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Kabeshinàn: Situating the BiFw-6 Site in Broader Regional and Cultural Landscapes

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Abstract

This thesis is an archaeological analysis of the ceramics from the multi-component pre-contact archaeological site BiFw-6, which is located within Leamy Lake Park in Gatineau, QC at the confluence of the Ottawa, Gatineau, and Rideau rivers. BiFw-6 has evidence of human occupation from the Early Woodland through to the Contact period, with a very strong representation during the Middle Woodland period. The analysis of this site through ceramics examines BiFw-6's existence as a persistent place – a place of continued importance throughout the long-term occupation of a region – and the site's position within broader regional and cultural contexts. This is achieved through the comparison of BiFw-6's ceramic assemblages with other archaeological assemblages within a 200 km distance from Leamy Lake Park. The results show that BiFw-6 was a persistent place for pre-contact Indigenous periods where tradition making occurred, particularly through the creation of the Middle Woodland interlocking Kabeshinàn ceramic type and the Kabeshinàn serrated ceramic type.

Keywords

Middle Woodland Period, Persistent Place, Ceramic Analysis, Attribute Analysis, Point Peninsula Tradition, Leamy Lake Park, Ottawa Valley, Quebec Archaeology.

Summary for Lay Audience

BiFw-6 is one of thirteen multi-component (occupied recurrently) pre-contact Indigenous archaeological sites within Leamy Lake Park in Gatineau, QC. This site, and the larger complex of sites it is associated with, are located at the junction of the Ottawa, Gatineau, and Rideau rivers. This area was favourable for settlement by Indigenous peoples due to its ease of access, the abundance of resources, and the Ottawa, Gatineau, and Rideau Rivers and their tributaries' connection to a large portion of eastern North America. An analysis focusing on the collection of ceramic artifacts from BiFw-6 was undertaken to better understand the site's existence as a place of continued importance throughout the long-term occupation of a region. Ceramics were also analysed and compared to other archaeological ceramic collections from sites within 200 km of Leamy Lake Park to consider BiFw-6's position within the broader regional and cultural contexts. This study found that BiFw-6 was a place of importance that pre-contact peoples returned to over hundreds of years, starting as early as the late Early Woodland period (ca. 2900-2000 years before present) through to the Contact period (ca. 500 before present). The majority of evidence for human occupation at BiFw-6 however occurs during the Middle Woodland period (ca. 2400-1300 before present). The ceramic analysis also showed that peoples at BiFw-6 participated in broad regional cultural ceramic traditions and took part in tradition making through the creation of distinct types of ceramics that are, so far, only associated with the BiFw-6 site.

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Chapter 1

Introduction

The history of the Ottawa Valley has intrigued scholars for four hundred years due to its robust past of human occupation. This thesis seeks to add to the body of work surrounding the Ottawa Valley by examining the ceramics of the BiFw-6 site, in Gatineau, Quebec. BiFw-6 is one of thirteen known pre-contact Indigenous archaeological sites which are located in Leamy Lake Park, in Gatineau, Quebec, at the conjunction of the Ottawa and Gatineau rivers. The primary goal of this research is to better understand how this site fits into broader regional and cultural contexts. Additionally, this research seeks to better understand how site use and repeated occupation of the site correlate with agency, tradition-making, and cultural exchange through an examination of the ceramic tradition at BiFw-6. This will be achieved by analysing ceramics through attribute-based analysis to help establish a chronology of the BiFw-6 ceramic assemblage. Additionally, spatial, and horizontal patterning will be utilized to determine areas which have increased likelihood of occupation and cultural continuity. Finally, this thesis seeks to understand cultural continuity and regional contexts through comparative analyses with comparable assemblages in the region.

1.1 Organization of Thesis

In this chapter, I provide a brief background of the Ottawa Valley region's environment, chronology of human occupation, culture, and history of research. Additionally, I provide a brief summary of the Leamy Lake archaeological complex and the focus of this research; the multi-component BiFw-6 site. Chapter 2 will delve into the theoretical framework underlying this research, providing a comprehensive exploration of the relevant concepts. Chapter 3 provides an overview of the excavation of BiFw-6 and its features. In Chapter 4, I present the methodology and data collection of my research, for both ceramic and spatial analysis. Chapter 5 will present the results of these analyses and some interpretations of the data. Chapter 6 provides a comparative analysis between the BiFw-6 assemblage and other archaeological sites located within a 200-kilometer radius, shedding light on regional similarities and differences in material

cultural and ceramic traditions. This chapter also serves as the discussion section and discusses avenues for future research.

1.2 Regional Environmental, Chronological, and Cultural Background

The environment and geology of the Ottawa Valley was formed, in part, by glacial ice flow patterns, particularly by the retreat of the Laurentide Ice Sheet during the Wisconsin glacial period, which began approximately 15,000 years ago (Fulton, 1986; Pilon, 2005). Around 11,000 years ago, glacial ice retreated north beyond the Ottawa and St. Lawrence Valleys. This allowed for sea water from the Atlantic Ocean to flood the valley, forming the Champlain Sea (Pilon, 2005; Watson, 1999b). This sea supported a wide diversity of marine life, including bowhead whales, as evidenced by the existence of a preserved skeleton found near Pembroke in the 1970s (Pilon, 2005). The Champlain Sea also influenced the physical geography of the Ottawa Valley, including the creation of beaches and sand bars from wave activity. The existence of deltaic sand beds in the Ottawa Valley are also a result of the Champlain Sea, due to sands being moved into the sea by the Barron, Petawawa, and Ottawa Rivers (Chapman & Putnam, 1984, p. 108). As the glacier continued to retreat, the earth's crust adjusted to the loss of the weight of the glacier through isostatic rebound. This resulted in the Champlain Sea draining, and a smaller version of the Ottawa River fed by the Great Lakes remaining (Pilon, 2005, p. 16).

Evidence of human occupation of the Ottawa Valley during the Paleo-Indigenous period (ca.11,000-10,000 B.P.) is quite limited. This is likely due to erosion of locations used by Paleo peoples during the period of transition designated from Late Paleo (ca.10,400-10,00 B.P.) to Archaic (ca.10,000 B.P. – 2800 B.P.) (Ellis et al., 1990; Ellis & Deller, 1990; Hahn & Moore, 2021). The few artifacts which are known from this period include fluted and lanceolate points which were found near the Rideau Lakes, which drain into the Ottawa River through the Rideau River (Pilon, 2005, p.17; Watson, 1999, p. 28). The first of the two fluted points found in this area is double fluted on both sides and was located immediately northwest of the Lower Rideau Lake, which correlates to the Champlain Sea shoreline at its highest elevation (Watson, 1999b). Fluted points are generally associated with the Early Paleo period (ca. 11,000-10,500 B.P.) (Ellis & Deller, 1990).

The second of the two known fluted points has a notably long flute and is also side-notched. It was recovered from the Lower Rideau Lake, which would have likely been flooded by the Champlain Sea from approximately 12,800-10,000 B.P. (Watson, 1999b). The exact period associated with this point is somewhat questionable as fluted points are often characteristic of the Early Paleo period, but points with particularly long flutes have also been associated with the Late Paleo period (Ritchie, 1953; Watson, 1999b). The side-notching on this point may also be indicative that it was worked by people in the Archaic period (Watson, 1999b). Two lanceolate points were found near Perth and are currently held in the Perth Museum. Both points have been correlated to the late Plano phase of the Paleo-Indian Period (Watson, 1999b). While evidence of settlement in the Ottawa Valley during the Paleo-Indian Period is currently limited, the existence of these contemporaneous artifacts found in the Rideau Lakes area suggests that similar Paleo-Indian artifacts and sites could be found with further investigation (Clermont, 1999, pp. 46–47).

Human occupation in the Ottawa Valley continued in the Archaic period (ca. 10,000 to 2,800 B.P.) (Ellis et al., 1990). Around 1918, an Early Archaic (ca. 10,000 to 8000 B.P.) Dovetail point was recovered in what is now Ottawa South by a man ploughing his field (Ellis et al., 1990; Pilon & Fox, 2015). Additionally, an assemblage of lithic artifacts were excavated from the Heritage Hills site, about 20km from Parliament Hill in central Ottawa, which were interpretated to date within the Early Archaic period from ca. 11,000-9000 B.P. (Swayze & McGhee, 2011). Evidence of Indigenous settlement in the region has also been associated with the Laurentian Middle Archaic period (ca. 5500-4500 B.P.) (Ellis et al., 1990). This period is characterized by a nomadic network of strategically dispersed groups who engaged with each other particularly through economic cooperation, leading to development in culture. This network spanned a large part of Eastern North America, reaching places such as Lake Abitibi, the Saguenay, northern New York State, parts of Vermont, Maine, and Ontario (Clermont, 1999, pp. 45–47).

Notable Laurentian Archaic archaeological sites exist in the Ottawa Valley, particularly the Allumette Island and Morrison's Island sites, which were both excavated by Clyde Kennedy. The Morrison's Island site contains evidence of ritual behaviours, particularly through the remains of twenty burials of individuals of different sex and age found through the area of the

entire site (Kennedy, 1962). Evidence of the use of copper as bevelled spearpoints, bracelets, pendants, axes, and knives were also found on Morrison's Island (Kennedy, 1970, p. 59). Allumette Island contains evidence of a large Laurentian Archaic campsite, which contained more than a thousand individual copper artifacts. Similarly to Morrison's Island, the campsite on Allumette Island initially contained sixteen burials with more found over time (Kennedy, 1963).

However, Kennedy theorized that due to artifact typological differences, the people of Allumette Island were different than Morrison's Island (Kennedy, 1970). Clermont, Chapdelaine, and Cinq-Mars' analysis of both sites concur with Kennedy's theory that the occupants of these two sites were not contemporaneous, but both represent an important involvement in a wide communications and exchange network (Chapdelaine et al., 2001). They also argue that the Allumette Island site may not only be associated with the Archaic period but may have been utilized throughout several centuries. This is due to a range of radiocarbon dates from the site, spanning from 1100± B.P. to 5440±40 B.P. Additionally, the number of burials on Allumette Island is significantly larger than that of Morrison's Island, which may suggest a larger population or a longer temporal use of the site (Chapdelaine et al., 2001; Pilon & Young, 2009).

People continued to live in the Ottawa Valley during the Woodland period, which is usually divided into Early (ca. 2900-2000 B.P,) Middle (ca. 2400-1300 B.P) , and Late (ca. 1300-500 B.P,) Woodland (Fox, 1990; Murphy & Ferris, 1990; Spence et al., 1990). The Woodland Period is characterized by the introduction of ceramics. Woodland peoples participated in extensive trade networks, with social structure growing increasingly complex. Early and Middle Woodland populations remained primarily nomadic hunter-gatherers (Paterson Group Inc., 2020, pp. 2–3; Watson, 1999a, p. 56). Many of the sites found in the Ottawa Valley, including those within Leamy Lake Park and Jacques-Cartier Park reflect this nomadic nature, as they are primarily campsites. The shift from Middle to Late Woodland is not clearly defined, but overall, there is an increase in sedentary populations and the introduction of agriculture (Fox, 1990).

The Ottawa-Gatineau region saw the beginnings of European exploration and settlement beginning in 1610. Settlements and operations focused on trading and logging were established along the Ottawa River (Champlain, 1932). While significant study has been undertaken on the development of the cities of Ottawa and Gatineau and their socio-economic importance, little

research has been undertaken on the experiences of Indigenous peoples in this area during the contact period and into the historic period (Paterson Group Inc., 2020, pp. 3–4).

1.3 History of Research

The Ottawa-Gatineau region has been the location of significant academic interest since the 1600s. The first European explorer to visit the area which would later be known as Ottawa-Gatineau (also referred to as the National Capital Region) was Étienne Brûlé in 1610 at the direction of Samuel de Champlain who documented his accounts. Brûlé was followed by Champlain in 1613 and whose journals provide accounts of Indigenous occupation in the area and notable landmarks such as the Chaudière Falls (Champlain, 1932, pp. 166–167; Pilon & Boswell, 2015, p. 264). During this period, the Ottawa River became an important landmark in settler-colonial life, and acted as a main means of transportation for settlers, traders, missionaries, and merchants, among others, up until the 19th century (Elliott, 1979; Legget, 1975).

A large amount of archaeological research undertaken in the National Capital Region occurred in between the late nineteenth and mid twentieth centuries and was conducted by pioneer archaeologists. One of the first individuals to undertake scientific study of Indigenous history and material culture in the area was Dr. Edward Van Cortlandt. A medical doctor and antiquarian, Van Cortlandt published a brief article in the *Canadian Journal* in 1853, on human remains which had been found during construction of a bridge over the Chaudière Falls in 1843. In this article, Van Cortlandt noted the presence of red ochre and described associated burial goods, such as stone adzes (Jamieson, 1999, p. 17; Van Cortlandt, 1853). This article is also notable because the exact location of this burial ground remains unknown today. Despite this, its discovery is frequently mentioned in overviews of the archaeological history of the Ottawa-Gatineau region, and is also one of Canada's earliest formally documented pre-contact locations (Boswell & Pilon, 2014, p. 5-6). During his life, Van Courtlandt collected human remains, and a vast array of geological, ethnological, and archaeological material remains. Unfortunately, at present, the location of the human remains which Van Courtlandt excavated in 1843 and famously wrote about in 1853 are unknown (Boswell & Pilon, 2014, p. 9; Jamieson, 1999, p. 18; Van Cortlandt, 1853).

Another notable figure in the history of research on Indigenous settlement of the area was T.W. Edwin Sowter. Sowter, an early avocational archaeologist, published a series of articles on his archaeological findings between 1895 to 1915. He documented several pre-contact sites in the Lac Deschênes area, as well as along both sides of the Ottawa River, in Aylmer, Hull, and on Aylmer Island amongst others (Sowter, 1895, 1900, 1909).

The majority of the twentieth century is defined by various early archaeologists undertaking personal, and sometimes state funded, excavations which provide a strong foundational understanding of the archaeology in the region. William J. Wintemberg was an active archaeologist from 1912-1941 and published *Distinguishing Characteristics of Algonkian and Iroquoian Cultures* in 1929 (Jamieson, 1999, pp. 19–20; Wintemberg, 1929). Very little archaeology was undertaken in the inter-war period in the National Capital Region.

In the 1960s, Gordon Watson studied archaeological sites in Constance Bay, Ontario, which he published on in *Ontario Archaeology* in 1972 (Watson, 1972). Watson helped to found the Ottawa Chapter of the Ontario Archaeological Society (OAS) (Jamieson, 1999, p. 22; *Kichi Sibi - Gordon D. Watson*, n.d.). Also in the 1960s, Clyde Kennedy undertook excavations at Morrison Island and Allumette Island in the Ottawa Valley. As noted above, both archaeological sites are particularly notable for their association with the Laurentian Archaic period, the existence of human burials, and the large amount of material culture found there (Kennedy, 1962, 1963, 1970; Pilon & Young, 2009). In this same period, archaeologists began excavations at the Pointe-du-Buisson site down the Ottawa river, at the confluence of the waters of Lake St. Louise and the Ottawa, in Quebec. Excavations of this site have continued until the present, and have yielded archaeological evidence of Indigenous occupation over 5000 years (Clermont, 1982; Clermont & Chapdelaine, 1982).

In the 1970s, there was a renewed interest in studying pre-contact Indigenous archaeology on the Quebec side of the Ottawa River. During this period, many archaeological sites dating from the Laurentian Archaic to the Late Woodland period were identified in the Quebec area of the National Capital Region (Clermont, 1982). In 1992, Marcel Laliberté (University of Quebec in Montreal) became aware of a pre-contact archaeological site in Leamy Lake Park, Gatineau; now known as the BiFw-6 site. Excavations of this site began in 1993 by

Laliberté with the support of the Outaouais Historical Society, the Outaouais Urban Community, National Capital Commission (NCC), the Canadian Museum of Civilization, the Department of Canadian Heritage, and the Ministry of Culture and Communications of Quebec (Laliberté, 2000). As the excavations progressed, several other sites within Leamy Lake Park were discovered. This led to the inclusion of the Kitigan Zibi Algonquin First Nation in the project, as well as the foundation of a field school which was run by the Université du Québec à Montréal. The excavations at Leamy Lake Park occurred from 1993-2003 and the collections from these excavations reside in the Canadian Museum of History (Jamieson, 1999, p. 24; Laliberté, 2000; Paterson Group Inc., 2020, pp. 6–7).

In recent years, a significant portion of archaeological work undertaken in the immediate Ottawa-Gatineau region is not undertaken in an academic capacity. Rather, archaeology occurs primarily in a cultural resource management capacity; consultant companies recover and mitigate archaeological resources for the purpose of development. Some notable excavations include a Woodland site at the Little Chaudière Rapids on the Gatineau shoreline by Arkéos Inc. in 1992, a Woodland site on Lac Phillipe in Gatineau Park, QC by Stantec Consulting Ltd. in 2014, a multi-component Woodland site excavated in the Voyageurs corridor within Parc des Rapides-Deschênes in Gatineau, QC in 1998, and finally a multi-component archaeological site showing evidence of occupation from the Late Archaic to Late Woodland in Vincent Massey Park, Ottawa, ON by Fisher Archaeological Consulting in 2009 (Fisher, 2012; National Capital Commission / Commission de la Capitale Nationale, 1998; Rocheleau et al., 1993; Stantec Consulting Ltd, 2014).

In 2018, the NCC began the Assessment and Rescue of Archaeological Legacy (ARAL) Project. This project seeks to document and better understand shoreline erosion of archaeological sites along the Ottawa River in the National Capital Region, in the hopes of mitigating further loss of archaeological sites and materials. Since 2018, twenty previously known archaeological sites, including BiFw-6, were revisited and redocumented. In this process, four new archaeological sites were discovered. Public archaeological excavations have been undertaken each summer since 2018, particularly at BiFw-6 and BiFw-18 (Paterson Group Inc., 2020). In 2021, an archaeological field school for Indigenous youth was founded by the First Nations communities of Pikwakanagan and Kitigan Zibi in collaboration with the NCC and Canadian

Museum of History. Excavations for this field school took place in Vincent Massey Park, Ottawa, ON (Sharma, 2021).

1.4 Leamy Lake Park

Leamy Lake Park is situated in Gatineau, QB at the confluence of the Gatineau and Ottawa Rivers. This area was favourable for repeated settlement due to ease of access and an abundance of resources. The Gatineau, Ottawa, and Rideau rivers and their tributaries were part of important travel and trade routes for pre-contact Indigenous peoples throughout a large portion of eastern North America (Laliberté, 2000; Paterson Group Inc., 2020) (figure 1). Leamy Lake Park is also geographically situated on the Ottawa River upriver from both the Deschênes and Remic Rapids, and so may have acted as a logical stopping place for Indigenous peoples on their travels. French explorer Samuel de Champlain recorded his journey along the Ottawa River and the area now known as the National Capital Region. He wrote in 1613,

> At the mouth of this river [the Gatineau] there is another [the Rideau] coming from the south, and at its mouth there is a wonderful waterfall [the Rideau Falls] …When the savages wish to enter this river they climb the mountain, carrying their canoes, and go half a league by land. The surrounding region is filled with all sorts of game which makes the savages prefer to halt here. The Iroquois also come here sometimes and surprise them as they make the passage (Champlain, 1932, p. 166).

While utilizing colonial sources such as Champlain's writings, it is crucial to acknowledge the inherent biases and ethnocentric perspectives that these sources carry. Colonial accounts often reflect the viewpoints and prejudices of their authors, who may have misunderstood or misrepresented Indigenous cultures and lifeways. Despite these limitations, such sources provide valuable insights into historical contexts, interactions, and landscapes that might otherwise be inaccessible. They offer glimpses into the experiences and observations of early European settlers, which, when critically analyzed, can enhance our understanding of the complex histories of Indigenous and colonial encounters.

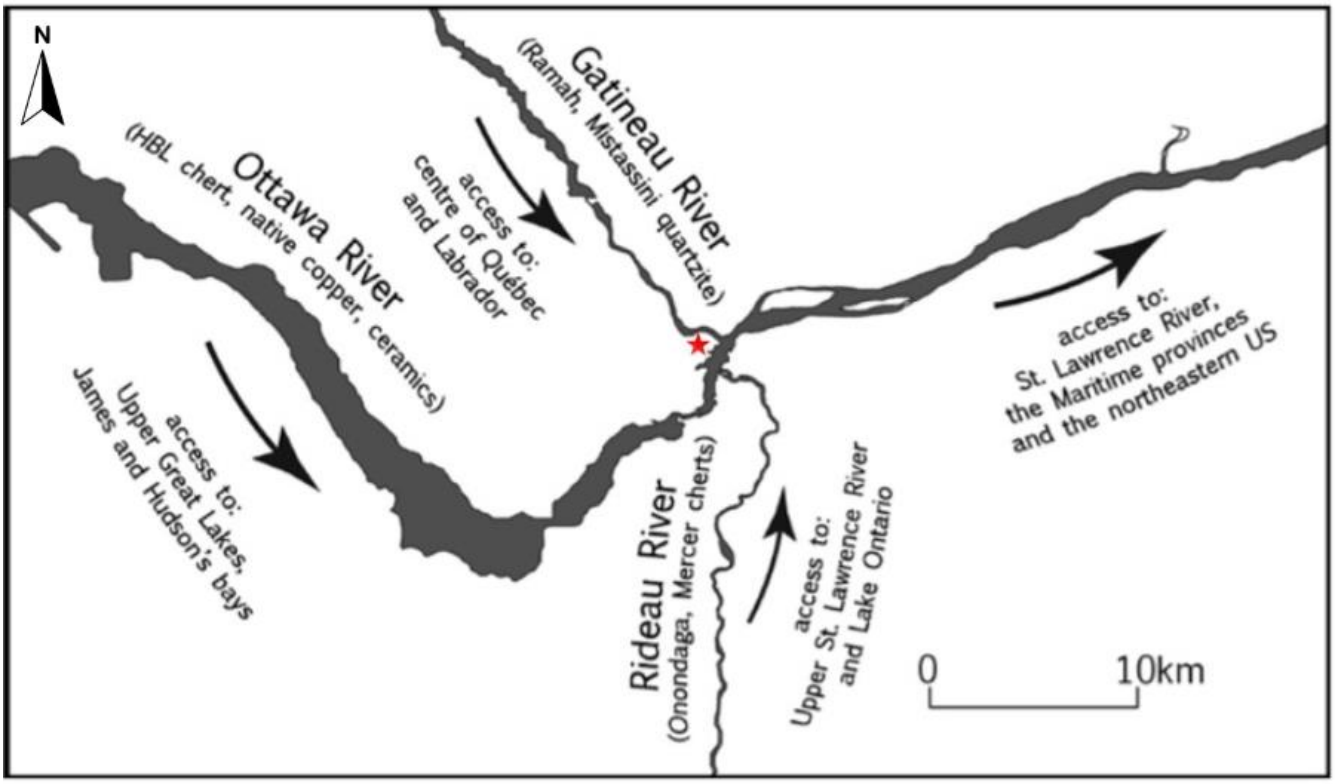


Figure 1. Map of Confluence of Ottawa, Gatineau, and Rideau Rivers with the resources and regions which can be accessed through these waterways. Leamy Lake Park is represented by the star (Pilon & Boswell, 2015, p. 259).

Additionally, these sites exist within a broader cultural landscape which includes several known burial sites in the Ottawa-Gatineau region and wider Ottawa Valley area. This includes burials on Aylmer Island and Hull Landing, as well as an ossuary located on the grounds of the Canadian Museum of History (Pilon & Young, 2009; Van Cortlandt, 1853). These sacred burial sites include a variety of different burial methods, likely reflecting the different time periods and cultures associated with the burials (Pilon & Boswell, 2015; Pilon & Young, 2009; Van Cortlandt, 1853). This cultural landscape includes other sacred sites such as the Chaudière Falls, as well as portage routes such as the route from Hull's Landing near the Chaudière Falls, and the Rideau River Portage Route located in Rockcliffe Park, almost directly across the Ottawa River from Leamy Lake Park (Pilon & Boswell, 2015) (figure 2). Samuel de Champlain also noted the importance of the area, and particularly the Chaudière Falls, to Indigenous peoples. He wrote,

> At one place the water falls with such force upon the rock that with the lapse of time there has been a hollowed out a wide deep basin, so that the water running round in it in a circle and boiling up in the middle has led the savages to call it *Asticou,* which means kettle. This waterfall [the Chaudière Falls] makes such a noise in this basin that it can be heard more than two leagues away. The savages who pass by this spot perform a ceremony… (Champlain, 1932, p. 167).

Champlain later described the above-mentioned ceremony. He states,

> Continuing our journey we arrived at the Chaudière Falls, where the savages celebrated their usual ceremony, which is as follows. Having carried their canoes to the foot of the fall they assemble in one place, where one of them takes up a collection with a wooden plate and each puts into the plate a piece of tobacco. After the collection is made, the plate is set down in the middle of the group and all dance about it, singing after their fashion. Then one of the chiefs makes a speech, pointing out that they for a long time have been accustomed to make such an offering, and that thereby they are secured against their enemies; that otherwise misfortune would happen to them…When he has finished, the orator takes the plate and goes and throws the tobacco into the middle of the cauldron, and all together raise a loud whoop (Champlain, 1932, pp. 200–201).

Despite this evidence of a rich archaeological record, there has been limited dedicated research into the lives of pre-contact peoples in the National Capital Region in recent years (Pilon and Boswell, 2015, p. 257).

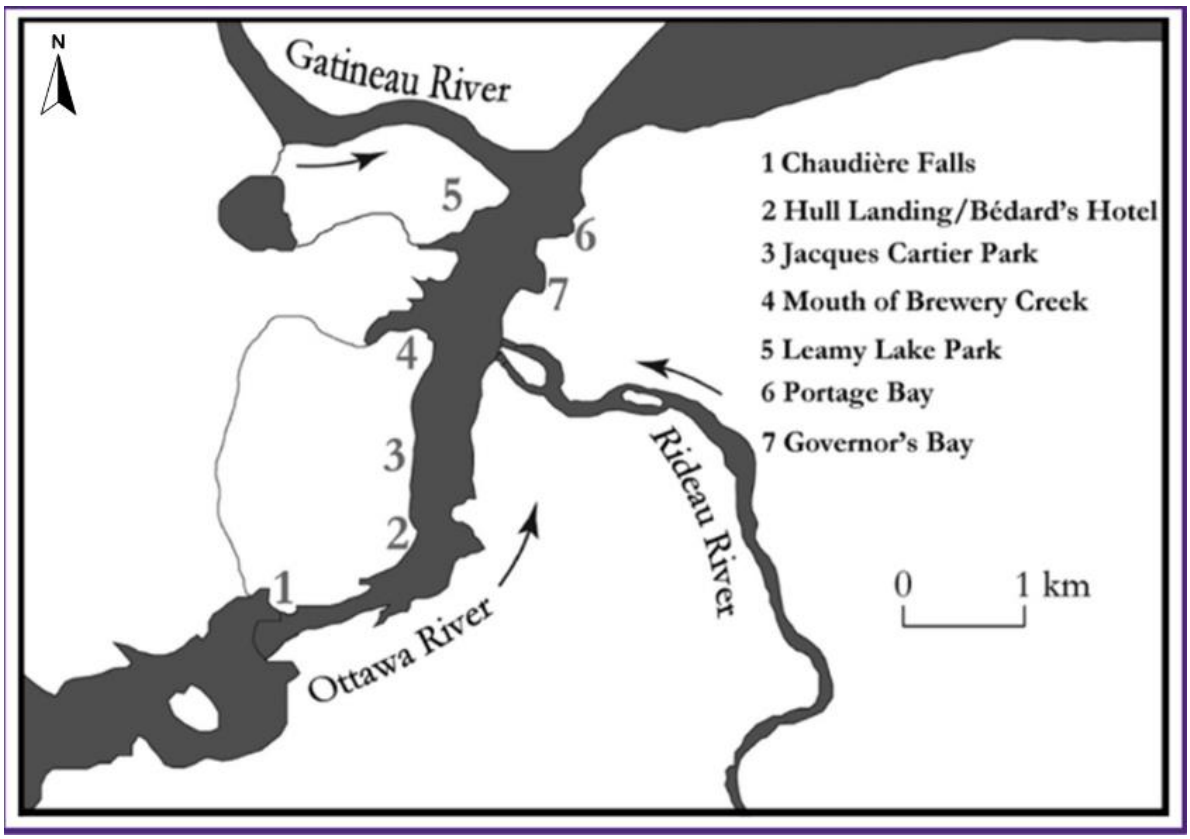


Figure 2. Map of broader cultural landscape including some, but not all, notable pre-contact Indigenous archaeological sites (Pilon & Boswell, 2015, p. 263).

Leamy Lake Park contains thirteen known pre-contact archaeological sites, many of which contain multiple components. In addition, Jacques-Cartier Park, which is immediately south of Leamy Lake Park, contains three known multi-component archaeological sites. The earliest evidence of settlement in this area occurs in the Late Archaic (BiFw-20, BiFw-26), and the latest evidence of Indigenous settlement is in the Contact period (BiFw-6, BiFw-16, BiFw-18, BiFw-64) (Laliberté, 2000). A comprehensive list of the pre-contact archaeological sites within Leamy Lake Park and Jacques-Cartier Park and their respective periods of settlement can be found in Table 1. Additionally, a map depicting known pre-contact archaeological sites along the Ottawa River can be found in figure 3. Overall, the archaeological sites within Leamy Lake Park and the nearby Jacques-Cartier Park indicate evidence of settlement by Indigenous peoples in this area during a period of approximately 5000 years (Paterson Group Inc., 2020, pp. 8–9).

In addition to Indigenous occupation, Leamy Lake Park has been used for a variety of purposes by Euro-Canadians, including agriculture, forestry, and recreation beginning in the early 1800s. American entrepreneur Philemon Wright, along with five families, settled in the area at the confluence of the Gatineau and Ottawa Rivers, within the borders of what is now Leamy Lake Park. Notably, this settlement came to be known as Hull, which is the current name for this neighbourhood of Gatineau (Elliott, 1979, 2000; Legget, 1975). The Hull settlement would become the first permanent Euro-Canadian settlement in the Ottawa-Gatineau region. Wright originally intended for the settlement to be made of "independent farmers" and sought to ensure the settlement contained all necessary businesses and services required to survive as a farming community (Elliott, 1979). The archaeological remains of the series of farms, houses, and barns built by Wright and his settlement can still be found in Leamy Lake Park (Benoît, 1994; Laliberté et al., 1997a).

Following the Hull settlement's agricultural success, Wright capitalized on the demand for lumber caused by the Napoleonic Wars of 1799-1815. The first raft of lumber was sent from the settlement in 1806, beginning the Ottawa Valley's significant involvement in the timber trade for the next 100 years (Elliott, 1979, 2000). Notably, beginning in 1848, a canal was built by Andrew Leamy connecting Leamy Lake, then known as Columbia Pond, to the Gatineau River, to easily move logs from Leamy's Sawmill on the lake. Additionally, Wright had large booms installed in the Gatineau River, for the purpose of logging. In 1865, another canal was built. The area, particularly Leamy Lake Park and the BiFw-6 site, was heavily utilized for logging until the 1960s (Benoît, 1994; Laliberté et al., 1997a).

Park	**Borden Code**	**Site Name**	**Period of Settlement/Cultural Affiliation**	**Comments/References**
Leamy Lake	BiFw-6	Lac Leamy 3	Middle Woodland Late Woodland Contact Period Historic	Laliberté, 1992, 1994, 1996; Laliberté et al., 1997, 1998; Laliberté, 2001, 2002b, 2004; Pilon, 2006; Miller, 2011

Leamy Lake	BiFw-15	Lac Leamy 1	Middle Woodland Late Woodland	Laliberté, 1992, 1996, 2000
Leamy Lake	BiFw-16	Lac Leamy 3	Middle Woodland Late Woodland Contact Period Historic	Laliberté, 1992, 1994, 1995, 1996; Pilon, 2006
Leamy Lake	BiFw-17	Lac Leamy 5	Middle Woodland	Laliberté, 1992, 1996
Leamy Lake	BiFw-18	Lac Leamy 4	Middle Woodland Historic	*Originally designated as two separate sites (BiFw-18 and 19) later combined Laliberté, 1992, 1994, 1996
Leamy Lake	BiFw-20	Lac Leamy 7	Late Archaic Contact Period	Laliberté, 1992, 1996, 1999, 2000; Levesque & Laliberté, 2000
Leamy Lake	BiFw-25		Middle Woodland	Laliberté 1996, 2000
Leamy Lake	BiFw-26		Late Archaic	Laliberté 1996, 2000
Leamy Lake	BiFw-28		Early Woodland	Located inland. Laliberté 1996, 2000
Leamy Lake	BiFw-29		Early Woodland	Laliberté 1996, 2000
Leamy Lake	BiFw-30		Woodland	Laliberté 1996, 2000

Leamy Lake	BiFw-31		Middle Woodland	Laliberté 1996, 2000
Leamy Lake	BiFw-32		Early Woodland	Located inland. Laliberté 1996, 2000
Jacques-Cartier Park	BiFw-5	Moulin Gilmour	Late Woodland Historic	Sowter 1909
Jacques-Cartier Park	BiFw-23		Middle Woodland Contact Period Historic	Laliberté, 2003
Jacques-Cartier Park	BiFw-64		Middle Woodland Late Woodland	(Laliberté, 2002a)

Table 1. Known pre-contact archaeological sites in Leamy Lake Park and Jacques-Cartier Park and respective data (Paterson Group Inc., 2020).

1.5 BiFw-6

BiFw-6's location within Leamy Lake Park is particularly notable. The site is located on a stretch of shoreline which is on the eastern edge of Gatineau River delta lowlands, at the confluence of the Leamy Lake outlet and the Ottawa River. This area is surrounded by marshy areas, which prior to the building of the Carillon Generating Station on the Ottawa upriver, would overflow during the spring (Laliberté et al., 1997a). In the mid-nineteenth century, the area was used for industrial purposes; a large logging boom was built there for the purpose of sorting timber. The Gatineau Boom Company also worked primarily from the area of the BiFw-6 site for the purpose of logging. From the early to mid-twentieth century, this area was also the location for several vacation homes (Benoît, 1994; Laliberté et al., 1997a). Due to fluctuating water levels, the archaeological sites of Leamy Lake park which are along the shoreline, including BiFw-6, and under ever increasing threat by erosion (Laliberté, 2002b; Paterson Group Inc., 2020) .

