IROQUOIAN OCCUPATIONS IN THE MIDDLE TRENT VALLEY

MIDDLE AND LATE IROQUOIAN OCCUPATIONS IN THE MIDDLE TRENT VALLEY REGION

By

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ABSTRACT

This thesis consists of an analysis of Middle and Late Iroquoian sites located within the Middle Trent Valley region of south-central Ontario.

Comparsions between the assemblages from these sites suggests that Iroquoian culture developed in situ in this area, and was not the result of migrations from the south. Several interrelated Middle to Late Iroquoian foci inhabited the interior areas of this region until atleast the end of the fifteenth century, when the Middle Trent Valley was abandoned.

Two sites in particular, the late Middleport Wilson site and the early Late Iroquoian Bark site, are discussed in detail. The Bark site is a small mid-fifteenth century Huron village with close socio-cultural ties to contemporary Huron groups in the Upper Trent Valley. The Wilson site is a large Middleport village dating to the end of the fourteenth century. It is suggested that the Bark site inhabitants represent a portion of the earlier Wilson site occupants, who returned to the area of the Wilson site to take advantage of their abandoned fields.

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Chapter 1

INTRODUCTION: IROQUOIAN ARCHAEOLOGY

Iroquoian research in the northeast has now progressed beyond the establishment of basic cultural and chronological frameworks in a quest to determine the processes behind Iroquoian cultural development. Recent studies have attempted to reconstruct Iroquoian socio-political and economic development on a tribal, focus, village and longhouse level (Bradley 1987; Niemczycki 1984; Warrick 1984; Dodd 1984).

However, large geographical gaps remain in our understanding of Iroquoian prehistory. The nature of Iroquoian occupations in these areas must be understood if we are to create a broad picture of Iroquoian cultural evolution. Recent research has shown for example that Huron tribal development was quite complex, for it involved the fusion and fission, reorganization and migration of various groups and villages over a broad area (Ramsden 1988b). Our very limited knowledge of the extent of Iroquoian occupations in some regions severely hinders the reconstruction of these events.

This thesis examines Middle and Late Iroquoian occupations in a region of southern Ontario in which virtually no previous Iroquoian archaeological research has been conducted, the middle Trent Valley region of south-central Ontario.

Research concerning the Late Iroquoian occupation of the upper and lower Trent Valley has indicated that these areas

were in a constant state of transformation and reorganization in the fifteenth and sixteenth centuries, due to internal and external conflict, various migrations and reintegration (Ramsden 1988b; Pendergast 1985). However, our understanding of these events in the Trent Valley region remain incomplete because of the lack of data from the middle Trent Valley.

General questions about the Middle and Late Iroquoian occupation of the middle Trent Valley which are addressed in this thesis are closely related to the events which occurred elsewhere in the Trent Valley region and south-central Ontario during this period. These questions are:

1) What evidence is there for Middle and Late Iroquoian occupations in the middle Trent Valley ?

2) Did Iroquoian culture develop in situ in the middle Trent Valley or were the Middle and Late Iroquoian occupations the result of recent migrations ?

3) What was the relationship between groups in the middle Trent Valley and the upper and lower Trent ? Were they closely related or do middle Trent Valley groups represent a separate focus or group of related foci ?

4) How was the region affected by the European fur trade ? Was the middle Trent Valley abandoned by the sixteenth century as was the rest of the Trent Valley ? If so, where did these

groups go ?

This thesis is organized in the following manner. The remainder of Chapter 1 presents a brief overview of the development of Iroquoian archaeological method and theory in Ontario with special references to those techniques and approaches that are most relevant to this study. Chapter 2 deals with previous archaeological research into the Middle and Late Iroquoian occupation of the Trent Valley, while the remaining chapters deal more specifically with my research in the middle Trent Valley region.

Iroquoian research in Ontario prior to the 1970's, was concerned primarily with reconstructing cultural chronologies and culture history. Excavations concentrated on midden areas, to provide large assemblages that could be used for comparative purposes. This resulted in site reports that consisted of long "shopping lists" of artifacts, which were grouped and typed in order to compare them with assemblages from other sites (Pendergast 1964;1972; Emerson 1967). The objectives were to place sites or components into broad chronological and cultural sequences, and to determine their position in Iroquoian history and cultural development. As Ramsden has observed:

"The tendency in the past has been to excavate and analyse sites in relative isolation from their immediate cultural environment, and to make comparisons, instead, with sites

that happened to be available in the literature, often located a hundred miles away or more (1977a:298).

This was achieved primarily by relying on pottery type seriation (MacNeish 1952) and simple statistical tests, such as Brainerd's (1951) coefficient of similarity. Very little attention was paid to settlement patterns, subsistence strategies or socio-political systems.

The data generated from sites excavated and analyzed in this manner became the building blocks for the first general syntheses of Iroquoian culture history and chronology (MacNeish 1952; Emerson 1954;1968; Wright 1966; Noble 1968). While this was a necessary first step in the development of Iroquoian archaeological research, these frameworks of Iroquoian culture history and development are now considered to be over simplified because of their broad perspective, basic comparative techniques, and failure to identify or consider regional variations. (Ramsden 1977a:296; Pearce 1984:3). Their unilinear models of Iroquoian development based on the direct historical approach produced "charts of progressively diverging branches of Iroquoian culture, or parallel but independent sequences diverging from common ancestral stocks" (Ramsden 1977a:296).

The use of the direct historical approach necessitated a reliance on the substantial but highly biased ethnohistorical

accounts of seventeenth century Iroquoian groups. The uncritical acceptance of these accounts severely restricted the interpretive potential of archaeological data. Inconsistencies between the ethnohistorical accounts and the archaeological record are now becoming more apparent, with the recognition of variation in Iroquoian burial practices, house structures and settlement patterns. This has resulted in a much more cautious use of ethnohistorical data. More severe interpretive problems occur when ethnohistorical accounts are projected universally into the past to account for prehistoric Iroquoian groups. In the past, prehistoric materials have been forced into a "historical mould" (Ramsden 1977a:24). As Ramsden (1988a:48) has stated;

> "The historic records are a useful source of information about 17th-century Huron society in Simcoe County, but archaeology reveals that they describe a transformed society. That society is probably no better a model of purely aboriginal Huron society than Toronto in the 1980's is of Victorian England."

While this may be considered an exaggeration, it draws attention to the fact that the Iroquoian groups encountered by the French had already undergone over half a century of substantial socio-political and economic change.

In the early 1970's, Iroquoian research adopted a more

holistic approach. Site excavations were directed toward not only recovering data on material culture, but also on settlement patterns and subsistence strategies (J.V. Wright 1974; Finlayson and Byrne 1975; M.J. Wright 1981; Lennox 1981).

In terms of methodology, techniques were developed and adopted from other sciences to increase the amount of data recovered from excavations, and to allow for more complex analyses. Ceramic attribute methodologies were developed for inter and intra site comparisons, for establishing social and chronological relationships between sites (J.V.Wright 1974;Ramsden 1977a;Smith 1987), and for site seriations (Smith 1983).

The increased use of and experimentation with radiocarbon dating has also refined Iroquoian cultural chronologies (Timmins 1984), although the technique is too imprecise to determine the length of individual site occupations. The analysis of the evolution of European trade items, especially trade beads, has resulted in much more precise chronologies for individual historic period site occupations and movements (Kenyon and Fitzgerald 1986; Fitzgerald 1986). The use of flotation techniques has greatly increased the amount of material recovered from excavations, and has altered our understanding of Iroquoian floral and faunal exploitation. This has been combined with resource potential and site catchment

analysis to gain a better understanding of Iroquoian subsistence strategies and environmental adaptations (Jamieson 1986; Lennox et al. 1986).

In the 1970's and 1980's there was a drastic increase in the number of projects directed towards totally excavating village sites. The early work of W.Kenyon (1968) at the Miller site and J.V. Wright(1974) at Nodwell, was soon followed by large projects at Draper (Finlayson 1985), Ball (Knight 1983), Benson (Ramsden 1977b), Kirche (Nasmith 1981), Coulter (Damkjar 1982) and Keffer (Finlayson, Smith and Wheeler 1987). This number is increasing every year because of salvage excavations. Large scale research oriented excavations are eliminating problems related to sampling biases which have plagued Iroquoian research from its inception. These projects resulted in more detailed spatial analyses of archaeological data from whole villages, such as at Nodwell (J.V.Wright 1974) and Draper (Finlayson 1985). Valuable data relating to village formation and development, clan groupings, house variations, and feature and artifact distributions and densities were gathered. Furthermore, archaeological surveys in the immediate area of these sites combined with comparative analyses between sites in the same geographical areas suggested for the first time that much of Iroquoian cultural development may have taken place on a local level.

Ramsden's (1977a:295) analysis of the late prehistoric and historic Huron occupation of south-central Ontario suggested that "Iroquoian cultural events in Ontario took place within an essentially local context; within the context of a few villages restricted to a local drainage system or a few square miles". This observation has been substantiated by research into local sequences of Iroquoian development along the Duffin and Rouge drainage systems east of Toronto (Finlayson and Dawkins 1977; Poulton 1979; Kapches 1981), the Oxbow Creek system west of London (Pearce 1984) and the Crawford Lake area (Finlayson and Byrne 1975; Smith 1987). There is now a tendency to view Ontario Iroquoian prehistory as a series of interacting communities (Pearce 1984:3). As Pearce (1984:3) has observed;

> "[this is] based on the concept of community and equates local sequences of archaeological components with a single community of people, rather than treating those components as representative of larger regional sequences".

The processual approach taken in these studies has allowed for the reconstruction of more complex events and processes relating to Iroquoian socio-political and economic development, as well as trading and settlement patterns. For example, when local sequences were interrelated and combined into larger regional studies of Iroquoian tribal development in the upper Trent Valley (Ramsden 1977b;1988b), a complex picture of

population migration and reintegration, restructuring of local groupings and coalescence into larger villages emerged (Ramsden 1988b). Nonetheless, our understanding of Iroquoian development on a tribal level in the late prehistoric and historic period in Ontario is still very limited when compared to the work done in New York State on the Onondaga (Tuck 1971; Bradley 1987), Seneca and Cayuga (Niemczycki 1984). This is due, in part, to the lack of long term, large scale regional research projects in Ontario.

Although many Iroquoian researchers still adhere to the broad cultural historical framework established by Wright (1966), archaeological studies on a local and regional level indicate that Iroquoian prehistory was much more complex and heterogeneous than previously thought. Theories relating to the development of Iroquoian cultural horizons or stages, which centred upon population expansion, migration and conquest (J.V. Wright 1966), have now been rejected by many researchers (Pearce 1984:60; M.J. Wright 1986:66). Past syntheses of Iroquoian prehistory did not account for inter and intra-site variability, and the community level development of Iroquoian culture (Pearce 1984:60; M.J. Wright 1986:65). As Pearce (1984:63) has stated;

"The problem with using multi-stage classifications of culture...is a theoretical one and stems from the

fact that individually local sequences probably evolved at various rates and for different reasons and their development was influenced by heterogeneous factors".

By tracing the development of single groups of people through time and relating this to the development of neighboring communities, we will arrive at a more accurate understanding of Iroquoian cultural development. This will require long term research projects, which would involve intensive large scale surveys, and the excavation of representative samples from various sites. While the amount of data on Iroquoian archaeology is increasing dramatically each year due to salvage excavations, this new information can in no way replace that which could be gained through long term projects designed for specific research problems.

Chapter 2

PREVIOUS ARCHAEOLOGICAL RESEARCH IN THE TRENT VALLEY REGION

Upper Trent Valley

Research on the Iroquoian occupation of the Trent Valley region has been concentrated primarily on the Balsam Lake area. The groundwork was laid by G.E. Laidlaw (1901,1902,1903, 1912,1917) who surveyed and recorded the location of numerous Late Iroquoian village sites located in Victoria County. Later researchers relied on these reports to relocate and excavate these sites.

J.N. Emerson (1954) conducted excavations at two Huron village sites in the Balsam lake area in 1950-51 as part of his thesis research into the Ontario Iroquois. Excavations at the late prehistoric Hardrock site and the historic Benson site, led Emerson (1954:254) to suggest that there were two distinct complexes in the upper Trent. The complex pipe assemblage and simple rimsherd motifs at Benson indicated to Emerson (1954:251) that the site was related to other sites in the Toronto area, such as McKenzie. This suggested that there had been a Huron migration up the Trent from the southwest (Emerson 1954:261). The simple pipe complex and complexity of rim motifs at Hardrock represented a different, though possibly contemporary, occupation of the area by a group whose origins

were unknown (Emerson 1954:268).

In the first definitive framework of Iroquoian archaeology, "The Ontario Iroquois Tradition", Wright (1966:69) considered Hardrock to be a southern division site. Wright (1966:66) believed that southern division sites developed out of the Middleport substage, and gradually migrated northward up river systems such as the Humber and the Trent in the mid-sixteenth century. Wright (1966:74) thought that the Benson site resulted from a fusion of southern and northern division Huron sites in the late sixteenth century. Although some archaeological surveys were conducted in the area in the late 1960's and early 1970's (Hakas 1967; Richardson 1968; P.J.Wright 1973), the problem of the dual nature of the Late Iroquoian occupation was not reconsidered until the mid 1970's.

In 1975 Ramsden (1977a) developed a method using ceramic attribute analysis, for isolating and identifying individual attributes which were socially and/or temporally significant. By comparing the frequencies of socially significant attributes between different site assemblages, Ramsden (1977a:174) found that the Hardrock site was very similar to the Quackenbush site, located at the eastern end of Stoney Lake. These sites were also related through contact or common origins to Huron sites in the lower Trent, and some sites along the north shore of Lake Ontario (Figure 2 and 3).

The sixteenth century Benson site belonged to a different group, which originated in the Toronto area. Close similarities to sites such as Parsons and Black Creek, led Ramsden (1977a:286) to hypothesize that the Benson site occupants migrated to the upper Trent in the mid-sixteenth century from the southwest, to become more actively involved in the fur trade.

Ramsden conducted extensive field work in the area from 1976 to 1978. The objectives of the Upper Trent Valley Archaeological Research Project were to determine the nature of the relationship between the indigenous and immigrant populations, and to determine the effects of early European trade in the area (Ramsden 1977b). The project involved several large scale excavations, numerous test excavations, and extensive surveys in the Balsam Lake vicinity. While this research confirmed the existence of both indigenous and immigrant populations, a much more complex picture emerged.

Slight cultural differences among the indigenous sites indicated that they represented several different communities which shared a similar material culture, rather than one large interacting group (Ramsden 1981:263). The heterogeneity of the sites occupied by the immigrant population indicated that they moved into the area from several different sources to the south and southwest (Ramsden 1977b:20).

The earliest known Iroquoian sites in the Balsam Lake area date from the Pickering phase (Ramsden 1988a:46). During the fifteenth century the indigenous Huron groups lived in small (half hectare) widely scattered villages near lakes and rivers, with little regard for defence (Ramsden 1988a:46).The low density of Pickering sites, and the lack of any Middle Iroquoian sites in the area surveyed suggests that the "indigenous" Huron groups were part of an initial Late Iroquoian migration into the area (Ramsden: personal communication). In the early sixteenth century as the competition for trade increased in the area, indigenous sites such as Jamieson moved inland and became fortified (Ramsden 1981:267). At the same time, new groups arrived in the area which established larger villages and traded on a larger scale with the St. Lawrence Iroquois. The undefended shoreline location of the indigenous Hardrock site, which was occupied slightly later than Jamieson, suggests that the two groups co-existed peacefully (Ramsden 1981:267).

By the mid-sixteenth century the two groups ceased to occupy separate communities, and probably became established in the same villages, while retaining some cultural differences. The roughly contemporaneous mid-sixteenth century Kirche and Coulter sites, expanded several times to incorporate the continual influx of people into the area (Nasmith 1981:174;

Site Designations in Figures 1, 2 and 3.

Figure 1.

1. Waltham
2. Wilson
3. Gibbs
4. Austin IV

Figure 2

1. Harshaw
2. Markson
3. Thomas
4. Jamieson
5. Lean
6. Stadewick
7. Hardrock
8. Rumney Bay
9. Strong
10. Fleetwood Creek II
11. Bark
12. Larmer
13. Canton
14. McCauley-Wilson
15. Drain
16. Young Point
17. Quackenbush
18. Quackenbush II
19. Cobourg
20. Lite
21. Payne
22. Hillier
23. Waupoos

Figure 3

1. Logan Hill
2. Summers
3. Coulter
4. Benson
5. Corson
6. McBride
7. Kirche-
8. Thornbury
9. Foster
10. Trent
11. Worsley

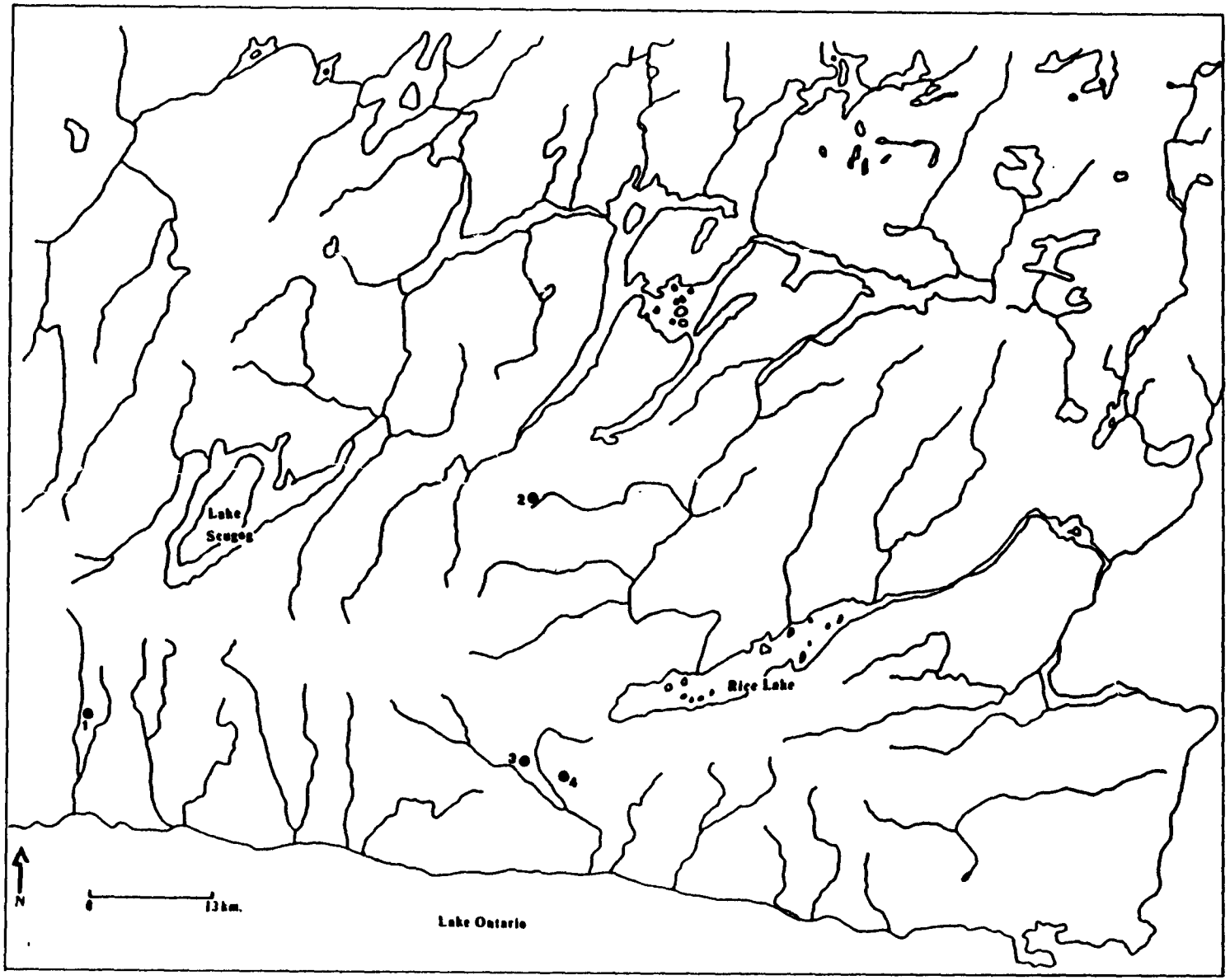


Figure 1. Confirmed Middle Iroquoian Sites in the Trent Valley Region

1300 - 1400

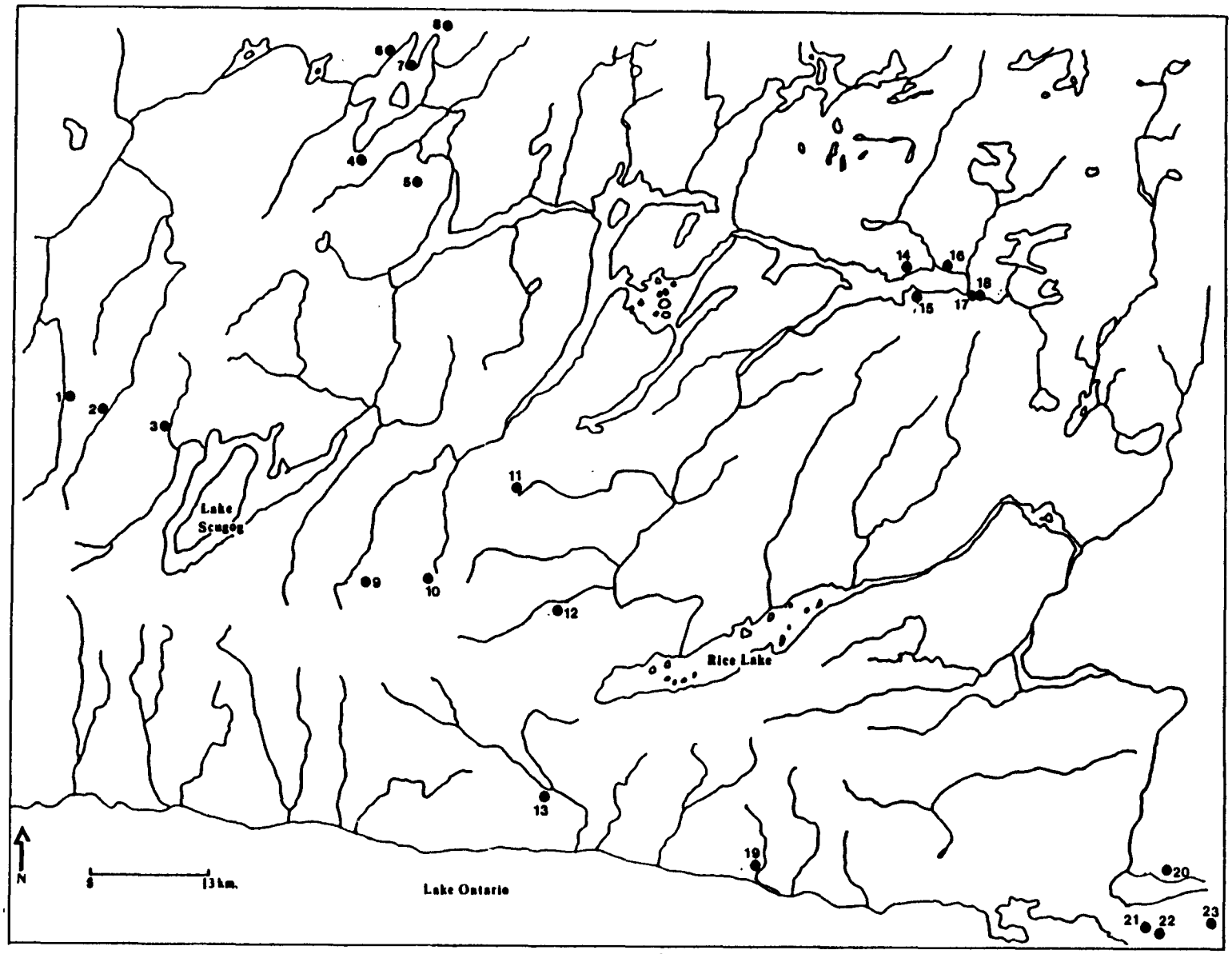


Figure 2. Confirmed Prehistoric Late Iroquoian Sites in the Trent Valley Region

1450 - 1650

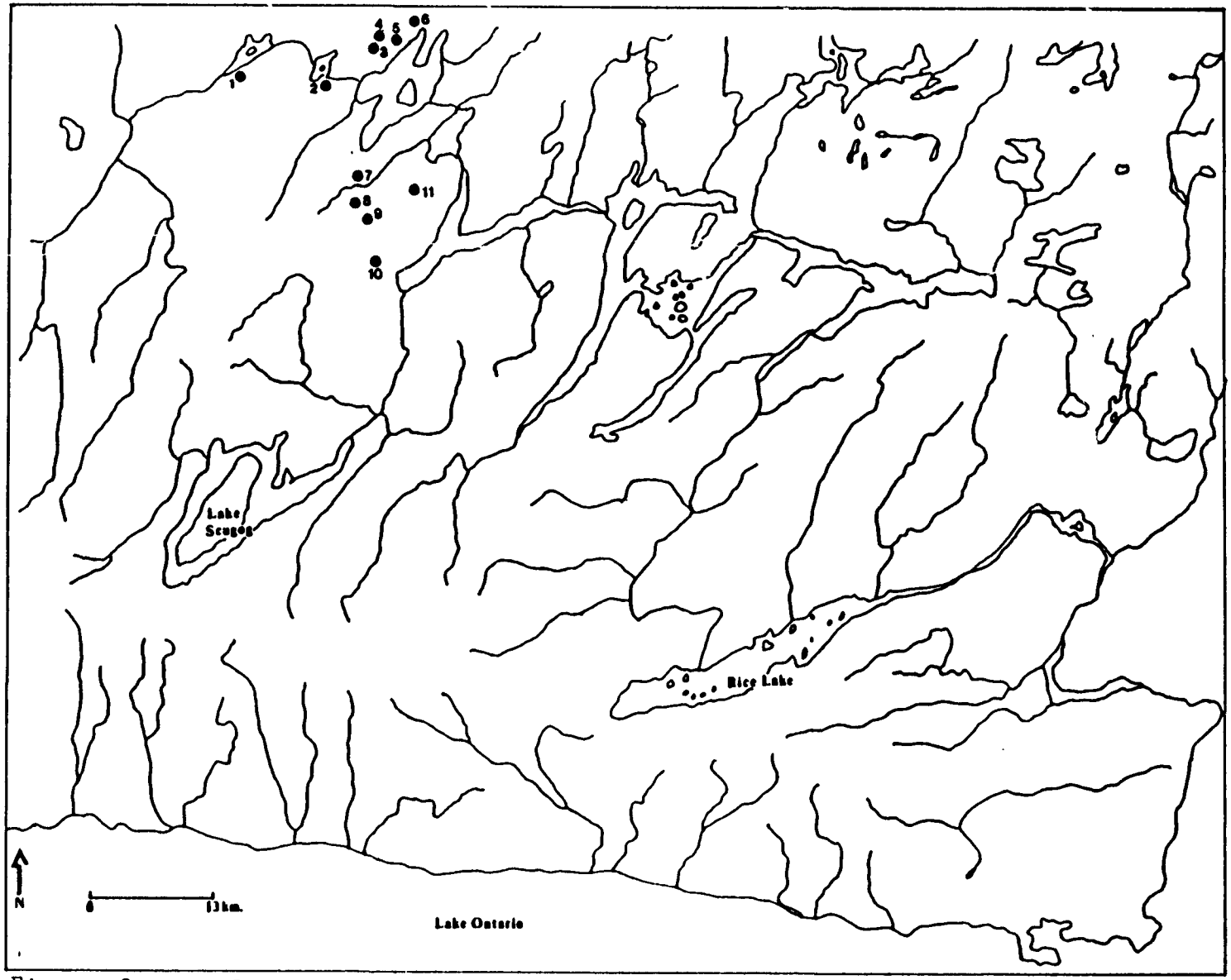


Figure 3. Confirmed Protohistoric/Historic Iroquoian Sites in the Trent Valley

Damkjar 1982:130; Ramsden 1988b:181). It is probable that segments of the indigenous population was incorporated into these two villages, although no distinct clusters could be identified (Nasmith 1981:177; Damkjar 1982:130). However, it is also possible that some or all of the indigenous population was dispersed by the new immigrants (Nasmith 1981:157). Near the end of the sixteenth century the Benson site was occupied. This site was not expanded to incorporate new groups, but it did contain a large amount of St.Lawrence Iroquois ceramics. Ramsden (1988a:47) believes that Huron groups in the area were adopting women captives and refugees resulting from the demise of the St. Lawrence Iroquois. Soon after this, the upper Trent region was abandoned as the Huron moved to eastern Huronia.

Ramsden (1988a:47)) has suggested that the immigrant Huron population moved into the upper Trent because of the development of the fur trade. Once in the upper Trent Valley, these Huron groups would have been in a position to trade furs and skins to the St. Lawrence Iroquois in exchange for European items. As this trade increased, other Huron groups were attracted to sites in the area (Ramsden 1988a:47). In the late 16th century warfare may have broken out because the Trent Valley Huron were jealous of the St. Lawrence Valley Iroquois' intermediary position with the French. This may have been responsible in part, for the destruction of the St. Lawrence

Iroquois (Ramsden 1988a:47).

Huron accounts of the abandonment of the upper Trent suggest that this move took place around A.D. 1590, and that these Huron groups became the Arendahronon tribe, or Rock Nation of the Huron Confederacy (Trigger 1985:157). In A.D. 1615 when Champlain (1929:59) passed through the Kawartha Lakes he observed the cleared portions of the country, and noted that the area had been abandoned by the Huron out of fear of the Iroquois.

However, the motives behind the movement of Huron groups into and out of the Trent Valley are still open to debate. Trigger (1979:215;1985:145) disputes Ramsden's claim that the St. Lawrence Iroquois were an important intermediary in the fur trade. The lack of verified protohistoric sites with European items west of Montreal does not support the theory that the upper St. Lawrence was an important trade artery (Trigger 1985:145). It also suggests that the fighting that may have occurred between the two groups was not motivated by trade, and took place before the introduction of European items west of Montreal (Ibid:106).

Trigger (1985:148) has used ethnohistoric accounts to suggest that the upper Trent Huron may have received European items in the latter half of the sixteenth century from Algonkian groups. European items may have passed from the Kichesipirini to the Petite Nation, who then carried them items down the St.

Lawrence to Lake Ontario (Trigger 1985:148). The upper Trent Huron groups may have moved into eastern Huronia to be closer to the fur trade when the New York State Iroquois cut off the upper St. Lawrence as a trade route for the Petite Nation (Trigger 1985:147).

Lower Trent Valley

Research into the Iroquoian occupation of the lower Trent Valley has been confined to the excavation of Huron village sites in the vicinity of Prince Edward County. Sites such as Payne (Pendergast 1963; Emerson 1967), Waupoos (Pendergast 1964), Lite (Pendergast 1972) and Hillier (Pendergast n.d.) reflect different Huron communities sharing basic focus level characteristics between A.D. 1450 and 1500 (Figure 3).

Similarities between the ceramic assemblages of these sites and contemporary ones in the Toronto area may reflect some form of contact between them (Emerson 1967:173; Pendergast 1972:24; Ramsden 1977a:287). No European items have been found on these lower Trent Valley sites and no protohistoric or historic Huron sites have been found in the area (Ramsden 1977a:172; Pendergast 1985:35). The Huron may have abandoned the lower Trent Valley because of pressure from the St.Lawrence Iroquois in the late prehistoric period (Pendergast 1985:35). It is probable that the Huron groups in the area migrated up the

Trent to the upper Trent Valley and eventually to eastern Huronia (Pendergast 1963:13; Emerson 1967:173; Pendergast 1985:35). Some of the occupants of the Payne site may have in fact, moved to the Benson site in the upper Trent (Ramsden 1977a:288).

Very few Middle or Late Iroquoian sites have been found along the Trent river from Lake Ontario to Rice Lake or in adjacent areas along the north shore of Lake Ontario. In part this is because previous archaeological surveys of the area have concentrated on the water routes (Ritchie 1949; Hakas 1967; Richardson 1968; P.J. Wright 1972), and not on inland areas where these sites are most likely to be located. An exception to this was Roberts (1985) extensive survey of the north shore of Lake Ontario, including the Durham region, which located/relocated some Middle and Late Iroquoian sites near Port Hope and Cobourg, and along the Ganaraska River. The small group of Middle Iroquoian sites located in this area have been called the "Port Hope Middle Iroquoian Focus" by Kapches (1981:237). Kapches (1981:237) noted that no detailed analysis or research had yet been conducted on this focus, which may eventually be subdivided into several foci. Recently, one of these sites, the Gibbs site on the Ganaraska River, has been test excavated (McKillop and Jackson 1985).

The Middle Trent Valley

This area encompasses Rice Lake and its tributaries, several of the Kawartha Lakes (Stoney, Clear, Chemung, Buckhorn and Pigeon), the Otonabee river, and the various creeks that run into the Otonabee from the west.

The shorelines and islands of Rice Lake constitute the only part of the middle Trent Valley that has been intensively researched. The rich natural resources of the north shore of the lake combined with its important geographical position, have attracted native groups since the end of the last ice age. Archaeologists have been attracted to the north shore and islands of Rice lake since the time of David Boyle (1896:41), because of the rich Point Peninsula Middle Woodland burial mounds and occupation sites located there. Research into the nature of the locally developed manifestation of the Point Peninsula culture has been extensive (Johnston 1968a:1968b; Spence, Finlayson and Poulton 1979; W.Kenyon 1986). Surveys in the Rice Lake area relating to this research have also led to the investigation of earlier Paleo-Indian (Jackson 1977), and later Archaic (Johnston 1984; Jackson 1988) and Pickering occupations (Pearce 1977:1978; Jackson 1988).

Pickering Phase material has been found at several multi-component sites along the north shore of Rice Lake, as well as at some inland locations (Pearce 1978:20; Jackson 1988:45). The

site assemblages probably represent a distinct local in situ expression of the Pickering Branch (Pearce 1978:19; Jackson 1977:59). Temporary hunting and fishing camps were located along the shores of Rice Lake, while the permanent village sites were farther inland (Pearce 1978:21; Jackson 1988:94).

