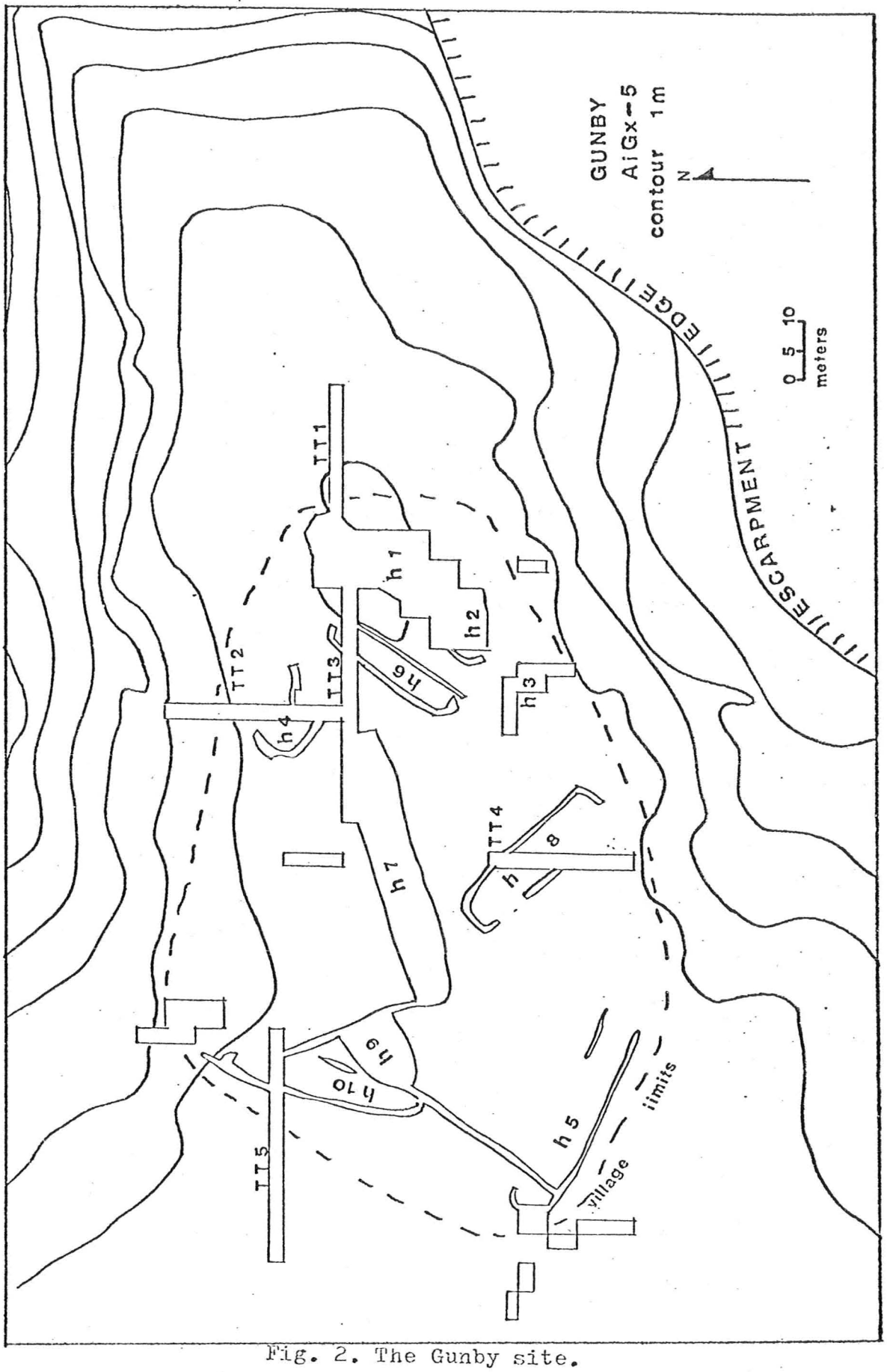


Fig. 2. The Gunby site.

sample. Utilization of pits appears to be a characteristic mode of garbage disposal for Pickering branch villagers.

Palisades

The village limits can be accurately estimated from the general topography of the site, and our extensive test trenching (Fig. 2). The village area measures 1.1 hectares (2.7 acres). Clear evidence for the existence of a palisade, however, is inconclusive. The available evidence suggests that the northwestern corner (and perhaps the entire western side) of the village was palisaded, but erosion has obscured the northern and southern boundaries.

The east side of the site, investigated in Test Trench 1, may well have been open for 26 meters of sterile subsoil lay to the east of House 1. Also, test pits revealed sterile subsoil approximately 10 meters beyond the end of Test Trench 1. Since this end of the village abuts on the point of the escarpment, palisading may have been considered unnecessary by the villagers.

House 8 represents the southern limit of the village as indicated by the sterile squares of Test Trench 4 and a slope of sterile glacial till immediately to the south of the house. Test Trench 5 and test pits

to the west of House 5 suggest that the village did not extend any further west. The only possible evidence for palisading at Gunby was uncovered on the northern side of the site.

During the fall of 1977, test squares on the northwest corner of the site revealed portions of two walls oriented northeast-southwest (Fig. 11). The outer wall, followed for 26 meters, began to curve south at its southwest end. Extensive digging in the immediate area failed to locate any other portions of this wall. The 77 posts ranged from 4 to 11 cm with a mean diameter of 6.3 cm. The 46 posts sectioned ranged from 6 to 28 cm deep with a mean of 12.8 cm. The inner wall, followed for 16 meters, is slightly angled towards the outer wall with the maximum and minimum distances apart being 10 and 4 meters respectively. The 71 posts had a mean diameter of 6.5 cm and a range from 4 to 16 cm. Seventeen posts sectioned ranged from 7 to 25 cm, with a mean depth of 14.5 cm. The southwest end of the interior wall extends into the center of House 10. Possibly a village expansion occurred at the northern edge and the palisade was moved outward to accommodate House 10.

These two walls provide the only possible evidence of palisading uncovered at Gunby.

Refuse Deposits

Little evidence exists for the presence of middens at Gunby. Test pits dug near the unploughed fence line at the southeastern corner of the village did produce some artifacts, but they were heavily mixed with modern material and the deposit was no thicker than the topsoil over other areas of the site. Although it is possible that shallow middens were destroyed by later ploughing, most evidence suggests that middens were simply not extant on the site. Approximately 95% of all faunal material recovered at Gunby came from pit and hearth features; 79.3% of the unutilized chert flakes also came from excavated features.

Despite the lack of midden deposits, a representative artifact sample was obtained from large refuse pits on the site. Of 608 pits uncovered, 36 had one or more dimensions in excess of 75 centimeters. Ten of these large pits were over 50 cm deep. These features appear to be a feature of some Pickering villages (e.g., the Miller site-Kenyon 1968:25-26; and the Bennett site-Wright and Anderson 1969:22-23).

In order to illustrate the nature of items recovered from the large pits, Table 1 presents the artifacts collected from six pits. Feature V-7 was excavated by trowel but the other five were screened

Table 1. Artifact classes from six selected pits.

Class	1-4		1-9		1-12		1-89		V-7		V-48	
Refuse bone	346	75.9	538	77.2	4035	64.5	1914	74.5	52	30.9	246	61.4
Pottery	43	9.4	68	9.8	1615	25.8	318	12.4	82	48.8	94	23.4
Chipping detritus	58	12.7	78	11.2	520	8.3	315	12.3	29	17.3	56	14.0
Worked bone	6	1.3	9	1.3	50	0.8	11	0.4	2	1.2	2	0.5
Chipped lithic artifacts	1	0.2	4	0.6	15	0.2	6	0.2	-	-	1	0.2
Ground/rough lithics	1	0.2	-	-	12	0.2	1	0.1	3	1.8	1	0.2
Pipes	1	0.2	-	-	4	0.1	4	0.2	-	-	1	0.2
Totals	456	99.9	697	100.1	6251	99.9	2569	100.1	168	100.0	401	99.9

through ¼ inch mesh. Also, one square meter section (50 cm deep) of pit 1-89 was floated, thereby possibly biasing the artifact sample since smaller, and therefore more, flakes should be recovered.

Notably, the six large pits of Table 1 produced a significant percentage of the artifacts recovered at Gunby: 38.5% of the pipes; 33.9% of the rims; 26.1% of the chipped lithic artifacts; and 39.0% of the chipping detritus. All six pits are layered indicating differential dumping during their formation. Only two, 1-4 and 1-9, are actually located within houses; pits 1-12 and 1-89 are now believed to postdate the occupancy of House 1. They overlap and are intrusive through the west wall of the house. Complete excavation of these two pits failed to uncover any postmoulds belonging to House 1, and a rim sherd fragment from the 25-35 cm depth of pit 1-12 physically mended with a fragment from the 90-110 cm level.

Table 2 presents a correlation of pit shapes and contents as they appeared at Gunby. This chart only includes the 576 pits actually profiled of a total 608 pits uncovered. Obviously most pits, whether used for refuse or other reasons, occur within house structures, and apart from irregular shaped pits, four other basic forms are recognizable as illustrated in Figure 3.

Table 2. Gunby pits.

	Refuse fill					Sterile fill					Ash fill					
House 1	35	37	1	1	4	14	7	1	-	-	15	11	1	-	1	127
House 2	1	4	-	-	1	2	-	-	-	-	1	1	-	-	-	10
House 1/2	5	4	1	1	1	13	8	-	-	-	2	1	-	-	-	36
House 3	1	1	-	-	1	3	2	-	-	-	1	2	-	-	-	11
House 6	5	4	-	-	-	2	2	-	-	-	1	1	-	-	-	15
House 7	71	62	1	1	4	45	29	2	-	2	26	22	-	-	-	265
House 8	7	9	-	-	-	2	3	-	-	-	2	1	-	-	-	24
House 9	6	4	-	1	2	5	5	-	-	-	-	-	-	-	-	23
House 10	-	2	-	-	-	7	-	-	-	-	-	-	-	-	-	9
Village	8	13	-	1	3	15	11	2	-	-	1	2	-	-	-	56
Totals	139	140	3	5	16	108	67	5	-	2	49	41	1	-	-	576

House Structures

Of the settlement pattern features at Gunby, the longhouses are probably the most significant. At no other Pickering site excavated to date, have so many houses been exposed. At Gunby, a total of ten houses appeared, two of which were completely excavated (numbers 7 and 9). Other structures were trenched along the side and end walls to allow definition of their basic overall shape and orientation within the village (Fig. 2). Table 3 indicates that longhouses ranged from 12.3 to 45.2 meters long (40.3 to 148.3 feet), by 6.7 to 8.0 meters wide (22.0 to 26.2 feet). Also, there is a decided preference to orient houses into the prevailing winds blowing from the northeast and southwest (5 houses). Four other houses face into the northwest, while only House 2 is entirely contrary to the rest of the village; it has an east-west orientation. Conceivably, other houses exist at Gunby in untested areas, but we believe that no more than two additional structures could exist within the village perimeter.

House 1

House 1 (Fig. 4), measuring 8.0 meters wide and traced for 29.0 meters long, has its southwestern end

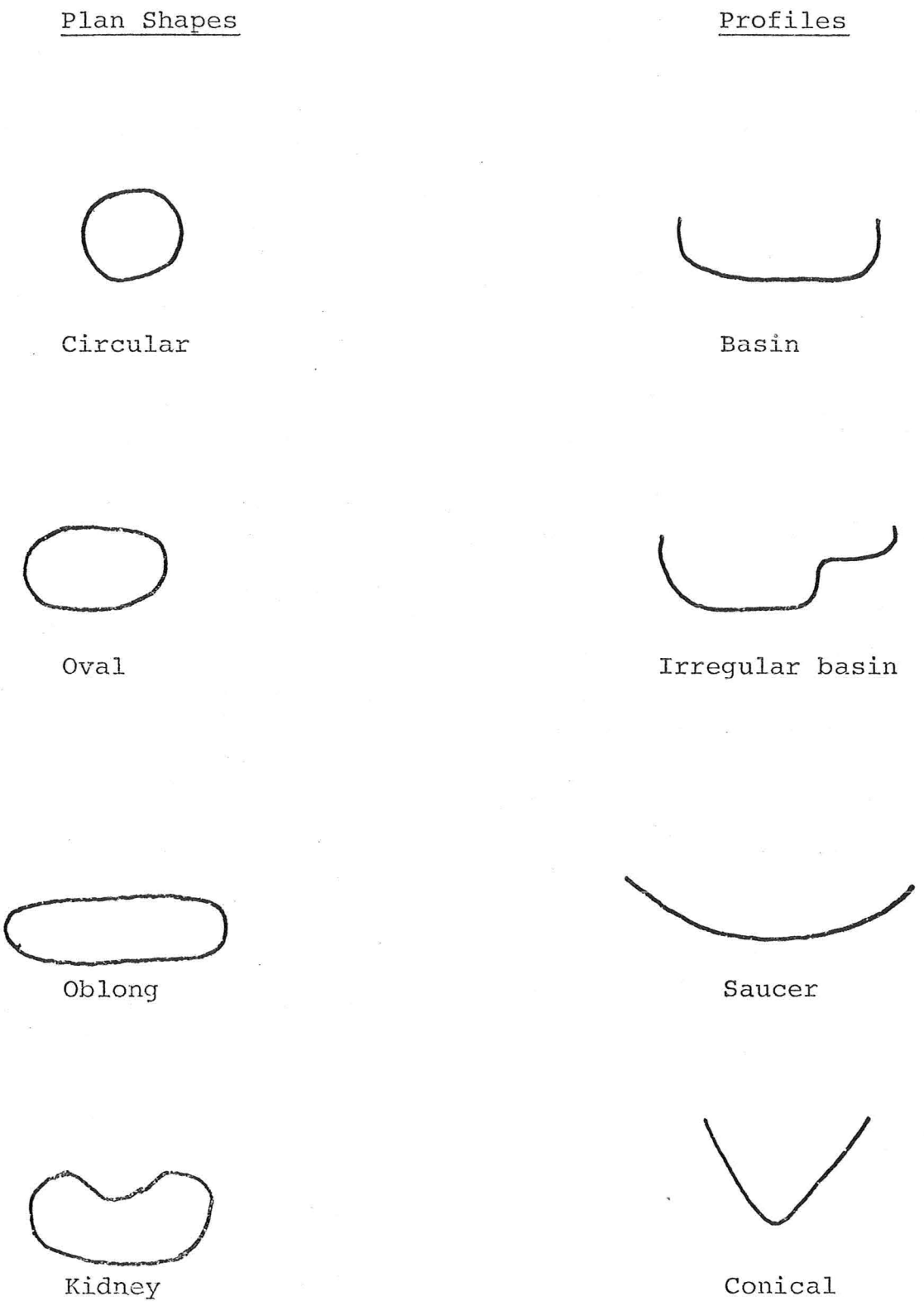


Fig. 3. Plan and profiles for Gunby pits.

Table 3. Gunby longhouse dimensions and interior features.

House	Area Excavated (m^2)	Orientation	Length (m)	Width (m)	No. of Hearths	No. of Pits
1	232.0	NE-SW	29.0+	8.0	4	127*
2	36.2	E-W	16.5+	7.0+	1	10*
3	33.7	NW-SE	?	?	2	11
4	16.2	NW-SE	10.0	7.0	0	0
5	0.0	NW-SE	38.0+	7.3	-	-
6	20.0	NE-SW	24.0	7.3	0	15
7	343.5	NE-SW	45.2	7.6	10	285
8	25.0	NW-SE	30.2	7.6	0	25
9	82.4	NE-SW	12.3	6.7	3	23
10	17.5	NE-SW	36.5	7.3	0	10

*An additional 36 pits for Houses 1 and 2 are impossible to discretely separate as to structure.

disturbed by House 2. As with the other houses at the site, House 1 exhibits generally straight walls which taper before rounding at the ends. While the maximum width measures 8.0 meters near the center, the house narrows to 7.5 meters wide, five meters from its northeastern end, and at one meter from this end the width is only 5.4 meters. While the southwestern end could not be located, the house is 7.8 meters wide at the point where the east wall ends. If the house was originally symmetrical, then its southern end would probably lie 5 meters beyond this point.

Two hundred and forty-nine wall posts ranged in diameter from 4 to 20 cm with a mean of 7.5 cm; the 51 posts profiled ranged in depth from 9 to 34 cm with a mean of 19.5 cm. Two possible doors are observable in this house. One lies at the northwest corner where there is a seeming windbreak entrance reminiscent to that of House 2 at the Bennett site (Wright and Anderson 1969). Another door conceivably existed through the eastern wall just south of feature V-7.

In the interior, 465 posts ranged from 3 to 26 cm in diameter with a mean of 8.3 cm. The 105 posts sectioned ranged from 4 to 53 cm in depth with a mean of 16.4 cm. The myriad scattering of interior posts makes it difficult to delimit 'bunkline' or interior

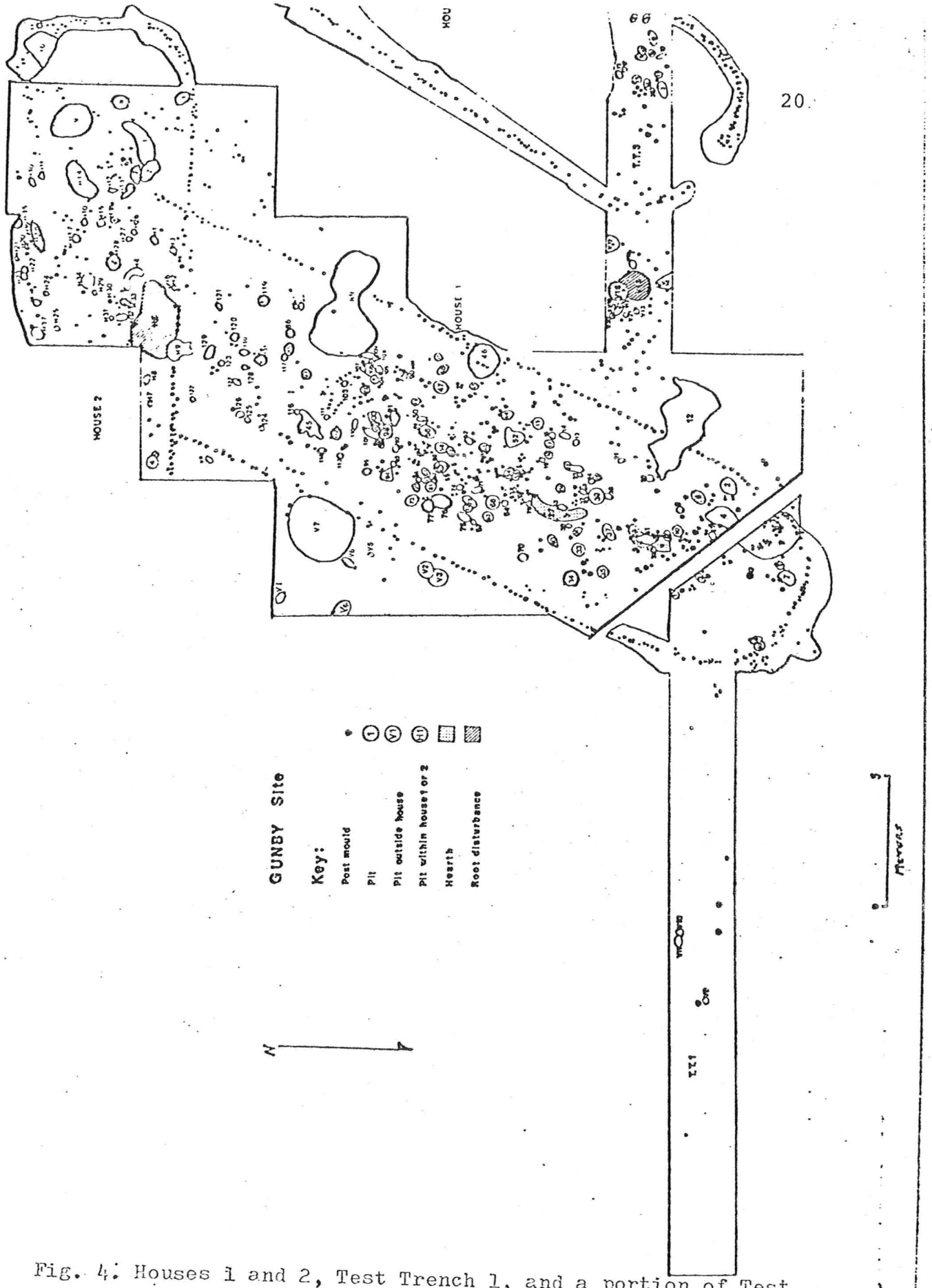


Fig. 4: Houses 1 and 2, Test Trench 1, and a portion of Test Trench 3.

support posts; however, an area clean of features, approximately 1 to 2 meters wide, extends almost the entire length of the eastern side of the house and, except for the above-mentioned large refuse pits, the western side. Sleeping areas or platforms may well have been located along these walls.

Of four hearths recorded in House 1, three are medial while the fourth lies near the northwest corner. Table 4 summarizes the hearth data from House 1.

Table 4. House 1 hearth characteristics.

Feature	Length (cm)	Width (cm)	Shape	Profile
6	61	40	oval	irregular basin
26	148	45	kidney	saucer
27	166	64	kidney	saucer
91	49	46	oval	basin

The 127 pits of House 1 are described in Table 5. Pit profiles were as follows: basin 90; conical 22; saucer 11; irregular basin 2; and unknown 2. Besides the four large refuse pits (1-4; 1-8;1-12;1-89) which

were screened, four features (46,62,121,131) produced over 100 artifacts each.

House 2

Oriented east-west, this house (Fig. 4) overlaps the south end of House 1. Only a portion of a straight north wall and the rounded west end of the house were uncovered.

The north wall measures at least 16.5 meters long, with the width being 7.0+ meters at a point 3 meters inside the western end.

One hundred and six wall posts of House 2 ranged from 4 to 15 cm in diameter, and their mean of 6.8 cm is slightly smaller than those of House 1 (7.5 cm mean). Twenty-one posts sectioned ranged from 6 to 35 cm deep with a mean of 13.0 cm. A well-defined door without any windscreen opens through the west end of the house.

Table 6 presents details of ten pits which are definitely believed to be associated with House 2. Profile forms include: basin 5; irregular basin 2; saucer 2; and conical 1. Feature 4 produced over 100 artifacts. Unfortunately, no hearths can be clearly discerned in House 2. Table 7 presents details of the 36 pits which may belong to either House 1 or House 2. When screened, feature H-14 produced 320 artifacts.

Table 5. House 1 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Refuse Fill	78				
oval	(37)	R	24-206	15-132	6-74
		$\bar{X}$	46.5	33.7	20.2
		S	30.4	19.9	15.3
circular	(35)	R	-	16-104	4-45
		$\bar{X}$	-	35.6	20.3
		S	-	17.1	10.5
irregular	(4)	R	81-430	53-240	17-78
		$\bar{X}$	251.2	150.5	45.7
		S	174.4	103.5	32.8
kidney	(1)		51	26	13
oblong	(1)		50	23	10
Ash Fill	27				
circular	(15)	R	-	14-56	6-31
		$\bar{X}$	-	32.9	16.5
		S	-	10.5	7.4
oval	(11)	R	23-52	21-41	3-26
		$\bar{X}$	39.7	29.6	14.3
		S	8.4	6.6	7.3
oblong	(1)		23	13	24

continued on p. 24.

Table 5, continued

Type	N		Length	Width	Depth
Sterile fill	22				
circular	(14)	R	-	13-50	5-25
		$\bar{X}$	-	24.7	11.2
		S	-	10.2	6.0
oval	(6)	R	29-71	12-55	9-31
		$\bar{X}$	38.4	22.7	17.3
		S	14.5	14.9	8.4
oblong	(1)		76	28	12
Total	127				

Where R = range, $\bar{X}$ = mean, S = standard deviation.

Profile forms are as follows: basin 27; saucer 5; conical 3; and irregular basin 1.

House 3

Uncovered during the fall of 1977, House 3 is poorly defined. It would appear that we have a portion of the southern corner and end wall, as well as some interior features (Fig. 5). The house appears to have been oriented into the northwest.

Only 17 wall posts were identified, and they ranged from 4 to 8 cm in diameter with a mean of 6.3 cm. The depths of 12 posts profiled range from 6 to 25 cm with a mean of 13.5 cm. Sixty-six interior posts, measuring 3 to 24 cm, have a mean diameter of 7.4 cm. Forty of these posts were sectioned and proved to have depths ranging from 4 to 44 cm, with a mean of 12.2 cm. As with House 1, the interior posts of House 3 are larger than the wall posts but they are not set as deep into the ground as the wall posts.

Table 8 presents details of the 11 pits found within House 3. A large disturbed area has obscured some features, notably central hearth feature number 4. A second hearth (feature 7) is also centrally aligned. Profile forms of the pit features are as follows: basin 9; and conical 2.

Table 6. House 2 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Refuse Fill	6				
oval	(4)	R	50-172	40-142	8-33
		$\bar{X}$	107.5	78.7	19.2
		S	50.1	44.4	10.6
circular	(1)		-	48	28
irregular	(1)		126	40	30 + 33
Sterile Fill	2				
circular	(2)		-	25	4
			-	60	23 + 37
Ash Fill	2				
circular	(1)		-	12	4
oval	(1)		19	15	5
Total	10				

Where R = range, $\bar{X}$ = mean, S = standard deviation.

Table 7. House 1/2 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Sterile Fill	21				
circular	(13)	R	-	11-28	4-21
		$\bar{X}$	-	21.1	11.1
		S	-	4.6	5.4
oval	(8)	R	20-37	14-24	6-25
		$\bar{X}$	27.5	18.5	12.4
		S	6.4	3.7	6.4
Refuse Fill	12				
circular	(5)	R	-	16-28	11-20
		$\bar{X}$	-	24.8	14.5
		S	-	5.0	4.8
oval	(4)	R	29-143	21-82	5-29
		$\bar{X}$	68.0	39.5	16.8
		S	51.1	28.5	8.6
oblong	(1)		75	30	32
kidney	(1)		86	48	13
irregular	(1)		98	93	47
Ash Fill	3				
circular	(2)		-	26 44	6 16
oval	(1)		38	27	11
Total	36				

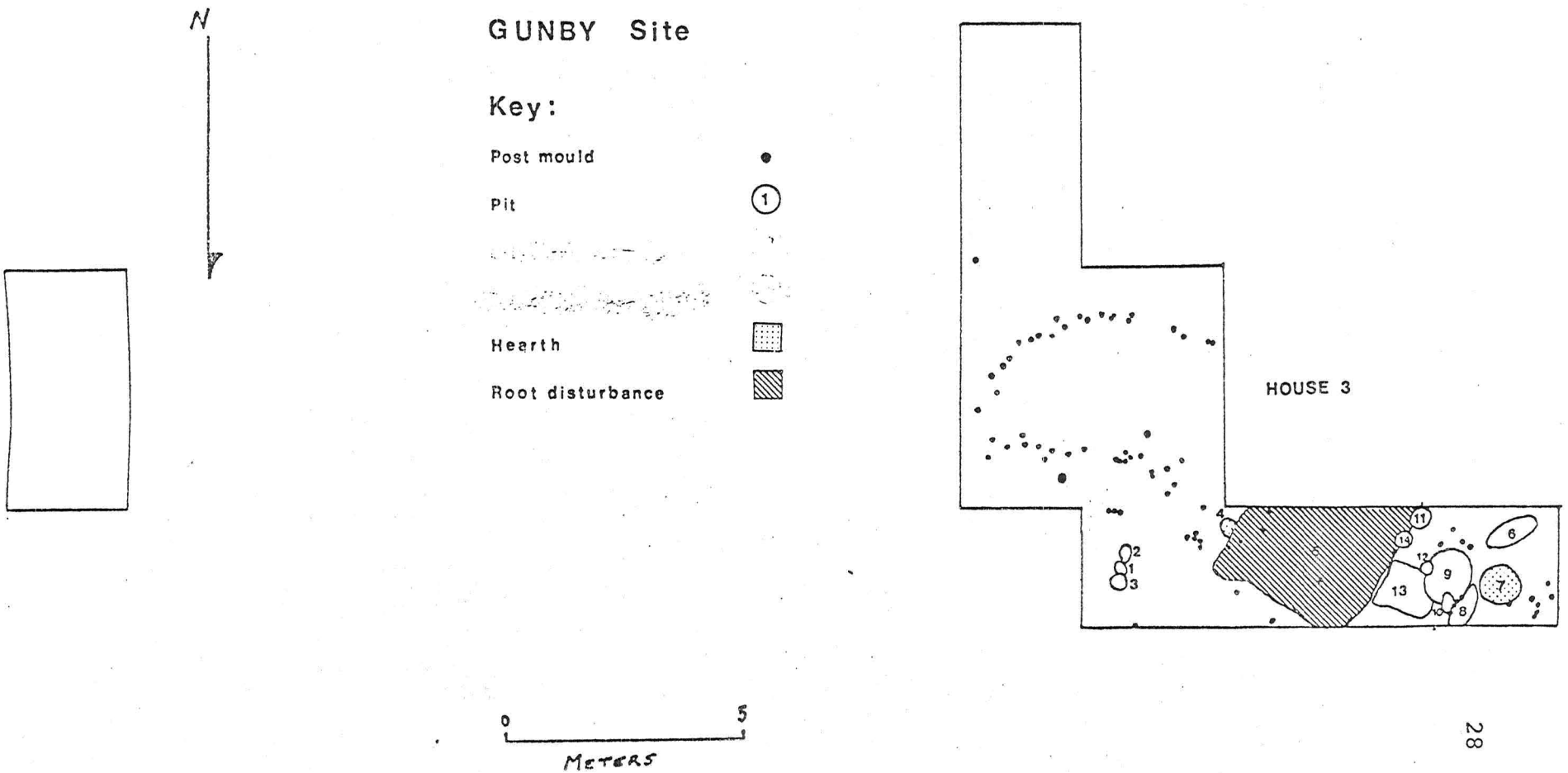

GUNBY Site
Key:
Post mould
Pit
Hearth
Root disturbance
N
HOUSE 3
0
5
METERS

Fig. 5. House 3.

Table 8. House 3 pit types and dimensions in cm.

Type	N	Length	Width	Depth
Sterile Fill	5			
circular	(3)	-	41	12
		-	30	28
		-	28	13
oval	(2)	137	79	13
		36	20	13
Refuse Fill	3			
circular	(1)	-	64	26
oblong	(1)	27	12	25
irregular	(1)	133	120	50
Ash Fill	3			
oval	(2)	34	23	9
		29	21	15
circular	(1)	-	21	17
Total	11			

House 4

A series of postmoulds uncovered during the excavation of Test Trench 2 has been tentatively identified as House 4 (Fig. 6). This appears to represent a small rectangular house, 10.0 meters long by 7.0 meters wide, oriented northwest to southeast. No internal features were excavated. One hundred forty-six wall posts measure 4 to 12 cm in diameter (6.3 mean), and were set 6 to 39 cm deep (15.4 mean).