BiFw-6 is also notable because, despite the existence of several periods of historic disturbance in the area, the site and its stratigraphy remained well-preserved. Rediscovered by Marcel Laliberté in 1991, academic research focusing on BiFw-6 began in 1993. Surveys were conducted in 1995, and excavations began in 1996 under the supervision of Laliberté. Excavations were undertaken by different groups; members of the public excavated with the aid of trained archaeologists and the site was used as a field school by UQAM, UQAC, and Laval University. Laliberté wrote a number of reports overviewing the excavations which can now be found in the Quebec Ministry of Culture and Communication's Digital Library in Archaeology. Additionally, Andre Miller published on BiFw-6, particularly viewing the site through a culture history lens (Miller, 2011).

Figure 3. Map of known pre-contact archaeological sites along the Ottawa River. BiFw-6 is noted by the arrow.

1.6 Personal Connection

In 2019, I took on a position as an Archaeological Assistant with the National Capital Commission under the leadership of Ian Badgley. In this position, I participated in the aforementioned ongoing ARAL project, including the monitoring and excavation of pre-contact archaeological sites within National Capital Commission properties, including BiFw-6. Notably, I undertook archaeological excavations of eroding features on BiFw-6 to salvage materials before they were lost. Additionally, I liaised and worked with Council members and community members from local First Nations Pikwakanagan and Kitigan Zibi as part of this work, who emphasized the importance of this location and work to their communities. My position as an Archaeological Assistant with the NCC ultimately led to my pursual of this research for my Master's.

1.7 Conclusion

Chapter 1 has provided the relevant background information for this study. In Chapter 2, I will discuss the theoretical thought which influences this thesis, including ideas on persistent places, mobility as agency, community and tradition, and memory and language. This chapter provides the necessary theoretical framework that underpins this research.

Chapter 2

Theory

In this chapter, I discuss the theoretical frameworks which I use to interpret my data. I approach the study of Bifw-6 through a post processual lens, which seeks to allow us to interpret and understand important social aspects, such as agency, the exchange of culture and knowledge, and the creation of community and tradition. An important aspect of my theoretical approach involves on viewing the BiFw-6 site as a cumulative palimpsest (Bailey 2007) and through Schlanger's (1992) understanding of persistent places.

This main framework is supplemented by other post processual theories. I discuss theory on community and tradition, particularly Pauketat's (2001) definition of tradition. Following this, the chapter explores mobility and the repeated re-use of a site as agency. The next section of the chapter details theories of language, memory, and place-making in relation to the BiFw-6 site.

2.1 Cumulative Palimpsest

Bailey (2007, p. 12) defines a cumulative palimpsest as "one in which the successive episodes of deposition, or layers of activity, remain superimposed one upon the other without loss of evidence, but are so re-worked and mixed together that it is difficult or impossible to separate them out into their original constituents." The archaeological record at BiFw-6 correlates with this definition, particularly due to the multi-component nature of the site which in some areas has been disturbed by shoreline erosion and recent use in the modern period. While recognition of artifacts associated with different stratigraphic levels and time periods occurred during the original excavation of the site, overall, the ability to distinguish different periods of occupation and their association with particular material culture is at times limited and influenced by archaeological understandings of culture history. The palimpsestic nature of BiFw-6 allows for a theoretical and methodological approach which focuses on processes that occurred over long periods of time (Tincombe, 2020, p. 29). A particularly useful theoretical framework which can be utilized when we view the BiFw-6 site through the lens of a cumulative palimpsest is that of the persistent place.

2.2 Persistent Places

Schlanger (1992, p. 92) defines a persistent place as "a place that is used repeatedly during the long-term occupation of a region". She states that persistent places can fall into one or more categories; they have qualities which make them suited for certain activities or practices. A persistent place may also be discerned by having certain traits which make it favourable and focused for reoccupation. Focused in this context refers to certain traits or features of a location which make it particularly suitable or advantageous for repeated human use. Features which may act to focus reoccupations are varied as they are dependent on the activities which will take place at that location; open marshlands or stretches of farmland may serve for reoccupation which necessitates grazing of large animals, good resources for timber construction, etc. Other features which make a location more favourable for reoccupation are places with clearly defined features such as rivers, springs, ridge tops, cliff margins, and other vantage points (Schlanger, 1992). She notes that persistent places may exist in landscapes, particularly through the "process of occupation and re-visitation that is independent of cultural features but is dependent on the presence of cultural materials" (Schlanger, 1992, p. 97).

Schlanger proposes that certain places within a landscape can maintain significance or continuity through repeated human use or activity, even if there are no permanent or obvious cultural markers present. Instead, the ongoing presence of cultural materials, such as artifacts or traces of human activity, sustains the significance of these places over time. This idea underscores the notion that human interaction with the environment can imbue certain locations with meaning and significance, regardless of whether they are marked by permanent structures or identifiable cultural features. These persistent places may hold importance for understanding the cultural history and dynamics of a landscape.

Thompson (2010, p. 218) expands on Schlanger's definition to state that persistent places are also characterized by the formal characteristics which make them favourable to certain practices, the aspects which make them favourable for repeated reoccupation. Persistent places are created over extended periods of time, particularly through reuse and continued occupation.

These understandings of persistent places are noteworthy and important to this study as BiFw-6 does not consist of one single occupation, rather it was repeatedly utilized through

various periods of Indigenous history. Therefore, there was not singular understanding of the archaeological landscape which within it is situated (Schlanger, 1992). Persistent places are created through human choices and behaviours overlapping with a particular landscape, to make an important place which is repeatedly returned to through multiple generations. Through this process, understandings of the persistent place may also change with each visit, through shared culture and memory (1992, p. 97). The theoretical concept of persistent places will be particularly useful in the context of this research, as an aim of this work is to better understand how repeated use of the BiFw-6 site throughout multiple generations contributed to these people's understandings of their community, culture, and traditions. This understanding is also notable because it highlights the aspects of agency which must occur in order for persistent places to be created.

2.3 Community and Tradition

The concept of community includes aspects of habitation and associated activities which allow for the negotiation of social identities and collective memory. Membership within a community and the accompanying identities of such membership are created through routinized activities and practices (Birch & Williamson, 2015, p. 139). Kolb and Snead (1997, p. 611) argue community to be "‘human activity that incorporates social reproduction, subsistence production, and self-identification’’ (Birch & Williamson, 2015, p. 139).

The Kolb and Snead definition of community is notable, particularly in relation to my research, because of the lack of rigidity of what data and methodologies can be utilized to inform this understanding of community. Settlement patterns, cooperation and communication, cultural production, social reproduction, and socio-political and economic practices are all factors that can be examined, particularly in relation to each other, and can inform our understanding of community (Birch & Williamson, 2015, pp. 139–140).

Additionally, concepts of persistent places, community, and identity, are also closely connected to understandings of tradition. Pauketat (2001) defines tradition as "some practice brought from the past to the present", and he notes that this can be a personal, group, or population's practice (Pauketat, 2001, p. 2). This definition is notable because viewing tradition through this lens of the personal allows us to engage with traditions as malleable actions, which

are constantly negotiated, rather than as a passive process (Pauketat, 2001, pp. 2–3). Pauketat's understanding of tradition, combined with Birch and Williamson's understanding of community, work together well to provide a framework in which practices inform and influence people's position within the community. Notably, tradition is commonly viewed as something which acts to slow social change. In contrast, Pauketat's framework means that tradition and the act of tradition making can serve as the medium in which social change occurs (Tincombe, 2020, p. 30).

Material culture is a result of practices, whether they are flint knapping, hunting, house building, etc. The production of this material culture therefore is an embodiment of individual's constant negotiations with social factors, identity, and tradition. Material culture does not simply reflect traditions and the act of making traditions, but in itself is part of the process of tradition making (Pauketat, 2001, pp. 10–11). This provides a framework in which the material culture I am analysing from BiFw-6 is not simply viewed as a by-product, but as an important contributor to the identities, traditions, and communities which were established there through the practice of creating said material culture. Thus, the theoretical lens of persistent places encompassing understandings of community and tradition reveals the repeated return to this place, and the act of creating material culture there, as actions filled with agency which informed traditions.

2.4 Mobility as Agency

Repeated periods of settlements at BiFw-6 and other nearby sites indicates that peoples knew to return there continuously. Nieves (2015) argues that repeatedly returning to one place is indicative of agency and significance to a group, through the active choice to return. Mobility in and of itself is an act of agency, as it represents a broad variety of choices, behaviours, and cultural processes (Nieves, 2015, p. 5). While resource availability cannot wholly be removed from understanding the repeated return to certain areas, this behaviour also cannot be only viewed as behaviour without agency simply in response to environmental stimuli. Active choices by people led to the existence of BiFw-6 as a persistent place, and the act of revisiting this location can be viewed through a lens of tradition (Tincombe, 2020, p. 30).

Nieve's theoretical understanding is also situated in archaeologies of landscape and ecology. Nieve interprets Sheets-Johnstone's (1999, p. 135) understanding of animation to mean

that animate subjects, particularly humans, animals, plants, and so forth, do not exist in a fixed or passive state. These subjects experience active relationships with themselves and each other, which in turn shape the past, present, and future (Nieves, 2015, pp. 6–7). This theoretical framework will be beneficial to my research in understanding the relationship between people and place, and aspects of agency which are fundamental to understanding people's repeated return to BiFw-6.

2.5 Memory, Language, and Place-Making

Additionally, Wiley's (2008) understanding of time perspectivism and memory is a useful theoretical framework for situating my research. Wiley argues that memories are an aspect of time that exist differently from other scales of understanding of time such as calendrical or environmental time. Memory, when defined as a collective memory which is passed down through generations, is a phenomenon that can inform how the knowledge to return to certain places over long periods of time occurred (Wiley, 2008, pp. 80–81). This concept of memory is deeply connected to oral history, language, and mnemonics. Seeking to understand the connection between memory and movement can allow for a more nuanced understanding of the archaeological record (Wiley, 2008, pp. 81–82).

This theoretical framework of memory, especially in connection with language, is relevant to this research because the word used to refer to Leamy Lake Park, the park which BiFw-6 is located within, in Anishinaabemowin by local Algonquin First Nations communities is "Kabeshinàn". Kabehsinàn can be roughly translated in English to mean "meeting place", "camping grounds", or "summer camp" (Miller, 2011; Pilon & Boswell, 2015, p. 8). These translations offer several potential functions for BiFw-6. “Meeting place” suggests that it may have been a location for gatherings, social interactions, and community events. “Camping grounds” implies that is could have been utilized for temporary settlements or seasonal habitation. “Summer camp” hints at the possibility of BiFw-6 being a site for specific activities during the warmer months. By considering these translations, one can begin to infer the diverse activities and functions associated with the site, enriching our understanding of its archaeological and cultural significance.

Additionally, Tilley (1994) argues that names are a fundamental aspect of landscape archaeology, in that naming is one way in which the identity of places and the connection to people is established and maintained. Names change places from existing simply as a physical location, into something with social and cultural value which is experienced (Tilley, 1994, pp. 18–19).The existence of this name for the Leamy Lake area, in conjunction with the existing material culture in the archaeological record, allows for the inference and exploration of BiFw-6 and its wider cultural landscape as being a meeting place for pre-contact peoples.

In his work with the Western Apache, Keith Basso explores the connection between names and places, and namely the idea of place-making. He emphasizes how places are imbued with meaning through their names, and through a connection between the past and present. Referring to Niels Bohr's account of place-making in Kronberg castle, Basso states, "Thus…does the country of the past transform and supplant the country of the present. That certain localities prompt such transformations, evoking as they do entire worlds of meaning, is not, as Niels Bohr recognized, a small or uninteresting truth" (Basso, 1996, p. 5). Basso's insight and the concept of place-making is relevant to my study of BiFw-6, as the site functions not only as a physical location but as a dynamic space where historical imagination is continually constructed and reconstructed. The aspects of BiFw-6-whether features, artifacts, or spatial layouts- can be seen as catalysts for this transformative process, where the past is ever-present and intertwined with the site's current significance. Basso further elaborates that

> "this type of retrospective world-building-let us call it *place-making*- does not require special sensibilities or cultivated skills. It is a common response to common curiosities- what happened here? who was involved? what was it like? why should it matter?- and anyone can be a place-maker who has the inclination…Almost everyone does make places. As roundly ubiquitous as it is seemingly unremarkable, place-making is a universal tool of the historical imagination. And in some societies at least, if not in the great majority, it is surely among the most basic tools of all" (Basso, 1996, p. 5).

This notion of place-making is illustrated in the name "Kabeshinàn", the aforementioned Anishinaabemowin word for Leamy Lake park, which translates to "summer camp" or "meeting place". The name itself evokes a sense of the site's historical and cultural significance,

encapsulating its role as a gathering spot where people came together, exchanged goods and ideas, and fostered community. The act of naming Kabeshinàn reflects the deep connection between place and identity, with the name serving as a reminder of the social and cultural interactions that have taken place there over time.

Moreover, Basso's discussion of spatial conceptions of history and culture among American Indigenous Peoples offers a connection to the concept of persistent place. Basso states,

> "As Vine Deloria, Jr. (Standing Rock Sioux), has observed, most American Indian tribes embrace "spatial conceptions of history" in which places and their names- and all that they symbolize- are accorded central importance. For Indian men and women, the past lies embedded in features of the earth- in canyons and lakes, mountains and arroyos, rocks and vacant fields- which together endow their lands with multiple forms of significance that reach into their lives and shape they ways they think." (Basso, 1996, p. 34).

This connection is important for understanding BiFw-6, not just as an archaeological site, but as a living space that has played an important role in shaping the identities of its inhabitants. This idea resonates with the analysis of BiFw-6 where the landscape itself can be viewed as a repository of cultural memory. The site's name highlights its enduring role as a space of gathering and interaction, reinforcing its persistent significance in the cultural landscape.

Basso also notes that for Indigenous Peoples "knowledge of places is therefore closely linked to knowledge of the self, to grasping one's position in the larger scheme of things, including one's one community, and to securing a confident sense of who one is as a person" (Basso, 1996, p. 34). This connection is vital for understanding BiFw-6, not just as an archaeological site, but as a living space that has played a crucial role in shaping the identities of its inhabitants. The name Kabeshinàn embodies this connection, as it reflects not just the physical characteristics of the site, but its cultural and social functions as a place where identities were formed, and communities were built.

Additionally, my own research on BiFw-6 also contributes to the ongoing process of place-making. As Basso suggests, place-making is a universal tool of the historical imagination,

and this work is an active part of that process. By studying and interpreting the site, I am not only uncovering its historical and cultural layers but also participating in the creation of new meanings and narratives that may influence how future generations understand and relate to this place. This act of research adds another layer to the site's persistent significance, demonstrating how the very study of a place contributes to its evolving identity and continued relevance.

By integrating the Western Apache concept of place-making, as communicated by Basso, with the theoretical framework of persistent place, one can better understand how the BiFw-6 site exists both as a constant and something that is ever-changing, and which impacts the identities of those who interacted with it. The name Kabeshinàn itself is a testament to the site's enduring significance, encapsulating its role as a place of gathering and cultural exchange. Through exploring the ways in which different groups or generations have interacted with and reinterpreted the site—and recognizing my own role in this ongoing process—I aim to show how BiFw-6 has persisted as a culturally significant place, reflecting broader patterns of continuity and change within the community.

Overall, the name Kabeshinàn exemplifies the intricate connections between language, memory, and place. Language serves as a vessel for preserving collective memories and cultural knowledge. Through the Anishinaabemowin name, memories of the activities and meanings associated with BiFw-6 are encoded and transmitted across generations. The linguistic connection to place enhances our appreciation of the cultural landscapes and social practices of past communities. It underscores how language serves as a repository of historical and cultural information, allowing one to delve deeper into the significance of archaeological sites like BiFw-6.

2.6 Conclusion

In conclusion, the theoretical frameworks in this chapter offer valuable lenses through with to interpret the complex dynamics at play within the archaeological record at BiFw-6. Through the post-processual perspective, one can explore the notion of BiFw-6 serving as a cumulative palimpsest, wherein layers of human activity intertwine over time, defying easy categorization. This understanding is complimented by Schlanger's (1992) concept of persistent places, highlighting the repeated and purposeful reoccupation of specific locations within a

landscape. These persistent places are imbued with social and cultural significance and serve as focal points for community building, identity negotiation, and the creation and continuity of tradition.

The exploration of community and tradition further illuminates the intricate web of social interactions shaping the archaeological record. Pauketat's (2001) understanding of tradition as an active, negotiated process challenges conventional views of social change, emphasizing the agency inherent in cultural practices. Material culture emerges not merely as artifacts, but as tangible expressions of these ongoing negotiations, embedded with layers of meaning and tradition.

Moreover, the concept of mobility as agency underscores the deliberate choices underlying the patterns of settlement and movement. Nieve's (2015) perspective reframes repeated occupation as a manifestation of significance and cultural continuity, complicating simplistic resource driven interpretations. This understanding extends into the realm of memory and language, where collective recollection and naming practices offer insights into deep-seated connections between people, place, and tradition.

Furthermore, the integration of memory, language, and place-making into this theoretical framework allows for a deeper understanding of the site's enduring significance. The Anishinaabemowin name Kabeshinàn, with its connotations of a meeting place and summer camp, encapsulates the site's role in the cultural landscape, linking past and present through shared memories, language, and collective identity.

Overall, the theoretical frameworks presented here provide a multifaceted framework and lens for interpreting the archaeological landscape of BiFw-6. These frameworks not only illuminate the complex interactions between peoples and place but also contribute to the broader understanding of how cultural landscapes are formed, maintained, and reinterpreted over time. By examining the site through the intersection of memory, tradition, agency, and place-making, it is possible to move past traditional paradigms to view a vibrant and complex social tapestry woven by past inhabitants.

Chapter 3

Site Excavation Overview

BiFw-6's location within Leamy Lake Park is particularly notable. The site is located on a stretch of shoreline which is on the eastern edge of Gatineau River delta lowlands, at the confluence of the Leamy Lake outlet and the Ottawa River. This area is surrounded by marshy areas, which prior to the building of the Carillon Generating Station on the Ottawa upriver, would overflow during the spring (Laliberté et al., 1997a). In the mid-nineteenth century, the area was used for industrial purposes; a large logging boom was built there for the purpose of sorting timber. As noted, the Gatineau Boom company also worked primarily from the now BiFw-6 site for the purpose of logging and from the early to mid-twentieth century, this area was the location for several vacation homes (Benoît, 1994; Laliberté et al., 1997a). Due to fluctuating water levels, the archaeological sites of Leamy Lake park which are along the shoreline, including BiFw-6, are under ever increasing threat by erosion (Laliberté, 2002b; Paterson Group Inc., 2020).

3.1 Excavation

Rediscovered by Marcel Laliberté in 1991, academic research focusing on BiFw-6 began in 1993. Surveys were conducted in 1995, and excavations began in 1996 under the supervision of Laliberté. Excavations were undertaken by different groups; members of the public excavated with the aid of trained archaeologists, the site was used as a field school by the University of Quebec at Montreal, the University of Quebec in Chicoutimi, and Laval University. In 2001, project leadership changed to the Kitigan Zibi First Nation with Laliberté continuing as the lead archaeologist on the project.

Excavations began in 1996 with two perpendicular trenches one metre wide in the area of the site that the 1995 surveys suggested were the most intensively occupied. Trench A extended twenty metres parallel to the axis of the Leamy Lake outlet and trench B was parallel to the Ottawa River, for about ten metres (figure 4). Two metre sections were left between excavated units of each trench to allow for ease of movement of those excavating. Trenches were broken up into 1x1 m squares/units which were designated by the coordinates of the north-west corner in

relation to the specified datum (PR-0 in figure 1). Each 1m square was then subdivided into 50x50cm quadrants. Sections UC-65 to UC-80 were noted as being particularly impacted by shoreline erosion and had been recently covered in a thick layer of gravel. Volunteers carried out a systematic surface collection of this area, as well as sieving sandy deposits which were left by waves. (Laliberté et al., 1997a).

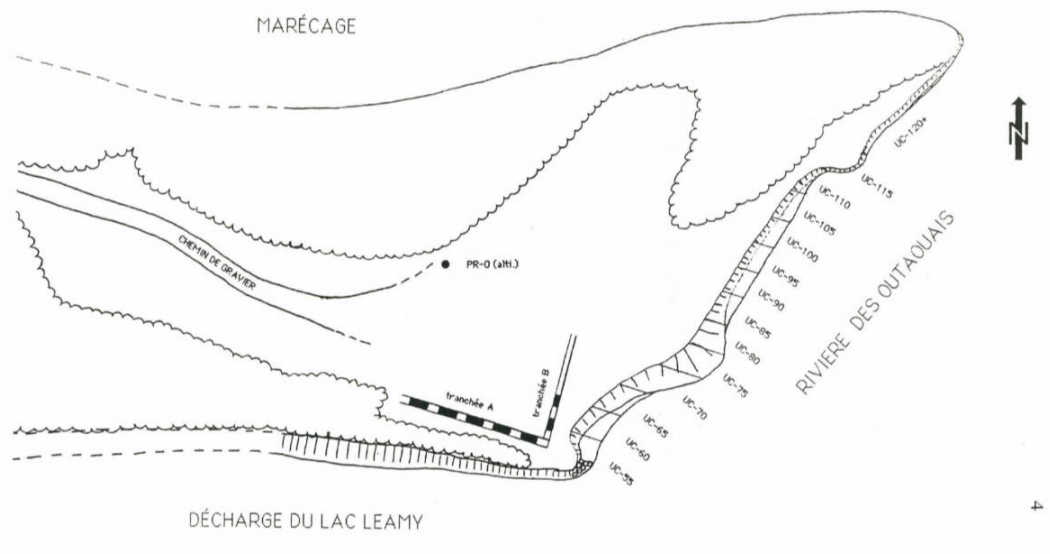


Figure 4. The 1996 site plan of BiFw-6 (Laliberté et al., 1997).

Excavations continued in 1997 with the focus of expanding the 1996 trenches to further explore evidence of habitation found in the year previous. Additionally, a nine square metre excavation, called Area C, was opened in a northern portion of the site that had been previously test-pitted. Area C was excavated following the previous methodology of 1m squares divided into 50cm quadrants, following the natural stratigraphy of sediment. Levels which were found to be thicker than 5cm were dug in arbitrary 5cm intervals (Laliberté et al., 1998). The soil was sieved using ¼ inch mesh sieves, and 1/16-inch mesh sieves were used occasionally in the layers that were associated with the Contact period.

In areas A and B, levels C100 and C200 were dry sieved whereas lower levels were wet sieved. The previous 50cm quadrants were further subdivided into 25 x 25 cm quadrants and were excavated in arbitrary 2cm intervals, except for the C20 layer which was generally no more than 2 cm thick. The horizontal and vertical position of lithics and ceramic remains were not

specifically recorded, due to the belief that noting the original square, quarter, and arbitrary level allowed for the artifacts to be placed within the site with a small margin of error (Laliberté et al., 1998).

From 1998-2003 excavations continued in and expanded from the previously mentioned areas with the focus on locating and excavating potential dwellings, and better understanding the chronological and cultural sequence of the site (Laliberté, 2004b). In 2003 a new area, called Area D, was also excavated. An area of 8.25 square metres were excavated on the east, west, and south sides of a hearth that was uncovered in a 2001 trench and was assumed to be the centre of a habitation area (figure 5) (Laliberté, 2004b).

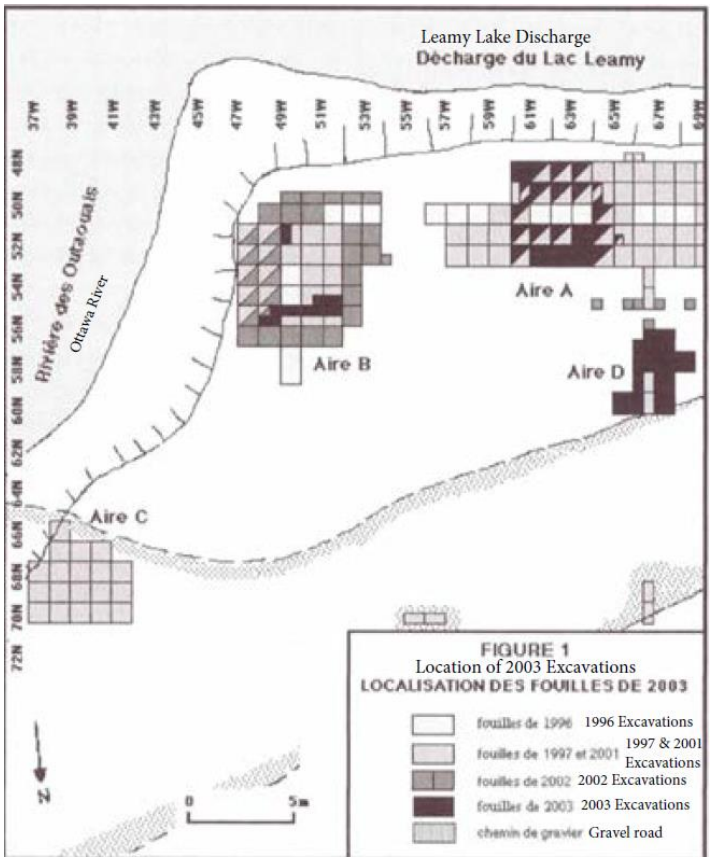


Figure 5. 2003 site plan of BiFw-6 (Laliberté, 2004b)[1]

[1] Some figures in this thesis are of reduced quality as I was unable to access the originals and had to rely on older photocopied versions that have been duplicated multiple times, leading to a loss of detail and clarity.

3.2 Stratigraphy

Due to its existence as a persistent place, the stratigraphy of BiFw-6 is complex. A coding system was utilized to refer to the stratigraphy, with main layers consisting of distinctive loose material designated by the code numbers C100, C200, C300, etc. according to their order or appearance from the surface. Subdivisions of the main layers, which generally referred to materials of the same nature but contained a different colour or texture, were designated with the codes 101, 102, etc. for layer C100 and 201, 202, etc. for layer C200, and so forth (Laliberté et al., 1997a).

Layers or lenses that were believed to be distinctive in their materials and cultural content, many of which contained features, were considered "occupation layers" and thus a different numbering system was used to refer to these layers. Each occupation layer was given a two-digit number; the first number referring to the overall stratigraphic level it was associated with, and the second number referring to the sequential order of layer identification. Under this special coding system, occupation layers within the C200 stratigraphic level would be referred to as C-20, C-21, C-22, and so forth for all stratigraphic levels and their associated occupation layers. (Laliberté et al., 1998).

From flooding from the nearby waterways, the site is broadly overlain with a brownish silty and organic alluvium. This top-soil layer, which in some areas was distinguished into two layers (one granular and one homogenous), was determined to be associated with the post-contact period (Laliberté et al., 1997a). This stratigraphic layer was designated as the "historic level" and was excavated separately from pre-contact layers. Some artifacts that originated from earlier periods of history were at times found in this layer, but this was attributed to shoreline erosion or human disturbance of the layers below.

Layer C200 was believed to be associated with sometime between the 17th and 19th centuries, due to the number of Euro-Canadian artifacts related to the fur trade found within it. This layer was not present in the northern part of the 51N 51-54W section (Area A) which was also attributed to shoreline erosion or to significant human activity. The other excavated parts of area A seem to only have some damage within the C100 layer relating to rodent burrows, trees, and very recent firepits. Below C200, the remaining levels were generally found to only be

associated with the pre-contact period (Laliberté et al., 1997a). Stratigraphic profiles for different areas of the site have been included in this chapter (figure 8) and within appendix B (figures 62, 63, 64, 65, 66, 67, and 68).

3.3 Features

Features were recorded through identification and sampling of materials, description of shape and dimensions, drawings, and photographs. In the excavation reports, features were referred to as “structures”. This discrepancy is likely due to the original excavation team using Quebec French and does not indicate physical structures. Therefore, in figures and site excavation plans, features are referred to as S then the relevant feature number (i.e. S12, S25, etc). Artifacts or ecofacts associated with the features were recorded and wood charcoal samples for the purpose of dating were collected when possible. Numerous features associated with pre-contact occupation were recorded, including up to sixty hearths and approximately fifteen dwellings. Dwellings were determined through the presence of hearths, particularly associated with other secondary hearths, dwelling floors littered with ceramic and lithic debris, and dwelling boundaries delineated by stones (Laliberté, 2002b). For the purposes of this thesis, only the features which include evidence pertaining to Indigenous occupation, pre and post contact, have been included in this chapter and appendix A. It is also worth noting that the information below solely originates from field notes and reports not written by the author of this thesis. An overview of main features by area has been provided below, and a comprehensive breakdown of all features can be found in appendix A. Additional report figures of these features and stratigraphy can be found in appendix B. Additionally, a breakdown of vessels from each area is detailed in appendix C, and includes information such as context, depth, associated feature, and archaeological time period.

3.3.1 Area A

Area A of BiFW-6 presents a diverse array of features indicative of pre-contact Indigenous occupation, spanning both the pre- and post-contact periods (figures 6 and 7). Through excavation of the site, numerous features have been identified. Area A also contains a complex stratigraphy (figure 8), with features being found throughout layers C200-C400, with a number associated with “occupation layers” such as C30. Additional stratigraphic profiles from

area A can be found in Appendix B, notably figures 67 and 68. The intricate layers of stratigraphy within area A reflect the persistent place nature of the site, where successive generations of inhabitants left their mark on the landscape, shaping its cultural and environmental trajectory over time.

The aforementioned features, ranging from hearths to potential dwelling floors, offer insights into various aspects of domestic life and activity. Notably, hearths such as feature 1a and feature 2a exhibit clear signs of cooking and food preparation activities, supported by the evidence of fire-cracked rocks, charcoal, and associated lithics and ceramic sherds. However, interpretations are nuanced; for instance, the arrangement of fire-cracked rocks in association with a hearth, making up feature 9, was hypothesized by the excavating team to suggest that this feature was used for heating water within ceramic vessels (figure 7). Throughout the excavation area, the presence of calcined bone, charcoal, and lithic and ceramic artifacts are indicative of daily life and resource utilization. Some features, such as feature 22[2], suggest the presence of multi-family dwellings, while others, like feature 41[3], show evidence of disturbance likely caused by historic activities. Additionally, features such as feature 42[4], which was hypothesized to be a combustion area or area for culinary waste, reveals evidence of continued occupation of the site into later historical periods, with the presence of 18th-century artifacts. A comprehensive overview of each aforementioned feature has been included in Appendix A. Overall, area A provides strong evidence for repeated occupation of the site over time and provides insights into pre-contact Indigenous lifeways, settlement patterns, and an evolving relationship with the landscape throughout time.

3.3.2 Area B

Area B presents a rich archaeological landscape with a complex stratigraphy and number of features (figures 9 and 10). Additional stratigraphic profiles for area B can be found in Appendix B, notably figures 62, 63, 64, 65, and 66. Feature 1b, situated within the C35

[2] See figure 54 in Appendix B

[3] See figure 56 in Appendix B

[4] See figure 57 in Appendix B

occupation layer, aligns with other Middle Woodland hearths, emphasizing the continuity of habitation practices. Feature 2b, although resembling hearths of the same period, diverges in alignment, suggesting temporal nuances in site utilization or habitation Feature 3b adds to the site's complexity with its two pits, possibly indicative of older habitation layers. Feature 5b, though eroded, retains evidence of a pre-contact hearth, underlining the site's enduring significance (Laliberté, 2002b). A number of other features speak to continued habitation of the site and domestic life and activity. For example, features 7a and 9, share characteristics of a Middle Woodland dwelling floor, reflecting concentrated habitation areas (Laliberté, 2001). Feature 7b, marked by stones amidst lithic debris and bones, as well as feature 11, which was interpreted to be a midden or culinary waste pit, signal frequent human presence and activities. Feature 43a, an earthen mound between hearths, indicates food preparation or cooking areas within a dwelling (figure 9) (Laliberté, 2002b). Additionally, features 43b, 45, 46, 47, and 48 comprise hearths and post molds, further signifying robust human occupation. The excavation plans for dwellings found in strata 2 and 3 of area B can be found in figures 12 and 13, and comprehensive descriptions of features can be found in appendix A. As with area A, the stratigraphy and features of area B exemplifies BiFw-6's existence as a persistent place which clearly held importance to pre-contact Indigenous peoples. (Laliberté et al., 1997b, 1998).

3.3.3 Area C

Area C presents a complex array of stratigraphy and features indicating human occupation and activity over time (figures 14 and 15). Feature 66b, located south of feature 70, exhibits signs of hearth activity with charcoal, burnt wood, and bones, suggesting brief use. Feature 67b, adjacent to 66, contains calcined bones and glass beads, possibly associated with domestic activities (figure 14) (Laliberté, 2001; Laliberté et al., 1998). Feature 68b reveals a hearth with abundance calcined bones and artifacts from the 17th-18th century, indicating a later period of occupation (figure 14). Feature 71 exhibits characteristics of a hearth, supported by stake molds likely used for food preparation. Feature 72, associated with occupation layer C30, suggests hearth activity and ground levelling, possibly for a dwelling installation. Finally, feature 77 (figure 15) in occupation layer C40 contains artifacts and bones, and was found to be disturbed by the development of a nearby dwelling feature, indicating repeated habitation in this area (Laliberté et al., 1998). Detailed descriptions of features and their associated artifacts can be

found in appendix A. Overall, these findings illustrate the dynamic history of human habitation and activity in area C, spanning multiple periods and activities.

3.3.4 Area D

Area D (figure 16), excavated in 2003, is distinguished from other areas of the site by the absence of the upper layers, 100 and 200, from the stratigraphy. This was likely caused by bulldozing during the use of the site in the Historic period. These layers were replaced with layers of fill. The remaining stratigraphy of the area is unclear, as Laliberté notes the presence of layers 300 and 400, but also notes "stratum 2" and "stratum 5" (Laliberté, 2004b). A clear stratigraphic profile for area D was not provided, and only one excavation plan for area D was present in the report (figure 16). Additionally, it appears that the excavation plan does not accurately correspond to the features Laliberté notes in his report as being present in area D. The below description of area D's features is based on the content within the 2003 excavation report, rather than the area D excavation plan (figure 16). More detailed descriptions of area D features and associated artifacts can be found in appendix A.

Laliberté's 2003 excavation report speaks to several features which provided more evidence for site use over time. Feature 1c, situated at the interface of fill and layer 300, presented a patch of orange mottled clay containing bones and charcoal, initially interpreted as a combustion area associated with 20th-century cottages. Features 2c, 3a, and 4c, discovered within layers ranging from C30 to C400, were described as secondary hearths, likely linked to the multi-hearth dwelling uncovered in nearby area B. These features exhibited charcoal, lithics, ceramic fragments, fire-cracked rocks, and bone remains, with feature 4c also containing charred nut shells indicative of late summer or early autumn use, aligning with the presumed dwelling's seasonal activity (Laliberté, 2004b). Feature 15a, located between layers C30 and C400, manifested as a small mound of loamy soil overlayed with brownish soil mixed with charcoal, bone, lithics, and ceramics. This feature was interpreted as a hearth, with an adjacent bowl-shaped pit containing over 400 bones, raising questions about its relationship with layer C300 and its heterogeneity, which mirrored findings in feature 18 (Laliberté, 2001).