Brief archaeological surveys have been carried out on a much smaller scale at the narrows between Pigeon and Buckhorn Lakes, the eastern end of Stoney Lake, the area of Petroglyph Park, and parts of Jacks and Kashabod Lakes (Ritchie 1949; Richardson 1968; Johnston 1968a; Hakas 1967; Jackson 1977; Ministry of Culture and Recreation 1981:300). Very few of these surveys have investigated inland areas. Richardson (1968), Hakas (1967:1) and Ross (personal communication) did investigate reports of some Iroquoian sites in the area between Rice Lake and Lake Scugog, but no systematic archaeological survey has been conducted in the vast inland area between Rice Lake and Lake Scugog. Roberts (1988:51) conducted a "winter survey" in Cavan Township in 1978, but none of the oral reports that he received on site locations from farmers, were confirmed by field research.

The main focus of this thesis is the Middle and Late Iroquoian occupation of a large portion of the middle Trent Valley. Based on the location of the two principle sites discussed in this thesis, the Bark and Wilson sites (Figures 1

and 2), the primary research area is that bordered by Rice Lake to the east, Lake Scugog to the west, the Oak Ridges Moraine to the south and the Kawartha Lakes to the north. The only substantial artifact assemblages and site data available within this 1,200 square kilometre area for the Middle and Late Iroquoian periods is from the Bark and Wilson sites.

An analysis of the large Wilson site assemblage combined with an excavation of the nearby Bark site provide data on both the Middle and Late Iroquoian periods in the study area. When combined with an analysis of the small assemblages collected from other contemporary sites in the research area, it is hoped that a significant contribution can be made to our understanding of the previously undocumented middle Trent Valley Iroquoian focus. Specific questions which will be addressed in the following chapters include:

1) What is the relationship, if any, between the Wilson and Bark sites ? Do they represent a lineal sequence ?

2) What is the relationship of the Wilson site to other Middleport sites in south-central Ontario ? Does the site represent an in situ Iroquoian development in the area or a migration from known Middleport foci along the north shore of Lake Ontario ?

3) What is the relationship of the Bark site to other Huron sites in the Trent Valley ? Is the Bark site a component of a

separate previously unknown prehistoric Huron site cluster ?

4) Did any of the indigenous upper Trent Valley Huron groups migrate into that area from the middle Trent Valley ?

5) Does the apparent absence of many Middle and Late Iroquoian sites in the middle Trent Valley reflect a low site density in the area or the lack of intensive archaeological survey ?

6) Was the middle Trent Valley abandoned along with the lower Trent Valley at the end of the fifteenth/early sixteenth century ? Are there any contact period sites in the area ?

7) If the middle Trent Valley was abandoned, were its previous occupants incorporated along with indigenous upper Trent Valley groups into later contact period sites such as Kirche, Coulter and Benson ?

Chapter 3

The Bark Site

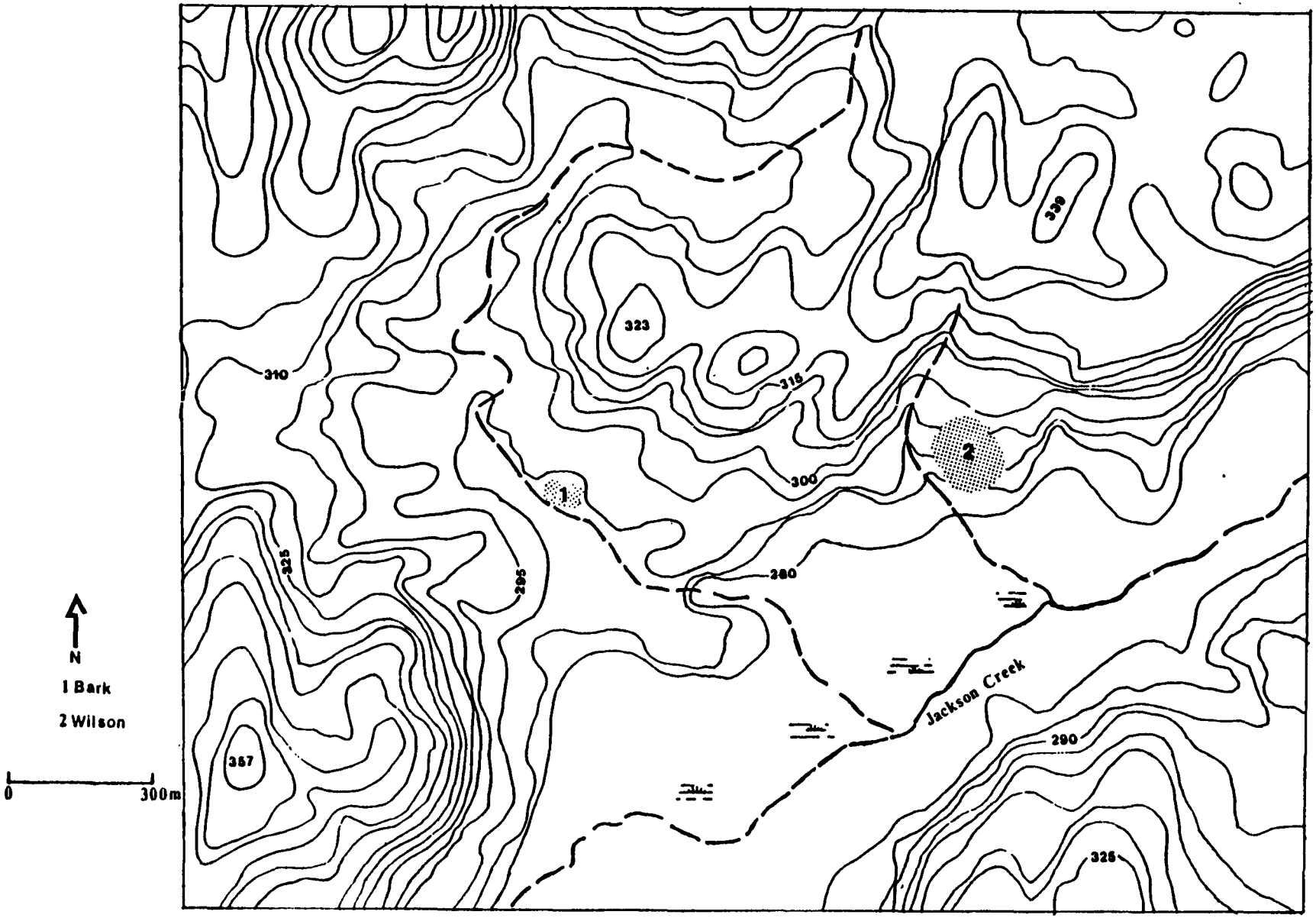
Location

The Bark site is located in Cavan Township, Peterborough County, approximately 16 kilometers southwest of the city of Peterborough. The site lies on the Jackson Creek Valley floor, near the southwestern base of a gently sloping drumlin. The local topography is highly drumlinized and large drumlins and drumlin lobes to the north and west create a semi-circle around the site, sheltering it from the prevailing winds. The headwaters of Jackson Creek lie 750 metres to the south (Figure 4).

Environs

The Bark site lies within the Peterborough Drumlin Field till plain. Valleys within the drumlin field were carved by former glacial tillage (Putnam and Chapman 1984:105). The Jackson Creek Valley was formed when glacial Lake Jackson drained into glacial Lake Peterborough (Helleiner et. al 1985:156). The drumlins prevent adequate drainage in some areas leading to the formation of linear and oval inter-drumlin swamps (Ibid). These swamps and wetlands became a source for headwater streams, as is the case for Jackson Creek. The Jackson Creek Valley is typical in that it has a wide swampy bottom traversed by a

Figure 4. Location of the Bark and Wilson Sites



sluggish stream (Ibid:171). Jackson Creek drains into the Otonabee, making it a part of the Otonabee River Watershed which includes all of the Kawartha Lakes and their tributary streams, and the large drainage area of the Otonabee River which flows into Rice Lake.

The site falls within the Great Lakes-St. Lawrence Forest Region characterized by a mixed hardwood-coniferous forest dominated by sugar maple, beech, basswood, yellow birch, white oak, eastern hemlock, balsam fir and eastern white pine (Rowe 1972:93). In the Bark site area, the creek, swamp and related wetlands would have also provided a rich variety of fish and waterfowl (Chamberlain 1979:11). The nearby headlands of the Jackson Creek provided an excellent wildlife habitat because of the high diversity of biological communities which included; open water ponds, a trout stream, swamp, wetlands, hardwood and coniferous forest, shrubs and emergents, dead tree areas and open fields (Chamberlain 1979:11).

The rich environment that exists in some isolated areas of the region today has changed very little from the prehistoric period. Analysis of the late quaternary environment of the nearby Rice Lake area indicates that the vegetation in the region has not undergone a significant change in the last 3,000 years (Yarnell 1984:101). Before European settlement, the landscape was more thickly forested with more extensive swampy

areas (Taylor 1985:67). This would have resulted in less runoff, with streams such as Jackson Creek running shallower and wider than they do today (Ibid). Although there is evidence of climatic cooling after A.D.1300, culminating in the Little Ice Age, the modifying effect of the Great Lakes water mass softened its effects in this region (Cleland 1966:35).

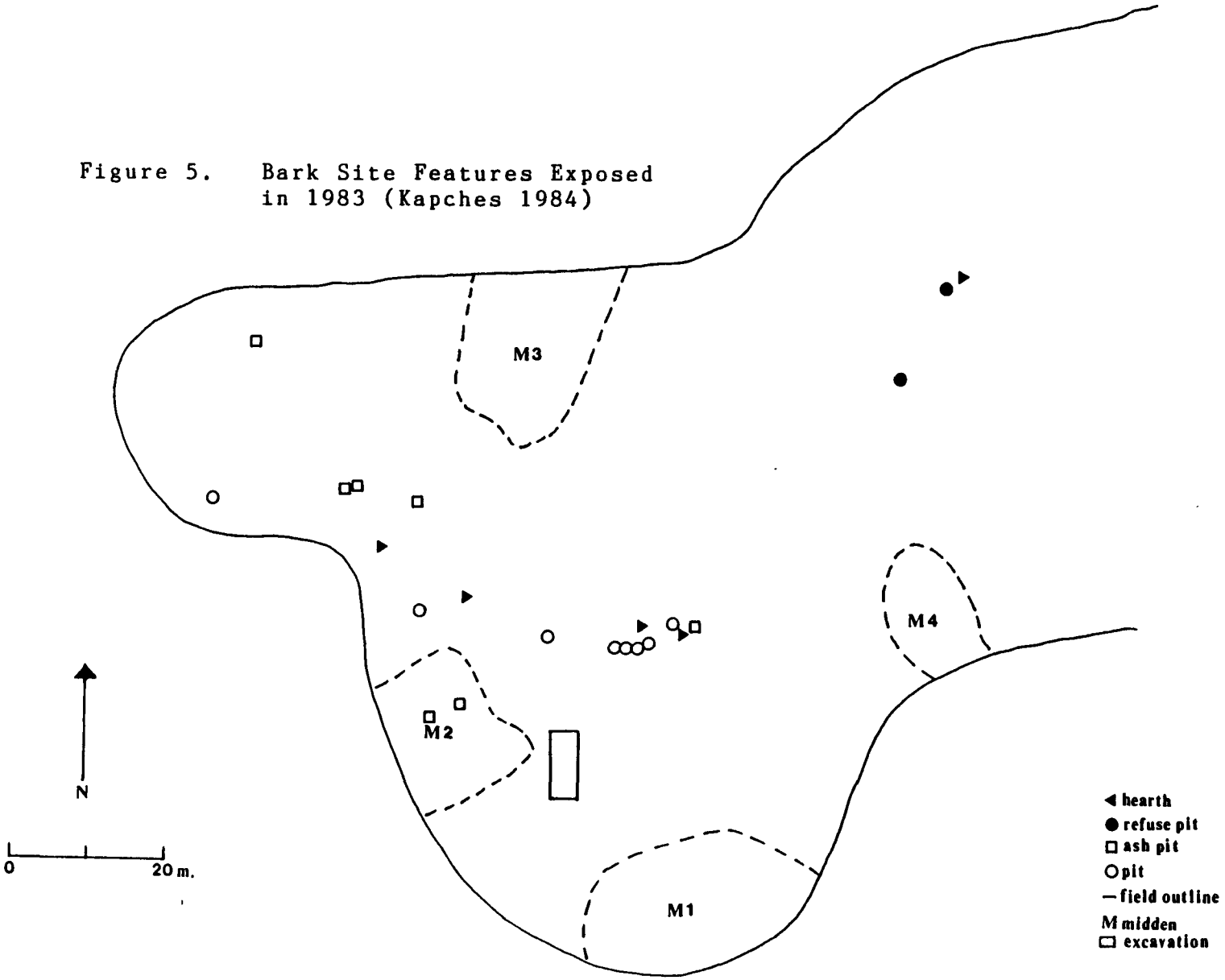
The Bark site is in the Lake Simcoe-Kawartha Lakes Climatic Region (Brown et. all 1980:8). This region has a mean annual growing season of 200 days, 140 frost free days and an average of 2700 corn heat units, a measure of the amount of heat available during corn growing season (Ibid:31). Modern corn requires 2500 corn heat units for adequate growth (Fecteau 1985:104), and Heidenreich (1971:56) has estimated that native corn matured in 120 days. Thus, there were no climatic limitations for agriculture in the Bark site area. The same is true for the soil conditions. The site is located in an area of Otonabee Sandy Loam till, with pockets of Pontypool Gravelly Sand to the south. Otonabee Sandy Loam is a high quality soil for agricultural purposes, with good drainage (Gillespie and Acton 1981:56). Sixty percent of the soil in the Bark site area is considered to be of grade one quality for agriculture, with the other forty percent of limited use due to drumlin topography (Department of the Environment n.d.).

Previous Research

The Bark site was first located in 1983 when deep ploughing exposed a number of artifacts, features and human remains. Dr. M. Kapches (1983a;1983b;1984) of the Royal Ontario Museum was informed by the land owner of these findings. Kapches conducted a surface collection of the site, recorded the location of exposed features, and partially uncovered a large burial feature. Ploughing had exposed four large midden areas, 23 smaller features and a possible ossuary (Figure 5). The exposed site area covered approximately .8 hectares, and probably extended into the bush to the north, south and west (Kapches 1983a).

A grid system was established over the 4m. by 10m. area of exposed human bone fragments covered (Kapches 1984). All exposed bone fragments were mapped and collected, and several one metre units were excavated to subsoil. None of the in situ bone extending into the subsoil was excavated. The burial feature appeared to be round in shape, and was believed to be an ossuary located within the village area (Kapches 1983b;1984). Based on a preliminary analysis of the artifact assemblage from the site, Kapches (1983b;1984) identified it as a late prehistoric proto-Huron village, occupied around A.D. 1500.

Figure 5. Bark Site Features Exposed in 1983 (Kapches 1984)

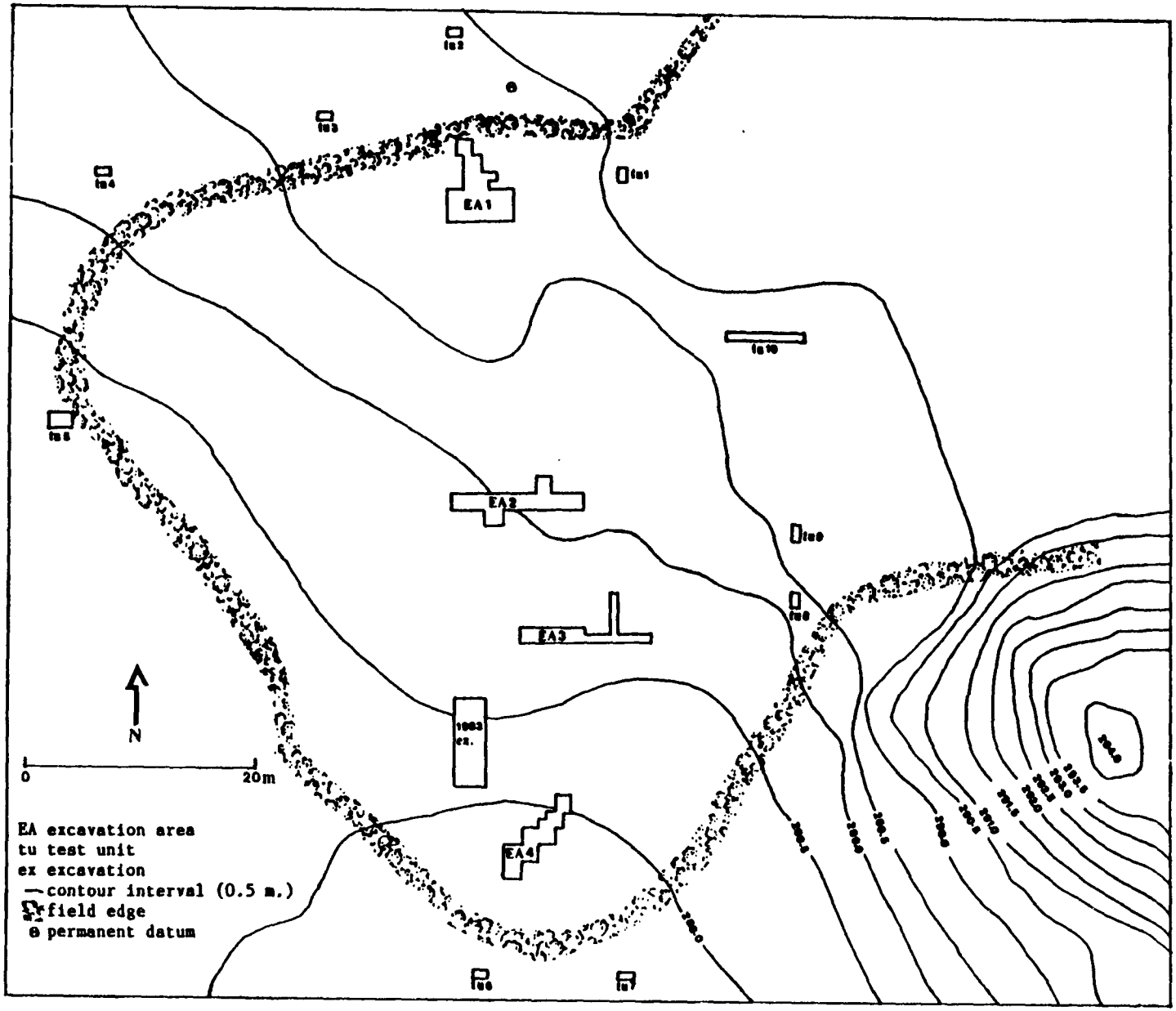


Excavation Methods And Objectives

I conducted test excavations at the Bark site for two weeks in 1986, and for three weeks in 1987, uncovering a total area of 175 square metres. The main objectives of this work were to obtain a representative artifact sample from the site, to determine the approximate size of the site, and to identify some aspects of the settlement pattern. A new permanent datum and 10 metre grid system was established over the site because the 1983 datum had been destroyed. The smaller features which were recorded in 1983 could not be accurately relocated because of the loss of the original datum.

Test trenches were established over three of the four midden areas found in 1983, while another two test trenches were placed in the proximity of the 1983 feature concentrations. Seven other areas were also tested to determine the size of the site. Five 1x2 m. units were placed in the wooded areas north and south of the site, a 2x3 m. unit in the woods to the west, and a 1x10 m. unit in the open field to the east (Figure 6). The plough zone in all excavation units was removed by shovelling. Plough zone soil was screened through quarter inch mesh only in the midden or possible undisturbed areas. Midden and undisturbed areas were excavated in 1 m. units, using 10 cm. arbitrary levels. All other areas were excavated using 2x2 and 1x1 m. units. Most of the undisturbed features and

Figure 6. The Bark Site Excavations



midden levels were subject to water flotation using a S.M.A.P. flotation device.

Settlement Patterns

Introduction

Based on local topographical restrictions, midden locations, artifact and feature surface scatter and test excavations, it was estimated that the Bark site covers approximately .7 to .9 hectares.

Middens

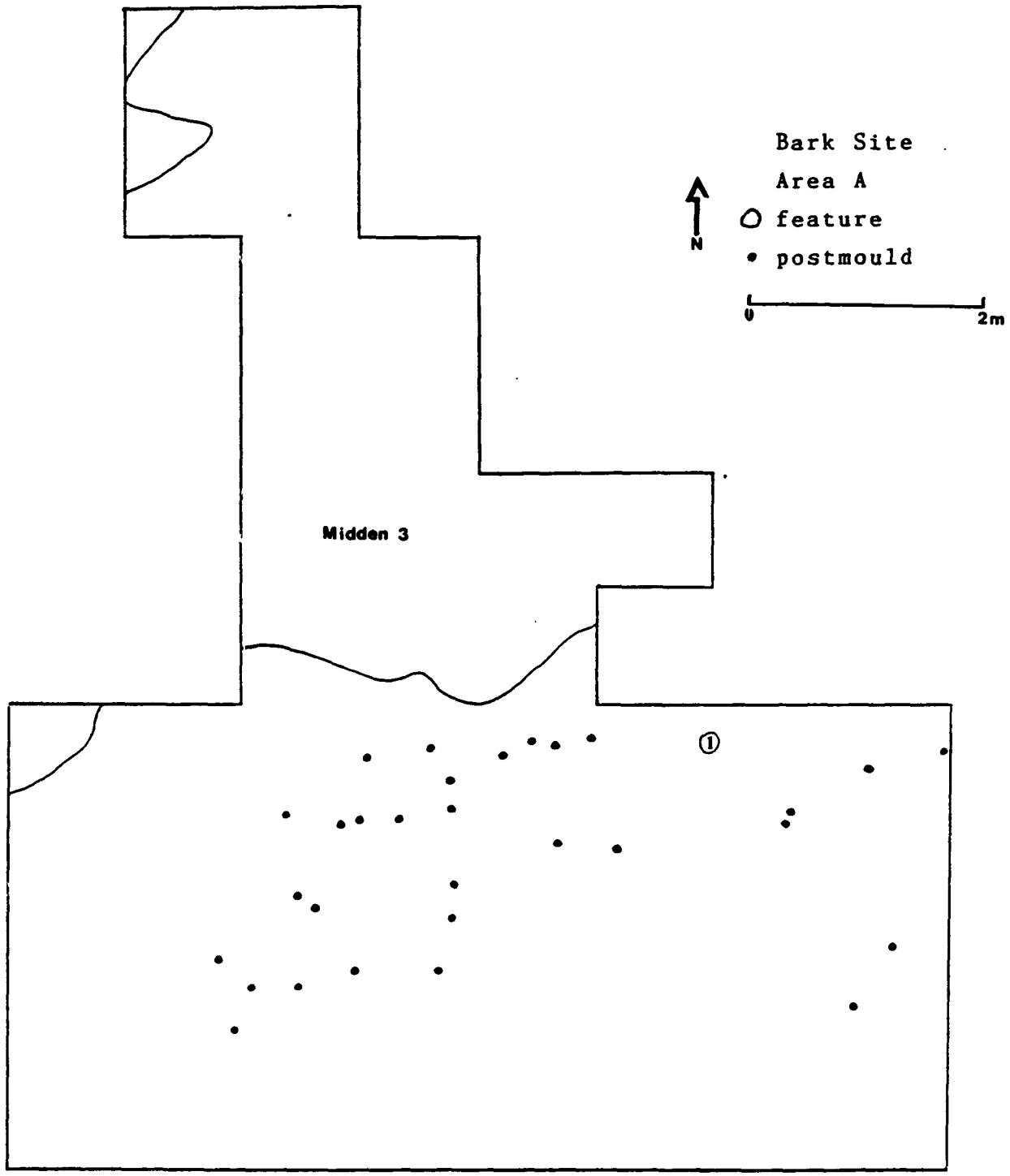
Four large midden areas were tentatively identified in 1983 through plough exposure. In 1986-87, three of these midden areas were tested (M#1,3 and 4) and a new one (M#5) was discovered in a wooded area along the western edge of the site.

Midden #1 Although Kapches (1983b) indicated that a large midden area was located along the southern periphery of the ploughed area of the site, this midden was not relocated. Twenty-nine square metres were excavated in this area exposing a double walled palisade, but no midden areas were found. The deep ploughed humus horizon in this area of the site may have been mistakenly identified as a midden in 1983. It is also possible that the midden occupied a much smaller area then was indicated by Kapches (1983b), and was therefore not relocated by the 1986-7 excavations.

Midden #3 This midden, covering an area of 50-55 square metres, was relocated and extensively tested in 1987 (Figure 7). Fourteen square metres (25-28%) of the midden were excavated. While the upper portion was plough disturbed, there was an undisturbed layer consisting of ash and humus 3-12 cm. deep at the bottom of the midden. No man made or natural stratigraphy was evident in this undisturbed layer. The undisturbed layer had a volume of 357 litres, 290 litres (81.2%) of which was floated. The resulting total artifact count for this level was 2,550 (182.1 per square metre), which represents 40.7% of the total Bark site artifact assemblage.

Midden 4 This midden area was also relocated and tested in 1986-7. Only four square metres of this midden were excavated because very few artifacts (47:11.8 per square metre) were recovered, and it was found to be completely plough disturbed.

Midden 5 This midden was located during testing of the forested area along the western periphery of the site. A 2x3 metre unit was excavated which exposed 3.6 square metres of the midden's floor area (Figure 8). Extensive vegetation in the area prevented further testing to determine the midden's size. This midden appears to be undisturbed, as it is covered by a thin layer (4-5 cm.) of topsoil which contained no artifactual material. The unstratified cultural layer had a depth ranging from 3-12 cm., and a volume of 38 litres. All 38 litres were



-6S

-11S

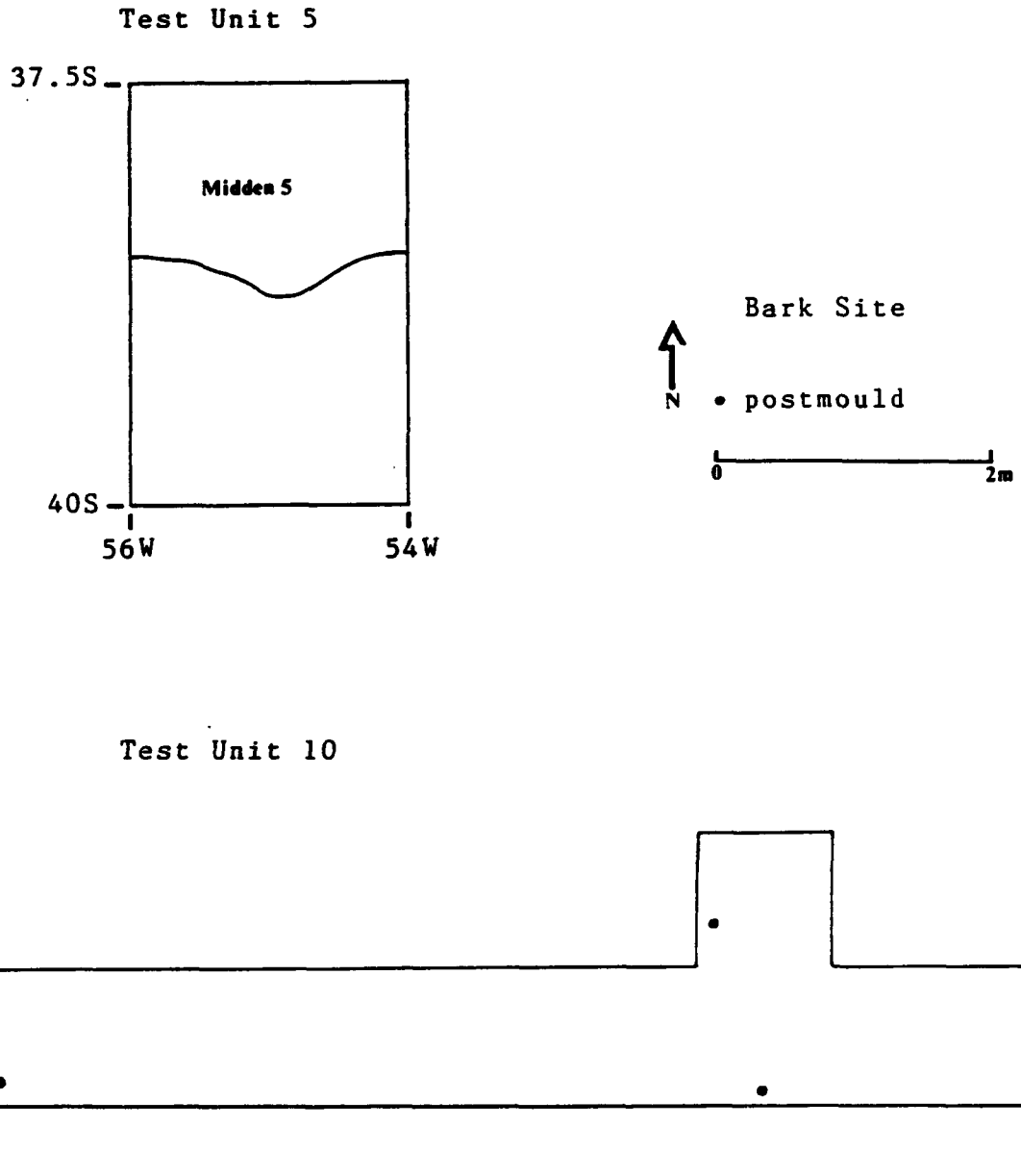
-16S

Figure 7. Excavation Area A and Midden #3

8W

0

Figure 8. Test Units #5 and 10 and Midden #5



floated, resulting in the recovery of 439 artifacts (121.9 per square metre).

Features

Kapches (1983b; Figure 5) located 22 features which had been exposed by ploughing in 1983. None of these features were excavated. On the basis of their size, shape, colour and texture, they were tentatively identified as eight pits, seven ash filled pits, five hearths and two refuse pits.

The features broadly described as pits were circular to oval in shape. The circular pits had diameters ranging from 17-73 cm., with an average of 32 cm. One oval pit measured 36x18 cm. The seven ash filled pits consisted of four that were circular and three that were oval. The circular ash filled pits had a diameter range of 23-38 cm., with an average of 30 cm. The oval ash filled pits had an average measurement of 49x66 cm.

The five hearths were also circular to oval in shape. The one circular hearth had a diameter of 30 cm., while the remaining oval hearths had an average measurement of 39x69 cm. The two refuse pits were both oval, with an average measurement of 86x24 cm.