House 5

This rather long house (Fig. 7) was located on the extreme southwestern edge of the village. It is oriented northwest-southeast and is 7.3 meters wide by over 38.0 meters long. Trenching revealed the northwestern end and portions of both walls but no definite southeastern end was uncovered. The 237 wall posts had a mean diameter of 6.6 cm and ranged from 3 to 20 cm. No interior features of House 5 were recorded, but test pits dug during the fall did reveal that interior features were present.

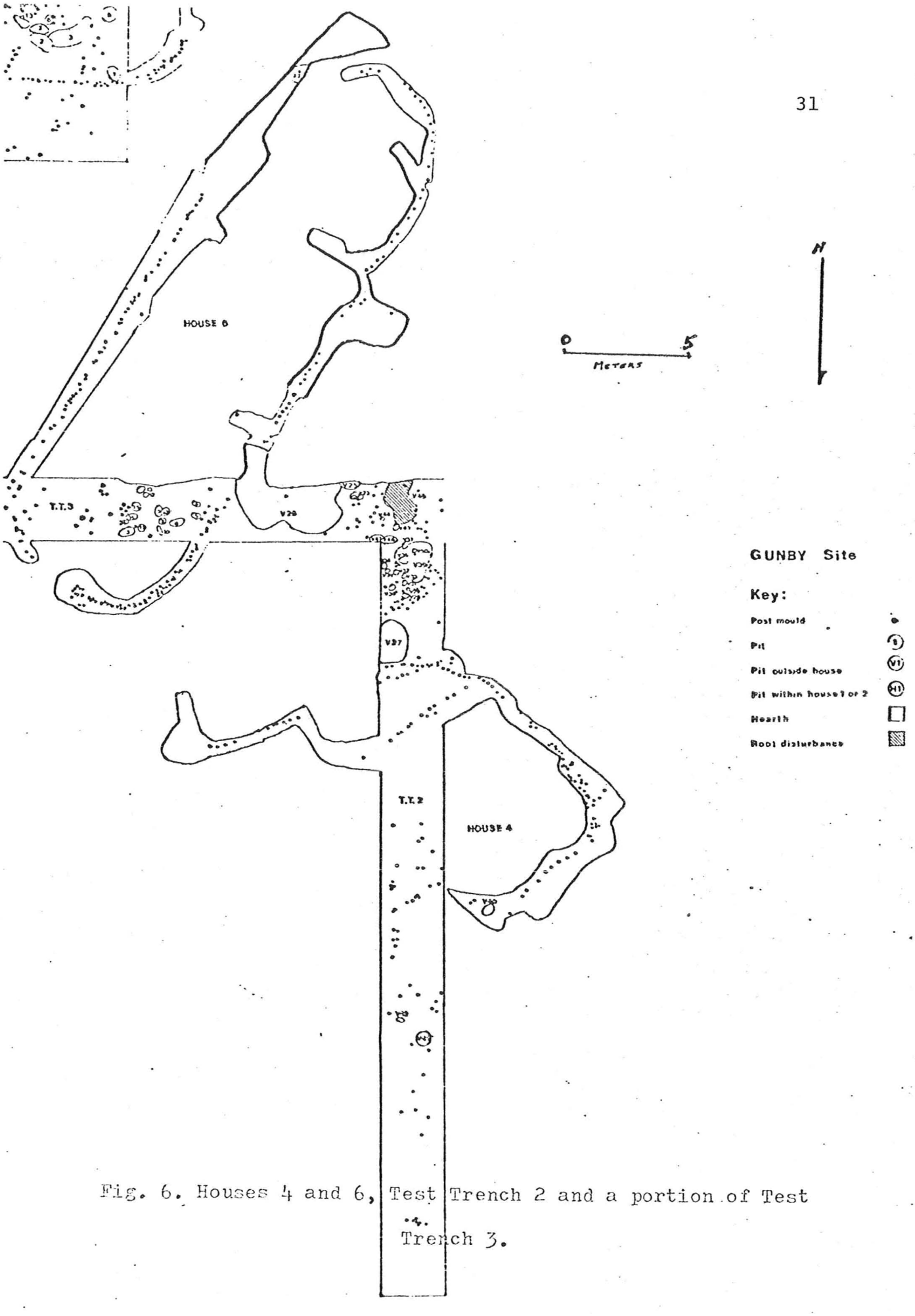


Fig. 6. Houses 4 and 6, Test Trench 2 and a portion of Test Trench 3.

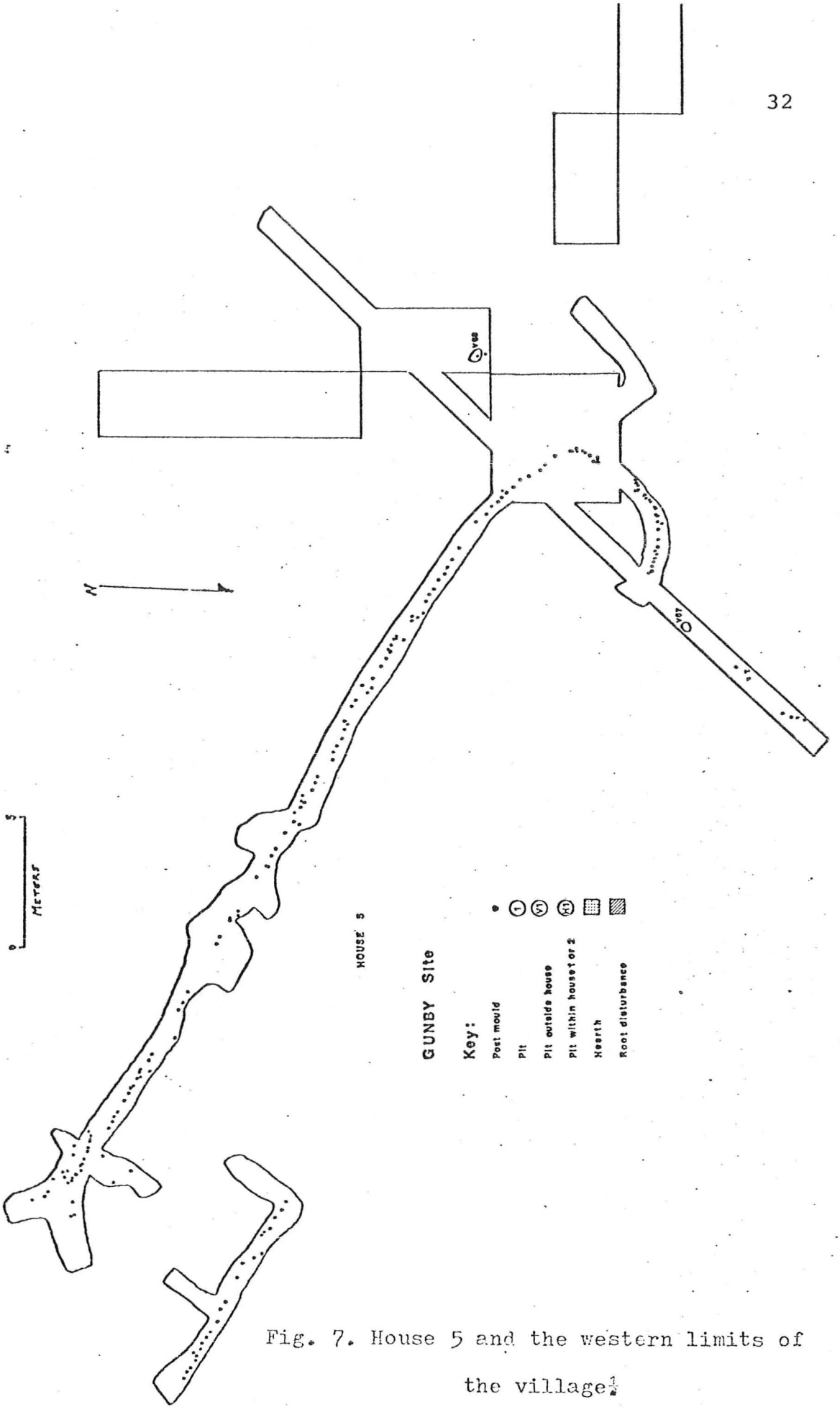


Fig. 7. House 5 and the western limits of the village.

House 6

House 6 (Fig. 6) was discovered during the opening of Test Trench 3, and was subsequently outlined by trenching. It is oriented northeast-southwest about 8 meters to the west of and approximately parallel to House 1. Extending 24.0 meters long, its maximum width is 7.3 meters. The ends are rounded. Unfortunately, poor post preservation has obliterated the southeast wall.

Measurement of 201 wall posts indicates their range from 4 to 11 cm in diameter and a mean of 6.9 cm. Of 48 posts sectioned, their depths ranged from 6 to 38 cm with a mean of 11.1 cm. Door openings are apparent through the centers of both ends of this house.

Approximately 20.0 square meters of the interior was excavated and recorded in Test Trench 3, and 21 interior posts were recorded. They ranged from 4 to 27 cm in diameter with a mean of 11.2, while the 18 posts sectioned averaged 24.8 cm deep and ranged from 5 to 46 cm in depth.

Table 9 presents available evidence for 15 pits within House 6.

Pit profiles for House 6 include: basin 12; irregular basin 1; saucer 1; and unknown 1. Pit feature 6 produced 372 artifacts after screening.

Table 9. House 6 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Refuse Fill	9				
circular	(5)	R	-	18-39	11-23
		$\bar{X}$	-	27.0	15.8
		S	-	7.7	4.7
oval	(4)	R	35-87	19-71	12-30
		$\bar{X}$	51.7	41.2	22.0
		S	24.2	22.1	8.5
Sterile Fill	4				
circular	(2)		-	23	12
			-	17	11
oval	(2)		45	35	12
			39	34	32
Ash Fill	2				
circular	(1)		-	25	-
oval	(1)		42	39	4
Total	15				

House 7

House 7 (Fig. 8) was the longest structure excavated at Gunby. Stretching 45.2 meters long, it commands the center of the village. Its width of 7.6 meters tapers to rounded ends. For instance, at 5 meters from the southwest end it measures 6.7 meters, narrowing to 5.3 meters wide at one meter from that end. At the northeast end, the house tapers to 6.6 meters wide, five meters from the end.

Five hundred and thirty-one wall posts have diameters ranging from 3 to 24 cm, and a mean of 7.2 cm. The 65 posts sectioned averaged 17.4 cm deep with a range between 5 to 53 cm. As with other houses at Gunby, entrance gaps are noticeable through the central end walls. Side entrances, if they existed, are difficult to delineate since poor preservation has left several blank areas.

Turning to interior house features, post lines indicating storage cubicles are located at either end of House 7. A cubicle at the northeastern end measures 3 meters deep, while the southwestern end is more complex. Here two lines of interior wall posts may represent cubicles or stages of house expansion. The two division lines of posts at the southwest are spaced 4 meters and 6.1 meters in from the end wall respectively. Clearly

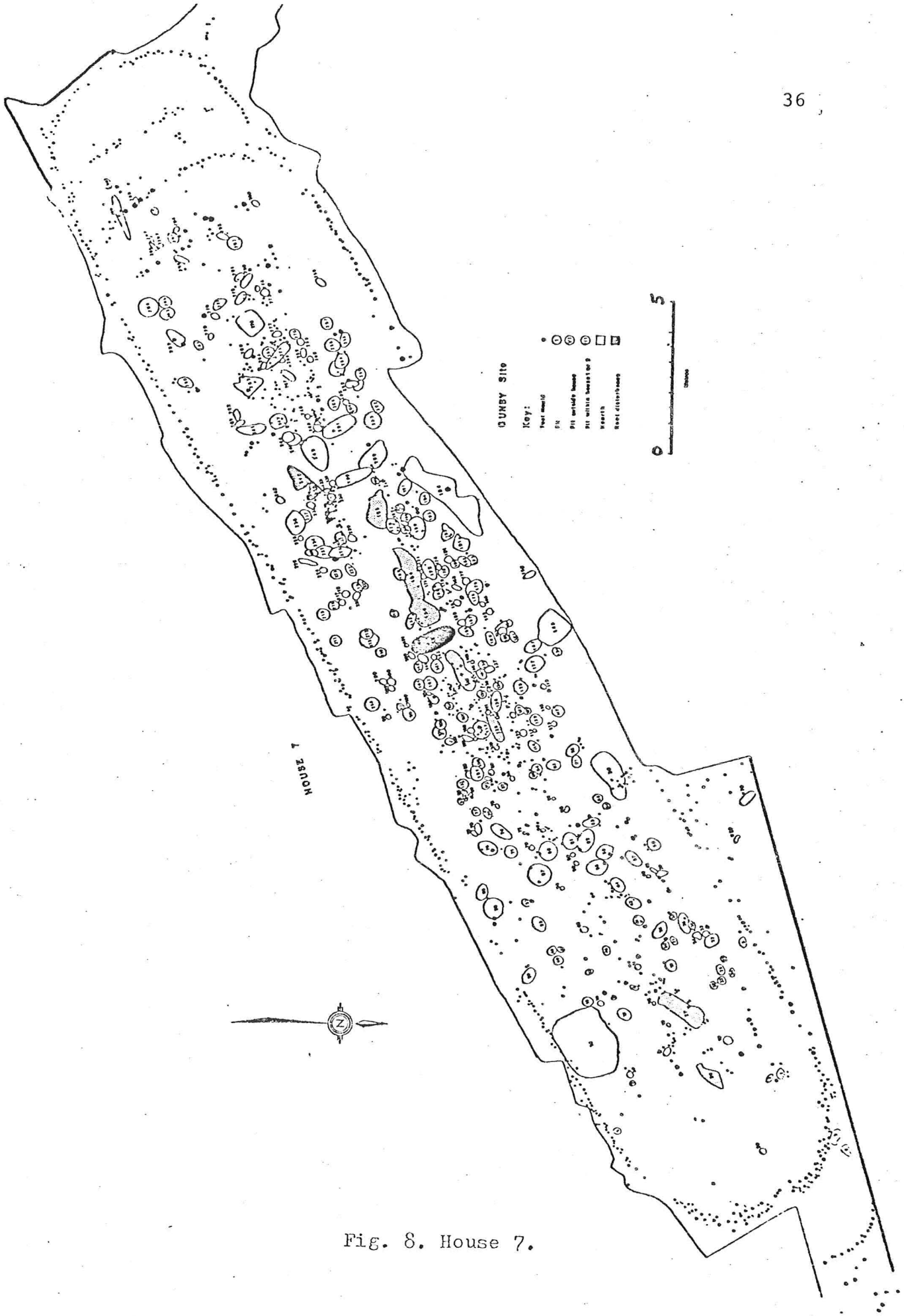


Fig. 8. House 7.

unusual for house walls at Gunby are the intensive array of posts forming the interior wall at the northeastern end. Perhaps this represents post replacement associated with rebuilding.

Features within the end cubicles of House 7 are sparse. Only two oval sterile pits (288 and 299) occurred at the southwestern end, but the northeastern cubicle was more interesting. It yielded two features (3 and 4), of which Feature 4 was an oval refuse pit containing 12 bone fragments, 5 body sherds, and a single chert flake. Feature 3 proved to be an inhouse burial (see p. 53). No artifacts were recovered from this feature.

Interior posts, numbering 786, ranged from 2 to 30 cm with a mean diameter of 7.4 cm. Eighty-four of these posts were sectioned, and they ranged from 6 to 55 cm deep with a mean of 25.2 cm. As noted for House 1, no clear pattern of sideline bunk posts exists, but the northern and southern wall interiors are relatively clear of pits.

Ten hearths were located in House 7. One (7-289) was uncovered near the southwest corner of the house overlapping the innermost cubicle wall. It was very shallow (2 cm deep). The other nine hearths are all centrally located, and five are very closely spaced.

Indeed, two of them (154 and 187) overlap while the others are 0.7, 1.0, and 0.8 meters apart. Two other hearths (27 and 28) are 1.0 meter apart and located in the northeastern half of the house 10.0 meters from the central group. The two remaining hearths are 1.4 meters apart in the southwestern section of the house about 4.5 meters from the central group.

In addition to the many hearths in House 7, 284 pits also attest to intensive occupation. Table 11 presents dimensions for 265 of the pits, while a further 19 pits recorded but not excavated, had the following plan shapes: oval 12; circular 5; and irregular 2. Four pits (50, 85, 190 and 219) in House 7 produced over 100 artifacts each. Pit profile forms were as follows: basin 222; saucer 20, conical 17; irregular basin 5; and irregular 1.

House 8

This house, initially intercepted by Test Trench 4 (Fig. 9), is oriented northwest-southeast. Extending 30.2 meters long by 7.6 meters wide, it tapers to 5.4 meters wide, one meter from the rounded northwest end.

Two hundred and sixty-six wall posts range from 3 to 14 cm with a mean diameter of 6.6 cm. Depths of 19 posts ranged from 6 to 45 cm with a mean of 19.8 cm. An

Table 10. House 7 hearth characteristics.

Feature No.	Length (cm)	Width (cm)	Shape	Profile
27	161	43	Oblong	Irregular basin
28	104	34	Irregular	Saucer
129	90	47	Oblong	Saucer
140	139	34	Irregular	Saucer
154	117	76	Irregular	-
185	156	80	Irregular	Saucer
187	201	93	Irregular	-
267	67	39	Oval	Saucer
276	84	77	Oval	Saucer
289	89	38	Oblong	Saucer

Table 11. House 7 pit types and dimensions in cm.

Type	N		Length	Width	Length
Refuse Fill	139				
circular	(71)	R	-	10-68	2-42
		$\bar{X}$	-	31.8	15.9
		S	-	12.9	9.7
oval	(62)	R	19-84	17-65	4-50
		$\bar{X}$	44.8	31.7	16.1
		S	13.2	10.3	9.0
irregular	(4)	R	46-221	28-174	9-28
		$\bar{X}$	97.0	77.7	18.5
		S	83.1	65.9	8.3
oblong	(1)		31	14	18
kidney	(1)		30	16	11
Sterile Fill	78				
circular	(45)	R	-	8-43	4-27
		$\bar{X}$	-	22.9	11.6
		S	-	8.7	6.0
oval	(29)	R	21-67	14-53	3-33
		$\bar{X}$	37.4	26.5	13.9
		S	13.3	10.2	9.2
oblong	(2)		28	14	9
			244	80	12 & 22

Continued on page 41

Table 11, continued

Type	N		Length	Width	Depth
Sterile Fill, cont.					
irregular	(2)		59	51	15
			103	66	47
Ash Fill	48				
circular	(26)	R	-	10-73	4-27
		$\bar{X}$	-	27.5	12.6
		S	-	14.1	6.3
oval	(22)	R	12-60	11-46	3-35
		$\bar{X}$	41.9	31.2	13.3
		S	12.4	8.8	7.5
Total	265				

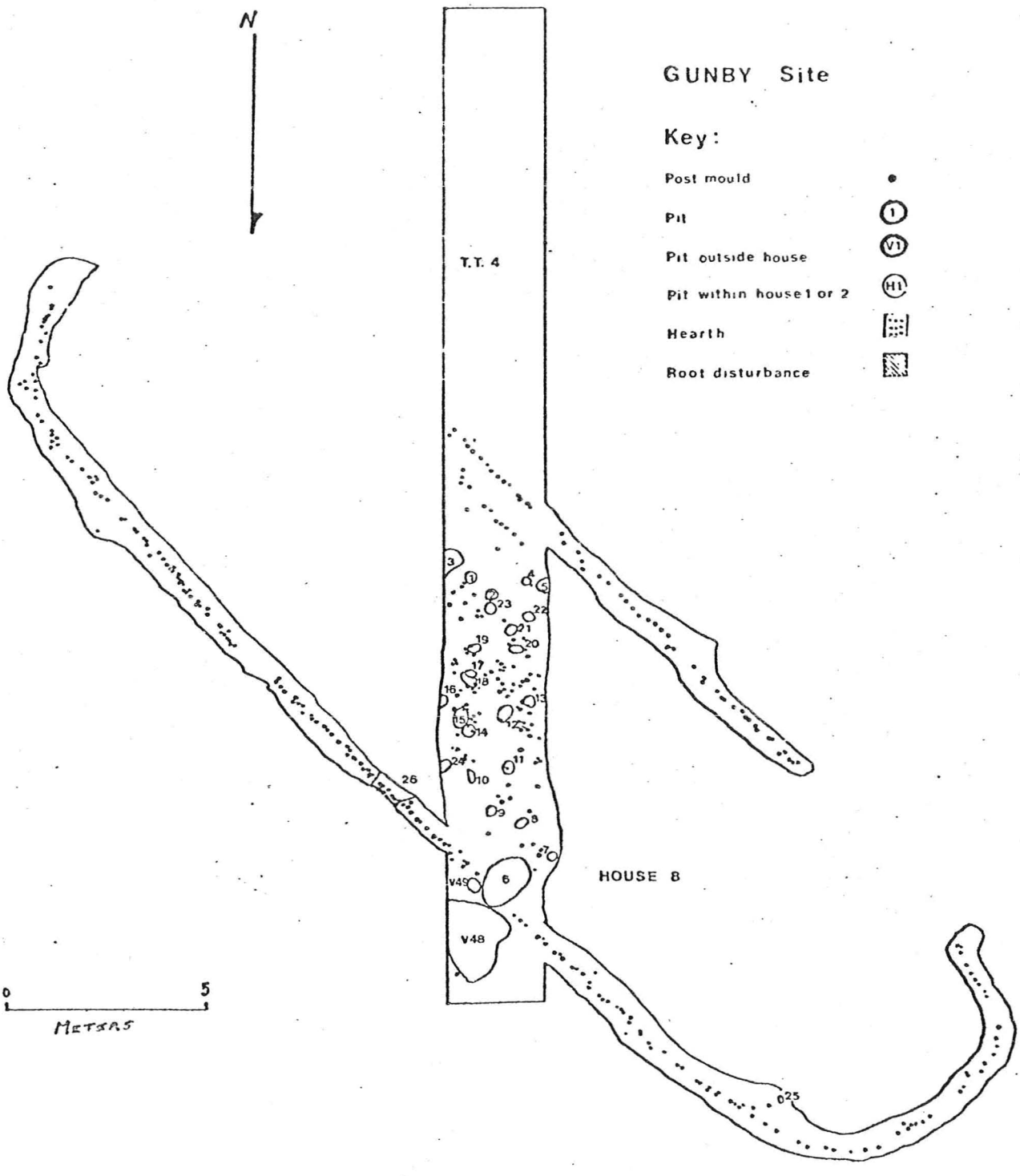


Fig. 9. House 8 and Test Trench 4.

entrance way exists through the northwest end of House 8, and gaps are apparent through the central side walls. An interior wall of posts near the door in the southwestern wall may represent a windbreak feature. The 11 posts of this interior wall had a mean diameter of 6.4 cm and a range of 4 to 8 cm.

Approximately 15.7 square meters of the interior of House 8 were excavated, and 115 interior posts ranged from 3 to 23 cm in diameter with a mean of 8.0 cm. The 15 posts sectioned ranged from 5 to 35 cm with a mean depth of 17.9 cm.

House 9

House 9 is a short rectangular structure reminiscent of House 4. It lies 5 meters northwest of and approximately parallel to House 7. Measuring 12.3 meters long, it is 6.7 meters wide near its midpoint (Fig. 10), narrowing to 6.0 meters at its southwest end. The northeast end is only 5.2 meters wide.

The 125 wall posts of House 9 range from 4 to 11 cm in diameter with a mean of 6.6 cm. Fifteen posts sectioned have a mean depth of 21.3 cm and range from 7 to 44 cm deep. Gaps in the northwest and southeast corners probably represent entrances.

Table 12. House 8 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Refuse Fill	16				
oval	(9)	R	32-145	18-77	5-64
		$\bar{X}$	53.1	34.1	22.5
		S	37.4	17.8	17.9
circular	(7)	R	-	20-35	6-23
		$\bar{X}$	-	25.1	14.7
		S	-	5.4	8.0
Sterile Fill	5				
oval	(3)		22	10	4
			26	13	21
			30	22	6
circular	(2)		-	22	13
			-	23	21
Ash Fill	3				
circular	(2)		-	27	5
			-	31	6
oval	(1)		37	31	15
Total	24				

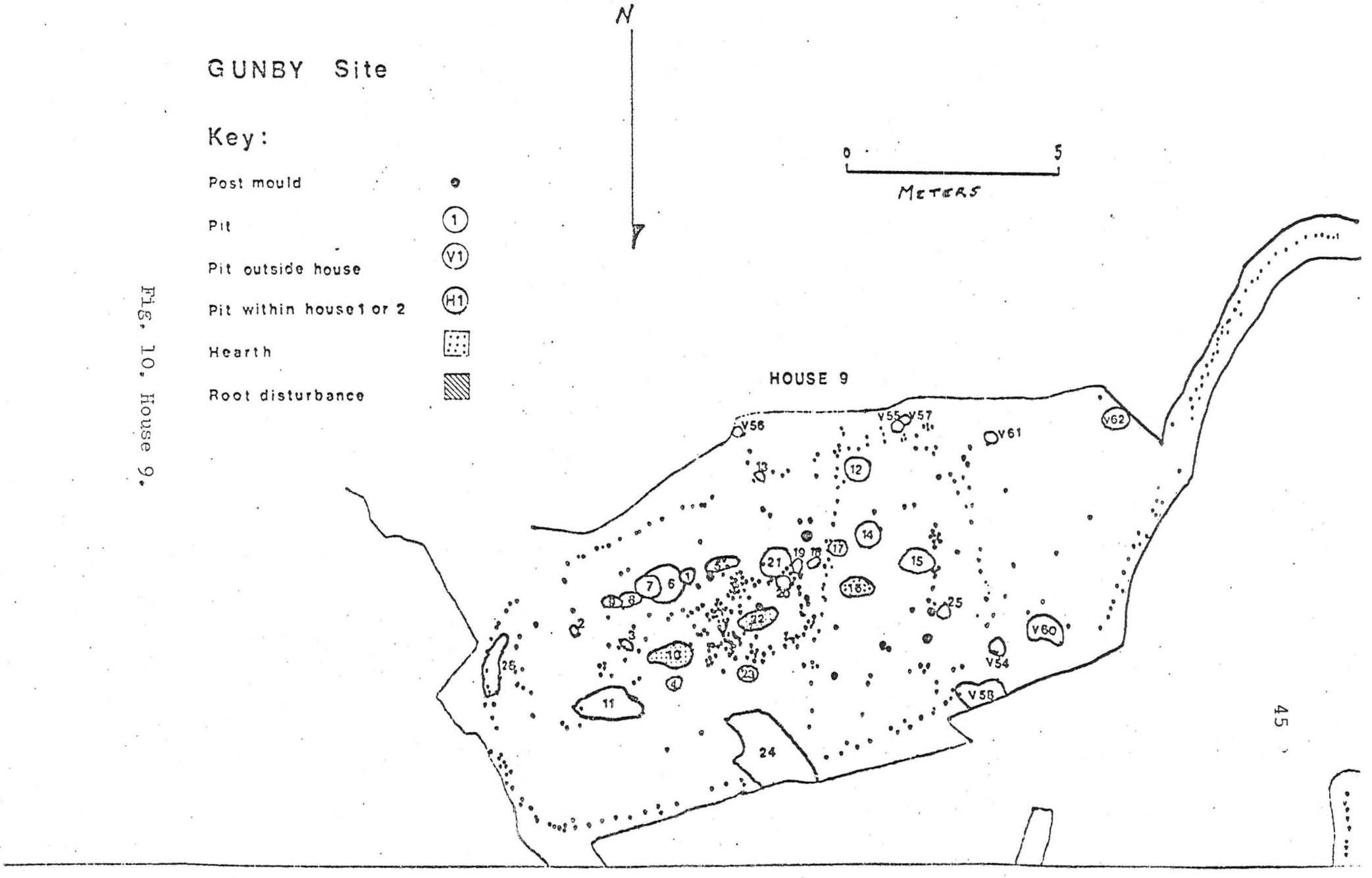


Fig. 10. House 9.

The interior of House 9 has 206 posts ranging from 3 to 33 cm with a mean diameter of 6.3 cm. Thirty-seven of these posts were sectioned, ranging from 4 to 56 cm deep with a mean of 15.9 cm. An interesting feature of House 9 is a straight line of posts running through it from features 12 to 24 at an oblique angle to the side walls. This wall continues outside the southwest wall of House 9 thereby indicating that it is not contemporaneous with the house. Thirty-nine posts in this interesting line range in diameter from 5 to 15 cm with a mean of 8.0 cm.

Three hearths within House 9 are centrally aligned and separated by distances of 1.3 and 1.6 meters. Central hearth 22 is encircled by small posts in a density that is repeated at no other hearth on the site.

Table 14 presents details for 23 pits located in House 9. Profile forms were as follows: basin 16; saucer 5; and conical 2. Two features (12 and 24) produced over 100 artifacts each. House 9 is the only structure on the site that did not have associated ash pits. Another unusual feature of this house is that the pits are primarily concentrated along the south side of the house with fourteen of them positioned 'single-file', parallel to the hearths. Only five pits occur north of the hearths and the entire northeast corner is devoid of features.

Table 13. House 9 hearth characteristics.

Feature No.	Length	Width	Shape	Profile
10	94	50	Irregular	Saucer
16	67	39	Oval	Saucer
22	94	51	Oval	Saucer

Table 14. House 9 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Refuse Fill	13				
circular	(6)	R	-	26-49	15-30
		$\bar{X}$	-	37.8	21.2
		S	-	9.3	6.0
oval	(4)	R	30-65	20-55	6-13
		$\bar{X}$	46.5	34.5	8.7
		S	16.7	14.7	3.1
irregular	(2)		157	70	29
			173	129	55
kidney	(1)		152	35	30

Continued on page 48.