3.4 Conclusion

This chapter, and appendices A and B, have outlined the comprehensive excavations spanning the different areas of BiFw-6 and provides a wealth of information and insight into the narrative of repeated human occupation here. Through a detailed examination of the numerous features, one can see a complex and vivid picture of past human activities. While the stratigraphy allows for one to clearly see that the site was repeatedly occupied over time, proving its existence as a persistent place, the complex nature of the stratigraphy and at times difficulty to parse out different layers speaks to the cumulative palimpsest nature of the site as well. The many layers of human activity here intertwine, sometimes making it difficult to provide a clear or easy categorization. Additionally, when utilizing the theoretical lens of mobility as agency, the stratigraphy illustrates that BiFw-6 clearly called peoples back to it over time and reveals that they made the active choice to return again and again.

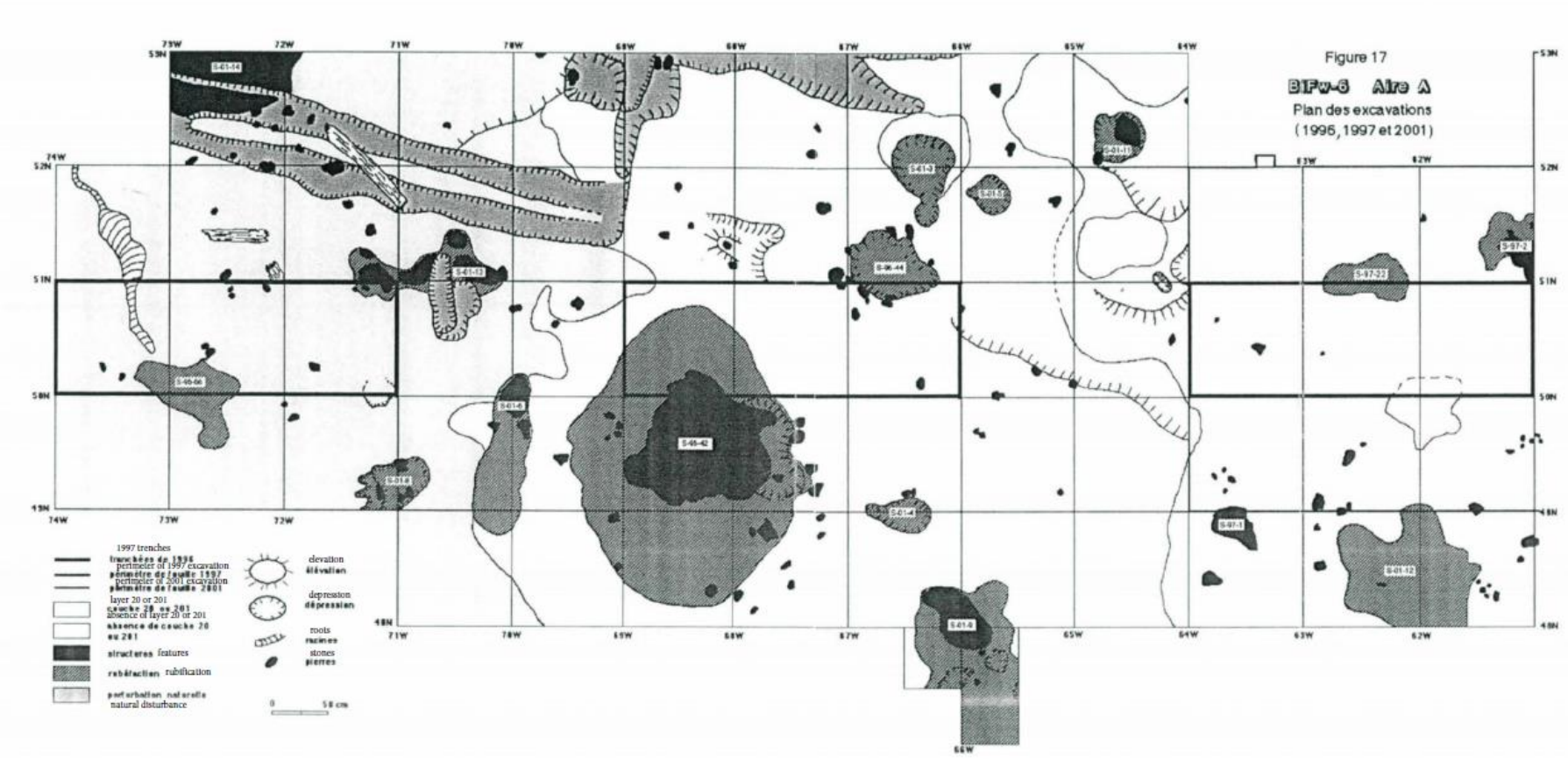


Figure 6. Area A Excavation Plan (1996, 1997 and 2001) (Laliberté, 2001)

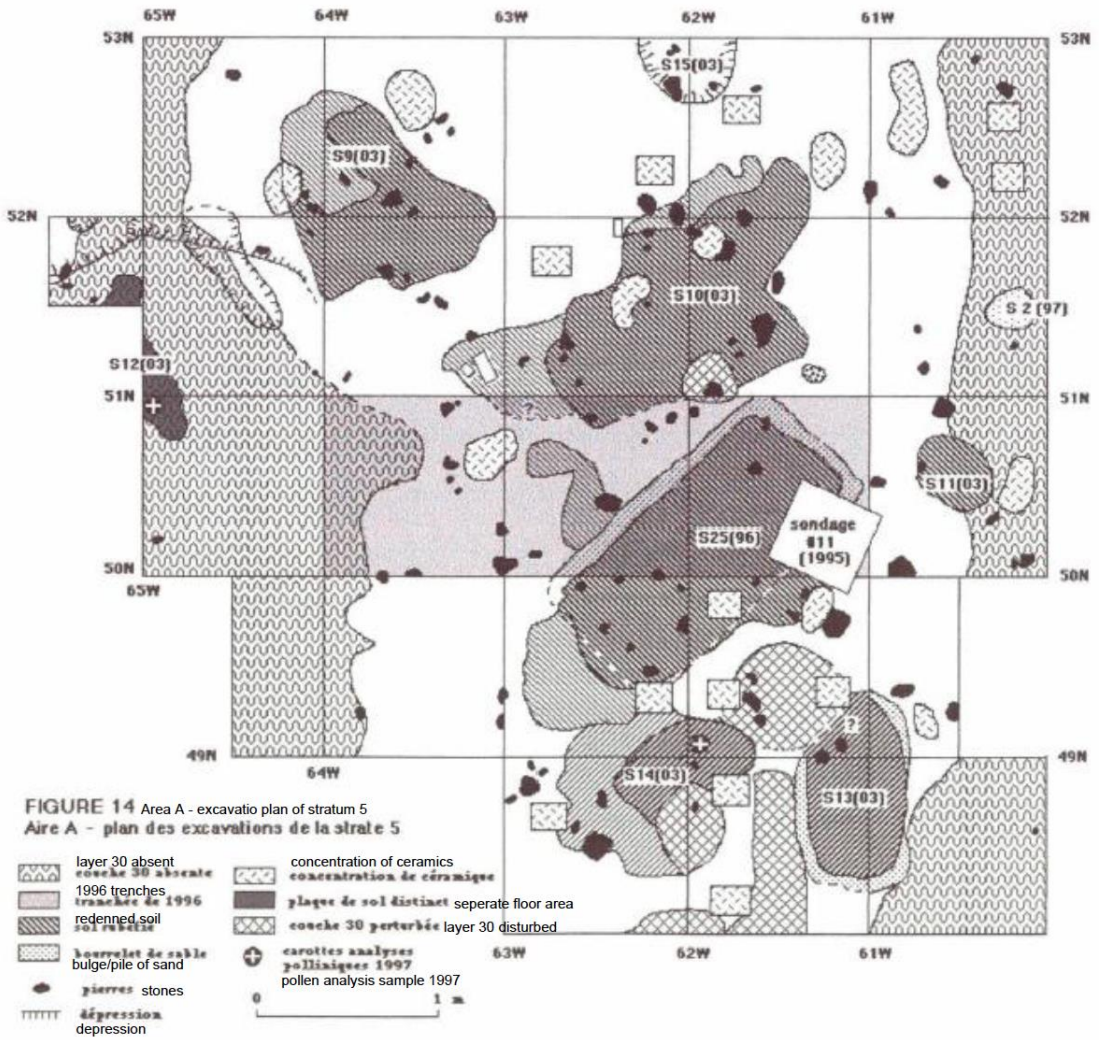


Figure 7. Excavation Plan of Stratum 5 in Area A

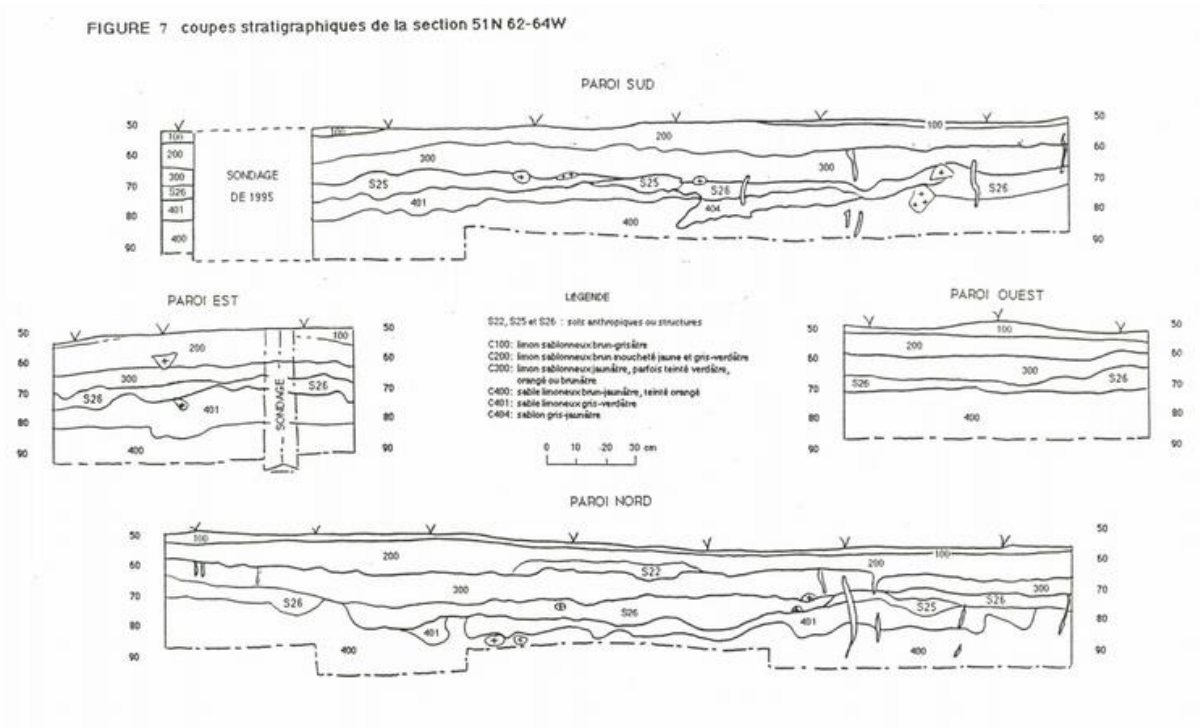


Figure 8. 51N 62-64W (Area A) Stratigraphic Profile (Laliberté et al., 1997).

Stratigraphic profiles/cross-sections of section 51N 62-64W

Legend

S22, S25, and S26: Anthropogenic soils and features

C100: Greyish-brown sandy loam

C200: Brown sandy loam with yellow and greenish-grey flecks

C300: Yellowish sandy silt, sometimes with a greenish, orange or brownish tinge

C400: Yellowish-brown silty sand with an orange tinge

C401: Greenish-grey silty sand

C402: Yellowish-grey sand

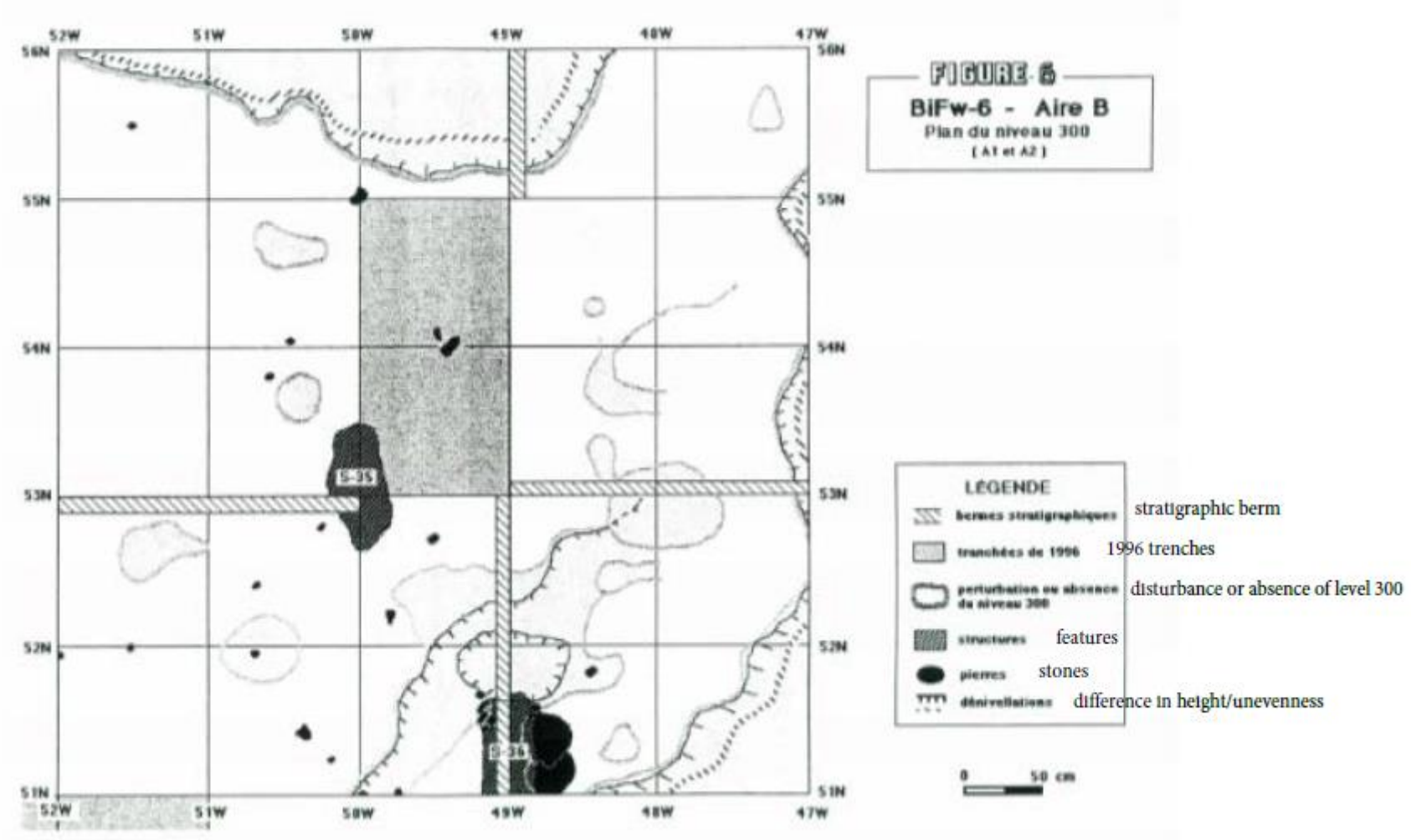


Figure 9. Area B Level 300 Excavation Plan (Laliberté et al., 1998b).

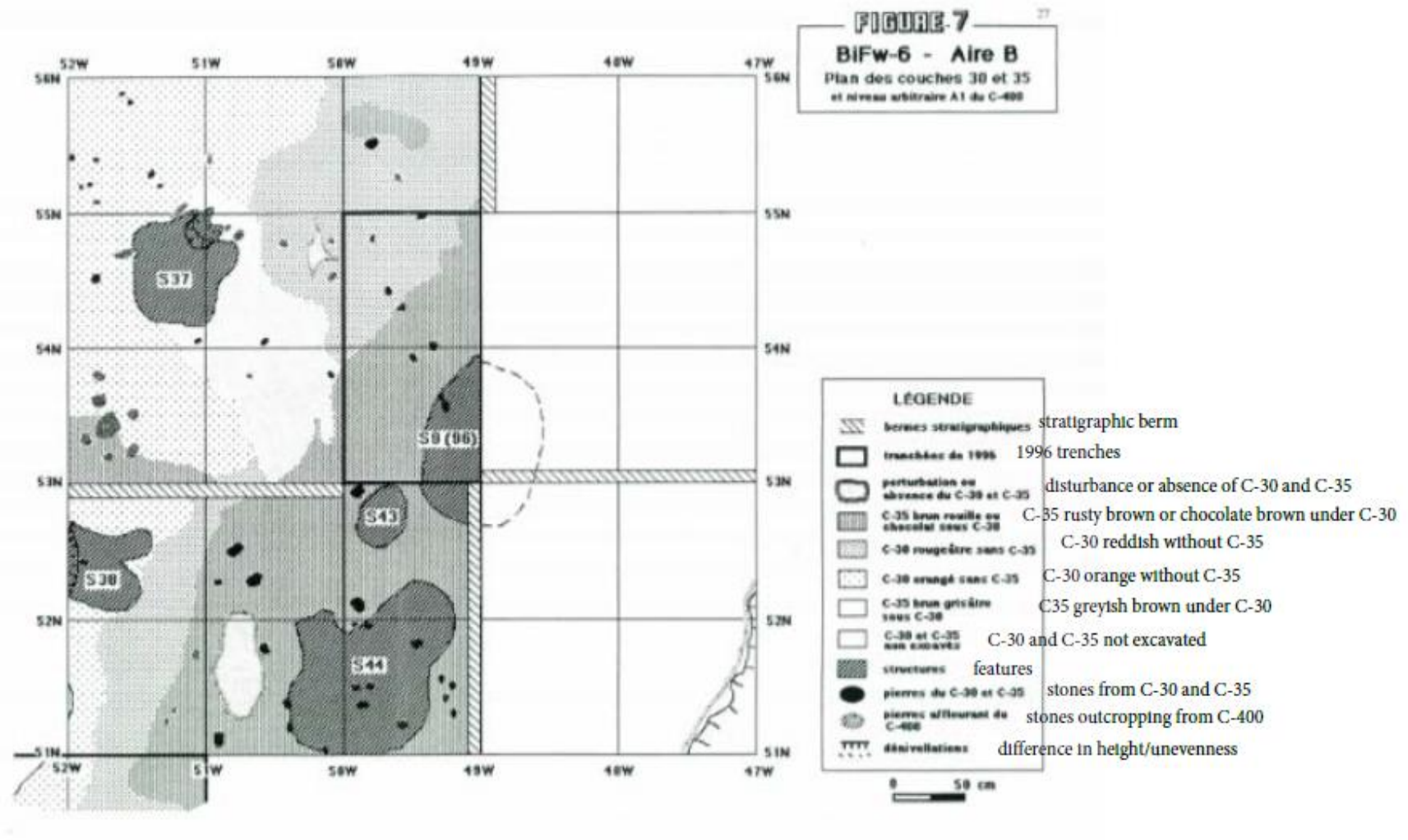


Figure 10. Area B Layers 30 and 35 Excavation Plan (Laliberté et al., 1998b).

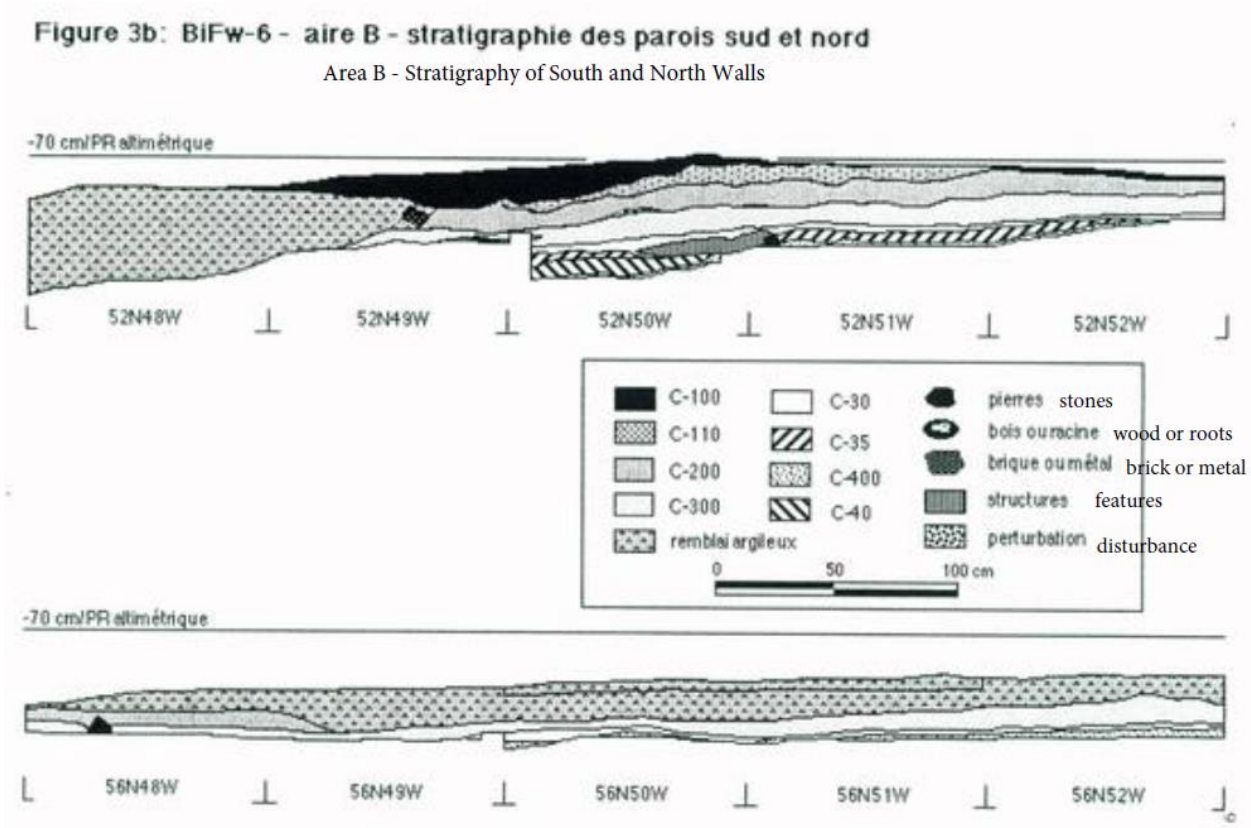


Figure 11. Area B Stratigraphy of South and North Walls.

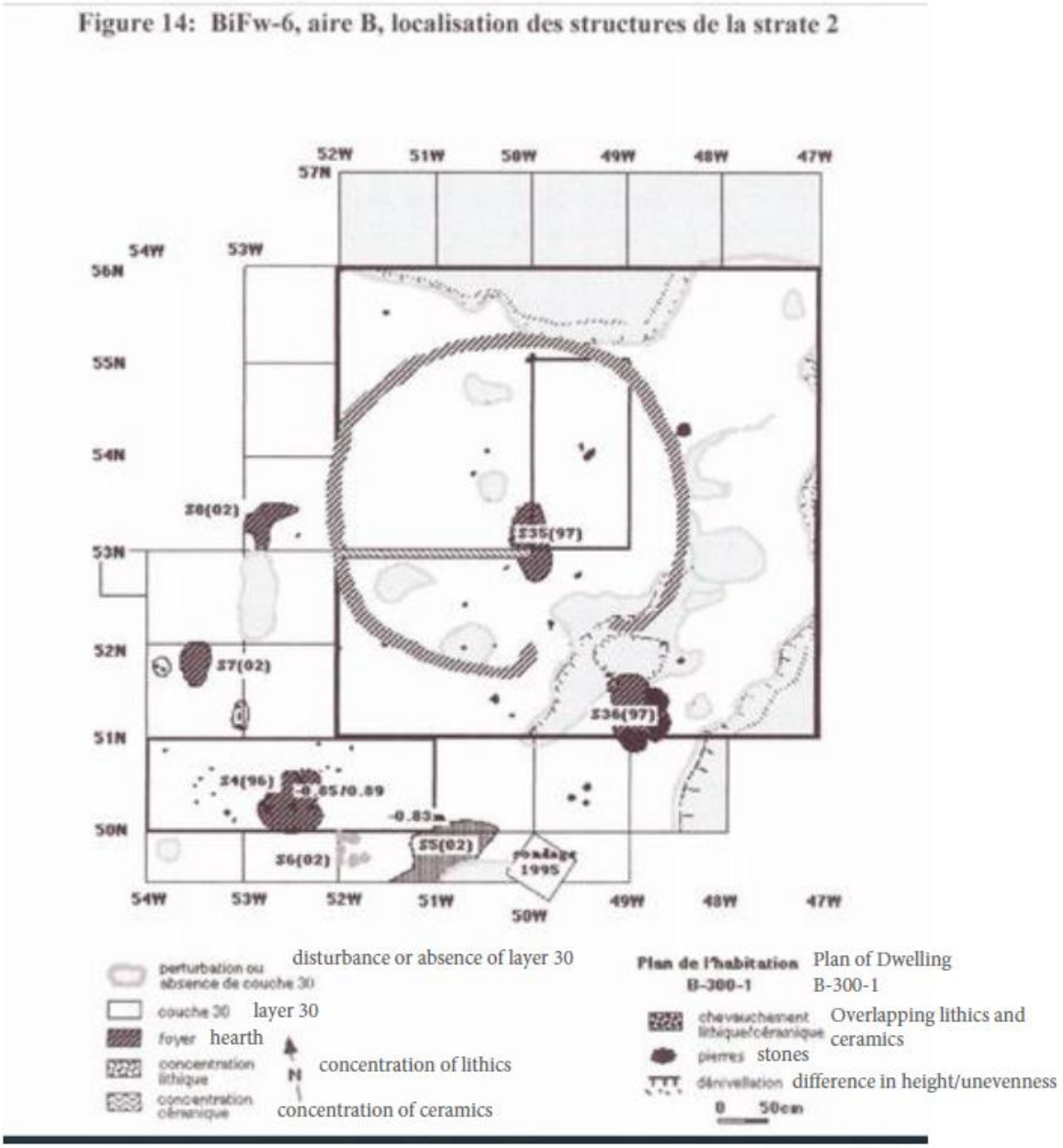


Figure 12. Area B Stratum 2 Dwelling Feature Plan (Laliberté, 2002b).

Figure 13. Area B Stratum 3 Interior Layout of Multi-Family Dwelling (Laliberté, 2002b).

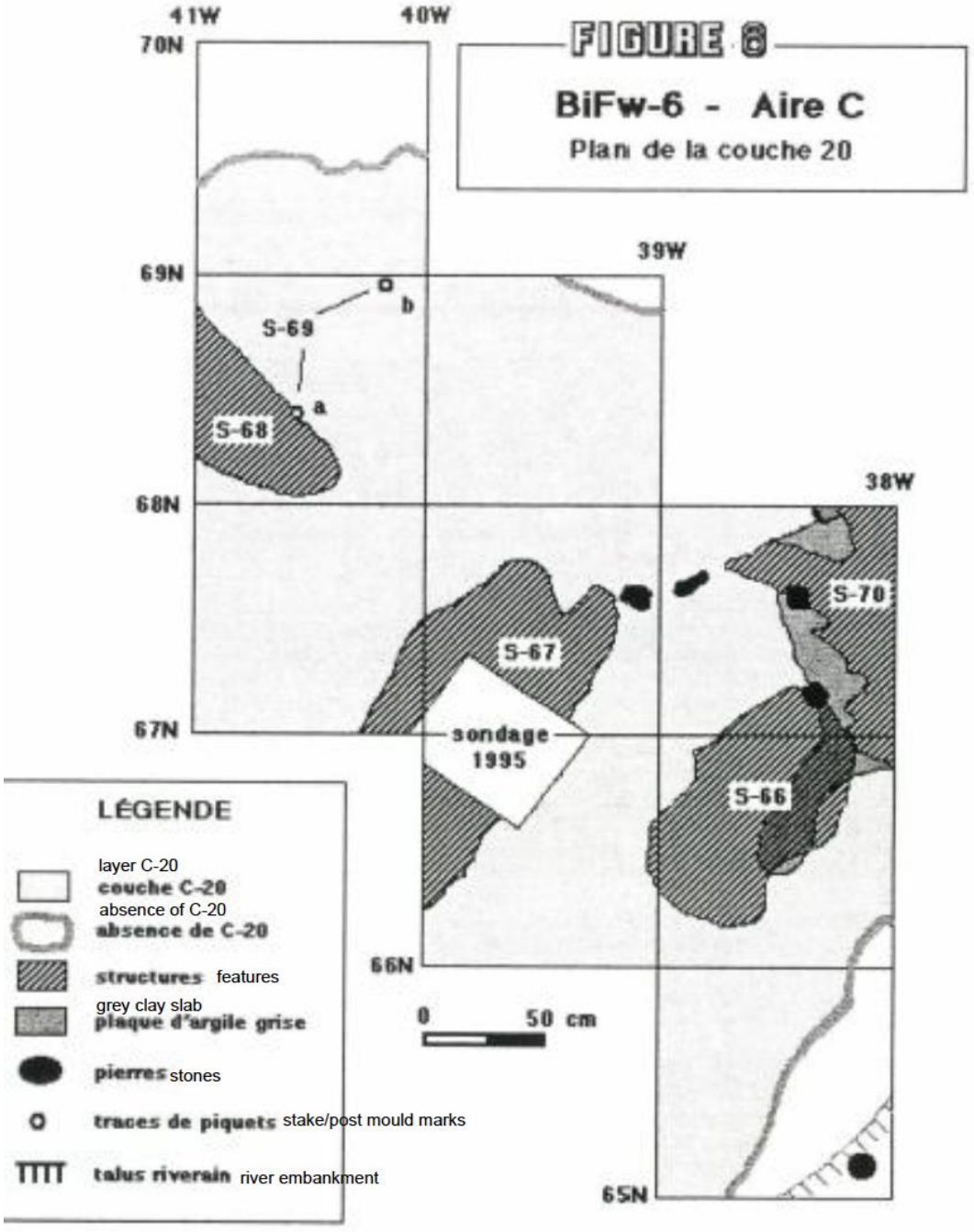


Figure 14. Area C Level 20 Excavation Plan (Laliberté et al., 1998b).

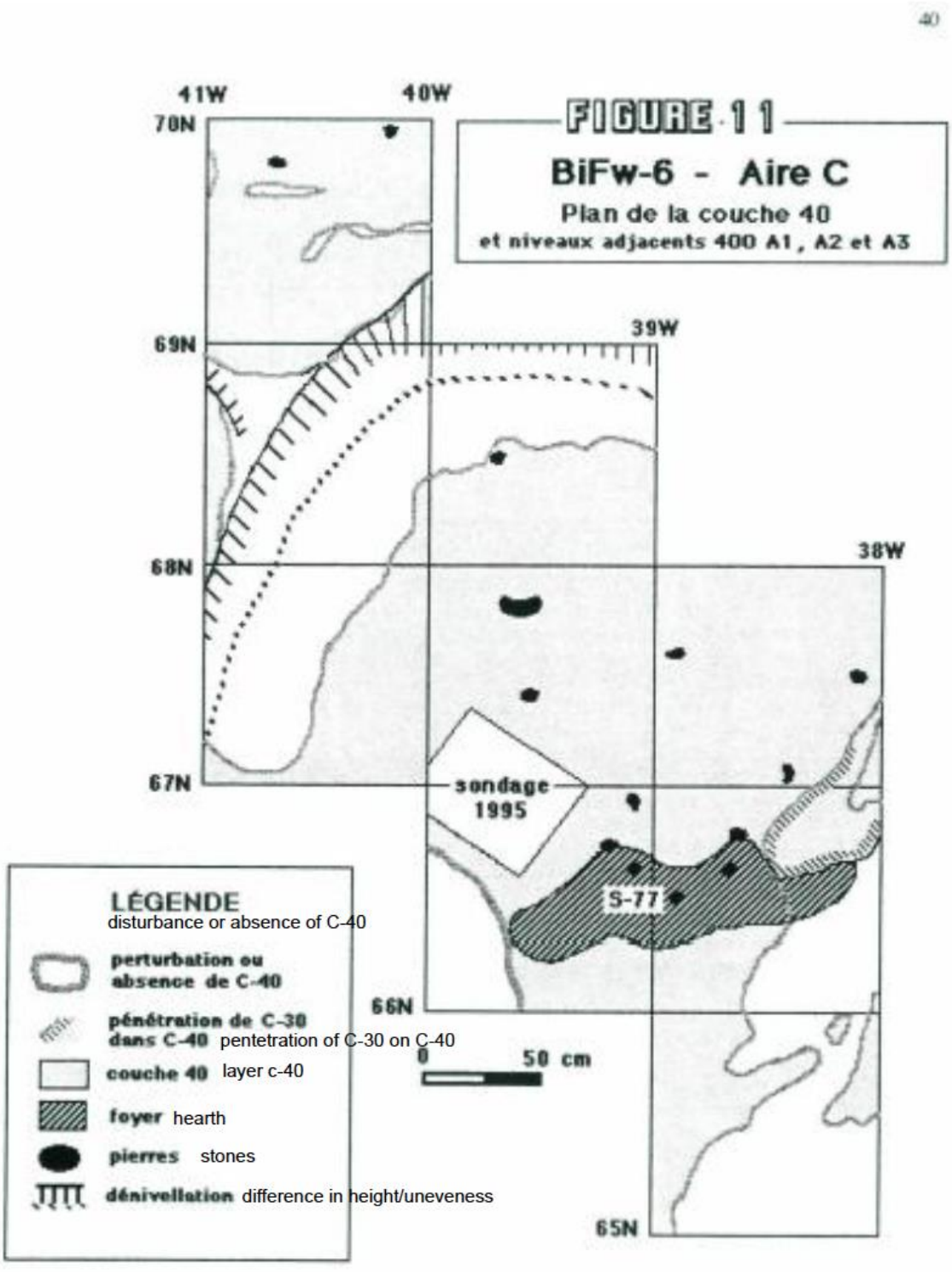


Figure 15. Area C Level 40 Excavation Plan (Laliberté et al., 1998b).