Thirteen features were uncovered in the 1986-87 test excavations (Table 1; Figures 7-10). These features could not be securely divided into interior or exterior house feature categories, with the exception of features #2-5 which appear to

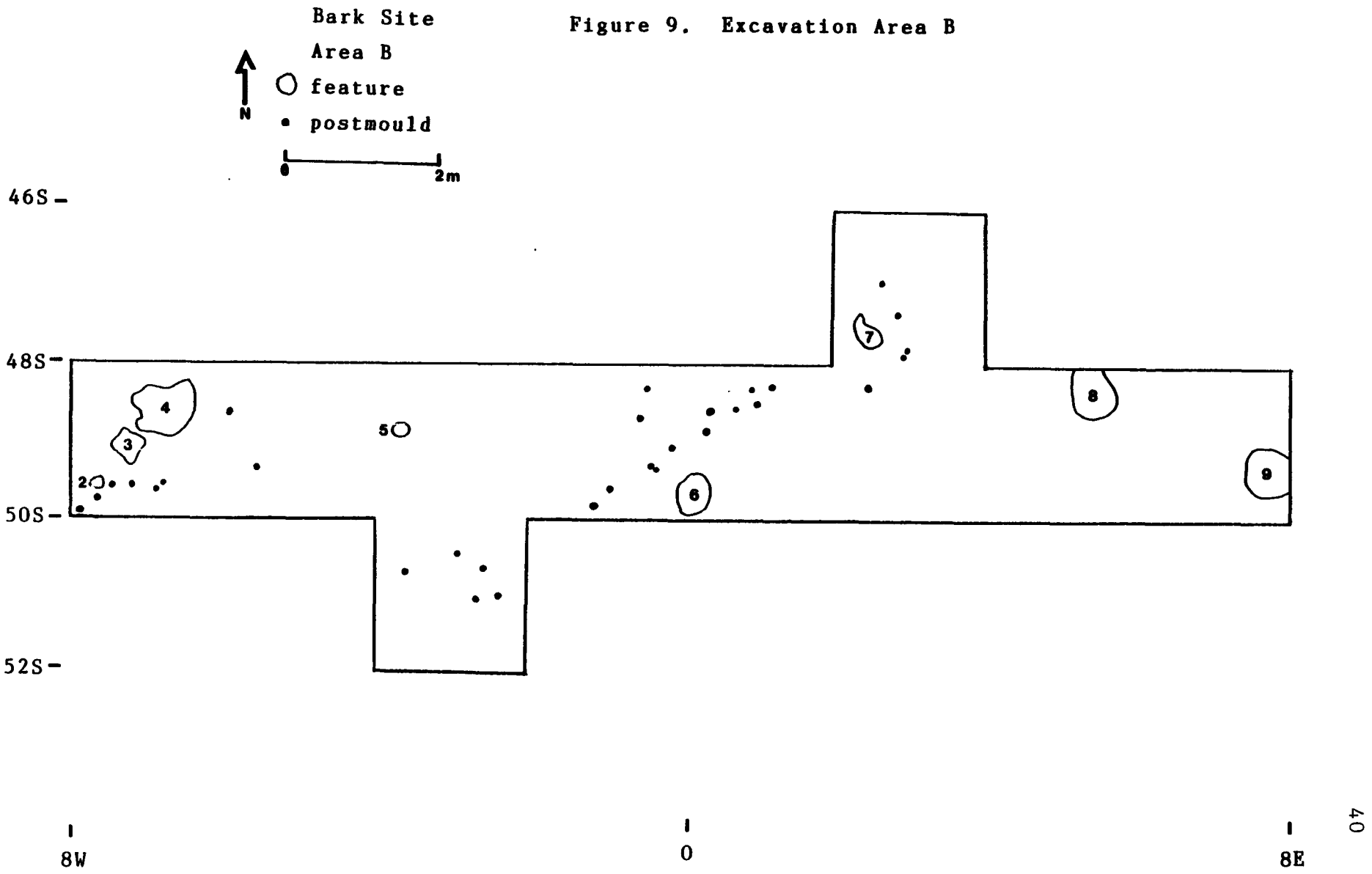
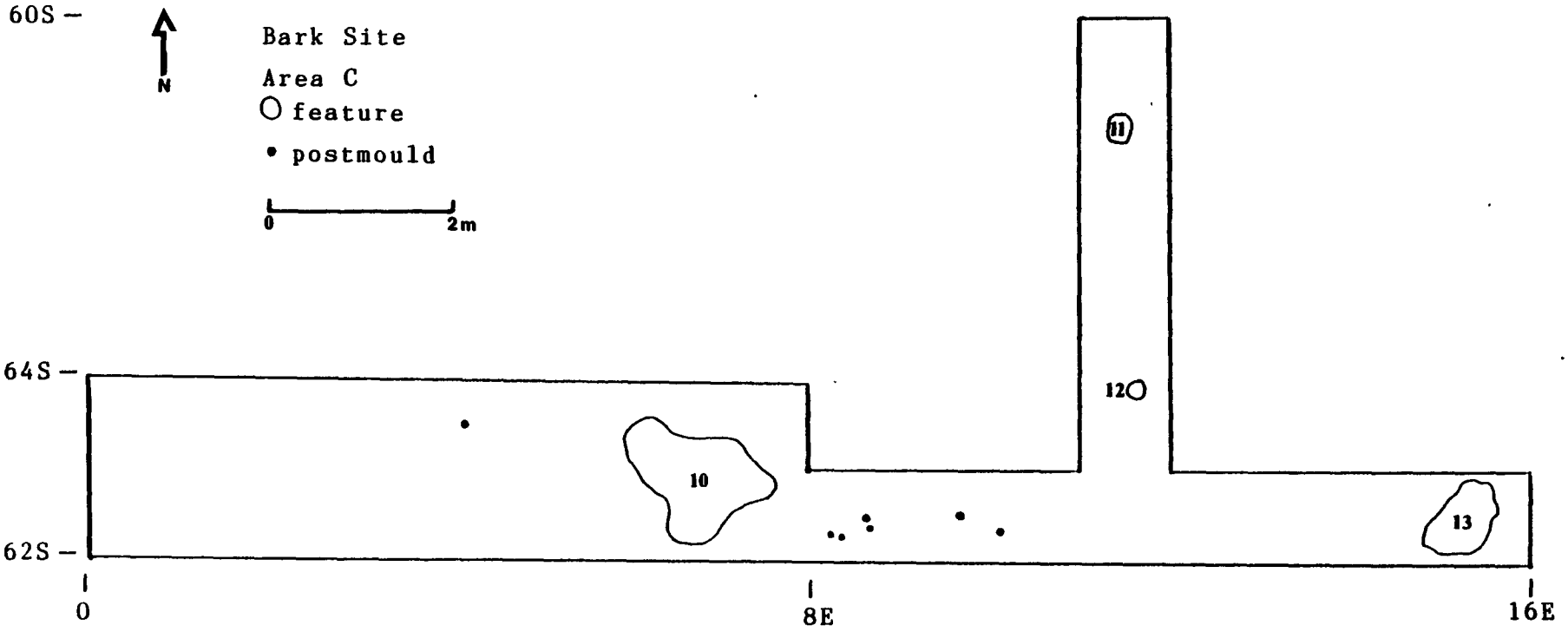


Figure 9. Excavation Area B

Figure 10. Excavation Area C



be within House 1.

One surficial midden (F#10), four ash pits (F#1,3,5 and 6), six sterile pits (F# 7,8,9,11,12 and 13) and three other miscellaneous features were found. The surficial midden had an irregular profile typical of isolated middens which formed in natural depressions (Fitzgerald 1984). The ash pits were irregular (1), basin (2) and bell shaped (1), with depths ranging from 4-37 cm. The sterile features were irregular (3), basin (2) and vasiform (1) shaped, with depths ranging from 6-27 cm. Their function is unknown, although storage is a possibility. The three remaining features were basin (1), flower pot (1) and straight sided (1), with depths ranging from 10-34 cm. These features had small amounts of artifacts associated with them, and they may have been storage related.

Palisades

Area A Thirty postmoulds were identified in this area ranging in diameter from 5-10 cm., with an average diameter of 6.9 cm. Postmould depth below the interface ranged from 7-13 cm., with an average of 10.5 cm. There is no apparent pattern to post placement in this area that would suggest their function (Figure 7). The lack of artifactual material or evidence of settlement patterns in test units north of this area, suggests that this is the northern boundary of the site. This is supported by the evidence for a probable peripheral midden just

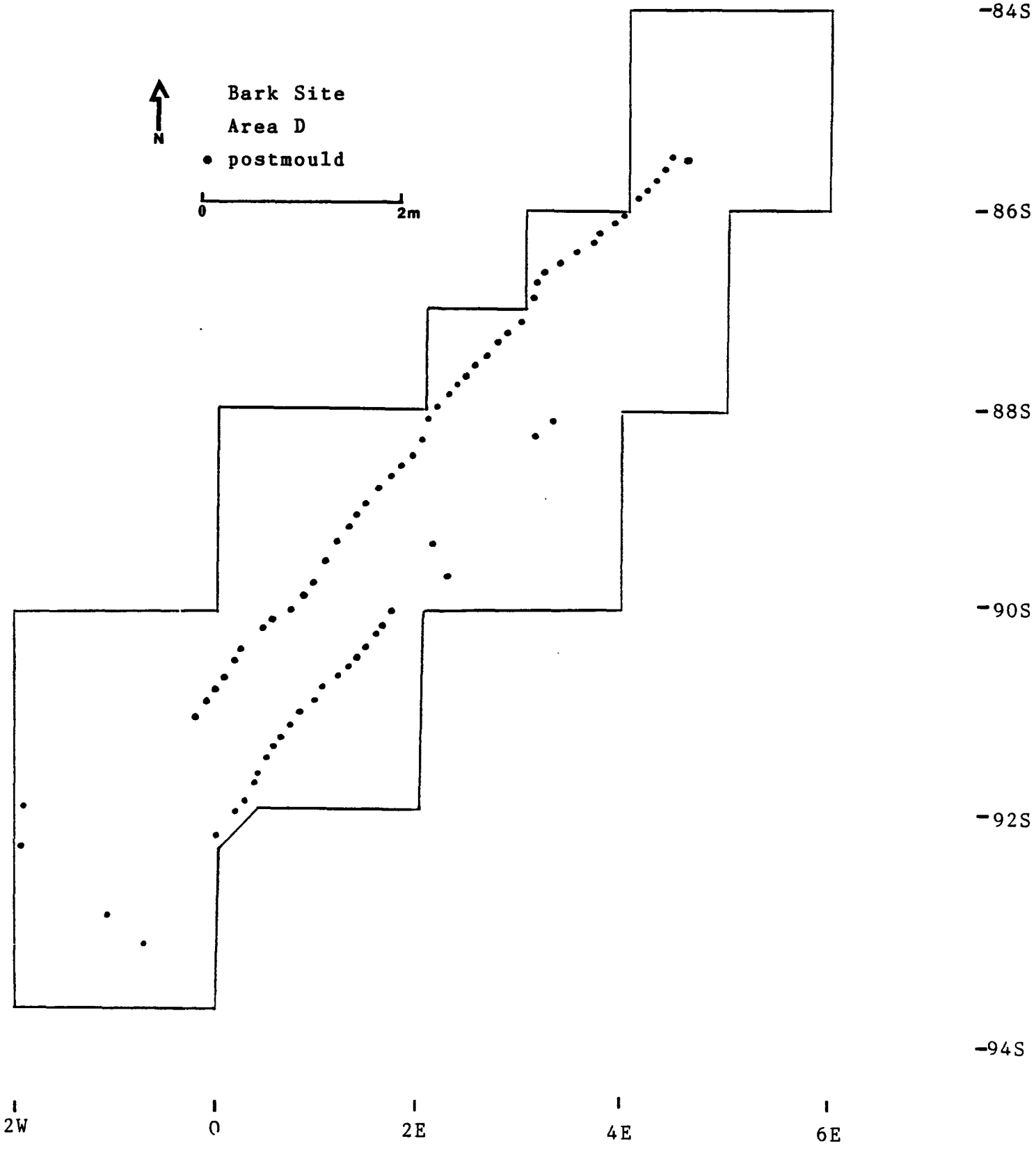
Table 1. Bark Site Feature Attributes

F#	Shape	Type	Litres	Artifacts
1	basin	ash pit	4	-
2	straight sided	?	7	1
3	basin	ash pit	14	-
4	basin	?	26	3
5	bell shaped	ash pit	9	-
6	irregular	ash pit	17	-
7	basin	?	10	-
8	irregular	?	20	-
9	irregular	?	16	-
10	irregular	surficial midden	18	77
11	basin	?	13	-
12	vasiform	?	4	-
13	irregular	?	15	-

north of these postmoulds. Therefore, these postmoulds may be related to a palisade, although further excavation would be needed to verify this.

Area D Seventy-three postmoulds were uncovered in this area (Figure 11). They ranged in diameter from 3-8 cm., with an average of 5.1 cm. Depth below the interface ranged from 8-15 cm., with an average of 11.5 cm. These postmoulds are aligned in two parallel rows, less than one metre apart. One row extended 7.5 m. before it was lost, while the other was 3 m. long. This pattern appears to represent a broken portion of a double rowed palisade running along the southern portion of the site. This would correspond with other evidence suggesting that this is the southern portion of the site; sloping

Figure 11. Excavation Area D



topography south of this area that would not have been conducive to longhouse construction and the lack of cultural material and settlement patterns in the test units south of this area.

House 1

Area B Thirty one postmoulds were uncovered in this test trench (Figure 9). The postmoulds ranged in diameter from 6-13 cm., with an average of 8 cm. Depth below the interface ranged from 5-32 cm., with an average of 17.4 cm.

Twenty-three of the postmoulds appear to be roughly aligned in a row running to the northeast, possibly representing a portion of a longhouse wall. This would correspond to Kapches' (1983a) suggestion, based on an examination of plough disturbed features, that longhouses at the site were aligned to the northeast. A smaller cluster of postmoulds 4.5 m. east of this row appears to be too close to represent the opposite wall of the structure, and may be interior posts. Time constraints did not allow for an expansion of this test trench. Larger scale excavations would be needed to confirm the presence and nature of longhouses in this area.

Miscellaneous Postmoulds

Area C Only seven postmoulds were uncovered in this area. They ranged in diameter from 6-9 cm., with an average of 6.7 cm. Depth below the interface ranged from 10-24 cm., with an

average of 16.3 cm. No postmould patterns could be identified.

Test Units

Five 1x2 m. test units (T.U.# 2,3,4,6,7) and one 2x2.5 m. test unit (T.U.#5) were excavated within the wooded areas adjacent to the open portion of the site to determine the extent of the occupation area (Figure 6). No cultural material or settlement patterns were found in test units No. 2,3,4,6 or 7. An undisturbed midden (Midden #5) was located in T.U. No.5 (Figure 8), indicating that the site does extend eastward into a wooded area.

Two other test units (# 1 and 10) were excavated within the open field along the suspected western periphery of the site. Kapches (1983b;1984) reported that no features or cultural material were found west of this area. No cultural material or settlement features were found in Test Unit #1. Test Unit # 10 (11 m. sq.) was established in this area in an attempt to identify a palisade line (figure 7). However, only three postmoulds which follow no recognizable pattern were located (average diameter 7 cm., average depth 21 cm.).

Artifact Assemblage

The Bark site artifact assemblage consists of 3050 faunal specimens, 2937 ceramics and 285 lithics (Table 2).

Table 2. Bark Site Artifact Assemblage

Faunal	3050	48.6
Ceramics	2937	46.8
Lithics	284	4.5
Total	6271	99.9

Ceramics

As is the case with most Iroquoian ceramic samples, the Bark site assemblage is dominated by body sherds, followed by rimsherds and pipe fragments (Table 3). A minimum number of 138 vessels and 17 pipes are represented.

Table 3. Bark Site Ceramics

Type	f	%
Rimsherds	218	7.4
Pipes	55	1.9
Isolated Neck sherds	54	1.8
Shoulder Sherds	44	1.5
Body Sherds	2566	87.4
Total	2937	100

Rimsherd Analysis

Iroquoian ceramic analysis over the last 25 years has been largely based on the method developed by MacNeish (1952). MacNeish (1952) applied a typological method to Iroquoian rimsherd analysis to demonstrate the in situ development of Iroquoian culture, and to provide a chronological framework for Iroquoian prehistory. Various attribute associations were used to create typological classes which displayed trends that were temporally and geographically consistent (MacNeish 1952:1). Other Iroquoian researchers soon adopted and refined MacNeish's method (Wright 1960;1966; Pendergast 1963; Emerson 1968).

As the chronological frameworks for Iroquoian archaeology became firmly established, researchers began to develop more refined and sensitive techniques for ceramic analysis. The analysis of individual attributes was developed to create more control over temporal and social factors (Wright 1966:17). MacNeish's method became widely criticized because of its use of a subjective hierarchy of importance among attributes, the range of attribute variation within the types and the subsequent overlapping between them, and its tendency to pigeon hole individual attributes whose trends extended beyond the type (White 1961:9;Wright 1967:99). But despite these criticisms, the typological methodology was still employed by many researchers (Latta 1973; Noble 1974).

In 1977, Ramsden's doctoral dissertation on Huron prehistory based on the use of an individual attribute methodology, was published. Ramsden (1977a:17) developed this method because he believed that the typological approach was not sensitive enough to deal with the complex pattern of cultural interaction which took place among the Huron. Ramsden (1977a:76) identified individual attributes which displayed variability through time and/or space, and then isolated those attributes which displayed chronological or social sensitivity. Frequencies of these attributes at different sites were then compared to determine their chronological and/or social relationship to one another.

While Ramsden's method was adopted by some researchers (Nasmith 1981;Damkjar 1982), others avoided isolating specific individual attributes by merely providing the raw individual attribute data for their assemblages, without attempting to interpret their significance (M.J.Wright 1981; Lennox 1981; Fitzgerald 1982). Smith (1983) developed a new method using attribute complexes (intermediate between attributes and types) to quantitatively seriate several ceramic assemblages. Other researchers (Kapches 1981; Pearce 1984) have combined individual attribute analysis with typological analysis, much in the same way as Wright (1966) had done twenty years ago. No standard methodology for ceramic analysis has been accepted or

adopted by all Iroquoian researchers. While the advantages of attribute analysis have been recognized, typological analysis remains attractive because of it's simplicity, rigid temporal and spatial controls, and because of the large amount of comparative data which exists in a typological format (Lennox et. al 1986:46).

Rimsherds

Out of a total of 218 rimsherds in the Bark site assemblage, only 148 were considered to be analyzable. Analyzable rimsherds have an intact lip, collar, collar base and interior (Emerson 1968;Ramsden 1977a:62).

Following the matching of rimsherds from the same vessel, and the exclusion of isolated castellations and juvenile forms, the rimsherd assemblage is reduced to 113.

When interpreting the results of any rimsherd assemblage, one must first deal with the problem of intra-site assemblage variability. A representative assemblage is one that has been obtained from a spatially diverse number of locations and features within a site. Ideally, to obtain a representative ceramic assemblage equal samples would have been taken from several midden areas (Nance 1981). My test excavations did include the investigation of four of the five known middens from the site. However, one of the midden areas could not be relocated, and two of the remaining three middens had very low

ceramic densities. This resulted in a larger ceramic sample from the only rich midden area that was excavated, Midden #3.

Overall, the Bark site rimsherd assemblage was obtained from the following areas of the site: 50% from a intensive surface collection of approximately 80-90% of the entire occupation area, 33% from Midden #3, and the remaining 17% from the other middens and features. When compared to one another as three separate samples, the rimsherds attributes from each were very similar to one another. This suggests that the ceramic distribution across the Bark site was rather homogeneous. Sites which have homogeneous ceramic assemblages require a less intensive sampling strategy then do those sites which are more heterogeneous (Nance 1981; Warrick 1984). It is therefore concluded that while the ceramic sample from the Bark site is not totally representative of all areas of the site, this bias appears to have been minimal.

The Bark site rimsherds were analyzed using both the typological method outlined by MacNeish (1952) and the individual attribute approach developed by Ramsden (1977a). Ramsden's method was chosen because all of the substantial rimsherd assemblages from Late Iroquoian sites in the Trent Valley and adjacent areas were analyzed using this method. By comparing this sample to those assemblages, the temporal and social position of the Bark site within the Trent Valley

sequence could be determined. The typological method was also used to allow for a more general chronological comparison of the Bark site to assemblages in other regions.

The individual attribute frequencies for the 113 analyzable Bark site rimsherds are listed in Table 4. Ramsden's (1977a) methodology and attribute categories were closely followed in this analysis. The one exception to this is the calculation of the frequency of neck decoration, which in this case was based on the analysis of necks associated with collars and isolated necks. While Ramsden (1977:61) only used necks that were associated with collars for his analysis, the small size of the Bark site neck assemblage would not allow this.

The method of analysis employed for the typological analysis is principally that which was outlined by MacNeish (1952) and Emerson (1968). The typological classifications and descriptions first outlined by MacNeish (1952), and refined by Ridley (1952), Emerson (1968) and Lennox/Kenyon (1984) were strictly adhered to. The total Bark site analyzable rimsherd types are listed in Table 5, while the adjusted rimsherd count (minimum number of vessels, excluding castellations and juveniles) is listed in Table 6.

All rimsherd types with their associated motifs and profiles are illustrated in Figure 12. Rimsherds which did not clearly fit into the typological classifications are described below.

High Collared Two rimsherds with high collars (30 mm. or more) did not fit the descriptions of Lalonde High Collared as defined by Ridley (1952:205), and are simply described here as high collared. Both of these rimsherds have horizontal motifs, with straight collars.

Collared Plain One rimsherd is listed as collared plain because its convex interior profile does not resemble any of the collared plain types, such as Niagara Collared or Ripley Collared (MacNeish 1952:26).

Untyped Two rimsherds did not fit into any formal type. One was collared with a double row of horizontal punctates, while the other is concave-convex with oblique stamping.

Table 4. Bark Site Rimsherd Attributes

Attribute	%
A. Collarless plain (% of total)	-
B. Collarless decorated (% of total)	-
C. Collared plain (% of total)	.9
D. Collared decorated (% of total)	99.1
a. incised (%D)	86.6
b. stamped (%D)	8.0
c. mixed (%D)	1.8
d. other (%D)	3.5
E. Collar motifs (%D)	
a. simple	40.7
b. opposed	17.7
c. crossed	3.6
d. hatched	-
e. horizontal	14.3
f. complex	16.8
g. interrupted	.9
i. other	.9
F. Neck Decoration (% of total)	64.5
G. Secondary Decoration (% of total)	
a. interior	54.9
b. lip	3.5
c. frontal lip	-
d. upper punctates	.9
e. lower punctates	.9
f. dividing punctates	1.8
g. basal punctates	1.8
h. sub-collar decoration	19.1
H. Interior profile (% of total)	
a. convex	61.1
b. concave	12.4
c. straight	8.8
d. concave-convex	12.4
e. convex-concave	5.3
I. Exterior Collar form (%CtD)	
a. convex	8.8
b. concave	29.2
c. straight	61.9
J. High Collars (%CtD)	6.2

Table 5. Total Bark Site Rimsherds

Type	f	%
Black Necked	61	41.2
Pound Necked	14	9.5
Huron Incised	14	9.5
Castellations	13	8.8
Juvenile	12	8.1
Middleport Oblique	11	7.4
Lalonde High Collared	5	3.4
Pound Blank	4	2.7
Ontario Horizontal	3	2.0
Lawson Opposed	2	1.4
High Collared	3	2.0
Warminster Horizontal	2	1.4
Collared Plain	1	.7
Lawson Incised	1	.7
Untyped	2	1.4
Total	148	100.1

Table 6. M.N.V. Excluding Untypable Castellations and Juveniles

Type	f	%
Black Necked	55	48.7
Pound Necked	14	12.4
Huron Incised	12	10.6
Middleport Oblique	11	9.7
Lalonde High Collared	5	4.4
Pound Blank	3	2.7
Ontario Horizontal	3	2.7
Lawson Opposed	2	1.8
High Collared	2	1.8
Warminster Horizontal	2	1.8
Collared Plain	1	.9
Lawson Incised	1	.9
Untyped	2	1.8
Total	113	100.2

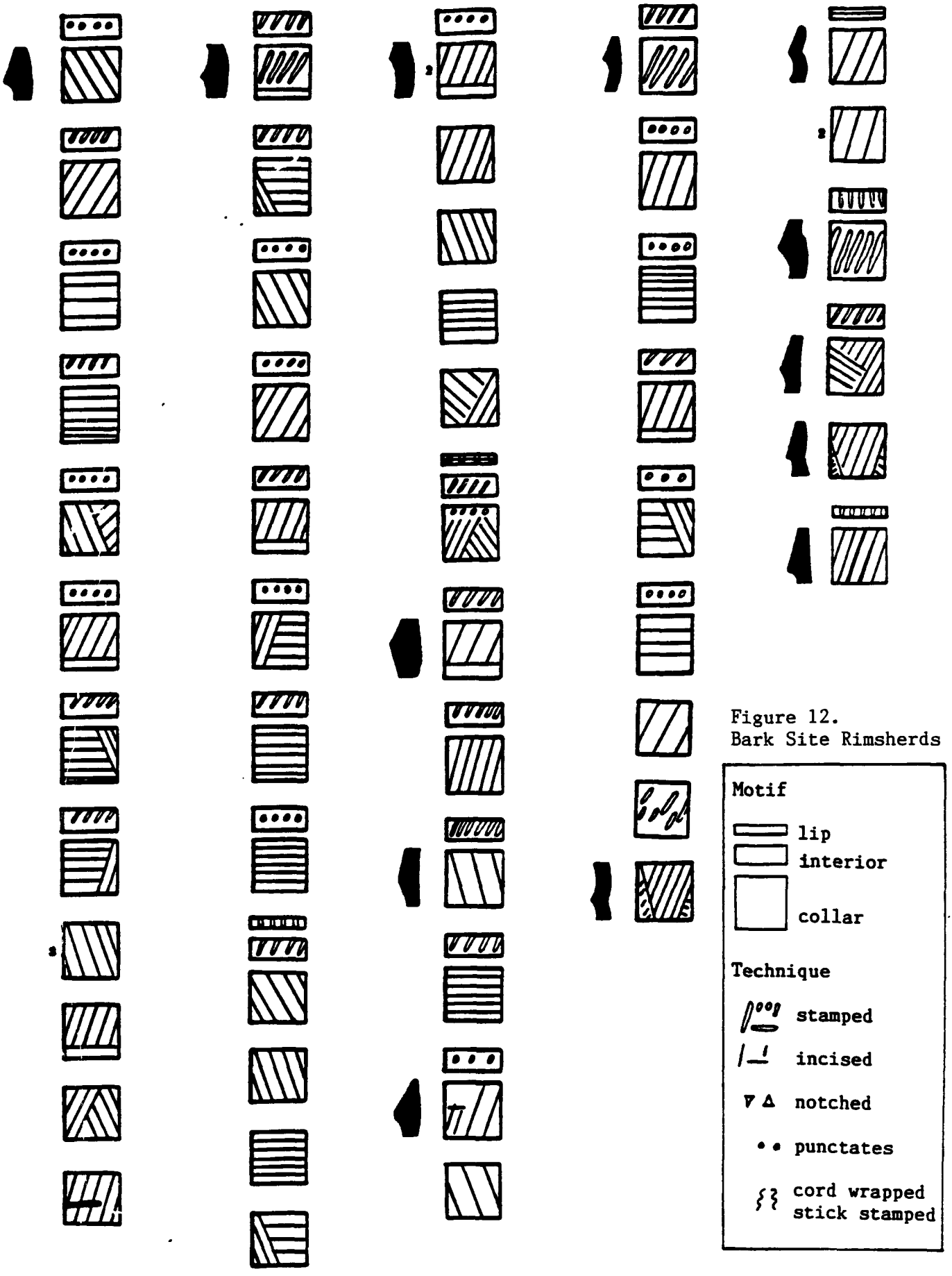


Figure 12.
Bark Site Rimsherds

Motif

lip

interior

collar

Technique

stamped

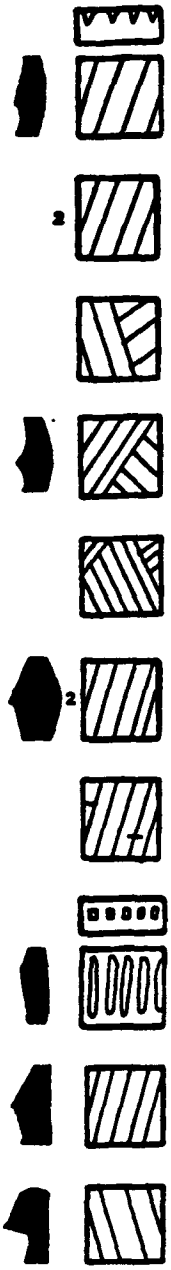
incised

notched

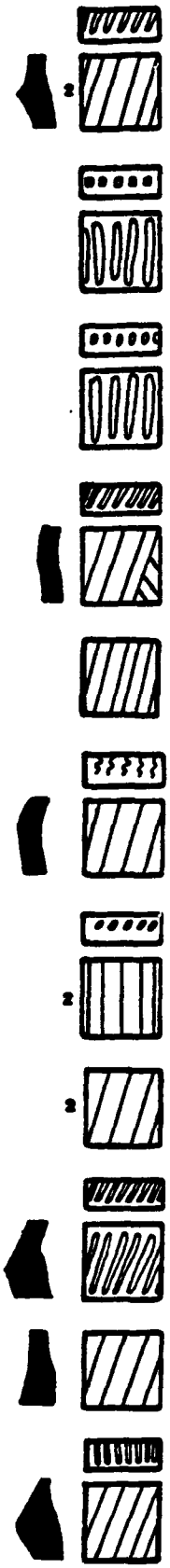
punctates

cord wrapped
stick stamped

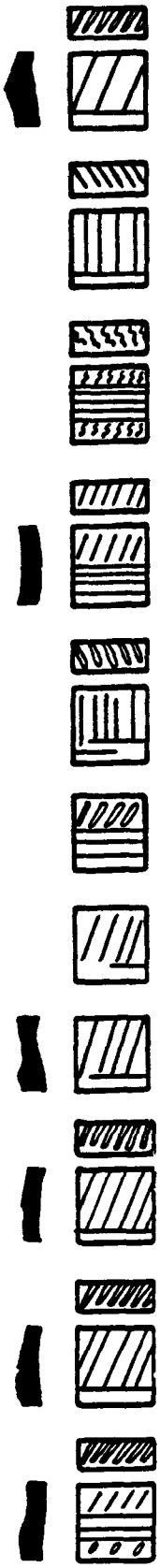
HURON INCISED



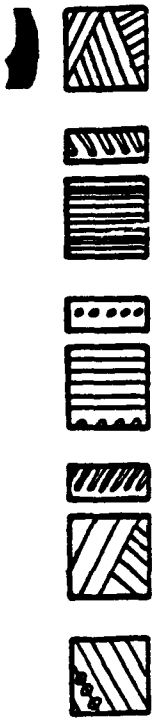
POUND NECKED



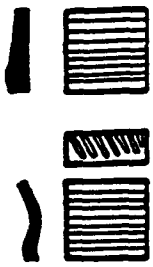
MIDDLEPORT OBLIQUE



LALONDE HIGH COLLARED

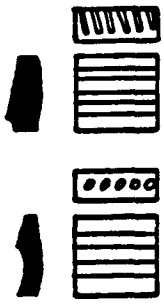


HIGH COLLARED



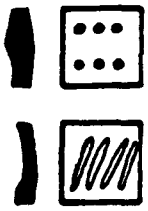
ONTARIO HORIZONTAL

WARMINSTER
HORIZONTAL

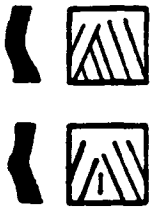


COLLARED PLAIN

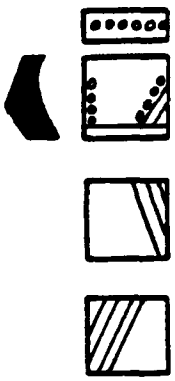
UNTYPED



LAWSON
OPPOSED



POUND BLANK



LAWSON INCISED

Body Sherds

Due to exfoliation and a large number of very small sherds, only 170 (5.8%) of the 2,566 body sherds were considered to be analyzable in terms of body sherd metrics and surface treatment (Table 7). As would be expected for a late prehistoric site, most of these body sherds were plain (87.1%). A small number of sherds had ribbed paddle indentations, while some were scarified by being roughly smoothed before firing. The few decorated body sherds consisted of combinations of horizontal and oblique incised lines with rows of punctates above and below, one sherd was painted with pigments, and three with stamped and incised horizontal lines.

Table 7. Body Sherd Surface Treatment

Surface Treatment	f	%
Plain	148	87.1
Ribbed Paddle	9	5.3
Decorated	8	4.7
Scarified	5	2.9
Total	170	100

The body sherds had an average thickness of 7 mm, but ranged from 4 to 14 mm. All are grit tempered with crushed granitic stone, averaging 1-2 mm in size, with a range up to 6 mm.

Vessel form is difficult to determine from small body and rimsherd fragments, but they do suggest a typical squat globular Late Iroquoian form.

Neck Sherds

The 152 Bark site neck sherds consist of 54 isolated necks and 98 necks associated with collars (Figure 13). Twenty-five (16.4%) of these are plain, while another 29 (19.1%) are decorated only immediately under the collar by a single row of punctates. The most common decorative motif is horizontals and variations on that theme, followed by incised or stamped obliques, and opposed obliques. There is no evidence of decorative zoning on the necks, except in the case of the above mentioned punctates.

Shoulder Sherds

Of the 44 isolated shoulder sherds, 23 are carinated in profile and 21 are rounded (Figure 14). Thirty three (75%) of the shoulders are plain, with an equal distribution between the two shoulder forms. Of the few decorative motifs, four have a single row of punctates, while the others consist of variations of horizontal or oblique themes.

Castellations

There are 14 castellations representing 14 different vessels in the assemblage (Figure 15). Only one of these included enough of the vessel rim and collar motif to be included in the

Figure 13. Bark Site Neck Motifs

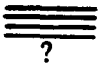
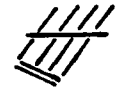
Decoration	f	%	Decoration	f	%
Plain	25	16.4		1	.7
	29	19.1		1	.7
	14	9.2		7	4.6
	1	.7		1	.7
	4	2.6		1	.7
	1	.7		4	2.6
	1	.7		1	.7
	6	3.9		1	.7
	1	.7		3	2.0
	2	1.3		1	.7
	1	.7		6	3.9
	4	2.6		6	3.9
	8	5.3		1	.7
	2	1.3		2	1.3
	1	.7		1	.7
	8	5.3		1	.7
	5	3.3		1	.7
			Total	152	100.5

Figure 14. Bark Site Shoulder Motifs

	Round		Carinated		Total	
	f	%	f	%	f	%
Decoration						
Plain	17	38.6	16	36.4	33	75.0
	2	4.5	-	-	2	4.5
	1	2.3	-	-	1	2.3
	-	-	4	9.1	4	9.1
	1	2.3	-	-	1	2.3
	-	-	1	2.3	1	2.3
	-	-	1	2.3	1	2.3
	-	-	1	2.3	1	2.3
Total	21	47.7	23	52.3	44	100.1

rimsherd analysis. Following the standardization of castellation forms outlined by Emerson (1954), eight of the castellations are simple pointed, three have a rounded turret, two have a pointed turret and one has a pronounced point. The most common decorative motif is opposed obliques (9), followed by opposed obliques separated by two vertical lines (2) or short horizontals (1), and one example each of opposed obliques separated by punctates and a simple oblique motif. Six of the castellations had an interior row of punctates just below the lip, while one had interior punctates above obliques.

Juvenile Vessels

Twelve rimsherds representing 12 ceramic vessels were identified as juvenile. Juvenile vessels are small in size and have very irregular vessel walls, lips, collars and decorative motifs.

There are four collarless and eight collared juvenile rimsherds. Three of the collarless rims are straight, while the other is constricted. The collared rims are all slightly flared. Vessel lips range from 2-7 mm., vessel walls are 5-10 mm. and collar height is 6-10 mm. Three of the rimsherds are plain, five have incised obliques, one had fingernail impressions, one has opposed obliques and one as horizontals over obliques.

Figure 15. Bark Site Castellations

Decoration \ Form					Total
	1	2	1	6	10
	-	-	-	1	1
	-	1	-	-	1
	-	-	-	1	1
////	-	-	1	-	1
Total	1	3	2	8	14

Pipes

The pipe assemblage at the Bark site consists of 55 whole or fragmented specimens. There are two miniature pipe bowls, 26 pipe bowl fragments, seventeen stem fragments, four mouthpieces and six small unidentified pipe fragments. All of the pipe specimens contain finely crushed grit temper, and have a smooth to polished finish. The fragmented nature of the assemblage did not allow for a discussion of pipe metrics.

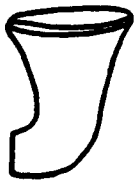
Pipe Bowls

Of the 26 pipe bowl fragments, only nineteen were considered to be analyzable because they still had some part of their rim intact. Pipe bowls were typed according to pipe typologies outlined by Emerson (1968) and Lennox et. al (1986). A brief description of each type is provided below and pipe forms and motifs are illustrated in Figure 16.

Conical Flared This is the most common pipe form at the Bark site with ten specimens. Conical flared pipes are a cross between conical and trumpet pipes, due to their straight sides and a slight outward flare at the lip. Six of the conical flared pipes are plain, while the remaining four are decorated by various horizontal or oblique line motifs under the lip.