Table 14, continued

Type	N		Length	Width	Depth
Sterile Fill	10				
circular	(5)	R	-	15-31	5-21
		$\bar{X}$	-	22.6	12.0
		S	-	5.8	6.7
oval	(5)	R	20-50	10-36	5-44
		$\bar{X}$	35.2	24.8	16.8
		S	11.3	9.7	15.6
Total	23				

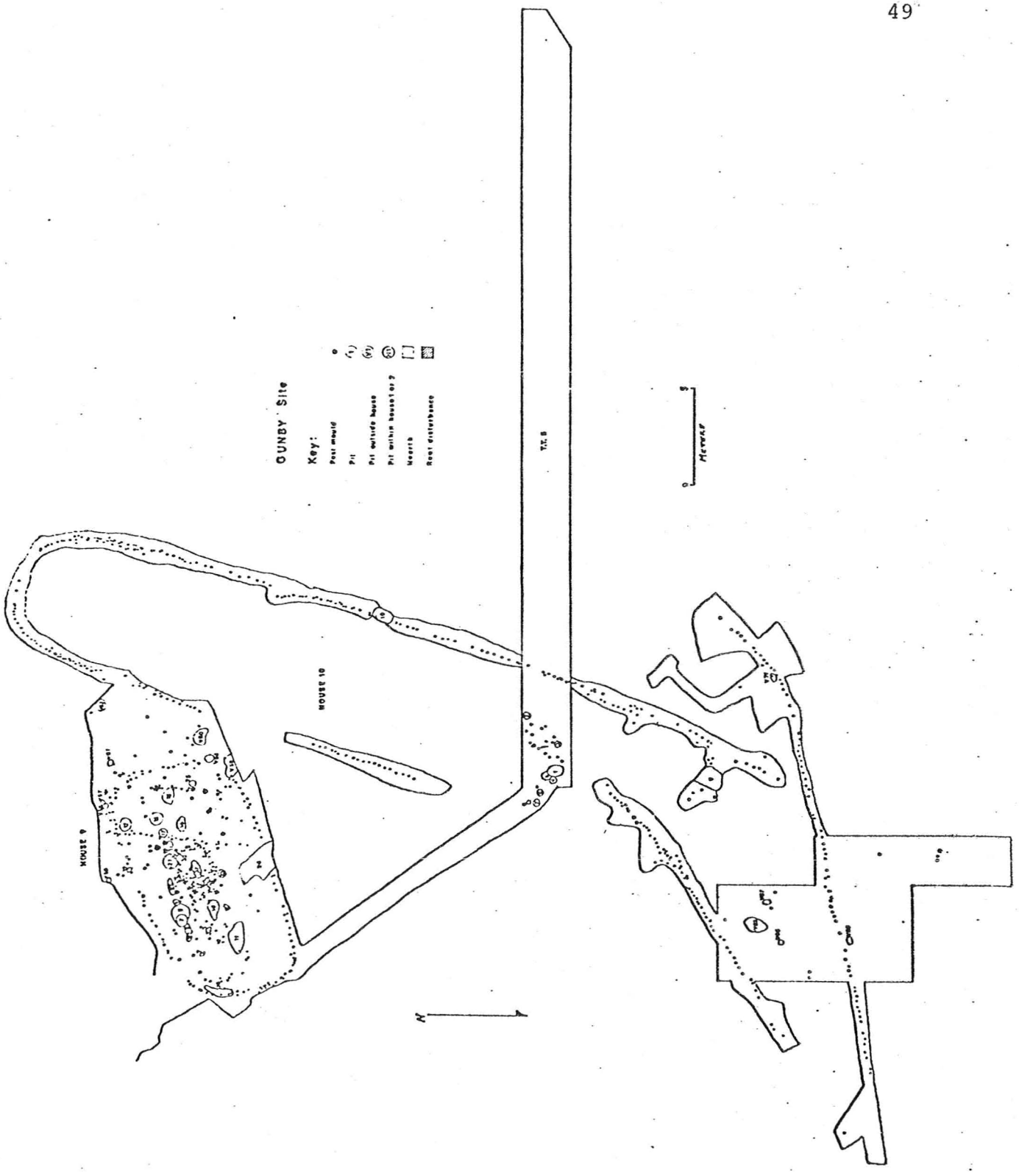


Fig. 11. Houses 9 and 10, Test Trench 5 and palisade.

House 10

House 10 was first discovered during the excavation of House 9 and much of its exterior was outlined by trenching. It is oriented northeast-southwest and is at least 36.5 meters long (Fig. 11). It is difficult to precisely determine the northeast end of this house, but it may terminate at feature 9; however, another wall section continues beyond this point for another 3.5 meters. House 10 measures 7.3 meters wide tapering to 6.5 meters at five meters from the southwest end, and 4.3 meters at one meter from this end.

Two hundred and thirty-seven wall posts ranged from 3 to 20 cm in diameter with a mean of 6.6 cm. A gap in the southwest end may represent an entrance through that wall. Also, a possible entrance may have been created when a section of the west wall was indented to leave a gap of about one meter wide.

Table 15 describes the nine pits located within House 10 as encountered by Test Trench 5. Profile forms include: basin 8; and saucer 1. Pit 1 contained over 100 artifacts.

Table 15. House 10 pit types and dimensions in cm.

Type	N		Length	Width	Depth
Sterile Fill	7				
circular	(7)	R	-	12-32	7-28
		$\bar{X}$	-	18.9	15.4
		S	-	6.4	8.1
Refuse Fill	2				
oval	(2)		138	115	54
			50	39	34
Total	9				

Table 16. Eastern cluster pit types and dimensions in cm.

Type	N	Length	Width	Depth
Sterile Fill	3			
circular	(1)	-	18	17
oval	(1)	74	44	27
oblong	(1)	33	14	20
Refuse Fill	2			
circular	(1)	-	20	27
oval	(1)	58	44	30

Continued on page 52.

Table 16, continued.

Type	N	Length	Width	Depth
Ash Fill	1			
oval	(1)	49	40	13
Total	6			

Table 17. Western cluster pit types and dimensions in cm.

Type	N		Length	Width	Depth
Refuse fill	10				
oval	(5)	R	23-41	18-26	2-22
		$\bar{X}$	31.6	20.2	14.3
		S	7.6	3.5	8.7
circular	(4)	R	-	19-36	5-13
		$\bar{X}$	-	28.7	10.0
		S	-	8.6	3.6
irregular	(1)		165	123	15 & 24
Sterile Fill	6				
circular	(5)	R	-	12-26	3-13
		$\bar{X}$	-	18.0	8.0
		S	-	5.2	4.3
oval	(1)		21	16	10
Total	16				

Features Outside Houses

Tables 16, 17, and 18 describe 56 features not associated with houses. Two areas of concentrated features were located immediately east and west of House 6 (Fig. 6) and have been described separately in Tables 16 and 17. There was no evidence of walls associated with these pit clusters, and thus they are assumed not to be house interiors. One feature (39) of the western cluster contained over 100 artifacts.

Burial

One burial occurred at Gunby, within feature 7-3 in the eastern storage cubicle of House 7. It was shallowly interred, and therefore badly disturbed. While no formal osteological analysis has been undertaken, it is evident that at least two individuals were interred in this secondary burial pit.

Table 18. Village pit types and dimensions in cm.

Type	N		Length	Width	Depth
Sterile Fill	19				
circular	(9)	R	-	15-52	5-28
		$\bar{X}$	-	26.8	17.8
		S	-	14.1	7.1
oval	(9)	R	27-69	14-48	8-48
		$\bar{X}$	47.8	31.1	19.6
		S	14.5	11.8	15.5
oblong	(1)		98	24	18 & 28
Refuse Fill	13				
oval	(7)	R	31-286	18-235	5-46
		$\bar{X}$	78.3	60.0	16.9
		S	92.1	77.9	12.5
circular	(3)		-	19	29
			-	24	9
			-	59	12
irregular	(2)		84	71	41
			177	166	84
kidney	(1)		39	16	12
Ash Fill	2				
circular	(1)		-	46	23
oval	(1)		23	18	4
Total	34				

CHAPTER III

ARTIFACT ANALYSES

The following section describes the artifacts recovered during the excavations of the Gunby site. Provenience data has been provided for each functional category. In most cases the sample size precludes the effective utilization of this data for intrasite comparisons; however, it is possible that future investigators will be able to utilize this data to increase our knowledge of the Pickering phase through more effective intersite comparisons. For example, the fact that the majority of the Glen Meyer end scrapers were surface finds and the majority of the thumbnail end scrapers were located within features (Table 20) may prove significant when more sites are available which have this information.

Lithics

Although the lithic artifact sample is small, it appears to be representative of Pickering assemblages in which lithic artifacts are poorly represented (Wright: 52).

For ease and clarity of presentation, the Gunby lithic analysis is divided into two sections: chipped lithics and rough/ground lithics. Rough/ground lithics refer to artifacts that are either utilized in an unaltered (rough) form, or are pecked and polished into a specific shape.

Chipped Lithics. Chert was abundant at the Gunby site probably due to its close proximity to the Niagara Escarpment, but few chipped lithic artifacts were recovered (Table 19). Comparisons are virtually impossible because of the lack of precise data from Pickering sites, but detritus does account for 75 to 80% of the lithics on Glen Meyer sites (Noble 1975a; Noble and Kenyon 1972).

Scrapers. Thirty-eight scrapers and fragments (Fig. 20:15-23) were identified making this the most abundant category of lithic artifact recovered from the Gunby site. The 38 specimens consisted of the following varieties, in order of frequency: end scrapers 22 (57.9%); side scrapers 11 (28.9%); random scrapers 4 (10.5%); and fragments 1 (2.6%). Terminology for the scraper varities follows Wright and Anderson (1969:51-53).

The end scrapers included thirteen Glen Meyer

Table 19. Gunby chipped lithics.

Category	f	%
Unutilized flakes	2704	94.75
Scrapers	38	1.35
Cores	32	1.13
Utilized flakes	19	0.67
Projectiles	13	0.46
Drills	6	0.21
Wedges	6	0.21
Gravers	3	0.11
Pointed bifaces	2	0.07
Biface fragment	1	0.04
Totals	2824	100.00

and eight thumbnail varieties. Six of the Glen Meyer and three of the thumbnail had been retouched on one or more of their lateral edges. Form and metrical data is presented in Table 20 while Table 21 presents the side and random scrapers' form and metrical data.

Utilized Flakes. Of the 19 utilized flakes recovered at Gunby, nine exhibited evidence of utilization on two

Table 20. End scraper form and metrical data.

Type	Flake Length (mm)	Scraping End Width (mm)	Scraping Face Height (mm)	Lateral Edge Retouch*	Bit Angle (°)	Wt. (gm)	Provenience
Glen Meyer	34	?	5	A	51	?	Surface
	34	20	7	A	69	6.3	"
	27	18	8	A	80	5.6	"
	28	24	7	A	74	7.6	"
	33	16	4	A	72	4.8	"
	52	30	3	P	66	15.6	"
	42	28	3	P	57	11.0	"
	38	16	4	A	73	5.0	"
	25+	16	7	A	85	4.2	7-56
	29	?	5	A	66	?	1-89
	34	14	4	A	71	5.5	Surface
	32	16	3	A	79	4.3	1-12
	28	11	12	P	83	6.7	1-72
Thumbnail	21	11	2	A	75	1.6	Surface

Continued on next page.

Table 20, continued

Type	Flake Length (mm)	Scraping End Width (mm)	Scraping Face Height (mm)	Lateral Edge Retouch*	Bit Angle (°)	Wt. (gm)	Provenience
Thumbnail, cont.	33	17	3	A	77	2.9	6.7
	16	20	12	A	66	4.3	1-89
	29	25	8	P	48	7.9	7-99
	33	20	2	P	31	10.3	Surface
	17	?	3	P	51	?	8-2
	24	13	3	A	66	3.9	Surface
	27	22	4	A	67	4.8	1-12
	18	17	6	P	81	2.7	1-12

* A = Absent; P = Present

+ Spokeshave on one edge (concavity length 11 mm; depth 4 mm)

Table 21. Side and random scrapers.

Type	Flake Length (mm)	Scraping Edge Length (mm)	Scraping Face Height (mm)	No. of Scraping Faces	Wt. (gm)	Provenience
Side						
Triangular	49	44	1	1	18.3	10-1
	42	31	2	1	5.4	Surface
Standard	26	20	2	1	2.6	7-23
	41	21	3	1	4.8	Surface
	39	19	8	1	7.5	Surface
	35	25 27	1 2	2	2.7	6-7
	20	15	2	1	1.9	Surface
	25	22	2	1	2.0	Surface
	32	8 29	2 2	2	3.6	1-12
	30	18 17	3 2	2	2.6	1-89
	27	18	2	1	5.1	1-89
Random	42	24 30	4 2	2	17.9	Surface
	24	15	2	1	2.9	Surface
	30	25	9	1	5.4	Surface
	31	24 15	2 2	2	4.8	7-184

edges while the remainder were utilized on only one edge. Metrical data is presented in Table 22.

Provenience data for the six utilized flakes recovered from features is as follows: 1-12 three; 1-9 one; 1-46 one; and 8-6 one.

Table 22. Utilized flakes metrical data.

	Flake Length (mm)	Length of Utilized Edge (mm)	Flake Width (mm)	Flake Thick-ness (mm)	Wt. (gm)
N	19	28	19	19	19
R	18-57	10-39	14-40	3-10	1.3-11.1
$\bar{X}$	32.3	18.8	24.9	6.2	5.1
S	10.3	6.8	7.8	2.2	2.9

Projectiles. Twelve complete or near complete chert projectiles were recovered at Gunby (Fig. 21:1-11), as well as one tip fragment. This total includes seven complete points, four bases and one unfinished specimen (Fig. 21:7). Three are side-notched and the remainder have been classified as triangular. Two of the triangular points have basal projections similar to the Glen Meyer spurred points defined by Noble (1975a:27). One rather large spurred triangular point (Fig. 21:11) is broken

53 mm from the base, and its length is estimated at 80 mm thus placing it well beyond the range suggested by Noble (1975a:27, Table 19). Perhaps spur lengths increase through time.

All Gunby projectiles possess straight blade edges and biconvex cross sections. Table 23 presents base form and metrical data for the Gunby projectiles.

Drills. Six complete drills (Fig. 21:24-26) and three bit fragments were identified in the Gunby artifact collection. Metric data is presented in Table 24.

Wedges. All six wedges from Gunby are true pieces esquilles (Wright and Anderson 1969:53) and they came from the following features: 1-12 four; 1-34 one; and 6-6 one.

Witthoft believes that these artifacts "...cannot be anything but the exhausted nuclei from cores...." (1952:467). Since bipolar cores are relatively abundant at Gunby (see below), the wedges are classifiable as 'exhausted cores'. A functional definition has been utilized in this report in order to conform to conventional usage, not only for Pickering sites (Wright and Anderson 1969; Reid 1975), but also elsewhere (MacDonald 1969; Morlan 1973). The wedges are smaller

Table 23. Projectile base form and metrical data.

Point Type	Base Form	Length (mm)	Width (mm)	Thick. (mm)	Wt. (gm)	Prov.
Triangular	concave	42	25	5	3.9	1-9
	concave	33	24	4	2.5	surface
	straight	27	23	4	1.7	1/2-4
	straight	34	21	4	2.4	1-89
	straight	53+	--	6	--	surface
	straight	22+	24	5	--	1-12
Spurred	concave	34	24	5	3.0	7-264
	concave	24+	29	6	--	1-12
Side-notched	concave	39	20	6	4.1	1-12
	straight	45	20	5	4.7	1-15
	straight	20+	18	4	--	surface
Unfinished	concave	29	30	6	4.4	surface

Table 24. Drill metric data.

Type	Length (mm)	Use-wear Length (mm)	Use-wear Thickness (mm)	Wt. (gm)	Prov.
Triangular	30	12	5	2.7	V-48
	33	15	7	2.8	7-99
	28	10	9	3.1	surface
Bulbous	24	10	7	1.7	1-15
	28	9	6	2.7	1-89
Irregular flake	33	10	8	1.6	1-89
Bit fragment	-	12	11	-	1-12
	-	24	7	-	surface
	-	17	9	-	1/2-9

Table 25. Wedge metric data.

	Length (mm)	Width (mm)
N	6	6
R	20-25	12-20
$\bar{X}$	21.3	16.7
S	2.0	2.8

than the bipolar cores (compare Table 25 and Table 27) and were apparently utilized after usable flakes could no longer be derived from them.

Gravers. There are three gravers in the assemblage; each exhibits a single graving prong (Fig. 21:28-30). Two of the gravers were located in features (1-9 and 1-89).

Pointed Bifaces. Two specimens (Fig. 21:13-14) have been separated from the projectiles because they exhibit heavy crushing and use-wear along their lateral edges and they are generally more crudely manufactured than the projectile points. Also, they are thicker (in relation to their width) than the projectiles as indicated by a width/thickness index of 2.1 and 3.0 which is considerably lower than the triangular projectiles which range from 4.8 to 6.0.

One of these artifacts was manufactured from argillite. It possesses shallow side notches (8 mm wide), an incomplete base and a large protrusion on one side which gives it an irregular cross-section. It is 62 mm long, 21 mm wide, 7 mm thick, and weighs 14.9 gm. The provenience of this specimen was pit 5 of House 3.

The other biface has been notched on only one

face. It is 37 mm long, 17 mm wide, 8 mm thick and weighs 3.9 gm. It comes from feature 1-94.

Biface. A single fragment from feature 7-292 represents the tip of a chert biface (Fig. 21:27).

Cores. Of the 32 cores recovered from the Gunby site, 18 (56.2%) are bipolar, five are tabular, and nine are irregular. The number of striking platforms for the tabular cores were as follows: one-3; two-1; and four-1. Irregular cores had striking platforms; one-3; two-3; three-2; and four-1. Metrical data for the tabular cores appears in Table 26.

Variety and metrical data for thebipolar cores is presented in Table 27. Terminology for the core varieties follows Binford and Quimby (1972:356-361). Table 28 presents the provenience data for all of the cores.

Unutilized Flakes. Flakes account for over 95% of the chipped lithics recovered at the site. Of the 2704 flakes, 71 were decortication flakes weighing 421.2 gm. Fifty-five (77.5%) of these were recovered from features.

Table 26. Tabular core metrical data.

	Range	N	$\bar{X}$	S
Length (mm)	31-53	5	43.6	14.2
Width (mm)	20-48	5	29.4	11.0
Thickness (mm)	10-22	5	14.2	5.2
Weight (gm)	9.2-94.8	5	33.4	36.6

Table 27. Bipolar core metrical data.

Variety		Length (mm)	Width (mm)	Thickness (mm)	Weight (gm)
Ridge-point	N	7	7	7	7
	R	24-59	16-28	8-21	3.0-25.9
	$\bar{X}$	37.4	24.3	15.3	15.7
	S	12.7	6.2	5.3	8.4
Ridge-area	N	6	6	6	6
	R	33-40	20-41	10-25	11.9-40.5
	$\bar{X}$	37.2	29.7	16.7	21.3
	S	2.7	7.9	4.8	10.4
Opposing ridge	N	3	3	3	3
	R	24-46	23-55	14-15	10.5-39.4
	$\bar{X}$	35.7	34.3	14.3	20.6
	S	11.1	17.9	0.6	16.3
Opposing area		39	79	14	68.4
		37	23	13	16.0

Table 28. Core proveniences.

Variety	Feature	Post	Surface
Ridge-point	3	0	4
Ridge-area	4	0	2
Opposing ridge	0	1	2
Opposing area	2	0	0
Tabular	1	0	4
Irregular	4	1	4
Totals	14	2	16

Ground and Rough Lithics

The inventory of rough and ground lithic artifacts (Table 29) is not unexpected. The predominance of abraders coincides with a high incidence (in relation to other non-flint tools) at the Bennett site (Wright and Anderson 1969:56, Table 13).

Abraders/Whetstones. Of the 27 abraders/whetstones recovered at Gunby (Fig. 22:2,3,5-8), 21 have been purposely shaped and polished. They are generally flat and wider at one end than at the other. Five had bevelled edges with one specimen exhibiting alternate

Table 29. Gunby ground and rough lithics.

Category	f	%
Abraders/whetstones	27	38.0
Celts and fragments	12	16.9
Hammerstones	10	14.1
Gaming stones	10	14.1
Anvil stones	8	11.3
Net sinkers	4	5.6
Totals	71	100.0

edge bevelling. The bevels always occur on the edge of the artifact near one end (Fig. 22:2,8). Faint striations occurred on six of the specimens. Abrasion and faceting occurred as follows: one face-4; one end-3; both edges-2; one edge-1; both faces, both edges-1; both ends, both faces-1; one edge, one end, both faces-1. Metrical data for the 21 shaped abraders is presented in Table 30.

Eight of the 21 shaped abraders were located within features: 1-12(2); 7-100; 9-16; 9-24; V-7; V-45; V-48.

The six unshaped specimens were represented by two rectangular specimens; three oval to circular and one irregular specimen.

Table 30. Abraders/whetstones metrical data.

	Length (mm)	Max. Width (mm)	Thickness (mm)
N	7	21	21
R	78-145	34-71	12-27
$\bar{X}$	114.4	46.6	18.2
S	23.1	9.0	3.6

Celts. One complete celt, 4 bit fragments, one poll and six mid-section fragments were recovered. The poll fragment is squared-off and heavily pitted. Of the four bit fragments, one is symmetrical and three are asymmetrical.

The complete celt (Fig. 22:4) is 118 mm long, 50 mm wide (at the bit), 21 mm thick and weighs 258.6 gm. The bit is symmetrically bevelled and the poll is rounded and heavily pitted. It was located in feature 1-12.

One mid-section and the poll fragment were surface finds. Provenience data for the other fragments is as follows: bit fragments 1-4, 1-12, 1/2-5 and 7-25; mid-section fragments 1-12, 1-89, 2-2, 7-165 and 8-25.

Table 31. Gunby anvils and hammerstones.

Form	Length (mm)	Width (mm)	Thick. (mm)	Faceting	Prov.
Anvils (8)					
Rectangular	169	182	62	One face	1-12
	166	198	43	One face	V-18
	110	119	40	Bipitted	7-124
Circular	92	-	32	One face	surface
Irregular	126	114	34	Bipitted	surface
Ovate	118	95	33	Bipitted & encircling edge	surface
	109	81	28	Bipitted & encircling edge	7-202
	116	96	38	Bipitted & one edge	8-22
Hammerstones (10)					
Circular	97	-	38	Edges (3 facets)	surface
	86	-	47	Edges (2 facets)	surface
Ovate	116	95	53	One end	post
	90	74	45	One end	10-10
	84	58	53	One end	V-7
	69	55	36	One end	surface
	?	37	30	One edge	surface
	102	86	55	One end	surface
	150	89	59	Face (2 facets)	surface
	90	62	44	Ends & edges (4 facets)	7-1

Anvils and Hammerstones. Three of the eight anvils also had hammering facets on one or more edges. There were ten hammerstones. Complete data is presented in Table 31.

Gaming Stones. Ten highly polished pebbles are tentatively identified as gaming stones. Averaging 52.5 mm in diameter, five are semi-circular and five are rectangular in cross-section, thus providing at least one flattened surface on all specimens. Four of these items were located within features: 1-89; 7-19; 7-25; and a post in House 7.

Net Sinkers. Four cobbles, unifacially notched on opposing edges, are identified as net sinkers. All were found in the plough zone within the village.

Worked Bone, Antler and Teeth

Among the material collected at Gunby, 140 items of bone, antler and teeth have been deliberately worked (Table 32). Of this material, 110 pieces are bone; 29 of antler; and 1 bear canine tooth. The worked bone was originally analyzed by Ms. Penelope Thompson and this section relies heavily on her report.

Faunal Resources

Deer, as well as being the primary meat source at Gunby, also contributed extensively as a raw material resource for the worked bone and antler industry. Thirty-six percent of the organic artifacts were manufactured from the bone or antler of the white-tailed deer; 43% can be attributed to large mammals, 'perhaps deer'; and an additional 6% to artiodactyl, 'probably deer'.

Minor raw material contributions were made by the following mammals: grey squirrel (tibia-awl); raccoon (long bone-awl); domestic dog (indeterminate worked bone piece; piece of bone wastage); and black bear (upper canine-chisel). Probably due to its fragile and small nature, fish bone was not a significant raw material although two brown bullhead spines were utilized as awls and two fish scapulae were utilized as scrapers.

Functional categories have been assigned to the worked antler and bone pieces on the basis of overall size, shape, and patterns of use-wear (where they were discernable). Definitions for punches and awls have been taken from Reid (1974:31; Noble 1968).

Table 32. Gunby worked bone, antler and teeth.

Category		f	%
Awls		31	22.1
Bone	29		
Antler	2		
Modified Deer Phalanges (bone)		13	9.3
Flakers		8	5.7
Antler	6		
Bone	2		
Beads (bone)		8	5.7
Points		8	5.7
Bone	6		
Antler	2		
Hair Pins (bone)		4	2.9
Pointed Objects (bone)		4	2.9
Punches (Antler)		3	2.2
Pegs (Antler)		3	2.2
Scrapers (bone)		2	1.4
Pottery Marker (bone)		1	0.7
Worked Bear Canine		1	0.7
Misc. Antler		13	9.3
Misc. Worked Bone		15	10.7
Wastage (bone)		26	18.6
Totals		140	100.1

Antler Artifacts

Awls, flakers, points and punches have been identified from the 29 worked antler pieces (Table 33). Most of the artifacts are highly polished probably as a result of usage; however, one punch and one point are not so highly polished, a result that may be due to the manufacturing process rather than use.

Awls. The awls are distinguished from the flakers by the absence of a flaked end. The antler awls have been distinguished from the punches by the presence of transverse striations, presumably a product of use wear. These awls are characterized by a rounding of the working tip edges probably resulting from a rotation of the tool as it was used. Neither specimen has been polished and no basal modification is present although the shorter specimen retains a natural handle.

Flakers. There are six flakers including one tip fragment. All are highly polished except a double-tined antler which was utilized on both points (Fig. 23:19). The mean measurements for length, basal diameter and tip diameter are as follows: 138.2 mm (S=26.6 mm); 25.8 mm (S=4.8 mm); and 6.2 mm (S=1.0 mm).

Table 33. Antler artifacts.

Type	Length	Basal Dim.	Point Dim.	Prov.
Awls	98	-	3	1-89
	69	-	2	1-12
Flakers	129 97	24	5 5	7-125
	116	21	7	V-7
	146	23	6	surface
	119	28	5	1-12
	181	33	7	1-12
	-	-	7	1-12
Punches	116	17	2	post
	79	25	3	1-4
	-	-	3	1-91
Points	64	8x5	3	surface
	58	7x3	4	surface
Pegs	99	17	-	1/2-38
	85	11	-	1-89
	-	-	-	1-12

Points. Both specimens show basal alteration, possibly for hafting. The larger point is highly polished and tapers from 15 x 9 mm at its approximate midpoint to 8 x 5 mm at its base which has been smoothed and polished. Also there are indentations on opposing edges about 19 mm from its base which would have facilitated hafting. The smaller point tapers from 9 x 9 mm at its midpoint to 7 x 3 mm at its base which has been ground (Fig. 23: 18).

Punches. Highly ground and polished, the three punches show no basal modification. They are characterized by the presence of longitudinal striations that run back from the tip.

Pegs. These 'peg-shaped' specimens (Fig. 23:1,17) have no known function. All three are weathered and show some evidence of flaking on their ends; however, they also appear to be water-worn. They might be pressure flakers or floats for fishing lines.

Miscellaneous. This category has 13 separate pieces. Three are tips only, one is a possible flaker, and another is a very small fragment. These pieces, as well as the remaining eight, are all incomplete or badly

weathered, hence an accurate identification for functional classification cannot be made. Five of the pieces were located in feature 1-12 and four others were surface finds. Other examples (one each) came from features 1-4, 7-25, 7-56, and V-7.

Bone Artifacts

The 110 pieces of worked bone include 26 pieces of wastage and 15 unidentified fragments. Of the 70 functionally definable artifacts, awls (41.4%) and modified deer phalanges (18.6%) clearly dominate the assemblage.

Awls. The bone awls (Fig. 23:3-9 and Fig. 24:2,4,7 and 13) are distinguished from other artifacts by the presence of transverse striations around the working tip which usually possesses a very high sheen. Two of the awls are unaltered spines of the brown bullhead (Fig. 23:8,9); twenty-two of the remaining awls were complete enough to permit measurement of their lengths. These ranged from 188 to 33 mm with a mean of 82.9 mm (S = 35.5 mm).

Ten complete awls are manufactured from mammal long bones that have been split lengthwise, possibly as an aid for hafting. Six other awls retain the epiphysis,

thus allowing a natural grip or handle. The largest awl not only was manufactured allowing for a natural handle to be formed by the epiphysis but also had rounded gullies chipped along the lower edge of the bone (Fig. 24:13). The placement of these indentations makes it possible to hold the tool comfortably in three different positions and perhaps do three different jobs. The entire tool is extremely smooth, finely polished, and ground.

Two of the awls have been selected to present some evidence of manufacturing processes since they possess different points. One (Fig. 24:4) retains microscopic evidence of fine grinding on the tip. Longitudinal striations (presumably from whittling) stop 3 mm from the tip where grinding and polishing have been used to eliminate unnecessary bone. The underside and ends of this artifact are finished and there are two gouged out bottom sections similar to the large awl discussed above. The tip of the second awl (Fig. 24:2) is much narrower and finer than the first. Longitudinal striations are present on the body of the artifact with the point ground and polished. The remainder of the tool was quite crudely worked, with long, irregular striations. A series of transverse striations are visible approximately 3/4 of the way down

the tool; these may have been helpful in smoothing down the bottom edge of the tool.

Points. There are six bone points (Fig. 23:10-11; Fig. 24:6) including one tip fragment. They are all small artifacts with planar points, as opposed to a rounded narrow point. Longitudinal striations running up to the point are visible on three of the points. In the largest specimen (Fig. 24:6), deep striations are clearly visible for the full length of the artifact. Grinding on or around the tip is visible on two of the specimens. One point (64 mm long) exhibits a smoothed and polished base while the others may be broken or have unaltered bases. Provenience and measurement data are presented in Table 34.

Beads. There are eight bone beads (Fig. 23:12-14; Fig. 24:5) including three fragments. Grinding on both edges of the bone was found on the majority of the specimens with only two beads being cut and not ground. Longitudinal striations are present on three of the beads and visible transverse striations are present on four specimens. These transverse striations appear mainly just before the cut marks and were possibly meant to weaken the bone as an aid in cutting. All of the beads are highly

Table 34. Bone point metrical and provenience data.

Length (mm)	Max. Width (mm)	Max. Thickness (mm)	Basal Width (mm)	Prov.
53	8	4	2	1-4
47	8	4	7	1-89
64	14	5	6	1-12
44	8	4	3	1-4
46	5	3	3	10-1

polished with the largest bead (18 x 13 mm) being the most highly polished (Fig. 24:5).