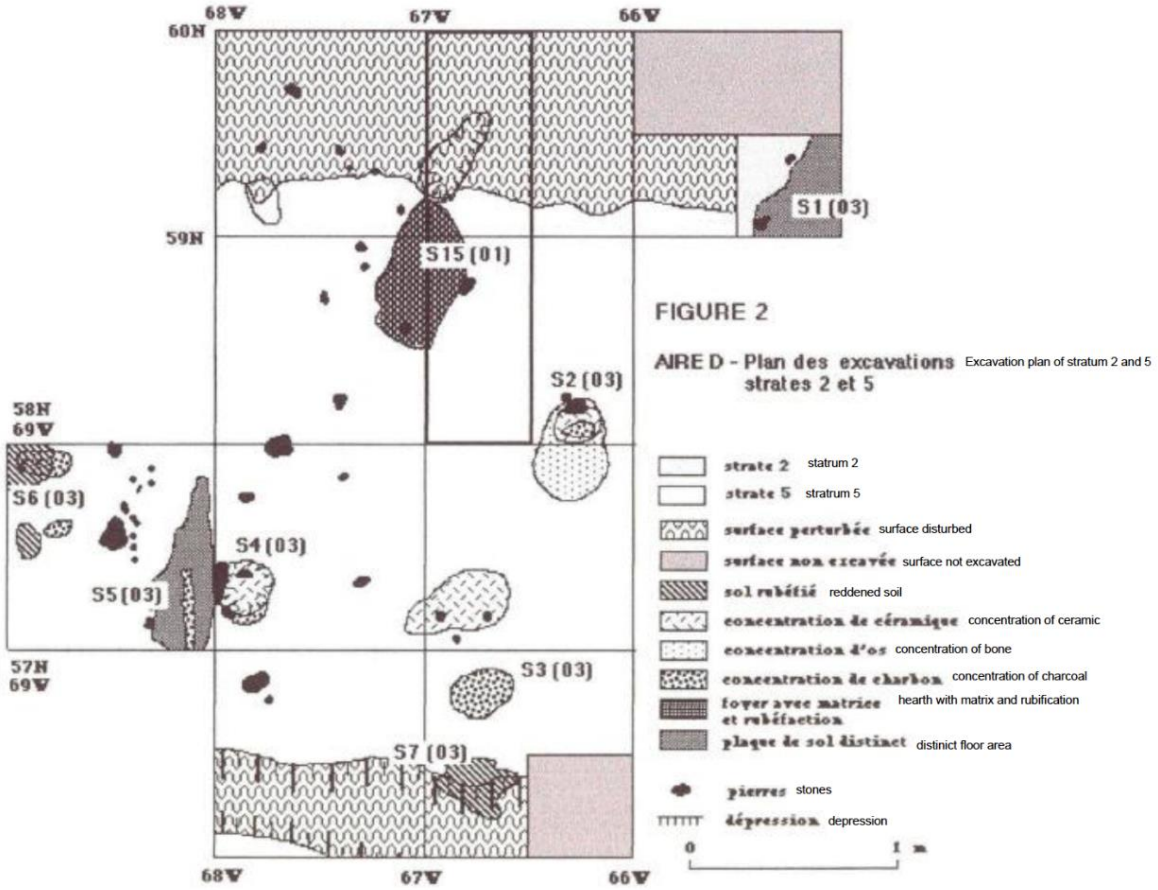


Figure 16. Excavation Plan of Stratum 2 and 5 in Area D (Laliberté, 2004b).

Chapter 4

Methods and Data Collection

The following chapter details the methods and data collection followed in this analysis. The initial goal of this thesis is to establish the chronology of the BiFw-6 assemblage using ceramic typological and attribute-based analysis. The second goal is to evaluate spatial and horizontal patterning to determine which areas have increased likelihood of occupational and cultural continuity. Finally, this thesis seeks to understand cultural continuity through comparative analyses with comparable assemblages in the region.

4.1 Sampling Strategy

The assemblage of material culture from BiFw-6 contains thousands of ceramic sherds, lithics and debitage, and floral and faunal materials. Ceramic artifacts make up the focus of this analysis due to the fact that they are often the most abundant artifacts found on Middle and Late Woodland sites, as is the case with the BiFw-6 site. Ceramics are noteworthy because they are particularly subject to social interaction and cultural change, and thus analysis of ceramics provides an opportunity to examine social aspects such as cultural change over time and patterns of social interaction (Curtis, 2004, p. 57).

The items considered for this analysis were sampled from the assemblage from the excavations at BiFw-6 led by Laliberté from 1993 to 2003. These excavations were described in detail in the previous chapter. The site, as yet only preliminarily studied, is designated as a multicomponent habitation area with evidence suggesting possibly Early, and certainly Middle and Late Woodland usage.

The collection is housed in the Canadian Museum of History (CMH) in Gatineau, QC. Due to the COVID-19 Pandemic and the institution’s processes for approving loans, it was quite difficult to determine what artifacts would be studied in this analysis and when access to them would be given. This research was ultimately delayed due to these factors. Additionally, due to the Pandemic, I was not allowed to visit the museum and view the collection prior to determining the sample. The CMH required that one specify what specific artifacts they wished to borrow,

from existing catalogues. Therefore, the sampling strategy was solely informed by the information within the original excavation catalogues. Based on this, from the entire ceramic assemblage of artifacts, a tiered subsample approach was followed. The first tier or primary focus was all ceramics which were described as containing the presence of a rim, due to the high potential for diagnostic information. The second tier or focus was ceramics which were described as having clear decoration. The third tier or focus was ceramics which were described as being in association with features. Sherds which were described as "micro" sherds or as debitage were excluded from the sample. Finally, the last group of ceramics which were included in this sample were any which were indicated by the original excavation team as being part of a larger vessel. Additionally, at the beginning of this research, I was hopeful that I would also be able to undertake lithic analysis to supplement the ceramic analysis. Therefore, all lithics which were noted as being a clear tool or a utilized lithic (i.e., projectile points, scrapers, stone axes, drills, cores, utilized flakes, etc.) were requested. The majority of lithic flakes and detritus was not requested unless it was noted in the catalogues as having evidence of being utilized.

Upon receiving the collection from the Canadian Museum of History, it was quickly noted that the artifacts were not packaged in any systematic way (i.e., by catalogue number, year, excavation unit, sherd type, etc.). Each box contained artifacts which were in bags or containers with their original excavation tags, but there was no overarching catalogue of what was in each box or if there was any process for choosing what artifacts went together in each box. To address this, the collection was firstly spread out and labelled by each box. Following this, a written catalogue of each box was taken. This included a general description of the artifact (i.e., a quartz scraper, a bag of 15 ceramic sherds, etc.), as well as the number of artifacts, the associated context, and what box it was packed it. Where possible, this catalogue was cross-referenced with the numbers from Laliberté's and/or the museum's catalogues. This helped in locating larger diagnostic sherds such as rims, necks, bodies, and bases. However, not all artifacts were clearly cross-referenceable with these catalogues and so it is acknowledged that some information may have been lost. The process of cataloguing all artifacts, which made up several thousand pieces, took a large amount of time and effort. However, it did provide a unique familiarity with the collection which otherwise may not have been gained to the same extent.

It was ultimately decided that a lithic analysis was not feasible in the time available for this research, and so the scope was limited to ceramics. Following the aforementioned cataloguing, all ceramics were sorted into analysable and unanalysable categories. Sherds which were too small, fragmentary, or lacking in decoration and clearly associated with a diagnostic aspect such as a rim, neck, or base were determined to be unanalysable and excluded from the analysis. Following this, a vessel search was undertaken. This was informed by information from the original excavation catalogue such as unit information, as well as form and shape characteristics and, when possible, the location of possible mends.

The vessel search included dividing sherds into sub-categories based on what part of the vessel they were: rim, neck, shoulder, body, or base. Figure 17 depicts possible vessel forms and indicates the location of vessel portions or landmarks. Neck, shoulder, and body sherds were separated primarily based on curvature and sherd thickness. It is acknowledged that this method of differentiating allows room for some inaccuracy but it was determined to be sufficient for the scope of this analysis (Wright, 1966). Vessels were determined by the clear presence of a rim. Some vessels were found to be much more complete than others, with rims, necks, shoulders, and sometimes body fragments present. However, other vessels consisted of solely a rim that was clearly distinguishable from other rims by morphological and decorative traits.

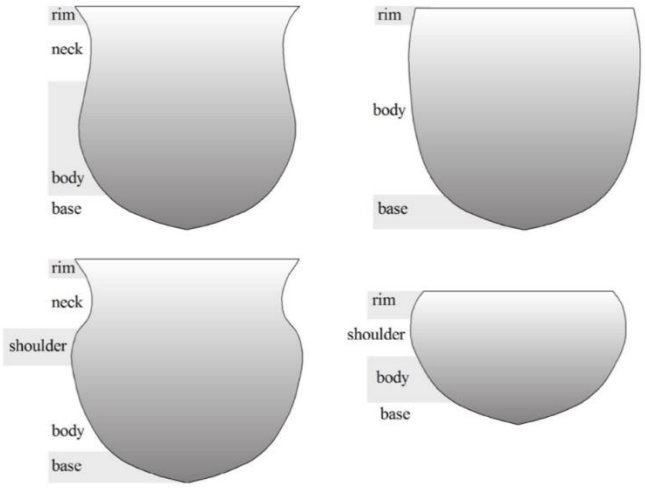


Figure 17. Possible vessel forms indicating locations of vessel portions (Riggs et al., 2015).

This exercise ultimately led to the discovery of 96 vessels associated with rims and 5 vessels without associated rims. The five which were counted as vessels were so designated due to the unique or notable morphological or decorative techniques they possessed, despite not being clearly associated with a rim. It must be noted that while I am overall confident that these vessels are not part of the aforementioned 96 vessels with rims due to their traits, it cannot be definitively determined that they are separate due to their lack of rim. Additionally, it should be noted that due to the size and fragmentary nature of the assemblage, it is possible that other vessels or further sherds associated with the 101 determined vessels may have been missed. Therefore, in the case of this assemblage, the results of the vessel search should be understood as the researcher's best estimate of all the identifiable vessels in the BiFw-6 collection. Following the completion of the vessel search, the remaining ceramic sherds which were determined to be excluded from the analysis were put aside. The remaining ceramics were then organized within the lab by vessel. An additional catalogue of just the vessels and their sherds was undertaken for clarity, and included a description of the vessel, a description of the types of sherd by vessel landmark present, (i.e., rim, neck, shoulder, etc.), morphological and decorative attributes, and excavation context.

4.2 Vessel Characterization

Data collection began by collecting basic measurements. Individual fragments were measured at the maximum points for length, height, and width, recorded in millimetres. The length was measured perpendicular to the rim surface and height was measured from rim to bottom edge. Width was measured at different points, when available, the rim, neck, body, and base. The diameter of a vessel was recorded using a standard rim measurement chart.

Lip form, rim orientation, presence of collar, colour, manufacturing technique, exterior and interior surface treatment, and type of coil break (when applicable) were recorded for each vessel. Exterior and interior decoration was recorded on a band-by-band basis for all available areas of the vessel. If a sherd or vessel form did not allow space for one or more band, this was noted as "zone not present". If a sherd was fragmented and it could not be definitively determined if there would have been decoration present, this was noted as "unobservable".

The characterization of decorative elements was based on definitions and language from multiple sources, notably *Pottery Analysis* by Prudence M. Rice (2015) and *The Pre-Iroquoian Pottery of New York State* by William Ritchie and Richard MacNeish (1949). Recorded attributes include form-based attributes such as lip form, rim orientation, presence of collars, manufacturing type, presence of coil breaks, castellations, and rim, neck, and wall thickness. Decorative attributes such as surface treatment, decorative tools, techniques, and motifs, were also included. No applied decorations, such as slip or paint, were noted in the sample.

4.3 Archaeological Time Period Assignment

Following the collection of data, vessels were assigned to possible archaeological time periods (Early Woodland, Middle Woodland, etc.) based on relevant attributes, rather than assigning them to ceramic typological traditions. Tradition in this case does not refer to the aforementioned definition by Pauketat but rather refers to "the perpetuation of a common archaeological culture through time which lacks major discontinuities in either sequential change or regional variation" (Wright, 1967b, p. 2). The relevant attributes were informed from multiple typological analyses and sources, but primarily *The Archaeology of Southern Ontario to A.D. 1650* (Ellis and Ferris, eds.1990). The comparison of BiFw-6 ceramic attributes to the typologies of archaeological time periods will provide insight onto the site's existence within these phases of occupation, as well as any specific traditions or agency which are specific to the site.

The Early Woodland period includes ceramics known as Vinette I. Vinette I ceramics are described as "thick and relatively crude ceramics made by coil construction, with conoidal ("cone-shaped") or sub-concoidal bases with interior and exterior surfaces cord roughened through the use of cord-wrapped paddles in vessel manufacture" (Ritchie & MacNeish, 1949; Spence et al., 1990, p. 128). Vinette I ceramics were also noted as having some variation, likely based on regionality (Taché, 2005).

The Middle Woodland (ca. 2400-1300 B.P.) (Spence et al., 1990) period has a number of defined ceramic traditions such as Point Peninsula, Saugeen, Laurel, and Melocheville. Ontario Point Peninsula sites are commonly noted as containing Vinette 2 ceramics and are categorized within Ritchie's Point Peninsula 2 Phase (Mortimer, 2012; Ritchie & MacNeish, 1949). These ceramics are described as being predominantly grit-tempered with elongated-bodied vessels with

conoidal or sub-conoidal bases. They have flat, rounded, or pointed lips on slightly everted rims, and are manufactured through the coil method. Point Peninsula interior surfaces are often combed with a toothed tool which creates parallel striations and exteriors are smoothed or brushed. They are noted as having dentate, pseudo-scallop shell, and cord-wrapped tool stamped decoration on the exterior covering the entire body (Mortimer, 2012; Ritchie & MacNeish, 1949; Spence et al., 1990).

Notably, Point Peninsula also shares a number of attributes with Saugeen and Laurel ceramics. Difference between types is often dependent on geographical types, however, Point Peninsula has been noted as demonstrating more interior channelling, thinner walls, finer paste, a larger proportion of pointed lips, red ochre washes, and finer dentate stamping in comparison to Saugeen ceramics (Mortimer, 2012; Spence et al., 1990; Wright, 1967a). Spence et. al (1990) note that Saugeen pottery can be thicker than Point Peninsula, with less technical detail given for decoration application.

Laurel ceramics are noted as commonly having "thinner walls, finer temper, finer toothed dentate, higher use of drag-stamp technique, decoration in zones limited to the upper portion of the vessel, and horizontal lines used to demarcate motif elements" (Mortimer, 2012, p. 43; Wright, 1967a, 1999, p. 734). Laurel tends to be more refined in nature, and often stands out in comparison to Saugeen and Point Peninsula ceramics.

Melocheville is a Middle Woodland ceramic tradition in southern Quebec. Melocheville is primarily informed by ceramics found in Pointe-du-Buisson. In Gate St-Pierre's (2001) description of the Melocheville tradition, he focuses on the Hector-Trudel and Station 4 sites; two multi-component archaeological sites located next to each other in the larger archaeological site of Pointe-du-Buisson. The ceramic attributes of the Hector-Trudel ceramics are described as having frequent occurrences of coil breaks and are predominately found to have a smoothed exterior surface treatment. They have "straight or slightly everted rims, very slightly constricted necks, rounded shoulders, sub-globular body and conical or sometimes rounded bases. The lips can be either round or flat, and castellations are present on less than 2% of the vases. Half of the vases are collared, collars which can take many different forms but which are usually very

thin…also quite short generally, with a mean height of less than 2cm" (Gates St-Pierre, 2001a, p. 51).

The Melocheville ceramics at Hector-Trudel displayed a wide variety of decorative tools, techniques, and motifs. Approximately one third of vases were found to have large cord-wrapped stick impressions, another third was decorated with dentate stamping, and the remaining vessels were undecorated, or another tool or technique was used. Some decorative attributes include the presence of left obliques as the most common motif on all surfaces, particularly on the upper areas of the vessel, with verticals and horizontals becoming more common further down the vessel. Exterior punctuates creating interior bosses were also predominant. The Melocheville ceramics at Station 4 are very similar to Hector-Trudel, but with a notable higher frequency of dentate stamping, and a lower frequency of collars and punctuates (Gates St-Pierre, 2001a). Overall, Gates St-Pierre and Chapdelaine characterize Melocheville as a late Middle Woodland ceramic tradition (Gates St-Pierre & Chapdelaine, 2013).

The Middle to Late Woodland transition is not clearly defined as an area of scholarship in its own right. This transition is variable, depending on what cultural markers from the Middle Woodland persist into the Late Woodland at a given site (Barnett, 2021; Ferris & Spence, 1995). For the purpose of this thesis, ceramics which were determined to be associated with this transition between formal periods have been referred to as "transitional". Ceramics which fall under this "transitional" label include those which appear to have decorative attributes which appear to be more reflective of the late Middle Woodland period but have morphological attributes which suggest early Late Woodland influences such as very thin walls and incipient collars/evidence of collar development. Additionally, some transitional ceramics are similar to the Princess Point ceramic tradition which is associated with the Middle to Late Woodland transition; notably cord roughened exteriors, cord wrapped tool impressions, and circular exterior punctuates (Fox, 1990).

The Late Woodland itself is a large period of time (ca. 1300-400 B.P.), and includes multiple defined cultural and ceramic traditions and expressions. For the purpose of this thesis, the Late Woodland was broken down into further sub-periods, Early Late Woodland, Middle Late Woodland, and Late Late Woodland. Additionally, ceramics which were found to be

associated with the Late Woodland period but could not be confidentially assigned to a sub-period were described as “Late Woodland”.

The Early Late Woodland includes traditions such as Glen Meyer and Pickering, two ceramic traditions which share many traits. Ceramics were manufactured using a modelling technique, and were often rounded shapes without pointed bases or elongated bodies (Barnett, 2021; Williamson, 1990). A wide range of decorative techniques are used in these traditions, including dentate stamp, cord-wrapped tool, and incising. A notable technique was the use of punctuates on the interior surface to create exterior bossing (Williamson, 1990).

The Middle Late Woodland period as defined by J. Wright (1966) began around A.D. 1300. Wright divided the Middle Late Woodland into two substages; Uren (A.D. 1300 to 1350) and Middleport (A.D. 1350 to 1400). However, subsequent researchers have adjusted these time frames, placing Uren between A.D. 1280 and 1330 and Middleport from A.D. 1330 to 1400 (Dodd et al., 1990). Uren vessels are commonly globular in shape, are usually collarless or have a poorly developed collar, and commonly have a rolled rim. Most Uren vessels are decorated, and often include decorative motifs which include incorporate horizontals, either alone or with obliques. Bossing is also common among Uren vessels, as well as techniques such as push pull, incising, and linear stamping. Vessel surface treatment appears to vary depending on location, the with ribbed paddle technique common in southwestern Ontario (Dodd et al., 1990). Middleport vessels are predominately collared, and incipient castellations are common. Obliques over horizontals are most popular, followed by horizontals alone and obliques alone. Vessels with plain bodies are common in Middleport. However, J Wright’s (1966) findings contradict with this, as he observed ribbed paddling to be the most common technique among Middleport vessels (Dodd et al., 1990).

The Late Late Woodland has particularly been connected to possible Indigenous cultural groups, particularly the Wendat. According to Ramsden (1990, p. 361), “the Hurons were a group of Iroquoian-speaking horticulturalists that in the early 17th century inhabited a small area of south-central Ontario known historically as Huronia, between Lake Simcoe and Georgian

Bay."[5] Ontario archaeologists used the term Huron-Wendat to refer to a wide number of sites both within and outside of the area known as Huronia, particularly dating between A.D. 1400 and A.D. 1600 (Ramsden, 1990). Huron-Wendat ceramics generally have round globular bodies with slightly constricted necks and slightly flaring collared rims. They are predominately made through the paddle and anvil manufacturing method; however, coil breaks have been found in Wendat ceramics. Decoration is most commonly applied to the collar, neck, and shoulder and is often applied through incising or trailing, linear stamping, and punctation. Collar decoration is predominately simple motifs consisting of straight lines made up of combinations of vertical, oblique, and sometimes, horizontal lines (Ramsden, 1990).

4.4 Intra Site Patterns

The identification of intra site patterns in ceramic distribution is required to understand how different ceramics have been deposited over time and space. An examination of these patterns can inform our understanding of the occupation of the site, particularly the time range and frequency of ceramic deposits. To understand the usage of the site and to better compare the ceramics with traditionally accepted ceramic traditions and typologies, the deposition of ceramics on a vertical axis was examined. Ceramics were also associated with relevant features uncovered during excavation. This analysis was informed by the noted site context and depth of ceramics during the excavation of the site. As long as no site disturbance (i.e., modern period uses of site, burrowing animals, etc.) was noted, it was assumed that material recovered from a lower stratum was older than those found in above stratum. Vessels were also examined on a horizontal axis to determine if there was clear evidence of particular areas of the site being used more frequently and possibly repeatedly over time.

The outcome of this testing will provide clarity concerning site use, including the duration and phase of occupations occurring at BiFw-6. For the purpose of this thesis, duration refers to the breadth of time the site was occupied, in hundreds of years. Phase of occupation refers to defined archaeological time periods in which use of the site took place, such as the

[5] The preferred name of this Indigenous group is the Wendat. However, they were previously referred to as the Huron by French settlers (Steckley, 2018). Past archaeologists used this colonial name, thus the usage of "Huron" in Ramsden's quote. For the purpose of this thesis, I have referred to these ceramics as Huron-Wendat.

Middle or Late Woodland periods. The distribution of ceramics on the site can help identify phases of occupation of the site, as well as speak to tradition making and agency of the site's occupants over time.

4.5 Regional Comparison

To understand the relationship between BiFw-6 ceramics and the wider region of the Ottawa-Gatineau region, the results of the analysis were compared to other analyses undertaken in the region. Comparable sites were examined from existing literature and were limited to those which were no more than 200 km away in any direction from BiFw-6. Due to the small size of the ceramic samples from other archaeological time periods, focus was given to the Middle Woodland assemblage at BiFw-6, which was compared to other Middle Woodland assemblages. This analysis focused on the attributes included in the analysis of BiFw-6 ceramics, including but not limited to, vessel form, lip orientation, exterior and interior decorative motif, technique, and tool, etc.

4.6 Conclusion

This chapter has outlined the methodological approach undertaken to study the ceramic vessels and settlement patterns at BiFw-6. Using attribute analysis, I examined a variety of manufacture-related, morphological, and decorative vessel traits. I analysed patterns of artifact types at the sites, with the aim of discerning settlement information and evidence of persistent use of the site. In the next chapter, I present the results of these analyses, incorporating some interpretations of the data.

Chapter 5

Data Analysis

This chapter is concerned with the description, summary, and analysis of the cultural material sample from the assemblage excavated from the BiFw-6 site. As discussed in the previous methodology chapter, the original collection of materials excavated from BiFw-6 was very large and contained items from the following artifact classes; Indigenous ceramics, lithics, worked faunal materials, general faunal materials, as well as historic ceramics and metal artifacts. Due to the scope of this thesis, the data analysis focuses on the ceramic assemblage.

As discussed in the methodology chapter, only certain ceramics were included in the sample. Ceramics which were associated with a rim and/or contained visible decoration or surface treatment were included. Ceramics which did not have decoration present or were not associated with a rim were primarily excluded. Initial analysis also included a search focused on locating sherds which could be associated with vessels. This was informed by the original excavation catalogue, unit information, form and shape characteristics, and possible mends.

This analysis also focused on the separation of sherds into analysable and unanalysable categories. The vessel search included dividing sherds into sub-categories based on what part of the vessel they were from: rim, neck, shoulder, body, or base.

Pottery*	**#**	**%**
Rim sherds	271	48.6
Neck sherds	92	16.6
Shoulder sherds	34	6.1
Undecorated body sherds	4	0.7
Decorated body sherds	119	21.3
Basal sherds	32	5.8

Ceramic waste	5	0.9
Total	557	101
* Excluding 3728 unanalysable sherds, micro-sherds, and/or sherds which were not associated with a rim.		

Table 2. Distribution of BiFw-6 ceramics by sherd type

After sample selection, the analysed sample consisted of a total of 557 analysable sherds making up approximately 101 vessels; 96 vessels associated with rims, and 5 vessels not associated with rims. Table 2 provides a summary of the sherds within this sample based on the type of sherd. Approximately 3728 other sherds were determined to be unanalysable, due to their small size and/or their lack of association with a rim.

5.1 Vessels

The main approach to analysing the BiFw-6 ceramics has been through viewing them as vessels. Sherds, when analysed, were separated into vessels wherever possible, based on a combination of features such as manufacturing technique, form, colour, paste, and design. Rim sherds from a total of ninety-six vessels were identified, and five other vessels were determined solely from body or basal sherds. Regarding the five vessels lacking rims, it is noted that it cannot be definitively determined that these ceramics are not associated with the previously mentioned ninety-five due to their lack of rims. However, they were chosen to be included in this analysis due to the value their data may contribute based on their form, significant size due to mending, and/or their distinctive decoration.

Following the vessel search, the ceramics were sorted based on archaeological time period. This was determined through macroscopic analysis, with a focus on vessel form and thickness, manufacturing technique, and decorative technique and motifs as discussed in Chapter 4. Figure 18 depicts this breakdown. There is evidence of ceramics which are associated with several chronological archaeological periods, the earliest being possible late Early Woodland period to the latest being the Late Woodland period. The latter being further broken down into

the Early, Middle, and Late Late Woodland periods. A number of vessels were characterized as simply Late Woodland because while their characteristics suggested the general Late Woodland period, they could not be confidentially assigned to a specific sub-period. Further analysis of ceramics in this chapter utilizes this breakdown into archaeological time periods to highlight possible changes in cultural material over time.

The existence of ceramics associated with several different archaeological time periods indicates long-term use of BiFw-6; suggesting that people(s) returned to the site across multiple generations. Notably, 74% of ceramics in this analysis were determined to correlate with the Middle Woodland period (n=75), and an additional 6% of ceramics (n=6) were noted as possibly being associated with the Middle Woodland. This suggests that the most significant use of the site occurred during this period. The lack of ceramics associated with other archaeological periods indicates less site use during those periods. However, it should be noted that the site has been disturbed both from natural causes such as shoreline erosion and animal burrows, as well as use during the modern period. Therefore, there is also a possible bias regarding what has survived in the archaeological record.

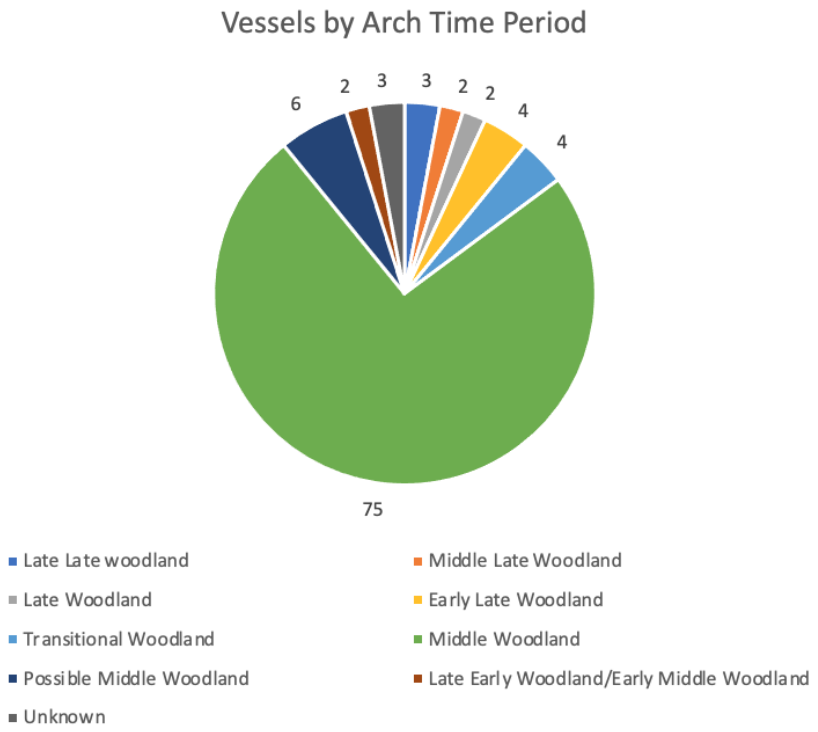


Figure 18. Number of Vessels by Archaeological Time Period.

5.2 Shape Variables

Shape variables for the uppermost areas of the vessel, including lip form, rim orientation, presence of collars, and castellations were gathered during data collection. Only a small number of vessels include enough of the overall vessel to indicate entire vessel form, so rim and lip shape are the primary focus of this analysis. For the majority of tables and graphs breaking down shape variables, focus has been given to the Middle Woodland-like ceramics due to the much smaller sample sizes of the other archaeological time periods in the assemblage. At times, the tables and graphs depicting all archaeological time periods were included if notable trends or findings could be determined. Middle Woodland-like ceramics refers to those which were characterized as being Late Early Woodland/Early Middle Woodland, Middle Woodland, and Possible Middle Woodland. For the purpose of visualizing the data, these have been combined in the below tables. Accumulatively, Middle Woodland-like ceramics include 83 vessels.

5.2.1 Lip Form

Lip form refers to the profile of the lip, and the categories found within this attribute include straight, complex, convex, diagonal to the profile of the sherd, concave, and rolled. These forms are shown in figure 19, and the breakdown of rim profiles of Middle Woodland-like ceramics is shown in figure 20.

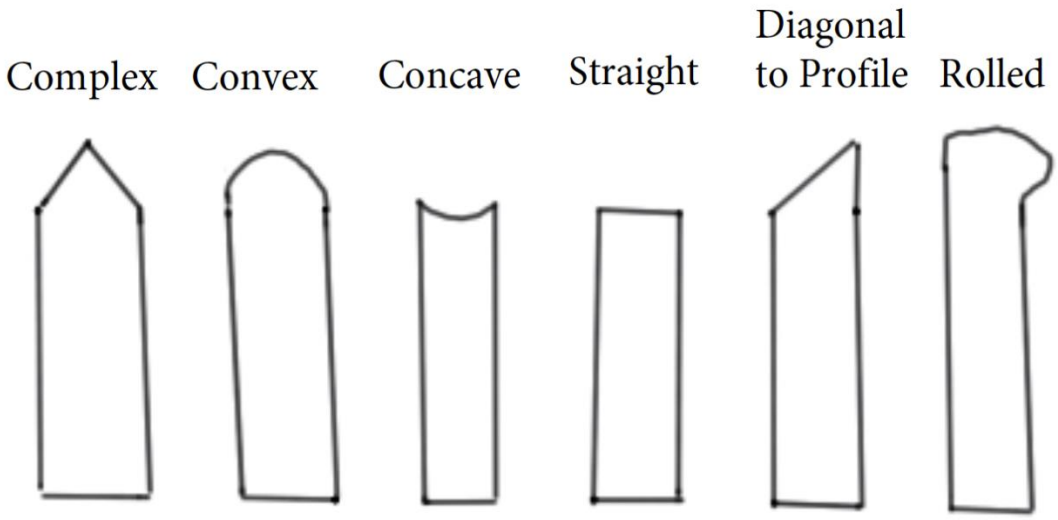


Figure 19. Lip Forms.

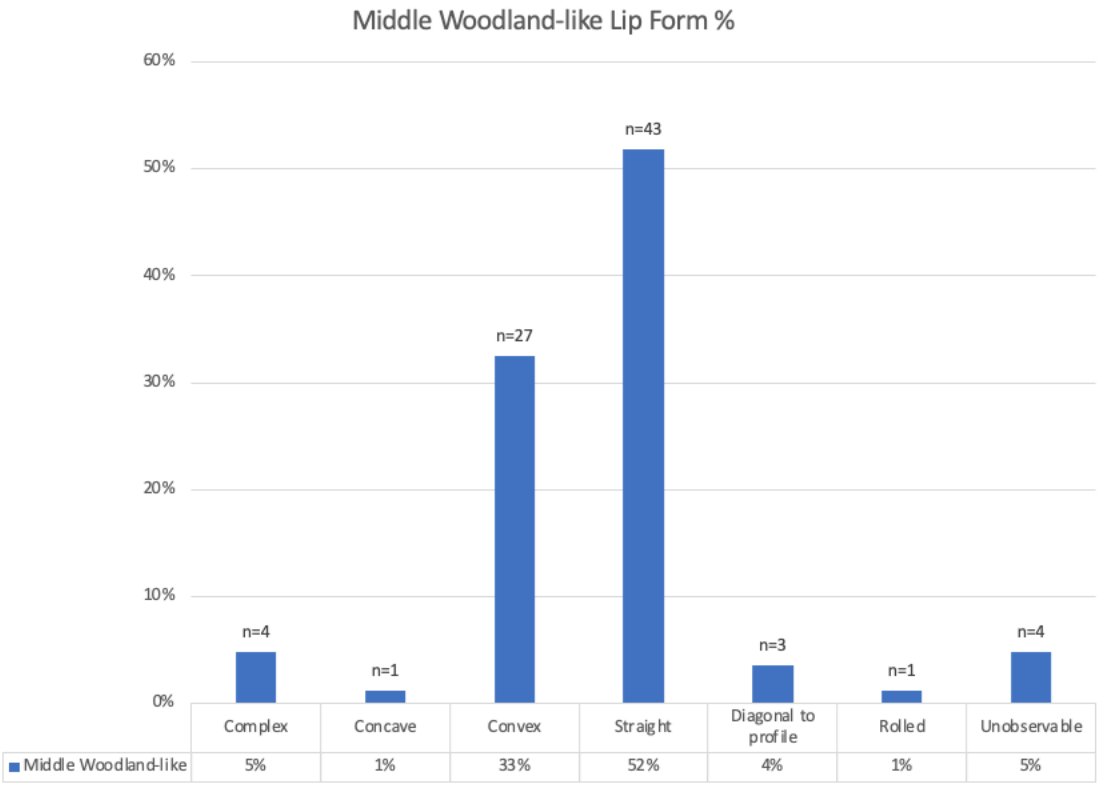


Figure 20. Middle Woodland-like Lip Form Percentage.

The Middle Woodland-like ceramics include a variety of lip forms, with straight, convex, complex, concave, rolled, and diagonal to profile lips all being present. This likely suggests a variation in ceramic morphological styles during this time period. The most prominent lip form in Middle Woodland-like ceramics was straight lips (n=43, 52%), followed by convex lips (n=27, 33%) (figure 19) Lips which were diagonal to the profile were only found in Middle Woodland-like ceramics and did not appear in other archaeological time period ceramic samples.