Trumpet Pipes There were six trumpet pipes at the Bark site.

Figure 16. Bark Site Pipe Bowls

Decoration	Flared	Trumpet	Barrel	Miniature	Total
					
Plain	6	6	-	1	13
	1	-	-	-	1
	2	-	-	-	2
	-	-	-	1	1
	-	-	1	-	1
	1	-	-	-	1
Total	10	6	1	2	19

Trumpet pipes have a tapered bowl and a pronounced flare at the lip. All of the trumpet pipes in this assemblage were plain.

Barrel Pipes The one example of this type at the Bark site has the characteristic slightly constricted rim and convex exterior profile. It is decorated just under the lip by short oblique lines overlaying two horizontal lines and a row of small punctates.

Miniature Pipes There were two miniature pipes in the assemblage. One of these consisted of an intact pipe bowl which was roughly vasiform in profile. The bowl was plain, with a height of 26 mm and a diameter of 14 mm. The other pipe consisted of an incomplete pipe bowl with a right angled elbow and stem. The bowl was 34 mm. in height and was decorated by a horizontal ring of punctates just below the lip, followed by irregular vertical incised lines, small stamped oblique lines above a single horizontal incised line, and irregular small punctates on some areas of the bowl. The pipe stem had a diameter of 12 mm. and was undecorated.

Pipe Stems And Mouthpieces

All of the stems are plain, round in cross section, have diameters ranging from 25-6 mm, and had smooth bore holes. Of

the four mouthpieces in the sample, one was tapered, two were expanding and one was ground. The ground specimen was larger than the other two, and probably represents a broken stem that was reshaped by grinding (Lennox et. al 1986:61).

Lithics

The lithic tools and debitage from the Bark site consist of 284 chipped and ground stone artifacts (Table 8). This accounts for only 4.5% of the total Bark site artifact assemblage. Most of the lithic assemblage consists of debitage (89.1%), while there are only 32 (11.2%) formal artifact specimens.

Table 8. Bark Site Lithic Assemblage

Type	f	%
Debitage	253	89.1
Celts	13	4.6
Retouched Flakes/Scrapers	6	2.1
Utilized Flakes	5	1.6
Hammerstones	5	1.6
Wedges	1	.4
Misc. Ground stone	1	.4
Total	284	99.8

Material Types

The material types used at the Bark site were determined by

comparing the assemblage to identified reference collections at the Department of New World Archaeology, Royal Ontario Museum, and through the help of Mr. Bill Fox of the Ministry of Culture and Communication. Thermally altered specimens were excluded from this analysis because they had been burnt beyond recognition.

Microdebitage derived from the flotation sample was also excluded because their small size (under 5 mm.) made any form of analysis impossible.

Locally available cherts make up 59.2% of the assemblage (Table 9). Trent chert was available in the local tills and in various outcrops throughout the Kawartha Lakes area to the north (Liberty 1969: 22; von Bitter: personal communication). Huronian chert would have also been available in the local tills and outcrops to the north (Fox: personal communication), and Balsam Lake chert was available in outcrops along Balsam Lake (von Bitter and Eley 1984:141). However, the Onondaga chert had to be imported from its sources in southwestern Ontario. Onondaga chert is the second most common chert at the site (32.7%), indicating a preference for this higher quality material that required more effort to obtain than local types. It is also interesting to note that ten out of the eleven retouched and utilized flakes in the assemblage were made from Onondaga chert.

Table 9. Bark Site Debitage Material Types

Material	f	%
Trent chert	99	44.4
Onondaga chert	73	32.7
Huronian chert	31	13.9
Balsam Lake chert	2	.9
Quartz	2	.9
Unidentified thermally altered	8	3.6
Unidentified	8	3.6
Total*	223	100

*excludes microdebitage (30)

Chipped Stone Analysis - Morphology/Methodology

The chipped stone assemblage at the Bark site was analyzed and categorized following the methods and formats outlined by Fox (1979) and Lennox et. al (1986:79-82) for Iroquoian lithic analysis. Lithic debitage (all non-retouched or non-utilized chipped specimens) were divided into the following categories listed in Table 10.

Primary Flakes Primary flakes are complete flakes that were derived from cores, and usually exhibit a striking platform and ventral surface with a 90 degree angle. The dorsal surface often exhibits the flakes of previous primary flakes or cortex.

Secondary Flakes These flakes are the result of biface reduction and are smaller than primary flakes. They often have

a diffuse bulb of percussion, and a small striking platform that meets the ventral surface at an obtuse angle. Cortex is not usually present because these flakes are a by-product of artifact reduction.

Broken Flakes Distal and proximal flake fragments exhibiting some of the characteristics of the above flake types were all placed into this category.

Shatter Shatter usually results from the initial reduction of a core for artifact production. The resulting byproducts of this reduction are irregular, blocky chert specimens often containing cortex or poor quality inclusions.

Table 10. Bark Site Debitage Flake Types

Type	f	%
Primary	10	4.0
Secondary	12	4.7
Broken	19	7.5
Shatter	181	71.5
Cores	1	.4
Microdebitage	30	11.9
Total	253	100

Retouched Flakes/Scrapers

This artifact category consists of six flakes that have steep unifacial retouch along at least one edge, suggesting that

they were used as scrapers. Four scrapers have steep unifacial retouch along one lateral edge, while two have steep unifacial retouch along their distal or proximal edges. All of these were made from imported Onondaga chert. Table 11 lists their metrics and attributes.

Utilized Flakes

There are only five utilized flakes in the Bark site assemblage (Table 11: #7-11). These are identified by use wear along one or more edges, and sometimes very small areas of sporadic unifacial retouch. These specimens were probably used for various scraping functions but do not exhibit the continuous steep unifacial retouch of retouched flakes. Four were made from Onondaga chert, while one was made from Huronian chert.

Wedges

There was one wedge recovered which was made from a primary flake of Trent chert. There was rough irregular unifacial retouch along the ventral distal and lateral ventral edges which had the characteristic crushed appearance of a wedge.

Table 11. Bark Site Retouched Flakes/Scrapers

	Material	Flake Type	L	W	T	Utilized Edge location	length	shape	edge
1.	O	P	32	12	4	LD	13	C	80
2.	O	P	31	25	9	LD	16	CC	80
3.	O	B	12	9	6	LD	11	S	60
4.	O	P	17	10	3	LD	14	CC	80
5.	O	B	18	17	5	LDt	14	C	70
6.	O	B	21	17	16	DDt	15	S	70
7.*	H	P	24	16	4	LD	15	S	40
8.*	O	B	17	15	3	LD	10	CC	70
9.*	O	Sc.	19	15	6	LD	11	S	60
10.*	O	S	19	9	3	LD	13/	C	50
							6	CC	70
11.*	O	P	24	8	7	LV	18	V	70

Abbreviations

* utilized flake

Material Types
T - Trent chert
O - Onondaga chert
H - Huronian chert
U - Unknown

Flake Types
P - primary
S - secondary
B - broken
Sc - scatter

Retouched Edge Location
Edge
P - proximal
Dt - distal
L - lateral

Face
D - dorsal
V - ventral
B -bifacial

Retouched Edge Shape
S - straight
C - convex
CC - concave

Celts

The thirteen Bark site celts (Table 12) are all ground stone tools made from chlorite schist. While some researchers have subdivided this artifact class into adzes and axes, this was not attempted here due to the subjective nature of this type of

classification.

The celt assemblage consists of three complete specimens, two preforms, four blade fragments, and four shaft fragments. The three complete celts (#1,2,and 3 in Table 12) can be divided into two categories. The two larger celts weigh 70 and 168 grams. Their lateral edges are slightly rounded and their blades are plano-convex in longitudinal cross section. Thinning toward their pole ends indicates that they may have been hafted in a wedged position. The other complete celt is much smaller, weighing only 16 grams. Its blade was biconvex, the lateral edges were square and it had a tapering pole end. Size differences between celts are probably related to the different functions that they were related to.

The two celt preforms (#6 and 8 in table 12) are nearly complete specimens which resemble the large complete celts described above. They are identified as preforms because of their rough, unpolished, slightly irregular faces and lateral edges, which indicate that they were unfinished.

Miscellaneous Ground Stone

There was one fragmentary ground stone specimen made out of chlorite schist. Its size and form did not allow for an identification of its original form. It was ground smooth on one broad face, and rough on the others where it been broken off from a larger object.

Table 12. Bark Site Celts

	Length	Width		Thick.	Blade Angle	Longitudinal Cross Section
		Blade	Pole			
1.	52	21	?	9	60	biconvex
2.	133	?	25	22	60	plano-convex
3.	101	?	25	15	70	biconvex
4.	76t	?	23	10	?	?
5.	?	?	?	8	60	plano-convex
6.	86	31	35	22	60	plano-convex
7.	?	?	?	6	70	biconvex
8.	132	?	37	25	70	plano-convex
9.	64t	20	?	24	70	plano-convex
10.	61t	?	?	?	?	?
11.	?	?	35	?	?	?
12.	112t	?	37	15	?	?
13.	87t	30	26	13	60	plano-convex

Hammerstones

The five hammerstones recovered from the Bark site are all made of granitic waterworn cobbles. Four have pitting on one of their broad faces, while the fifth has pitting and evidence of grinding on its narrow edges. The hammerstones range from 52-104 mm in length, and weigh between 89 and 536 grams.

Worked Bone

The 24 worked bones from the Bark site account for only .8% of the total faunal assemblage of 3,075 specimens (Table 13).

Table 13. Bark Site Worked Bone Assemblage

Type	f	%
Worked White-tailed Deer phalanges	4	16.6
Other worked phalanges	6	25.0
Bone Beads/Tubes	6	25.0
Bone Awls	2	8.3
Shell Beads	1	4.2
Misc.	5	20.8
Total	24	99.9

Worked White-tailed Deer Phalanges

The four worked white-tailed deer phalanges consist of three proximal and one middle phalanx. All of these have been ground flat and polished on the ventral surface to some degree exposing the marrow cavity, with only one having been ground flat on both the dorsal and ventral surfaces. The attributes and attribute combinations devised by McCullough (1978) have been employed to describe these phalanges (Table 14).

Ground worked deer phalanges have often been called "toggles" in the literature (McCullough 1978:5). Although their function is unknown they may have been toggles for lashing cords,

wedges, or gaming pieces (McCullough 1978:95). The toggle or ground white-tailed deer phalanx is considered to be diagnostic of late prehistoric and historic period Huron sites (Wright 1966:72; McCullough 1978:102).

Table 14. Bark Site Attribute Combinations of all Worked Phalanges

Attribute	Nothing Else	Dist. and Prox.	Dist. only	Prox. only	No Prox. Epip.	Total
Flattened Ventrally	3	2	1	1	1	8
Flat Vent. and Dorsal	2	-	-	-	-	2
Total						10

Abbreviations

Dist.- distal
Prox.- proximal
Epip.- epiphyses
Vent.- ventral

Other Worked Phalanges

Four proximal domestic dog and two proximal black bear phalanges that were modified in a similar fashion to the white-tailed deer phalanges, except that the marrow cavity was never exposed. The dog phalanges were all ground flat to some extent on the ventral surface, and two were also ground on the proximal and distal ends. The black bear phalanges were ground

flat to some extent on both the ventral and dorsal surfaces. It is interesting to note that out of a total of 27 deer, black bear and domesticated dog phalanges in the Bark site faunal assemblage, ten (37%) were modified. The function of these ground phalanges is unknown. It is unlikely that they served as "toggles", because the marrow cavity was never exposed. Their attributes are included in Table 14.

Bone Tubes/Beads

The term tubes/beads is used for this artifact class because of the difficulty in distinguishing between the two forms. Two bird long bones averaging 31 mm. in length with a diameter of 11 mm., have grooves cut transversely along their length where shorter sections were snapped off to produce beads. The other four tube/bead specimens are also from bird long bones, with lengths ranging from 16-23 mm., and diameters from 8-17 mm. These tubes are highly polished and were probably used as beads.

Bone Awls

Two bone awls were recovered. One was from a bird long bone while the other was made from a white-tailed deer antler tine. Both are triangular in cross section with the characteristic ground or polished tapering body and pointed tip.

Shell Bead

The one shell bead was round and flat with an exterior diameter of 11 mm., and a suspension hole of 2 mm. The bead is only 1 mm .thick and was made from a Pelecypoda shell fragment.

Other Worked Bone

Two bone fragments were highly polished and had erratic inscribing on their surfaces. Two other small bone fragments were also highly polished. These four items were too fragmented to identify their original form or function.

One other very interesting worked bone item, consisting of two broken fragments, was recovered (Plate 6). These fragments do not adhere to each other but are obviously from the same object. The item is highly polished, with an elongated harpoon like outline and rectangular cross-section. There are grooves along sections of its lateral edges on both of its broad faces. The two fragments are 66 mm. long in total, with a maximum width at the expanding sections of 14 mm., a minimum width of 8 mm., and a thickness of 4 mm. The objects function is unknown, although it is similar to some of the bone hair pins and spoon handles in the Royal Ontario Museum collections.

Faunal Analysis

The faunal assemblage from the Bark site is derived from the 1986 and 1987 test excavations. All faunal material is from

either the plough zone or sub-soil features. The majority (74.3%) of the faunal material was recovered through flotation, while the remaining 25.7% derived from screening the plough zone through quarter-inch mesh. Out of a total assemblage of 3,075 faunal fragments, 2,911 (94.7%) were identified to class or lower. As can be seen from Table 15, fish dominate the assemblage followed by much smaller frequencies of mammals, birds, clams etc.

Table 15. Frequency of Bark Site Faunal Classes

Class	f	%
Osteichthyes	2,374	77.1
Mammalia	427	13.9
Aves	42	1.4
Pelecypoda	42	1.4
Gastropoda	24	.8
Reptilia	2	.1
Amphibia	1	.03
Unknown	164	5.3
Total	3,075	100.03

The variation in the frequencies of faunal classes recovered is directly related to the recovery method that is used (Lennox et. al. 1986:121). As can be seen from Table 16, 90.7% of the floated faunal sample consisted of fish, while only 57% of the unfloated sample consisted of fish. The mammal sample decreased

from 30.7% in the unfloated sample, to 8.7% in the floated sample. The amount of smaller bone fragments, such as fish, increases dramatically at most Iroquoian sites when the faunal sample has ben floated (Lennox et. al. 1986:122). The dominance of the mammal class in past faunal assemblages, is in part due to the use of non-flotation recovery methods (Lennox et. al. 1986:121).

Table 16. Bark Site Floated vs Unfloated Faunal Recovery Results

Class	unfloated			floated		
	f	%a	%b	f	%a	%b
Osteichthyes	449	18.9	57.0	1924	81.4	90.7
Mammalia	242	56.7	30.7	185	44.5	8.7

%a frequency within own class
%b frequency within total faunal sample

Only 473 fragments (15.4%), were identified to family or species level (Table 17). The identified species sample is also dominated by fish (54.6%), followed by mammals (34.2%) and much smaller frequencies of the other faunal classes.

Table 17. Bark Site Elements Identified to Family or Species

Class	f	%
Osteichthyes	259	54.8
Mammalia	162	34.2
Aves	23	4.9
Pelecypoda	22	4.7
Gastropoda	4	.8
Reptilia	2	.4
Amphibia	1	.2
Total	473	100.0

Osteichthyes

Only 259 (10.9%) osteichthyes fragments could be identified below class level (Table 18). The highest frequencies were yellow perch (27%), suckers (26.3%), brown bullhead (20.5%), and bullhead/catfish (12.7%).

No census of fish species in the nearby Jackson Creek has ever been conducted (Otonabee Conservation Authority: personal communication). However, the habitats (Table 19) of the species present in the assemblage indicate that most, if not all, would have been available in different areas of the creek (cool headwaters, warm wetlands etc.), at different times of the year (spawning etc.). Exceptions may have included smallmouth bass, northern pike and muskellunge which preferred larger bodies of water (Scot and Crossman 1973). These species may have only

been available 7 km. away, in the Pigeon River. The headwaters of Jackson Creek are considered today to be an excellent habitat for brown and brook trout (Chamberlain 1979:9). There is no evidence of these species in the faunal assemblage, but this may be because they have fragile skeletons that do not preserve well (Savage: personal communication).

Table 18. Bark Site Identified Osteichthyes Elements

Taxon	f	%
Order Perciformes :		
Perce flavescens (yellow perch)	72	27.8
Percidae sp. (perch family)	14	5.4
Micropterus dolomieui (smallmouth bass)	5	1.9
Micropterus sp. (bass family)	4	1.5
Lepomis gibbosus (pumpkinseed)	4	1.5
Micropterus salmonides (largemouth bass)	3	1.2
Order Cypriniformes :		
Catostomus sp. (sucker)	68	26.3
Ictalurus nebulosus (brown bullhead)	53	20.5
Ictalurus sp. (bullhead/catfish)	33	12.7
Order Clupeiformes :		
Esox lucius (northern pike)	1	.4
Esox masquinongy (muskelunge)	1	.4
Esox sp. (pike/musky)	1	.4
Total	259	100.0

Table 19. Bark Site Fish Species Habitat and Seasonality

Taxon	Ave. Body Length (mm)	Habitat	Season	Location
Yellow Perch	102-254	shallow waters of lakes, rivers and streams	spring	shallows of lakes, streams
Sucker family (white?)	305-508	shallow lakes, bays or tributary streams	spring	gravelly streams
Brown Bullhead	203-265	bottoms of weedy bays, lakes, sluggish streams	spring/ summer	sand or mud bottoms of lakes, creeks
Smallmouth Bass	203-381	rocky/sandy areas of lakes and rivers	late spring/ summer	sandy/gravelly lakes/rivers
Pumpkinseed	178-229	small lakes, ponds, weedy shallows	early summer	gravelly streams
Largemouth Bass	203-381	small shallow lakes, bays, rivers	late spring/ summer	muddy bottoms, weedy bays
Northern Pike	457-762	weedy bays, heavily vegetated rivers	spring	vegetated rivers, marshes, lakes
Muskellunge	711-1220	vegetated lakes, bays rivers	spring	vegetated flooded areas

(from Scott and Crossman 1973)

Method of Procurement, Processing and Preparation

All fish species listed in Table 19 were spring or summer spawners. This would have been the best time of year to capture them in large numbers, although they would also have been available in smaller numbers all year around. No artifacts were recovered from the Bark site that can be directly related to the fishing industry. Ethnohistoric evidence suggests that smaller species, which are numerous at this site, may have been caught using nets and/or weirs (Cleland 1966:141). Larger fish were caught using harpoons and lines or spears (Cleland 1982:763).

A comparison of the different fish body portions present at the Bark site (Table 20), indicates that cranial elements are not as common as vertebrae or other body parts. This suggests that at least some fish were being processed (beheaded and gutted) at the fishing station. The smaller species that are present in the assemblage were likely brought back to the site whole, while the larger, more cumbersome ones, were not. None of the fish fragments from the site were thermally altered.

Table 20. Bark Site Proportional Representation of Fish Elements

Element	f	%
Cranial	576	24.3
Vertebrae	850	35.8
Shafts (spines, ribs)	904	38.1
Scales	12	.5
Unidentified	31	1.3
Total	2373	100.0

Mammalia

Only 162 (37.9%) mammal fragments could be identified below class level (Table 21). Small to medium sized mammals dominate the assemblage. The predominant species are domestic dog (22.8%), muskrat (17.3%), eastern chipmunk (13.0%) and woodchuck (13.0%).

The preferred habitats of the mammals, listed in Table 22, suggest the utilization of many diverse environments. The most heavily exploited areas appear to have been swamps, wetlands, forest edges and disturbed/agricultural areas, followed by semi-open woodland and coniferous/deciduous forests.

Table 21. Bark Site Identified Mammalian Elements

Species	f	%
Canis familiaris (domestic dog)	37	22.8
Ondatra zibethica (muskrat)	28	17.3
Tamias striatus (eastern chipmunk)	21	13.0
Marmota monax (woodchuck)	21	13.0
Odocoileus virginianus (white-tailed deer)	12	7.4
Castor canadensis (beaver)	9	5.6
Lepus americanus (snowshoe hare)	5	3.1
Sciurus carolinensis (eastern gray squirrel)	4	2.5
Tamiasciurus hudsonicus (red squirrel)	4	2.5
Ursus americanus (black bear)	4	2.5
Martes americanus (marten)	4	2.5
Sylvilagus floridanus (eastern cottontail)	2	1.2
Peromyscus maniculatus (deer mouse)	2	1.2
Canis sp.	2	1.2
Canis lupus (timber wolf)	1	.6
Canis latrans (cayote)	1	.6
Vulpes vulpes (red fox)	1	.6
Cervidae canadensis (elk)	1	.6
Mustela vision (mink)	1	.6
Procyon lotor (raccoon)	1	.6
Cervidae sp. (moose or elk)	1	.6
Total	162	100.0

Body Portions

Table 23 indicates that not all body portions are equally represented in the sample. Axial fragments are rare, suggesting that only smaller body portions (limbs etc.) were actually carried back to the site. Among the larger mammals, such as white-tailed deer, only extremity body portions which could be easily carried were present.

Table 22. Habitats of Most Frequent Mammals Present

Species	Wt.	Habitat
muskrat	1.13 kg.	vegetated ponds, shallow slow moving streams
eastern chipmunk	97 g.	deciduous forest, semi-open country
woodchuck	3.5 kg.	pasture, ravines, disturbed areas
white-tailed deer	85.5-95.9 kg.	secondary growth, cedar swamps, farmland edges
snowshoe hare	1.49 kg.	mixed forests, swamps, riverside thickets
gray squirrel	523 g.	deciduous or mixed mature forest
black bear	169 kg.	heavily wooded areas, swamps
marten	995 g.	coniferous/deciduous forests
eastern cottontail	1.2 kg.	varied environments, meadows, open woodland

Cultural Alteration and Ageing

Only 12 (7.4%) of the mammal bone fragments were thermally altered. Evidence of butchering in the form of cut marks, was found on only 3 (1.9%) mammal fragments.

No relevant interpretations can be made relating to the age categories present. Only 38 (23.4%) fragments could be placed

into an age category based on longbone development: adult (52.6%), immature (42.0%) and sub-adult (5.3%). Eleven of the immature bones (68.8%) were muskrat. No pathologies were present in the mammal sample.

Table 23. Proportional Representation of Mammalian Elements

Portion	Element	f	total #	%
cranial	skull/teeth	46	46	28.4
	clavicles	1		
	scapulae	4		
	humeri	5		
forelimb	ulna	0	22	13.6
	radii	5		
	carpals	1		
	metacarpals	6		
	sterna	0		
axial	vertebrae	6	10	6.2
	ribs	4		
	innominates	6		
	femora	17		
	patellae	0		
hindlimb	tibias	8	50	30.9
	fibulas	1		
	tarsals	3		
	metatarsals	7		
	calcanea	8		
misc.	carpals/tarsals	1		
	phalanges	33	34	21.0
Total		162		100.1

Aves

Birds make up a very small proportion of the Bark faunal assemblage. The three species represented are: Ectopistes migratorius (Passenger pigeon) with 21 (91.3%) specimens, Branta canadensis (Canada goose) with 1 (4.3%), and Ardea herodia (Great blue heron) with 1 (4.3%).

All three species would have been summer residents. Passenger pigeons preferred deciduous forests, while Canada geese and the Great blue heron preferred wetlands, bays, lakes and rivers (Cleland 1966). Most portions of the passenger pigeon skeleton are present, indicating that they were brought to the site whole.

Pelecypoda

Twenty-two (52.4%) of the 44 mussel shell fragments (including some complete shells) were identified to the species level (Table 24). All belong to the family of fresh water pearly mussels, Unionidae. All of these species preferred the shallow waters of lakes, rivers and streams with gravel, sand, clay or mud bottoms (Clarke 1981: 266-8;286;320;342;346). Most, if not all, of these species would have been available in Jackson Creek.

Table 24. Bark Site Identified Pelecypoda Remains

Species	f	%
Elliptio complanata	6	27.3
Lampsilis radiata	5	22.1
Elliptio sp.	3	13.6
Lasmigona costata	2	9.0
Lampsilis ventricosa	2	9.0
Proptera alota	1	4.5
Elliptio dilatata	1	4.5
Ligumia recta/Lampsilis radiata	1	4.5
Proptera alota/Lampsilis radiata	1	4.5
Total	22	99.0

Gastropoda

Of the 24 snail fragments that were recovered, only four (16.7%) were identified to the species level: Allogoma prolunda (3) and Tridopsis albolabris (1).

Reptilia

The two turtle shell fragments that were recovered were both identified as Painted Turtle. This species would have been available in the spring and summer, and preferred quiet ponds, wetlands and streams (Froom 1975).

Amphibia

One fragmented tibiofibula was identified to this class. The species could not be identified, but it did belong to Anura sp., the order of frogs and toads.

Human Remains

Of the many very fragmentary human bone fragments that were recovered in 1983 through surface collection and excavation, only 91 element fragments were identifiable. Most of these specimens consisted of disarticulated elements. The assemblage was analyzed by Dr. S.Saunders (1986) of McMaster University. A brief summary of Dr. Saunder's report is presented below.

While the plough disturbed material and most of the in situ bones were disarticulated, there was an infant burial, a vertebral column and some hands and feet that were still articulated. A minimum of eight adults are represented in the assemblage, based on a count of left petrous portions of temporal bone. Sex determination of adult bones using cranial and infracranial morphology suggested that there were at least four females and two males. Age estimates based on observation of cranial suture closure and hip bones indicated that a broad adult age group was present (Table 25).

A minimum of six subadult individuals were also present in the assemblage. The fragmentary nature of the subadult longbones did not allow for age estimates. Two maxillae containing intact teeth suggest that one individual was 15.5-16.5 years of age, and another of 11-12 years. Other mandibular fragments and loose teeth indicated that two individuals were 0-1 years, one was 5-7 years, and another was 1-2 years.

Table 25. Adult Age Estimates

Cranium	1.	< 24 years
	2.	< 24
	3.	24-30
	4.	< 40
Hip Bones	1.	22-30
	2.	30-40
	3.	< 50
	4.	18-21

Overall, there were no examples of healed fractures or other wounds in the assemblage. Four tibial shafts and a proximal ulna were affected by periostitis, which is quite common among archaeological skeletal samples (Saunders 1985:31). There were no rare or unusual morphological anomalies in the assemblage. As would be expected for such a relatively young skeletal sample, degenerative joint diseases, such as osteoarthritis, were not common. Although the teeth in the assemblage were fragmentary, caries were quite common, dental abscesses were present, and there were several cases of hypercementosis. These dental diseases are typical of Late Woodland skeletal samples which practiced maize agriculture (Saunders 1985:32).

It is interesting to note that cutmarks were found on a lumbar vertebrae, a clavicle and three femora. Cutmarks are quite common in ossuary samples (Ibid:34). Ethnohistoric sources (JR 10:281-285) described how the dead were prepared

for ossuary burial and the Feast of the Dead, by stripping the remaining flesh and disarticulating the bones.

The shape of the largely disarticulated bone concentration and its depth indicated that it was an ossuary (Kapches 1984;Saunders 1985:2), as does the diversity of age groups (Saunders 1985:31). Only one diagnostic artifact was found in direct association with the feature, a drilled white tailed deer phalanx (Kapches 1983b:5). This artifact is diagnostic of both the Middle and Late Iroquoian periods, although it is more common in the former (McCullough 1978). It is possible that the ossuary is related to the Wilson site and that the Bark site inhabitants placed their village over it by chance. However, the small size of the ossuary suggests that it was associated with the much smaller Bark site community. The ossuary may have been constructed when the Bark site was abandoned. Further excavation in the immediate area of the ossuary would be necessary to determine if it was contemporary with the Bark site.

Ethnohistorical accounts of ossuary burial in Huronia in the seventeenth century, and archaeological evidence of Huron burial practices outside of the Trent Valley, indicate that ossuaries were constructed at the time of village removal, and were usually located 200 yards to half a mile away from their associated village (Heideneich 1971:149). However, as our data

on alternate Huron burial practices increases, it is becoming more apparent that Huron burial practices varied through time and space (Sutton 1988).

Within the Trent Valley region several different types of burial practices were utilized in the Late Iroquoian period. At the Quackenbush site at the eastern end of Stoney Lake, it was reported that numerous bodies had been "stacked like cordwood" in a sandy ridge at the edge of the site (Ramsden 1977a:73). A similar pattern of a mass burial consisting of articulated individuals, situated adjacent to a village, has been found at the Jamieson site in the Balsam Lake area (Ramsden: personal communication). More typical ossuary burial locations away from the village have been reported from the Middle Trent Valley region (see Chapter 5). The placement of a small ossuary within a village, assuming that they were contemporaneous, would be further evidence of the flexibility of Huron burial practices in the Trent Valley region.

Paleobotanical Analysis

Introduction

All undisturbed midden levels and features from the Bark site were subjected to flotation using a S.M.A.P. flotation device. This device separates material into a heavy and a light

fraction. The heavy fraction sinks to the bottom of this device to be caught in 1/8 inch mesh, while the lighter fraction floats to the surface and is gathered in finer mesh screens (.8-.425 mm.). All of the heavy fractions from the Bark site were analyzed for artifactual material (Bone, shell, ceramics, lithics etc.). Out of the total of 501 liters of soil which was floated, the light fraction of 108 liters (21.6%), were analyzed for their paleobotanical content. This sample consisted of seven light fractions with a gross weight of 418.95 grams (Features #6,8,9,10,13 and Middens# 3 and 5) and one heavy fraction (F#2) with a gross weight of 240.02 grams.

Each sample was passed through a series of 9 geological sieves ranging in mesh size from 4.0 mm. down to .212 mm. The contents of the three largest fractions (2.36 mm. or larger) were separated into their constituent components: wood charcoal, plant food, bone ,shell, unidentifiable plant remains, uncarbonized plant material and mineral. The percentage value of each of these throughout the sample was then calculated. The remainder of the samples were examined under a binocular microscope to extract carbonized seeds. Floral material was identified with the reference collection at the University of Toronto Paleoethnobotany Laboratory.

Sample Contents

The quantitative data obtained from the Bark site sample are summarized in Tables 26 to 29. The total weight of the samples reported in these tables excludes the mineral and uncarbonized organic components, as well as material which passed through the smallest screen (less than .425 mm.). The total mineral content was 15.65 grams, uncarbonized organic material weighed 34.88 grams. The vast bulk of the Bark site samples was composed of wood charcoal, followed by plant food, unidentified plant remains, bone and shell.

Table 26. Bark Site Flotation Sample Components

Sample	Total Wt. grams	Shell	Bone	Wood Charcoal	Unidentified Plant Remains	Plant Food
M#3	146.92	.03	.0	130.0	1.12	11.07
M#5	134.27	.32	.17	120.11	-	.54
F#2	.51	-	-	.51	-	-
F#8	1.01	-	-	.93	.37	.04
F#9	4.25	.02	.43	3.22	.39	.18
F#10	5.69	-	-	5.57	.15	.09
F#13	1.98	-	-	1.93	.03	.02
Total	294.63	.37	.63	262.30	2.06	11.94

Table 27. Bark Site Flotation Sample Components as a % of Total Sample Weight*

Sample	Total Wt. grams	Shell	Bone	Wood Char-coal	Unident. Plant Remains	Plant Food	Plant Food Wt.
M#3	146.92	.22	.12	82.92	-	7.19	11.07
M#5	134.27	.02	.02	84.48	.73	.37	.54
F#2	.51	-	-	98.08	-	-	-
F#8	1.01	-	-	58.14	2.33	2.33	.04
F#9	4.25	.10	2.41	51.14	13.23	12.07	.18
F#10	5.69	-	-	95.18	.50	1.53	.09
F#13	1.98	-	-	71.70	1.26	.63	.02
Total*	294.63	.11	.85	67.71	3.01	3.45	11.94

* mineral, uncarbonized organic and fine residue not reported here. Totals may not equal 100% .

Table 28. Bark Site Plant Remains in Total Gram Weights

Sample	Total Sample Wt.	Plant Food Wt.	Mz. Kls.	Mz. Cups.	Bean	Squash	Sun-Flower	Nut-Shell
M#3	146.92	11.07	5.63	5.39	-	.02	.03	-
M#5	134.27	.54	.32	.22	-	-	-	-
F#2	.51	-	-	-	-	-	-	-
F#8	1.01	.04	-	.04	-	-	-	-
F#9	4.25	.18	-	.18	-	-	-	-
F#10	5.69	.09	.03	.06	-	-	-	-
F#13	1.98	.02	-	.02	-	-	-	-
Total	294.63	11.94	5.98	5.91	-	.02	.03	-

Abbreviations
Wt. weight
Mz. maize
Kls. kernels
Cups. cupules

Table 29. Bark Site Carbonized Plant Remains in Absolute Numbers

Sample	Mz. Kls.	Mz. Cup.	Mz. Em.	Squah	Sun-flower	Chen-opod	Knot-weed	Purse-lane	Gram-inae	Small-grass	Bram-ble	Straw-berry
M#3	44.7	185.7	1	1	1	33	-	129	2	29	15	1
M#5	2.7	8.0	2	-	-	4	-	12	-	16	12	1
F#2	-	-	-	-	-	-	-	-	-	-	-	-
F#6	-	-	-	-	-	-	-	-	-	-	-	1
F#8	-	12.3	-	-	-	-	1	-	-	-	10	1
F#9	-	6.0	-	-	-	-	-	-	-	-	-	-
F#10	.2	2.0	2	-	-	-	1	-	-	-	12	18
F#13	-	5.7	-	-	-	3	6	-	-	-	29	4
Total	47.6	219.7	5	1	1	40	8	141	2	45	78	26

	Haw-thorn	Black Night	Elder-berry	Aralia	Sumac	Catch-fly	Dog-wood	Iron wood	Uniden-tified	Unknown	Seed Total
M#3	-	-	-	-	41	2	-	-	2	2	256
M#5	1	-	3	1	4	-	-	-	2	0	56
F#2	-	-	-	-	-	-	-	-	-	-	-
F#6	-	-	-	-	1	-	-	-	1	-	3
F#8	-	1	-	-	1	-	-	-	1	1	16
F#9	-	-	-	-	-	-	-	-	1	-	1
F#10	-	-	-	-	6	-	1	-	2	-	40
F#13	-	1	-	-	2	-	-	2	2	2	51
Total	1	2	3	1	55	2	1	2	11	5	423

Cultigens

Maize was identified in seven of the eight flotation samples. Maize was largely represented by cupules, cob fragments and embryos, with kernels present in only three samples. This suggests that most of the maize in the sample represent a byproduct of food processing. All six complete maize kernels were found in Midden #3. Their dimensions and distinctive crescent shape indicate that they were Eastern 8 Row maize (Pearsell 1980). Maize kernels account for only 10% of the total seeds identified, but represent almost 100% of the total plant food weight.