Hair pins. Three complete specimens identified as hair pins (Fig. 24:10-12) are remarkably similar (128 x 4 mm, 126 x 5 mm, and 127 x 5 mm). They are distinguishable from the other pointed objects by three attributes: (1) they have one fully decorated end; (2) their width does not vary along the length of the shaft; and (3) they are completely polished. The decoration has been executed with an incising tool, followed by whittling to smooth out any irregularities.

A small highly decorated piece (Fig. 24:9) has

been identified as the head of a hair pin. The incising on this object is extremely fine and symmetrical. Each of four indentations on this artifact has been ground down to a smooth finish.

Flakers. Both flakers are highly worked with one end flaked and ground. They have been manufactured from a rib fragment and a long bone fragment. Dimensions are 101 x 15 mm and 109 x 8 mm, and both were recovered from feature 1-12.

On the longest specimen (Fig. 24:1), a raised line has been gouged out of the underside of the bone. The point that emerges from the resulting squared off top is flat on one side and rounded on the other. The flat side has been grounded and evidence of grinding runs on into the natural center of the bone. Many striations are visible on the entire length of the tool and an area on the bottom has been chipped to apparently provide a comfortable hand grip.

Modified Deer Phalanges. There are thirteen 'cup and pin' pieces (Fig. 23:15-16), three of which do not possess the characteristic hole on the distal articulation face. Lengths range from 21 to 39 mm with a mean of 31.9 (S=5.8 mm). The hole in the distal articulation

face ranges from 3.5 to 5.0 mm with a mean of 3.85 (S=0.7).

Some of the modified phalanges display evidence of more careful manufacture. Ground down edges on the proximal end are evident in 50% of the specimens while 41.7% have been finished by whittling (longitudinal striations running towards the proximal end of the bone).

Pottery Marker. There is one specimen that may be a pottery marker. Its length is 24 mm and when impressed in plasticine it produces a slightly curved shape.

Worked Bear Canine. This item (Fig. 24:8) has been worked flat on the lingual side and is tentatively identified as a chisel. It is 63 mm long and 20 mm wide at the base.

Pointed Objects. Four specimens are placed in this miscellaneous category. One (Fig. 24:3) has two worked ends, and it may have served a dual function since one end resembles an awl and the other a flaker. Whittling striations are clearly visible over the body of the object and they run directly into the pointed tip where there is little evidence of grinding. The flat tip on the opposite end of the tool has apparently been flaked off, whittled, and ground to give it its shape. It is very finely worked and highly polished with a quality of workmanship similar to the hair pins described earlier. It was recovered from feature 1-89 and is 97 mm long with a diameter of 4 mm.

The two remaining complete specimens were located

in feature 3-13 and on the surface. The dimensions are 75 by 11 mm and 98 by 7 mm respectively. One has both a 'flaker' and an 'awl' end, while the other has only a very fine flaker-like end. An incomplete specimen was recovered from feature 1-110.

Scrapers. Two specimens have been classified as scrapers due to evidence of use-wear on their longer edges. Both are scapulae of large fish and do not appear to have been extensively worked. They were recovered from features 1-89 and 7-50.

Unidentified Worked Fragments. Fifteen pieces of worked bone are too fragmentary to allow functional classification. All specimens are highly worked with both longitudinal and transverse striations being present.

Wastage. Twenty-six bone fragments are presumed to be wastage discarded during the manufacturing process. None of these fragments has greater than five markings on them.

Pottery

The Gunby site excavations yielded 5,194 analyzable pieces of pottery (Table 35), of which 280 rims provide a useful sample for comparative purposes.

As advocated by Wright (1967), attribute analysis has been used in the examination of the Gunby pottery. This mode of analysis facilitates comparisons with other Pickering

sites (Kenyon 1968; Wright and Anderson 1969; Reid 1975; and Pearce 1977), as well as Glen Meyer villages (Noble 1975a). Because of a lack of any standardized typology and of consistent comparative usage in early Iroquois pottery analyses, no attempt has been made to apply the pottery type concept. However, an overall ceramic table describing the decorative techniques and motifs of the exterior, lip and interior of each rim sherd is included in Appendix A.

Rim Sherds

A total of 280 analyzable rims are available from Gunby, including 40 castellations. To counteract possible statistical errors and to facilitate comparisons to other sites, all mended rims are counted as single sherds. The analysis of the Gunby rims is presented on the basis of six select attributes and modes: exterior rim decoration; lip of rim decoration; interior rim decoration; punctation and bossing; rim profile forms; and castellation.

Exterior Rim Decorative Techniques. Incised/trailed predominates in the sample. A newly identified technique, braided cord, is the next largest followed by linear stamp and plain. Together these four techniques account for 70% of the total sample. Several other new techniques are represented in the sample: braided cord, stamped knot, stamp string dragged and crescent cord. These techniques are described in the Appendix.

Although the significance of the rim sherd frequencies

Table 35. Gunby Pottery.

Item	f	%
Body sherds	3730	71.81
Neck/shoulder sherds	1117	21.51
Rim sherds	280	5.39
Juvenile ceramics	50	0.96
Ceramic wastage	15	0.29
Gaming discs	2	0.04
Totals	5194	100.0

by decorative techniques will be discussed in detail under Comparative Synthesis, a few preliminary comments may be presented at this time. A significant percentage (31.1%) of the rims are decorated with some variety of cording, while push-pull is almost absent as a decorative technique (Table 36). Various forms of stamping are present as the major decorative technique on 18.9% of the rims.

Interior Rim Decorative Techniques. Plain interiors predominate in the Gunby sample for only 15.4% of the interiors are decorated. Incised and corded stick comprise the largest decorated categories (Table 37).

Table 36. Gunby exterior rim decorative techniques.

Decorative Technique	f	%
Incised	56	20.00
Braided cord	54	19.29
Linear stamp	33	11.79
Plain	31	11.07
Trailed	22	7.86
Combined	17	6.07
Crescent stamp	13	4.64
Corded stick	12	4.29
Corded punctate	10	3.57
Punctate	6	2.14
Dentate stamp	4	1.43
Stamped knot	4	1.43
Smoothed-over cord	4	1.43
Fingernail impressed	3	1.07
Dentate punctate stamp	2	0.71
Dragged stamp	2	0.71
Stamp string dragged	2	0.71
Push-pull	2	0.71
Turtle suture stamp	1	0.36
Crescent cord	1	0.36
Other	1	0.36
Totals	280	100.0

Table 37. Gunby interior rim decorative techniques.

Decorative technique	f	%
Plain	233	83.2
Incised	16	5.7
Corded stick	11	3.9
Linear stamp	8	2.9
Crescent stamp	5	1.8
Fingernail impressed	2	0.7
Dentate stamp	1	0.4
Obliterated	4	1.4
Totals	280	100.0

Lip of Rim Decorative Techniques. Plain lips predominate in the sample with punctate and incised/trailed being the strongest of the minor techniques. As noted earlier for exterior rims, corded varieties account for a significant percentage (12.3%) of rim lip decorative techniques (Table 38).

Punctation and Bossing. Punctation and bossing is a strong feature of the Gunby rims, appearing as it does on 49.4% of the analyzable sample (Table 39). As Noble (1975a) first noted, these attributes have considerable

significance as chronological modes in the early Ontario Iroquois sequence. The interior punctate shapes are oval (50.8%), circular (22.7%), linear (15.1%), rectangular (8.3%), crescent (1.5%), and triangular (1.5%). Of the 14 examples of exterior punctates, ten are linear, two are circular and two are rectangular.

Castellations. The dominant castellation forms are incipient rounded and incipient pointed. Castellation motifs follow Wright's analysis (Wright and Anderson 1969:28, Fig. 6).

Rim Profiles. Twenty different rim profiles from Gunby are illustrated in Figure 12. The most dominant forms, A and B, representing interior channelled rims with poorly defined collars, occur on over 33% of the vessels. Interior channelled (or concave) rims dominate the assemblage appearing on over 72% of the vessels. Although there is no correlation between rim profile and exterior rim decorative technique for any of the major forms, plain rims are more often associated with straight to convex interiors (rim profiles C, D, and F) and everted rims (rim profiles D and L). Straight to convex interiors are present on 14 (46.7%) of the 30 plain rims as compared to a frequency of 20.8% for all

Table 38. Gunby lip of rim decorative techniques.

Decorative technique	f	%
Plain	134	47.86
Punctate	41	14.64
Incised/trailed	31	11.07
Braided cord	15	5.36
Notched exterior lip	10	3.57
Corded stick	10	3.57
Push-pull	7	2.50
Notched interior lip	7	2.50
Corded punctate	7	2.50
Crescent stamp	6	2.14
Linear stamp	5	1.79
Dentate stamp	2	0.71
Suture stamp	1	0.36
Stamped knot	1	0.36
Notched interior and exterior lip	1	0.36
Crescent cord	1	0.36
Destroyed	1	0.36
Totals	280	100.01

Table 39. Gunby punctate and bossing attributes.

Attribute	f	%
Exterior boss	127	45.4
Absent	122	43.6
Interior punctates	16	5.7
Punctate segregated exterior boss	10	3.6
Interior and exterior punctates	4	1.4
Exterior boss, two rows interior punctates	1	0.4
Totals	280	100.1

Table 40. Gunby punctate metrics.

Mean measurements (mm)	Exterior Punctates	Interior Punctates
Diameter	5.3	6.6
Distance apart	13.7	7.3
Distance below rim	20.3	18.9

Table 41. Castellation varieties by motif.

Category	f	%
Unbroken	35	87.5
Broken	2	5.0
Chevron	1	2.5
Vertical	1	2.5
Punctate	1	2.5
Totals	40	100.0

Table 42. Castellation varieties by shape.

Category	f	%
Incipient rounded	15	37.5
Incipient pointed	16	40.0
Pointed	5	12.5
Rounded	3	7.5
Nubbin	1	2.5
Totals	40	100.0

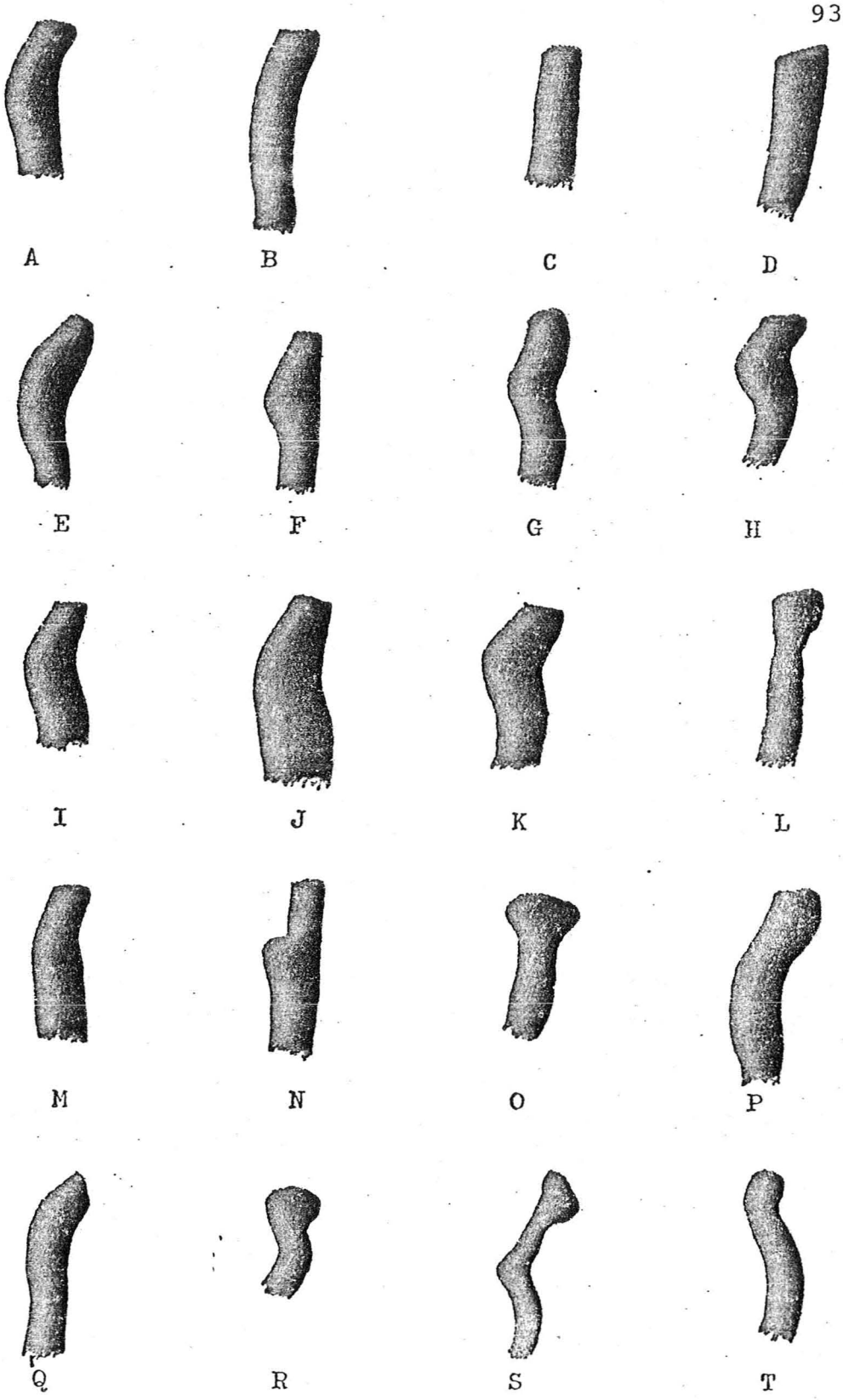


Fig. 12. Rim profile varieties (exterior to left).

rims while 12 of the plain rims (40.0%) are everted as compared to a frequency of 11.5% for all rims. In other words, plain rims are more frequently everted or straight to convex than the decorated rims.

Neck Sherds (Fig. 19:7-11)

Of the Gunby sample, plain sherds clearly constitute a large majority (78.1%), but decorated necks (21.9%) are not insignificant (Table 43). Five decorative techniques are represented, as follows: 51.6% linear stamp; 20.3% punctate; 17.2% incised; 9.4% dentate stamp; and 1.6% dragged stamp. Surface treatment and thickness data are shown in Table 43, and this includes 104 necks which are still attached to rims.

Shoulder Sherds (Fig. 19:11-13)

Five percent (58) of the neck sherds included the juncture of the body with the neck, and a further six sherds are identifiable as shoulder sherds. All shoulders are incipient with no examples of carination present.

Table 43. Neck sherd data.

Surface Treatment	Frequency	%	Thickness (mm) range	mean
Plain	868	78.1	3-14	7.0
Ribbed paddle	169	15.2	3-14	7.1
Decorated	64	5.8	4-12	7.2
Check stamp	10	0.9	5-9	6.7
Totals	1111	100.0	3-14	7.0

Table 44. Shoulder sherd data.

Surface Treatment	Frequency	%	Thickness (mm) range	mean
Plain	31	48.4	4-12	6.8
Ribbed paddle	20	31.2	4-10	6.7
Check stamp	12	18.7	5-10	7.0
Cord malleated	1	1.6	3	3.0
Totals	64	99.9	3-12	6.7

Table 45. Body sherd data.

Surface treatment	Frequency	%	Thickness (mm) range	mean
Plain	1828	49.0	2-18	7.2
Ribbed paddle	1491	40.0	2-15	6.6
Check stamp	208	5.6	3-14	7.1
Smoothed-over cord	186	5.0	3-15	6.2
Cord malleated	17	0.5	3-9	5.9
Totals	3730	100.1	2-18	6.9

Body Sherds (Fig. 19:1-6)

Body sherds smaller than a 25¢ coin or with a sloughed off surface were not analyzed. The analyzable sample, however, of 3,730 clearly skews the overall pottery inventory. Plain sherds (49.0%) outnumber sherds displaying four techniques of surface treatment (Table 45).

Juvenile Ceramics (Fig. 20:1-9)

There are 50 fragments of small, poorly fashioned vessels in the Gunby collection which are regarded as the product of juveniles learning the art of ceramic manufacture.

Of the 31 juvenile rims only one possesses interior decoration (linear stamp). Six of the rims are castellated (5 incipient rounded and one incipient pointed). Seven of the lips are decorated: 2 linear stamp; 2 incised; 2 punctates; and 1 push-pull. Lip thicknesses range from 3 to 7 mm with a mean of 4.8 mm. Eleven of the rims are decorated: 3 linear stamp; 2 incised; 2 push-pull; 3 combined techniques; and 1 scarified. Punctate and bossing attributes of the juvenile rims are as follows: 17 absent; 5 exterior boss; 3 interior punctates; 3 exterior punctates; 2 punctates segregated exterior bosses; 1 interior and exterior punctates.

There are three neck fragments: 1 plain (3 mm thick); 1 incised (4 mm thick); and 1 scarified (4 mm thick). Of the 16 body sherds, 12 are plain and 4 are scarified. Body sherd thicknesses range from 2 to 9 mm with a mean of 4.7 mm. There is a single rounded basal sherd which is scarified.

Gaming Discs

Two ceramic items have been identified as gaming discs (Fig. 20:19,21). One specimen was manufactured by rough chipping around the edges of a body sherd. It has a diameter of 21 mm and is dissected on one face by two parallel incised lines. The other specimen is incomplete but appears to have been a small flat circular disc of fired clay.

Ceramic Wastage

Ceramic wastage is represented by three balls of unfired clay, ten smaller lumps and fragments of fired clay with and without temper, and one moulded fragment possessing a circular cross-section. Also, there is one irregularly shaped mass of fired clay (Fig. 20:20).

Pipes

Twenty-six pipes and portions recovered at Gunby include a single steatite example. Although the majority of these items are crude in comparison to the pipes of the later Ontario Iroquois (Wright and Anderson 1969:48; Wright 1973:65; Reid 1975:23), one stem fragment is exceptionally well-fired and has a smooth diamond cross-section (Fig. 20:18). One complete pipe is complimented by 12 bowls or bowl fragments and 13 stem fragments.

The complete pipe (Fig. 20:14) is decorated with three encircling rows of punctates and, on the lip, a single encircling row of punctates that overlaps at one point. Also, there are two large punctates on either side of the elbow. The bowl is 35 mm high and joins the stem at an angle of 113°. Other metric data is included in the general pipe descriptions below.

Four of the eight relatively complete bowls are decorated: one possesses three encircling horizontal incised lines; a second has two encircling horizontal incised lines; a third has two encircling rows of punctates; and the fourth has one incised line marking the junction of the bowl and a very slight collar (Fig. 20:12).

All three of the bowls for which shape can be determined are cylindrical. Lip thickness of all pipe bowls ranges from 3 to 7 mm with a mean of 4.8 mm. The two complete bowls have orifice diameters of 11 and 13 mm.

Of 13 stem fragments, 9 are sufficiently intact to determine cross-section form: 4 circular; 4 semi-circular; 1 diamond. One stem is decorated with a row of vertical incised lines along each side (Fig. 20:16). Stem hole diameters range from 3 to 5 mm with 4.0 mm as the mean.

In addition to the ceramic pipes described above, there is one complete steatite elbow pipe (Fig. 20:15). It is 36 mm long, has a bowl orifice diameter of 13 mm, and a stem hole diameter of 5 mm. The stem-bowl angle is 149° and the stem cross-section is rectangular. Both the stem and bowl are marked by numerous faint incised lines but no particular pattern is evident for this decoration. The bowl and stem lips are jagged, apparently as a result of the mode of manufacture. An incised line adjacent to the lip break and evidence of an incised line at the bowl break suggest that the steatite was cut partially through and then simply snapped off to complete manufacture. This lithic pipe was a surface find located near House 9.

Native Copper

Two native copper artifacts were recovered at Gunby. An awl, 28 cm long by 2 cm thick, was manufactured by beating the copper thin and then rolling the sheet. A copper pendant was formed from a thin strip of copper. The diameter was 6.5 cm with the central hole being 3.5 cm across. They were recovered from the plough zone and from feature 1-12, respectively.

Table 46. Pipe provenience data.

Location	Stem Cross-section			Bowl Decoration		
	Circ.	Semi-Circ.	Dia.	Plain	Incised	Punc.
House 1	1-89	1-12	-	1-89	1-4	1-89
	1-12	-	-	(2)	1-89	-
House 1/2	-	-	-	-	1/2-9	-
House 6	6-6	post	-	-	-	-
House 7	-	7-119	-	-	-	-
House 8	-	-	-	8-6	-	-
	-	-	-	8-26	-	-
Surface	1	1	1	-	-	1
Totals	4	4	1	4	3	2

CHAPTER IV

FLORAL AND FAUNAL ANALYSES

The Gunby site excavations produced excellent floral and faunal samples. Over 14,000 pieces of bone and 1000 carbonized seeds were recovered. The analyses of Mr. Charles Turton (floral) and Mr. Gary Warrick (faunal) provide insights into the dietary practices and seasonal activities of this late-Pickering group.

Floral Analysis

Carbonized plant material was analyzed by Mr. Charles Turton, and the following section is based on his report on the almost 1000 seeds recovered from the 150 liters of soil he floated. The identified material includes the cultigens: corn, bean, sunflower, and tobacco, as well as wild plant seeds such as sumac, strawberry, blackberry, pin cherry, elder berry and portulaca.

Field and Laboratory Procedures

Flotation samples (2 liters) were collected from most features during the early stages of the

excavation, but were limited to select features as time became a major factor in completing all phases of the dig. Also, all samples have not been floated to date. Therefore, while Tables 47 and 48 provide locational data for the cultigen and wild plant remains, this is not to suggest that other features did not contain such remains. Mr. Turton also collected additional samples in larger quantities from features that contained abundant charcoal. For example, a one square meter section (50 cm deep) of feature 1-89 was completely floated.

Samples were floated near the site at a suitable section of Bronte Creek using the technique described by Schock (1971). After drying, the samples were sorted with the aid of a Bausch and Lomb stereomicroscope (magnifications of 10x or 25x). Carbonized tobacco seeds were identified with the aid of scanning electron microscope pictures taken at the University of Western Ontario.

Cultigens

Corn was certainly a staple in the Gunby people's subsistence, having been recovered in all samples sorted (Table 47). Since carbonized corn tends to fragment easily, corn was weighed rather than counted. The average

corn kernel weighs approximately .10 gm.

The recovery of bean and sunflower samples at Gunby represents the earliest record yet of these seeds in Ontario. Although a small fragment of Cucurbita (squash) was recovered in feature 7-192, a larger fragment or a whole seed should be recovered that it can be definitely stated that this cultigen was utilized at the site (Turton: personal communication). Apparently the people of Gunby were utilizing all or nearly all of the elements which characterized historic Iroquoian horticulture: corn, bean, squash, sunflower, and tobacco.

The presence of large numbers of native tobacco seeds is important. Native tobacco has been recorded on only five Ontario sites to date, and Gunby represents the earliest (Turton: personal communication). The fact that tobacco seeds were recovered in great number from almost every float suggests that the plant was actively cultivated near the village. The sandy soil in the area would lend itself to tobacco growing.

The list of wild plants recovered from several features is extensive (Table 48). The majority of wild plants identified were utilized by Indian groups in historic times (Yarnell 1964); all of them are edible (Medsger 1943; Fernald and Kinsey 1943).

Table 47. Gunby cultigens.

Feature	Corn	Bean	Squash	Sunflower	Tobacco
1-89 (0-10 cm)	1.95	-	-	-	45
1-89 (10-20)	0.10	-	-	-	12
1-89 (30-40)	1.42	-	-	-	2
1-89 (40-50)	0.15	-	-	-	1
1/2-22	0.31	-	-	-	4
7-80	1.43	-	-	-	42
7-188	p*	-	-	-	1
7-190	0.19	-	-	-	-
7-192	96.21	½	¼	1	399
7-194	p*	-	-	-	62
7-297	3.32	-	-	1	5
Totals	105.08	½	¼	2	573

p* = corn fragments present but weighed less than .01 gm.

Chenopodium (pigweed) is prolific on the site and was probably utilized for greens (Yarnell 1964:55). It grows throughout the Great Lakes region in cultivated and waste ground (Yarnell 1964:55). It is 'in season' from May to September (Medsger 1943:235) but "...usually holds seeds until after heavy frosts...." (Fernald and Kinsey 1943:177).

Table 48. Gunby wild plants.

Feature	Chenopodium	Elderberry	Gramineae	Blackberry	Portulaca	Pin cherry	Beech	Sumac	Strawberry	Unknown No. 1*	Unknown	Totals
1-89(0-10)	-	10	52	19	1	1	-	3	15	1	1	103
1-89(10-20)	-	-	16	4	3	-	1	1	2	1	-	28
1-89(30-40)	-	2	3	20	1	-	-	1	2	-	1	30
1-89(40-50)	1	-	-	1	-	-	1	1	1	-	-	5
1/2-22	43	6	9	18	-	-	-	1	-	-	1	78
7-80	1	-	2	1	9	-	-	-	-	-	-	13
7-188	2	3	-	3	-	-	-	4	-	-	-	12
7-190	-	-	-	3	-	-	-	-	-	-	-	3
7-192	2	1	-	3	2	-	-	1	20	133	1	163
7-194	-	3	1	5	2	-	-	-	-	-	1	12
7-297	3	-	-	3	1	-	-	22	1	4	3	37
Totals	52	25	83	80	19	1	2	34	41	139	8	484

*This seed is similar to, but not quite the same as vaccinium (blueberry).

More important, from a seasonal standpoint, are the wild strawberry (Fragaria virginiana) and blackberry (Rubus alleghiensis) seeds which are in season at Gunby for a more restricted period, late June to early July and late July to early August respectively (Medsger 1943:235). Thus, summer gathering by the Gunby peoples is suggested from carbonized seeds (blackberry, strawberry, pin cherry). Other items could have been collected in the fall to early winter (e.g. sumac, elderberry, beech nuts, chenopodium).

Summary

The paleobotanical analysis indicates the presence of a number of important cultigens as well as a variety of wild plant species. Most of the samples sorted came from features rich in carbonized material that yielded corn, sunflower and tobacco seeds, all indicative of year-round horticultural activities. There is also some evidence that beans and squash were being grown. The presence of several wild plant seeds further suggests that the Gunby villagers' diet was supplemented with locally available wild fruits collected during the summer and fall.

Faunal Analysis

The Gunby excavations produced a total faunal sample of 14,895 pieces, which were analyzed by Mr. Gary Warrick (1978). Portions of his report are condensed here, while other sections are included in Appendix B.

As indicated in Table 49, mammals (60.3%) and fish (31.5%) provided major protein inputs to the Gunby subsistence pattern. This substantiates Wright's statement (1973:22) that the Pickering peoples "...relied heavily upon hunting and fishing". Birds, on the other hand, added another 7.4% to the protein obtained from fauna hunted by the Gunby people.

Mammals

Table 50 presents the distribution of identified mammal species, complete with MNIs (refer to Appendix B) and edible meat totals represented by the faunal remains. The major species, represented by recovered number of pieces were: Virginia deer, grey squirrel, eastern chipmunk, muskrat, and beaver. According to edible meat weights, however, the major species were deer, black bear, beaver, and domestic dog. Table 51 further presents a breakdown of unidentified mammal bone according to size, and over 58% are probably deer.

Table 49. Faunal class distribution.

Class	f	%	MNI	%	Edible Meat (kg)	%
Mammal	9106	60.3	73	35.6	1462.0	94.5
Fish	4692	31.1	79	38.5	82.7	5.4
Bird	1114	7.4	28	13.7	-	-
Amphibian	55	0.4	9	4.4	2.0	0.1
Reptiles (turtle)	56	0.4	-	-	-	-
Freshwater clam	46	0.3	7	3.4	0.1	-
Land snail	9	-	9	4.4	-	-
Indeterminate	24	0.2	-	-	-	-
Totals	15102	100.1	205	100.0	1546.8	100.0

White-tailed deer (Odocoileus virginianus) clearly constituted the major meat source for the Gunby villagers. Comprising 70.7% of identified species and 78.45% of the edible meat weight, this mammal was also utilized for the major source of raw material for the worked bone industry. Most deer long bones were simply split or broken, probably during marrow extraction; 53.5% of the unidentified large mammals also exhibit this fragmentation pattern.

Table 50. Mammal species at Gunby.

Species	f	%	MNI	%	Live Wt. (kg)	%	Edible Meat (kg)	Total Edible Meat (kg)	%
White-tailed deer	1351	70.7	31	42.5	74.0	50	37.0	1147.0	78.45
Artiodactyls	125	6.5	-	-	-	-	-	-	-
Grey squirrel	207	10.8	9	12.3	0.52	50	0.26	2.34	0.16
Eastern chipmunk	79	4.1	6	8.2	0.10	55	0.06	0.36	0.02
Muskrat	28	1.5	4	5.5	1.1	60	0.7	2.8	0.19
Beaver	26	1.4	4	5.5	20.0	50	10.0	40.0	2.74
Red squirrel	16	0.8	2	2.7	0.19	50	0.10	0.20	0.01
Black bear	11	0.6	2	2.7	152.0	65	98.8	197.6	13.52
Domestic dog	10	0.5	1	1.4	21.0	65	13.6	13.6	0.93
Wolf	9	0.5	1	1.4	52.0	60	31.2	31.2	2.13
Woodchuck	8	0.4	2	2.7	3.2	70	2.2	4.4	0.30
Canis sp.	6	0.3	-	-	-	-	-	-	-
Meadow vole	4	0.2	2	2.7	0.04	70	0.03	0.06	-
Fox sp.	4	0.2	-	-	-	-	-	-	-
Raccoon	4	0.2	1	1.4	8.0	70	5.6	5.6	0.38

Continued on 111.

Table 50, Continued

Species	f	%	MNI	%	Live Wt. (kg)	%	Edible Meat (kg)	Total Edible Meat (kg)	%
Eastern Cottontail	3	0.2	1	1.4	1.15	45	0.52	0.52	0.04
Deer mice sp.	3	0.2	1	1.4	0.02	70	0.01	0.01	-
Fisher	3	0.2	1	1.4	2.9	65	1.88	1.88	0.13
River otter	3	0.2	1	1.4	7.5	70	5.25	5.25	0.36
Porcupine	2	0.1	1	1.4	6.4	70	4.48	4.48	0.31
Rodents	2	0.1	-	-	-	-	-	-	-
Carnivores	2	0.1	-	-	-	-	-	-	-
Rabbit sp.	1	-	-	-	-	-	-	-	-
Red fox	1	-	1	1.4	5.2	60	3.12	3.12	0.21
Marten	1	-	1	1.4	0.8	70	0.56	0.56	0.04
Mink	1	-	1	1.4	1.5	70	1.05	1.05	0.07
Total identified (21%)	1910	99.8	73	100.2	-	-	-	1462.03	99.99
Total unidentified (79%)	7196								

Table 51. Unidentified mammal.