5.2.2 Rim Orientation

In addition to lip form, rim orientation was also observed. Rim orientation refers to the angle or direction in which the rim of a ceramic vessel is positioned relative to the vertical axis of the vessel body. Within this attribute, the main categories which were observed among the vessels were outflaring, slight outflaring, straight, everted, slight everted, and inverted (figure 21). Notably, there were also a number of vessels which had two of these categories present (e.g. an outflaring and everted rim). The frequency of different rim orientations for Middle Woodland-

like ceramics has been detailed in figure 22. Frequencies for rim orientations by all archaeological time periods can be found in appendix D.

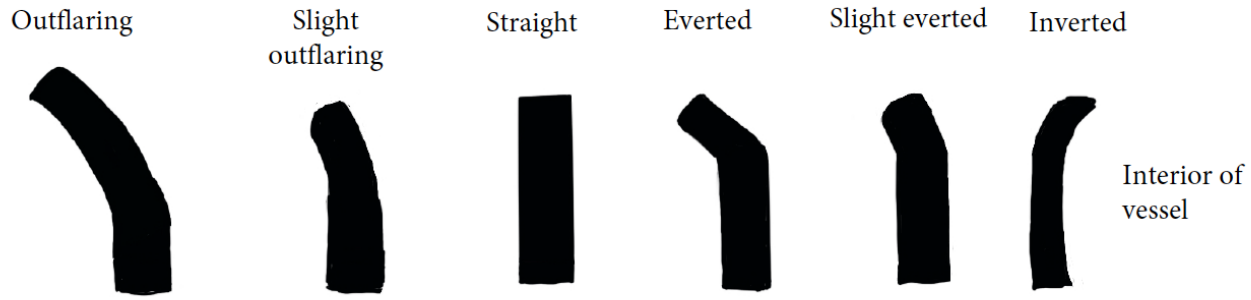


Figure 21. Rim Orientations.

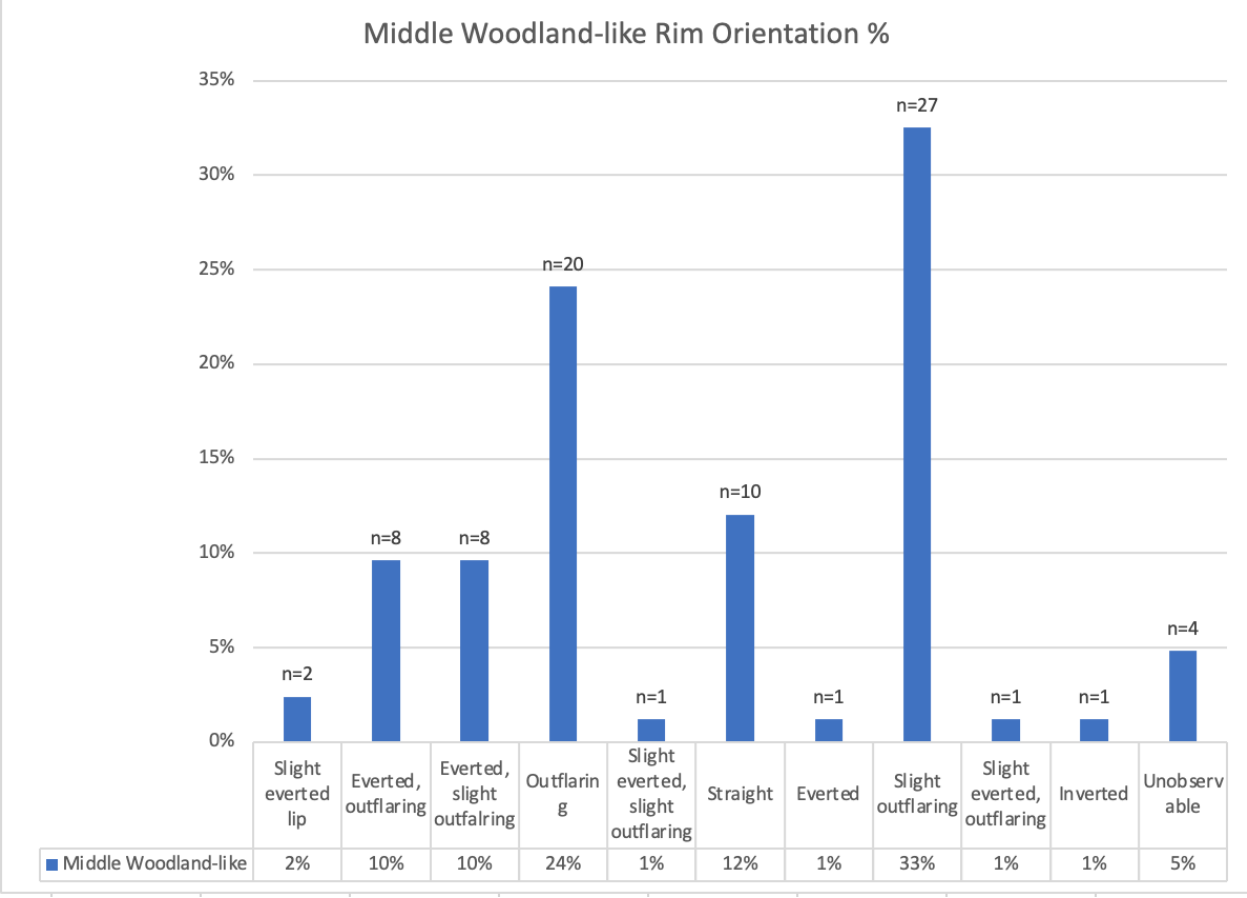


Figure 22. Middle Woodland-like Rim Orientation Percentage

As with lip form, Middle-Woodland like ceramics contained a variety of rim orientations. This may suggest that this period saw a significant variability and likely change over time in ceramic material culture. The most prominent rim form among Middle Woodland-like ceramics was slight outflaring rims (n=27, 33%), followed by fully outflared rims (n=20, 24%). Notably, one vessel (1%) had an inverted rim orientation. Overall, one can see that Middle Woodland-like ceramic rims were primarily outflared and everted to varying degrees.

5.2.3 Collars

Collar development was also noted. Collar development refers to the degree to which the rim has been thickened to create a collar with a distinct collar-neck junction. The frequency of collars within the BiFw-6 collection sample is detailed in table 3. The number of unobservable vessel collars is large in this comparison due to a number of rim sherds being fragmented and or completely missing, and thus it could not be determined if the vessel had a collar.

Collar Development	#	%
Collared	4	4
Incipient collar	5	5
Uncollared	76	75
Unobservable	16	16
Totals	101	100

Table 3. Frequency of Vessel Collars.

Figure 23 depicts the breakdown of collars by archaeological time period and figure 24 depicts collar breakdown for Middle Woodland-like ceramics. This analysis indicates a change over time in collar development. Ceramics without collars or those with incipient collars are present in almost all periods from the Late Early Woodland/Early Middle Woodland to the Late Woodland. The majority of Middle Woodland-like ceramics were found to not have a collar, with 5% of these ceramics having an incipient collar present. Notably, beginning in the Early

Late Woodland we begin to see ceramics with fully developed collars. All ceramics in this sample associated with the Late Late Woodland period (n=3) were found to have fully developed collars.

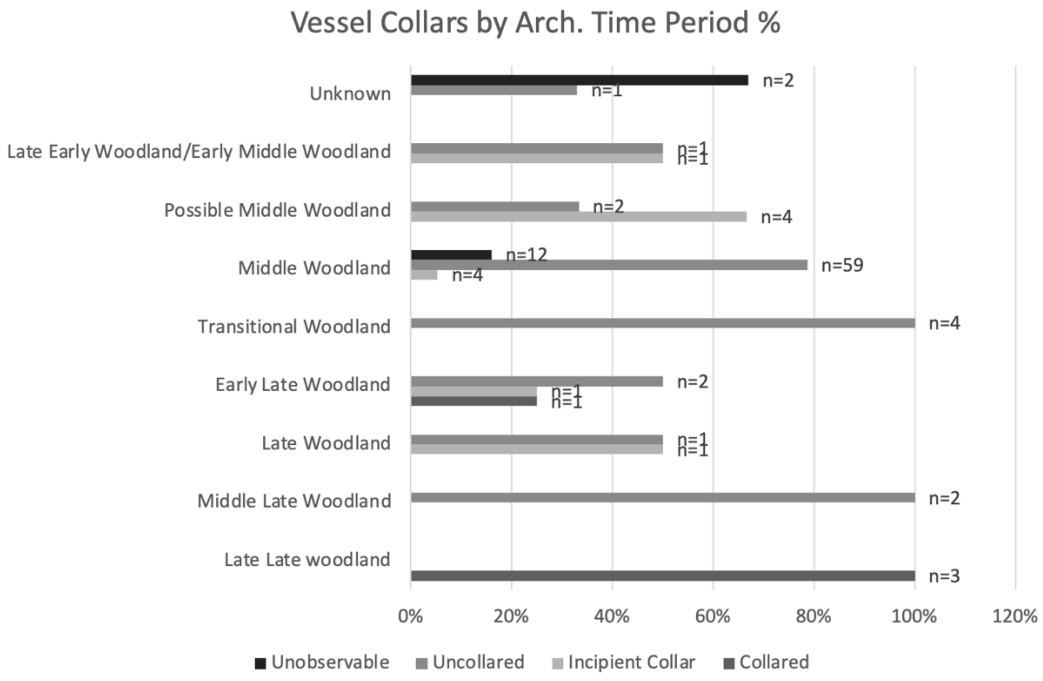


Figure 23. Frequency of Collars by Archaeological Time Period.

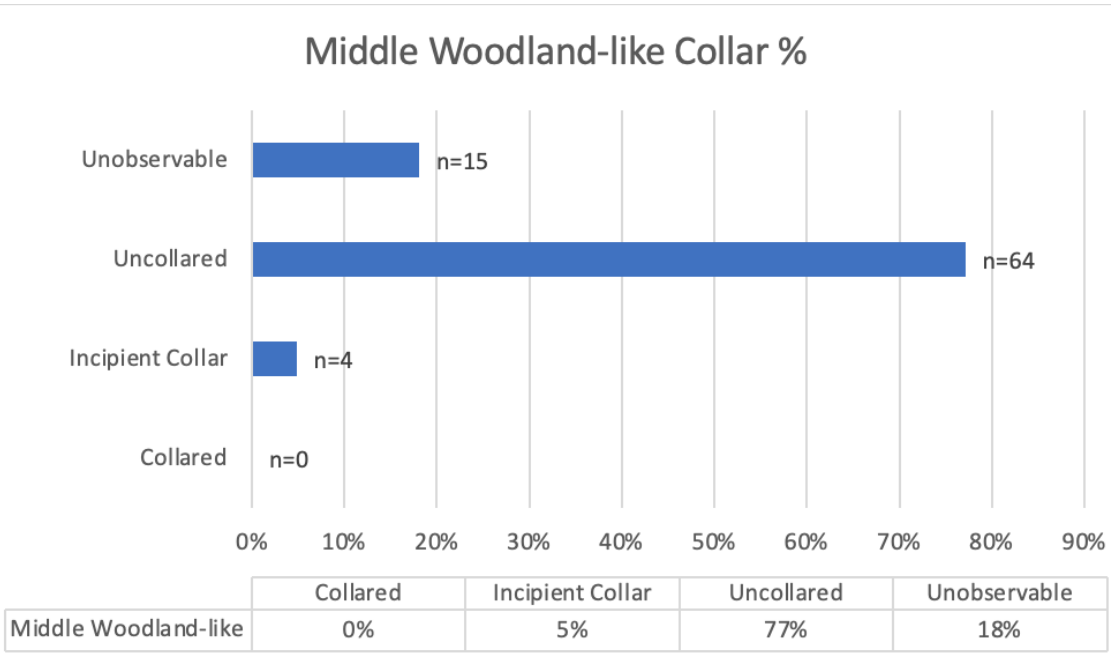


Figure 24. Percentage of Middle Woodland-like Collar Types

5.2.4 Castellations

Castellations refer to the decorative or structural projections found along the rim or lip of a ceramic vessel. It was noted during data collection that two vessels were found to have castellations; a Middle Woodland vessel with a convex rim which has poorly developed castellations and Late Late Woodland vessel with a straight lip which has a very clear castellations. These observations align with the common understanding regarding castellations; they are believed to be a trait which begins to appear in the Middle Woodland period but are generally rare and not well developed. In contrast, prominent castellations are a documented trait associated with the Late Woodland period (Curtis, 2004; Daechsel, 1981). The small number of castellations in the BiFw-6 collection may suggest that this shape variable is an outlier and was not prominently used by peoples at the site.

5.3 Metric and Design Attributes

An attribute analysis was chosen for the metric and design elements of the assemblage due to its ability to provide data which can be more easily compared with other assemblages (Daechsel, 1981). The results of this analysis will be compared to other Middle Woodland

assemblages in and around the Ottawa-Gatineau Valley region (no more than 200 km in any direction).

Attributes collected from rim, neck, and body sherds include thickness, temper size, design impressions (technique, tool, and motif), surface treatment when present, colour, presence of coil breaks, and manufacturing method. In the case of rims, profile type and lip decoration were also noted.

5.3.1 Thickness

Measurements of thickness for all analysable sherds which were assigned to vessels were recorded using electronic sliding calibres. Measurements were taken at the lip and rim, and when available at the thickest areas of the neck and body sherds/walls. These measurements are summarized in table 4, and indicate a slightly greater thickness for neck sherds than rims, represented by an average difference of 0.5 mm. The number of analysable body sherds which were associated with a vessel present in the collection are significantly less than rim or neck sherds, so this explains the high number of unobservable body sherds.

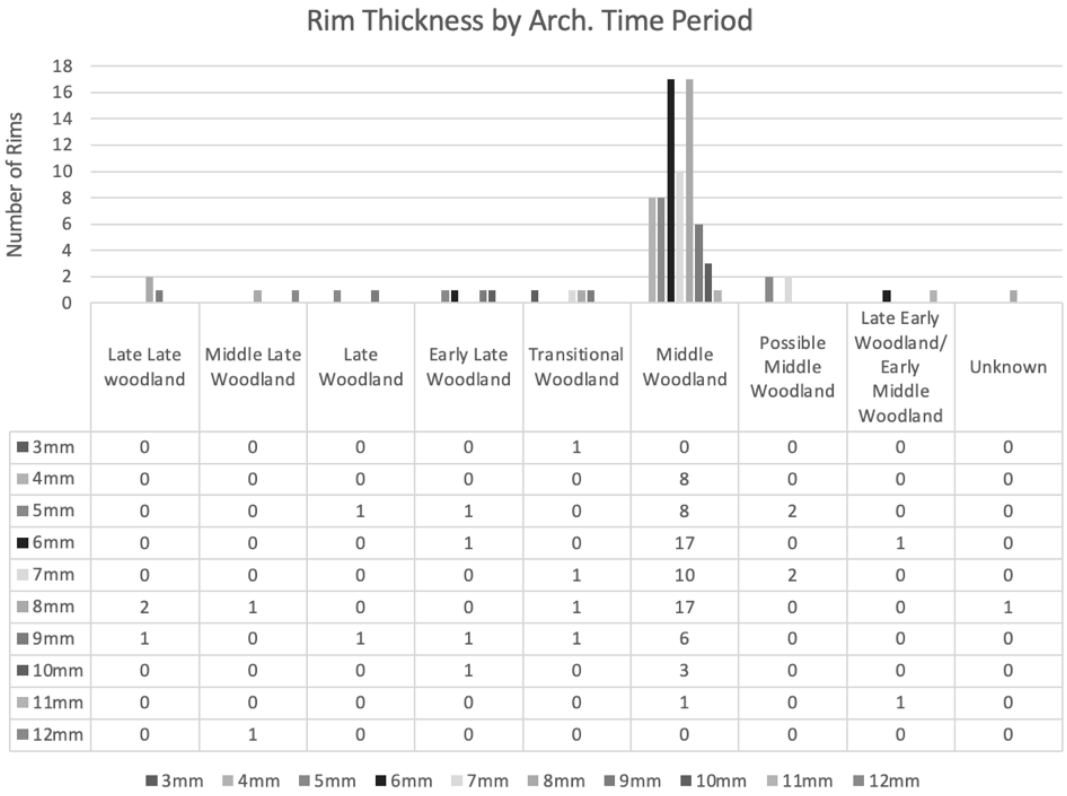
Thickness	**Rim sherds**		**Neck sherds**		**Body sherds**	
(mm)	No.	%	No.	%	No.	%
3	1	1	-	-	-	-
4	8	8	-	-	2	2
5	12	12	11	11	2	2
6	19	19	12	12	3	3
7	16	16	25	25	6	6
8	22	22	15	15	12	12
9	10	10	9	9	5	5

10	4	4	4	4	2	2
11	2	2	5	5	4	4
12	1	1	1	1	1	1
13	-	-	-	-	1	1
14	-	-	-	-	1	1
Unobservable	6	6	19	19	62	62
Totals	101	100	101	100	101	100
Mean	7.4mm		7.9mm		8.7mm	
Range	3.6-12.1 mm		5.2-12.1 mm		4.4-14.2 mm	

Table 4. Sherd Thickness.

Rim, neck, and wall thickness were also broken down by archaeological time period, as detailed in figures 25, 27, and 29. Figures 26, 28, and 30 depict rim, neck, and wall thickness for Middle Woodland-like ceramics only. Rim thickness was found to have variation in almost all archaeological time periods. As to be expected, the Middle Woodland period contained the most variation, with the majority of ceramics found to have a rim thickness between 6-8mm. There does appear to be a subtle pattern in rim thickness, with earlier ceramic rims being slightly thinner than later ceramic rims. When looking at Middle Woodland-like ceramics only, one can

see that the most prominent rim thickness was 6mm (n=18, 23%). The average rim thickness was 6.4mm.



	Late Late woodland	Middle Late Woodland	Late Woodland	Early Late Woodland	Transitional Woodland	Middle Woodland	Possible Middle Woodland	Late Early Woodland/ Early Middle Woodland	Unknown
3mm	0	0	0	0	1	0	0	0	0
4mm	0	0	0	0	0	8	0	0	0
5mm	0	0	1	1	0	8	2	0	0
6mm	0	0	0	1	0	17	0	1	0
7mm	0	0	0	0	1	10	2	0	0
8mm	2	1	0	0	1	17	0	0	1
9mm	1	0	1	1	1	6	0	0	0
10mm	0	0	0	1	0	3	0	0	0
11mm	0	0	0	0	0	1	0	1	0
12mm	0	1	0	0	0	0	0	0	0

Figure 25. Rim Thickness by Archaeological Time Period

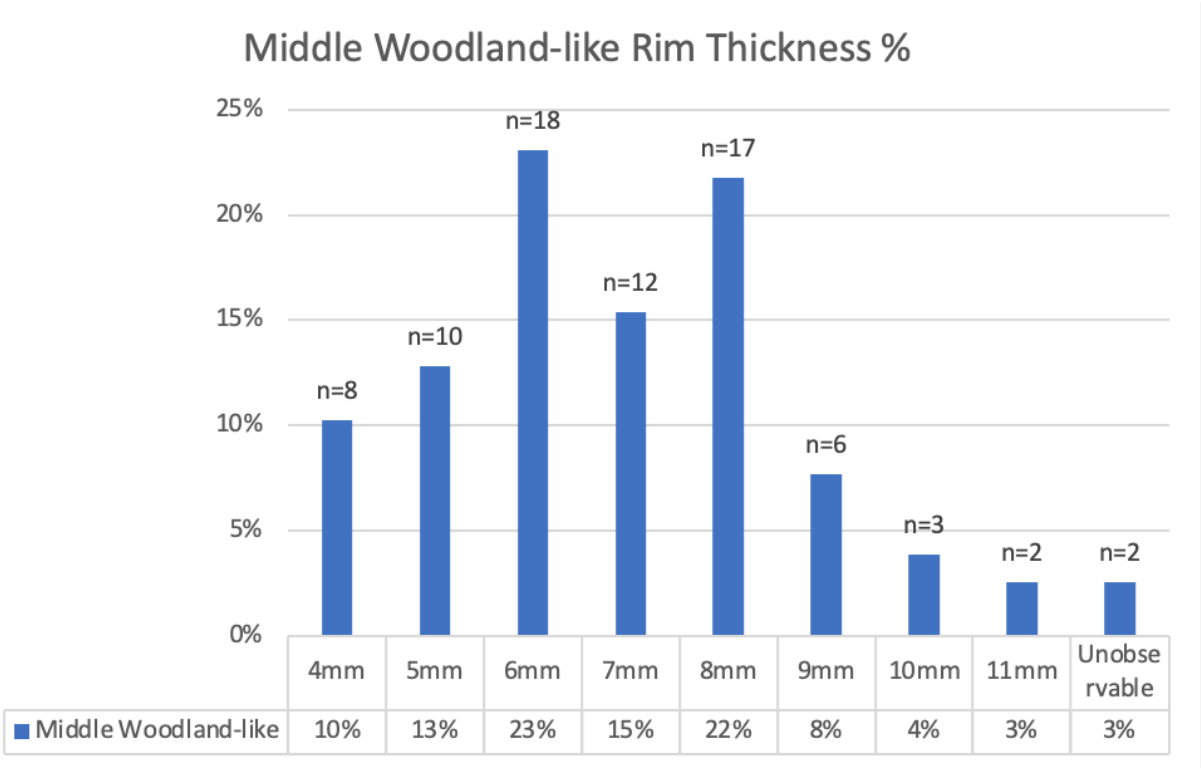


Figure 26. Middle Woodland-like Rim Thickness Percentage

Neck and wall thicknesses were also collected. Among all vessels the most common neck thickness was 7mm (figure 27), with the mean neck thickness of the entire assemblage being approximately 7.5mm. When looking only at the Middle Woodland-like ceramics (figure 28), it was found that the most common neck thickness was also 7mm (n=22, 33%) and the mean neck thickness was approximately 7.3mm.

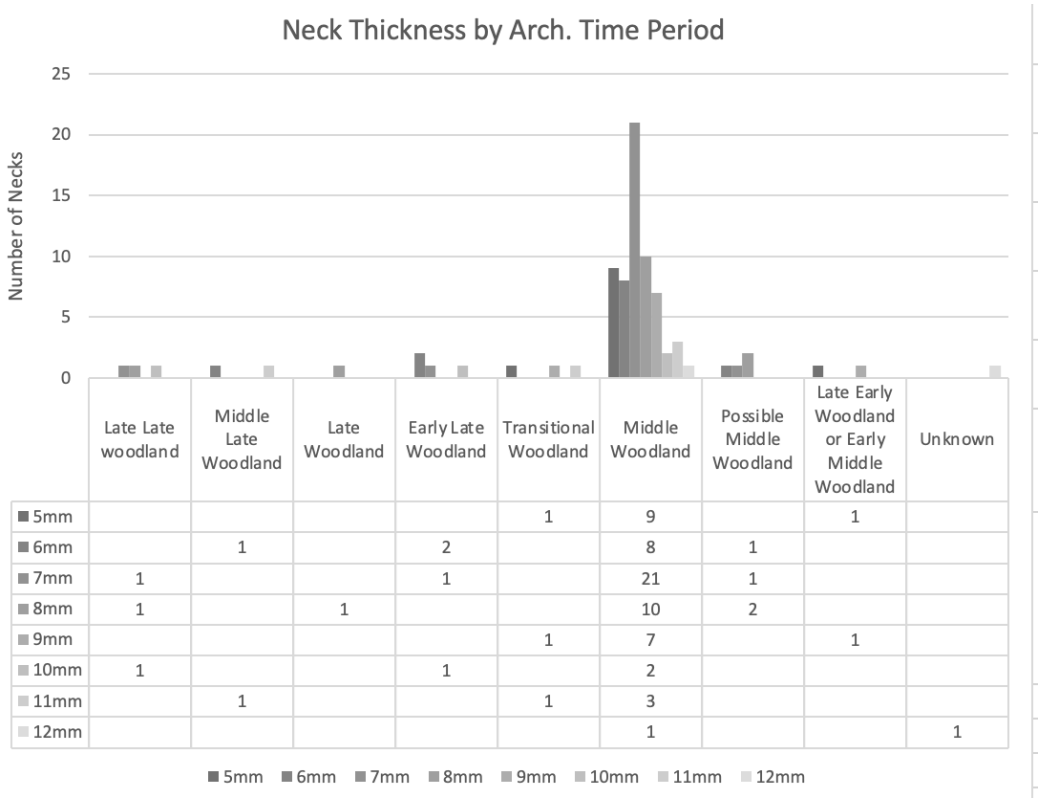


Figure 27. Neck Thickness by Archaeological Time Period

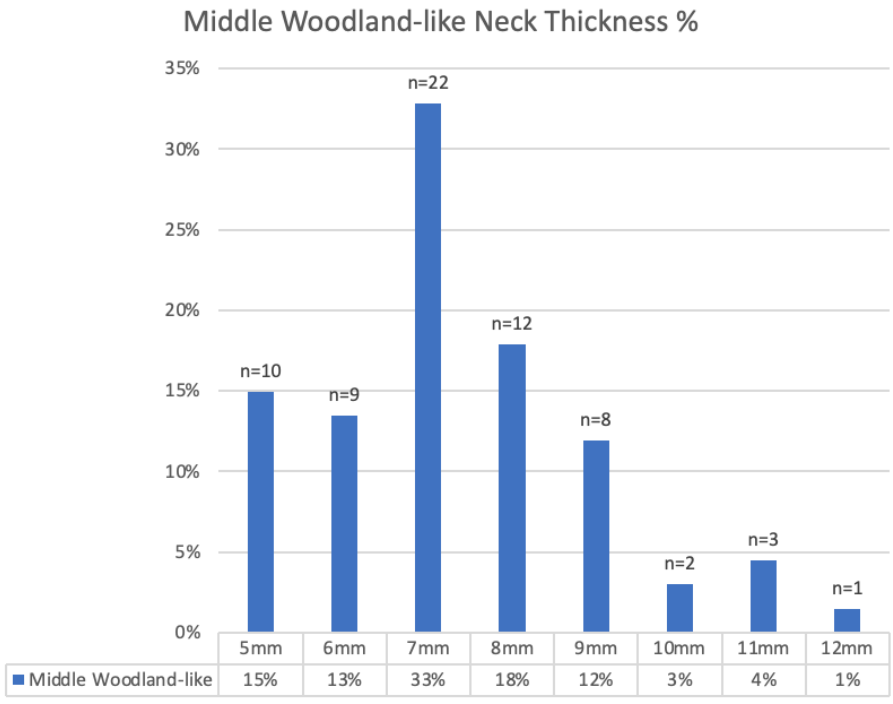


Figure 28. Middle Woodland-like Neck Thickness Percentage

Wall thickness (body sherd thickness) (figure 29) also showed that Middle Woodland ceramics had a wide variety of values, with the most significant number being 8.5mm. In contrast Late Woodland vessels, including all sub periods, had a mean thickness of 6.6mm. It is commonly found that Late Woodland vessels usually have thinner walls, correlating with changes in manufacturing methods; there is a shift from coiling to paddle and anvil manufacturing (Murphy & Ferris, 1990). This aligns with the findings in the BiFw-6 collection. No Late Early Woodland/Early Middle Woodland vessels had observable walls/body sherds so wall thickness could not be determined for this time frame. When focusing on Middle Woodland-like ceramics only (figure 30), one finds that the most prominent wall thickness was 8mm (n=9, 32%). This is based on excluding the number of unobservable Middle Woodland-like walls (n=55).

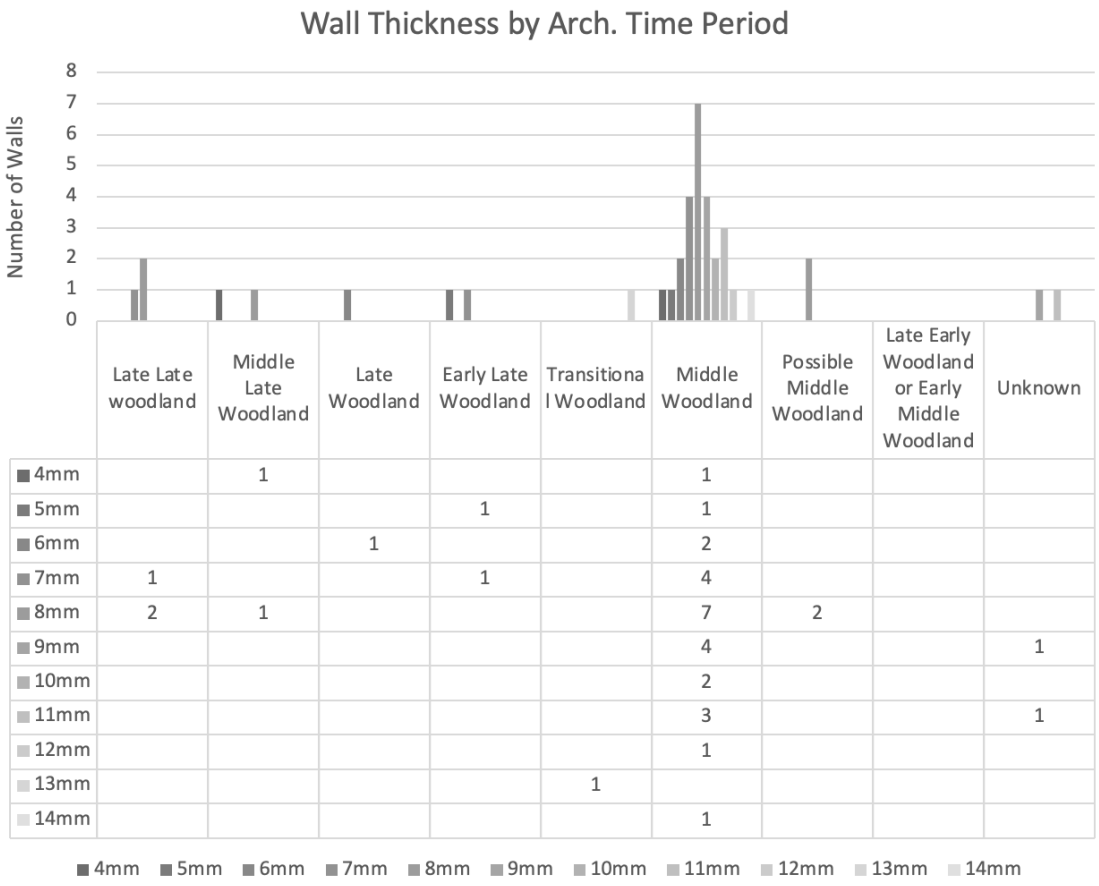


Figure 29. Wall Thickness by Archaeological Time Period.

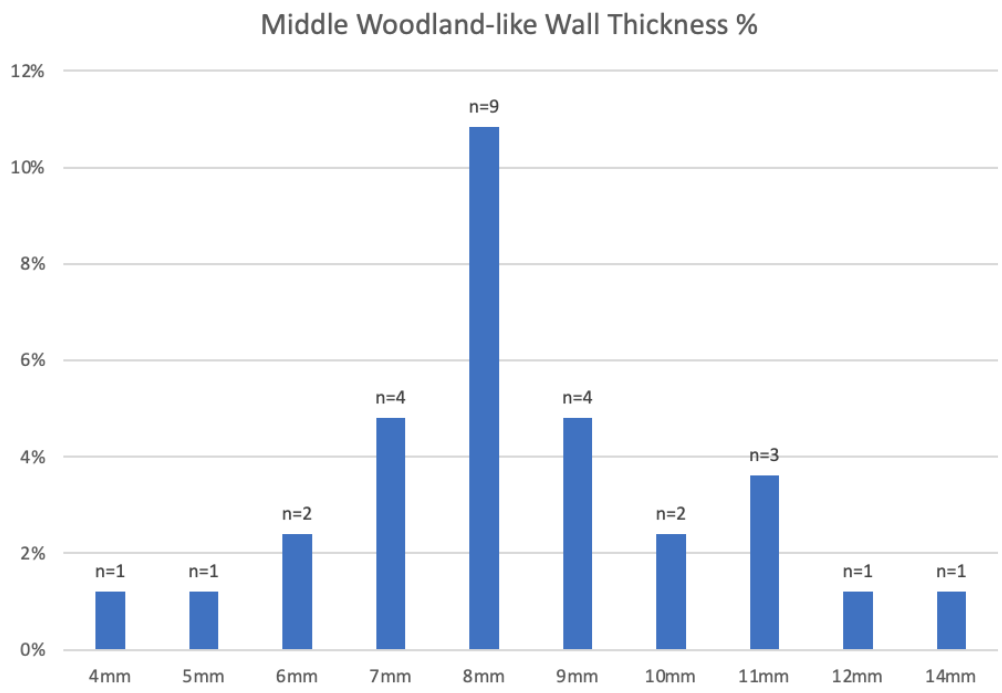


Figure 30. Middle Woodland-like Wall Thickness Percentage.

5.3.2 Manufacture

The main attribute utilized to determine ceramic manufacturing technique was the presence or absence of coil breaks. Coil breaks are defined as primarily horizontal fractures occurring at the weak point between coils. Coil breaks often take the form of parabolic shapes and are primarily concave or convex. These breaks are suggestive of the coil manufacturing ceramic technique, which involves creating a vessel structure through wrapping (or coiling) rolled lengths of clay and smoothing the stacked coils.

Coiling has been recorded as a primary manufacturing technique of Middle Woodland ceramics in a number of assemblages including, but not limited to, Wright (1967), Kennedy (1970), Watson (1972), Daechsel (1981), and Gates St-Pierre (2001). The large presence of coil breaks in Middle Woodland assemblages suggests that the area in which the coils meet is an area in these vessels in which there is weakness (Wright, 1967a). The analysis found that 62% (n=63) of vessels in the BiFw-6 assemblage were likely made through a coiling manufacturing technique. In contrast, 39% (n=38) of the vessels appear to not contain coil breaks in the sherds which were available to study. Additionally, ceramic waste found in the BiFw-6 collection

included broken ceramic coils. This further suggests that ceramics made with the coiling technique were created on site.

When broken down by archaeological time period, it was found that coiling was found in ceramics from the Middle Woodland and Transitional Woodland periods, with the most significant amount during the Middle Woodland period (figure 27). Seventy-five percent (n=56) of Middle Woodland vessels were noted as having a coil break present. From the Early Late Woodland onwards there is no evidence of coiling. This accurately reflects commonly understood manufacturing techniques of each archaeological period; coiling has been found as a manufacturing method of Early Woodland ceramics and is known to be the primary manufacturing technique of the Middle Woodland. However, this changed in the Late Woodland period to other techniques, such as paddle and anvil modelling (Gates St-Pierre, 2001; Murphy & Ferris, 1990).