One single seed each of squash and sunflower were found in the samples. Notable by their absence are the cultigens bean and tobacco, as well as nutshell remains. This may reflect different food processing techniques at the Bark site, or the small size of the analyzed sample. The lack of nutshell remains may also have been due to a lack of mature nut bearing trees in the Bark site catchment area.

Grains and Greens

Grains and greens account for almost 50% of the total number of seeds in the Bark site samples. The most numerous species was purselane, the leaves of which were edible (Erichsen-Brown 1979). This is followed by a small unidentified grass species, as well as chenopod and knotweed.

Fleshy Fruits

Fleshy fruit seeds account for 23% of the total seed count. The dominant fleshy fruit is bramble, followed by strawberry, elderberry, black night shade and hawthorn.

Other Seeds

This group accounts for almost 15% of the total seed count. Most of these are from the Sumac family, followed by small amounts of catchfly, ironwood, dogwood and aralia.

Habitat Inferences

Many of the non-cultigens in the sample would have been available within the cultivated open field areas. Plants that may have invaded the cultivated fields include chenopod, purselane, knotweed and black nightshade (Yarnell 1984). Edge areas between forests and cultivated fields would have been occupied by sumac, bramble, hawthorn and elderberry (Yarnell 1984). Grasses and some fleshy fruits such as strawberry, would have occupied open meadows or field edges. Knotweed thrives along stream edges and wetland areas (Angier 1974). Dogwood and ironwood indicate the presence of mature hardwood/coniferous forest areas (Little 1980). Overall, the exploitation of open and/or disturbed areas is evident.

Seasonality

The plant species in the sample would have been available from spring to late fall. Aralia would have been available from

May to June, strawberry in June, and bramble in July and August. The cultigens and other wild plants would have been available in the Fall. Many of these species could be dried and stored for a lengthy period of time to support a year around occupation.

Plant Use

Cultigens such as maize, squash and sunflower were used primarily as a food source, with sunflower also serving as a source of oil. Chenopod and knotweed are starchy seeds that were also eaten, with their leaves serving as greens (Erichsen-Brown 1979). Strawberry and bramble could have been eaten fresh, or dried for later use in cooking (Parker 1910). The fruit produced by hawthorn and elderberry could have also served as a food source. Elderberries could have also been used for medicinal purposes, as could aralia and sumac (Parker 1910; Erichsen-Brown 1979).

Wood Charcoal

Out of a total of 1,251.4 grams of wood charcoal which was collected from the flotation samples at the Bark site, 151.2 grams (12.1%) were analyzed. Due to the small amount of wood charcoal that was present in the Bark site features (see Table 26), three wood charcoal samples from different areas of Midden =3, and two from different areas of M=5, were combined with samples from F= 9 and 10 for analysis. Small samples from

Table 30. Bark Site Identified Wood Charcoal Data

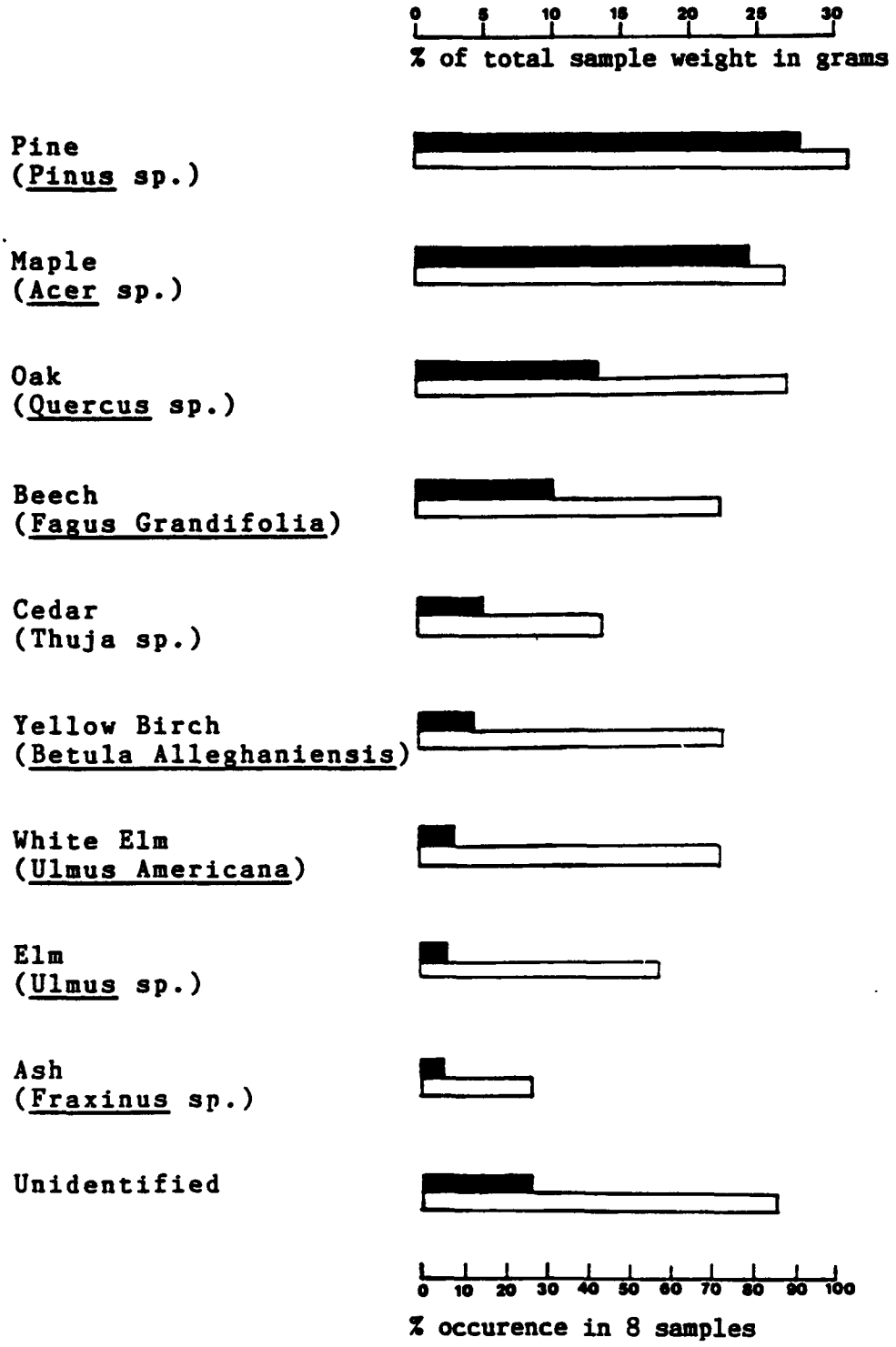
Sample	Total Weight grams	Pine	Maple	Oak	Beech	Cedar	Yellow Birch	White Elm	Elm	Ash	Unidentified
M#3 6S 6W	36.8	10.3	7.7	8.1	3.5	2.0	.6	1.8	1.3	-	1.5
M#3 8S 6W	29.6	9.6	9.8	1.0	2.6	3.6	3.0	-	-	-	-
M#3 10S 2W	36.2	7.2	4.6	6.3	4.3	2.8	-	2.3	2.6	2.5	3.6
M#5 37.5S 54S	21.4	5.1	7.8	3.1	1.3	-	-	.4	.7	-	3.0
M#5 37.5S 55W	18.3	6.3	5.1	1.2	2.4	-	1.4	-	-	-	1.9
F#9	3.2	1.2	-	.3	-	-	.7	.3	-	-	.7
F#10	5.7	1.9	1.2	-	-	-	.8	-	-	.7	1.1
Total	151.2	41.6	36.2	20.0	14.1	8.4	6.5	4.8	4.6	3.2	11.8
%	100.1	27.5	24.0	13.2	9.3	5.7	4.3	3.2	3.0	2.1	7.8

different areas of the two undisturbed middens were used in an attempt to obtain a more representative wood charcoal sample (Table 30).

Pine dominates the sample by weight (27.5%), and by its presence in all seven samples (Figure 17). Pine is followed in weight by maple (24.0%), oak (13.2%), beech (9.3%), cedar (5.7%), yellow birch (4.3), white elm (3.2%), elm (3.0%), and ash (2.1%) (Figure 17).

The strong presence of pine and oak in the sample (40.7%) suggests that there was large areas of secondary growth in the vicinity of the Bark site. Pine and oak represent pioneer succession in forest clearings, and are dominant on abandoned fields because they are shade intolerant, non-competitive species (Beckwith 1954:372; McAndrews 1976:2). The presence of maple and beech in the sample (33.3%), suggests that there was also deciduous forest growth in the area. Both maple and beech are characteristic of mature stable forests (Rowe 1963:93). Cedar would have been most readily available in the swamps located south of the Bark site, while birch, elm and ash preferred mixed hardwood and coniferous forests (Little 1983).

Figure 17. Bark Site Charred Wood Identification



Radiocarbon Date

One sample of carbonized wood (Beta-30133) was submitted to Beta Analytic Inc. for radiocarbon dating. The wood charcoal sample was from an undisturbed level of Midden #3 located in unit 10S 4W.

A radiocarbon date of 480 +/-60 B.P. was calculated. This results in a calibrated date of A.D. 1420 +/-35 (Klein et. al. 1983). This date is very similar to that which is estimated for the Bark site based on ceramic seriation (see Chapter 6), although the calibrated date may be slightly early due to the possible inclusion of old wood in the radiocarbon sample (Timmins 1984:115).

Summary

The Bark site is a small .7 -.9 hectare fifteenth century Huron village located on a valley floor near the headwaters of the Jackson Creek. The site's sheltered position in a valley surrounded by drumlins suggests that defence was not of major importance to its occupants.

An intensive surface collection of the site as well as test excavations have exposed a small in-village ossuary, a double rowed palisade, a small section of one longhouse, various in-village features as well and several peripheral midden areas.

The artifact assemblage from the site is typical of a

prehistoric Huron village dating to the mid-fifteenth century. The chronological and cultural implications of the Bark site ceramic assemblage are discussed in detail in Chapter 5.

The small lithic assemblage consists of both chipped and groundstone artifacts. Debitage is the dominant lithic item, with a small representation of worked and utilized flakes, as well as groundstone celts. The most common lithic material type is Trent chert, which was available in local outcrops and tills. Imported Onondaga chert appears to have been preferred for the more formal tool types, such as scrapers.

The faunal assemblage suggests that mammals were more heavily utilized than were fish. Although fish dominate the faunal assemblage numerically, most of the species that were present were small species such as bullhead and yellow perch. Mammals such as domesticated dog would have provided much more meat by weight.

The floral assemblage from the Bark site indicates that cultigens such as corn were the most important plant food. Other domesticates (squash and sunflower) were also present, as were wild species of grasses and greens and fleshy fruits. Wood charcoal from the site indicates that areas of both secondary growth (pine/oak) and mature deciduous forest (maple/beech) were exploited for firewood.

Overall, the faunal and floral assemblage reflects the

exploitation of a diverse number of environments. However, the most heavily exploited econiches appear to have been areas of secondary growth, wetlands, swamp and creek areas, and forest/field edges.

Chapter 4

Wilson Site

Location

The Wilson site is located 800 metres east of the Bark site in the same creek valley. The two sites are only separated by the slight projection of a drumlin lobe (Figure 4). The Wilson site is situated on the southern base of a series of interwoven drumlins or drumlin lobes, on the relatively flat Jackson Creek Valley floor.

Soil conditions are very similar to those at the Bark site, with the Wilson site situated in an area of Otonabee Sandy Loam till, with pockets of Pontypool Gravelly Sand to the south near Jackson Creek.

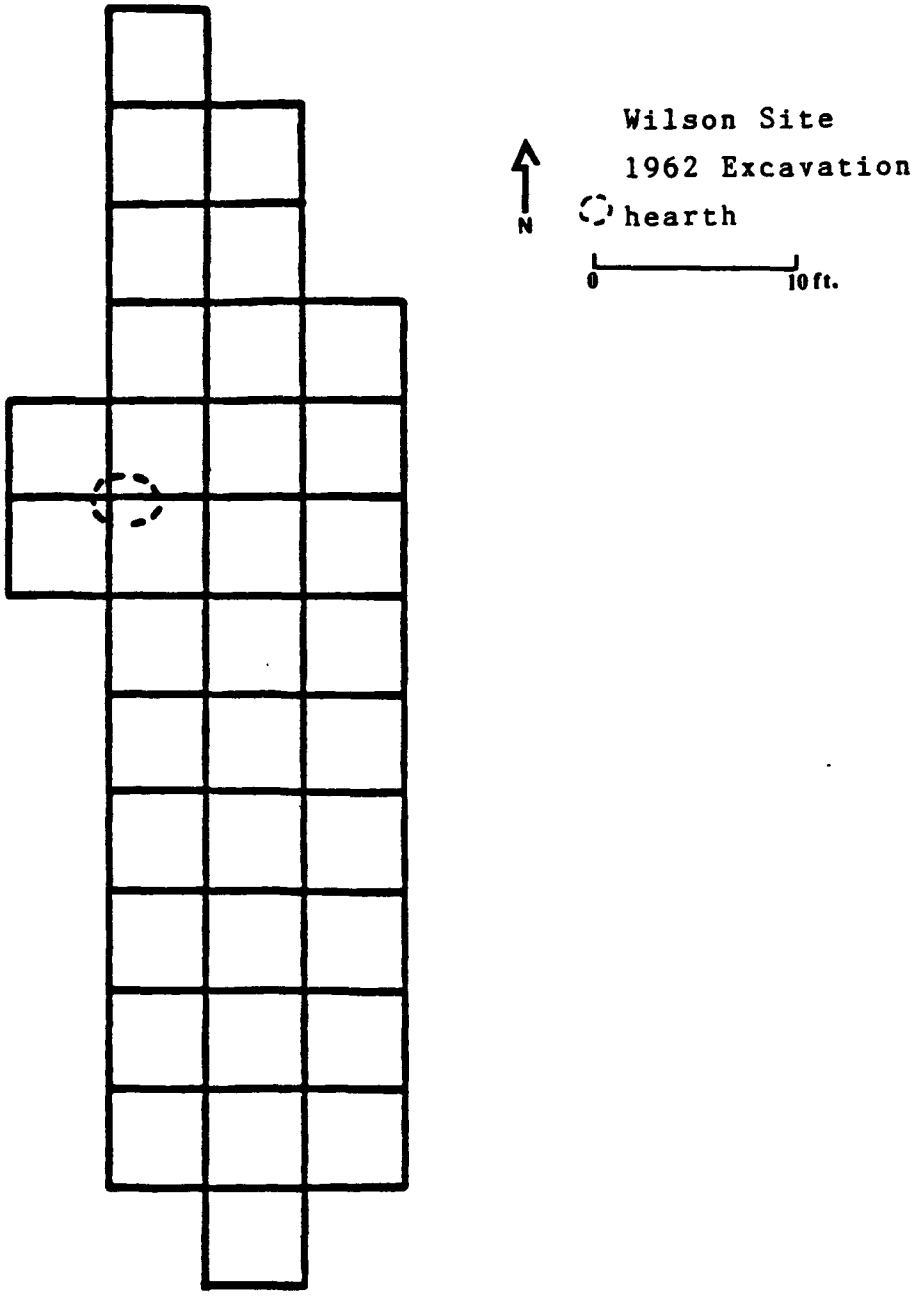
Excavation

Walter Kenyon conducted a surface collection of the site in 1960. The only written account of this survey is a brief newspaper article in the Peterborough Examiner (May 5, 1960:19). Kenyon (1960:19) estimated that the site covered over 15 acres, and was inhabited in the late fourteenth or early fifteenth century. Along with a surface collection, some limited testing of midden areas may have been conducted (Kenyon 1960:19).

In 1962 Kenyon returned to the site with a crew to conduct more extensive excavations. The only surviving documentation of this excavation consists of a very brief field catalogue (Kenyon 1962). A sketch of the excavated area (Figure 18) shows that 35 five foot squares were excavated as part of one large rectangular test trench. Kenyon (1962) recorded that subsoil was reached at a depth of 16 inches, while the plough zone was only 8 inches deep. This suggests the presence of a large feature, 8 inches deep, between these two soil horizons. The lack of any settlement features except for one hearth, and the large amount of artifactual material that was recovered, suggests that this was a large midden area. It was often standard practice in Iroquoian research at this time to concentrate on midden areas (see Chapter 1.) to obtain large artifact samples. No other areas of the site were excavated (Mr.Wilson: personal communication), and Kenyon never published his findings. The predominance of diagnostic ceramic, lithic and faunal material in the present Royal Ontario Museum collection indicates that the artifacts were either selectively recovered or selectively curated.

In 1983, Dr. M. Kapches visited the site as part of her research into the Bark site occupation (Kapches 1983a). Kapches (personal communication) estimated that the site covered approximately 7 acres (2.8 hectares). The site was not under

Figure 18. 1962 Wilson Site Excavation (Kenyon 1962)



cultivation in 1986-87 during my field research in the area. However, the local topography and Mr. Wilson's recollection of the locations of previous finds, suggests that Kapches' size estimate is more accurate than Kenyon's (1960) estimate of 15 acres.

The Wilson Site Collection

The Wilson site artifact assemblage is now housed at the Royal Ontario Museum. The 1960 and the 1962 material were accessioned separately, but there is no further provenience data relating to the assemblages. There are some discrepancies between Kenyon's (1962) field catalogue which contained an artifact list, and the R.O.M. 1962 collection. While Kenyon (1962) recorded that 500 body sherds and 554 rimsherds were found, no body sherds and only 353 of the 1962 rimsherds are now present in the collections. This is probably due to the selective sampling which is evident in the present collection. The other remaining ceramic, lithic and faunal assemblages are dominated by diagnostic material. The combined 1960 and 1962 assemblages were analyzed for this thesis. The small amounts of unaccessioned material which were present in the combined assemblages were not analyzed.

Artifact Assemblage

The Wilson site artifact assemblage consists of 629 ceramic specimens, 436 faunal specimens and 45 lithics (Table 31). The ceramic and lithic assemblages consist of the combined 1960 and 1962 samples, while the faunal assemblage is from the 1962 excavations.

Table 31. Wilson Site Artifact Assemblage

Material	f	%
Ceramics	629	56.7
Faunal	436	39.3
Lithics	45	4.1
Total	1110	100.1

Ceramics

There were 484 rimsherds, 35 neck sherds, 2 shoulder sherds, 107 pipe fragments and one vessel handle in the ceramic assemblage (Table 32).

Table 32. Wilson Site Ceramic Assemblage

Type	f	%
Rimsherds	484	76.9
Neck Sherds	35	5.6
Shoulder Sherds	2	.3
Pipes	107	17.0
Misc.	1	.2
Total	629	100.0

Rimsherd Analysis

There was a total of 384 analyzable rimsherds in the Wilson site assemblage. Following the matching of rims from the same vessel and the exclusion of castellations and juvenile forms, this number is reduced to 252. See Figure 19 for an illustration of rimsherd profiles and motifs.

The Wilson site rimsherd assemblage is not considered to be a representative sample because 175 (69%) of the 252 rims came from the one midden area excavated in 1962, with the remaining 77 (31%) rimsherds coming from the 1960 surface collection.

Using the individual attribute analysis method outlined by Ramsden (1977), the attribute frequencies of the 252 analyzable rimsherds from the Wilson site are presented in Table 33.

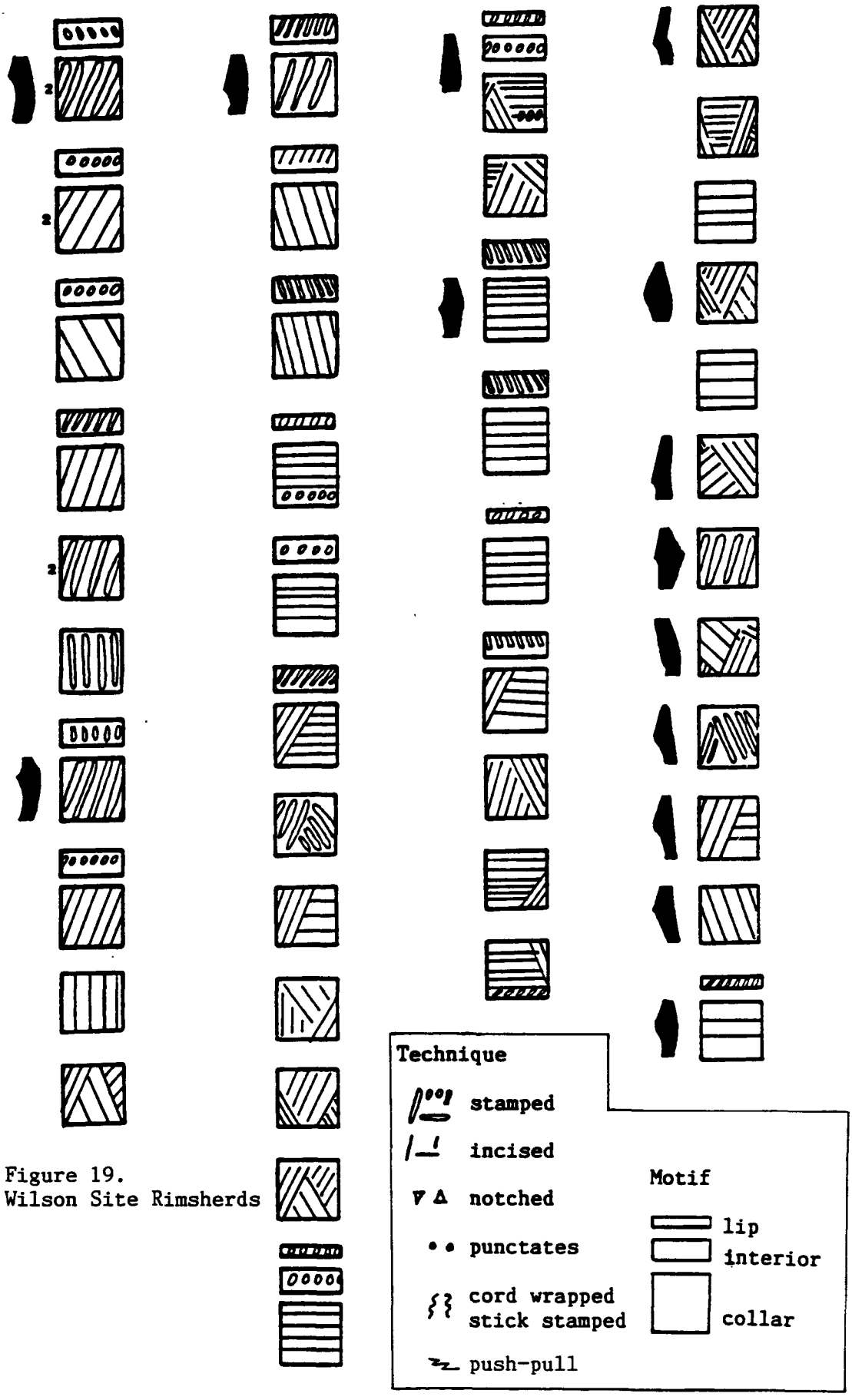
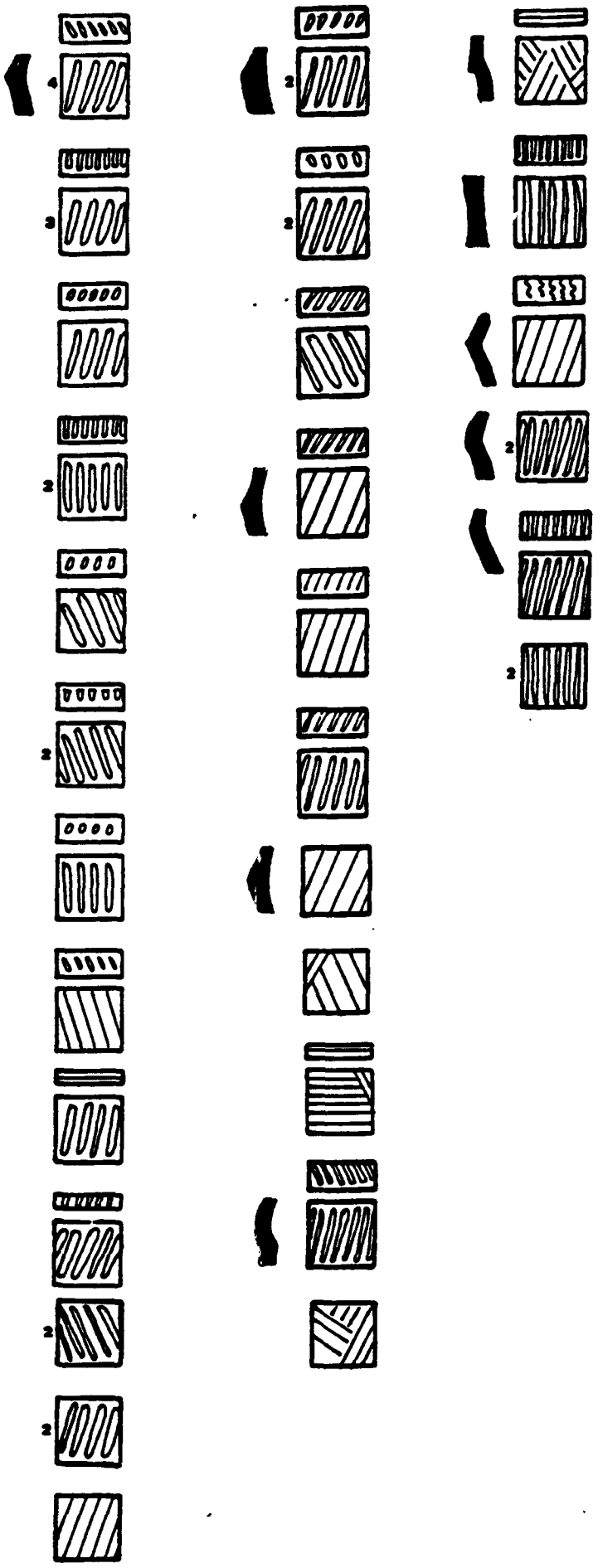
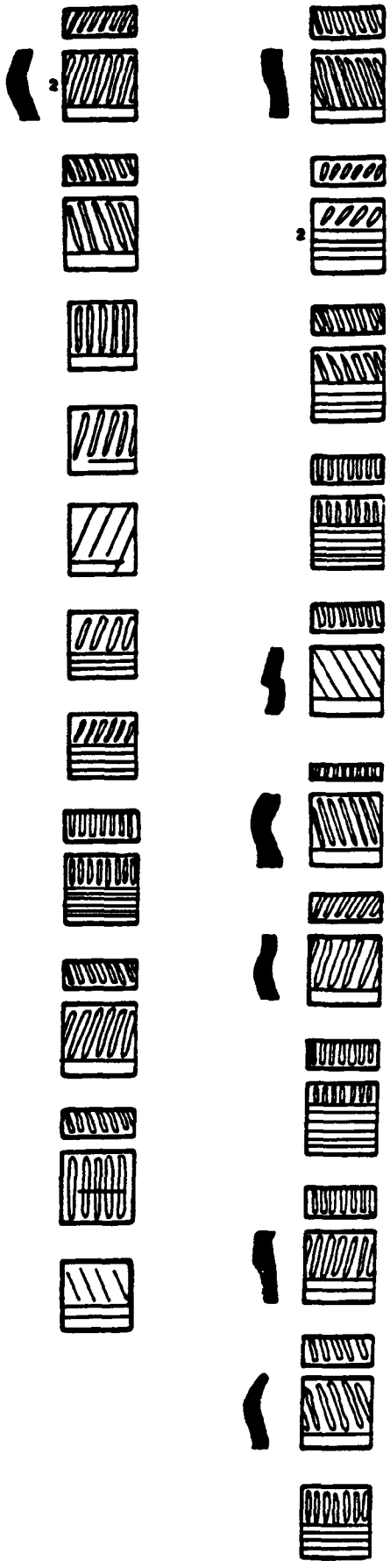


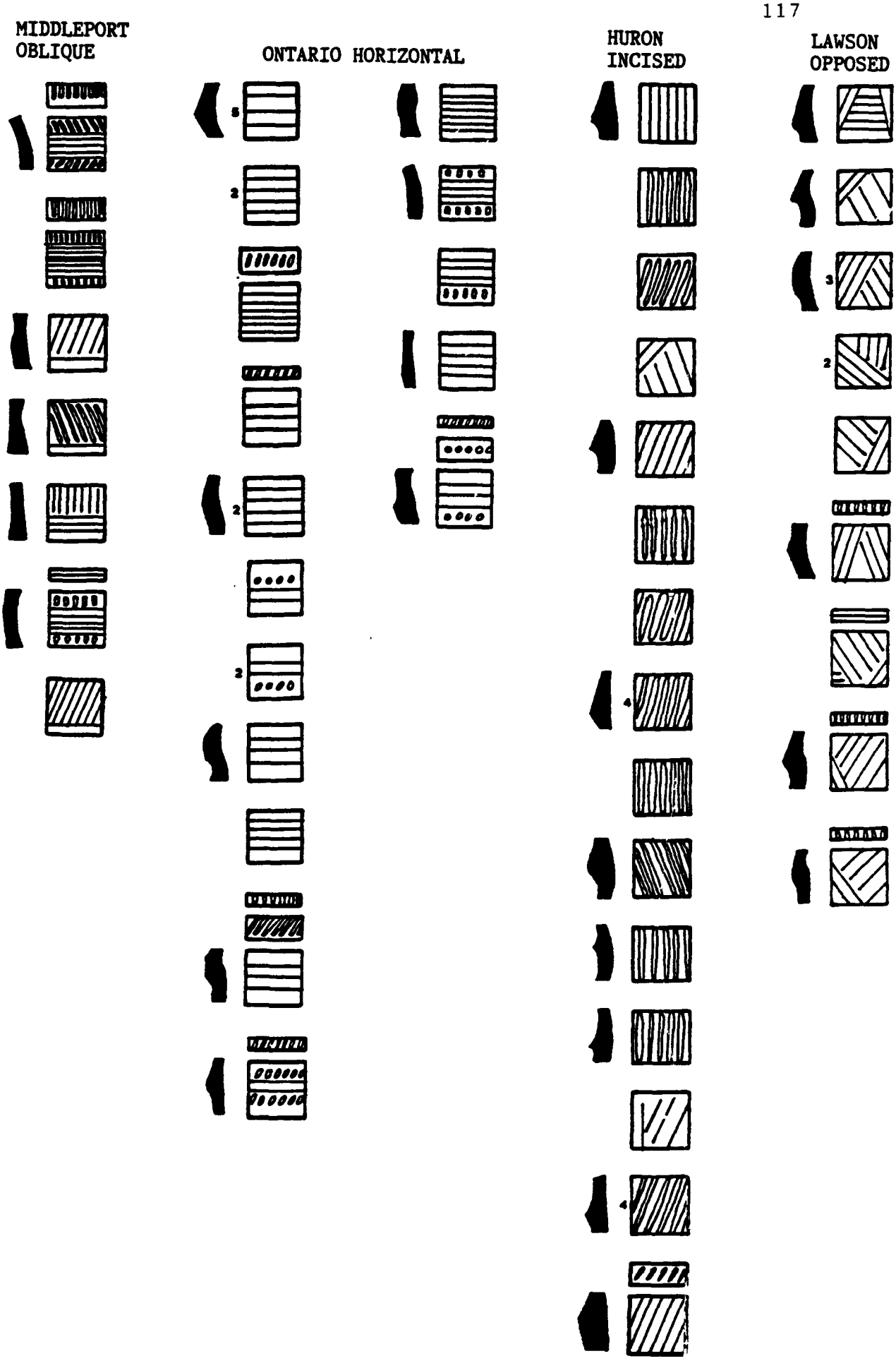
Figure 19.
Wilson Site Rimsherds

POUND NECKED

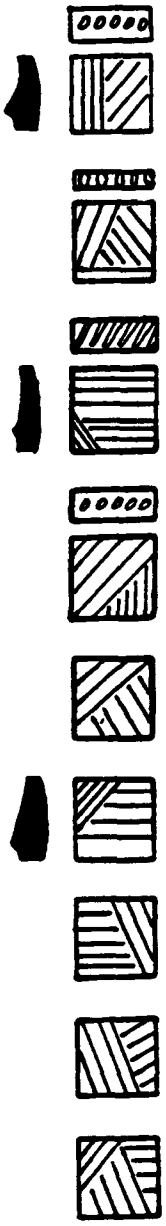


MIDDLEPORT OBLIQUE

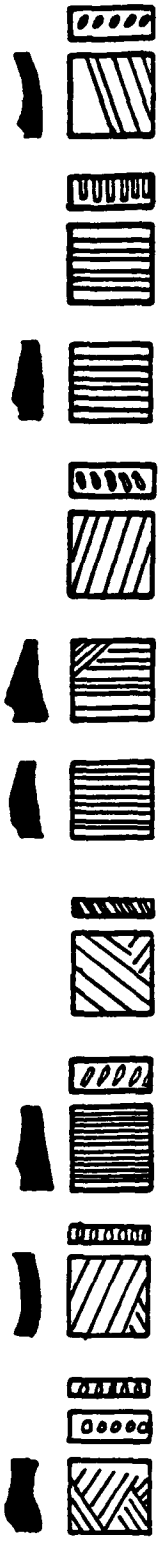



MIDDLEPORT
OBLIQUE
ONTARIO HORIZONTAL
HURON
INCISED
LAWSON
OPPOSED

LALONDE
HIGH COLLARED

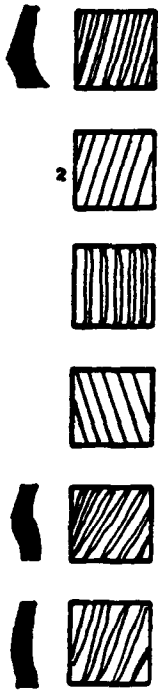


HIGH COLLARED

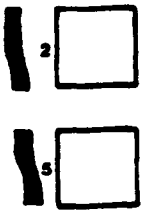


LAWSON
OPPOSED

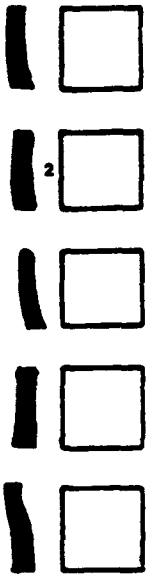
LAWSON
INCISED



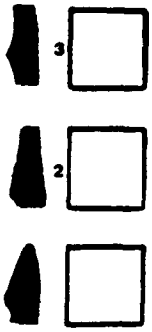
NIAGARA
COLLARED



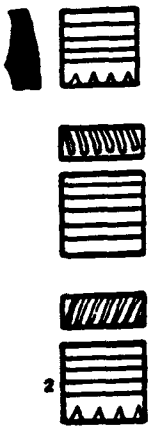
RIPLEY
PLAIN



COLLARED
PLAIN



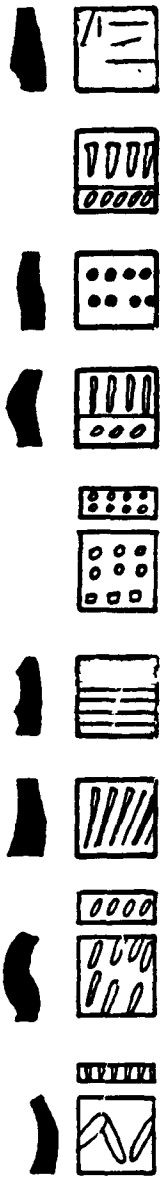
WARMINSTER
HORIZONTAL



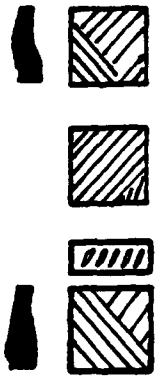
ONTARIO
OBLIQUE

COPELAND
INCISED

UNTYPED



RICHMOND
INCISED



IROQUOIS
LINEAR

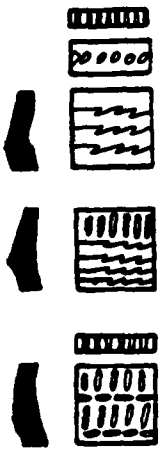


Table 33. Wilson Site Rimsherd Attributes

Attribute	%
A. Collarless plain (% of total)	2.4
B. Collarless decorated (% of total)	3.2
C. Collared Plain (% of total)	5.2
D. Collared decorated (% of total)	92.5
a. incised (%D)	36.5
b. stamped (%D)	27.8
c. mixed (%D)	10.3
d. other (%D)	1.7
E. Collar Motifs (%D)	
a. simple	34.9
b. opposed	23.8
c. crossed	1.6
d. hatched	.4
e. horizontal	15.5
f. complex	14.2
g. interrupted	-
h. other	.4
F. Neck Decoration (% of total)	59.4
G. Secondary Decoration (% of total)	
a. interior	30.5
b. lip	11.1
c. frontal lip	-
d. upper punctates	2.8
e. lower punctates	4.8
f. dividing punctates	.4
g. basal punctates	.8
h. sub-collar decoration	20.3
H. Interior Profile (% of total)	
a. convex	30.2
b. concave	42.9
c. straight	6.7
d. concave-convex	11.9
e. convex-concave	8.7
I. Exterior Collar form (%CtD)	
a. convex	25.0
b. concave	16.3
c. straight	58.7
J. High collars	12.3

Following the method outlined by MacNeish (1952), the Wilson site rimsherds were also placed into typological groups (Tables 34-35.). Rimsherds which did not closely match the definitions of these typological classes are briefly discussed below.