Size	f	%
Large (≥ deer)	4189	58.2
Medium (> squirrel < deer)	638	8.9
Small (squirrel and <)	207	2.9
Indeterminate	2196	30.0
Totals	7196	100.0

Table 52. White-tailed deer age distribution*.

Age Class	f	%
1 year	16	10.9
Yearling	29	19.7
2½-3½ years	48	32.6
4½-6½ years	48	32.6
6½ years	6	4.1
Total	147	99.9

*Age based on dental eruption and wear. Assessed with reference to Severinghaus (1950 cited in Gilbert 1973:45).

have been in such close proximity to the village, this modified bone and the ten pieces mentioned above suggest a small but active dog population at Gunby. The Gunby dog was about the size of a terrier.

Other mammals represented at Gunby include beaver, muskrat, and raccoon. Beaver remains, at 2.7%, were the third most important mammal by edible meat weight (Table 50). Their age distribution and that for muskrats indicates a non-selective hunting pattern. No muskrat bones were worked. Raccoons were a minority at Gunby, and while no pieces showed evidence of butchering or scorching, one long bone was used for manufacture of an awl.

Small rodents (mice and meadow voles) occur in such small numbers (0.2% each) that they are considered to be natural residents at Gunby. Eastern chipmunks represented by all age groups and comprising 4.1% by element of all identified mammal, probably were negligible as a meat resource, but may alternatively have been snared for their striped pelts.

Fish

Fish usually constitute an important element in native diet, and at Gunby eleven different species have been identified (Table 53). The major species, as discerned by number of species, were the brown bullhead and pike (Esox,

sp.). Such species prefer quiet, shallow and weedy waters which can be found in the vicinity of the Gunby village. That occasional fishing trips to Lake Ontario occurred may be evidenced by the presence of Lake Sturgeon remains; however, there is no evidence at Gunby for the utilization of strictly Great Lakes species such as the freshwater drum.

All of the fish species represented at Gunby spawn during the spring or early summer. The only possible exception is the smallmouth bass which can spawn as late as July during a cool summer (Scott 1967:89-91). From this information and the predominantly local nature of the fish species, it is inferred that the major fishing activities took place on Bronte Creek during the late spring.

Birds

Avians constitute the third most frequent faunal class at Gunby (Table 49) and one species, passenger pigeon (75.8%), appears in quantity (Table 54). The Gunby inventory includes spring to fall residents (passenger pigeon); wintering species (common goldeneye, Bucephala species, barred owl); and spring as well as fall migrants (whistling swan, sandhill crane, Scoter

Table 53. Fish species at Gunby

Species	f	%	MNI	%	Live Wt. (kg)	Edible Meat (%)	Edible Meat Wt.	Total Edible Meat	%
Brown Bullhead	371	52.0	29	36.7	0.45	80	0.4	11.6	14.0
Esox sp. (pike/ muskie)	153	21.4	17	21.5	3.6	80	2.9	49.3	59.5
Bowfin	52	7.3	2	2.5	1.4	80	1.1	2.2	2.6
Rock bass	29	4.1	11	13.9	0.3	80	0.2	2.2	2.6
Stizostedion sp.	29	4.1	3	3.8	0.9	80	0.7	2.1	2.5
Lake sturgeon	23	3.2	1	1.3	4.5	80	3.6	3.6	4.3
Catfish sp.	14	2.0	1	1.3	1.0	80	0.8	0.8	1.0
Sunfish sp.	14	2.0	4	5.1	0.3	80	0.2	0.8	1.0
Moxostoma sp. (Redhorse)	10	1.4	5	6.3	0.9	80	0.7	3.5	4.2
Micropterus sp.	10	1.4	5	6.3	1.4	80	1.1	5.5	6.6
Channel catfish	8	1.1	1	1.3	1.6	80	1.3	1.3	1.6
Total identified (15.2%)	713	100.0	79					82.9	99.9
Total unidentified (84.8%)	3979								

species, teal species). By far the majority of the species represented at Gunby would normally have been available in numbers during the spring and fall when migrants were moving through the area. On the whole, the avifauna helps confirm year-round occupation at Gunby.

A consideration of unidentifiable species indicates that the majority of bones belong to medium sized birds, probably passenger pigeons (Table 55).

Butchered and Scorched Bone

Butchering marks on archaeological faunal remains should:

> ...(1) appear fairly consistently at approximately the same location on a given bone and (11) reflect some anatomically sound reason why the indication should occur at this particular spot (Ziegler 1973:24).

The faunal material which bore butchering marks or evidence of scorching, as well as the total number of pieces recovered, are presented in Table 56.

Warrick (1978:32) has reconstructed a butchering sequence for white-tailed deer utilizing the position and frequency of butchering marks on the Gunby material. Once dispatched, a deer had its forelimbs removed:

Table 54. Bird species at Gunby.

Species	f	%	MNI	%
Passenger pigeon	125	75.76	12	42.86
Common raven	6	3.64	2	7.14
Whistling swan	4	2.41	1	3.57
Heron or crane family	4	2.41	-	-
Lg. duck species	4	2.41	-	-
Common goldeneye	3	1.82	1	3.57
Med. duck species	3	1.82	-	-
Wild turkey	2	1.21	1	3.57
Scoter species	2	1.21	2	7.14
Anatidae species	2	1.21	-	-
Barred owl	1	0.61	1	3.57
Sandhill crane	1	0.61	1	3.57
Red-tailed hawk	1	0.61	1	3.57
Hawk or owl species	1	0.61	1	3.57
Bucephala species	1	0.61	1	3.57
Small duck species	1	0.61	-	-
Blue jay	1	0.61	1	3.57
Wood duck	1	0.61	1	3.57
Teal species	1	0.61	1	3.57
Lg. Woodpecker species	1	0.61	1	3.57
Totals identified (14.8%)	165	100.03	28	99.98
Total unidentified (85.2%)	949			

Table 55. Unidentified bird species.

Bird size	f	%
Large (> crow)	42	4.4
Medium (pigeon-duck)	876	92.3
Small (robin)	31	3.3
Total	949	100.0

> ...most commonly at the elbow joint (humerus-radius and ulna articulation) and less frequently at the shoulder joint (butchering at the glenoid cavity of the scapula). Similarly, the deer's hindlimbs were detached from the body usually by cutting at the ankle joint (i.e. the distal tibia, calcaneus, and astragalus). Occasionally, the entire back lim was severed at the hip joint (i.e. the acetabulum and femoral head articulation). The axial skeleton was likely cut up primarily on site, as ribs, vertebra, etc. are all found at the Gunby site. The skull was removed at the kill site or the village by cutting at the axis or atlas vertebra. Lastly, the mandibles were removed, probably to free the deer's tongue.

The deer remains, then, indicate that some preliminary butchering (and probably gutting) took place at the kill site, but then the entire carcass was transported to the village for final butchering.

Scorched bone indicates that portions of meat were roasted over a hearth. Grey squirrels and chipmunks were roasted whole on a spit (as suggested by the low

Table 56. Species scorched and butchered.

Species	Total Pieces		Scorched		Butchered	
	f	%	f	%	f	%
White-tailed deer	1351	69.7	94	78.3	94	94.9
Grey squirrel	207	10.7	6	5.0	2	2.0
Esox species	153	7.9	2	1.7	0	-
Eastern chipmunk	79	4.1	2	1.7	0	-
Turtle sp. (carapace)	55	2.8	5	4.2	0	-
Muskrat	28	1.4	4	3.3	0	-
Beaver	26	1.3	2	1.7	1	1.0
Black bear	11	0.6	1	0.8	0	-
Domestic dog	10	0.5	1	0.8	2	2.0
Wolf	9	0.5	1	0.8	0	-
Woodchuck	8	0.4	1	0.8	0	-
Porcupine	2	0.1	1	0.8	0	-
Totals	1939	100.0	120	99.9	99	99.9

incidence of butchered bone for these species). The burnt carapace fragments indicate that turtles were roasted within their shells.

Seasonal Activities

Direct and indirect indicators are present in the Gunby floral and faunal remains that bear upon seasonal timing of hunting, fishing, gathering, and horticultural activities of the village residents. All help confirm a year-round cycle of events.

First, two metapodial fragments and a proximal phalange recovered from feature 1-12 are from a foetal deer. Since the peak birth period for deer occurs during May to mid-June (Banfield 1974:393; Gilbert 1973: 66), the represented foetus was probably carried by a pregnant doe killed sometime between January to early May.

Second, two white-tailed deer mandibular fragments are aged by tooth-eruption sequence to 5-6 months old and 7-8 months old respectively. With deer births clustering between May-June, we have mid-October and mid-January 'kill-dates'.

A third indication of hunting period is represented by a black bear deciduous second molar. This tooth is aged at 5-7 months. Since bear cubs are usually born around February 1st (Gilbert 1973:56), the tooth attests to a July-September kill.

Fourth, a grey squirrel foetal femur from feature 1-89 suggests that the pregnant mother was

killed in February or June. Grey squirrels are usually born in March or July after a gestation period of 1.5 months (Banfield 1974:138).

One indirect indicator of hunting activities is the ratio of shed to non-shed frontal pedicles of white-tailed deer. Antlers are only present on Virginia deer from June to January (Banfield 1974:392). At Gunby, seven deer skulls had shed antler pedicles, but another eight had antlers. It is noted, therefore, that the Gunby deer evidence strongly suggests a concentration on deer hunting during the fall to late winter.

As noted earlier, the majority of the fish taken at Gunby are spring spawners. The most efficient and effective period of fishing occurs during the spring to early summer spawning period when many fish are present in restricted areas. This spring fishing was probably a communal affair for men. Winter fishing is not precluded, but it necessitates special ice nets or angling gear.

Spring probably also was the period for concentrated bird hunting. Passenger pigeons, particularly, could be taken as they arrived in, and passed through the area after wintering further south.

Summer and fall collecting of wild plants certainly occurred at Gunby. Fruits such as wild strawberries and blackberries were taken during the

summer, and fall harvesting of nuts was prbably undertaken too. Gathering of elderberries, portulaca, and chenopodium could have continued into the fall, particularly chenopodium, which holds its seeds until after the first heavy frosts (Fernald and Kinsey 1943:177) that occur in November.

Fall would also represent a peak period for harvesting the cultigens planted during May, and bird hunting may again have been a major activity. Many of the duck species, as well as the numerous pigeons would be available in prime form.

CHAPTER V

COMPARATIVE SYNTHESIS

To ascertain its chronological and cultural position within the early Ontario Iroquois sequence, Gunby is compared with other Pickering villages and with available information from the parallel Glen Meyer branch. For Pickering, four sites are now available: Miller (Kenyon 1968), Richardson (Pearce 1977), Boys (Reid 1975), and Bennett (Wright and Anderson 1969). Data for three Glen Meyer villages comes from Noble's (1975a) Van Besien monograph.

Settlement Pattern

The general topography of Gunby is similar to other excavated Pickering villages. They are protected on two sides, at least, by steep natural inclines, and are usually located upstream at least 5 kilometers from any large bodies of water. The same is true for Glen Meyer villages which "...are situated on elevated sandy knolls near a water source...." (Noble 1975a:45). The selection of elevated sandy sites appears to represent a general pattern for all Early Ontario Iroquoian peoples,

and proximity to a stream or spring is the rule. Bennett is a case where "...the nearest stream is a tributary of Bronte Creek almost one mile from the site" (Wright and Anderson 1969:9), but the site sits upon a small knoll surrounded by swale and springs. This overall pattern suggests that the early Ontario Iroquoian sought upper stream locations primarily for a water source and not for transportation considerations.

The size of the Gunby village at 1.1 hectares (2.7 acres) suggests that it was occupied late in the Pickering sequence. The earliest sites of Miller, Richardson and Boys, are each estimated to cover 0.4 hectares (1 acre), while Bennett (1280 A.D.) covered 1.0 to 1.2 hectares. Gunby, dated at ca 1320 A.D., fits a pattern of increasing village size over time.

Since Gunby has the most longhouses excavated at a Pickering site to date, and it also represents the latest Pickering village yet uncovered, it yields unique intrasite settlement details. For an Iroquoian village of circa 1320 A.D., various transitional features are noticeable. For instance, while the ten excavated houses are generally randomly oriented to one another, there are a few cases of parallel alignments, as well as alighment into prevailing winds. Noble (1968; 1969:19; 1975b) first noted that parallel alignment of houses

within Iroquoian villages took place around Middleport-Oakfield times (ca 1380 A.D.), and that this was probably due to conscious village planning to accommodate increasing family size. Gunby has not yet reached that state of affairs, but is temporally and culturally on the verge of transition.

Variation in houses are also a feature at Gunby. In addition to the standard longhouses, there are two smaller rectangular cabins less than 13 meters long. The longest structure at Gunby stretches 45.2 meters long (149.2 feet), and commands the central space within the village. Conceivably, this house represents the domicile of the village headman and dominant lineage. Certainly, the Gunby houses are substantially larger than the longhouses excavated at the nearby, earlier Bennett site where the largest definite house measures only 16.5 meters long.

Internally, the Gunby houses are refined. Hearths are centrally aligned reflecting some rules of internal organization (Noble 1969:18; 1975b). Also, storage cubicles sporadically occur (as in House 7), and this appearance probably "...implies surplus cultigen production..." (Noble: 1969:20). Although bunklines are not readily apparent, an area one to two meters wide is free of features for the entire length of most houses.

This cleared space probably represents sleeping areas.

Features similar to the large refuse pits excavated at Gunby were also discovered at the Miller (Kenyon 1968:24-26) and Bennett (Wright and Anderson 1969) sites. Neither Boys nor Richardson produced pits as deep (50 cm or deeper). At Miller, Bennett, and Gunby these features appear to take the place of middens which are a feature of later Iroquoian sites. However, unlike Bennett, the large pits at Gunby did not contain any burials. Although both Wright and Kenyon felt that middens may have once existed at Bennett and Miller respectively, neither could provide definite evidence for their existence. The large refuse pits, then, appear to be a feature of some Pickering sites; they do not occur on Glen Meyer villages where palisade middens are the rule (Noble 1975a).

The floral and faunal material from Gunby has a bearing on the settlement patterns. First, the evidence clearly indicates year-round occupation of the site. This is similar to the Bennett, Richardson and Miller sites, but differs from the seemingly seasonal occupation of Boys where fish constitute the overwhelming subsistence staple. Secondly, Gunby now provides the earliest evidence in Ontario for the three basic cultigens of later Iroquoian horticulture (corn, beans, and squash). Both Noble (1968; 1969; 1975b) and Wright

(1966:59) have noted the population increase in Ontario Iroquois from Middleport times (ca 1380 A.D.) onwards, and Noble further correlated the increase with synthesis of the traditional cultigen complex. Gunby indicates that the cultigen complex was present in southern Ontario before Middleport times.

A further aspect to the Gunby settlement pattern involves local sequence. To date, four Pickering villages are known within a two mile radius of Gunby (Fig. 13), and they are probably inter-related over time. None are yet known to be contemporaneous, and thus Gunby may represent the last in a series of village relocations in the Carlisle-Waterdown region.

Lithics

Chipped Lithics

The Gunby chipped lithics appear to be representative of early Ontario Iroquois assemblages, in that scrapers and utilized flakes predominate the worked sample (Table 57). Wedges are clearly on the decline by Gunby times, but drills and gravers appear to be on the increase in the Pickering sequence. Of interest at Gunby are two Glen Meyer spurred points (Noble 1975a:27) among the 13 triangular projectiles. Such points have not been recorded at other Pickering sites to date, and

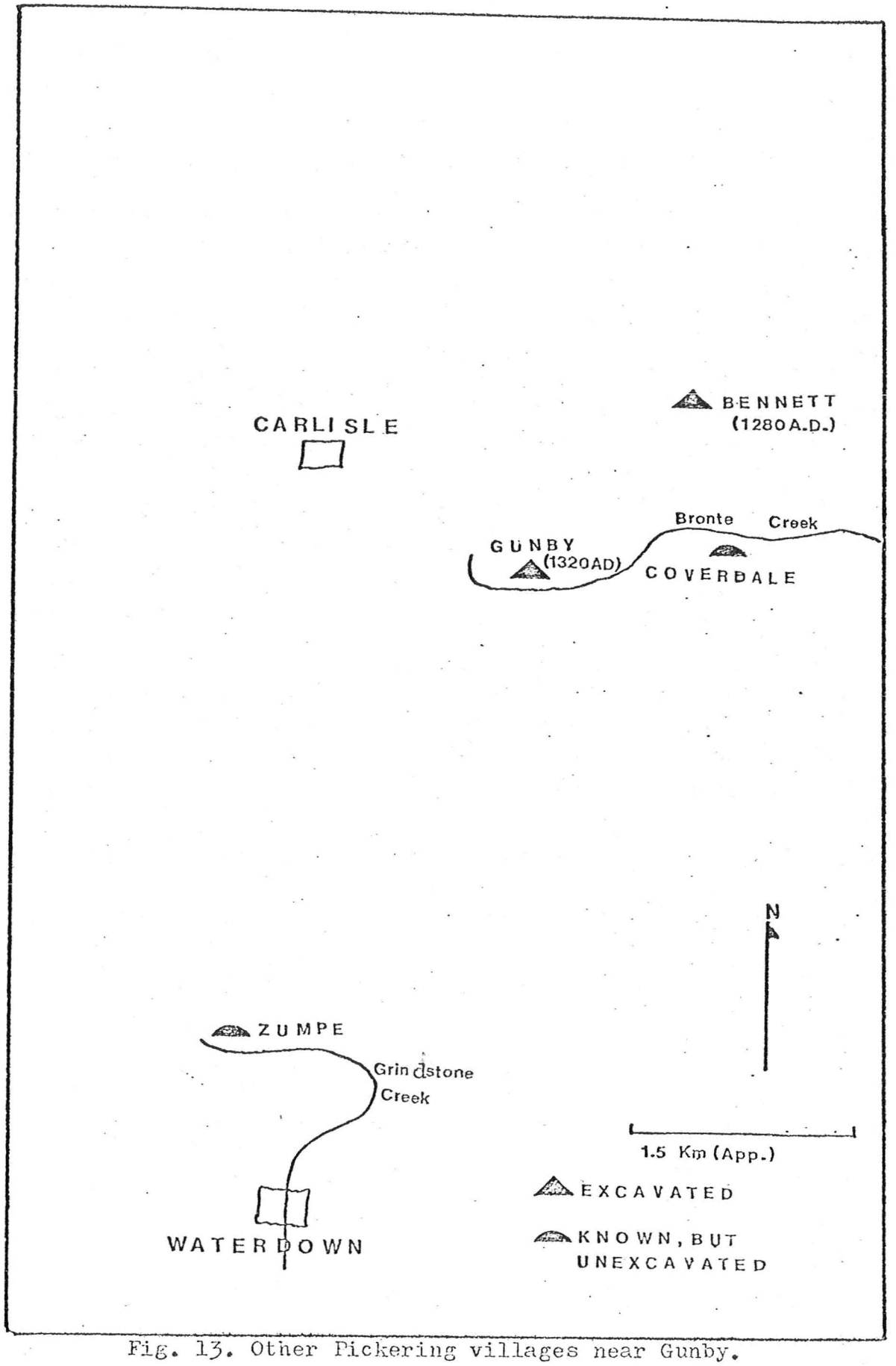


Fig. 13. Other Pickering villages near Gunby.

Table 57. Pickering and Glen Meyer chipped lithics.

	Pickering					Glen Meyer		
	Miller	Richardson	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)	f (%)
Side scrapers	269	*	*	*	*	*	*	*
& Ut. flakes	68.4	*	*	*	*	*	*	*
Projectiles	89	13	10	29	13	65	77	50
	22.6	20.0	6.3	10.8	14.8	41.4	10.2	17.4
Scrapers	29	51	17	134	38	61	482	140
	7.4	78.5	10.7	49.8	43.2	38.8	63.8	48.6
Drills	4	-	-	2	6	7	13	15
	1.0	-	-	0.7	6.8	4.5	1.7	5.2
Bifaces	2	1	1	16	3	20	42	29
	0.5	1.5	0.6	5.9	3.4	12.7	5.6	10.1
Ut. flakes	*	*	31	*	19	*	123	33
	*	*	19.5	*	21.6	*	16.3	11.5
Wedges	-	-	95	82	6	4	15	16
	-	-	59.7	30.5	6.8	2.6	2.0	5.6
Spokeshaves	-	-	3	6	-	-	-	-
	-	-	1.9	2.2	-	-	-	-
Gravers	-	-	2	-	3	-	3	5
	-	-	1.3	-	3.4	-	0.4	1.7
Totals	393	65	159	269	88	157	755	288
	99.9	100.0	100.0	99.9	100.0	100.0	100.0	100.1

Table 58. Pickering and Glen Meyer rough/ground lithics.

	Pickering					Glen Meyer		
	Miller	Richardson	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Abraders	65	6	2	103	27	24	15	5
	40.9	4.5	7.4	53.1	43.5	36.9	24.6	11.9
Celts"	32	95	13	31	12	18	21	25
	20.1	70.9	48.1	16.0	19.3	27.7	34.4	59.5
Anvil/	52	*	3	*	3	*	*	*
hammerstones	32.7	*	11.1	*	4.8	*	*	*
Anvil stones	*	-	-	17	5	6	4	6
	*	-	-	8.8	8.1	9.2	6.6	14.3
Hammerstones	9	11	3	13	10	5	3	1
	5.7	8.2	11.1	6.7	16.1	7.7	4.9	2.4
Net sinkers	-	-	2	-	4	-	1	-
	-	-	7.4	-	6.4	-	1.6	-
Pipes & frags.	-	7	2	1	1	-	1	-
	-	5.2	7.4	0.5	1.6	-	1.6	-
Mauls	-	7	-	-	-	-	-	-
	-	5.2	-	-	-	-	-	-
Manos/pestles	-	5	-	13	-	-	2	1
	-	3.7	-	6.7	-	-	3.3	2.4
Pendants	-	-	1	-	-	8	-	1
	-	-	3.7	-	-	12.3	-	2.4
Worked/polished	-	1	-	1	-	-	12	-
slate	-	0.8	-	0.5	-	-	19.7	-

Continued on next page.

Table 58, continued.

	Miller	Pickering Richardson	Pickering Boys	Pickering Bennett	Pickering Gunby	Glen Meyer Goessens	Glen Meyer Van Besien	Glen Meyer Porteous
Beads	-	-	-	5	-	-	-	-
	-	-	-	2.6	-	-	-	-
Paintstones	-	-	-	9	-	-	2	2
	-	-	-	4.6	-	-	3.3	4.8
Mica chunks	-	-	-	-	-	2	-	-
	-	-	-	-	-	3.1	-	-
Miscellaneous+	1	2	1	1	-	2	-	1
	0.6	1.6	3.7	0.5	-	3.0	-	2.4
Totals	159	134	27	194	62	65	61	42
	100.0	100.1	99.9	100.0	99.8	99.9	100.0	100.1

" Includes celts, axes, and adzes.

* Category not utilized in the report. Probably was present on the site.

+ Includes single items that only appeared at one site.

thus it appears that Gunby was experiencing influences from the late Glen Meyer peoples.

Rough/Ground Lithics

Rough/ground lithics (Table 58) are difficult to compare because of a proliferation of terms and the difficulty ensuring standardized terminological usage. The only obvious result is the apparent increase in importance of abraders over time on both Pickering and Glen Meyer sites.

Worked Bone

Few trends are apparent for the worked bone, antler and shell assemblages from Pickering sites (Table 59). Bone awls are the dominant class on all sites. Glen Meyer influences may be evident in the Gunby antler artifacts, for antler specimens are normally infrequent on Pickering sites, as opposed to Glen Meyer ones (Noble 1975a). Of worked bone Gunby produced a reasonably full tool kit, as well as a series of decorative items. The incised hair pins (Fig. 24:9,10-12) in particular, exhibit a skill and craftmanship not formerly attributed to the Pickering peoples.

Pottery

Comparisons in this category, especially rim sherd comparisons, are usually the major criteria used to differentiate Pickering and Glen Meyer sites, and to place sites within a chronological sequence (Reid 1975: 39; Wright 1966:47-50; Noble 1975a:12-18). Pottery seriation indicates that Gunby, a late Pickering village, postdates the Bennett site. However, considerable Glen Meyer pottery influences are noticeable on the Gunby rim sherds.

Tables 60-62 present rim data from five Pickering and three Glen Meyer sites. Percentages for stamping techniques are presented under separate categories (e.g. dentate stamp and linear stamp), as well as under a single percentage for stamping in order to facilitate comparisons. Cording techniques are also treated in this manner.

Exterior Rim Decorative Techniques

Gunby clearly seriates later than Bennett, according to temporal trends established by Reid (1975: 41). This is indicated by the decrease in dentate stamp rims and the increase in incising as a decorative technique on the exterior rim. Linear stamp remains as an important minority Pickering technique which apparently

Table 59. Pickering worked bone, antler, teeth and shell.

	Miller (800)		Richardson (875)		Boys (950)		Bennett (1280)		Gunby (1320)	
	N	%	N	%	N	%	N	%	N	%
Antler										
Points	1	2.0	-	-	-	-	-	-	2	1.4
Punches	-	-	6	11.8	-	-	-	-	3	2.1
Flakers	-	-	1	2.0	-	-	-	-	6	4.3
Awls	-	-	-	-	-	-	-	-	2	1.4
Worked/Misc.	-	-	-	-	-	-	10	6.9	16	11.4
Bone										
Awls	35	68.6	14	27.4	17	29.3	66	45.5	29	20.7
Punches	-	-	6	11.8	7	12.1	-	-	-	-
Points	2	3.9	2	3.9	1	1.7	3	2.1	6	4.3
Barbed points	3	5.9	-	-	1	1.7	-	-	-	-
Pointed objects	-	-	-	-	-	-	-	-	4	2.9
Flakers	-	-	-	-	-	-	-	-	2	1.4
Mod. deer phal.	-	-	5	9.8	2	3.4	26	17.9	13	9.3

Continued on next page.

Table 59. Continued.

	Miller (800)		Richardson (875)		Boys (950)		Bennett (1280)		Gunby (1320)	
	N	%	N	%	N	%	N	%	N	%
Bone, cont.										
Worked rodent incisors	-	-	1	2.0	9	15.5	6	4.1	-	-
Beads	1	2.0	1	2.0	-	-	7	4.8	8	5.7
Scrapers	-	-	2	3.9	-	-	-	-	2	1.4
Pottery markers	2	3.9	7	13.7	-	-	-	-	1	0.7
Needles	1	2.0	1	2.0	-	-	-	-	-	-
Hair pins	-	-	-	-	-	-	-	-	4	2.9
Misc./wastage	-	-	4	7.8	19	32.8	24	16.5	41	29.3
Worked bear canine	2	3.9	-	-	1	1.7	-	-	1	0.7
Worked turtle shell	1	2.0	1	2.0	1	1.7	-	-	-	-
Worked shell	3	5.9	-	-	-	-	3	2.1	-	-
Totals	51	100.1	51	100.1	58	99.9	145	99.9	140	99.9

Table 60. Pickering and Glen Meyer exterior rim decorative techniques.

Technique	Pickering					Glen Meyer		
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Plain	348	6	24	3	31	43	95	9
	4.6	1.7	6.3	0.8	11.1	8.7	12.2	11.8
Dentate stamp	5036	106	111	11	4	-	-	-
	67.2	30.5	29.3	3.0-	1.4	-	-	-
Linear stamp	417	19	77	66	33	240	297	3
	5.6	5.5	20.3	17.7	11.8	48.6	38.2	4.0
Suture stamp	584	13	1	-	1	-	2	2
	7.8	3.7	0.3	-	0.4	-	0.3	2.6
Crescent stamp	-	2	5	-	13	29	8	-
	-	0.6	1.3	-	4.6	5.9	1.0	-
Check stamp	-	-	2	-	-	-	-	-
	-	-	0.5	-	-	-	-	-
Comb/punctate dentate stamp	-	-	1	-	2	13	6	-
	-	-	0.3	-	0.7	2.6	0.8	-
Stamping totals	6037	140	197	77	53	282	313	5
	80.6	40.3	52.0	20.7	18.9	57.1	40.3	6.6
Cording								
Corded stick	-	3	17	-	12	107	63	34
	-	0.9	4.5	-	4.3	21.7	8.1	44.7
Corded punctate	-	-	1	-	10	-	1	6
	-	-	0.3	-	3.6	-	0.1	7.9

Continued on next page.

Table 60, continued.

Technique	Miller	Richardson	Pickering Boys	Pickering Bennett	Pickering Gunby	Glen Meyer Goessens	Glen Meyer Van Besien	Glen Meyer Porteous
Cording, cont.								
Smoothed over	-	-	6	1	4	-	68	6
	-	-	1.6	0.3	1.4	-	8.7	7.9
Braided cord	-	-	-	-	54	-	-	-
	-	-	-	-	19.3	-	-	-
Cord malleated	-	-	-	-	-	16	48	8
	-	-	-	-	-	3.2	6.2	10.5
Stamp knot	-	-	-	-	4	-	-	-
	-	-	-	-	1.4	-	-	-
Stamp string dragged	-	-	-	-	2	-	-	-
	-	-	-	-	0.7	-	-	-
Crescent cord	-	-	-	-	1	-	-	-
	-	-	-	-	0.4	-	-	-
Cording	-	3	24	1	87	123	180	54
	-	0.9	6.4	0.3	31.1	24.9	23.1	71.0-
Incised/ trailed	37	12	9	35	78	19	175	7
	0.5	3.5	2.4	9.4	27.9	3.8	22.5	9.2
Push-pull	707	185	78	205	2	-	-	-
	9.4	53.3	20.6	55.1	0.7	-	-	-
Punctates	361	1	9	19	6	-	-	-
	4.8	0.3	2.4	5.1	2.1	-	-	-
Fingernail impressed	-	-	-	-	3	-	3	-
	-	-	-	-	1.1	-	0.4	-

Continued on next page.

Table 60, continued.

Technique	Pickering					Glen Meyer		
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Beaded stylus	-	-	3	-	-	-	-	-
	-	-	0.8	-	-	-	-	-
Scarified	-	-	1	-	-	-	-	-
	-	-	0.3	-	-	-	-	-
Fabric impressed	-	-	1	-	-	-	-	-
	-	-	0.3	-	-	-	-	-
Combined	-	-	30	27	18	27	12	1
	-	-	7.9	7.3	6.4	5.5	1.5	1.3
Dragged stamp	-	-	3	5	2	-	-	-
	-	-	0.8	1.3	0.7	-	-	-
Totals	7490	347	379	372	280	494	778	76
	99.9	100.0	100.2	100.0	100.0	100.0	100.0	99.9

declines in importance after a peak of use circa 900 A.D. Push-pull poses something of an enigma at Gunby since it is virtually absent while previous seriations suggest that it should be a major Pickering technique. In this respect and in the high incidence of cording in the decoration of Gunby pots, we see major Glen Meyer influences on the Gunby potters. Clearly, the cording techniques are much more prevalent at Gunby than at any other reported Pickering site.