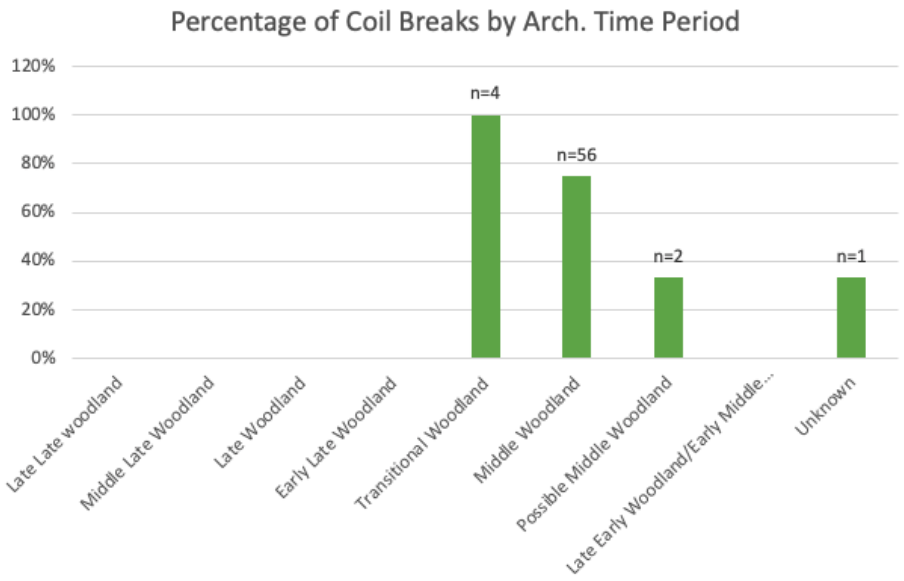


Figure 31. Percentage of Coil Breaks by Archaeological Time Period.

It is worth noting that although coil breaks may not have been observed, this does not definitively mean that these vessels were not made through the coiling manufacturing method. Additionally, the large number of vessels without evidence of coil manufacturing may also suggest that other manufacturing techniques beyond coiling were used by those at the BiFw-6 site, but not as frequently as coiling. This is further supported by the wall thickness of vessels.

Late Woodland pots are commonly found to be thinner than earlier vessels (Murphy & Ferris, 1990). The majority of Late Woodland ceramics, including the subperiods, have a wall thickness between 6-8mm, with a mean wall thickness of 6.6mm. In comparison, the Middle Woodland ceramics have a wide variation in wall thickness; from as thin as 4mm to as thick as 14mm, and a mean thickness of 8.4mm. The Late Woodland ceramics in the BiFw-6 having generally thinner walls further suggests that these ceramics were likely made by another manufacturing method than coiling, such as paddle & anvil modelling.

5.4 Decorative Impression Tools:

In this analysis, decorative techniques, tools, and motifs, were recorded through macroscopic and microscopic analysis. Data was collected on a band-by-band basis for both the interior and exterior of all sherds. The breakdown of decorative tool, technique, and motif by archaeological time period can be found in appendix D. The categories that were recognized in the decorative impression analysis, particularly relating to tools, are described below.

Bosses: Bulge in clay created by a punctate, often circular in shape

Circular Dentate: Shallow repetitive dentate impressions circular in shape.

Complex Pseudo-Scallop Shell: Impressions that appear to be dentate-like but are actually dragged wavy lines, often pushed rightward, resembling the edge of a scallop shell.

Cord Wrapped Tool: A series of shallow, closely spaced, impressions which are often at a relatively uniform width. However, similar to pseudo-scallop shell, a number of varieties of cord wrapped stick variations exist within the BiFw-6 assemblage, and definitively separating and recording all variations was not possible. Variations include different sized and distanced impressions, likely created by variations in the thickness of the cord and how tightly it was wound around the tool.

Dentate: Likely created by stamping a toothed object into clay, dentate impression includes shallow repetitive impressions which are often rectangular in shape. Dentate is differentiated from punctuates primarily through impression frequency and depth. Punctuates are applied individually and tend to be larger and more widely spaced than

dentate impressions. In the BiFw-6 collection, dentate impressions are generally small and spaced close together, which is a characteristic of Point Peninsula and Laurel Tradition Middle Woodland sites (Wright, 1967a, p. 15).

Elongated Dentate: Shallow repetitive dentate impressions stretched oval in shape.

Fingernail: Shallow crescent moon shaped impressions created by stamping one's fingernail into wet clay

Incised: An impression, often in the shape of straight lines, created by dragging the end of a tool through wet clay. Incising is differentiated from linear impressions or trailing by the presence of striations and/or piling of clay running parallel to the impression from dragging of tool (i.e., similar to a furrow).

Linear: This impression consists of straight linear lines, which appear to be made by stamping a tool into clay rather than dragging it. Linear impressions are differentiated from trailing or incising due to the absence of evidence of dragging, particularly in the form of striations.

Pseudo-Scallop Shell: Symmetrical wavy line impressions which resemble the edge of a scallop shell. A number of varieties in the pseudo scallop shell impression exist within this assemblage, and it is not uncommon two find two or more variations of this technique on the same sherd. For these reasons, definitively separating all variations was not possible.

Pseudo-Scallop Shell – Dentate: Impression that appears to be pseudo-scallop shell like in nature but also contains regular shallow dentate impressions.

Punctuate: Depressions made by pushing clay inward, often in a circular shape. Punctuates can occur on the exterior or interior surface of the vessel and may create a bulge known as a "boss" on the opposite side.

Trailing: A light symmetrical linear design likely created by lightly dragging a tool along wet clay. Trailing is differentiated from incising due to its fainter nature and lack of aforementioned clay piling found with incising. Additionally, trailing almost always appears in linear designs which run parallel to each other.

Unknown: Decoration was noted as present, but the type could not be definitively determined.

Unobservable: The part of the vessel was missing and therefore information could not be recorded.

Zone Not Present: The number of bands of decoration was determined to not be present on the vessel.

The tools used to create decorative impressions were recorded for all available areas of each vessel, including the exterior and interiors of rims, shoulders, necks, bodies, and bases. In the case of rims, lip decorative impression and tool was also recorded. Figure 32 summarizes the results of the analysis of lip decorative tools on Middle Woodland-like vessels. A breakdown of lip, rim, and neck decorative tools for all archaeological time periods can be found in appendix D.

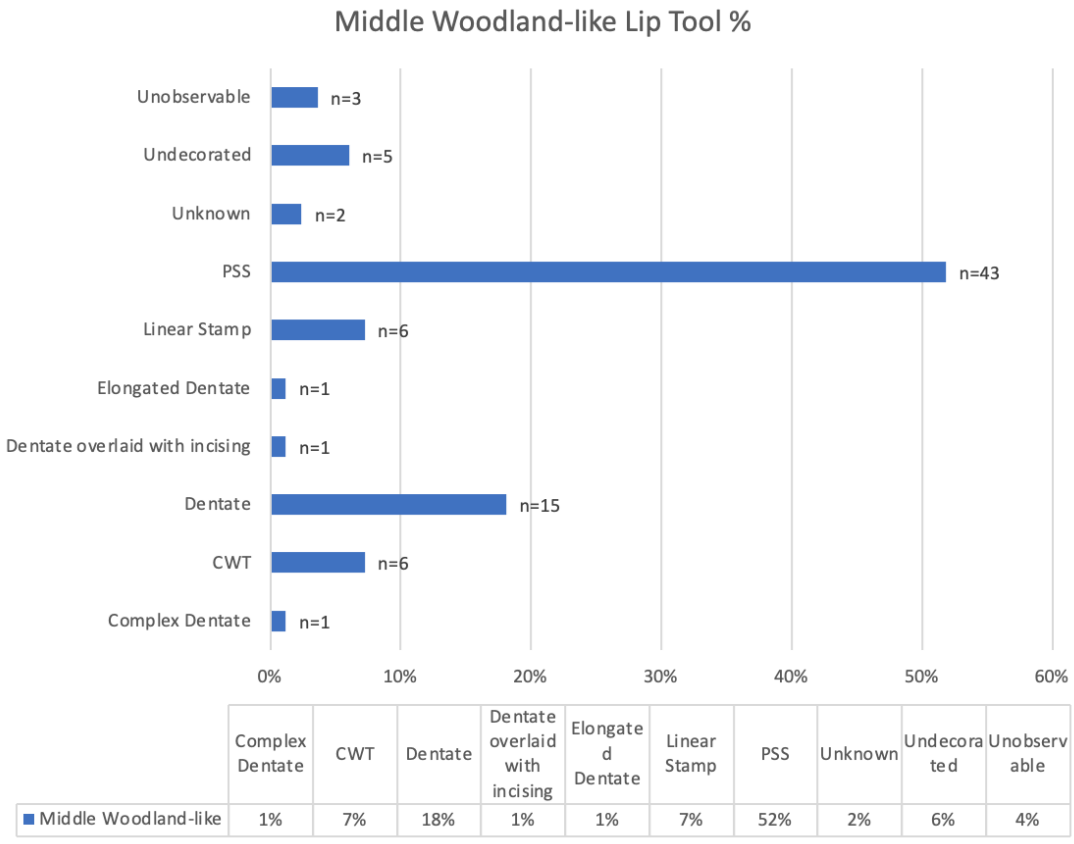


Figure 32. Middle Woodland-like Lip Tool Percentage.

As previously mentioned, due to the small samples of ceramics from other archaeological time periods, this discussion focuses primarily on Middle Woodland-like ceramics (figure 32). Middle Woodland-like ceramics contained a variation of decorative lip tools, with the most prominent tool being pseudo-scallop shell (n=43, 52%). Cord wrapped tool was only found among Middle Woodland-like ceramics. The large presence of pseudo-scallop shell may be reflective of common ceramic traditions during the Middle Woodland period, notably the Point Peninsula ceramic tradition.

Number of tools utilized on Middle Woodland-like exterior rims (figure 33) and necks (figure 34) were also examined. Thirty-one percent (n=26) Middle Woodland-like vessels were found to have only one decorative tool used on the exterior rim. Fifty-one percent (n=42) were also found to only have one decorative tool present but the rim was fragmented and so it could not be definitively determined if more than one tool was originally used. The maximum number of tools used on rims was two (n=9, 11%).

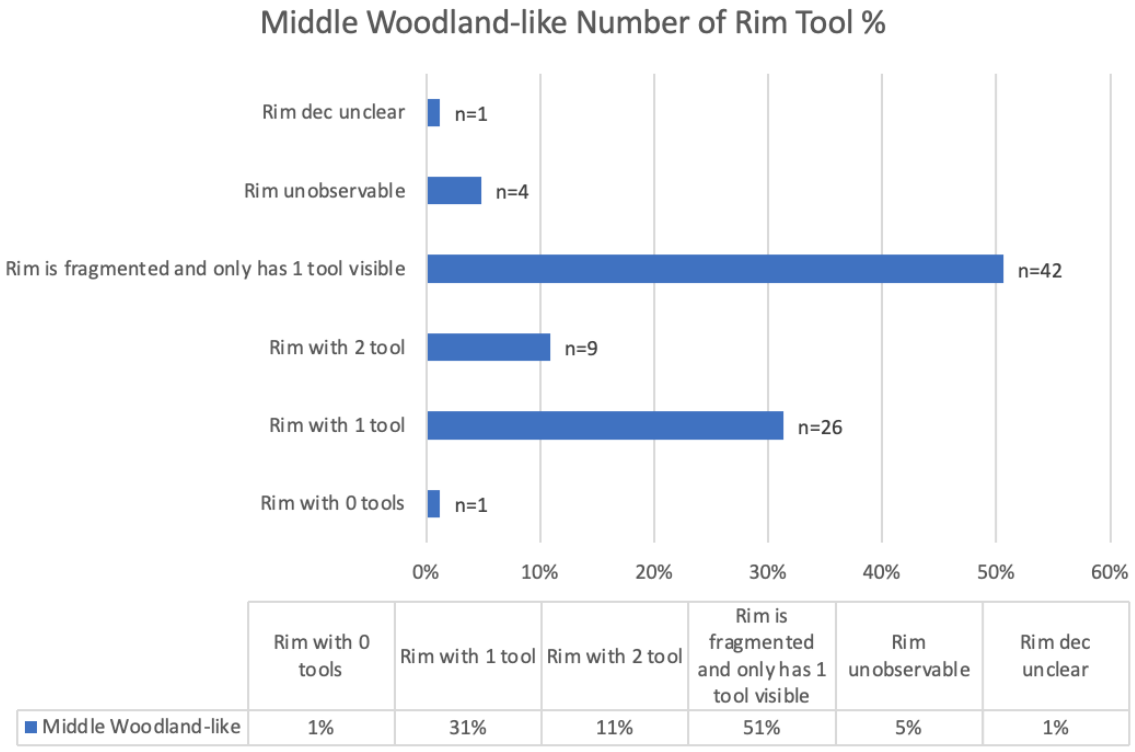


Figure 33. Number of Exterior Rim Tools used on Middle Woodland-like Vessel by Percentage.

In the case of necks (figure 34), the vast majority of vessels were found to have unobservable necks (n=56, 70%). Forty-six percent (n=9) of observable Middle Woodland-like vessel necks were found to have only one decorative tool present. Thirty-eight percent (n=11) of observable necks also only had one neck tool present, but these rims were fragmented and therefore it cannot be definitively determined how many tools were originally used. Notably, one (1%) Middle Woodland-like neck had evidence of four decorative tools.

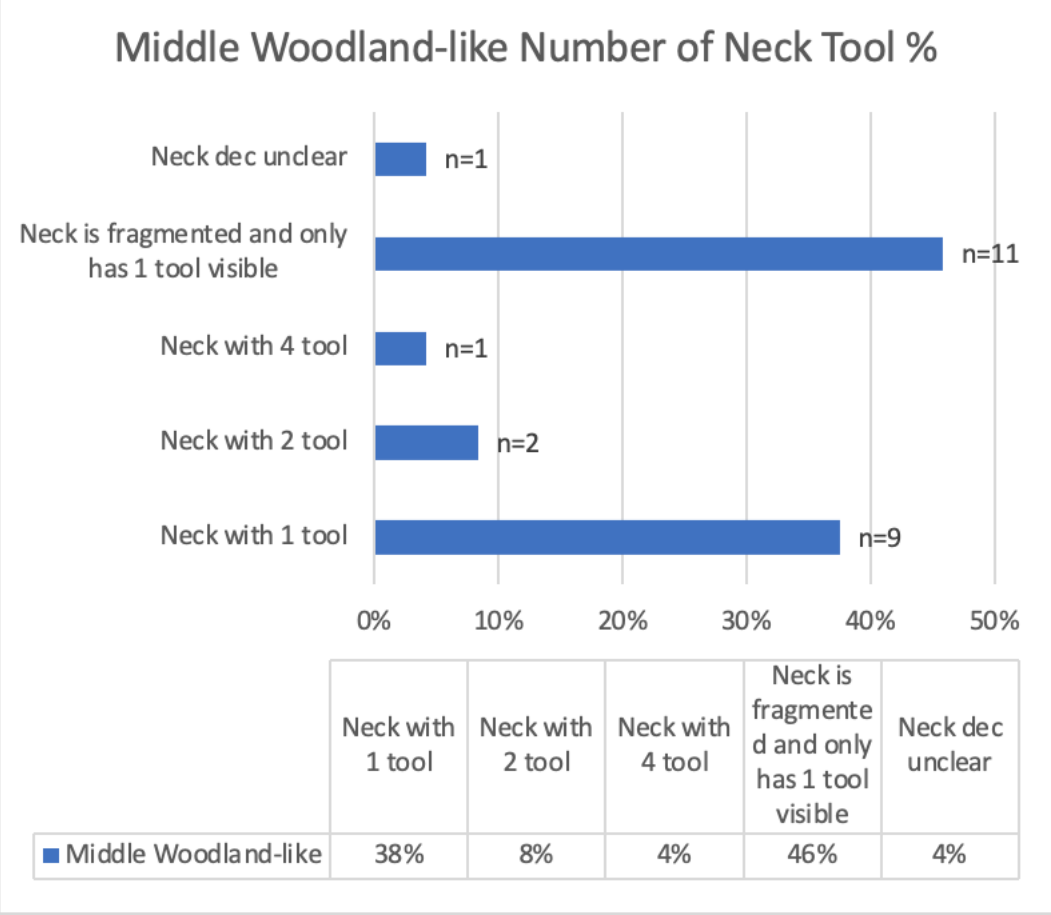


Figure 34. Number of Neck Tools used on Middle Woodland-like Vessel by Percentage.

5.5 Decorative Impression Techniques

The technique of how decoration was placed on the vessels was also recorded. These are described below.

Dragged Stamping: Impressions which consist of a distinctive design from a stamping tool being dragged on wet clay. Drag stamps are often also characterized by the presence of striations and are often relatively short in length in comparison to incising.

Incising: A technique which involves dragging the end of a tool through wet clay.

Rocker stamping: A technique which consists of rocking a tool back and forth in the wet clay, creating a V shaped impression with overlapping stamps (Daechsel, 1981).

Stamping: A technique which involved impressing the desired tool directly onto wet clay, without dragging or rocking the tool.

Lip techniques found on Middle Woodland-like ceramics is displayed in figure 35. Middle Woodland-like lips contained the following decorative techniques: stamping, dragged stamping, and stamping overlaid with incising. The most prominent decorative technique was stamping (n=70, 84%). Additionally, 5 vessels (6%) were found to have undecorated lips. Overall, one can see that stamping was the most favoured decorative technique for Middle Woodland-like ceramics at BiFw-6.

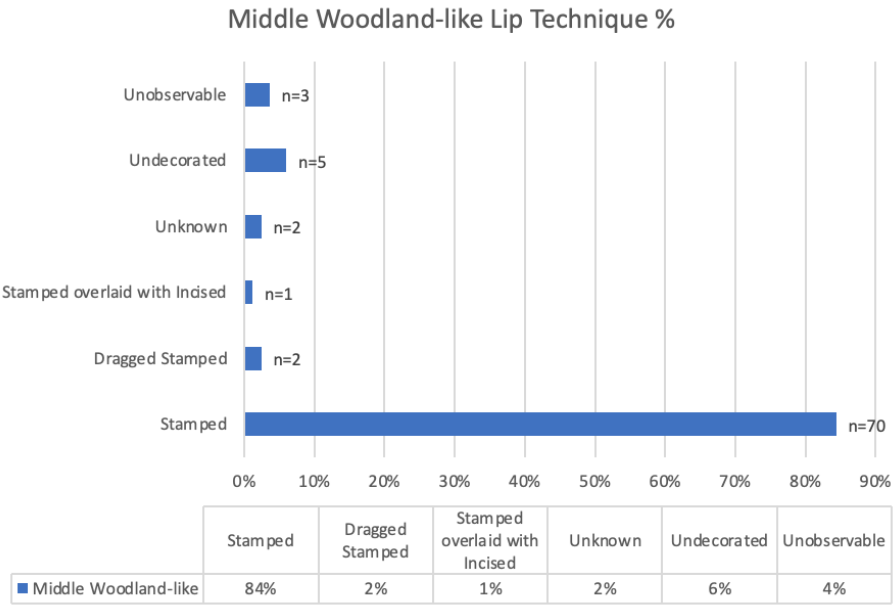


Figure 35. Middle Woodland-like Lip Technique Percentage.

The number of decorative impression techniques on exterior Middle Woodland-like rims was also analysed (figure 36). Twenty-nine vessels (34%) of vessels were found to have only one decorative technique. Forty-eight vessels (56%) were found to have only one technique, but the rims were fragmented and so the exact number of techniques present could not accurately be determined. Only one vessel was found to have two clear techniques.

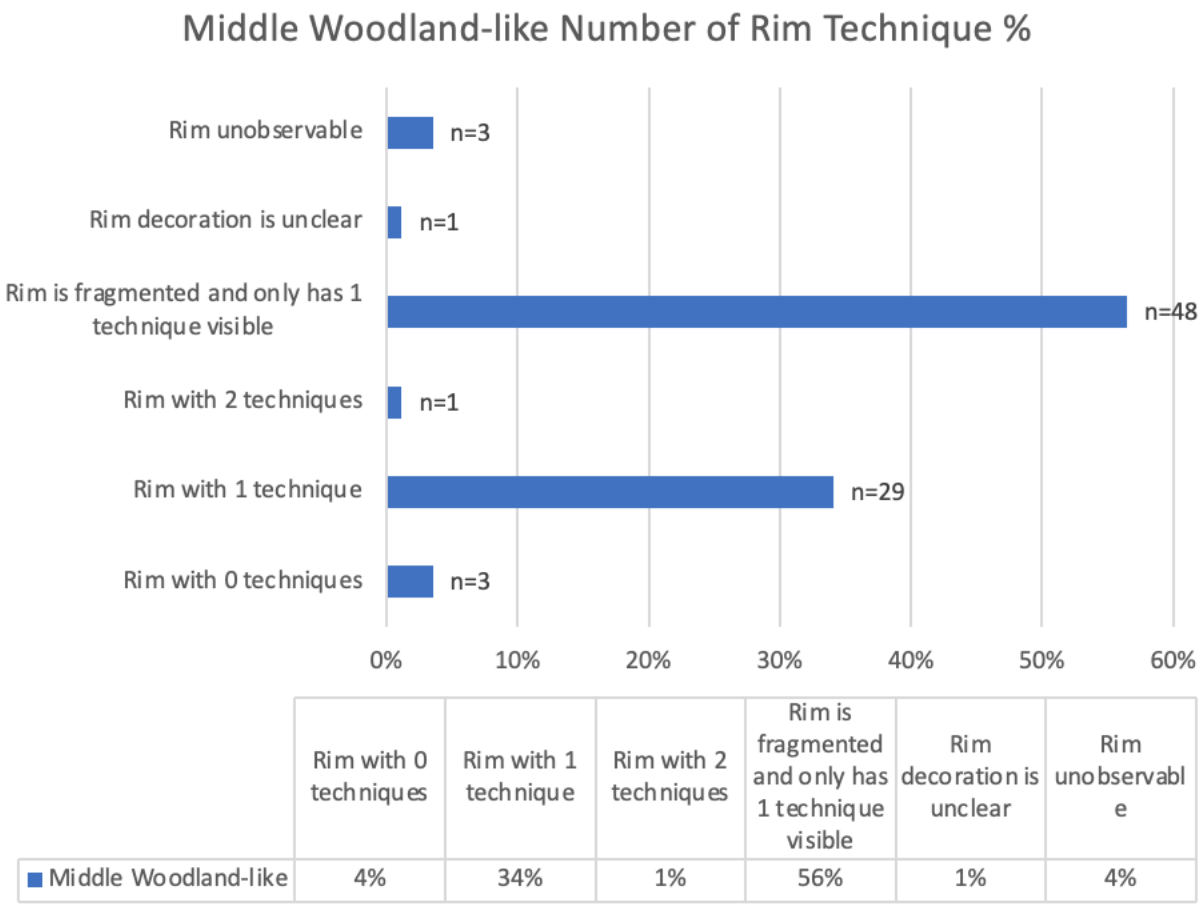


Figure 36. Number of Rim Techniques used on Middle Woodland-like Vessels by Percentage.

In regard to the number of neck techniques (figure 37) the vast majority Middle Woodland-like vessels did not have neck sherds present, making it impossible to ascertain this breakdown (noted as neck unobservable) (n=58, 70% of Middle Woodland-like necks), Of the remaining observable neck sherds, 36% (n=9) had only one technique present. An additional

48% (n=12) of neck sherds had one technique present but were also fragmented, and so it cannot be definitively stated how many techniques were present.

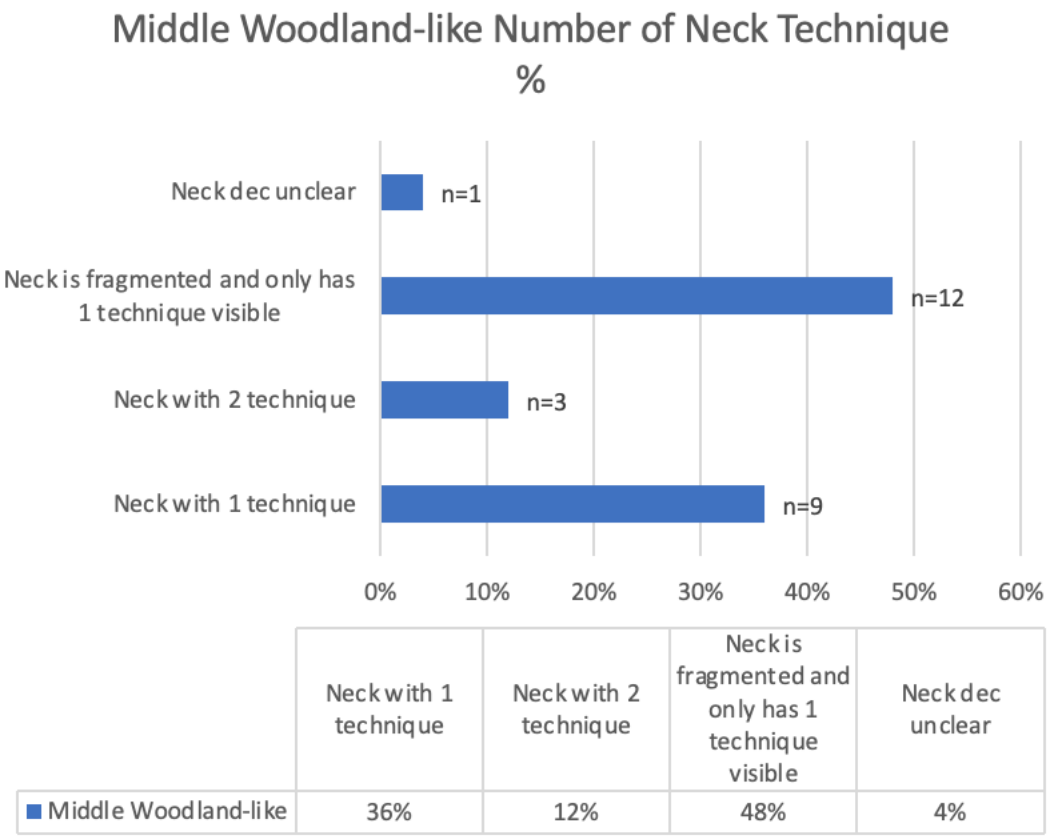


Figure 37. Number of Neck Techniques used on Middle Woodland-like Vessels by Percentage.

Decorative motif data was also collected. The different motifs are described below:

Vertical: A line or multiple lines of decoration running vertically.

Horizontal: A line or multiple lines of decoration running horizontally.

Oblique: A line or multiple lines of decoration running at an angle, usually right or left.

Crosshatching: A pattern of lines that cross each other to form X shapes.

A breakdown of lip, rim, and neck motif by archaeological time period can be found in appendix D. Motifs on Middle Woodland-like ceramic lips can be found in figure 38. These vessels were found to have a variety motifs present, with the most prominent motif being right obliques (n=33, 40%), followed by verticals (n=28, 34%).

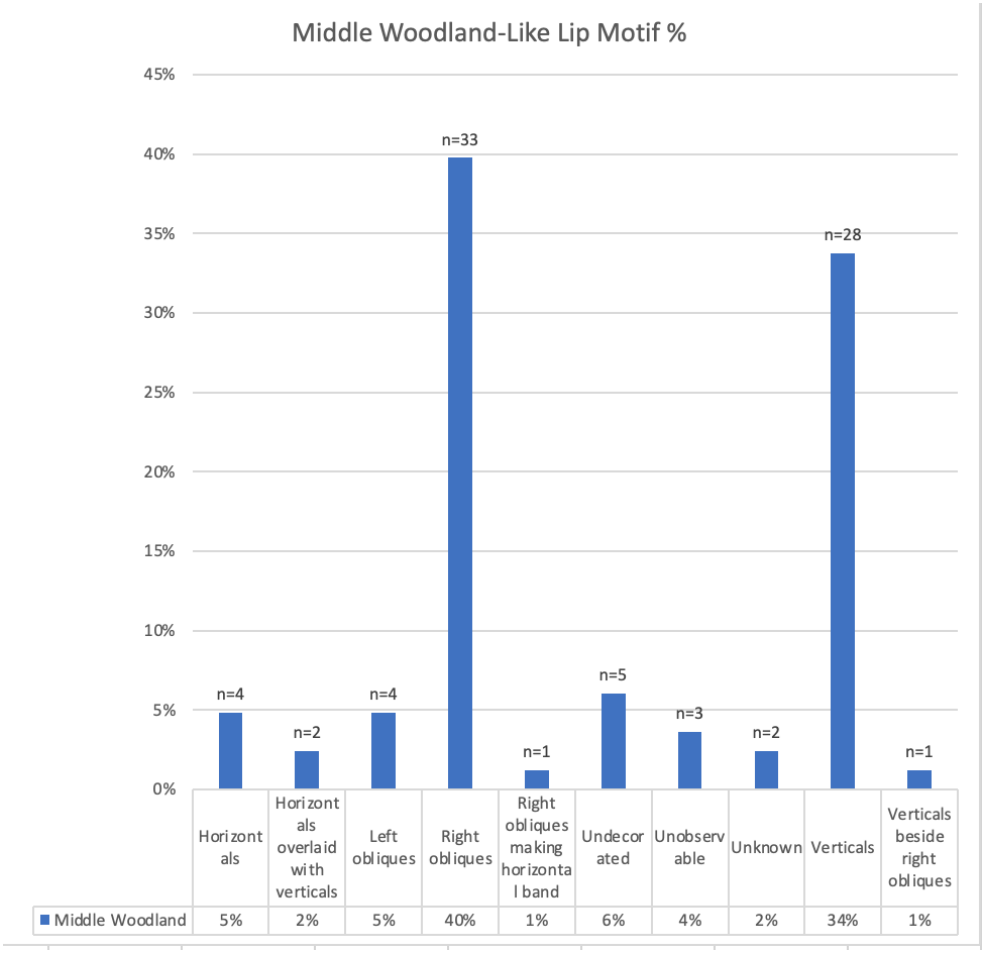
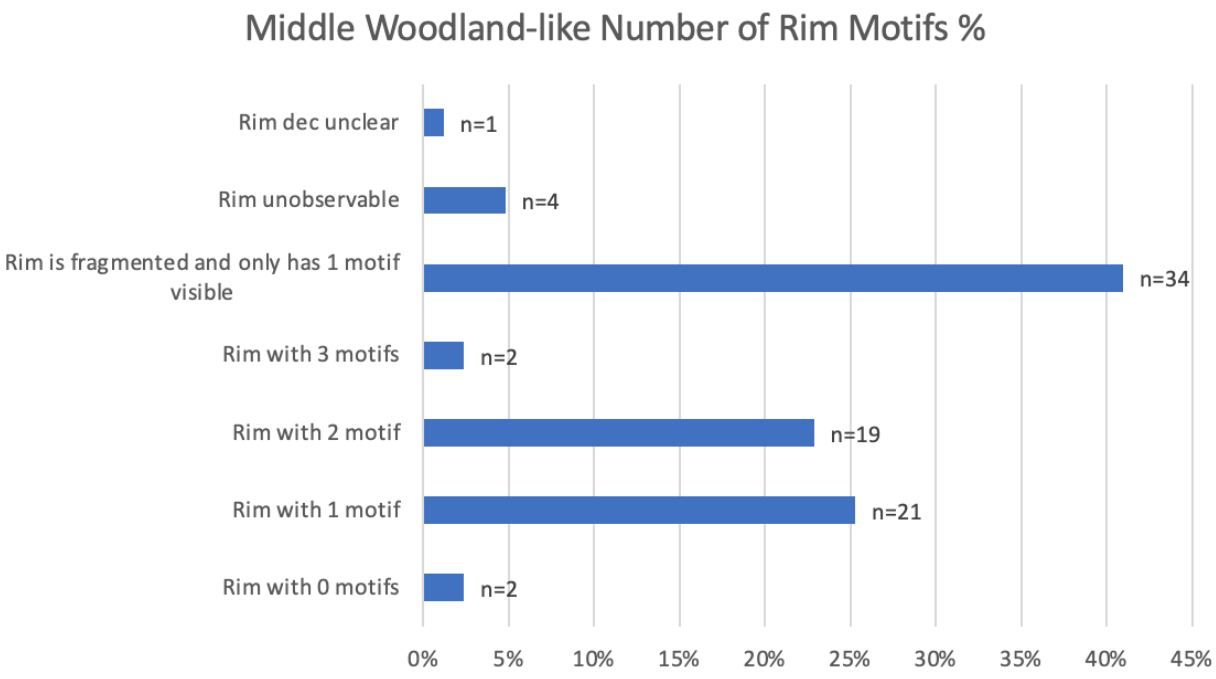


Figure 38. Middle Woodland-like Lip Motif Percentage.

The number of motifs on the exterior rim of vessels showed variability (figure 39). As with all parts of the vessel, data was collected on a band-by-band basis. Up to three motifs were found at once on vessels (n=2, 2%). A number of rims had only one motif present (n=21, 25%) and several were found to have one motif but were also fragmented making it impossible to definitively determine how many motifs may have originally been present (n=34, 41%).



	Rim with 0 motifs	Rim with 1 motif	Rim with 2 motif	Rim with 3 motifs	Rim is fragmented and only has 1 motif visible	Rim unobservable	Rim dec unclear
Middle Woodland-like	2%	25%	23%	2%	41%	5%	1%

Figure 39. Number of Motifs used on Middle Woodland-Like Rims by Percentage.

Figure 40 depicts the breakdown of motifs on Middle Woodland-like rims in zones 1-3 (zones referring to a band of decoration). In zone 1, or the first band of decoration, right obliques were most commonly found (n=28, 34%). Following this, the next most popular motifs were horizontal bands (n=8, 10%) and left obliques (n=8, 10%). A large number of rims were fragmented, making it impossible to determine if there were originally other zones/bands of decoration. In regard to zone/band 2, 42 rims (51%) were fragmented and therefore it could not be determined if there were other zones. Horizontals were found to be the most common motif on zone/band 2 (n=6, 7%). However, 23 rims (28%) were found to not have a second zone of decoration at all. For zone 3, 54 rims (65%) were fragmented and so it could not be determined if this zone was originally present. Twenty-five rims (30%) were whole enough to determine that a third band of decoration was not present. Of those that did have a third band of decoration,

horizontals (n=2, 2%), left obliques (n=1, 1%), and right obliques making horizontal bands (n=1, 1%) were all found.