High Collared Ten rimsherds were simply named high collared (collar over 30 mm. in height), because they did not fit the descriptions of the Lalonde High Collared type (Ridley 1952:205). These high collared rims had straight, convex and concave interior profiles. The motifs are dominated by horizontals, with some opposed triangles and simple obliques.

Nine rims were identified as Lalonde High Collared based on the definition of the type first outlined by Ridley (1952:245). These rimsherds display the characteristic well defined collars, convex interiors and opposed oblique/horizontal motifs. The Wilson site Lalonde High Collared rimsherds represent very early variants of the type, and point to its Middle Iroquoian origins.

Plain Collared The six plain collared rimsherds do not resemble the collared plain types (Niagara Collared etc.) described by MacNeish (1952:26). All of these rimsherds have straight to convex interior profiles.

Untyped The nine untyped rimsherds consist of two uncollared and seven collared forms. One uncollared rimsherd is plain,

while the other has opposed obliques. Two of the collared rimsherds have opposed obliques, three have various oblique motifs, and two have oblique/punctate combinations.

Table 34. Wilson Site Total Analyzable Rimsherds

Type	f	%
Juvenile	68	17.7
Black Necked	54	14.1
Pound Necked	53	13.8
Ontario Horizontal	36	9.4
Middleport Oblique	33	8.6
Castellations	27	7.0
Huron Incised	25	6.5
Lawson Opposed	14	3.6
High Collared	10	2.6
Lalonde High Collared	9	2.3
Pound Blank	8	2.1
Lawson Incised	7	1.8
Niagara Collared	7	1.8
Plain Collared	6	1.6
Ripley Plain	6	1.6
Warminster Horizontal	4	1.0
Richmond Incised	3	.8
Iroquois Linear	3	.8
Ontario Oblique	1	.3
Copeland Incised	1	.3
Untyped	9	2.3
Total	384	100.0

Castellations

There are 31 castellations representing 31 different vessels in the assemblage (Figure 20). Only four of the castellations

still had enough of the vessel rim and associated motif to be analyzable rimsherds. Following the standardization of castellation forms by Emerson (1954), twenty-five (81%) of the

Table 35. Wilson Site M.N.V. Analyzable Rimsherds Excluding Untypable Castellations and Juveniles

Type	f	%
Black Necked	47	18.7
Pound Necked	43	17.1
Middleport Oblique	31	12.3
Ontario Horizontal	23	9.1
Huron Incised	21	8.3
Lawson Opposed	13	5.2
High Collared	10	4.0
Lalonde High Collared	9	3.6
Pound Blank	8	3.2
Lawson Incised	7	2.8
Niagara Collared	7	2.8
Plain Collared	6	2.4
Ripley Plain	6	2.4
Warminster Horizontal	4	1.6
Richmond Incised	3	1.2
Iroquois Linear	3	1.2
Ontario Oblique	1	.4
Copeland Incised	1	.4
Untyped	9	3.6
Total	252	100.3

castellations were simple pointed, six (19.4%) were simple rounded, and one had a rounded turret. The most common decorative motif was opposed obliques and related themes, followed by various oblique, horizontal and punctated forms.

Figure 20. Wilson Site Castellations

Decoration \ Form				Total
	-	3	17	20
	1	-	-	1
	-	1	-	1
	-	-	1	1
	-	-	1	1
	-	-	1	1
	-	1	2	3
	-	-	1	1
	-	-	1	1
	-	-	1	1
Total	1	5	25	31

Interior decoration in the form of small punctates or obliques are present on 12 (67.7%) castellations, while only three have decorated lips.

Juvenile Vessels

There are 73 Juvenile rimsherds representing a minimum of 68 vessels in the assemblage. Fifty-two (76.5%) of these are collared and 16 (23.5%) are uncollared. Rimsherd profiles consist of: flaring (49/72.1%), inverted (16/23.5%) and straight (3/4.4%) forms. Lip thickness ranges from 2-7 mm., vessel wall thickness from 4-10 mm., and collar height from 5-21 mm.

Nineteen (27.9%) of the rims are undecorated. The most popular decorated collar motif is opposed obliques (19/27.9%), followed by horizontals (13/19.1%) and much smaller frequencies of verticals, punctates, obliques and fingernail impressions. Lip decoration in the form of linear stamping is present on six rims (8.8%), with interior linear stamping on only three (4.4%) rims. Twenty-six (38.2%) rimsherds have some form of neck decoration, usually consisting of opposed obliques.

Neck Sherds

There are 128 necks associated with collars and 35 isolated neck sherds in the assemblage (Figure 21). Only 15 of the 35 isolated neck fragments were considered to be analyzable, resulting in a total of 143 analyzable neck specimens.

Figure 21. Wilson Site Neck Motifs

Decoration	f	%	Decoration	f	%
Plain	29	20.2		1	.7
	19	13.3		1	.7
	10	7.0		2	1.4
	3	2.1		2	1.4
	2	1.4		1	.7
	3	2.1		2	1.4
	1	.7		1	.7
	4	2.8		3	2.1
	2	1.4		1	.7
	14	9.8		1	.7
	1	.7		1	.7
	1	.7		1	.7
	1	.7		1	.7
	1	.7		2	1.4
	5	3.5		1	.7
	6	4.2		1	.7
	4	2.8		1	.7
	15	10.5	Total	143	100

Twenty nine (20.3%) of these are plain, while another twenty nine (20.3%) have only sub-collar punctates or short obliques. The punctates are usually restricted to the upper neck area. Among the remaining 85 (59.4%) decorated neck sherds, the most common motif is horizontals with and without punctates or obliques (35%), followed by small frequencies of opposed obliques and simple obliques. There is no apparent zoning of these motifs on the neck.

Shoulder Sherds

The two shoulder sherds in the assemblage had carinated profiles and were plain.

Pipe Analysis

The Wilson site pipe assemblage consists of 107 pipe fragments. There are 64 pipe bowl fragments, 29 stem fragments and 14 mouthpieces. All of these specimens are made from clay and finely crushed grit temper, and are smooth to polished in appearance.

Pipe Bowls

Of the 64 pipe bowl fragments in the assemblage, only 36 bowls representing 35 pipes, were analyzable. The remaining 28 specimens did not have lips or were too fragmentary to determine their form. The pipe bowls range in height from 46-69 mm., and in diameter from 33-56 mm. The various pipe forms and

their motifs are discussed below (Figure 22). For a brief discussion of flared conical and trumpet pipe forms see pages 61-63.

Conical This pipe form is straight sided with no exterior flaring or contraction. This is the most common form at the Wilson site with 13 specimens. Four of these are plain, four have 3-5 incised lines circling the bowl, while the remaining five have incised lines overlaying a row of punctates.

Flared Conical There are nine flared conical pipe bowls in the Wilson assemblage. Six of these are plain, two have four horizontal incised lines circling the bowl above a row of punctates, and one bowl has a single row of punctates.

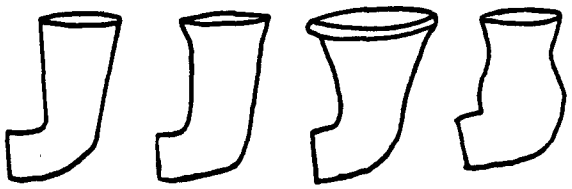
Trumpet There are seven trumpet pipes in the assemblage. Two are plain, three have 4-5 incised horizontal lines circling the bowl, one has three incised lines and a row of punctates, and one has horizontal and oblique lines.

Vasiform pipes constrict midway along the bowl and then flare out near the lip. One of the vasiform pipes in this assemblage is plain, while the other has five incised horizontal lines circling the bowl.

Untyped Forms There are four analyzable pipes which cannot be placed in the above categories. Two of these have slight collars, one being plain and the other having vertical incised

Figure 22. Wilson Site Pipe Forms and Motifs

Form



Decoration	Conical	Flared	Trumpet	Vasiform	Other	Total
Plain	4	6	2	1	2	15
	2	-	1	1	-	4
	1	-	2	-	-	3
	1	-	-	-	-	1
	1	-	-	-	-	1
	-	-	1	-	-	1
	2	2	-	-	-	4
	1	-	-	-	-	1
	-	1	-	-	-	1
	1	-	-	-	-	1
	-	-	1	-	-	1
	-	-	-	-	1	1
	-	-	-	-	-	1
Total	13	9	7	2	4	35

lines above a row of punctates. The third specimen has a stepped or constricted lip with vertical incised lines above a row of punctates and two incised horizontal lines. The other untyped pipe bowl has a well pronounced convex exterior and inverted lip, and is plain.

Juvenile One pipe bowl appears to have been made by a juvenile because of its irregular undulating profile, rough surface treatment, and haphazard incised decoration.

Pipe Stems/Mouthpieces

There are 29 stem fragments in the assemblage. The stem fragments range from 18-10 mm. in diameter and taper from the bowl to the mouthpiece. All of the bore holes are smooth. The 14 mouthpieces consist of 4 that are tapered, 9 that are expanding, and one that is ground.

Miscellaneous Ceramics

There is one plain vessel handle that has a characteristic convex exterior profile, that is 31 mm. long and 11 mm. wide. There is also one small ceramic concretion. This fired concretion is probably an unintentional byproduct of pottery manufacture.

Lithic Analysis

The Wilson site lithic assemblage consists of only 45 lithic artifacts (Table 36). No debitage or unworked lithic artifacts are present, probably as a result of selective excavation or curation.

Table 36. Wilson Site Lithic Assemblage

Type	f	%
Projectile Points	15	33.3
Celts	12	26.7
Retouched Flakes/Scrapers	8	17.8
Utilized Flakes	2	4.4
Unident. ground stone frags.	2	4.4
Anvilstones	2	4.4
Backed Knives	1	2.2
Mortors	1	2.2
Hammerstones	1	2.2
Netsinkers	1	2.2
Total	45	99.8

Material

The small chipped stone assemblage from the Wilson site was dominated by imported Onondaga chert (65.4%), followed by Trent chert (19.2%) and Huronian chert (7.7%) (Table 37). Given the small and selective nature of the worked lithic sample, the higher frequency of imported rather than local cherts may not be significant. It is however, possible that the higher

quality Onondaga chert was preferred for the manufacture of formalized tools, such as projectile points. A similar pattern of material selection has been suggested for the Bark site.

Table 37. Wilson Site Lithic Material

Material	f	%
Onondaga chert	17	65.4
Trent chert	5	19.2
Huronian chert	2	7.7
Slate	1	3.8
Unknown	1	3.8
Total	26	99.9

Projectile Points

There were seven complete projectile points, four bases and four mid-sections in the assemblage. Six of the complete projectile points are typical Middleport side notched forms. These small triangular side notched points are diagnostic of the Middleport substage or late Middle Iroquoian period (Wright 1966:63). The attributes of these six projectile points are listed in Table 38. All of these points were manufactured from imported Onondaga chert. The lateral edges are usually straight or slightly convex. The lateral edges of four of the points are bifacially worked, while the other two both have one beveled

lateral edge and one bifacial lateral edge. Bases are straight to slightly concave, and are bifacially worked.

Table 38. Complete Middleport Side Notched Projectile Points

	Length	Width	Lateral Edges	Base	Material
1.	37	21	straight	concave	onondaga
2.	33	16	straight	straight	onondaga
3.	36	17	concave	concave	onondaga
4.	35	17	convex	straight	onondaga
5.	37	16	straight	concave	onondaga
6.	45	16	convex	straight	onondaga

There are also three Middleport side notched projectile point bases. They are all made out of Onondaga chert, one is concave and two are straight, and the average width is 18.3 mm. One of these bases was beveled, while the others were bifacially worked. Two other incomplete Middleport side notched projectile points have their tips and part of their bases missing. The lateral edges are straight, the bases are convex and concave, and they are also made out of Onondaga chert. One point is bifacially worked while the other has one beveled lateral edge and one bifacial lateral edge.

There is one complete small (29 mm. in length) triangular point in the assemblage made out of Onondaga chert, that had slightly concave lateral edges and a straight base. A large

flake was taken off one lateral edge during manufacture. This concavity was then unifacially retouched to allow it to be used as a spokeshave. Its lateral edges are steeply beveled. There was also the straight bifacially worked base of a similar triangular point, in the assemblage.

Two other projectile points in the assemblage are non-Iroquoian. One is made out of slate, with a straight stemmed base and corner notches. The tip is missing, but the lateral edges are slightly convex. Slate points similar to this in the Rice Lake area are characteristic of the Late Archaic period (300-4500 B.P) (Johnston 1982:26). Another projectile point, slightly exfoliated and made out of Trent chert, has been tentatively identified as Jack's Reef Corner Notched (Ritchie 1971:26). The one intact lateral edge was beveled. Projectile points of this type are associated with the late Middle Woodland period, and have been dated in the Rice Lake area to A.D. 930 (Jackson 1987:5). It is possible that these projectile points represent earlier occupations in the immediate area of the Wilson site. It is also possible that they originated from somewhere else in local region and were incorporated into the assemblage.

Retouched Flakes/Scrapers

Seven flakes have steep unifacial retouch along at least one lateral edge. These flakes were probably used for various

scraping functions. Attributes and metrics are listed in Table 39.

Utilized Flakes

Utilized flakes are small, irregular shaped flakes which have evidence of use wear and isolated areas (less than one millimetre) of unifacial retouch along their lateral edges. As opposed to retouched flakes, there is no evidence of continuous steep unifacial retouching. There are only two utilized flakes in the Wilson assemblage, both made from small broken flakes. See Table 39 for a description of their metrics and attributes.

Backed Knife

One large retouched flake has been tentatively identified as a backed knife. It is made from a large primary flake of Onondaga chert, with a length of 69 mm., and a width 24 mm. There is steep unifacial retouch along one lateral edge, and bifacial retouch along 53 mm. of the opposite lateral edge. Evidence of crushing and grinding on the proximal end may indicate that it was hafted.

Celts

There were twelve pecked or ground stone celts in the lithic assemblage were all made out of chlorite schist. The sample consists of three complete celts, one preform, a blade/shaft fragment, and seven blade fragments. Their attributes and

metrics are listed in Table 40.

Table 39. Wilson Site Retouched Flakes/Scrapers

	material	flake type	metrics mm. L	W	T	Retouched Edges location	L	shape	edge
1.	O	B	26	17	4	LV	23	S	70
2.	O	B	29	12	6	LD	18	S	80
3.	O	P	36	20	7	LV	15	C	60
4.	T	P	24	23	8	LD/LDt	10/ 17	S	50
5.	T	B	30	29	8	LD	27	S	60
6.	O	P	43	13	5	LD/LB	20/ 18	S	70/80
7.	U	B	25	14	4	LD	22	S	80
8.	U	P	36	22	5	DDt	22	C	80
9.*	T	B	30	23	4	LV	17	C	60
10.*	T	P	20	19	4	LD	12	C	50

Abbreviations

Material Types
O - Onondaga chert
T - Trent chert
H - Huron chert
* utilized flake

Flake Types
B - broken
P - primary

Retouched Edge Location
Edge
P - proximal
Dt - distal
L - lateral
Face
D - dorsal
V - ventral
B - bifacial

Retouched Edge Shape
S - straight
C - convex

Unidentified Ground Stone Fragments

There were two small ground stone schist fragments, possibly from the shafts of larger implements. Both were fragmentary with one intact section exhibiting a grounded and polished surface.

Table 40. Wilson Site Celts

	L mm.	Width blade	Thick. pole	Blade	Longitudinal Angle	Cross Section
1.	124t	25	17	20	50	plano-convex
2.	115	39	34	22	60	plano-convex
3.	?	?	?	16	50	plano-convex
4.	94t	?	?	15	60	plano-convex
5.	44t	?	?	13	60	biconvex
6.	45t	?	?	9	50	plano-convex
7.	65t	?	27	18	60	plano-convex
8.	?	45	?	17	70	plano-convex
9.	67t	?	?	14	50	biconvex
10.	114t	55	?	14	?	plano-convex
11.	94t	?	?	11	60	plano-convex
12.	37	12	15	7	80	plano-convex

Abbreviations

L - length
Thick - thickness
t - incomplete length

Anvilstones

Two elongated waterworn schist cobbles have polished ground end causing a concavity. Their lengths range from 73-86 mm. and weigh between 212 and 488 grams. The working surface on each has been ground down smooth indicating their use as grinders or anvilstones.

Hammerstones

One waterworn granitic cobble has hammering facets and pitting on both of its broad faces indicating its use as a hammerstone. It is 82 mm. long, with a weight of 277 grams.

Netsinkers

One flattened sandstone cobble had two notches chipped out on opposite lateral edges. This is characteristic of netsinkers which would have had hemp wrapped around the notches and tied to gill nets to act as weights.

Mortars

There is one mortar fragment in the assemblage consisting of a corner fragment of a larger flat stone rectangular in profile, which had a pitted but highly polished broad face. The fragment is 86 mm. long, 85 mm. wide and 25 mm. thick. It weighed 241 grams.

Worked Bone

The faunal assemblage from the Wilson site is derived from the 1962 excavations. This material was analyzed by J. Cridland (1985) as part of the faunal archaeology course at the University of Toronto. The following data relating to the worked and unworked faunal assemblage summarise that report.

The 100 worked faunal bone (table) artifacts account for 22.9% of the total Wilson faunal assemblage. The high frequency of worked specimens in the assemblage reflects the selective nature of the existing faunal assemblage.

Table 41. Wilson Site Worked Bone Assemblage

Object	f	%
Modified white-tailed deer phalanges	43	43.0
Awls	30	30.0
Bone Beads/Tubes	9	9.0
Needles	4	4.0
Black Bear/Dog worked phalanges	2	2.0
Drilled Turtle costal plate	1	1.0
Misc. ground and engraved forms	11	11.0
Total	100	100.0

Worked Whitetailed Deer Phalanges

The 43 worked middle and proximal deer phalanges represent 67.2% of the total number of middle/proximal phalanges in the faunal assemblage. The attributes and attribute combinations devised by McCullough (1978) were used to analyze the Wilson phalanges (Table 42).

Table 42. Attributes of Wilson Site Worked Deer Phalanges

Attribute Combinations	Nothing Else	dist. art. drilled	dist. and prox.	dist. art. no prox. epip.	other	f	%
flattened ventrally	2	1	5	3	-	11	25.6
flat. vent. dors. ground	9	7	8	1	1	26	60.5
dorsal ground	-	-	-	-	-	-	-
none of the above	-	2	-	-	4	6	14.0
Total	11	10	13	4	5	43	100.1

Using the attributes described by McCullough (1978:5) to type "cup and pin" and "toggle" phalanges, the worked phalanges in this sample consist of 27 (62.8%) cup and pin, 12 (27.9%) toggle and 4 (9.3%) untyped phalanges. Both Wright (1966:63:72) and McCullough (1979:102) have stated that the cup and pin variety are diagnostic of the Middleport Period, with the toggle variety appearing only after A.D. 1100, in the Late Iroquoian Period. The presence of some toggle phalanges at the Wilson site appears to be an exception to this general rule, and points to the Middleport antecedents of the form.

Awls

There were a total of 30 bone awls within the Wilson site faunal assemblage. Due to extensive modification, only 22 were identified to class, all being mammalia. The 15 relatively complete awls exhibit the characteristic polished and tapered body with a sharp pointed end.

Thirteen awls were made from bone splinters, six were manufactured from long bones, and four were from ulnae. Two of the ulnae were identified as Canis sp., and one each as timber wolf and beaver. The eight remaining awls were too fragmented to determine what bone element they were made from.

Needles

Four artifacts have been tentatively identified as bone needles because of their small solid polished needle like shape, and their pointed ends. The only needle identifiable to species was made from a moose metapodial.

Hollow Tube/Bead Forms

Nine bone tubes or tube/bead fragments were recovered. Three specimens were from mammal longbones, while the remaining six were from bird longbones. Grooves or cut marks along some of the tubes indicate that beads were manufactured from them by breaking off or snapping the bone at these points. Three of the tubes were highly polished, possibly indicating that they were used as beads. The intact tube specimens averaged 45 mm. in

length and 7 mm. in diameter.

Other Worked Bone

Other notable worked bone artifacts include a black bear proximal phalanx that was flattened on the vertical surface, charred and highly polished, and a canis sp. proximal phalanx that was flattened on the vertical surface at the distal and proximal ends. These objects are very similar to the worked dog and black bear phalanges from the Bark site.

Another interesting object was a painted turtle costal plate which had a hole drilled along its border. It has been suggested that these holes were used to tether some turtles, which were kept as pets or for future consumption (Anderson 1987:18).

The remaining eight miscellaneous worked bone items consist of small undiagnostic highly polished and/or carved bone fragments whose original form or function is unknown.

Faunal Analysis

The assemblage consists of 436 specimens (including worked bone), 435 of which were identifiable to class level. There were 387 (89%) fragments that were identified to family level or lower. Most of the fragments that were not identifiable below class level were culturally modified. The high rate of identifiable and complete (30%) elements is probably a

result of the biased nature of the faunal assemblage. Mammals (89.9) dominate the sample (Table 43), followed by much smaller proportions of classes such as fish, which are difficult to recover without flotation.

Table 43. The Wilson Site Faunal Assemblage

Class	f	%
Mammalia	392	89.9
Aves	31	7.1
Reptilia	8	1.8
Osteichthyes	2	.5
Pelecypoda	2	.5
Unidentifiable	1	.2
Total	436	100.0

Mammalia

There were 347 (88.5%) specimens identified to species (Table 44), out of the total of 392 Mammalia items. The species with the highest frequencies were white tailed deer (45.3%), Canis sp. (18.7%), domestic dog (8.9-%), muskrat (4.6%), eastern chipmunk (4.0%) and woodchuck (3.5%). The habitats of these mammals suggest that disturbed/open areas, and swamps and marshes were most heavily exploited (Tables 22 and 45).

Table 44. Identified Mammalian Remains

Species	f	%
Odocoileus virginianus (white tailed deer)	157	45.3
Canis sp. (domesticated dog/timberwolf)	65	18.7
Canis familiarus (domesticated dog)	31	8.9
Ondatra zibethica (muskrat)	16	4.6
Tamias striatus (eastern chipmunk)	14	1.0
Marmota monax (woodchuck)	12	3.5
Castor canadensis (beaver)	8	2.3
Alces alces (moose)	8	2.3
Tamiasciurus hudsonicus (red squirrel)	5	1.4
Ursus americanus (black bear)	5	1.4
Procyon lotor (raccoon)	5	1.4
Sylvilagus floridanus (eastern cottontail)	4	1.2
Cervidae sp. (deer/moose/elk)	4	1.2
Sciurus carolinensis (gray squirrel)	3	.9
Vulpes vulpes (red fox)	3	.9
Canis lupus (timber wolf)	2	.6
Mephistis mephistis (skunk)	2	.6
Sciuridae family (squirrel)	1	.3
Martes americana (marten)	1	.3
Mustela vison (mink)	1	.3
Total	347	100.1

Body Portions/Cultural Alterations/Aging

The most prevalent mammals in the assemblage have most of their body parts represented. It appears that all of the body parts of these mammals, including white tailed deer, were brought back to the site for processing. Only seven faunal elements, or 1.6% of the total sample, had butchering marks. Eleven elements, or 2.5% of the total sample were calcined.

Table 45. Wilson Site Mammalian Habitats*

Mammal	Weight	Habitat
beaver	15-35 kg.	marshes, wetlands, streams
raccoon	8 kg.	forested areas near water
red fox	3.6-6.8 kg.	semi-open country, lakeshore, river valleys
moose	400 kg.	subclimax growth, lakeshores and swamps
timber wolf	26-79 kg.	coniferous and deciduous forests

* see page 84 for a description of other relevant mammalian habitats

Aves

Out of the total of 31 fragments, 28 (90.3%) were identified below class level (Table 46). The species with the highest frequencies were passenger pigeon with 15 (53.6%) and Canada goose with 7 (25%).

Passenger pigeons, Canada geese, Sandhill Cranes, Common loons and American coots are only summer residents. Wild Turkeys and Ruffed grouse were permanent residents. Canada Geese, Sandhill Cranes, Common loons and American coots prefer aquatic habitats near lakes, bays, rivers or marshes. Passenger pigeons and Wild Turkeys were attracted to mature deciduous forests, while Ruffed Grouse preferred secondary growth

forests, and forest or stream edges (Godfrey 1966).

Table 46. Wilson Site Identified Aves Remains

Species	f	%
Ectopistes migratorius (passenger pigeon)	15	53.6
Branta canadensis (Canada goose)	7	25.0
Meleagris gallopavo (wild turkey)	1	3.6
Bonasa umbellus (ruffed grouse)	1	3.6
Grouse sp.	1	3.6
Grus canadensis (sandhill crane)	1	3.6
Fulica americana (american coot)	1	3.6
Gavia immer (common loon)	1	3.6
Total	28	100.2

Reptilia

Seven elements were identified as Painted turtle (Chrysemys picta), and one as Snapping turtle (Chelydra serpentia). Both of these species would have been available in the nearby marshes and swamps (Froom 1975).

Osteichthyes

The two elements identified to this class are White sucker (Catostomus commersoni) and Largemouth/Smallmouth bass (Micropterus sp.). Both would have been available in Jackson Creek or the Pigeon River.

Pelecypoda

The two elements identified to this class are Elliptio

complanata and Elliptio dilatata. Both of these species preferred the shallow waters of streams or rivers with gravel or muddy bottoms (Clarke 1981:266-268).

Summary

The Wilson site is a large 2.8 hectare Middleport village located just east of the Bark site in a similar sheltered non-defensive position on the floor of the Jackson Creek Valley. W. Kenyon conducted a surface collection of the entire site and excavated a portion of one midden area in the early 1960's. No settlement patterns were identified.

The absence of non-diagnostic artifacts such as body sherds, lithic debitage and fragmented faunal material in the Wilson site artifact assemblage suggests that the present R.O.M. collection is a biased one.

The lithic assemblage for example, is composed of formal tool types, such as projectile points, worked and utilized flakes and groundstone tools. These artifacts reflect a preference for imported high quality Onondaga chert for manufacturing important tool forms.

The selective nature of the existing Wilson site artifact assemblage has also resulted in a very biased faunal assemblage. The relative frequencies of the different species present cannot be used as a basis for any significant interpretations of faunal utilization, because of their

selective recovery and/or curation. However, the variety of species present does indicate that the Wilson site inhabitants utilized the various microenvironments present in their area, such as areas of secondary growth, swamps, wetlands, and deciduous forests. Although the class and species frequencies are very different from the Bark site faunal assemblage, the importance of the nearby swamps and wetlands for both sites is evident. Any other comparison between the faunal assemblages of the two sites is not possible due to the different artifact recovery methods that were employed.

The chronological and cultural implications of the Wilson site ceramic assemblage are discussed in Chapter 5.

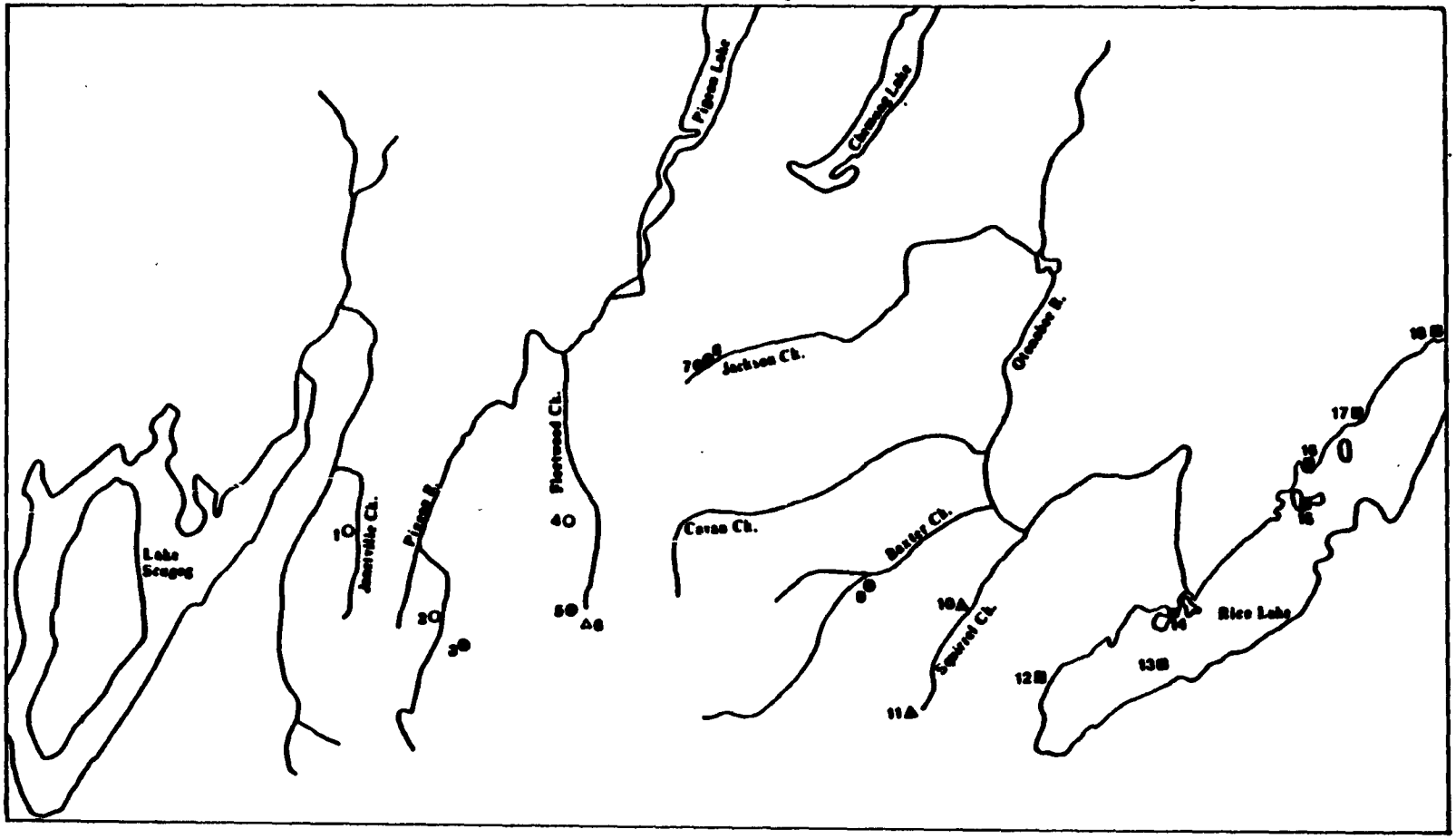
CHAPTER 5

OTHER MIDDLE AND LATE IROQUOIAN SITES IN THE STUDY AREA

Very few Middle or Late Iroquoian sites have been found in Peterborough or southern Victoria Counties (Figure 23). Previous archaeological surveys of the region have concentrated on areas adjacent to the Trent waterway and did not proceed inland, except to verify reported site locations (Ritchie 1949; Hakas 1967; Richardson 1968; Johnston 1968a; Ross 1972). With one exception (Mayer et al. 1988), no systematic archaeological survey has been conducted in the study area or the middle Trent Valley region in general, with the exception of the Rice Lake shoreline. Robert's (1978;1985) "winter survey" of Cavan Township (where the Bark and Wilson sites are located), consisted of interviews with farmers about possible site locations, none of which were confirmed by field research. The few confirmed Middle and Late Iroquoian sites that have been found in the study area bordered by Rice Lake, Lake Scugog, the Oak Ridges Moraine and the Kawartha Lakes, are briefly described below.