The reasons for this heavy influx of Glen Meyer techniques in the Gunby pottery pose interesting interpretations, ranging from Wright's (1966:54) conquest hypothesis to hypotheses involving a slower, more general assimilation, or simple diffusion.

Lip of Rim Decorative Techniques

Lip of rim techniques, isolated as chronologically significant by Reid (1975:41), all place Gunby later in time than the Bennett site. The incidence of plain (48.3%), incised (11.1%), and punctated lips (14.6%) dominate the assemblage, and they increase from early to late in the Pickering sequence, while dentate stamp decreases im importance (Table 61). The overall utilization of stamping as a lip of rim technique appears to represent a reliable and consistent index for Pickering seriation

Table 61. Pickering and Glen Meyer lip of rim decorative techniques.

Technique	Pickering					Glen Meyer		
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Be	Porteous
Plain	721	9	41	129	135	246	558	10
	9.4	2.6	10.8	34.7	48.3	49.8	67.8	21.3
Stamping	6339	260	234	100	14	27	1	-
	82.6	74.9	61.7	26.9	5.0	5.5	0.1	-
Dentate stamp	5366	162	131	13	2	-	-	-
	70.0	46.7	34.5	3.5	0.7	-	-	-
Suture stamp	556	21	1	-	1	-	-	-
	7.2	6.0	0.3	-	0.4	-	-	-
Linear stamp	417	77	96	87	5	-	-	-
	5.4	22.2	25.3	23.4	1.8	-	-	-
Crescent stamp	-	-	5	-	6	27	1	-
	-	-	1.3	-	2.1	5.5	0.1	-
Comb stamp	-	-	1	-	-	-	-	-
	-	-	0.3	-	-	-	-	-
Cording	-	5	31	2	34	72	114	32
	-	1.4	8.2	0.5	12.1	14.6	13.9	68.1
Corded punctate	-	-	-	-	7	-	-	-
	-	-	-	-	2.5	-	-	-
Corded stick	-	5	19	-	10	-	-	-
	-	1.4	5.0	-	3.5	-	-	-

Continued on next page.

Table 61. Continued

Technique	Pickering					Glen Meyer		
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Be	Porteous
Smoothed-	-	-	9	2	-	5	54	9
over	-	-	2.4	0.5	-	1.0	6.6	19.2
Corded	-	-	3	-	-	67	60	23
	-	-	0.8	-	-	13.6	7.3	48.9
Braided cord	-	-	-	-	15	-	-	-
	-	-	-	-	5.3	-	-	-
Stamped knot	-	-	-	-	1	-	-	-
	-	-	-	-	0.4	-	-	-
Crescent cord	-	-	-	-	1	-	-	-
	-	-	-	-	0.4	-	-	-
Dragged stamp	-	-	-	6	-	-	-	-
	-	-	-	1.6	-	-	-	-
Notched lip	-	-	-	26	18	-	-	-
	-	-	-	7.0	6.4	-	-	-
Fingernail	-	-	-	1	-	-	-	-
impressed	-	-	-	0.3	-	-	-	-
Push-pull	-	57	36	55	7	-	-	-
	-	16.4	9.5	14.8	2.5	-	-	-
Incised	7	10	5	10	31	115	112	5
	0.1	2.9	1.3	2.7	11.1	23.3	13.6	10.6

Continued on next page.

Table 61, continued

Technique	Miller	Richard-son	Pickering Boys	Bennett	Gunby	Glen Meyer Goessens	Van Besien	Porteous
Punctates	35	2	8	21	41	23	37	-
	0.5	0.6	2.1	5.6	14.6	4.7	4.5	-
Combined	-	-	19	22	-	-	-	-
	-	-	5.0	5.9	-	-	-	-
Beaded stylus	-	-	4	-	-	-	-	-
	-	-	1.1	-	-	-	-	-
Scarified	-	-	1	-	-	-	-	-
	-	-	0.3	-	-	-	-	-
Other	577	4	-	-	-	11	1	-
	7.5	1.1	-	-	-	2.2	0.1	-
Totals	7679	347	379	372	280	494	823	47
	100.1	99.9	100.0	100.0	100.0	100.1	100.0	100.0-

since the percentage for all methods of stamping decreases steadily from early to late in the sequence.

Push-pull does not represent a useful index for seriation as the percentage fluctuates widely from site to site, but it is typically Pickering. As with the exterior rim techniques, cording is more prevalent on the lips of Gunby rims than at any other Pickering site. Corded grooves, considered to be unique to Glen Meyer sites (Noble 1975a:21), are represented at Gunby by braided cord lines. The cording techniques (totalling 12.1%) definitely indicate a Glen Meyer influence, while three of the Gunby stamping techniques (dentate, suture, linear--totalling 2.9%), are restricted to Pickering sites. The percentage of incised lips at Gunby (11.1%) is higher than at any other Pickering site, but not as high as those from late Glen Meyer villages.

In short, the Gunby lips exhibit a significant intermixture of Pickering and Glen Meyer pottery ideas and attributes.

Interior Rim Decorative Techniques

Although the percentage of undecorated interiors at Gunby places it late in the Pickering sequence (Table 62), the plain category is so dominant (83.2%), that the percentages for other techniques are too low to be useful

for comparative purposes. Incising (5.7%) and corded stick (3.9%), however, are the dominant interior rim decorative techniques at Gunby.

Punctate and Bossing

Noble (1975a:16) has noted that punctation and bossing attributes are the most reliable indicators of temporal sequence for Glen Meyer pottery, and Reid (1975) confirms this observation for Pickering ceramics. In Table 63, punctate segregated exterior bosses decrease and exterior bosses increase from early to late in the Pickering sequence. These attributes also serve as important factors for differentiating Pickering from Glen Meyer ceramics. Interior bosses are never found on Pickering pottery and punctate segregated exterior bosses are not found on Glen Meyer pottery.

The high percentage of bossed rims at Gunby (49.4%) is unusual. No other Ontario Iroquoian site dated after 1300 A.D. produced such a high percentage of bossing. This is important since Wright's (1966:54) major criteria for establishing a 1300 A.D. Uren substage was an incidence of less than 10% bossed pottery. Noble's (1975a:52) cautionary advice about overhastily accepting the Uren substage appears justified from the Gunby evidence.

Table 62. Pickering and Glen Meyer interior rim decorative techniques.

Technique	Pickering					Glen Meyer		
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Plain	1358 17.7	78 22.5	113 29.8	248 66.7	233 83.2	200 40.5	608 78.0	11 20.7
Dentate stamp	4938 64.3	144 41.5	141 37.2	6 1.6	1 0.4	2 0.4	5 0.6	- -
Suture stamp	508 6.6	5 1.4	- -	- -	- -	- -	- -	- -
Linear stamp	259 3.4	54 15.6	102 26.9	101 27.2	8 2.8	7 1.4	- -	- -
Crescent stamp	- -	1 0.3	5 1.3	- -	5 1.8	23 4.7	2 0.3	- -
Comb stamp	- -	- -	1 0.3	- -	- -	- -	- -	- -
Stamping	5705 74.3	204 58.8	249 65.7	107 28.8	14 5.0	32 6.5	7 0.9	- -
Corded stick	- -	2 0.6	8 2.1	- -	11 3.9	- -	- -	- -
Smoothed-over	- -	- -	3 0.8	- -	- -	- -	10 1.3	1 1.9
Corded punctate	- -	- -	1 0.3	- -	- -	- -	- -	- -

Continued on next page.

Table 62, continued.

Technique	Pickering					Glen	Meyer	
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Corded	-	-	1	-	-	89	41	36
	-	-	0.3	-	-	18.0	5.3	67.9
Cording	-	2	13	-	11	89	51	37
	-	0.6	3.5	-	3.9	18.0	6.6	69.8
Incised or	-	-	-	-	-	122	100	5
linear stamp	-	-	-	-	-	24.7	12.8	9.4
Dragged	-	-	-	5	-	-	-	-
stamp	-	-	-	1.3	-	-	-	-
Punctates	-	2	-	-	-	3	-	-
	-	0.6	-	-	-	0.6	-	-
Beaded stylus	-	-	3	-	-	-	-	-
	-	-	0.8	-	-	-	-	-
Incised	-	4	1	1	16	41	13	-
	-	1.1	0.3	0.3	5.7	8.3	1.7	-
Push-pull	-	51	-	1	-	-	-	-
	-	14.7	-	0.3	-	-	-	-
Fingernail	-	-	-	1	2	-	-	-
impressed	-	-	-	0.3	0.7	-	-	-
Combined	-	3	-	1	-	-	-	-
	-	0.9	-	0.3	-	-	-	-

Continued on next page.

Table 62, continued.

Technique	Pickering					Glen Meyer		
	Miller	Richard-son	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Other	612	-	-	-	-	7	-	-
	8.0	-	-	-	-	1.4	-	-
Destroyed	-	3	-	8	4	-	-	-
	-	0.9	-	2.1	1.4	-	-	-
Total	7675	347	379	372	280	494	779	53
	100.0	100.1	100.1	100.1	99.9	100.0	100.0	99.9

Table 63. Pickering and Glen Meyer punctate and bossing attributes.

Attribute	Pickering				Glen Meyer		
	Richardson	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Punctate segregated exterior boss	169 48.7	79 20.8	38 10.2	10 3.6	- -	- -	- -
Absent	101 29.1	225 59.4	173 46.5	122 43.6	304 61.5	623 75.7	52 68.4
Exterior boss	29 8.4	60 15.8	92 24.7	127 45.4	125 25.3	130 15.8	2 2.6
Punctate segregated, two rows exterior boss	31 8.9	3 0.8	- -	- -	- -	- -	- -
Exterior punctates	9 2.6	1 0.3	- -	- -	5 1.0	16 1.9	2 2.6
Exterior boss, two rows	4 1.1	4 1.1	- -	- -	- -	- -	- -
Punctate segregated exterior boss, int. boss	2 0.6	- -	- -	- -	- -	- -	- -
Interior & exterior punctates	2 0.6	1 0.3	- -	4 1.4	- -	- -	- -
Interior punctates	- -	5 1.3	69 18.6	16 5.7	49 9.9	31 3.8	- -
Exterior boss, two punctates segregated	- -	1 0.3	- -	- -	- -	- -	- -
Exterior boss two rows interior punctates	- -	- -	- -	1 0.4	- -	- -	- -
Interior Boss	- -	- -	- -	- -	11 2.2	23 2.8	20 26.3
Totals	347 100.0	379 100.1	372 100.0	280 100.1	494 99.9	823 100.0	76 99.9

Punctate metrics (Table 64) are also illuminating. As noted by Reid (1975:45), Pickering punctates are larger than Glen Meyer examples and exterior punctates increase in size in Pickering development. Gunby represents the latest site in this sequence. Spacing of punctates, both distance apart and distance below rim, fluctuates over time in the Pickering sequence.

Castellations

Table 65 compares the percentage of castellated vessels from Pickering and Glen Meyer sites. As a percentage of the total number of vessels, castellations are generally more common on Pickering sites.

Neck Sherds

Table 66 compares neck sherd surface treatment frequencies from four Pickering sites. Noble has noted that Glen Meyer neck sherds "...do not offer a useful index for seriation...." (1975a:18) and aside from an increase in the frequency of ribbed paddle sherds over time, no trends are particularly evident for the Pickering neck sherds. However, there are differences between Pickering and Glen Meyer neck sherds. Plain neck sherds exceed 50% at only one Glen Meyer site (Noble 1975a:19,

Table 64. Pickering and Glen Meyer mean punctate metrics (mm).

	Richardson	Boys	Bennett	Gunby	Van Besien	Porteous
Exterior punctates						
Diameter	2.4	5.8	6.4	6.6	2.9	3.8
Distance apart	8.8	16.1	19.0	7.3	13.8	10.8
Distance below rim	21.8	21.2	23.1	18.9	24.2	20.0
Interior punctates						
Diameter	3.0	4.5	5.5	5.3	3.3	2.0
Distance apart	7.3	15.2	19.5	13.7	15.7	8.0
Distance below rim	18.9	18.0	21.3	20.3	17.0	10.0

Table 65. Pickering and Glen Meyer castellations.

	Richardson	Boys	Bennett	Gunby	Goessens	Van Besien	Porteous
Rim sherds	347	379	372	280	419	823	76
Castellations	68	47	57	40	24	53	11
Percentage castellations	19.6	12.4	15.3	14.3	5.7	6.4	14.5

Table 10), and are significantly lower than the same frequencies on late Pickering sites. Decorated sherds represent a higher percentage of the total neck sherds on Glen Meyer sites (ranging from 10.1% at King Forest's Park to 55.0% at Van Besien). Ribbed paddle sherds are rarely found on Glen Meyer sites. Of interest at Gunby is the absence of corded neck sherds; this is most surprising given the significant incidences of cording on the rims and body sherds.

Body Sherds

As with neck sherds, the only reliable seriational treatment for Pickering sites appears to be ribbed paddle which increases in frequency over time (Table 67). Body sherd treatment on Glen Meyer ceramics (Noble 1975a:21, Table 12) differs from Pickering in certain respects. Cording techniques range from 61.0% to 39.0% on Glen Meyer sites, while plain never reaches the dominance attained on the Pickering sites.

Table 66. Pickering neck sherd surface treatment.

Surface Treatment	Richardson f	%	Boys f	%	Bennett f	%	Gunby f	%
Plain	11	7.0	313	41.5	1251	86.9	868	78.1
Ribbed Paddle	-	-	8	1.1	97	6.7	169	15.2
Corded*	1	0.6	91	12.1	38	2.6	-	-
Decorated	143	91.1	286	37.9	33	2.3	6.4	5.8
Scarified	1	0.6	38	5.0	13	0.9	-	-
Check stamp	1	0.6	18	2.4	5	0.4	10	0.9
Painted	-	-	-	-	3	0.2	-	-
Totals	157	99.9	754	100.0	1440	100.0	1111	100.0

Table 67. Pickering body sherd surface treatment.

Surface Treatment	Richardson f	%	Boys f	%	Bennett f	%	Gunby f	%
Plain	475	44.6	1312	50.1	2457	51.0	1828	49.0
Corded*	191	18.0	502	19.2	237	4.9	203	5.4
Check stamp	327	30.7	287	11.0	221	4.6	208	5.6
Ribbed paddle	37	3.5	323	12.3	1842	38.3	1491	40.0
Fabric or net impressed	23	2.2	42	1.6	6	0.1	-	-
Scarified	11	1.0	150	5.7	52	1.1	-	-
Totals	1064	100.0	2616	99.9	4815	100.0	3730	100.0

*Includes cord malleated and smoothed-over cord.

Dating Gunby

Gunby dates late in the Pickering sequence, following the Bennett site dated at 1280 A.D. Several aspects of the rim sherd seriation confirm this position. For instance, there is a decrease in dentate stamped exterior rims while incised rims increase; an increase in the incidence of plain, incised, and punctated lips, while the overall utilization of stamping decreases; a high percentage of undecorated interiors; and the use of ribbed paddle on both neck and body sherds. The strongest pottery evidence for a post-Bennett occupation comes from the punctate and bossing attributes. They clearly place Gunby as the latest site yet known for the Pickering sequence (see pages 145, 150 and Tables 63 and 64).

Two charcoal samples (from houses at opposite ends of the village) were submitted to teledyne isotopes for radiocarbon analysis. The first, obtained from the bottom of a complete pot (feature 12) found *in situ* in the southwest corner of House 9, yielded a return of A.D. 1385±80 (I-10,345). A second sample from the 20-30 cm level of feature 1-89 returned a date of A.D. 1255±135 (I-10,346). According to teledyne isotopes, the large uncertainty of measurement for the latter sample is due to small sample size.

Since the pottery analysis clearly defines Gunby as a post-Bennett but pre-Middleport occupation, the radiocarbon date of 1255 A.D. probably falls too early. Also, the date of 1385 A.D. is believed to be too late for the Gunby artifact assemblage, since it impinges upon known radiocarbon analyses for Middleport sites that fall circa 1380 A.D. The average of the two dates (1320 A.D.), however, closely approximates a guess-date for the site that is compatible with all lines of seriational and radiometric dating. Accordingly, the probable occupation of Gunby falls between 1300-1320 A.D.

CHAPTER VI

CONCLUSIONS

The original objectives of the Gunby site excavations have been, for the most part, achieved. Settlement patterns, artifacts, and floral and faunal samples have greatly increased our present knowledge of the late Pickering-Glen Meyer period. The apparent lack of middens on the site was offset by the presence of several large refuse pits which enabled the collection of a large artifact sample. In the previous chapter, attributes that assisted in differentiating Pickering from Glen Meyer sites and in seriating Pickering sites were discussed in detail. One result of the site excavation and analysis, then, is the confirmation of some of the temporal trends suggested by Reid (1975) for Pickering development.

The ten house structures recorded at Gunby currently represent the most houses uncovered at any Pickering site. They are much longer than the Bennett houses and indeed are one indication that Gunby is a post-Bennett occupation. An interesting aspect of the Gunby longhouses is the regularity of their plan shapes.

All of the houses, which were excavated sufficiently to allow measurement, taper towards rounded ends which contain entrances. The structures are widest at their approximate mid-points. Other aspects of the Gunby village, such as medially aligned hearths and interior features, are similar to such features uncovered at other Pickering sites. However, various transitional features are also present in the village. The sporadic occurrence of the parallel alignment of longhouses and the presence of storage cubicles in House 7 are precursors of their later full development in Ontario Iroquoian villages.

Houses 9 and 4 represent the smallest structures uncovered at Gunby. House 9 is something of an enigma since it contains no ash pits and has an interior alignment of pits uncovered at no other house on the site. Although the artifact sample recovered from House 9 is too small for valid statistical comparisons to other houses on the site, the nine rims recovered from features within House 9 do not differ from rims recovered from other house features on the site. The lack of interior ash pits and the alignment of other pits represents a different internal organization for House 9. Perhaps it served for different functions?

House 7, the largest in the village, occupies and dominates the central portion of the village. Possibly

it was the house of the village headman or the village's dominant lineage?

The Gunby lithic and worked bone industries provide additional information about late Pickering prehistory. The lithic artifacts included two Glen Meyer spurred points, thus indicating contacts between these two cultural groups of early Ontario Iroquoians. The other Gunby lithic tool kit items were representative of a Pickering site. The worked bone industry produced some examples of excellent workmanship. Specifically, bone hair pins exhibit a skilled and excellent craftmanship not usually attributed to Pickering artisans. The analysis also indicates that the Gunby residents were increasingly utilizing antler as a raw material resource. Usually antler artifacts are infrequent on Pickering sites, but common on Glen Meyer ones. Possibly, this represents another sphere of Glen Meyer influence on the Gunby peoples?

Also, the floral and faunal samples recovered at Gunby allow additional insights into Pickering subsistence patterns. The Gunby evidence indicates seasonal hunting, fishing, collecting, planting and harvesting activities were pursued by the villagers on a year-round basis. The villagers obviously utilized corn very heavily, and also had some knowledge of the other major

Iroquoian cultigens (beans, squash, and sunflower). Significantly, tobacco was also grown.

Cultural identification of sites as being Pickering or Glen Meyer can be accomplished using ceramic attributes. Pickering sites produce a high percentage of plain and ribbed paddle body sherds, and, especially on late Pickering sites, a low frequency of decorated neck sherds. Also, Pickering sites have higher frequencies of plain body sherds and low frequencies of corded body sherds. Ribbed paddle is an important technique as this treatment rarely occurs on Glen Meyer sites. Pickering sites generally produce a higher frequency of castellated vessels than the Glen Meyer sites. Again, punctate and bossing attributes are an important criteria for distinguishing between sites of these two cultures. Punctate diameters are normally larger on Pickering sites. Pickering rims never produce interior bosses, while Glen Meyer sites never produce punctate segregated exterior bosses. Such are the ceramic parameters useful in distinguishing the Pickering cultural group from the Glen Meyer peoples of the early Ontario Iroquois Tradition.

Gunby, however, is unique (at least to date). While its settlement patterns and many pottery attributes indicate that it belongs to the late Pickering stage of Ontario Iroquois prehistory, other significant pottery

traits indicate substantial differences. The heavy utilization of cording techniques (31.1% at Gunby) represents a definite Glen Meyer feature at Gunby that indicates an interesting admixture of Pickering and Glen Meyer potters. Also unique is the high incidence of bossing on the rim sherds (49.4% at Gunby). This is unprecedented for a post-1300 A.D. Iroquoian site as this attribute usually disappears rather quickly from Iroquoian ceramics. Until further immediate post-1300 A.D. Ontario Iroquois sites are excavated and analyzed, Gunby remains an anomaly in this and the other ceramic attributes mentioned above.

Overall, the artifact analyses from this late Pickering village indicate an interesting admixture of Glen Meyer and Pickering traits. It now remains to offer possible hypotheses to account for this fusion of material culture.

Throughout this report the existence of a Uren Substage (Wright 1966:56-59) has been questioned, since the evidence from Gunby clearly indicates a fusion of Pickering and Glen Meyer peoples by ca 1300-1320 A.D. that is widely different from that postulated by Wright. In particular, we see substantial retention of Glen Meyer features alongside Pickering culture during the immediate post 1300 A.D. period.

The extent and diversity of the Glen Meyer traits discovered at the Gunby site are impressive; in fact, far more impressive than the limited input catelogued by Wright (1966:54). The Pickering peoples of the Gunby village appear to have accepted, utilized, and improvised on ideas (e.g. braided cord pottery decoration) which we have traced to the Glen Meyer area. Also, Pickering techniques (such as some bossing techniques and ribbed paddle body sherd treatment) are utilized with Glen Meyer techniques (such as cording as decoration) cn the same pots. This cultural homogenization even extends to the lithic tool kit.

While the phenomena of cultural fusion is acknowledged for Gunby, it remains a moot point to determine 'the precise mode' of this fusion (Noble 1975a: 52). Two hypotheses can be considered: (1) Wright's (1966) conquest mode of assimilation; and (2) a more peaceful route to fusion via cultural alliances.

First, Wright's conquest hypothesis (1966:54) argues that Pickering peoples, moving westward across the north shore of Lake Ontario, invaded Glen Meyer territory at Bennett times (1280 A.D.), and destroyed the Glen Meyer villages of southwestern Ontario. The Pickering conquerors are seen to have subdued, assimilated and dominated the Glen Meyer culture in a relatively

short time. This hypothesis is certainly a possible explanation for the results seen at Gunby, but did total warfare and conquest occur over the entire Glen Meyer territory during the late 1200s A.D.? Currently, too few sites of this important period have been excavated to determine whether the conquest was so widespread, destructive, and culturally levelling. Also, what were the motives behind such a conquest?

A second possible mode of fusion, however, can be invoked to explain the cultural admixture at Gunby. This is the assimilation process that could occur as a result of mutual cultural alliances.

Amalgamation through alliance conceivably could have involved inter-village marriages, adoption, and exchanges of lineage groups to cement political/kinship bonds. Again, though, did this happen between the Gunby villagers and contemporary Glen Meyer peoples? Cultural alliances such as this are extremely difficult to elucidate archaeologically.

In summary, the implications arising from the Gunby analysis indicate post-1300 A.D. fusion of Pickering and Glen Meyer in the Carlisle region, but significant questions remain concerning the precise mode of this fusion. Two hypotheses, briefly considered here, can only be resolved with future evidence from additional sites

of the immediate post-1300 A.D. Ontario Iroquois period. It remains problematic, also, to determine whether Glen Meyer villages continued to survive independently after 1300, and to determine how far into southwestern Ontario the Pickering peoples penetrated.

FIGURE 14.

Gunby site facing southeast.

FIGURE 15.

Complete pot recovered from feature 9-24.

FIGURE 16.

Rim Sherds.

1. Crescent cord

2.-3. Corded stick

4. Suture stamp

5. Dentate punctate stamp

6. Stamped knot

7.-8. Corded punctate

9. Braided cord over a zone of criss-cross incised

10.-11. Stamp string dragged

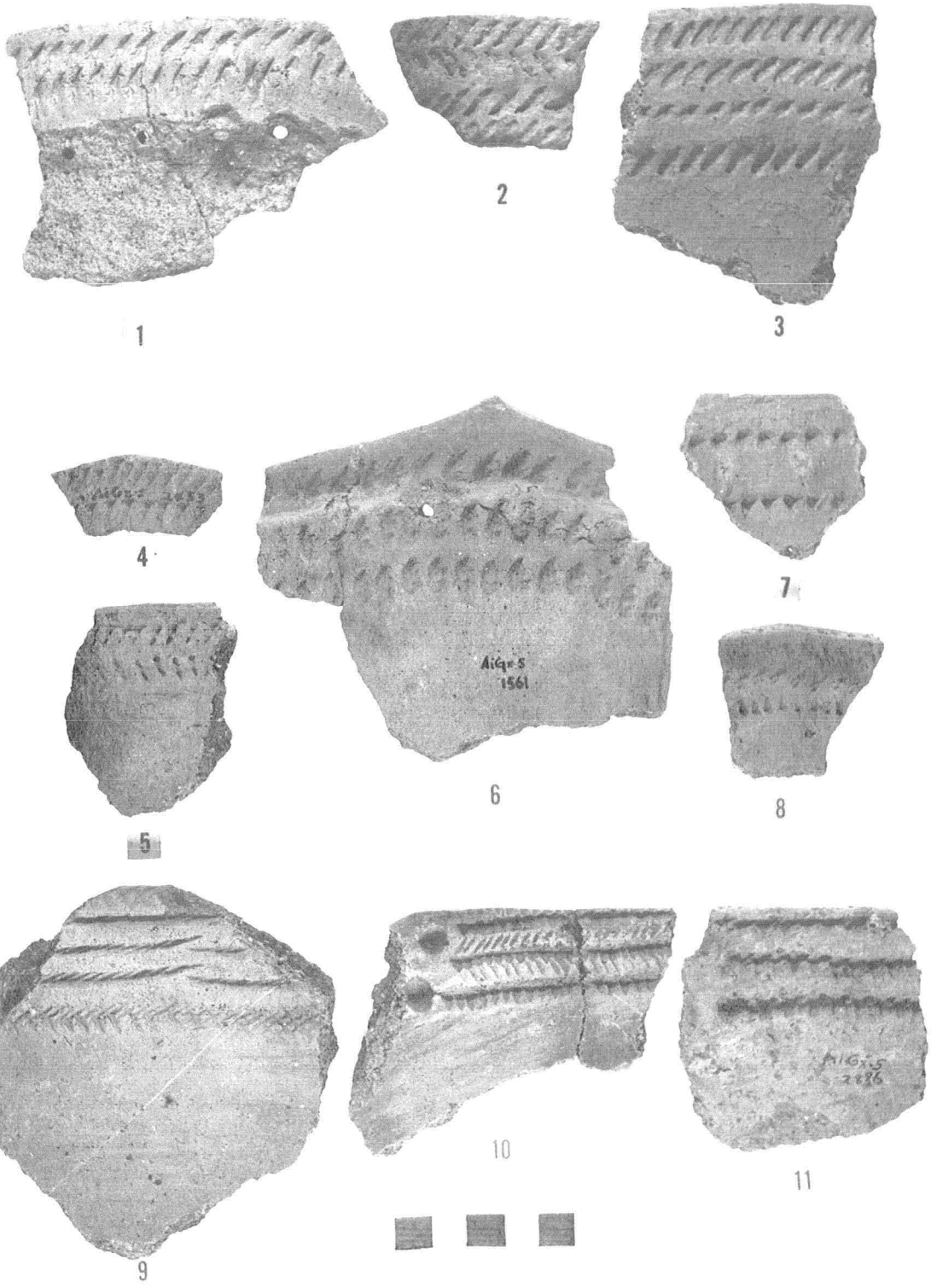

1
2
3
4
5
6
7
8
9
10
11

FIGURE 17.

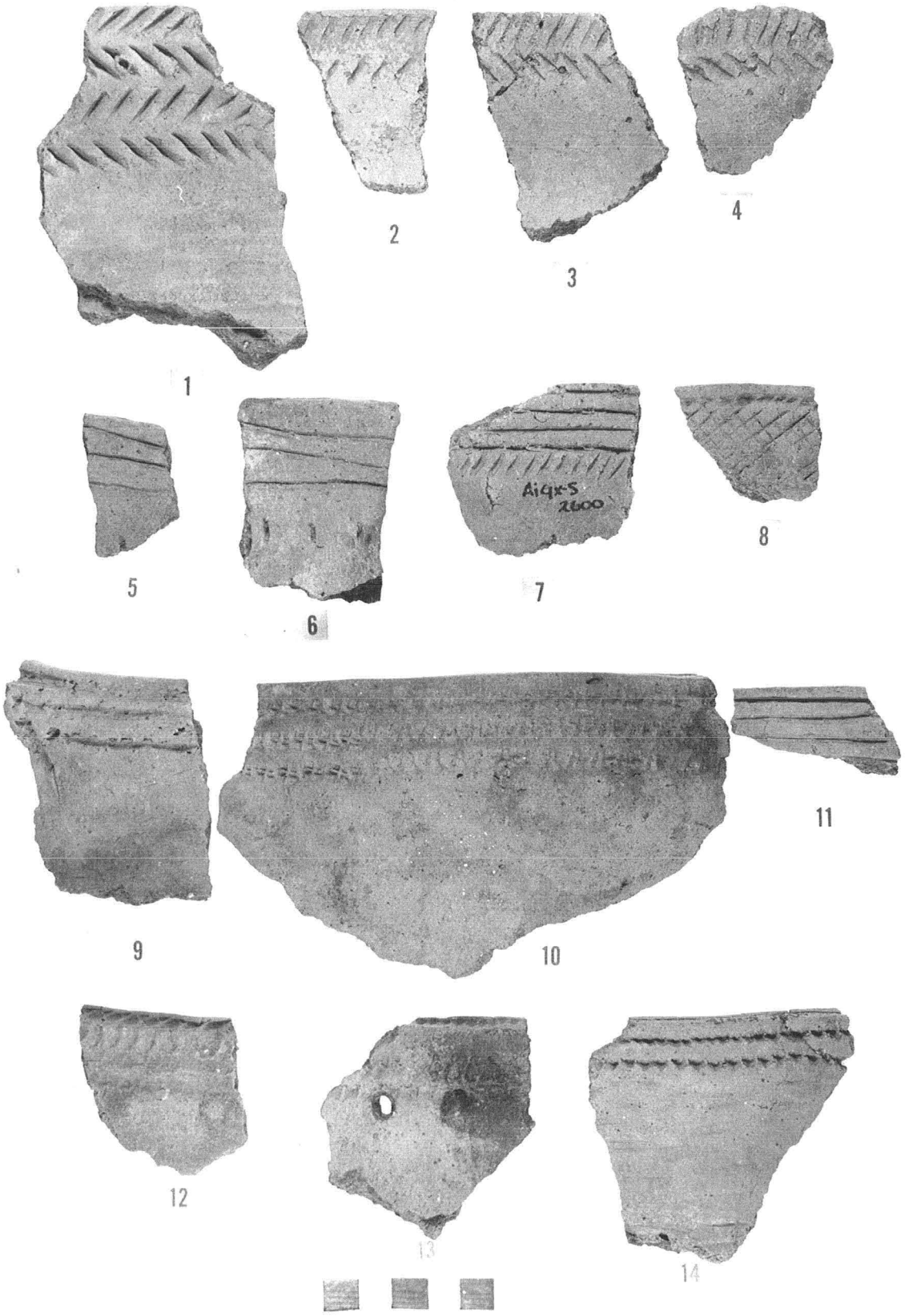
Rim Sherds.