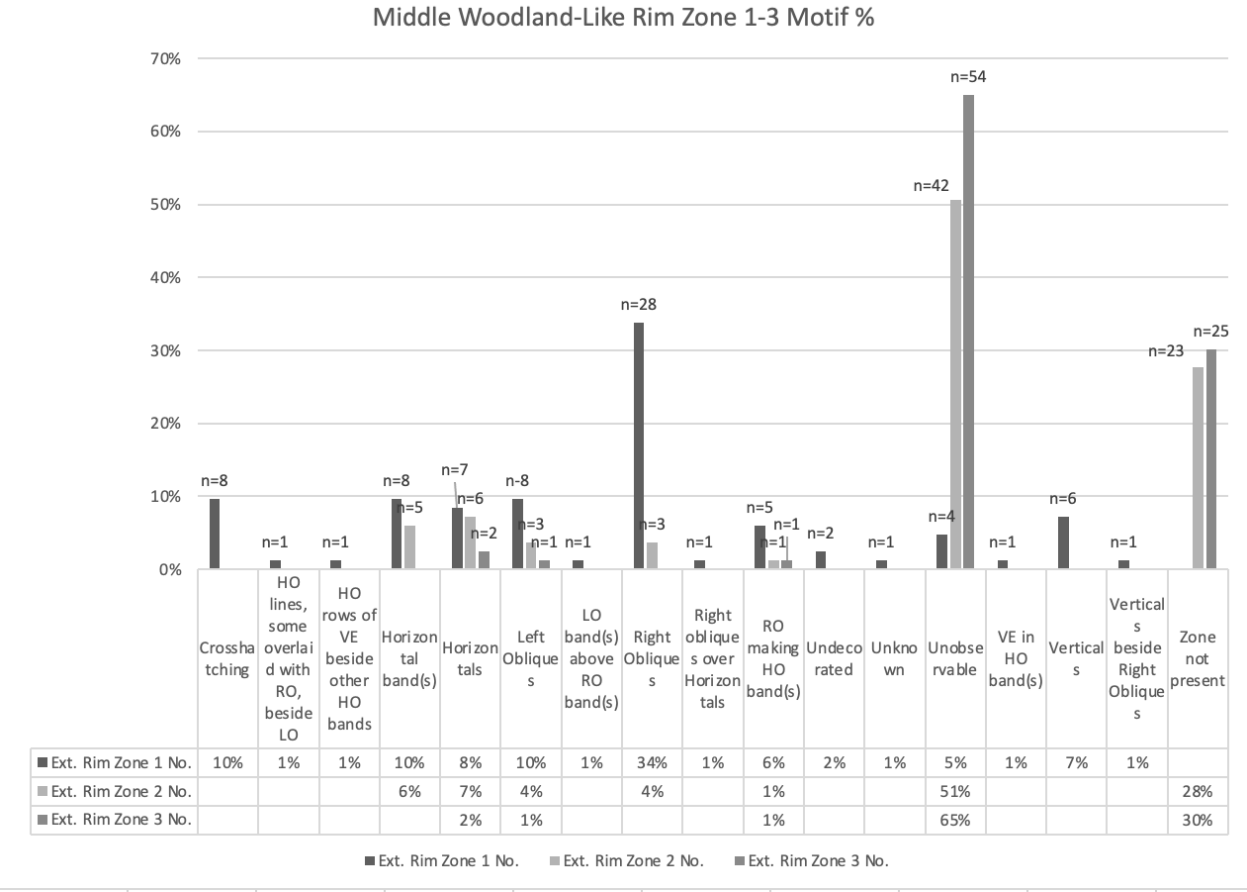


Figure 40. Middle Woodland-like Vessels Rim Zone 1-3 Motif by Percentage.

Fifty-nine Middle Woodland-like vessels did not have neck sherds which could be observed (71% of the Middle Woodland-like assemblage). Figure 41 depicts the breakdown of neck motifs for vessels which had observable necks. When examining the observable necks, it was found that up to 5 motifs were found (n=1, 4%) however it was most common for necks to only have one motif present (n=5, 21%). A large number of necks were also partially fragmented and so it could not be determined if more than one motif were originally present (n=12, 50%) on these rims.

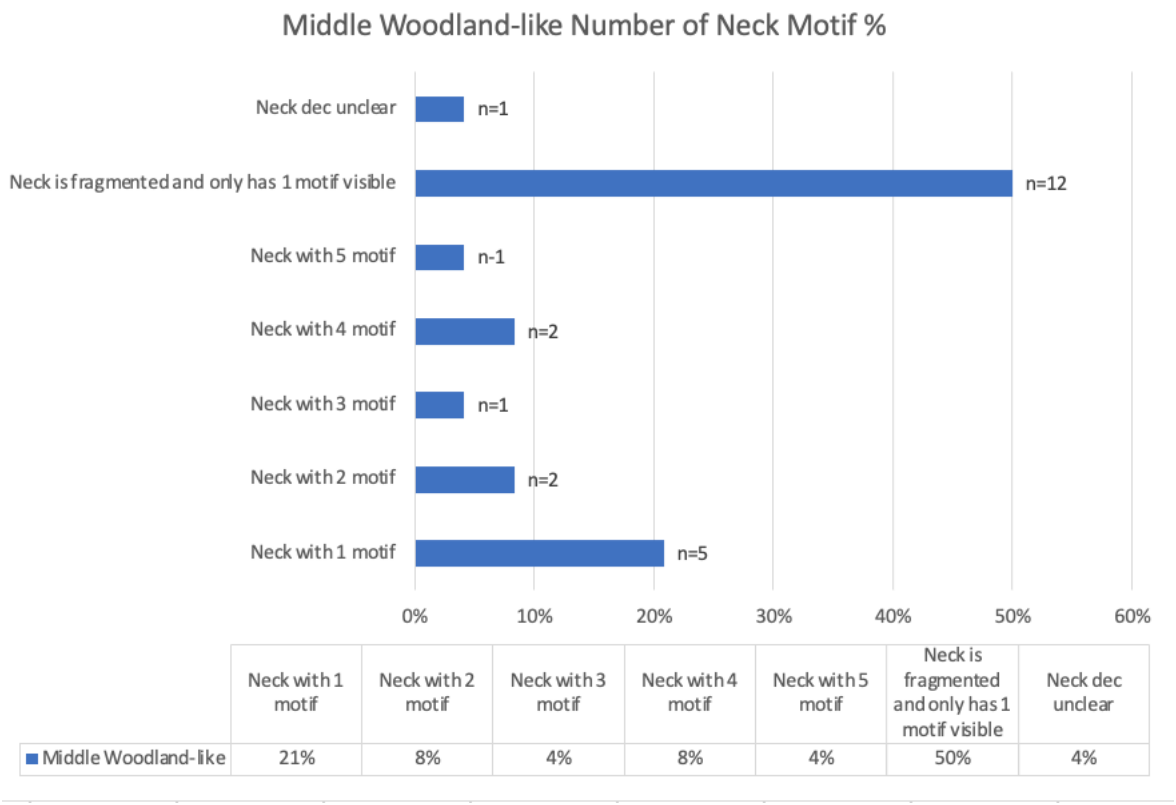


Figure 41. Middle Woodland-like Number of Neck Motif Percentage.

5.7 Surface Treatment

Surface treatment refers to the finish applied to the surface of the vessel prior to firing. Surface treatment likely occurred prior to decoration and so has been observed separately from decorative tools, techniques, and motifs (Daechsel, 1981). Surface treatment was recorded for both the interior and exterior of the vessel. A comprehensive breakdown of interior and exterior surface treatment by each archaeological time period can be found in appendix D. The different surface treatment categories are defined below.

Brushed: Shallow parallel lines which appear to be in arranged in random orientations (Daechsel, 1981).

Channelled: Channelling has been used to refer to a variety of different treatments throughout archaeological literature. For the purpose of this analysis, channelling refers to distinct parallel striations which appear to be made with some kind of comb like tool.

Cord Malleated: Cord impressions which are created by applying a cord-wrapped paddle to clay.

Ribbed Paddling: Parallel impressions which are produced through applying a ribbed paddle to wet clay.

Smoothed: A surface treatment in which the surface has been smoothed, sometimes leaving behind visible striations likely created through the use of grass or leaves (Rice, 2015).

Unknown: A surface treatment was noted but could not be definitively determined due to overlaying decoration.

Exterior surface treatment for Middle Woodland-like vessels can be found in figure 42. Ninety four percent (n=78) of Middle Woodland-like vessels were found to have no visible exterior surface treatment. This is likely explained by the fact that the sherds which exist for much of the Middle Woodland-like assemblage pertain to the lip, rim, and sometimes neck, and often contain very complex decoration. These aspects make it difficult to note the presence of exterior surface treatment. One can logically assume that smoothing occurred on exterior surfaces prior to the application of decoration. Five percent (n=4) of Middle Woodland-like ceramics were found to have clear evidence of smoothing and 1% (n=1) were noted as being cord malleated. The lack of cord malleation within the Middle Woodland-like assemblage is anomalous and may also be explained by the aforementioned complex decoration.

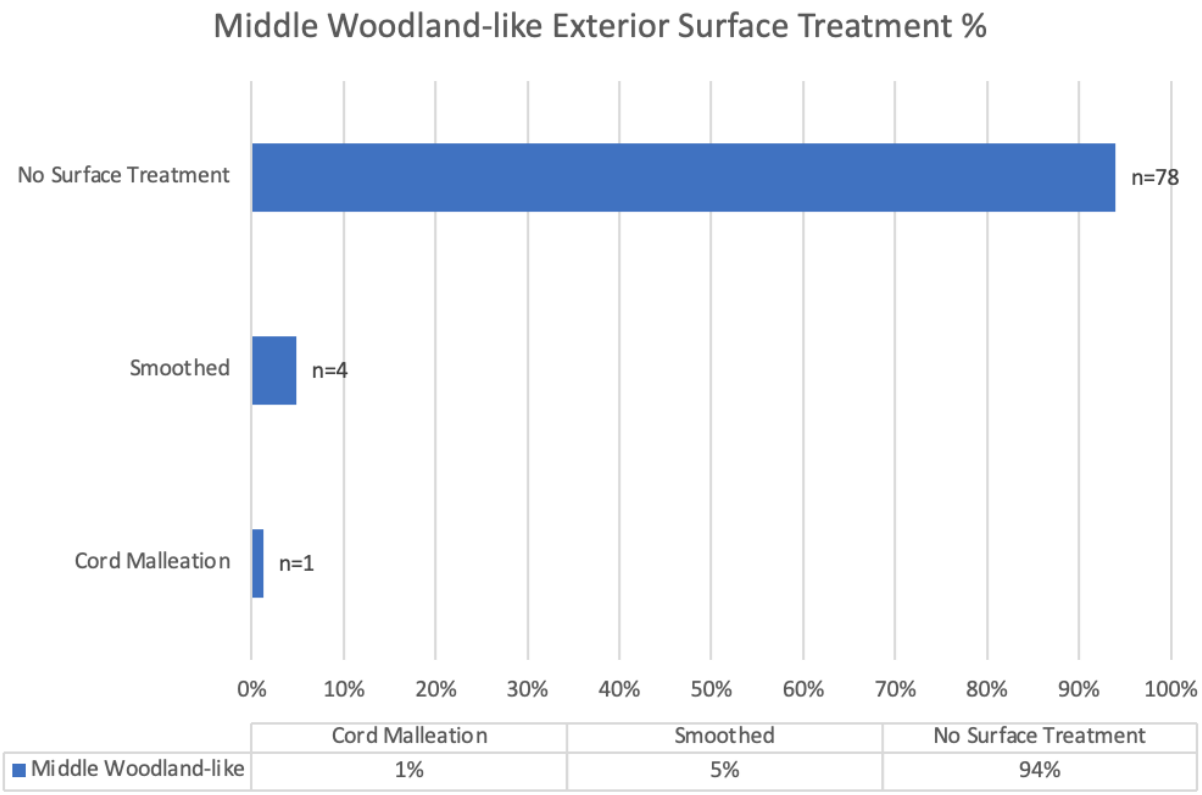


Figure 42. Middle Woodland-like Exterior Surface Treatment Percentage.

The breakdown of Middle Woodland-like interior surface treatments can be found in figure 43. Seventy-five (90%) of Middle Woodland-like ceramics were found to have smoothed interiors, three (4%) vessels were found to have channelled interiors, and five (6%) were brushed. When examining the entire ceramic assemblage from BiFw-6, it was found that channelling was only present on Middle Woodland-like vessels. This may suggest that channelling was a Middle Woodland trait.

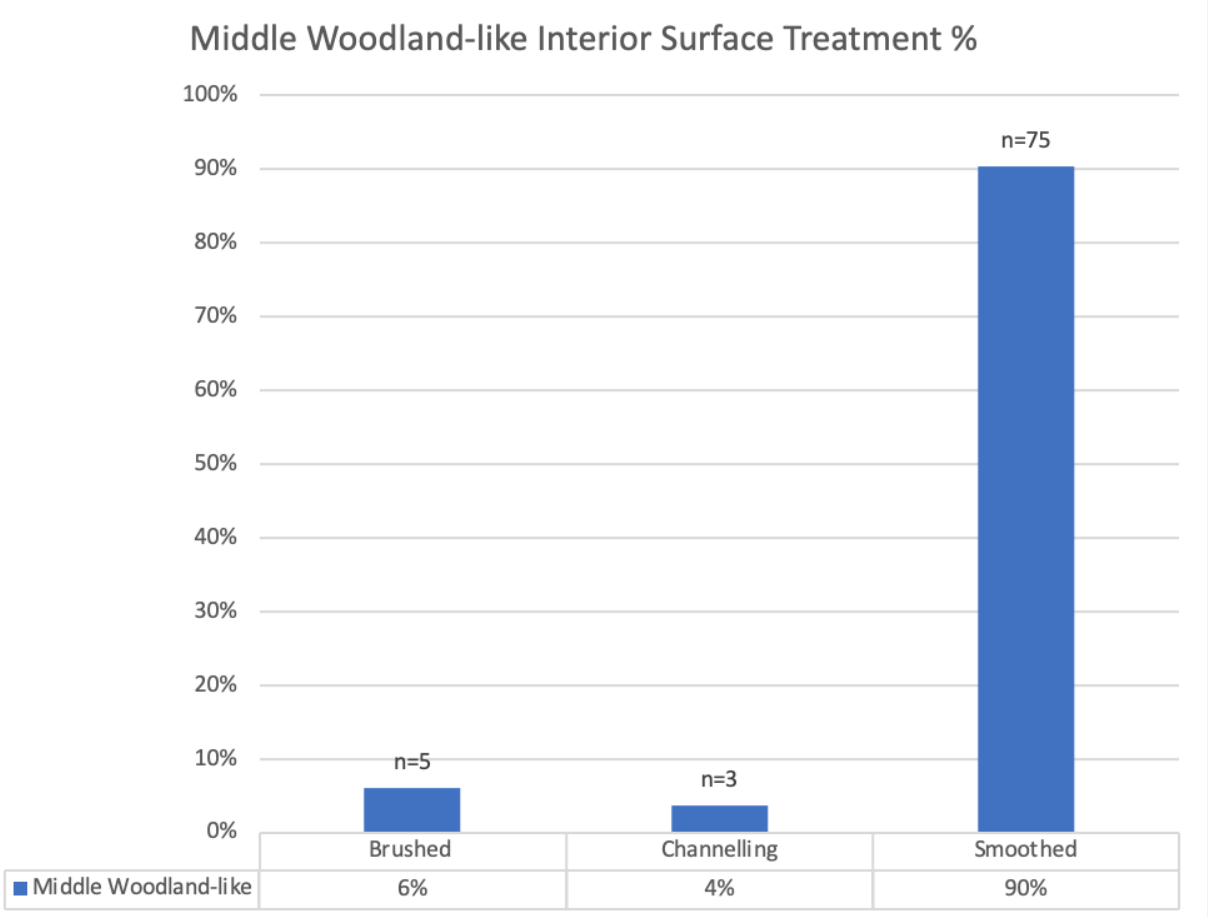


Figure 43. Middle Woodland-like Interior Surface Treatment Percentage.

5.8 Spatial Distribution: Vertical

As discussed in detail in the excavation chapter, BiFw-6 was excavated between 1997-2003, with focus being on four areas: A, B, C, and D. The distribution of ceramics horizontally and vertically in the site is important to understanding the occupation of the site. An overview of the vertical distribution of each area has been provided below (tables 5-8).

5.8.1 Area A

Area A is the location of 28% (n=29) of the vessels of the ceramic assemblage and contains a complex stratigraphy. A comprehensive overview of all area A features can be found in appendix A. Following the law of superposition, lower layers are older than upper layers, unless a disturbance has occurred. The lowest level in Area A is layer 400, which was determined to have a number of anthropogenic features within in it, including a possible a single

dwelling (feature 26) and a nearby hearth (feature 25). Features 49 and 50 were also found in layer 400 and were hypothesized to be the floor of an older occupation layer (Laliberté et al., 1997a). However, only one vessel in area A was found to be associated with layer 400. Based on the vessel characteristics, this vessel was determined to be a late Early Woodland vessel or an early Middle Woodland vessel. It's association with the lowest stratigraphic layer in area A, which does not appear to be disturbed, strongly supports this hypothesis. The existence of only one vessel in this layer may also indicate a short period of occupation during this time period.

A number of features were found to be associated with the 300/400-layer interface; features 5a and 8a (a possible dwelling floor), feature 13 (a possible hearth), 15b (a hearth), 65 and 67a (a hearth), and feature 68a (a dwelling floor). While the stratigraphy and associated features clearly speaks to significant human occupation of this layer, only one ceramic vessel was found associated with the 300/400-layer interface. The ceramic was characterized as a Middle Woodland vessel, and its existence in an undisturbed stratigraphic layer above layer 400 suggests repeated occupation of the site, or the site's existence as a persistent place.

The majority (n=17, 59%) of the ceramics in Area A are assigned to layer 300 (n=4, 14%) and related occupation layer (layer 30) (n=13, 45%). Notably all ceramics in this level were characterized as being Middle Woodland vessels. The lack of vessels which were attributed to other archaeological time periods suggests that this layer can be strongly connected with the Middle Woodland period. Additionally, the significant number of Middle Woodland ceramics attributed, as well as the presence of clear layers of occupation, speaks to repeated use of this area of the site in the Middle Woodland period. When compared to the above layer, the number of ceramics in the 300 layer suggests longer or more frequent occupations during this period.

Two vessels (7%), an Early Late Woodland and Late Late Woodland vessel, were found at the 200/300-layer interface. This layer also contained a hearth feature. Notably, there are no Middle Woodland ceramics positioned within or above this layer, strongly suggesting that these layers can be associated with Late Woodland period occupations. However, the vertical distribution of Late Woodland ceramics and its sub-periods does not accurately follow the chronological pattern. This may suggest post-depositional mixing of the layer or some level of concurrent deposition.

Layer 100 (disturbed topsoil/ “historic level”) and layer 200 (associated with the 17-19th century) were missing in the northern section of area A. The remaining layer 200 was determined to contain a number of features, including a number of hearths, and contained what was determined to be a clear occupation layers (layers 201 and 20). Layers 201 and 20 both have anthropogenic features associated with them; feature 60, in layer 201, was determined to be a hearth, and feature 2a, in layer 20, was also found to be a hearth. However, only a small number of pre-contact ceramics in area A were attributed to these layers; an Early Late Woodland vessel to the 200 (n=1, 3%), a Late Late Woodland vessel to 201 (n=1, 3%), and a Late Woodland vessel to 20 (n=1, 3%). The small number of ceramics attributed to this level may speak to a shorter occupation during the Late Woodland period, or loss of ceramics due to the aforementioned missing areas of the 200 layer in the northern section in Area A. Table 5 depicts the association of ceramic vessels by layer in area A. Each vessel is noted by the abbreviation of its associated archaeological time period (i.e. ELW, LLW, etc.). Each abbreviation represents one vessel.

Layer	**Ceramics**
Layer 200	ELW
Layer 201	LLW
Layer 20	LW
Layer 200/300	ELW, LLW
Layer 300	MW, MW
Layer 300 interface	MW
Layer 300 bottom	MW
Layer 30	MW, MW, MW, MW, MW, MW, MW, MW, MW, MW, MW, MW, MW

Layer 30/400	MW
Layer 400	MW
Key: ELW= Early Late Woodland, LLW = Late Late Woodland, LW = Late Woodland, MW = Middle Woodland	

Table 5. Area A Ceramics by Vertical Distribution.

5.8.2 Area B

Area B makes up the location of 36% (n=37) of the vessels within the ceramic assemblage and contains a complex stratigraphy. A comprehensive overview of all area B features can be found in appendix A. Table 6 provides a visual overview of the vertical distribution of ceramics in Area B. Each vessel is noted by the abbreviation of its associated archaeological time period (i.e. ELW, LLW, etc.). Each abbreviation represents one vessel.

The lowest layer is 40, an occupation layer within the stratigraphic layer 400. Features 10 and 11 were found in these layers and were determined to be a food preparation area and possible hearth. Three vessels (7% of area B ceramics) were associated with layer 400. When analysed based on their vessel characteristics, these were determined to be a late Early Woodland/early Middle Woodland vessel, a Middle Woodland vessel, and one that could not be confidentially assigned to a time period. Based on this information, and the lack of evidence for post-depositional mixing, layer 400 may have been occupied during the transition between the traditionally understood Early Woodland and Middle Woodland periods.

A number of features were found at the interface of layers 300 and 400. Features 7a and 9 were determined to be a floor of a Middle Woodland dwelling and associated hearths. Features 43b, 45, 46, 47, and 48 were hypothesized to all be associated together, and were believed to be an area for food preparation, cooking, or drying, as well as a hearth and associated post moulds. The spatial arrangement of these features was interpreted to be a dwelling. Four vessels (10% of area B vessels), all determined to be Middle Woodland based on their characteristics, were associated with being at the bottom of layer 300/at the interface with layer 400.

The majority of ceramics found in area B are associated with layer 300 (n=11, 30%) or its occupation layers 30 (n=15, 41%) and 35 (n=5, 14%). Layer 35 is the lowest of the 300 layers, and all ceramics associated with this occupation layer were characterized as Middle Woodland ceramics. This strongly suggests that layer 35 relates to a Middle Woodland occupation of the site. A number of features are associated with 35, including a hearth (1b), pits associated with another hearth (3b), a hearth at the centre of a sub-circular dwelling (35), and three hearths, a hearth dump/midden, a food preparation area, and the floor of a Middle Woodland dwelling (1b, 9, 37, 38, 43a, and 44). Some of these features were directly built on top of layer 400 features.

Of the fifteen vessels associated with layer 30, thirteen were characterized as Middle Woodland ceramics, one was determined to be an Early Late Woodland ceramic, and one could not be assigned to a temporal period. The predominance of Middle Woodland ceramics suggests that this layer is predominately associated with a Middle Woodland occupation, and the presence of the Early Late Woodland ceramic may be associated with an occupation immediately following the aforementioned Middle Woodland occupation. The Middle Woodland occupation may also have been longer or more robust than the previous Middle Woodland occupation of layer 35. A notable feature within layer 30 was a hearth (2b), in 50-51N 48-50W near the layer 35 features which were determined to be a multi-hearth dwelling. However, the stratigraphy suggested that 2b was built after this dwelling. This further suggests repeated occupation of BiFw-6, particularly in area B, and speaks to the site's existence as a persistent place.

Of the 300-layer ceramics, four vessels were characterized as Middle Woodland, one as possible Transitional Woodland, one Early Late Woodland, and one as a possible late Early Woodland/early Middle Woodland vessel. A number of features were found within the 300-layer including hearths (4b, 5b, 36) and associated fire-cracked stones which were hypothesized to be used for heating or cooking contents within ceramics on the edge of the hearth (6). Notably, this layer was described as being disturbed by both shoreline erosion and burrows from animals. This likely explains the mixing of ceramics which were characterized as being associated with different archaeological time periods. However, the excavation team believed layer 300 to be mainly associated with a Middle Woodland occupation.

Layer 200 in Area B only had one ceramic associated with it; a vessel which was characterized as Early Late Woodland. Based on the stratigraphy, it is logical that the upper most levels of area B would be associated with a later archaeological period such as the Early Late Woodland. There are notably no features within the 200 layer in this area. This may suggest a shorter period of human occupation during this time. However, it was noted by the excavation team that layer 200 was impacted by both shoreline erosion and historic period disturbance such as bulldozing. Therefore, the lack of evidence of occupation in this layer may be influenced by this disturbance, and therefore not provide an accurate understanding of this layer.

Layer	**Ceramics**
Layer 200	ELW
Level 3	TW
Layer N10/300	MW, MW, MW, MW, TW
Layer 300.A1	ELW, TW
Layer 300 bottom	MW, MW, MW, MW
Layer 30	MW, MW, MW, MW, MW, ELW, UNK
Layer 30 S-37	MW, MW
Layer 30.A1	MW
Layer 30.A2	MW, MW, MW
Layer 30.A3	MW
Layer 35	MW, MW, MW, MW
Layer 35.A2	MW

Layer N20/400	PMW
Layer 400.A1	MW
Layer 401.A1	UNK
Key: ELW = Early Late Woodland, TW = Transitional Woodland, MW = Middle Woodland, PMW = Possible Middle Woodland, UNK = Unknown	

Table 6. Area B Ceramics by Vertical Distribution.

5.8.3 Area C

Ten (10%) vessels within this sample were associated with area C. The smaller number of vessels in this area may speak to a smaller habitation in this area of the site, or may simply be reflective of the fact that this area was not as widely excavated in comparison to areas A and B. Table 7 provides a visual overview of the vertical distribution of ceramics in Area C. Each vessel is noted by the abbreviation of its associated archaeological time period (i.e. ELW, LLW, etc.). Each abbreviation represents one vessel. Additionally, a comprehensive overview of all area C features can be found in appendix A.

Layer 400 contained two vessels (20% of area C ceramics), both which were characterized as Middle Woodland. Similarly, layer 40 only has one (10% of area C ceramics) vessel, also characterized as Middle Woodland. The 40-occupation layer only had one feature associated with it (77); an area which was determined to be levelled ground to accommodate a dwelling. This feature was disturbed by later features in the above layer 30 (72), which speaks to the repeated use of the site. Notably, layer 400 and its sublayers in area C are clearly associated with a Middle Woodland habitation, whereas these layers in areas A and B showed evidence of being associated with late Early Woodland and/or early Middle Woodland. This may suggest that area C was utilized in a similar time period to the other 400 layers, but slightly later.

One Middle Woodland ceramic was found at the interface of layers 30/40. This was in association with the aforementioned feature 72, which was is layer 30 but disturbed the below

layer 40. The 30 layer has two ceramics associated with it (20% of area C ceramics) both of which were characterized as Middle Woodland. Feature 72 was the only feature associated with layer 30 and was determined to be levelled ground created in the installation of a dwelling.

Layer 300 had two ceramics associated with it; one characterized as a Transitional Woodland and the other as Middle Late Woodland. These differing archaeological periods within the same stratigraphic layer may suggest some level of post-depositional mixing that was not recorded by the excavation team. A few features, determined to be stake moulds which were perhaps in association with a hearth, were found in this layer.

Layer 20 in area C only had one vessel associated, which was characterized as Middle Late Woodland. A number of features were found in association with layer 20 including a hearth which contained a copper metal bottle cap and European style pipe fragment (66b), an oval area of soil containing calcined bones and over 100 small glass beads (67b), and an area which was determined to be a place to empty out hearths (68b). This feature (68b) included kaolin pipe fragments, glass bottle fragments, crockery fragments, and a lead seal inscribed “CASTOR”. The presence of European artifacts in association with this layer confirms that this layer is associated with a contact/post-contact period and strengthens the hypothesis that this was a Late Woodland through contact period occupation layer.

Layer	**Ceramics**
Level 2 (test pit)	PMW
Layer 20	MLW
Layer 300.A1	MLW, TW
Layer 30	MW
Layer 30.A2	MW
Layer 30/40	MW

Layer 400.A1	MW, MW
Layer 40	MW
Key: PMW = Possible Middle Woodland, MLW = Middle Late Woodland, TW = Transitional Woodland, MW = Middle Woodland	

Table 7. Area C Ceramics by Vertical Distribution.

5.8.4 Area D

Area D is the location of only three vessels (3%) from the sample. All three ceramics were found in the bottom of layer 300 and were all characterized as Middle Woodland vessels. Table 8 provides a visual overview of the vertical distribution of ceramics in Area D. The stratigraphy of area D was found to be disturbed, with layers 100 and 200 being missing and replaced with fill. The area did contain layer 300, with a 30-occupation layer within, as well as layer 400. Within layer 30, a hearth (15a) was found. Above this, at the interface of the 30/400 layers, three features determined to be secondary hearths associated with a multi-hearth dwelling. While the stratigraphy is undoubtedly disturbed in this area, what remains provides clear evidence of repeated occupation in the same place and provides evidence for BiFw-6's existence as a persistent place. A comprehensive overview of all area D features can also be found in appendix A.

Layer	**Ceramics**
Layer 300 bottom	MW, MW, MW
Key: MW = Middle Woodland	

Table 8. Area D Ceramics by Vertical Distribution.

5.8.5 Unknown Area

A number of ceramics (n=20, 20%) included in this assemblage have unknown contexts. This is due to artifacts being collected during controlled surface collections, as well as being found in sondages or test pits. The details of these finds are unfortunately not well documented in excavation records and reports. Thirteen vessels (13% of the entire assemblage and 65% of unknown area ceramics) were found on the surface of the site. This speaks to site's endangerment from shoreline erosion, causing a loss of archaeological remains. The ceramics, which do not have a clear context, are characterized as being associated with a number of archaeological time periods including the transition between Early Woodland and Middle Woodland (n=1, 1%), Middle Woodland (n=14, 14%), Transitional Woodland (n=1, 1%), Early Late Woodland (n=1, 1%), Late Woodland (n=1, 1%), and Late Late Woodland (n=1, 1%). While limited information can be determined with a lack of context, the characterization of these ceramics does reflect the overall findings of the site; strong evidence of a robust Middle Woodland occupation, with evidence of shorter/smaller occupations before and after this.

5.9 Spatial Distribution: Horizontal

The locations of ceramics in this assemblage were plotted following the excavation records and catalogue (table 10). This analysis was limited to ceramics which had a clear context associated with them (areas A-D). Due to the limited nature of the Late Woodland samples, the spatial distribution focused on Middle Woodland-like ceramics (including Possible Middle Woodland, Middle Woodland, etc.), Transitional Woodland, and Late Woodland-like (including Early Late Woodland, Middle Late Woodland, etc.). A key to the horizontal spatial distribution of ceramics from different time periods is provided below (table 9).

Marker	**Period**
●	Middle Woodland-like
●	Transitional Woodland
●	Late Woodland-like

	Unknown

Table 9. Horizontal Distribution Markers.

Figure 44 shows the location of ceramics in Area A on a horizontal plane. There are two clear clusters of Middle Woodland ceramics: one larger than the other. The larger cluster includes one square which contains vessels characterized as Middle Woodland and Late Woodland (50-51N 61-63W). Outside of this cluster, there are also ceramics associated with the Late Early Woodland/Early Middle Woodland, as well as an Early Late Woodland ceramic within the same square (52N 64W). Both instances suggest repeated occupation in his location over time. Notably, the majority of Late Late Woodland ceramics (with known contexts) in the assemblage are located in an isolated section in the western part of area A (52N 72-74W), suggesting that while the overall area was used repeatedly throughout time, not all occupations directly overlaid each other. Additionally, no Transitional Woodland ceramics found in area A.

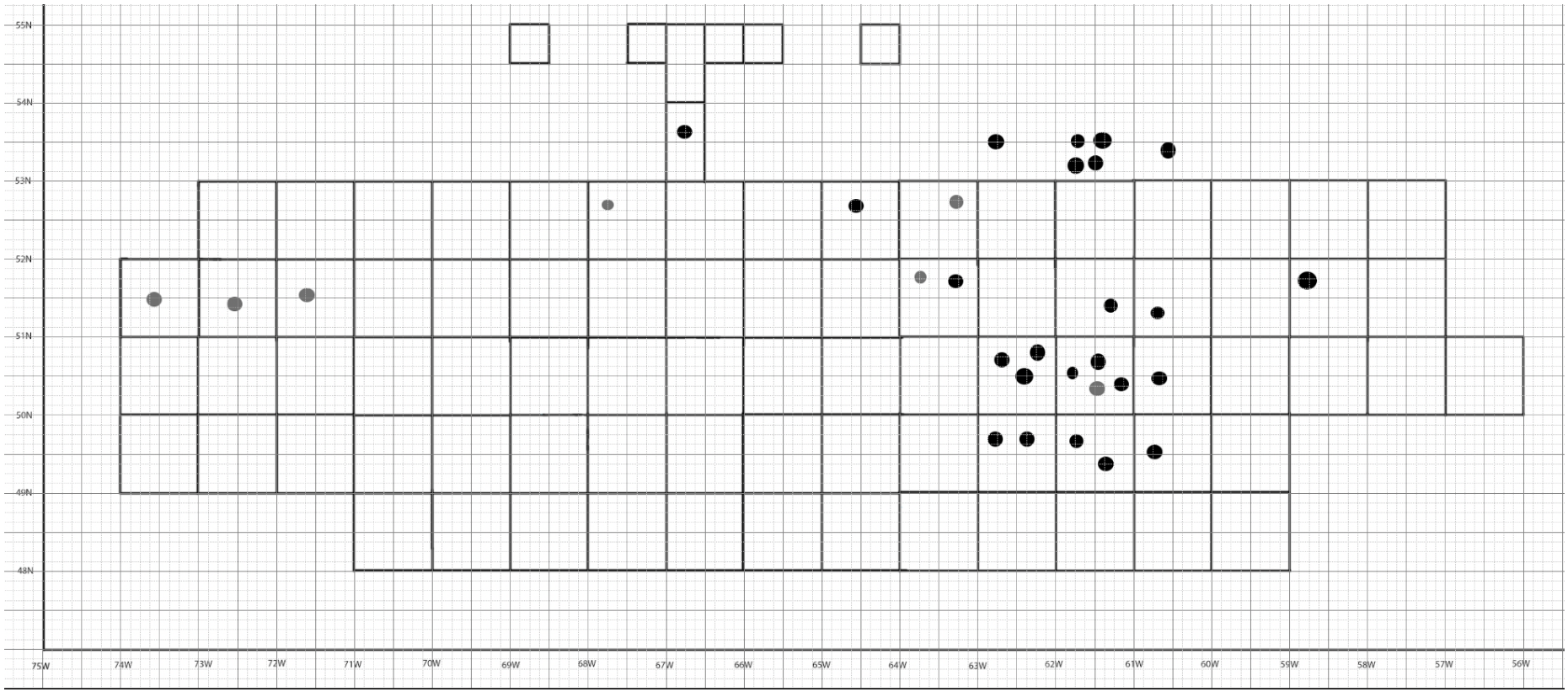


Figure 44. Horizontal Distribution of Ceramics in Area A.