Fleetwood Creek II (BaGp-36) This site is located 13 km. to the southwest of the Bark and Wilson sites. The site was found in 1987, during a selective archaeological survey

Figure 23. All Reported Middle and Late Iroquoian Sites in the Study Area



of the high potential heritage resource areas of the 939 acre Fleetwood Creek Natural Heritage Property (Mayer et. al. 1938). The site covers 1.2 hectares on a terrace overlooking the Fleetwood Creek. The small ceramic assemblage consisted of only three analyzable rimsherds and other undiagnostic material. Mayer et. al. (1988:20) believe that this was a late prehistoric Huron village site occupied around 1500 A.D.

Fleetwood Creek I (BaGp-35) This is a Woodland findspot consisting of one undiagnostic ceramic sherd located just to the south of the Fleetwood Creek II site (Mayer, Pihl and Poulton 1988:14).

Larmer (BaGo-1) The Larmer site is located 12 km. southeast of the Bark/Wilson sites, on a ridge overlooking a ravine. The site has been subject to test excavations by Hakas (1967) and amateur archaeologist R. Gordon (1970). All that remains of the site is one large midden area. Hakas (1967:11) dated the site to the Middle Iroquoian period. However, based on my analysis of the small Trent University Larmer site assemblage, and the artifact drawings of R. Gordon (1970), the site appears to date from the late prehistoric period (Table 47).

Table 47. Larmer Site Analyzable Rimsherds And Pipes

Rimsherds	f	Pipes	f
Black Necked	6	plain trumpet	1
Pound Necked	1	decorated conical	1
Lalonde High Collared	1		
Untyped	3		
Total*	11		

* Based on an analysis of Trent Univ. collection and Gordon (1970) rimsherd sketches.

Strong (BaGp-1) The Strong site is located on the west and south side of a hillock east of Lake Scugog. The 2-3 acre site was tested by Hakas (1967:11) and produced an unspecified number of Late Iroquoian pottery types such as Lalonde High Collared, Pound Necked, Black Necked and Huron Incised. Hakas (1967:11) suggested a date of 1500-1550 A.D., although these types are more characteristic of the fifteenth century. The Trent University collection from this site consists of only one Black Necked rimsherd and undiagnostic ceramics.

Spearing Ossuary The Spearing ossuary is located 10 km. southwest of the Bark/Wilson sites. Hakas (1967: 12) tested the ossuary and found it to be 12 feet wide and 5 ft. deep, with 500-1000 interred individuals. No artifacts were found in association with the ossuary.

Syer's Ossuary The Syer's ossuary is located on the Janetville Creek, 18 km. southwest of the Bark/Wilson sites, and was excavated by Boyle in 1896 (1896:41). Boyle (1896:41) described it as being 18 feet in diameter with a depth of 6 feet. Up to 600 individuals were interred in the ossuary, and no artifacts were found. Laidlaw (1917:99) reported that a possible Iroquoian campground was found on the next lot to the east of the ossuary. This campground contained pottery, pipe fragments, and projectile points.

Fallis Ossuary This ossuary is located on the Pigeon River, 18 km. southwest of the Bark/Wilson sites. This ossuary was reported by both Boyle (1896:41) and Laidlaw (1917:101). Laidlaw (1917:101) described how large amounts of pottery, projectile points, and groundstone tools (no European goods) were found on the surrounding farm to the south and west of the ossuary. This was likely the location of a Middle or Late Iroquoian settlement.

Rice Lake Middle and/or Late Iroquoian material has been found in very small amounts on many multi-component sites located along the north shore and islands of Rice lake. These sites are; Serpent Mounds (Johnston 1968b:64), Jubilee Point (Johnston 1968a:140, Loucks (Johnston 1968a:17), East Sugar

Island (Johnston 1968a:17; Ritchie 1949:9), Birdsall's Beach (Johnston 1968a:25), Harris Island (Ross: personal communication), and Dawson Creek (Jackson 1988: 51).

Only two of the small ceramic assemblages from these sites were available for analysis. The ten analyzable rimsherds from the East Sugar Island Site consisted of Black Necked (7), and one each of Lawson Incised and Durfee Underlined types. The 17 analyzable rimsherds from the Jubilee Point Site consisted of Black Necked (5), Pound Necked (3), one each of Lawson Incised, Lawson Opposed, Huron Incised and Niagara Collared, and five untyped vessels. The lack of any diagnostic Middle Iroquoian rimsherd types from these two very small assemblages, suggests that they may represent early Late Iroquoian occupations.

The seven small Rice Lake assemblages as a whole represent the continued use of these locations as hunting or fishing camps into the Middle and/or Late Iroquoian periods (Johnston 1968a:27; Jackson 1988:95). While Johnston (1968a:27) has suggested that small hunting or fishing parties may have emanated from villages to the west such as the Wilson site, it is more likely that they occupied as yet undiscovered inland villages closer to Rice Lake (Jackson 1988:95).

Chapter 6

Interpretations

Chronological Position and Cultural Affiliations of the Bark and Wilson Sites

The ceramic types, attributes, type and attribute frequencies, pipe forms and diagnostic lithics from the Bark and Wilson sites have been compared to those from other Middle and Late Iroquoian sites in the Trent Valley and southern Ontario to determine their position both within the Trent Valley sequence and Southern Ontario prehistory in general.

Preliminary analysis of the ceramic type frequencies at the Bark site (Table 6) suggests that it is a Late Iroquois Stage, Southern Division Huron site. Wright (1966:70) has observed that the major distinguishing characteristic of southern division sites is the combined high frequencies of Black Necked, Huron Incised, Lawson Incised and Lawson Opposed pottery types which account for 43 to 70% of the total rimsherd types present. The combined frequencies of these types at the Bark site is 61.9 %, which clearly places it into this group. Wright (1966:70) also noted that in the earlier portion of the southern division sequence the Pound Necked type has a "considerable representation". At the Bark site, the Pound Necked type accounts for 12.4% of the rimsherd assemblage

suggesting that the Bark site is early in the sequence.

This is also indicated by the pipe bowl frequencies at the Bark site (Figure 16). The small Bark site pipe bowl assemblage is dominated by conical flared and trumpet pipe bowl forms which represent 94.1% of the total sample. High frequencies of these undecorated bowl forms are characteristic of prehistoric Huron sites in general (Wright 1966: 71; Ramsden 1988c:12), and of late prehistoric Huron sites in the upper Trent Valley, such as the Hardrock site (Emerson 1954:186). Wright (1966:66) placed Southern Division Huron sites into a A.D. 1400-1550 time frame, based on ceramic seriation.

The presence of ceramic types at the Wilson site (Table 35) that are diagnostic of the Middle Iroquois Stage such as Iroquois linear and Ontario Oblique, suggests that it occupies an earlier chronological position than the Bark site. The rimsherd types which are diagnostic of the later Southern Division Huron sites (Black Necked, Huron Incised, Lawson Incised and Lawson Opposed) only account for 34.9 % of the total Wilson site rim sherd types. The Wilson site also does not appear to be a Northern Division Huron site. Northern Division sites are dominated by high frequencies of the Lalonde High Collared type (Wright 1966:73), and this type accounts for only 3.6% of the Wilson site rim sherd assemblage.

The combined high frequency of three types is considered to

be diagnostic of the Middleport substage and usually account for more than half of the total rimsherds from Middleport sites: Middleport Oblique, Ontario Horizontal and Lawson Incised (Wright 1966:61). However, these types account for only 24% of the total rimsherd count from the Wilson site. Thus it appears that the Wilson site may occupy an intermediary position between Wright's (1966) definitions of the Middleport substage and the Late Iroquois Stage. The presence of Middleport side notched projectile points which are diagnostic of the Middleport substage (Wright 1966:63) in the Wilson site lithic assemblage, indicates that the site is affiliated with the Middleport period. The high frequency of plain horizontally incised conical pipe bowl forms followed by smaller frequencies of trumpet and vasiform bowls is also characteristic of Middleport sites (Wright 1966:63; Kapches 1981:230-231). Preliminary analysis of the ceramic frequencies from the Wilson site, combined with diagnostic lithic and pipe bowl forms, suggests that Wilson is a late Middleport site.

Wright (1966:64) suggested that the Middleport substage dates between A.D. 1350 and 1400, based on ceramic seriations. Other researchers have extended this period to A.D. 1450 because of the continued presence of sites with Middleport characteristics (Kapches 1981:17; Dodd 1984:192; Lennox et. al. 1986:98). However, based on the calibration of radiocarbon dates from

Middleport sites, Timmins (1984:98) has suggested that the Middleport substage dates from A.D. 1290 to 1350. The discrepancies on these dates may be partially due to the fact that the Middleport substage appears to have ended earlier in the west than it did farther east (Trigger 1985:95).

Other Methods For Determining The Chronological and Social Positions of Iroquoian Sites

In order to determine more precisely the chronological position and cultural affiliations of the Bark and Wilson sites to each other and to other sites in the Trent Valley and Southern Ontario two different methods were used.

Ramsden (1979a) developed a method based on the analysis of individual rimsherd attributes to develop a new synthesis of Huron prehistory. Ramsden (1977a:76) selected particular individual attributes of complete rimsherds for analysis on the basis of their "suspected or observed variability" through time and/or space. Within this group of attributes, particular traits were identified which exhibited social and chronological significance (See Ramsden 1977a for a detailed description of these attributes). Chronologically significant attributes were identified by observing which attributes exhibited widespread temporal trends with increases or decreases in frequency through time, on sites whose relative dating had been

predetermined through the presence or absence of European trade items (Ramsden 1977a:183). These chronologically significant attributes are: simple collar motif, opposed collar motif, horizontal collar motif, neck decoration, interior decoration, sub-collar decoration, convex rim interior, concave rim interior, concave collar exterior and straight collar exterior.

Socially significant attributes were identified as those attributes which clustered spatially among Huron sites in southern Ontario, and those which exhibited bimodality independent of time (Ramsden 1977a:159). The socially significant attributes consisted of collarless plain, collarless decorated, collared plain, total stamping technique, opposed collar motif, hatched collar motif, neck decoration, interior decoration, lip decoration, frontal lip notching, sub-collar decoration, concave-convex interior and high collars (Ramsden 1977a:157-159). In order to determine which sites are socially or chronologically related, the sum of the differences between the frequencies at each site of these two groups of attributes are calculated. The lower the number, or "measure of difference", the more similar are the two ceramic samples (Ramsden 1977a:58). The measure of difference between sites was then subjected to Single-link cluster analysis to produce groups of socially or chronologically related sites.

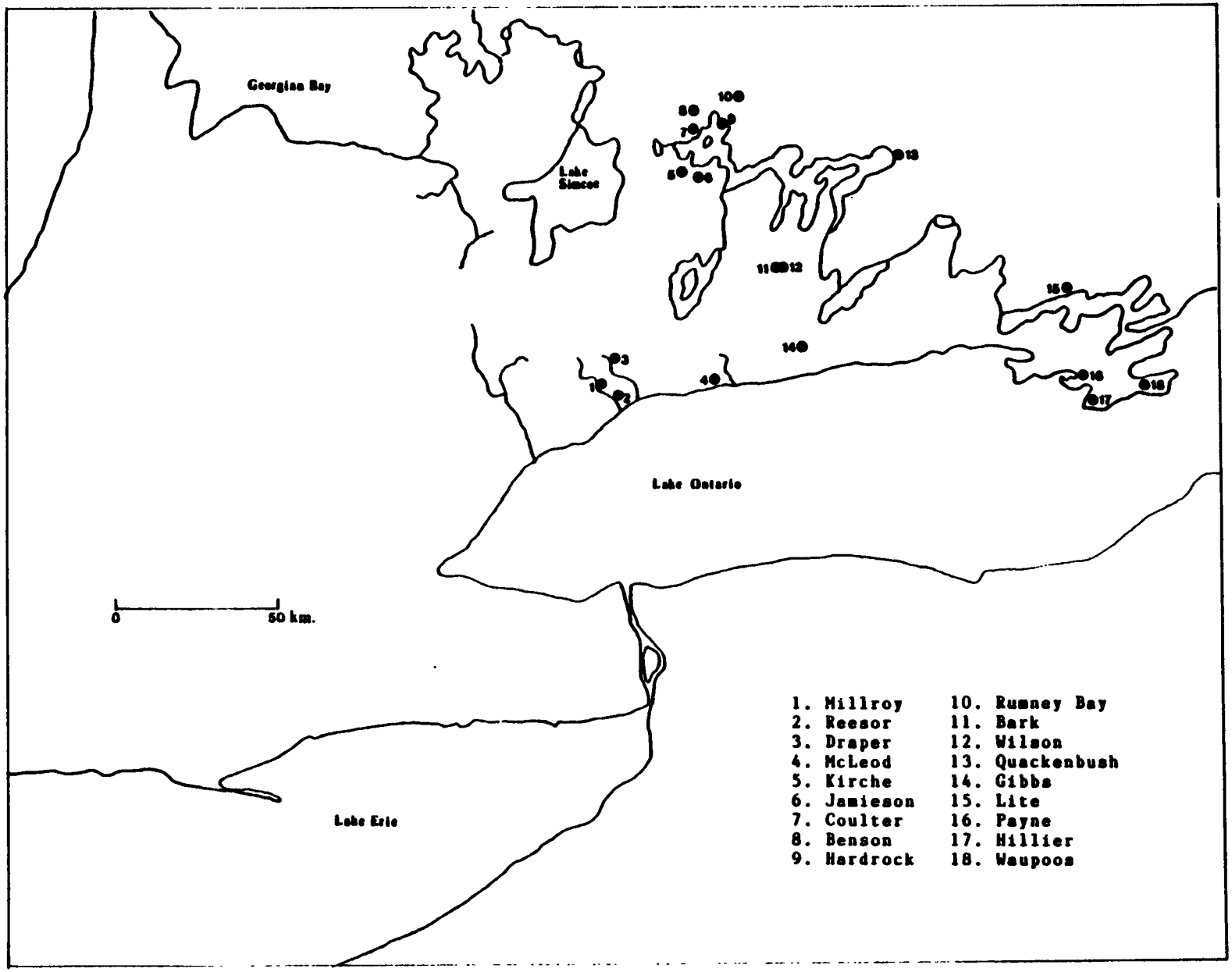
While there has been some criticism of the use of individual attributes for spatial-temporal reconstructions and of Ramsden's methods for selecting significant traits (Smith 1983:40;49), this method was employed here because of the large amount of comparative data which is available in this format (see Figure 24). This is especially apparent in the Trent Valley region, where all of the substantial Iroquoian ceramic assemblages have been analyzed using this method (Ramsden 1977a; Nasmith 1981; Damkjar 1982).

While Ramsden's extensive study provides a large comparative sample of Late Iroquoian sites in the Trent Valley and along the north shore of Lake Ontario, only two Middleport sites (Beswetherick and Millroy) were included in the analysis (Ramsden 1977a:68;72). Given the suspected late Middleport position of the Wilson site, Ramsden's data base is inadequate for determining the chronological position of that site.

The vast majority of Middle Iroquoian ceramic assemblages have been analyzed using MacNeish's (1952) typological method. In order to determine the chronological position of the Wilson site a comparison of rimsherd types is necessary. Lennox and Kenyon (1984) have recently employed a modified version of typological analysis to determine the chronological position of 30 Middle and Late Iroquoian sites.

Initially, the 24 types outlined by MacNeish (1953) were used

Figure 24. Comparitive Site Sample Using Ramsden's (1977a) Attribute Method



by Lennox and Kenyon (1984) to compare rimsherd assemblages. Type frequencies for each site, including several multianalyst sites, were compared to one another using the Brainerd-Robinson (1951) coefficient of similarity (Lennox and Kenyon 1984:19). The sites were then grouped together using single link cluster analysis. The results of this analysis showed that rimsherd samples from the same site that were analyzed by different researchers often did not cluster together (Lennox and Kenyon 1984:20). Lennox and Kenyon (1984:20) suggested that this was due to the fact that many rimsherd types have intergrading and overlapping attributes that can be interpreted differently by different researchers.

To test this hypothesis Lennox and Kenyon (1984:21) lumped together types which differed only subtly from one another, resulting in the formulation of seven ceramic classes from the original 24 pottery types (Table 48). Type frequencies for these seven classes (untyped castellations, rimsherds and juvenile forms were excluded) were then calculated for the 30 sites, and then compared to one another using Brainerd's coefficient of similarity. The coefficients of similarity were then subjected to single link-cluster analysis. It was found that the multianalyst sites now clustered with themselves, and that the four clustered groups that were produced were also very good temporal groupings (Lennox and

Kenyon 1984:20). A comparison of the clustered groups to radiocarbon dates showed that they represented four overlapping time periods; AD 1200-1300, 1250-1350, 1350-1450 and 1400-1550 (Lennox and Kenyon 1984:21-22).

Table 48. Lennox and Kenyon's (1984:20) Seven Ceramic Classes

1. Ontario Horizontal, Iroquois Linear.
2. Middleport Oblique, Middleport Criss-Cross, Pound Necked, Black Necked.
3. Lawson Incised, Lawson Opposed, Huron Incised, Sidey Crossed, Warminster Horizontal, Warminster Crossed, Sidey Notched, Copeland Incised, Pound Blank.
4. Ontario Oblique.
5. Lalonde High Collared.
6. Seed Incised, Ripley Plain, Ripley Collared, Niagara Collared.
7. Bossed Scugog Punctate, Glen Meyer Linear Stamped, Uren Noded.

Single link cluster analysis was used in my analysis following the methods outlined by Ramsden (1977:59) and Lennox and Kenyon (1984:19). Single link cluster analysis is an agglomerative hierarchical clustering technique which fuses together groups consisting of single individuals according to the distance between their nearest neighbours (Everitt 1980:25). Thus, the distance between groups is defined as the distance between their closest members. The most similar pair of sites in a sample are joined first, followed by the site

with the next closest similarity to one of the sites in the first pair. This procedure is continued until the next site to be joined is already the member of another group at a more similar level (Everitt 1980:25).

This relatively simple clustering technique has no more disadvantages than more complex clustering techniques (Hodson 1969:304). Very similar results have been produced when single link cluster analysis and more complex clustering techniques have been used for interpreting archaeological data (Engelbrecht 1974:69; Kapches 1981:290). Iroquoian researchers who have used this tecniques have found that the clusters or groups of sites that are produced, do in fact reflect spatial, temporal and social groupings (Engelbrecht 1971; Ramsden 1977a; Lennox and Kenyon 1984).

The Bark Site

Chronology

Chronologically significant attribute frequencies at the Bark site were compared to those from sixteen other sites (15 Late Iroquoian, 1 Middleport substage) in the Trent Valley and along the north shore of Lake Ontario (Figure 21). Attribute frequencies for these sites were extracted from Ramsden (1977a), Nasmith (1981), Damkjar (1982) Carruthers (personal communication) and my analysis of Bark, Wilson and

Gibbs. Rimsherd type frequencies for the seven classes devised by Lennox and Kenyon (1984) for the Bark site (Table 50) were also compared to those from 28 other Middle and Late Iroquoian sites (A.D.1200-1500) from across Southern Ontario (Figure 25).

Table 49. Bark and Wilson Site Type Frequencies For Lennox/Kenyon (1984) Seven Ceramic Classes

	Bark		Wilson	
Class	f	%	f	%
1.	3	2.8	26	11.6
2.	80	74.1	121	53.8
3.	20	18.5	54	24.0
4.	-	-	1	.4
5.	5	4.6	10	4.4
6.	-	-	13	5.8
7.	-	-	-	-
Total	108	100.0	225	100.0

As can be seen from Tables 51 and 52 the Bark site has the smallest measure of difference and the highest coefficient of similarity with sites dating between A.D. 1350 and 1500. The majority of these sites date between A.D.1400 and 1500, suggesting that the Bark site was occupied sometime within this time period.

Table 50. Comparative Site Sample Using Lennox and Kenyon (1984) Methodology

No. in Figure 25	Site	Reference
1	Nodwell	Wright 1974:240
2	Inverhuron	Wright 1966:147
3	Edwards	Pearce 1984:144
4	Drumholm	Pearce 1984:147
5	Pound	Wright 1966:147
6	Uren	Wright 1966:146
7	Moyer	Smith 1988:166
8	Perry	Kapches 1981:267
9	Middleport	Wright 1966:147
10	Bennett	Wright 1966:149
11	Pipeline	Kapches 1981:267
12	Milton	Kapches 1981:267
13	Black Creek	Wright 1966:148
14	Bosomworth	Wright 1966:150
15	Wiacek	Lennox et. al.1986:56
16	Barrie	Wright 1966:146
17	Lalonde	Wright 1966:149
18	Doncaster	Wright 1966:148
19	Thomson	Kapches 1981:183
20	Elliot	Kapches 1981:183
21	Robb	Wright 1966:147
22	New	Kapches 1981:183
23	Millroy	Wright 1966:147
24	Draper	Wright 1966:148
25	Thomas	Donaldson:1963:29-31
26	Bark	Sutton:this study
27	Wilson	Sutton:this study
28	Lite	Pendergast 1972:56
29	Payne	Emerson 1968:82

Figure 25. Comparitive Site Sample Using Lennox and Kenyon (1984) Method

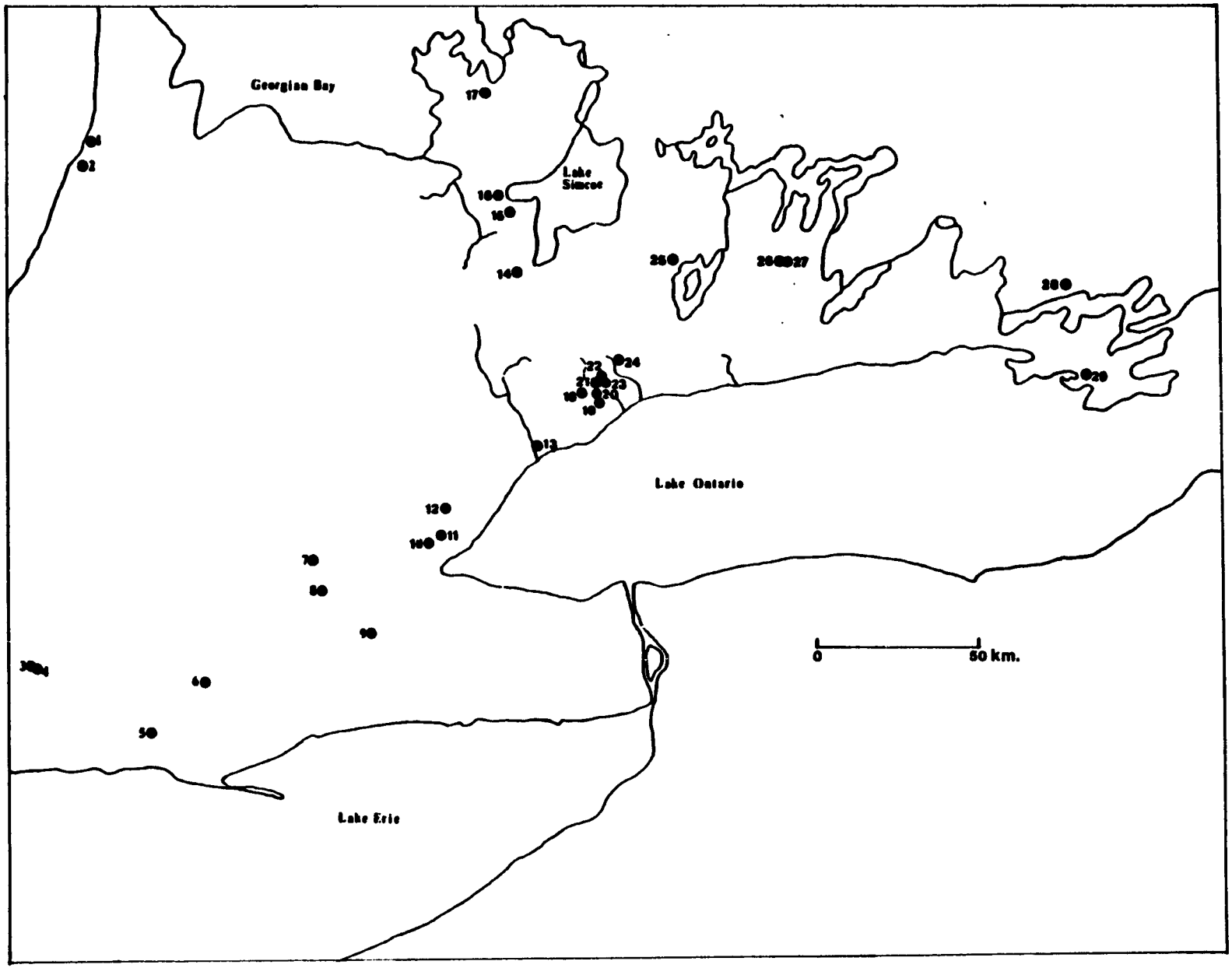


Table 51. Sites Which Are Chronologically Most Similar To The Bark Site Using Ramsden's (1977a) Method

Site	Measure of Difference	Date
Hardrock	107.8	1450 (Ramsden 1977a)
Wilson	121.3	1350-1450
Jamieson	133.4	1450-1500 (Ramsden p.c.)
McLeod	142.2	1450 (Ramsden 1977a)
Millroy	145.4	1400-1450 (Kapches 1981)

Table 52. Sites Which Are Chronologically Most Similar To The Bark Site Using Lennox and Kenyon (1984) Method

Site	Coefficient of Similarity	Date
Doncaster	192.8	1450 (Wright 1966)
Millroy	183.1	1400-1450 (Kapches 1981)
Moyer	165.8	1400 (Kapches 1981)
Wilson	159.0	1350-1450
Pound	155.6	1400 (Wright 1966)

Bark Site Social Relationships

Using Ramsden's (1977a) 13 socially significant attributes the Bark site does not clearly cluster with any particular cluster grouping (Table 53; Figure 26). The smallest measure of difference is with the Payne site (68.7), followed by Hardrock (71.0), Quackenbush (74.3), Rumney Bay (75.4) and Wilson (81.1) (Table 53 and 54). As one would expect, the Bark site is more closely related to other sites along the Trent Valley, than it is to sites along the north shore of Lake Ontario. However, the lack of any sites in the sample that have a very small measure of difference with Bark, suggests that it belongs to a separate focus within the middle Trent Valley region.

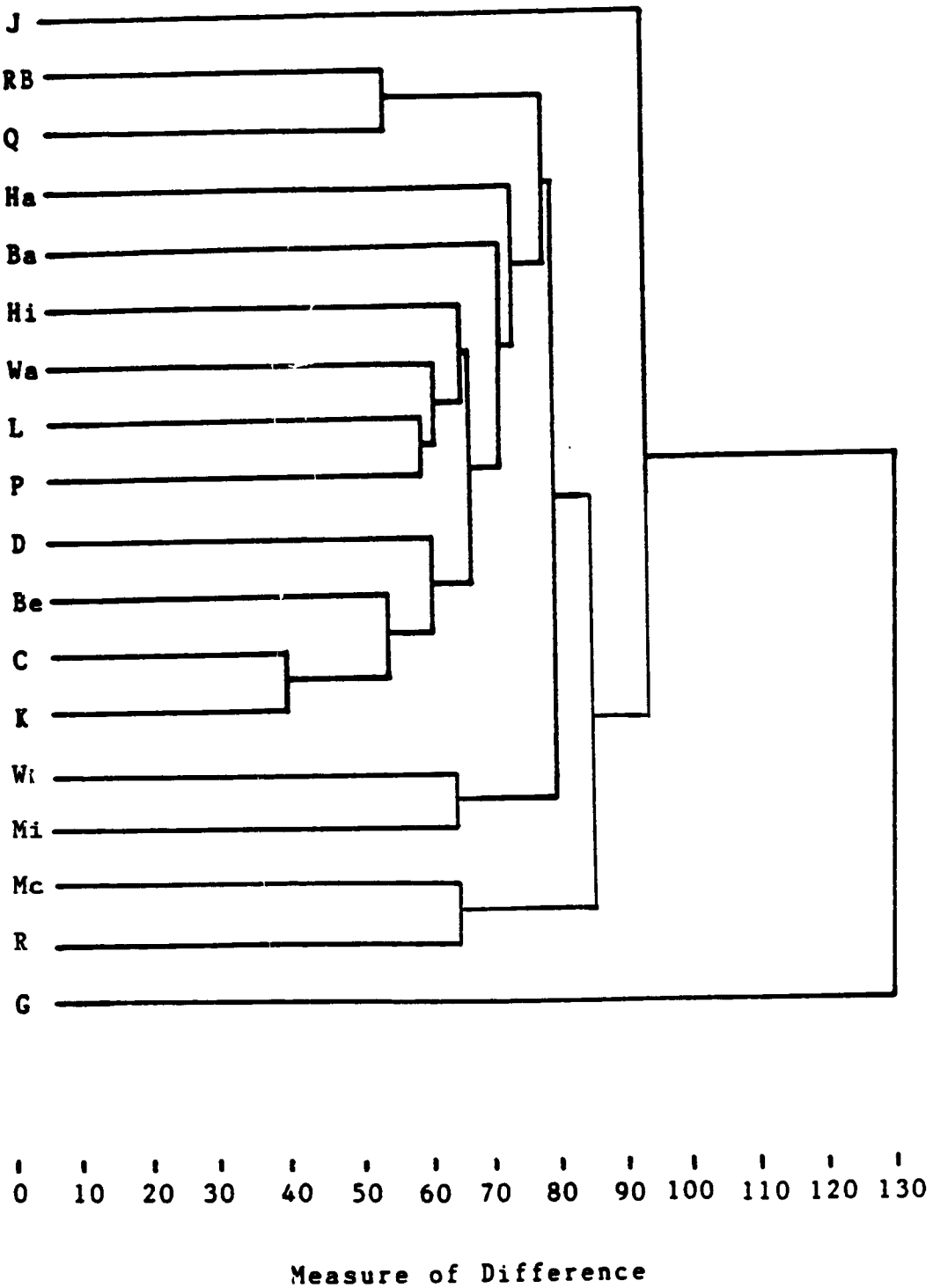
Some affiliation to sites within both the upper and lower Trent Valleys is indicated. Although the closest affiliation is to the Payne site, the next three closest measures of difference are with indigenous upper Trent Valley sites, suggesting a more closer affiliation to that cluster. Traits which the Bark site shares with sites in the lower Trent include low frequencies of collared plain ware, the collar stamping technique and lip decoration. Unlike the lower Trent sites, the Bark Site lacks frontal lip notching, and has a much higher frequency for neck and interior decoration. Similarities with the indigenous upper Trent sites are low frequencies of all wears except collar decorated, low

Table 53. Measure of Difference Using 13 Attributes

	Bn	C	D	G	Ha	Hi	J	K	L	Mc	Mi	P	Q	R	RB	Wa	Wi
Ba		133.7	140.3	183.2	71.0	82.4	91.3	137.7	101.1	109.1	93.7	68.7	74.3	89.1	75.4	103.4	81.1
Be	-	52.9	105.9	220.4	185.4	160.8	196.4	61.4	100.6	202.9	129.9	130.1	216.5	151.1	187.0	142.4	134.3
C	-	-	57.1	189.0	171.0	136.0	172.3	37.3	63.6	184.7	99.9	114.3	198.9	134.7	177.3	139.6	110.4
D	-	-	-	130.3	170.9	157.5	197.2	74.4	149.5	184.8	124.4	156.2	213.0	143.6	200.8	153.1	133.1
G	-	-	-	-	227.2	224.0	173.1	187.5	166.9	191.7	130.9	223.7	251.5	131.9	240.1	244.0	159.5
Ha	-	-	-	-	-	77.0	121.7	168.6	118.6	86.1	165.0	94.7	82.1	100.7	72.9	85.3	105.5
Hi	-	-	-	-	-	-	89.1	147.0	93.6	95.1	142.7	62.5	98.5	111.3	114.1	61.5	97.0
J	-	-	-	-	-	-	-	176.4	177.0	98.8	117.8	148.6	121.2	99.8	137.2	158.7	128.0
K	-	-	-	-	-	-	-	-	71.4	191.3	107.3	109.8	193.8	134.2	189.0	133.0	132.4
L	-	-	-	-	-	-	-	-	-	132.3	95.3	55.3	146.9	106.9	161.6	79.4	90.0
Mc	-	-	-	-	-	-	-	-	-	-	163.2	126.0	134.1	64.4	114.4	93.1	113.2
Mi	-	-	-	-	-	-	-	-	-	-	-	137.6	173.6	114.6	159.2	166.9	64.0
P	-	-	-	-	-	-	-	-	-	-	-	-	133.8	169.4	112.6	57.5	97.1
Q	-	-	-	-	-	-	-	-	-	-	-	-	-	136.7	51.0	106.1	125.8
R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	127.8	117.7	114.4
RB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	106.5	118.0
Wa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	114.1

Ba Bark
Be Benson
C Coulter
D Draper
G Gibbs
Ha Hardrock
Hi Hillier
J Jamieson
K Kirche
L Lite
Mc McLeod
Mi Millroy
P Payne
Q Quackenbush
R Reesor
RB Rumney Bay
Wa Waupoos
Wi Wilson

Figure 26. Cluster Analysis Dendrogram Based on the Measure of Difference of Thirteen Attributes



frequencies of frontal lip notched, stamping and lip decoration, and very high frequencies of interior and sub-collar decoration. The few major differences with the indigenous upper Trent sites are the lower frequencies of opposed and hatching motifs at the Bark Site.