1-4. Linear stamp

5-8. Incised

9,11. Trailed

10,12-14. Braided cord


1
2
3
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5
6
7
Ai4x-S
2600
8
9
10
11
12
13
14

FIGURE 18.

Rim Sherds.

1-2. Dentate stamp

3. Punctate

4. Fingernail impressed

5-6. Crescent stamp

7. Linear stamp

8. Crescent stamp, horizontals

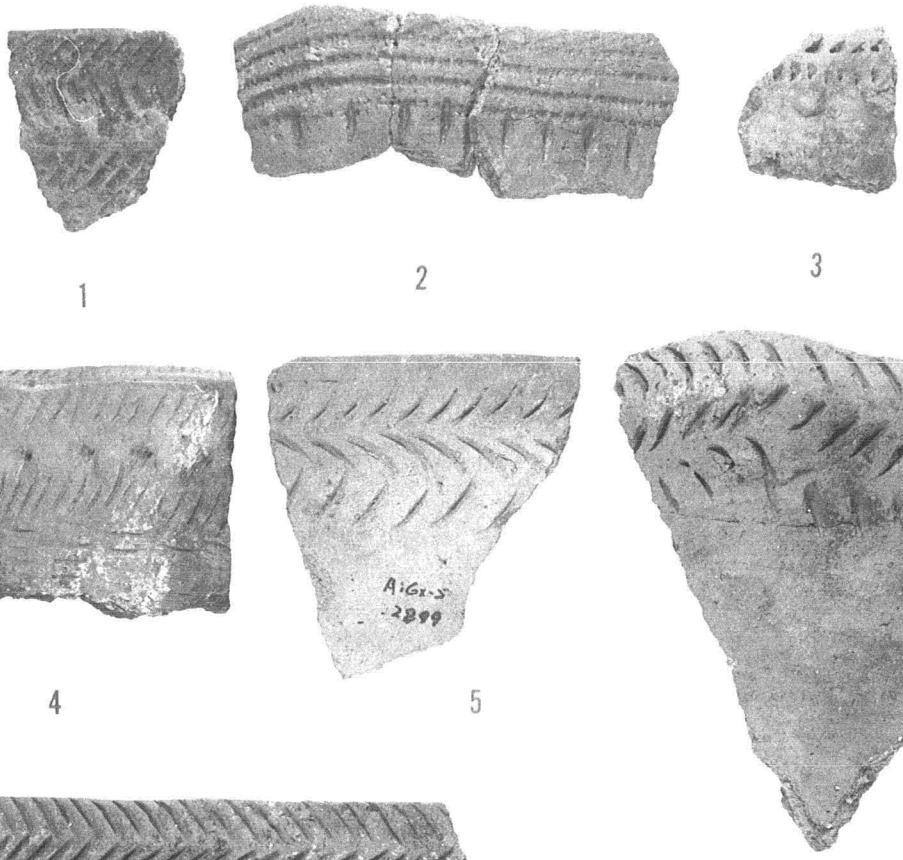

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FIGURE 19.

Body and neck/shoulder sherds.

1. Body sherd--cord malleated
2. Body sherd--smoothed-over cord
3. Body sherd--ribbed paddle
4. Body sherd--check stamp
5. Body sherd--plain
6. Body sherd--check stamp
7. Neck sherd--ribbed paddle
8.-10. Neck sherds--decorated
11. Neck/shoulder sherd--check stamp
12. Shoulder sherd--ribbed paddle
13. Shoulder sherd--check stamp

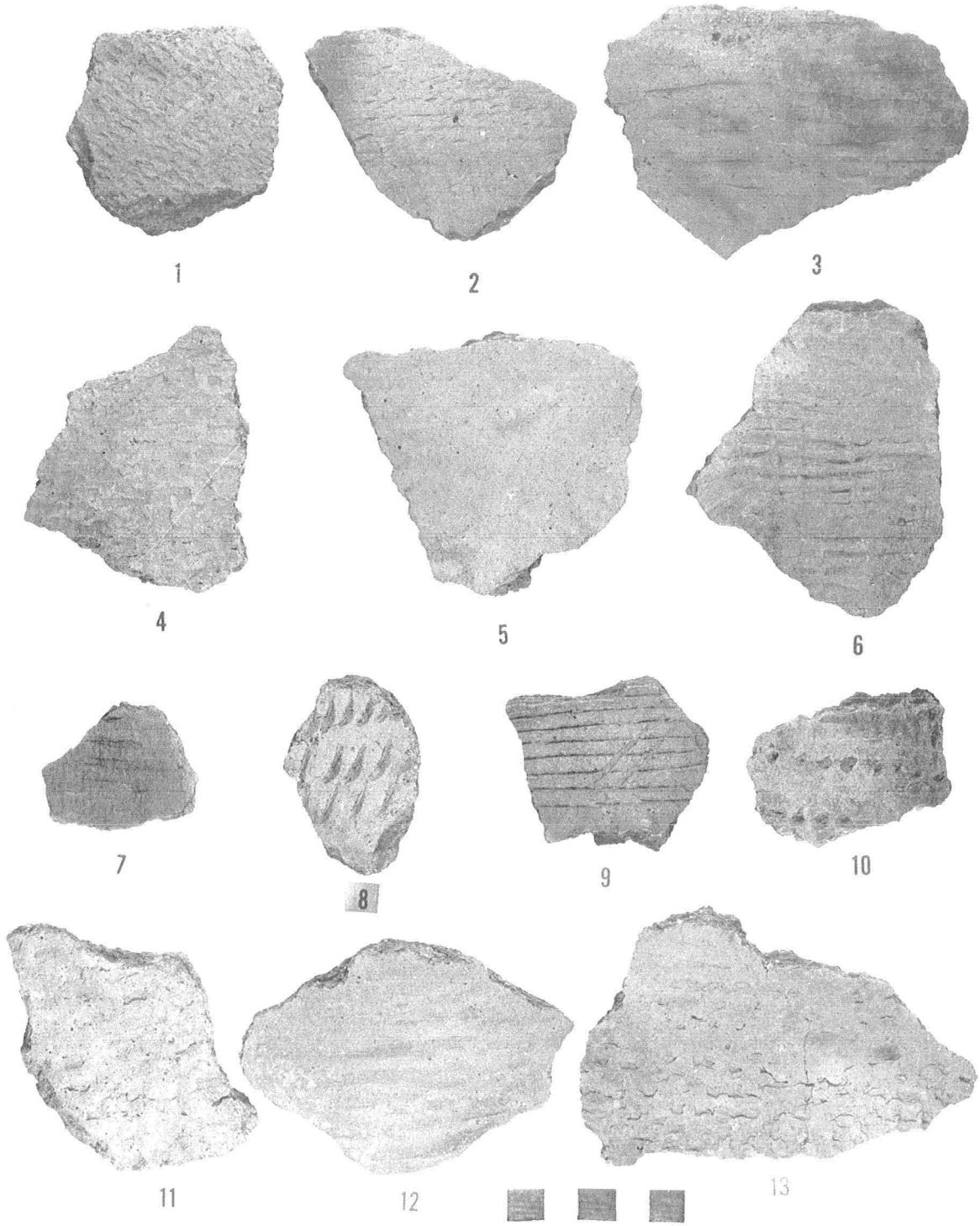
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FIGURE 20.

Juvenile vessels, pipes, and other ceramics.

1-6. Juvenile vessels--rims

7-8. Juvenile vessels--body sherds

9. Juvenile vessel--basal sherd

10-13. Ceramic pipes--bowl fragments

14. Ceramic pipe--complete

15. Steatite pipe

16-18. Ceramic pipes--stems

19,21. Gaming discs

20. Miscellaneous object

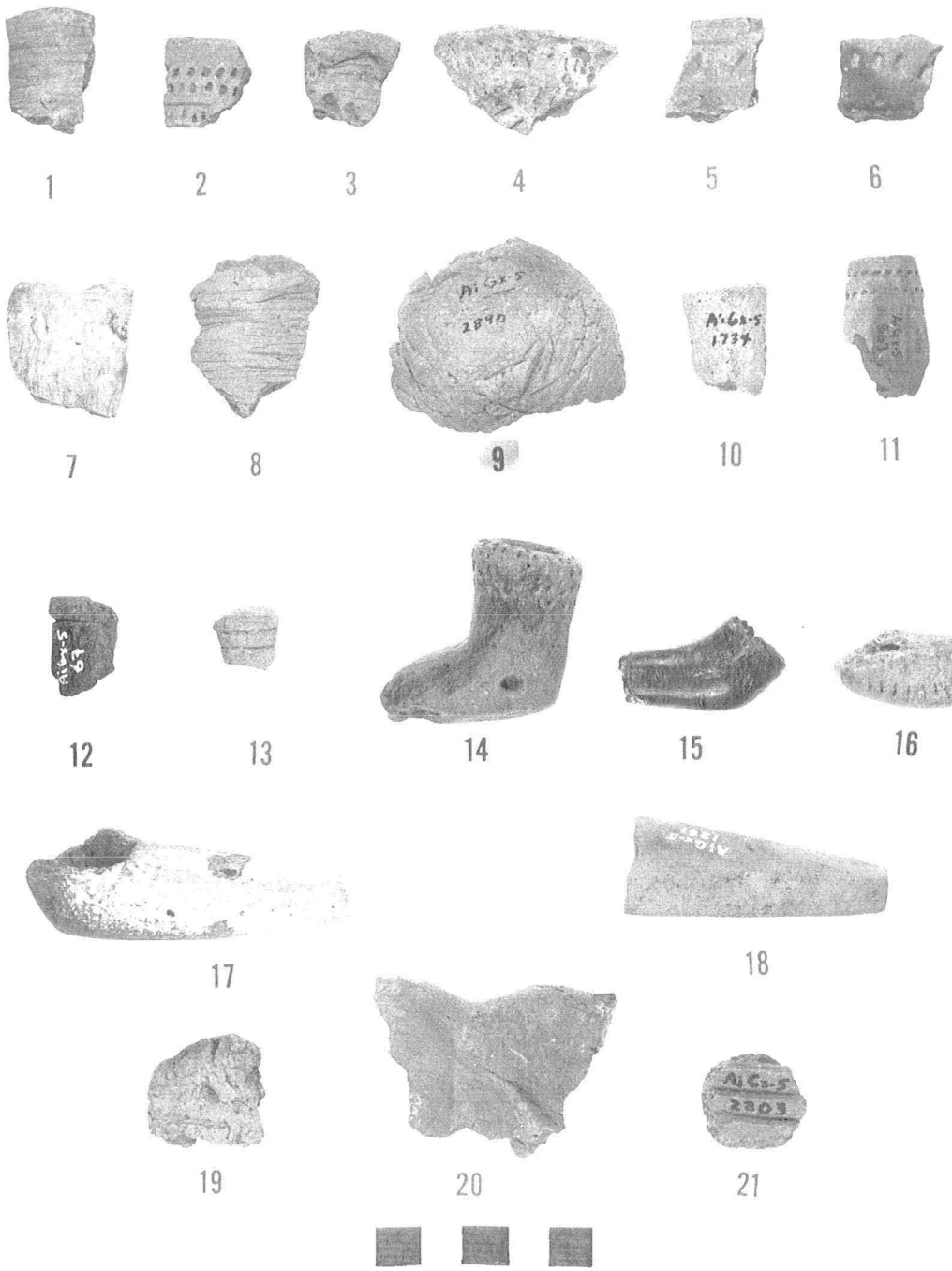
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FIGURE 21.

Chipped lithic artifacts.

1-6. Projectiles--triangular

7. Projectile--incomplete

8-10. Projectiles--side-notched

11-12. Projectiles--triangular

13-14. Pointed bifaces

15-19. Scrapers--Glen Meyer

20-21. Scrapers--thumbnail

22-23. Scrapers--side

24-26. Drills

27. Biface

28-30. Gravers

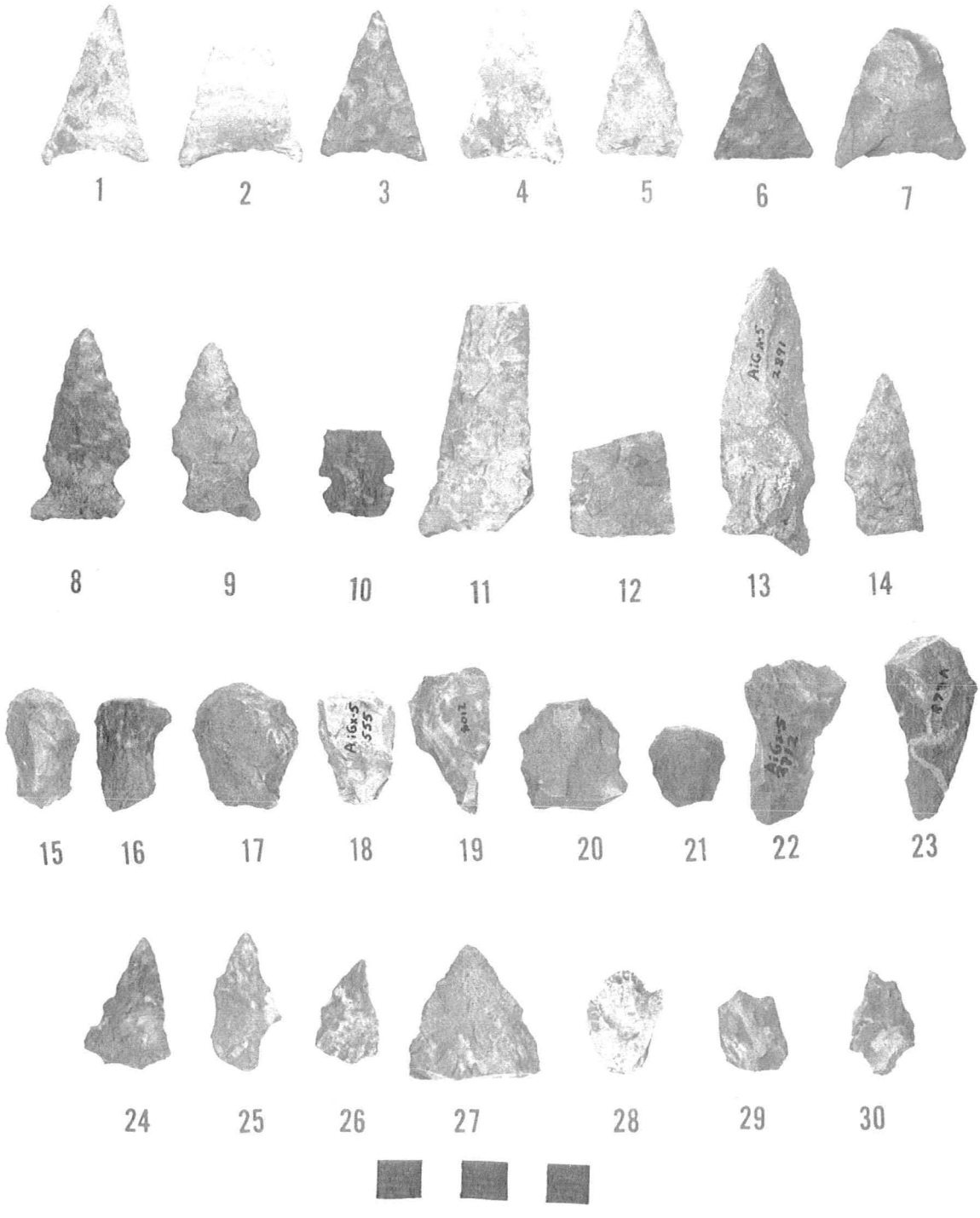
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FIGURE 22

Rough/ground lithic artifacts.

1. Celt-bit fragment
2. Abrader/whetstone--bevelled edge outlined
3. Abrader/whetstone
4. Celt
5-7. Abrader/whetstones
8. Abrader/whetstone--bevelled edge outlined
9. Anvil/hammerstone
10. Hammerstone


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FIGURE 23

Worked bone and antler.

1,17. Antler pegs

2,19. Antler flakers

3-9. Bone awls

10-11. Bone points

12-14. Bone beads

15-16. Modified deer phalanges

18. Antler point

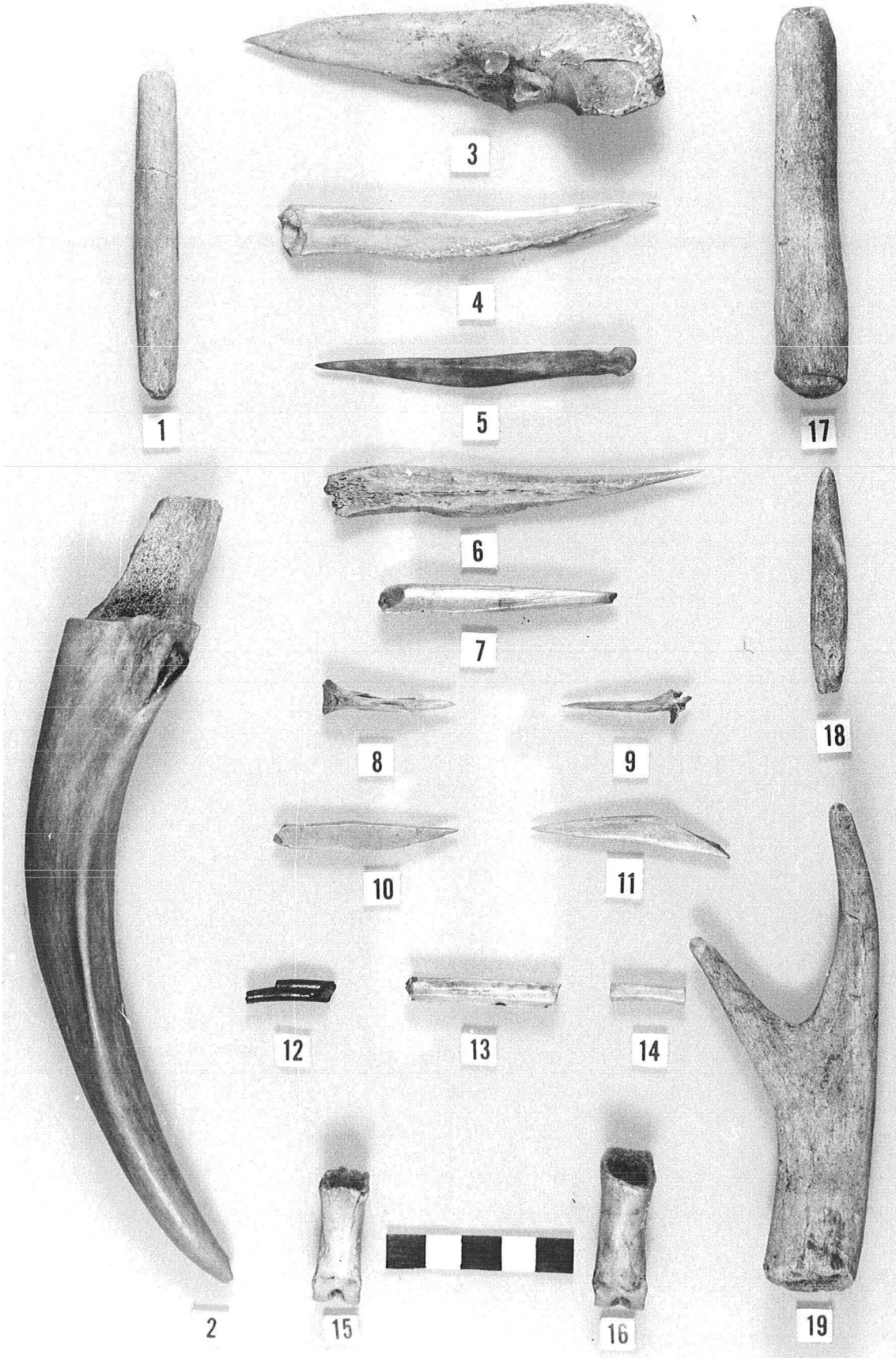
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FIGURE 24.

Worked bone and antler.

1. Bone flaker

2,4. Bone awls

3. Bone pointed object

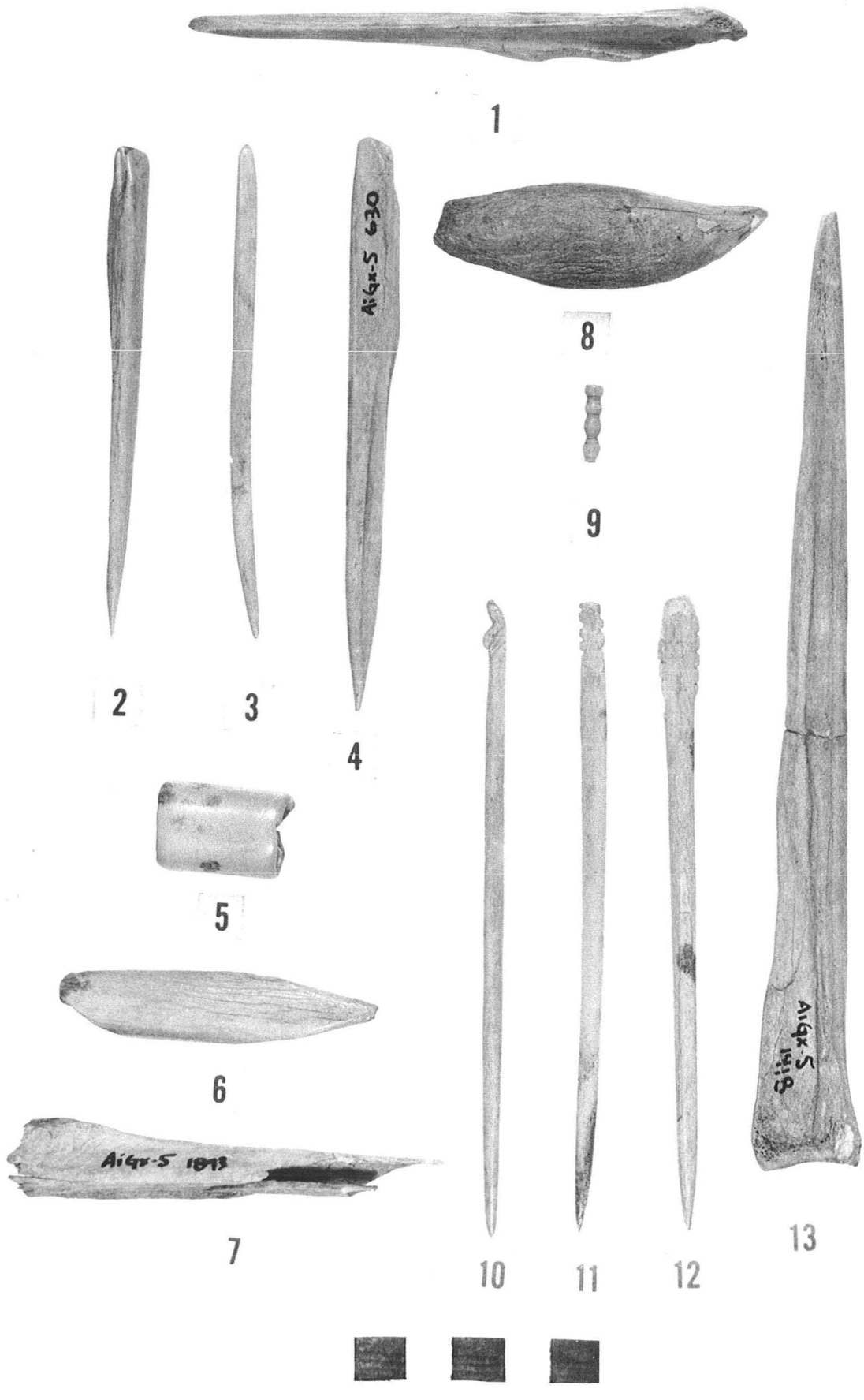
5. Bone bead

6. Bone point

7,13. Bone awls

8. Worked bear canine

9-12. Bone hair pins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REFERENCES

Banfield, A.W.F.
1974 The Mammals of Canada. National Museums of Canada: Ottawa.

Binford, Lewis R. and George I. Quimby
1972 Indian Sites and Chipped Stone Materials in the Northern Lake Michigan Area. In An Archaeological Perspective, edited by Lewis R. Binford, pp. 356-361. Seminar Press, New York.

Burns, James A.
1977 Faunal analysis of the Porteous site (AgHb-1). In The Princess Point Complex, by David Marvyn Stothers. National Museum of Man, Mercury Series Paper No. 58:270-299. Ottawa.

Chapman, L.J. and D.F. Putnam
1973 The Physiography of Southern Ontario. Toronto: University of Toronto Press.

Cleland, Charles Edward
1966 The Prehistoric Animal Ecology and Ethnozoology of the Upper Great Lakes Region. Museum of Anthropology Paper No. 29, University of Michigan. Ann Arbor.

Daly, Patricia
1969 Approaches to faunal analysis. American Antiquity 34:146-153.

Fernald, Merritt Lyndon and Alfred Charles Kinsey
1943 Edible Wild Plants of North America. Idlewild Press: Cornwall-on-Hudson, New York.

Gilbert, B. Miles
1973 Mammalian Osteoarchaeology: North America. Special Publications, Missouri Archaeological Society, Columbia.

Grant, W.L.
1967 Voyages of Samuel de Champlain: 1604-1618. Barnes & Noble, In.: New York.

Grayson, Donald K.
1978 Minimum numbers and sample size in vertebrate faunal analysis. American Antiquity 43(1): 53-65.

Kenyon, W.A.
1968 The Miller Site. Royal Ontario Museum, Art and Archaeology, Occasional Papers 14. Toronto.

MacDonald, George F.
1969 Debert: A Palaeo-Indian Site in Central Nova Scotia. National Museum of Canada, Anthropological Papers 16. Ottawa.

McAllister, D.E. and E. J. Crossman
1973 A Guide to the Freshwater Sport Fishes of Canada. National Museums of Canada: Ottawa.

Medsger, Oliver Perry
1943 Edible Wild Plants. The Macmillan Company: New York.

Morlan, Richard E.
1973 A Technological Approach to Lithic Artifacts from Yukon Territory. National Museum of Man, Archaeological Survey of Canada Paper, No. 7, Ottawa.

Noble, W.C.
1968 Iroquois Archaeology and the Development of Iroquois Social Organization (1000-1650). Doctoral Dissertation, Department of Archaeology, The University of Calgary.

1969 Some Social Implications of the Iroquois 'in situ' Theory. Ontario Archaeology, No. 13: 16-28.

1975a Van Besien (AfHd-2): A Study in Glen Meyer Development. Ontario Archaeology, No. 24. Toronto.

1975b Corn and the Development of Village Life in Southern Ontario. Ontario Archaeology, No. 25:37-46. Toronto.

Noble, W.C. and I.T. Kenyon
1972 Porteous (AgHb-1): A Probable Early Glen Meyer Village in Brant County, Ontario. Ontario Archaeology, No. 19:11-38.

Pearce, R.J.
1977 An Eastern Regional Expression of the Pickering Branch. Master of Arts Thesis, Trent University.

Reid, C.S.
1975 The Boys Site and the Early Ontario Iroquois Tradition. National Museum of Man, Mercury Series, Archaeological Survey of Canada Paper 42. Ottawa.

Ridley, Frank
1954 The Frank Bay Site, Lake Nipissing, Ontario. American Antiquity 20(1):40-50.

1958 The Boys and Barrie Sites. Ontario Archaeological Society Publications No. 4: 18-42. Toronto.

Ritchie, William
1949 An Archaeological Survey of the Trent Waterway in Ontario, Canada and Its Significance for New York State Prehistory. New York State Archaeological Association, Researches and Transactions 12(1). Rochester.

Schock, J.M.
1971 Indoor water floatation: a technique for the recovery of archeological materials. Plains Anthropologist 16:228-231.

Scott, W.B.
1967 Freshwater Fishes of Eastern Canada. University of Toronto Press: Toronto.

Stewart, Frances L. and Peter W. Stahl
1977 Cautionary note on edible meat poundage figures. American Antiquity 42(2):267-270.

Thwaites, Reuben Gold (ed.)
1896 The Jesuit Relations and Allied Documents: Vols. 1-73. Pageant Book Company: New York.

Warrick, Gary
1978 An Analysis of the Faunal Remains of the Gunby Site (AiGx-5). Manuscript (52 pp.) in possession of the author.

Waselkov, Gregory
1978 Evolution of deer hunting in the Eastern Woodlands. Midcontinental Journal of Archaeology 3(1):15-34.

White, Theodore E.
1953 A method of calculating the dietary percentages of various food animals utilized by aboriginal peoples. American Antiquity 18: 396-398.

Witthoft, John
1952 A Paleo-Indian site in eastern Pennsylvania: an early hunting culture. Proceedings of the American Philosophical Society 96:464-495. Philadelphia.

Wright, J.V.
1966 The Ontario Iroquois Tradition. National Museum of Canada, Bulletin 210. Ottawa.

1967 Type and Attribute Analysis: Their Application to Iroquois Culture History. In Iroquois Culture, History and Prehistory. Proceedings of the 1965 Conference on Iroquois Research, New York State Museum and Science Service, pp. 90-100. Albany.

Wright, J.V. and J.E. Anderson
1969 The Bennett Site. National Museum of Canada Bulletin 229. Ottawa.

Yarnell, Richard Asa
1964 Aboriginal Relationships between Culture and Plant Life in the Upper Great Lakes Region. Museum of Anthropology, Anthropological Papers No. 23. University of Michigan.