Table 54. Sites Which Have The Closest Cultural Affiliation To The Bark Site Using Ramsden's (1977a) 13 Social Attributes

Site	Measure of Difference
Payne	68.7
Hardrock	71.0
Quackenbush	74.3
Rumney Bay	75.4
Wilson	81.1

A Refinement of Ramsden's (1977a) Method

In order to more clearly identify the position of the Bark site in the Trent Valley some adjustments must be made to Ramsden's approach. Ramsden (1988c:31) has recently noted that the popularity of some collar motifs varies chronologically and spatially, and that there are obvious regional differences between individual ceramic attribute frequencies in the fifteenth century. On the basis of these different attribute frequencies, " distinct local or tribal groups have been

discerned" (Ramsden 1988c:31). This suggests that Ramsden's (1977a) previous universal use of socially significant attributes failed to quantify these local variations.

Ramsden (1988c:32) has observed that the frequency of neck and interior decoration, sub-collar punctates and horizontal motifs is very high among sites in the upper Trent, while their frequencies are often much lower elsewhere. A simple statistical analysis (mean, standard deviation and coefficient of variation) of the frequencies of these four attributes for sites in the upper Trent (divided into indigenous and later sites), lower Trent and along the north shore of lake Ontario (Figure 24), confirms this observation (Table 55).

To determine whether these four attributes reflected local site clusters, the measure of difference for these four attributes was then calculated for the same sixteen sites that were used for Ramsden's (1977a) method (Figure 27; Table 56). Despite the elimination of nine attributes, the sites still cluster into the same broad groups that Ramsden (1977a) first outlined.

However, the Bark site now clearly clusters with the indigenous upper Trent valley sites. Its closest measure of difference is with the Hardrock site (24.1), followed by Rumney Bay (29.7), Wilson (31.9), Payne (43.0), Quackenbush (43.2) and Jamieson (45.3) (Table 56 and 57). The Bark site is more

Table 55. Site Cluster Attribute Frequencies

Cluster	Frequency Range	Mean	S.D.	C.V.
Interior Decoration				
Indigenous Upper Trent Sites	52.2-63.6	60.1	4.6	7.7
Later Upper Trent Sites	8.1-11.2	9.8	1.3	13.3
Lower Trent Valley Sites	32.4-46.5	41.7	5.7	13.7
North Shore Lake Ontario Sites	4.8-42.3	22.3	12.4	5.7
Sub-Collar Decoration				
Indigenous Upper Trent	23.8-45.1	34.4	9.3	27.0
Later Upper Trent	.9-7.8	3.7	3.0	8.1
Lower Trent	19.6-39.0	26.7	7.8	29.2
North Shore Lake Ontario	5.8-30.7	21.9	9.8	44.7
Neck Decoration				
Indigenous Upper Trent	59.9-81.8	70.9	7.7	10.9
Later Upper Trent	20.3-42.5	32.2	9.1	28.3
Lower Trent	33.2-46.8	38.0	5.2	13.7
North Shore Lake Ontario	52.8-90.4	76.0	14.9	19.6

Table 55. continued

Horizontal Motifs				
Indigenous Upper Trent	9.0-25.0	16.7	5.7	34.1
Later Upper Trent	2.4-3.6	3.1	.5	16.1
Lower Trent	5.1-8.7	7.1	1.5	21.1
North Shore Lake Ontario	3.4-24.2	11.9	6.8	57.1

Abbreviations
S.D. standard deviation
C.V. coefficient of similarity

Table 56. Sites Which Have the Smallest Measure of Difference With the Bark Site Using Four Attributes

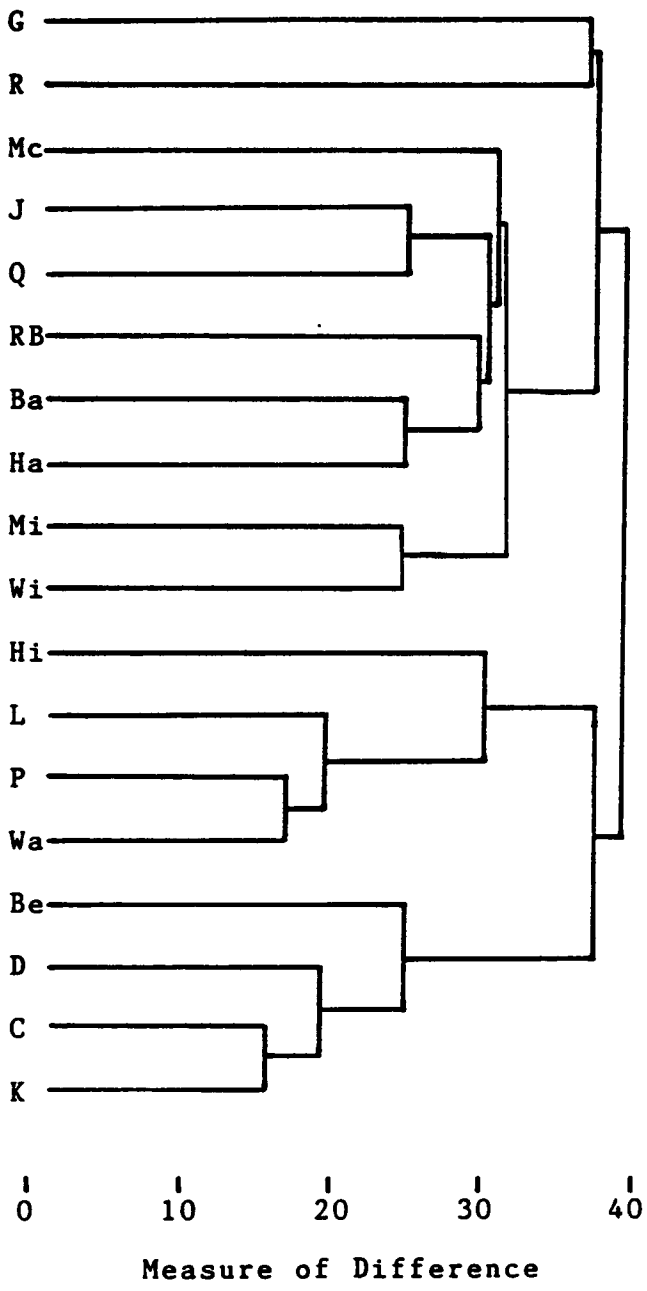
Site	Measure of Difference
Hardrock	24.1
Rumney Bay	29.7
Wilson	31.9
Payne	43.0
Quackenbush	43.2
Jamieson	45.3
Millroy	45.8

closely related to the indigenous upper Trent sites because it shares with them the characteristic high frequencies of interior and neck decoration, sub-collar punctates and horizontal motifs. It is interesting to note that the Bark site pipe assemblage is also very similar to the Hardrock

Table 57. Measure of Difference Using 4 Attributes

	Bn	C	D	G	Ha	Hi	J	K	L	Mc	Mi	P	Q	R	RB	Wa	Wi
Ba	119.9	94.4	86.0	72.5	24.1	51.9	45.3	97.5	63.0	49.7	45.8	43.0	43.2	71.2	29.7	60.3	31.9
Be	-	25.7	40.7	99.6	124.4	108.0	160.0	24.6	59.3	139.2	97.5	78.1	163.3	127.1	149.8	77.6	93.0
C	-	-	19.2	73.7	98.7	82.3	134.3	16.5	52.2	110.5	71.8	65.4	152.2	101.4	124.1	65.3	67.3
D	-	-	-	65.3	90.3	85.9	125.9	28.3	64.4	105.1	63.4	77.6	129.2	93.0	115.7	77.5	60.6
G	-	-	-	-	90.2	101.0	77.8	76.8	84.1	46.0	54.9	92.3	102.1	37.1	137.3	99.4	55.6
Ha	-	-	-	-	-	41.0	54.2	101.8	65.0	53.2	43.3	46.3	39.5	80.1	31.2	49.4	44.4
Hi	-	-	-	-	-	-	52.0	85.4	48.7	56.0	46.1	30.5	55.3	90.1	72.2	30.4	54.2
J	-	-	-	-	-	-	-	137.4	100.7	31.8	62.5	81.9	25.7	55.7	48.4	82.4	67.0
K	-	-	-	-	-	-	-	-	38.1	106.8	74.9	55.5	140.7	104.5	127.2	55.0	70.4
L	-	-	-	-	-	-	-	-	-	79.9	50.2	20.0	104.0	87.0	90.5	20.5	37.5
Mc	-	-	-	-	-	-	-	-	-	-	41.7	69.5	56.6	37.3	57.6	61.6	55.0
Mi	-	-	-	-	-	-	-	-	-	-	-	59.6	65.8	44.0	66.1	49.9	25.3
P	-	-	-	-	-	-	-	-	-	-	-	-	85.2	85.5	71.7	17.3	46.9
Q	-	-	-	-	-	-	-	-	-	-	-	-	-	81.4	31.5	85.7	70.3
R	-	-	-	-	-	-	-	-	-	-	-	-	-	-	59.3	88.5	48.1
RB	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	80.6	50.6
Wa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	52.6

Figure 27. Cluster Analysis Dendrogram Based on the Measure of Difference of Four Attributes



assemblage, with flat lipped trumpet and flared forms.

The Wilson Site

Chronology

Chronologically sensitive attribute frequencies (Ramsden 1977a) for the Wilson site were compared to those for sixteen other Middle and Late Iroquoian sites in south-central Ontario (Figure 24; Table 58). Type frequencies from the Wilson site for the seven typological classes devised by Lennox and Kenyon (1984) were also compared to those from 28 other Middle and Late Iroquoian sites from across Southern Ontario (Figure 25; Table 58). As was expected, within the group of sixteen sites analyzed using Ramsden's method, the Wilson site has the smallest measure of difference with the two of the three sites in the sample that date to the late fourteenth/early fifteenth century (Reesor and Millroy; Ramsden 1977a:72-74). The Wilson site has the closest coefficient of similarity based on typological analysis with sites dating between A.D. 1350 and 1450. This suggests that the Wilson was occupied sometime within this time frame.

Using the frequencies of Ramsden's 13 socially significant attributes, the Wilson site has the smallest measure of difference with Millroy (64.0), followed by Bark (81.1), Lite (90.0), Hillier (97.0) and Payne (97.1) (Table 53 and 59). The

Table 58. Sites Which Are Chronologically Most Similar To The Wilson Site Using Ramsden's (1977a) Method

Site	Measure of Difference	Date
Reesor	110.6	1380-1400 (Ramsden 1977a).
Millroy	113.7	1400-1450 (Kapches 1981).
McLeod	116.5	1450 (Ramsden 1977a).
Hillier	120.6	1450 (Ramsden 1977a).
Bark	121.3	1400-1500

lack of any very close measure of difference to any site in the sample reflects the lack of any other known Late Middleport sites in the middle Trent Valley. The Wilson site probably represents a local Late Middleport focus which has not yet been identified archaeologically. The Millroy site is also Late Middleport, and the general ceramic similarities between the two sites may only indicate that there is some uniformity and widespread shared characteristics for the Middleport horizon. Similarities to the Millroy site may also be in part a reflection of their similar chronological position. Four of Ramsden's (1977a) socially significant attributes are also chronologically significant.

Table 39. Sites Which Are Chronologically Most Similar To The Wilson Site Using Lennox and Kenyon (1984) Method

Site	Coefficient of Similarity	Date
Wiacek	183.9	1400-1450 (Lennox et. al. 1986)
Nodwell	177.4	1340 (Wright 1974)
New	171.2	1350-1400 (Kapches 1981)
Millroy	170.0	1400-1450 (Kapches 1981)
Draper	160.6	1450-1500 (Finlayson 1985)
Robb	159.2	1300-1350 (Kapches 1981)
Bark	159.0	1400-1500

Given the distance between the two sites, and the likelihood that many other Middleport sites and foci are located between them, it is unlikely that this similarity is due to some form of contact.

The only other Late Middleport site in the sample is the Gibbs site (McKillop and Jackson 1985). Despite its relatively close geographical location to the Wilson site, the measure of

difference between them is 159.5. This indicates that the Wilson site is not related to the Port Hope Middleport focus.

An analysis of the measure of difference of the four attributes which are socially significant in the Trent Valley in the fifteenth century produced similar results (Figure 27; Table 57 and 60). The Wilson site has the smallest measure of difference with Millroy (25.3), followed by Bark (31.9), Lite 37.5), Hardrock (44.4) and Payne (46.9). The similarity to Millroy may again only reflect their chronological similarities, because all four attributes are also chronologically significant (Ramsden 1977a). The social significance of these four attributes may not have been expressed at the time of the Wilson site occupation.

Table 60. Sites Which Have The Closest Cultural Affiliation To The Wilson Site Using Ramsden's (1977a) Thirteen Social Attributes

Site	Measure of Difference
Millroy	64.0
Bark	81.1
Lite	90.0
Hillier	97.0
Payne	97.1

Table 61. Sites Which Have The Closest Cultural Affiliation To The Wilson Site Using Four Attributes

Site	Measure of Difference
Millroy	25.3
Bark	31.9
Lite	37.5
Hardrock	44.4
Payne	46.9

The Relationship Between The Bark and Wilson Sites

The Bark and Wilson sites have a measure of difference of 89.1 using Ramsden's (1977a) 13 attributes, and a measure of difference of 33.6 using four attributes (Tables 59 and 60; Figures 26 and 27). Their coefficient of similarity based on the typological classes outlined by Kenyon and Lennox is 159.0 (Table 58).

The Bark and Wilson sites have very similar frequencies for neck and sub-collar decoration, hatching and horizontal motifs, frontal lip notching and concave-convex interior profiles. The only major differences between the two samples are the much higher frequencies of stamping and lip decoration at Wilson, and the higher frequency of interior decoration at Bark. The Wilson site pipe assemblage is dominated by conical and conical flared forms with an equal number of plain and decorative motifs. There are no conical forms in the Bark site assemblage,

and the majority of the pipes are plain.

Given their close spatial proximity, some form of relationship between the two sites is suspected. This is supported by the fact that of all of the southern division Huron sites that were compared to Wilson, the Bark site is ceramically the most similar. The differences between the two sites can be explained in part by their different chronological positions. Each site reflects material cultural characteristics that are diagnostic of the different cultural periods that they represent. Opposed motifs for example decreased through time in Southern Ontario (Ramsden 1977a:102), while high frequencies of interior decoration are characteristic of prehistoric Late Iroquoian sites in the upper Trent Valley (Ramsden 1988c:32).

A direct lineal relationship between the two sites is not evident. Several different factors suggest that the Bark site may represent a return of a portion of the Wilson site's descendants to this area. The Wilson site is approximately 2.8 hectares in size, while the Bark site is only .7-.9 hectares. This alone indicates there was not a direct lineal movement from one to the other. Significant temporal differences between the two sites also indicate that they are not the product of a unbroken sequence or the direct fission of the Wilson site into smaller components.

The Bark and Wilson sites are only 800 meters apart.

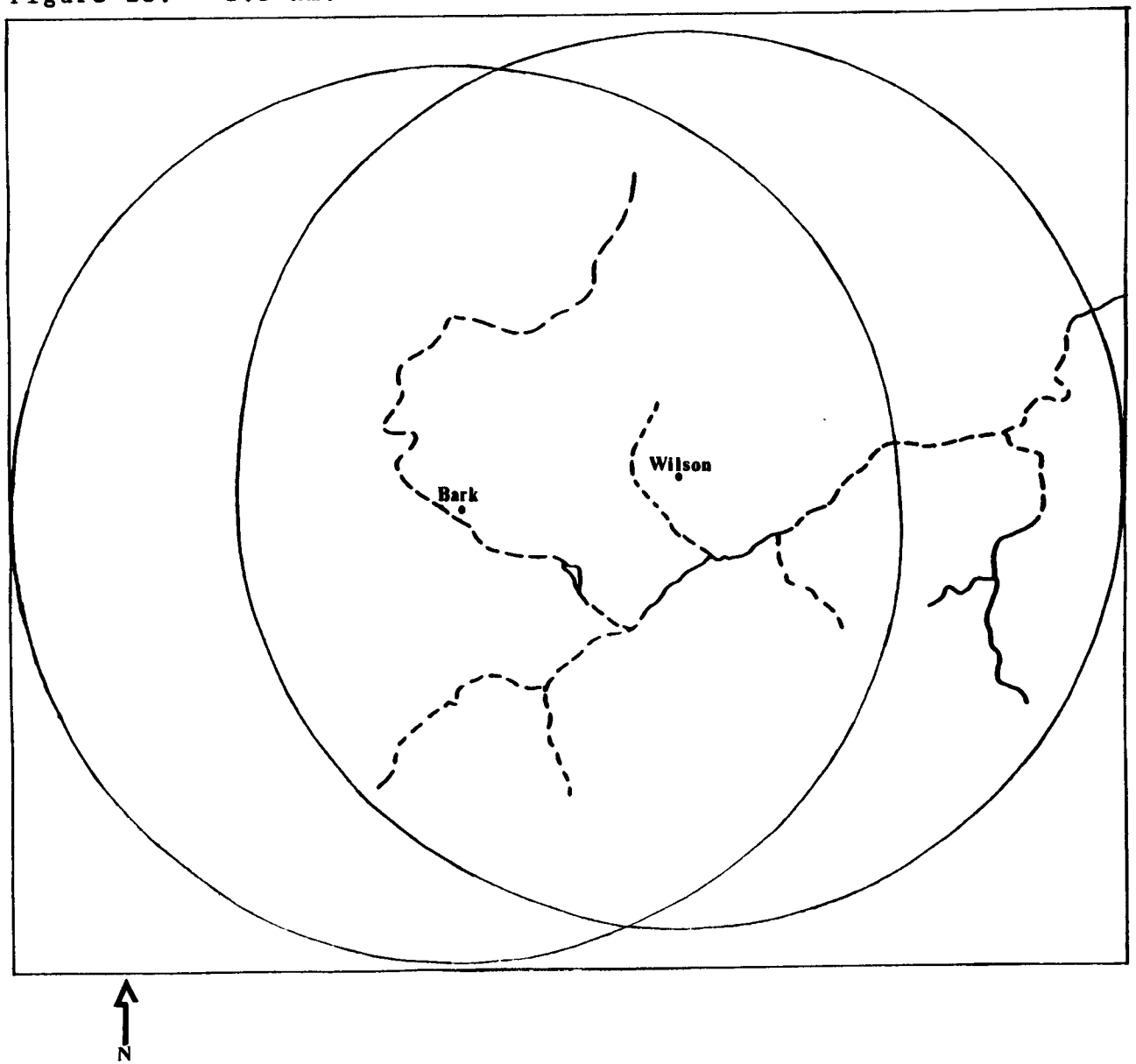
Archaeological evidence of the lineal movement of sites suggests that on average Middle and Late Iroquoian sites were relocated 2.5 kilometers away from the their old location (Warrick and Molnar 1986:30; Bradley 1987:28). This distance is directly related to the reasons behind village relocation.

Ethnohistoric accounts, site catchment and settlement pattern analyses indicate that villages were relocated because of various often interrelated factors. These include soil exhaustion, firewood depletion, sociopolitical realignment, warfare, insect infestation, refuse accumulation and disease (Sagard 1939:92-93; JR 10:275;11:7;15:153; Heidenreich 1971:215; Sykes 1980:52; Starna et al. 1984:197; Warrick 1988:24). A movement of only 800 metres from Wilson to Bark would not resolve any of the problems that caused village relocation.

The Wilson Site as a Resource

Middle and Late Iroquoian site catchment areas had an estimated radius of 1.5-2 km. (Jamieson 1986:35; Warrick and Molnar 1986:30; Warrick 1988:64). It was within this area that crops were grown and essential resources such as firewood, were gathered. The Bark site is well within a 1.5 km. catchment radius for the Wilson site (Figure 28). It is postulated here that the abandoned agricultural fields/catchment area of the Wilson site attracted the Bark site inhabitants to this area.

Figure 28. 1.5 km. Catchment Areas for the Bark and Wilson Sites



A major factor in the choice of an area for village relocation was the availability of large areas of secondary growth for village construction and corn field clearance (Heidenreich 1971:113). Iroquoian groups preferred trees that were under 20 cm. in diameter, that could be quickly cut down for longhouse and palisade construction (Heidenreich 1971:152). Heidenreich (1971:153) has postulated that the Huron located their villages and fields in areas of secondary growth, probably in the areas of long abandoned corn fields. Warrick and Molnar (1986:26) have also suggested that Late Iroquoian groups took advantage of the secondary growth created by previous village occupations for village relocation.

Studies of plant succession on abandoned farmlands indicate that after abandonment grasses and weeds dominate for ten years, followed by shrubs and bushes after 15-20 years (Beckwith 1954:367-368). Shade intolerant trees such as pine, oak and elm become dominant after 25 years, leading to an immature forest of secondary growth trees with a diameter ranging from 10-25 cm. after 35-40 years (Beckwith 1954: 372; Heidenreich 1971:188; Burden et al. 1986:19). This period of succession may take up to 50 years or more on sandy loams (Heidenreich 1971:188), which are the dominant soil type in the Wilson/Bark site area. While no adequate studies of soil fertility regeneration on abandoned non-fertilized farm fields

are available, studies of deforested ecosystems indicate that nutrient replacement may take 60-80 years (Likens et al. 1978:492).

These studies suggest that the abandoned Wilson site catchment area would have been ready for reoccupation and/or exploitation of secondary growth 50-80 years after abandonment. Analysis of wood charcoal from the Bark site suggests that there were large areas of secondary growth (pine-oak) in the area. A comparison of the Wilson and Bark site 1.5 km. catchment areas (Figure 28) shows that approximately 50% of the Bark site catchment area would have been within the abandoned Wilson site catchment area. The Bark site inhabitants could have taken advantage of this secondary growth for rapid village construction and early field clearances. The remaining 50% of the catchment area would have provided the Bark site with virgin fertile soils for subsequent agricultural growth.

A somewhat similar interpretation has been offered by Warrick and Molnar (1986:30) in their analysis of Late Iroquoian settlement patterns in Innisfil Township. The location of two non-contemporaneous Late Iroquoian villages only 700 metres apart from one another, suggested that the later site was occupied at least 50 years after the first one, to take advantage of its secondary growth. Other sites in the township were often located in areas of secondary growth caused by

village abandonment, cedar swamps or poor soils, that were adjacent to prime arable soils. The village would be constructed in the area of secondary growth, while fields were cleared on the more arable land. A similar adaptation may have been made at the Bark site.

Archaeological estimates of Middle and Late Iroquoian village durations range from 20-50 years (Sykes 1980:51; Fitzgerald 1986:4; Warrick 1988:49). If a segment of the Wilson site community did return to occupy the Bark site at least 50 years after the Wilson site was abandoned, there probably are one or two other sites in the area which are linearly related to the Wilson site. Archaeological survey in the Jackson Creek drainage area and nearby creek systems are needed to confirm this.

Chapter 7

Summary and Conclusions

The Bark Site

The Bark site is a small .7 to .9 hectare southern division Huron village dating between A.D. 1400 and 1500, located in the middle Trent Valley region near the headwaters of Jackson Creek.

Features and material exposed by deep ploughing were first recorded in 1983. This was followed by the excavation of 175 square metres in 1986 and 1987. The 1983 field work tentatively identified four peripheral middens, 22 features, and a small ossuary located within the village. The 1986-87 excavations confirmed the location of two of these middens, as well as uncovering another midden in the wooded area to the south of the site. A double rowed palisade was identified, along with the small portion of one longhouse and 13 other features.

The chipped stone assemblage from the Bark site is dominated by Trent chert which was available in local tills and outcrops. Imported higher quality Onondaga chert appears to have been used for the more formal tool items. The faunal assemblage from the site is dominated by small fish species, such as perch and bullhead, which would have been available in Jackson Creek. The mammal species that were present included domesticated dog, muskrat and eastern chipmunk, followed by smaller frequencies

of a variety of other mammals. Several species of birds and fresh water mussels were also utilized.

The paleobotanical sample from the site is dominated by corn, followed by grains, greens and fleshy fruits. The identified wood charcoal sample indicates that there were large areas of secondary growth (pine-oak) in the vicinity of the site, as well as areas of mature deciduous forest (maple-beech). The faunal and floral assemblages from the site suggest that the Bark site inhabitants most heavily exploited nearby stream and forest edges, swamps, wetlands, as well as open and disturbed areas.

At present, there are no other adequate artifact assemblages from Late Iroquoian sites in the middle Trent Valley to compare to the Bark site. The rimsherd and pipe bowl assemblages from the Bark site are most similar to those from fifteenth century Huron sites located in the Balsam Lake area. However, the degree of similarity and the distance between these sites suggests that the Bark site is likely a member of a different focus or foci in the middle Trent Valley. It is much more likely that the Bark site is more closely related to other, as yet unidentified, Late Iroquoian sites in the Jackson Creek Valley and adjoining drainage areas.

The close geographical location, different chronological positions and different sizes of the Bark and Wilson sites

strongly suggest that there was not a direct lineal relationship between them. It has been postulated here that the Bark site represents the reoccupation of the same general area which was first occupied by the Wilson site. The large areas of secondary growth which would have resulted from the abandonment of the Wilson site corn fields, would have been a valuable resource to the Bark site inhabitants. It is possible that the Bark site inhabitants consisted of a portion of the descendants of the Wilson site, who continued to occupy the Jackson Creek drainage area after the Wilson site was abandoned.

The Wilson Site

The Wilson site is a large 2.8 hectare late Middleport village occupied between A.D. 1350 and 1450. This is the only confirmed Middleport village site that is located in the middle Trent Valley region. The Wilson site was surface collected by W. Kenyon of the R.O.M. in 1960. Kenyon returned to the site in 1962, and excavated 35 five foot squares in one midden area. Only one feature, a hearth, was located. No other settlement patterns were recorded.

The artifact assemblage from the Wilson site consists largely of diagnostic artifacts and identifiable faunal specimens, suggesting that the existing assemblage suffers from a selection bias. Formal tools such as Middleport side notched

projectile points and groundstone celts form the basis of the lithic assemblage from the site. The chipped stone worked lithic sample is largely derived from imported Onondaga chert. The faunal assemblage is dominated by mammals and worked bone artifacts. White-tailed deer, domesticated dog and muskrat account for most of the faunal sample.

The large ceramic assemblage indicates that the Wilson site's closest social affiliation is with another late Middleport site, the Millroy site located near Toronto. This may only reflect the uniformity of some late Middleport traits in south-central Ontario. The next closest social affiliation is with the Bark site, suggesting that a portion of the Wilson site's descendants may have occupied the Bark site. The Wilson site is very dissimilar to the closest Late Middleport site in the region, the Gibbs site. This indicates that the Port Hope Middleport focus as represented by the Gibbs site, is not related to the Middleport focus in the Jackson Creek area.

Study Area

The principal research area for this thesis was a large portion of the middle Trent Valley, bordered by Lake Scugog to the west, the Otonabee River and Rice Lake to the east, the Kawartha Lakes to the north and the Oak Ridges Moraine to the south. This area encompasses over 1,200 square kilometers. Within this vast area, the only reported sites are four Late

Iroquoian villages, one Middle Iroquoian village, three ossuaries, one Late Iroquoian findspot, two unconfirmed Late Woodland sites and seven multi-component campsites with a Middle/Late Iroquoian occupation. The perceived low density of sites in the region may only reflect the lack of any systematic archaeological survey in the inland areas of the middle Trent Valley.

Three of the villages are located on sandy loam soils, near the base of drumlins in creek valleys where defence was not a primary concern (Bark, Wilson and Strong). The two other village sites are also located on sandy loam, but are on terraces or ridges in a more defensive position (Larmer and Fleetwood Creek II). With the exception of the Rice Lake campsites, all of the known villages, ossuaries and findspots are located near the headwaters of creeks, or on first and second order streams located inland from major bodies of water.

At present, there is no evidence to suggest that there were any migrations into the middle Trent Valley in the Middle or Late Iroquoian periods. The general ceramic similarities and close proximities of the Bark and Wilson sites suggests that Middle to Late Iroquoian cultural developments took place in situ in this portion of the middle Trent Valley. Iroquoian occupations in the Rice Lake area date back to the Early Iroquoian period, and also appear to have been the result of in

situ development.

No protohistoric of historic Late Iroquoian sites have been found in the middle Trent Valley to date, indicating that the area was probably abandoned by Iroquoian groups soon after A.D. 1500.

Trent Valley Prehistory

The upper Trent Valley was the scene of two major Late Iroquoian migrations. The lack of any Middle Iroquoian sites in the Balsam Lake area indicates that the fifteenth and early sixteenth century prehistoric Huron sites (Hardrock, Rumney Bay and Jamieson) in the region, were established by the first migrants into the area (Ramsden: personal communication). The general ceramic similarities between these sites and the Bark site, may indicate that the Middle Trent Valley was one of the source areas for this migration.

At present, no protohistoric or historic Late Iroquoian sites have been found in the middle or lower Trent Valley. This suggests that the hypothesized movement of prehistoric Huron groups from the lower Trent Valley (Pendergast 1985:35) into the upper Trent in the sixteenth century, took place fairly rapidly. It is likely that middle Trent Valley communities were involved in this movement, which had begun with the first migrations of Huron groups into the upper Trent in the fifteenth century.

However, the significant ceramic dissimilarities between the Bark site and sixteenth century Balsam Lake sites such as Kirche, Coulter and Benson, suggests that middle Trent Valley Huron communities did not form a significant proportion of the later migrant groups. The possibility exists that the middle Trent Valley groups were assimilated in small numbers into these later sites along with the indigenous upper Trent Valley communities (Nasmith 1981:177), or were dispersed by the new immigrants.

The causes and motives behind these migrations into the upper Trent Valley are highly debatable. The pressures of warfare with both the St. Lawrence and New York State Iroquois have been suggested (Heidenreich 1971:88; Pendergast 1985:35), as has the possibility of an attraction to the developing European fur trade (Ramsden 1988a:47).

Future Research

Archaeological survey within the middle Trent valley has been limited to the shores and islands of Rice Lake, as well along some areas of the Otonabee River. The presence of Middle/Late Iroquoian material on multi-component campsites on Rice Lake indicates that there was a continued occupation of the Rice Lake area after the Pickering Period. It is very likely that Middle and Late Iroquoian villages are located inland from Rice

Lake on the various streams, creeks and rivers which flow into and out of the Lake. Inland areas on sandy loam near rivers such as the Indian and the Ouse for example, should be surveyed to identify the nature of Middle/Late Iroquoian occupations in the Rice Lake area.

Within the principal study area of this thesis, the inland region between Lake Scugog and the Otonabee River, no systematic archaeological surveys have been carried out. The few sites that have been found suggest that loamy and sandy loam soils were preferred for Iroquoian habitation. The headwater areas and first order streams which run into the major drainage systems in the area; Jackson Creek, Cavan Creek, Baxter Creek, Squirrel Creek, Fleetwood Creek, Janetville Creek, East Cross Creek and the Pigeon River which possess the appropriate soil types should be considered to be high potential locations for Middle and Late Iroquoian sites.

Within the Jackson Creek Valley itself, sheltered valley areas appear to have been preferred locations. If the Bark site does represent the return of a portion of the Wilson site's descendants to this location, other intermediate sites should be located in the area. These sites would provide valuable information on the processes behind, and the evolution of the material culture changes which took place from the late Middleport to the Late Iroquoian period.

Although Iroquoian archaeology is now moving beyond the establishment of basic chronological and cultural frameworks, large geographical gaps still exist in which our understanding of basic Iroquoian cultural developments is non-existant. It is hoped that this thesis has contributed to a preliminary understanding of one of these gaps, the middle Trent Valley region.

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Appendix A Quackenbush and Gibbs Sites Rimsherd Attribute Frequncies

Site	Quackenbush	Gibbs
Sample Size	195	72
Attribute		
A. Collarless plain (% of total)	2.6	-
B. Collarless decorated (% of total)	.5	-
C. Collared Plain (% of total)	3.0	-
D. Collared decorated (% of total)	93.9	100.0
a. total stamp (%D)	.5	51.4
E. Collar motifs (%D)		
a. simple	41.6	43.1
b. opposed	32.6	8.3
c. crossed	3.2	-
d. hatched	.5	2.8
e. horizontal	16.0	11.1
f. complex	.5	29.2
g. plain	3.0	-
h. interrupted	-	5.6
i. other	-	-
F. Neck Decoration (% of total)	71.3	90.4
G. Secondary Deco8ation (% of total)		
a. interior	63.6	15.3
b. lip	1.0	48.6
c. frontal lip	-	-
d. upper punctates	.5	2.8
e. lower punctates	1.0	5.6
f. dividing punctates	1.5	-
g. basal punctates	7.2	-
h. sub-collar decoration	45.1	15.3
H. Interior profile (% of total)		
a. convex	32.8	25.0
b. concave	7.2	47.2
c. straight	34.4	1.4
d. concave-convex	11.3	18.1
e. convex-concave	13.9	8.3
I. Exterior collar form (%CtD)		
a. convex	5.5	31.9
b. concave	55.1	9.7
c. straight	42.0	58.3
J. High collars (%CtD)	16.3	-