Ziegler, Alan C.
1973 Inference from Prehistoric Faunal Remains. Addison-Wesley Module No. 43. Philippines.

APPENDIX A

Rim Sherd Data

This appendix presents detailed data on the following aspects of each rim sherd within a major category (such as incised): exterior rim motif; interior rim motif; lip of rim motif; punctate and bossing attributes; rim profile varieties; castellation shapes and motifs; lip thickness. The rim profile varieties are shown in Figure 12; the castellation varieties follow Wright and Anderson (1969:28, Fig. 6). Where no comment is made regarding a decorative technique, it is to be assumed that the major technique given as the section heading is the one under discussion. The format followed is identical in most aspects to that employed by Wright in his analysis of rims from the Bennett site (Wright and Anderson 1969).

Incised

Where a sharp-edged stylus has been drawn across the clay, leaving a clean deep V-cut. Incising is differentiated from trailing by the width of the line. Incised lines are less than 1.5 mm in width.

Exterior Rim Motif

	f	%
Opposed obliques	22	39.3
Parallel obliques	11	19.6
Horizontals	8	14.3
Obliques (one row)	5	8.9
Horizontals above obliques	2	3.6
Criss-cross	1	1.8
Criss-cross above obliques	1	1.8
Verticals above and below horizontals	1	1.8
Verticals superimposed on horizontals	1	1.8
Obliques above horizontals, punctates	1	1.8
Opposed obliques below horizontals, braided cord	1	1.8
Criss-cross below horizontals, braided cord	1	1.8
Obliques above criss-cross separated by horizontal braided cord	1	1.8
Totals	56	100.1

Interior Rim

	f	%
Plain	50	89.3
Obliques	3	5.4
Criss-cross	1	1.8

Interior rim, continued

	f	%
Parallel obliques	1	1.8
Destroyed	1	1.8
Total	56	100.1

Lip of Rim

	f	%
Plain	30	53.6
Encircling line of punctates	9	16.1
Obliques	6	10.7
Encircling push-pull line	2	3.6
Encircling line	2	3.6
Interior lip edge notched	1	1.8
Encircling trailed line	1	1.8
Exterior lip edge notched	1	1.8
Encircling dentate stamp line	1	1.8
Oblique, linear stamp	1	1.8
Encircling crescent stamp line	1	1.8
Destroyed	1	1.8
Total	56	100.2

Punctating

	f	%
Exterior boss	24	42.9
Absent	23	41.1
Interior punctates	6	10.7
Interior and exterior punctates	2	3.6
Punctate segregated exterior boss	1	1.8
Total	56	100.1

Profile Varieties

	f	%
A	17	30.4
B	6	10.7
C	6	10.7
H	5	8.9
K	4	7.1
F	3	5.4
G	3	5.4
E	2	3.6
J	2	3.6
D	2	3.6
M	2	3.6
N	2	3.6
O	1	1.8
Destroyed	1	1.8
Total	56	100.2

Castellations

Shape	f	%	Motif	f	%
Absent	49	87.5	unbroken	5	71.4
Incipient pointed	3	5.4	broken	1	14.3
Incipient rounded	3	5.4	chevron	1	14.3
Rounded	1	1.8	total	7	100.0
Total	56	100.1			

Lip Thickness

R	5-12
N	55
$\bar{X}$	7.9
S	1.47

Braided Cord

Where a cord or twine is wrapped around the rim of the vessel producing a horizontal line. In some cases (Fig. 15,9), the line trails off possibly because the ends of the cord are held in the hands to make a deeper impression and the decoration ends at the hands. In all cases, the twined nature of the impression and the twist of the cord is evident in plasticine impressions.

Exterior Rim Motif

	f	%
Horizontals	45	83.3
Horizontals below obliques, corded stick	4	7.4
Horizontals below criss-cross, incised	1	1.9
Horizontals below verticals, incised	1	1.9
Horizontals above criss-cross-incised	1	1.9
Horizontals above obliques, incised	1	1.9
Horizontals above horizontals, corded punctate	1	1.9
Total	54	100.2

Interior Rim

	f	%
Plain	50	92.6
Obliques, incised	1	1.9
Obliques, corded stick	1	1.9
Obliques, linear stamp	1	1.9
Criss-cross, incised	1	1.9
Total	54	100.2

Lip of Rim

	f	%
Plain	21	38.9
Encircling braided cord line	9	16.7
Encircling line of punctates	8	14.8
Interior lip edge notched	3	5.6
Exterior lip edge notched	2	3.7
Obliques, corded stick	2	3.7
Encircling line of corded punctates	2	3.7
Encircling push-pull line	2	3.7
Encircling crescent stamp line	1	1.9
Encircling trailed line	1	1.9
Encircling incised line	1	1.9
Obliques, linear stamp	1	1.9
Criss-cross, incised	1	1.9
Total	54	100.3

Punctating

	f	%
Exterior boss	28	51.9
Absent	18	33.3
Punctate segregated exterior boss	3	5.6
Interior punctates	4	7.4
Interior and exterior punctates	1	1.9
Total	54	100.1

Profile Varieties

	f	%
B	10	18.5
E	10	18.5
A	9	16.7
C	5	9.3
F	4	7.4
D	4	7.4
P	3	5.6
L	2	3.7
K	3	5.6
J	2	3.7
O	1	1.9
H	1	1.9
Total	54	100.2

Castellations

Shape	f	%	Motif	f	%
Absent	46	85.2	unbroken	7	87.5
Incipient rounded	5	9.3	vertical	1	12.5
Incipient pointed	1	1.9	Total	8	100.0
Rounded	1	1.9			
Pointed	1	1.9			
Total	54	100.2			

Lip Thickness

R	5-13
N	53
$\bar{X}$	8.3
S	1.48

Linear Stamp

A stamp, usually straight and smooth-edged, is used in this technique. It is pressed directly into the clay with little or no secondary movement.

Exterior Rim Motif

	f	%
Opposed obliques	20	60.6
Parallel obliques	4	12.1
Parallel obliques above punctates	2	6.1
Verticals	1	3.0
Horizontals	1	3.0
Criss-cross	1	3.0
Criss-cross above parallel obliques	1	3.0
Verticals above parallel obliques	1	3.0
Criss-cross above obliques	1	3.0
Opposed obliques below obliques, stamped knot	1	3.0
Total	33	99.8

Interior Rim

	f	%
Plain	24	72.7
Obliques	4	12.1
Criss-cross	2	6.1
Obliques, incised	1	3.0
Verticals	1	3.0
Destroyed	1	3.0
Total	33	99.9

Lip of Rim

	f	%
Plain	17	51.5
Encircling line of punctates	5	15.1
Encircling trailed line	3	9.1
Obliques	2	6.1
Exterior lip edge notched	2	6.1
Interior lip edge notched	2	6.1
Encircling incised line	1	3.0
Criss-cross incised	1	3.0
Total	33	100.0

Punctating

	f	%
Absent	20	60.6
Exterior boss	10	30.3
Interior punctates	2	6.1
Punctate segregated exterior boss	1	3.0
Total	33	100.0

Profile Varieties

	f	%
B	7	21.2
A	4	12.1
I	4	12.1
H	3	9.1
K	2	6.1
J	2	6.1
G	2	6.1
M	2	6.1
N	2	6.1
E	1	3.0
O	1	3.0
C	1	3.0
Q	1	3.0
Destroyed	1	3.0
Total	33	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	29	87.9	unbroken	4	100.0
Incipient pointed	3	9.1			
Pointed	1	3.0			
Total	33	100.0			

Lip Thickness

R	5-13
N	33
$\bar{X}$	8.4
S	1.78

Plain

Where the exterior has been left undecorated, but often the lip and interiors do possess some decoration.

Interior Rim

	f	%
Plain	29	93.5
Obliques, crescent stamp	1	3.2
Obliques, incised	1	3.2
Total	31	99.9

Lip of Rim

	f	%
Plain	24	77.4
Exterior lip edge notched	4	12.9
Obliques, incised	2	6.4
Encircling braided cord line	1	3.2
Total	31	99.9

Punctating

	f	%
Absent	18	58.1
Exterior boss	12	38.7
Punctate segregated exterior boss	1	3.2
Total	31	100.0

Profile Varieties

	f	%
D	8	25.8
C	5	16.1
L	4	12.9
R	3	9.7
G	2	6.4
M	2	6.4
B	2	6.4
E	1	3.2

Profile Varieties, continued

	f	%
H	1	3.2
F	1	3.2
I	1	3.2
T	1	3.2
Total	31	99.7

Castellations

Shape	f	%	Motif	f	%
Absent	28	90.3	unbroken	3	100.0
Incipient pointed	2	6.4			
Nubbin	1	3.2			
Total	31	99.9			

Lip Thickness

R	5-11
N	30
$\bar{X}$	8.0
S	1.83

Trailed

This technique is differentiated from incising by virtue of a groove width greater than 1.5 mm.

Exterior Rim Motif

	f	%
Horizontals	16	72.3
Horizontals above opposed obliques	1	4.5
Horizontals above opposed obliques, incised	1	4.5
Horizontals above obliques, linear stamp	1	4.5
Horizontals above verticals, linear stamp	1	4.5
Obliques	1	4.5
Opposed obliques	1	4.5
Total	22	99.3

Interior Rim

	f	%
Plain	20	90.9
Obliques, crescent stamp	1	4.5
Obliques, incised	1	4.5
Total	22	99.9

Lip of Rim

	f	%
Plain	13	59.1
Encircling line	2	9.1
Encircling line of punctates	2	9.1

Lip of Rim, continued	f	%
Encircling line of corded punctates	1	4.5
Encircling suture stamp line	1	4.5
Encircling push-pull line	1	4.5
Obliques, linear stamp	1	4.5
Exterior lip edge notched	1	4.5
Total	22	99.8

Punctating

	f	%
Absent	12	54.5
Exterior boss	9	40.9
Punctate segregated exterior boss	1	4.5
Total	22	99.9

Profile Varieties

	f	%
A	4	18.2
B	4	18.2
E	4	18.2
H	3	13.6
G	2	9.1
K	1	4.5
J	1	4.5
D	1	4.5

Profile Varieties continued

	f	%
M	1	4.5
Q	1	4.5
Total	22	99.8

Castellations

Shape	f	%	Motif	f	%
Absent	21	95.4	unbroken	1	100.0
Incipient rounded	1	4.5			
Total	22	99.9			

Lip Thickness

N	22
R	5-10
$\bar{X}$	7.5
S	1.44

Combined Techniques

This category incorporates the rims from the Gunby site where two or more decorative techniques appear to be of relatively equal importance in forming the exterior rim decoration. The following combinations of techniques were segregated in order to describe the exterior rim motif: corded stick and incised (3); incised and punctates

(2); incised and push-pull (2); corded stick and stamped knot (1); braided cord and punctates (1); braided cord and linear stamp (1); braided cord and crescent stamp (1); braided cord and incised (1); incised and corded punctates (1); braided cord and stamped knot (1); trailed and corded punctates (1); corded punctates, braided cord and incised (1); trailed, linear stamp and incised (1).

Exterior Rim Motif

	f	%
Obliques, corded stick above opposed obliques, incised	1	5.9
Horizontals, incised above parallel obliques, corded stick	1	5.9
Obliques, incised above obliques, corded stick	1	5.9
Punctates above parallel obliques, incised	1	5.9
Parallel obliques, incised above punctates	1	5.9
Horizontals, push-pull above criss-cross, incised	1	5.9
Horizontals, push-pull above opposed obliques, incised	1	5.9
Obliques, corded stick above horizontals, stamped knot	1	5.9
Horizontals, braided cord above and below punctates	1	5.9
Horizontals, braided cord above and below obliques linear stamp	1	5.9

	f	%
Horizontals, braided cord above opposed obliques, crescent stamp	1	5.9
Corded punctates above criss-cross, incised	1	5.9
Obliques, stamped knot above horizontals, braided cord	1	5.9
Horizontals, trailed above corded punctates	1	5.9
Corded punctates above and below horizontal braided cord above obliques, incised	1	5.9
Obliques, incised above horizontal incising above horizontals, braided cord	1	5.9
Criss-cross, incised above horizontals, trailed above and below obliques, linear stamp	1	5.9
Total	17	100.3

Interior Rim

	f	%
Plain	13	76.5
Obliques, incised	1	5.9
Obliques, corded stick	1	5.9
Criss-cross, incised	1	5.9
Opposing obliques, incised above horizontals, incised	1	5.9
Total	17	100.1

Lip of Rim

	f	%
Plain	8	47.1
Encircling line of punctates	4	23.5
Encircling braided cord line	3	17.6
Obliques, incised	1	5.9
Obliques, corded stick	1	5.9
Total	17	100.0

Punctating

	f	%
Exterior boss	12	70.6
Absent	5	29.4
Total	17	100.0

Profile Varieties

	f	%
A	4	23.5
I	4	23.5
B	3	17.6
L	1	5.9
C	1	5.9
F	1	5.9
D	1	5.9
G	1	5.9

Profile varieties, continued

	f	%
M	1	5.9
Total	17	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	13	76.5	unbroken	4	100.0
Pointed	2	11.8			
Incipient rounded	1	5.9			
Incipient pointed	1	5.9			
Total	17	100.1			

Lip Thickness

N	17
R	6-12
$\bar{X}$	8.2
S	1.98

Crescent Stamp

This technique involves a 'curved' smooth-edged stylus, which is impressed directly into the clay with no discernible secondary movement.

Exterior Rim Motif

	f	%
Opposed obliques	7	53.8
Parallel obliques	1	7.7
Verticals	1	7.7
Horizontals	1	7.7
Horizontals above obliques	1	7.7
Parallel obliques above horizontals	1	7.7
Criss-cross above corded punctates	1	7.7
Total	13	100.0

Interior Rim

	f	%
Plain	8	61.5
Obliques	3	23.1
Verticals, corded stick	1	7.7
Destroyed	1	7.7
Total	13	100.0

Lip of Rim

	f	%
Plain	4	30.7
Obliques	3	23.1
Encircling line	2	15.4
Obliques, corded stick	1	7.7

Lip of rim, continued

	f	%
Encircling push-pull line	1	7.7
Encircling incised line	1	7.7
Encircling line of punctates	1	7.7
Total	13	100.0

Punctating

	f	%
Absent	7	53.9
Exterior boss	6	46.1
Total	13	100.0

Profile Varieties

	f	%
A	5	38.5
B	2	15.4
I	2	15.4
L	1	7.7
C	1	7.7
G	1	7.7
Destroyed	1	7.7
Total	13	100.1

Castellations

Shape	f	%	Motif	f	%
Absent	11	84.6	unbroken	1	50.0
Incipient rounded	1	7.7	broken	1	50
Rounded	1	7.7	Total	2	100.0
Total	13	100.0			

Lip Thickness

N	12
R	5-12
$\bar{X}$	8.8
S	2.04

Corded Stick

A stick or twig wrapped with a fibre or cord is pressed directly into the clay with no discernible secondary movement.

Exterior Rim Motif

	f	%
Parallel obliques	5	41.7
Opposed obliques	1	8.3
Horizontals	1	8.3
Verticals	1	8.3
Horizontals above verticals	1	8.3

Exterior Rim Motif, continued

	f	%
Obliques above horizontals	1	8.3
Parallel obliques above opposed obliques	1	8.3
Opposed obliques above parallel obliques	1	8.3
Total	12	99.8

Interior Rim

	f	%
Plain	6	50.0
Obliques	3	25.0
Verticals	1	8.3
Parallel obliques	1	8.3
Obliques, incised	1	8.3
Total	12	99.9

Lip of Rim

	f	%
Obliques	4	33.3
Plain	3	25.0
Encircling line of punctates	3	25.0
Encircling line	2	16.7
Total	12	100.0

Punctating

	f	%
Exterior boss	7	58.3
Absent	5	41.7
Total	12	100.0

Profile Varieties

	f	%
A	4	33.3
B	2	16.7
D	2	16.7
H	1	8.3
F	1	8.3
N	1	8.3
I	1	8.3
Total	12	99.9

Castellations

Shape	f	%	Motif	f	%
Absent	9	75.0	unbroken	3	100.0
Incipient rounded	3	25.0			
Total	12	100.0			

Lip Thickness

N	12
R	7-11
$\bar{X}$	9.5
S	1.68

Corded Punctate

A stick or twig wrapped with a fibre is pressed into the clay end first.

Exterior Rim Motif

	f	%
Horizontals	10	100.0

Interior Rim

	f	%
Plain	9	90.0
Verticals, corded stick	1	10.0
Total	10	100.0

Lip of Rim

	f	%
Encircling line	3	30.0
Plain	2	20.0

Lip of Rim, continued

	f	%
Encircling incised line	2	20.0
Encircling trailed line	1	10.0
Encircling line of punctates	1	10.0
Obliques, incised	1	10.0
Total	10	100.0

Punctating

	f	%
Absent	6	60.0
Exterior boss	3	30.0
Punctate segregated exterior boss	1	10.0
Total	10	100.0

Profile Varieties

	f	%
A	2	20.0
B	2	20.0
L	2	20.0
G	2	20.0
E	1	10.0
J	1	10.0
Total	10	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	8	80.0	Unbroken	2	100.0
Incipient pointed	2	20.0			
Total	10	100.0			

Lip Thickness

N	10
R	6-10
$\bar{X}$	8.0
S	1.05

Punctates

This technique involves pressing the sharp end of variously shaped pointed objects directly into the clay, and then removing the tool completely before making the next impression.

Exterior Rim Motif

	f	%
Horizontals	6	100.0

Interior Rim

	f	%
Plain	6	100.0

Lip of Rim

	f	%
Encircling line	3	50.0
Plain	2	33.3
Encircling incised line	1	16.7
Total	6	100.0

Punctating

	f	%
Exterior boss	5	83.3
Absent	1	16.7
Total	6	100.0

Profile Varieties

	f	%
A	1	16.7
B	1	16.7
J	1	16.7
C	1	16.7
D	1	16.7
I	1	16.7
Total	6	100.2

Castellations

Shape	f	%	Motif	f	%
Absent	5	83.3	unbroken	1	100.0
Incipient rounded	1	16.7			
Total	6	100.0			

Lip Thickness

N	6
R	6-8
$\bar{X}$	7.2
S	0.75

Dentate Stamp

This technique entails pressing a toothed stamping tool into the clay, leaving closely spaced rectangular or square dentate impressions.

Exterior Rim Motif

	f	%
Opposed obliques	1	25.0
Parallel obliques	1	25.0
Obliques above horizontals	1	25.0
Horizontals above obliques	1	25.0
Total	4	100.0

Interior Rim

	f	%
Plain	3	75.0
Obliques	1	25.0
Total	4	100.0

Lip of Rim

	f	%
Plain	2	50.0
Obliques	1	25.0
Encircling line of punctates	1	25.0
Total	4	100.0

Punctating

	f	%
Exterior boss	2	50.0
Interior punctates	1	25.0
Exterior and interior punctates	1	25.0
Total	4	100.0

Profile Varieties

	f	%
B	1	25.0
K	1	25.0
F	1	25.0

Profile Varieties, continued

	f	%
S	1	25.0
Total	4	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	3	75.0	unbroken	1	100.0
Incipient pointed	1	25.0			
Total	4	100.0			

Lip Thickness

N	4
R	5-11
$\bar{X}$	9.0
S	2.83

Stamped Knot

A knot or looped end of a cord or twine is impressed into the clay leaving a shallow mark.

Exterior Rim Motif

	f	%
Horizontals	1	25.0
Parallel obliques	1	25.0

Exterior Rim Motif, continued

	f	%
Verticals	1	25.0
Verticals above and below horizontal braided cord	1	25.0
Total	4	100.0

Interior Rim

	f	%
Plain	3	75.0
Obliques, corded stick	1	25.0
Total	4	100.0

Lip of Rim

	f	%
Plain	2	50.0
Obliques	1	25.0
Encircling line of punctates	1	25.0
Total	4	100.0

Punctating

	f	%
Exterior boss	3	75.0
Absent	1	25.0
Total	4	100.0

Profile Varieties

	f	%
D	1	25.0
G	1	25.0
N	1	25.0
Q	1	25.0
Total	4	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	3	75.0	unbroken	1	100.0
Pointed	1	25.0			
Total	4	100.0			

Lip Thickness

N	4
R	8-10
$\bar{X}$	9.0
S	0.82

Smoothed-over Cord

A corded decoration smoothed over after application partially obscuring the technique.

Interior Rim

	f	%
Plain	3	75.0
Obliques, corded stick	1	25.0
Total	4	100.0

Lip of Rim

	f	%
Encircling braided cord line	2	50.0
Encircling line of corded punctates	1	25.0
Plain	1	25.0
Total	4	100.0

Punctating

	f	%
Absent	2	50.0
Exterior boss	1	25.0
Punctate segregated exterior boss	1	25.0
Total	4	100.0

Profile Varieties

	f	%
A	2	50.0
J	1	25.0
F	1	25.0
Total	4	100.0

Castellations

Shape	f	%
Absent	4	100.0

Lip Thickness	
N	4
R	7-9
$\bar{X}$	8.2
S	0.96

Fingernail Impressed

This technique involves impressing the fingernail directly into the clay, with no discernible secondary movement.

Exterior Rim Motif

	f	%
Parallel obliques	3	100.0

Interior Rim

	f	%
Plain	1	33.3
Obliques	1	33.3
Verticals	1	33.3
Total	3	99.9

Lip of Rim

	f	%
Encircling line of punctates	2	66.7
Obliques, incised	1	33.3
Total	3	100.0

Punctating

	f	%
Exterior boss	2	66.7
Punctate segregated exterior boss	1	33.3
Total	3	100.0

Profile Varieties

	f	%
A	1	33.3
J	1	33.3
D	1	33.3
Total	3	99.9

Castellations

Shape	f	%
Absent	3	100.0

Lip Thickness

N	3
R	8-11
$\bar{X}$	9.0
S	1.73

Punctate Dentate Stamp

This technique, similar to dentate stamp, is distinguishable from that technique by the round, evenly spaced impressions produced in the clay. This appears to be the same technique as Reid's comb stamp (1975:114).

Exterior Rim Motif

	f	%
Opposed obliques	1	50.0
Verticals	1	50.0
Total	2	100.0

Interior Rim

	f	%
Plain	2	100.0

Lip of Rim

	f	%
Plain	2	100.0

Punctating

	f	%
Absent	2	100.0

Profile Varieties

	f	%
C	1	50.0
D	1	50.0
Total	2	100.0

Castellations

Shape	f	%
Absent	2	100.0

Lip Thickness

7;7

Dragged Stamp

The dragged stamp is produced with a toothed tool (dentate stamp implement) used in a push-pull fashion.

Exterior Rim Motif

	f	%
Horizontals	2	100.0

Interior Rim

	f	%
Plain	2	100.0

Lip of Rim

	f	%
Plain	1	50.0
Encircling line of punctates	1	50.0
Total	2	100.0

Punctating

	f	%
Exterior boss	1	50.0
Interior punctates	1	50.0
Total	2	100.0

Profile Varieties

	f	%
C	1	50.0
M	1	50.0
Total	2	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	1	50.0	unbroken	1	100.0
Incipient pointed	1	50.0			
Total	2	100.0			

Lip Thickness

8;8

Stamp String Dragged

This technique represents a variant of braided cord but here, instead of removing the cord directly from the clay, it is dragged downward as it is removed.

Exterior Rim Motif

	f	%
Horizontals	2	100.0

Interior Rim

	f	%
Criss-cross, incised	2	100.0

Lip of Rim

	f	%
Interior lip edge notched	1	50.0

Lip of Rim, continued

	f	%
Interior and exterior lip edge notched	1	50.0
Total	2	100.0

Punctating

	f	%
Interior punctates	2	100.0

Profile Varieties

	f	%
E	1	50.0
F	1	50.0
Total	2	100.0

Castellations

Shape	f	%	Motif	f	%
Absent	1	50.0	punctate	1	100.0
Incipient pointed	1	50.0			
Total	2	100.0			

Lip Thickness

9;10

Push-Pull

This technique, also called 'interrupted linear' or 'stab and drag', involves pushing a pointed object into the clay and then pulling it back in the opposite direction to produce a continuous line.

Exterior Rim Motif

	f	%
Horizontals	2	100.0

Interior Rim

	f	%
Plain	2	100.0

Lip of Rim

	f	%
Plain	1	50.0
Encircling incised line	1	50.0
Total	2	100.0

Punctating

	f	%
Absent	1	50.0
Exterior boss	1	50.0
Total	2	100.0

Profile Varieties

	f	%
E	1	50.0
F	1	50.0
Total	2	100.0

Castellations

Shape	f	%
Absent	2	100.0

Lip Thickness

7;9

Crescent Cord

The same technique as crescent stamp except the tool is wrapped in a cord or twine.

Exterior Rim Motif

	f	%
Parallel obliques	1	100.0

Interior Rim

	f	%
Plain	1	100.0

Lip of Rim

	f	%
Obliques	1	100.0

Punctating

	f	%
Exterior boss, 2 rows interior punctates	1	100.0

Profile Varieties

	f	%
S	1	100.0

Castellations

Shape	f	%
Absent	1	100.0

Lip Thickness

11

Turtle Suture Stamp

This technique involves impressing the jagged edge of a turtle plastron or carapace fragment into the clay.

Exterior Rim Motif

	f	%
Parallel obliques	1	100.0

Interior Rim

	f	%
Destroyed	1	100.0

Lip of Rim

	f	%
Plain	1	100.0

Punctating

	f	%
Absent	1	100.0

Profile Varieties

	f	%
Destroyed	1	100.0

Castellations

Shape	f	%	Motif	f	%
Incipient pointed	1	100.0	unbroken	1	100.0

Lip Thickness

?

Other

Exterior Rim Motif

	f	%
Horizontals	1	100.0

Interior Rim

	f	%
Plain	1	100.0

Lip of Rim

	f	%
Encircling push-pull line	1	100.0

Punctating

	f	%
Exterior boss	1	100.0

Profile Varieties

	f	%
A	1	100.0

Castellations

Shape	f	%
Absent	1	100.0

Lip Thickness

APPENDIX B.

This appendix consists of the following sections of Mr. Gary Warrick's faunal report (1978): Term Definitions (MNI, and Live Weight/Individual).

(A) Term Definitions

(1) MNI (Minimum Number of Individuals)

A minimum number of individuals/species of fauna found at an archaeological site may be defined as the "number of individuals necessary to account for all skeletal elements found at the site" (Grayson 1978:53). It can be calculated in numerous ways but it was decided that maximum element frequencies for each identified species would be used in this report. The method is outlined below.

Due to programming shortcomings, at present only rough estimates of MNI for mammal and fish are available. These were arrived at by assuming:

(a) The frequencies for left and right mammal and fish elements occur randomly and therefore will be approximately equal for any one element. Total left and

right frequencies for all fauna cases are 591 (R) and 590 (L) and therefore this assumption is reasonably valid for my purposes.

(b) The frequencies for proximal and distal long bone ends of mammals are approximately equivalent. Total proximal and distal long bone case frequencies are 235 (prox) and 202 (distal), so this assumption is reasonable.

(c) The age distribution for mammals with all age classes represented is relatively equal for juvenile, sub-adult, and adult age classes.

From the above, fish MNIs were calculated by taking the most numerous element for each fish species (not vertebra or spines) and dividing by 2 i.e. left and right.

Mammal MNIs were calculated by taking the most numerous element (i.e. long bone, etc.) and dividing by 2 (for left and right fragments), then dividing by 2 (for proximal and distal fragments) again and lastly multiplying by 2 (to correct for age classes of juvenile, sub-adult and adult). Multiplying by 3 would yield an erroneously high MNI, since different age classes are counted with total left and right and proximal and distal fragments. An example of the MNI rough estimate for a maximum element frequency of 10 pieces for one species appears below:

Juvenile			Sub-adult			Adult			
3			3			3			
L		R	L		R	L		R	
3		0	0		3	3		1	
P	D		P	D		P	D	P	D
2	1		1	2		2	1	0	2

(a) Actual MNI = 2 (juveniles + 2 (sub-adults) + 2 (adults) = 6.

(b) Rough estimate MNI = 10/2 = 5/2 = 2.5 x 2 = 5.

(2) Live weight/individual.

Another variable on Tables 1,2,4, and 5 (not shown) is the live weight/individual for each identified species. This is simply the live weight of one individual of the species named. Live weights (in kg) for adult mammals were obtained from Banfield (1974) and Stewart and Stahl (1977:268) and for fish: McAllister and Crossman (1973), Cleland (1966), Burns (1977:297-298). Where sexual dimorphism was present in a species (e.g. white-tailed deer), an average of male and female weights was used. Average weights pooled from the above sources were used in all cases (fish and mammal) for calculations of edible meat weights.

(3) Percent of Usable Meat (for mammals, birds and fish).

White introduced (1953a:396-398) a method for calculating the dietary percentage of certain mammals and

birds which were used as food by prehistoric and historic aboriginal peoples of North America. His method assumes an MNI calculation for each species, prior to the calculation of the total edible meat per species at the site (1953a:396). This total edible meat per species is arrived at by multiplying each species MNI by the number of lbs/kg of usable meat per individual of that species. (Usable meat per individual of a species equals the average live weight of species multiplied by the percentage of usable meat of the species (White 1953a:14)). White (1953a:397-398) utilized statistics employed by modern livestock stockers and feeders--i.e. 50% usable meat for long-legged mammals (e.g. deer, fox, rabbit), 70% usable meat for short-legged mammals (beaver, bear, raccoon, muskrat) and 70% usable meat for all species of bird, to arrive at percentages of usable meat for various wild animal species. Cleland (1966:138), Ziegler (1973:29) and Daly (1969:150) accepted White's (1953a) percentages.

However, recently Stewart and Stahl (1977:267-270) calculated through experimental buchering, actual total edible meat percentages for various species of mammals. They concluded (1977:269) that White's (1953a) percentages are consistently too high since "It is doubtful that each carcass was subjected to such a full utilization in

prehistoric times"--i.e. wild animals eaten by prehistoric peoples would not have been utilized as fully as domestic animals are today, so White's domestic animal-based percentages are in error. However, for purposes of this analysis, where possible, a combination or average of stewart's and Stahl's (1977) and White's (1953a) percentages were utilized for all Gunby mammal species. Otherwise, White's (1953a:398) figures were utilized. The mammal results appear in Table 2 (not shown).

White gives no percentage of edible meat for fish species due to an apparent lack of data (1953a:397), but Cleland (1966:138) and Ziegler (1973:29) report that 80% edible meat/fish species individual is a reasonable assqmption. This report accepts and uses the above percentage for meat calculations for all fish species represented and the results appear in Table 4 (not shown) (1978:5-7).