As discussed previously, the predominant archaeological period associated with vessels in area B was the Middle Woodland. There appears to be one large cluster of Middle Woodland ceramics in the centre of area B, with a predominance of ceramics being found in squares 52-53N 50W (figure 45). There are also several instances of artifacts associated with different periods being found within the same squares (54N 49W, 52N 50W, 57N 48W). These clusters contain a Transitional Woodland and Middle Woodland vessel (52N 50W), Late Woodland vessels and an unknown vessel (54N 49W), and a Late Woodland and Middle Woodland vessel (57N 48W).

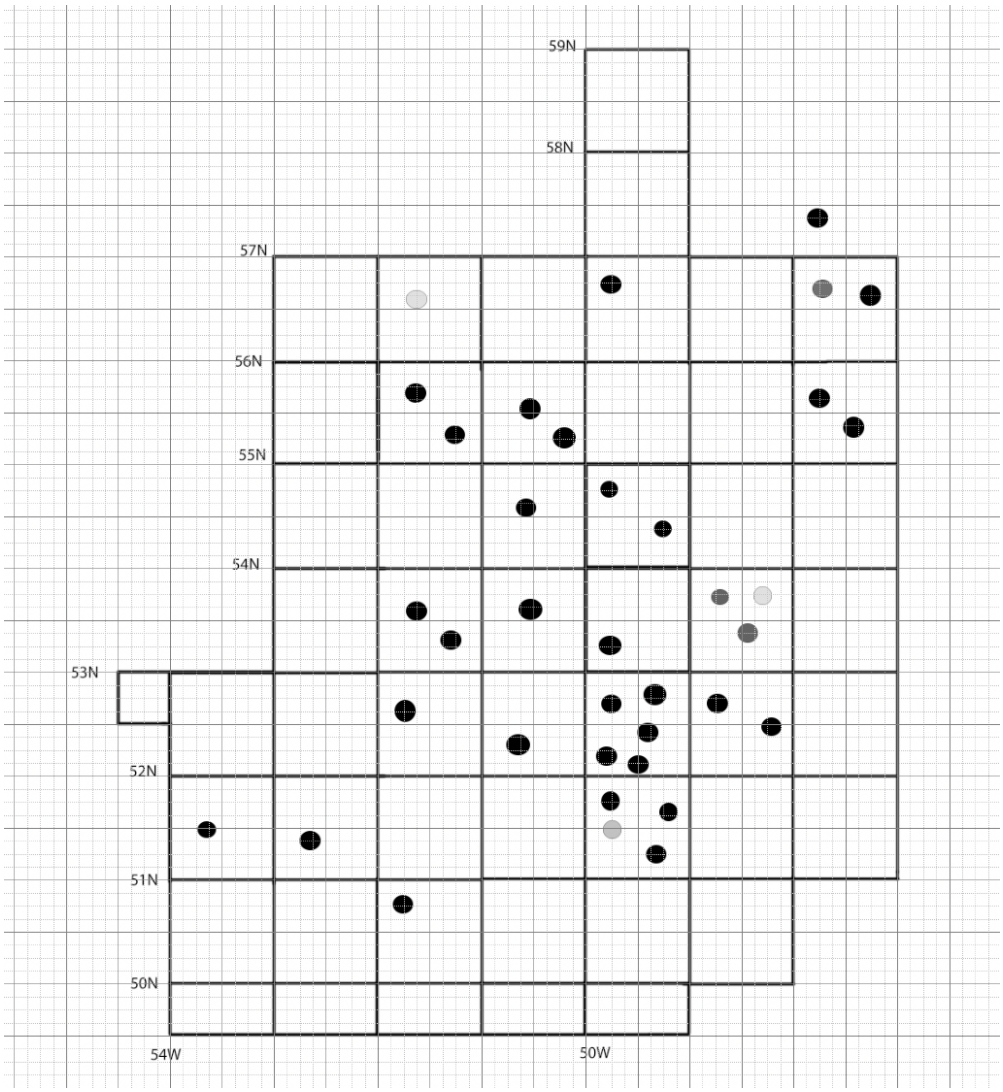


Figure 45. Horizontal Distribution of Ceramics in Area B.

Area C contained a smaller number of ceramics, but there still is evidence of clustering of Middle Woodland ceramics (71N 41W) (figure 46), as has been found with other areas of the site. There is also another instance of ceramics from different periods being located in the same squares, namely a Middle Woodland and Transitional Woodland vessel together (69N 39W), possibly speaking to repeated occupation over time. Notably, the only Middle Late Woodland ceramics (with known contexts) are located within area C (54N 49W).

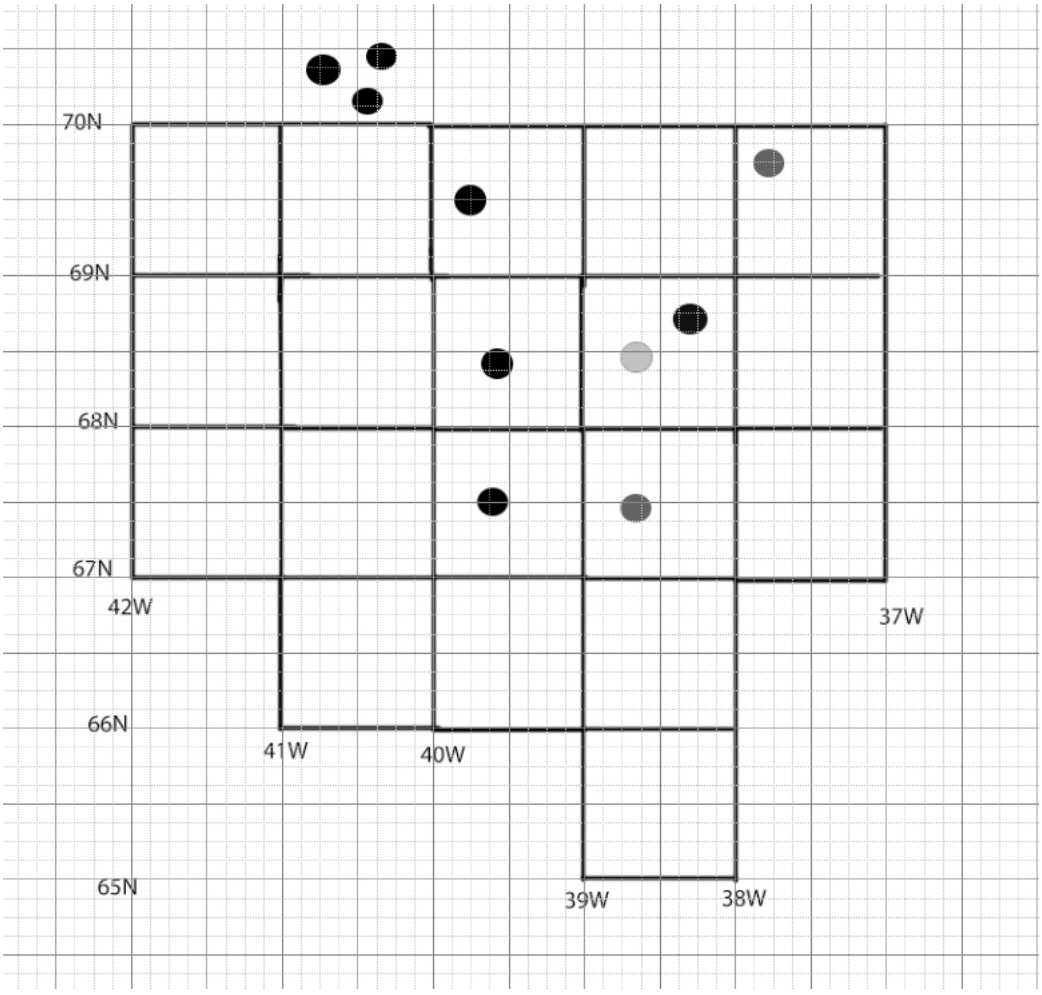


Figure 46. Horizontal Distribution of Ceramics in Area C.

All ceramics found in area D were characterized as being Middle Woodland vessels. The number of ceramics in this area is limited, but one can see evidence of clustering in the 59N trench (figure 46).

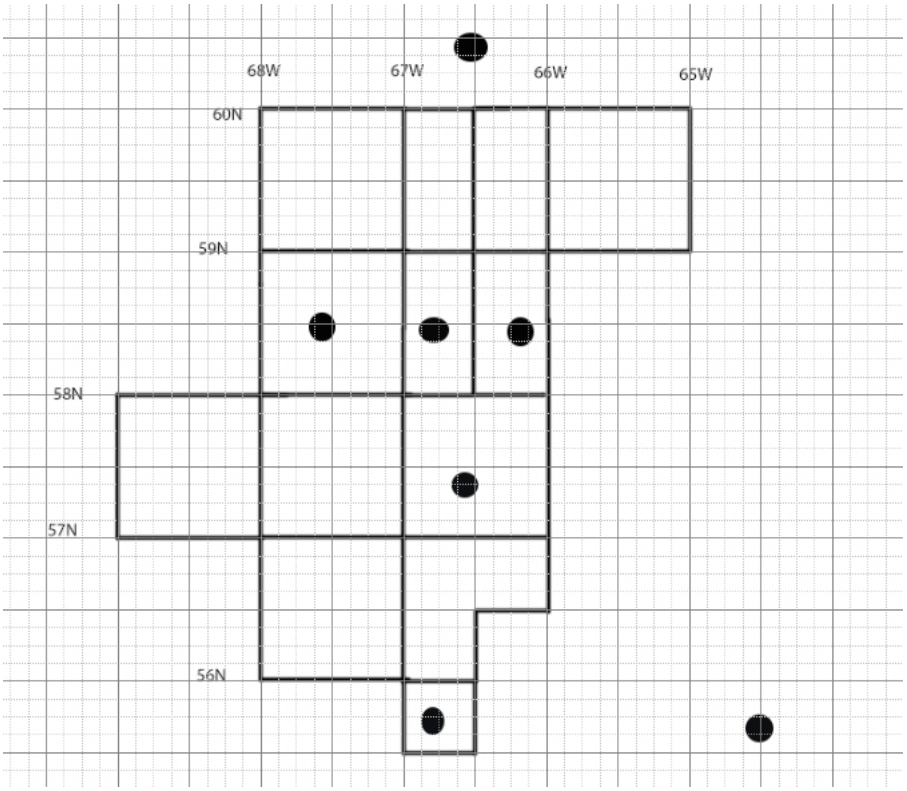


Figure 47. Horizontal Distribution of Ceramics in Area D.

Overall, through examining the spatial distribution of ceramics, one can start to get a clearer picture of occupation of the site. The vertical spatial distribution provides a better understanding of the many different occupations which appear to have taken place concurrently. The horizontal spatial distribution is somewhat harder to parse out, and suggests that at BiFw-6, many of the occupations throughout time likely occurred at the same location, allowing for artifacts from different time periods to be closely spaced together.

5.10 Absolute Dating

Two different forms of absolute dating were undertaken by the original excavation team: radiocarbon dating and thermoluminescence dating. Radiocarbon dating, or C14 dating, is a method for dating organic materials, traditionally done by measuring the decay of carbon-14 within a sample. The more modern AMS method dates carbon samples by counting the C-14 atoms directly using a mass spectrometer. The original excavation team dated four C14 samples

from BiFw-6 excavations using the traditional solid carbon method (table 10). These dates were calibrated using Oxcal v4.4.4 (Bronk Ramsay, 2021).

Sample Name	Context	Radiocarbon Date	Calibrated Date
Beta 115232	52N 50W layer 300	1230 ± 100 BP	645calCE-995calCE 94.9% probability
Beta 115233	55N 49W layer 35	1670 ± 60 BP	309calCE-540calCE 81.3% probability
Beta 115234	68N 40W layer 400 A2	1760 ± 80 BP	116calCE-437calCE 92.2% probability
Beta 115229	55N 54W interface of layers 35 and 400	1890 ± 120 BP	167calBC-413calAD 95.4% probability

Table 10. Laliberté Radiocarbon Dates (Bronk Ramsay, 2021; Laliberté et al., 1998; Reimer et al., 2020).

Almost all dates are associated with the Middle Woodland (ca. 2400-1300 BP/451 BCE-650 AD) period, but they provide clear evidence for human occupation over a significant period of time. The calibrated date for Beta 115232 mostly in the Transitional Woodland period, which speaks to occupation of the site during this time. Overall, these dates span the majority of the Middle Woodland period with almost 700 years between the oldest and youngest sample.

Additional C14 dating of charcoal and calcined bone from different depths/layers within a BiFw-6 hearth was undertaken by the National Capital Commission in 2020 using the AMS method (table 11).

Sample Name	Sample Material	Radiocarbon Date	Calibrated Date
UOC-12116	Charcoal	1850 ± 24 BP	126calCE-240calCE 95.4% probability
UOC-12117	Charcoal	1985 ± 23 BP	3calBCE-83calCE 69.3% probability
UOC-12030	Calcined Bone	1897 ± 22 BP	77calCE-215calCE 95.4% probability
UOC-12031	Calcined Bone	1794 ± 36 BP	201calCE-363calCE 91.5% probability
UOC-12032	Calcined Bone	1893 ± 27 BP	76calCE-225calCE 95.4% probability
UOC-12033	Calcined Bone	1914 ± 22 BP	61calCE-210calCE 95.4% probability
UOC-12034	Calcined Bone	1869 ± 22 BP	123calCE-231calCE 95.4% probability
UOC-12035	Calcined Bone	1870 ± 22 BP	123calCE-232calCE 95.4% probability
UOC-12036	Calcined Bone	1927 ± 22 BP	56calCE-204calCE 89.0% probability
UOC-12037	Calcined Bone	1908 ± 22 BP	68calCE-210calCE 95.4% probability

Table 11. NCC 2020 Radiocarbon Dates (Bronk Ramsay, 2021; Kieser, 2020; Reimer et al., 2020).

Similar to the C14 dates found by the original excavation team, these dates are all associated with the Middle Woodland period, although they indicate a slightly older occupation. The breadth of dates from charcoal and calcified bone at different depths within the same features also further suggests repeated use of the site and/or specific feature over time.

Thermoluminescence dating is a means of measuring the time since an artifact containing crystalline materials was heated. Two samples of pottery from BiFw-6 were used for thermoluminescence dating; both originated from 55N 54W but were from layers 35 and 30. The layer 35 sample had a date of 1570 BP ± 100 and the layer 30 sample had a date of 1730 BP ± 100; approximately 150 years between them (Laliberté, 1998).

The utilization of absolute dating techniques, namely radiocarbon dating and thermoluminescence dating, at the BiFw-6 archaeological site provides compelling evidence of its status as a persistent place of human occupation and activity. The radiocarbon dates obtained from various samples across different contexts within BiFw-6 consistently indicate occupation during the Middle Woodland period, spanning a considerable timeframe of almost 700 years. Moreover, the additional radiocarbon dates conducted in 2020 reveal an even older occupation, reinforcing the notion of prolonged human presence at the site. The breadth of dates from charcoal and calcined bone at different depths within the same features suggests repeated use of the site and/or specific features over time, further underscoring its significance as a persistent place. Similarly, the thermoluminescence dating results, derived from pottery samples from different layers, speak to the long-lived nature of the site, with approximately 150 years separating the dates from adjacent layers, indicating sustained human occupation and activity over an extended period of time. Altogether, the convergence of dating evidence strongly suggests that BiFw-6 served as a focal point for human activity and habitation over an extended period, affirming its status as a persistent place within the landscape.

5.11 Notable Cultural Traditions

While the primary methodology of this analysis has focused on attributes rather than typology, it is worth providing a short overview of how the BiFw-6 ceramic reflect known culturally affiliated typologies, or in contrast, vessels which do not clearly fit in defined traditions. If one were to associate the BiFw-6 ceramics with particular archaeological cultural

traditions, a majority of the ceramics in this collection could be characterized, largely due to decoration and form, as characteristic of the Point Peninsula tradition. However, there are a few ceramics which can be characterized as similar to other cultural traditions.

At least two ceramics (vessels 100 and 101) which have been characterized as being associated with the Late Woodland or a Late Woodland sub period clearly fall into the Huron-Wendat cultural tradition. The presence of Huron-Wendat ceramics at BiFw-6 speaks to the site's ideal location at the confluence of several trade and transportation routes. Possible reasons for the placement of these vessels could be due to Huron-Wendat groups traveling on the Ottawa River and stopping temporarily at BiFw-6, or they could be the product of trade between groups (Laliberté, 2000). While it cannot be determined exactly how the Huron-Wendat ceramics came to be deposited at the site, their presence further demonstrates BiFw-6 and its inhabitants' place within a broader regional trade and communication network.

Two other notable vessels which were found at BiFw-6 within the same domestic space can likely be characterized as Uren-Middleport, part of the Ontario Iroquois tradition, and Laurel-Blackduck, a tradition found through northern Minnesota, southern Manitoba, and north western Ontario (Dawson, 1981). The original excavation team hypothesized that the presence of these ceramics within the same dwelling suggested they were contemporary and were possible left by people visiting the site, perhaps visiting the main occupants of BiFw-6 (Laliberté, 2000). This hypothesis is hypothetical and cannot be proved but does place BiFw-6 and its inhabitants at the centre of the aforementioned broad trade and communication network which could have allowed for inter-group relations. While one cannot be sure how these ceramics came to be at the site, they do demonstrate cultural change over time happening at BiFw-6.

Finally, a number of ceramics were found to be distinctive to BiFw-6. This style, which was called "interlocking Kabeshinàn type" by the excavation team, was described as having "outer rims decorated with intersecting oblique lines, printed by dragging the rounded tip of some sharp object or wooden or bone rod across the paste" and necks decorated with "horizontal lines of serrated impressions" (Laliberté, 2004b, p. 30). The excavation team determined at least six vessels to fall under this "type", the clearest being vessel 180 (figure 48). Also included within this group of vessels was what they believed to be a child's pot. The existence of a child's

vase with this ceramic type suggests the sharing of this distinct ceramic tradition across at least two generations.

Figure 48. Vessel 180, Interlocking Kabeshinàn Type.

The excavation team also suggested the existence of a second style named “Kabeshinàn serrated type” which included at least three vessels from the site. This type was noted as having “decoration of quadrangular serrated impressions with an embossed effect” (Laliberté, 2004b, p. 31). The strongest example of this type was vessel 185 (figure 49) and is characterized by delicate serrated impressions and horizontal rows of fine pseudo-scallop shell. When examined as part of the thesis, it was agreed that there appears to be distinctive decorative tradition occurring at the site. The presence of these ceramics and these suggested types, demonstrates a strong and complex local cultural tradition occurring amongst the inhabitants of the BiFw-6 site.

Figure 49. Vessel 185, Kabeshinàn Serrated Type.

5.12 Conclusion

This chapter has presented the results and interpretations of the ceramic analysis, as well as a summary of some methodological aspects of this research. Ceramic analysis has demonstrated that the majority of the collection correlates to the Middle Woodland period, suggesting that the most prominent use of the site occurred during this period. However, there is evidence of ceramics from archaeological periods spanning the Late Early Woodland to the Late Late Woodland, demonstrating BiFw-6's existence as a persistent place. In the next chapter, I will situate the BiFw-6 collection into the wider regional context through a comparison with other local archaeological sites.

Chapter 6

6. Comparisons and Discussion

The goal of this research was primarily to examine the archaeological record of BiFw-6 and the associated ceramic assemblage to better understand how this site, and by extension the aggregate of archaeological sites within Leamy Lake Park, fit into broader regional and cultural contexts. Additionally, this research sough to better understand how site use and repeated occupation of the site correlate with agency, tradition-making, and cultural exchange. This chapter is concerned with the comparison of the ceramic findings from BiFw-6 with notable, primarily Middle Woodland and multi-component, archaeological sites in the region. This will allow for a better understanding of BiFw-6's position in the broader archaeological landscape. For the purpose of this research, comparison was limited to archaeological sites within approximately 200 kilometres from Leamy Lake Park. This chapter also discusses future directions for research and presents general conclusions.

6.1 Sawdust Bay-2

The Sawdust Bay-2 is a Middle Woodland site located on the south shore of the Ottawa River in a small inlet known as Sawdust Bay. This inlet is part is part of the larger Marshall's Bay and is approximately 46 kilometres west of Leamy Lake Park. The site was originally located by Clyde Kennedy during an archaeological survey of Lac des Chats in the early 1970s and was excavated in 1974. The ceramics from Sawdust-Bay 2 were studied as part of Hugh Daechsel's 1981 master's thesis and were primarily analysed based on attributes, however typology was also used, in particular for rim profiles. Daechsel argued in his thesis that the Sawdust Bay-2 assemblage was similar to other Middle Woodland sites in the Ottawa Valley. He hypothesized that these ceramics belonged to the "Ottawa Valley Phase" of the Point Peninsula Tradition. He defined the Ottawa Valley Phase as "a distinguishable archaeological unit in the Ottawa River Drainage Basin, occurring between approximately 100 B.C. and A.D. 200" (Daechsel, 1981, p. 121). He noted that the diagnostic features of this phase were,

> …grit tempered, coil manufactured vessels. Decorative impressions are characterized by a predominance of pseudo-scallop shell and simple dentate impressions. Other decorative

impressions include linear stamping, complex dentate, drag stamp, punctate, rocker stamp, trailing, and incising. The vessel exteriors are generally smooth in finish while between a quarter to one third of the vessels have brushed interiors (Daechsel, 1981, pp. 121–122).

Daechsel included the Sawdust Bay-2, Marshall's Bay-1, Kant, Constance Bay, Meath, and Montgomery Lake Second Site as assemblages assigned to this Ottawa Valley Phase.

The ceramic data was collected from individual sherds, which differs from the analysis of BiFw-6 which was based on vessels. Table 12 provides a breakdown of the Sawdust Bay-2 ceramics.

Pottery	No.	%
Rim sherds	31	3.0
Decorated body sherds	152	14.0
Undecorated body sherds	146	13.0
Basal sherds	1	-
Unanalyzable sherds	757	70.0
Total	1087	100.0

Table 12. Sawdust-Bay 2 Sherds (Daechsel, 1981).

6.1.1 Sherd Thickness

The comparison of sherd thickness between the two collections is detailed in table 13. Sawdust Bay 2 and BiFw-6 ceramics are similar in regard to thickness. Both collections depict a slightly greater thickness in body sherds than rims, with a mean difference of 1.56 mm (Sawdust Bay) and 1.6 mm (BiFw-6) respectively. Notably, there are no neck sherds in the Sawdust Bay collection so a comparison cannot be made.

Thickness	BiFw-6 rim sherds		SB rim sherds		BiFw-6 neck sherds		SB neck sherd		BiFw-6 body sherds		SB body sherds	
(mm)	No.	%	No.	%	No.	%	No.	%	No.	%	No.	%
4	8	11	-	-	-	-	-	-	1	1	-	-
5	8	11	-	-	9	12	-	-	1	1	7	4
6	17	23	8	30	8	11	-	-	2	3	14	7
7	13	17	9	35	21	28	-	-	4	5	22	11
8	17	23	9	35	10	13	-	-	7	9	38	19
9	6	8	-	-	7	9	-	-	4	5	65	33
10	3	4	-	-	2	3	-	-	2	3	34	17
11	1	1	-	-	3	4	-	-	3	4	16	8
12	-	-	-	-	1	1	-	-	1	1	3	1
13	-	-	-	-	-	-	-	-	-	-	-	-
14	-	-	-	-	-	-	-	-	1	1	-	-
Unobservable	2	3	-	-	14	19	-	-	49	65	-	-
Totals	75	100	26	100	75	100	-	-	101	100	197	100
Mean	7.3mm		7.04mm		7.9mm		-		8.9mm		8.6mm	
Range	4.4-11.7 mm		6.0-8.0 mm		5.2-12.1 mm				4.5-14.2 mm		5.0-12.0 mm	

Table 13. BiFw-6 and Sawdust Bay 2 Sherd Thickness Comparison (Daechsel, 1981).

6.1.2 Lip Form

Sawdust Bay-2 rims were originally analysed through a typology that included both lip form and rim orientation. For the purpose of this thesis, I have broken down the typological data by attribute to better compare to the attributes of BiFw-6. The comparison of lip forms from BiFw-6 and Sawdust Bay-2 is depicted in table 14. Additionally, I have focused only on the Middle Woodland ceramics from BiFw-6 for a more comparable sample with Sawdust Bay. The most prominent lip form in Sawdust Bay was convex/rounded lip (n=25, 81%), whereas the most common lip form among BiFw-6 ceramics were straight lips (n=41, 55%), followed by convex/rounded lips (n=25, 33%). The other variants of lip form occur in low frequencies at both sites.

Lip Form	BiFw-6 No.	BiFw-6 %	Sawdust Bay-2 No.	Sawdust Bay-2 %
Rolled lip	1	1.0	-	-
Straight lip	41	55.0	3	10.0
Square lip	-	-	1	3.0
Convex/Rounded lip	25	33.0	25	81.0
Concave lip	1	1.0	-	-
Complex lip	3	4.0	-	-
Diagonal to profile	2	3.0	1	3.0
Unobservable	2	1.0	-	-
Unknown	-	-	1	3.0

Table 14. Lip Form Comparison of BiFw-6 Middle Woodland and Sawdust Bay-2 (Daechsel, 1981).

6.1.3. Rim Orientation

Rim orientation was similarly compared, and the results are found in table 15. Both sites have a similar variation in rim orientation. However, the most common rim orientations among Sawdust Bay ceramics included slight everted and outflaring (n=9, 29%) and slight everted and extended (n=8, 26%). Comparatively, these same rim orientations only made up 1 and 0 percent of Middle Woodland ceramics in BiFw-6. In contrast, the most common orientations among BiFw-6 were slight outflaring (n=23, 31%) and outflaring (n=19, 25%).

Rim Orientation	BiFw-6 No.	BiFw-6 %	Sawdust Bay-2 No.	Sawdust Bay-2 %
Everted	1	1.0		
Everted and outflaring	16	19.0	-	-
Inverted	1	1.0		
Slight everted	2	2.0	3	10.0
Slight everted, outflaring	2	2.0	9	29.0
Slight everted and extended	-	-	8	26.0
Outflaring	20	24.0	-	-
Slight outflaring	27	33.0	3	10.0
Straight	10	12.0	6	19.0
Straight to slightly outflaring	-	-	1	3.0
Unobservable	4	5.0	-	-
Unknown	-	-	1	3.0

Table 15. Rim Orientation Comparison of BiFw-6 Middle Woodland and Sawdust Bay-2 (Daechsel, 1981).

6.1.4. Surface Treatment

In regard to exterior surface treatment, 100% of Sawdust Bay ceramics had a smoothed surface treatment. In comparison (table 16), only 4% (n=3) of Middle Woodland BiFw-6 ceramics were clearly smoothed. The vast majority of the remaining vessels did not have an exterior surface treatment present (n=72, 96%). However, it is worth noting that the lack of visible surface treatment may be indicative of smoothing.

Surface Treatment	BiFw-6 No.	BiFw-6 %	Sawdust Bay-2 No.	Sawdust Bay-2 %
Cord Malleation	1	1.0	-	-
Smoothed	4	5.0	31	100.0
No Visible Surface Treatment	78	94.0	-	-

Table 16. Exterior Surface Treatment Comparison of BiFw-6 Middle Woodland and Sawdust Bay-2 ceramics (Daechsel, 1981).

Regarding vessel interiors, the most prevalent interior surface treatment for both BiFw-6 and Sawdust Bay was smoothing. A breakdown of the comparison of vessel interiors can be found in table 17. It was determined that both analyses are referring to smoothing in the same way; an even surface that may include visibly striations resulting from smoothing. Seventy percent (n=20) of observable Sawdust Bay ceramics were noted as having smoothed interiors, and 89% (n=74) BiFw-6 Middle Woodland-like vessels had smoothed interiors. In comparison, no BiFw-6 Middle Woodland ceramics had a completely unobservable vessel interior. Brushing was found in both assemblages but made up 23% of Sawdust Bay interiors and only 6% (n=5) of BiFw-6 Middle Woodland-like interiors. Finally, channelling was present in BiFw-6 ceramics (3%, n=4) and was not present in the Sawdust Bay assemblage.

Surface Treatment	BiFw-6 No.	BiFw-6 %	Sawdust Bay-2 No.	Sawdust Bay-2 %
Smoothed	74	89.0	20	70.0
Brushed	5	6.0	6	23.0
Channelling	3	4.0	-	-

Table 17. Interior Surface Treatment Comparison of BiFw-6 Middle Woodland and Sawdust Bay-2 ceramics.

6.1.5 Rim Exterior Tool

Exterior tools on rims were also compared (table 18). As previously discussed, during analysis of BiFw-6 ceramics data was collected on a band-by-band basis. The distribution of Sawdust Bay-2 ceramics were communicated based on the "primary decorative impression" (Daechsel, 1981). Therefore, table 29 has a breakdown of rim exterior tools for the first three bands of decoration on BiFw-6 compared to the singular "primary decorative impressions" which was available in Daechsel's analysis. Rim 1 refers to the first band of decoration on the rim, rim 2 the second band of decoration, and so forth. The most common exterior tool across all Middle Woodland BiFw-6 rim bands of decoration was pseudo-scallop shell. This is comparable to Sawdust Bay which also had pseudo-scallop shell as the most common primary decorative impression tool. The second most common tool on BiFw-6 ceramics was dentate, as it also was with Sawdust Bay 2. In contrast, BiFw-6 has a much larger range of overall exterior decorative impression tools. Notably, the sample size for Sawdust Bay is also significantly smaller than the Middle Woodland sample from BiFw-6.

Exterior Tool	Number of Bands with Tool Present							
	BiFw-6 Rim 1 No.	BiFw-6 Rim 1 %	BiFw-6 Rim 2 No.	BiFw-6 Rim 2 %	BiFw-6 Rim 3 No.	BiFw-6 Rim 3 %	Sawdust Bay-2 Rim No.	Sawdust Bay-2 Rim %
Bosses	-	-	3	4.0	-	-	-	-
Circular Dentate	-	-	1	1.0	-	-	-	-
Complex Dentate	1	1.0	-	-	-	-	1	3.0
Complex Pseudo-Scallop Shell	1	1.0	-	-	-	-	-	-
Cord Wrapped Tool	8	10.0	1	1.0	2	2.0	-	-
Dentate and Linear Stamp	1	1.0	-	-	-	-	-	-
Dentate	12	14.0	3	4.0	-	-	8	26.0
Fingernail	1	1.0	-	-	-	-	-	-
Incising	9	11.0	1	1.0	-	-	-	-
Linear Stamp	5	6.0	1	1.0	-	-	1	3.0
Pseudo-Scallop Shell	35	42.0	8	10.0	2	2.0	21	68.0

Pseudo-Scallop Shell and Dentate	1	1.0	-	-	-	-	-	-
Pseudo-Scallop Shell – Dentate	2	2.0	-	-	-	-	-	-
Undecorated	2	2.0	1	1.0	1	1.0	-	-
Unknown	1	1.0	-	-	-	-	-	-
Unobservable	4	5.0	42	51.0	54	65.0	-	-
Zone Not Present	-	-	22	27.0	24	29.0	-	-
Totals	83	100.0	83	100.0	83	100.0	31	100.0

Table 18. Exterior Tool Comparison of BiFw-6 Middle Woodland-like by Band and Sawdust Bay-2 ceramics.

6.1.6 Lip Tool

When comparing lip tools (table 19), it was found that pseudo-scallop shell was the most prominent tool for both BiFw-6 Middle Woodland ceramics and Sawdust Bay ceramics. As with exterior rims, the sample size as well as the range of decorative tools present was much smaller among Sawdust Bay 2 than BiFw-6.

Exterior Tool	BiFw-6 Lip No.	BiFw-6 Lip %	Sawdust Bay-2 Lip No.	Sawdust Bay-2 Lip %
Complex Dentate	1	1.0	-	-
Cord Wrapped Tool	6	7.0	-	-
Dentate	15	18.0	3	23.0
Dentate overlaid with Incising	1	1.0	-	-
Elongated Dentate	1	1.0		
Linear Stamp	6	7.0	-	-
Pseudo-Scallop Shell	43	52.0	10	77.0
Undecorated	5	6.0	-	-
Unknown	2	2.0	-	-
Unobservable	3	4.0	-	-

Table 19. Exterior Lip Motif Comparison of BiFw-6 Middle Woodland-like and Sawdust Bay-2 ceramics.

6.1.7 Manufacture

As previously mentioned, this comparative analysis only includes the Middle Woodland vessels from BiFw-6 and these ceramics were analysed as vessels. The Sawdust Bay ceramics were analysed by sherd type (rim, body, base, etc.). The most prominent manufacturing method of BiFw-6 Middle Woodland-like vessels was coiling as demonstrated by the presence of coil breaks in 75% (n=62) of these vessels (75% refers to the Middle Woodland assemblage; this makes up 61% of the entire BiFw-6 assemblage). Sawdust Bay-2 ceramics were found to have the following distribution of coil breaks: rims 23%; decorated body sherds 38%; and plain body sherds 27% (Daechsel, 1981). No evidence for another manufacturing method was found in the Sawdust Bay 2 sample, but this does not exclude the possibility that some of the remaining ceramics were made through another method. As has been previously discussed, coiling has been found to be a primary manufacturing technique of Middle Woodland ceramics, which aligns with what has been found in both assemblages (Kennedy, 1970; Wright, 1967a).

6.1.8 Summary

The ceramic assemblage of Sawdust Bay-2 is made up of a predominance of pseudo-scallop shell impressions, convex/rounded lips, coil manufacturing, and smoothed exteriors. In comparison, BiFw-6 Middle Woodland ceramics display a broader breadth of exterior decorative motifs, however there is a predominance of pseudo-scallop shell. The majority of BiFw-6 ceramics do not display exterior surface treatment and there is also a larger variety of lip forms and rim orientations among BiFw-6 ceramics. However, as previously discussed, the lack of exterior surface treatment is likely due to the complex decoration present and is likely that the decoration covered smoothed surfaces. Both assemblages displayed a predominance of smoothed interior surface treatment, but channelling was only found in BiFw-6 ceramics. Finally, both assemblages contain the similarity of being predominately coil manufactured, as is typical of Middle Woodland ceramics. It is likely that both assemblages were influenced by the Point Peninsula ceramic tradition, but there appears to be some ceramic styles that are individual to Leamy Lake occurring in the BiFw-6 Middle Woodland assemblage.

6.2 Pointe-du-Buisson: Hector-Trudel and Station 4

Pointe-du-Buisson is a small area which extends into Lake St. Louis, QC at the convergence of the St. Lawrence River and Ottawa River. It is the location of seventeen known pre-contact archaeological sites, spanning approximately 5000 years (Gates St-Pierre, 2001; Gates St-Pierre & Chapdelaine, 2013). Two of the aforementioned sites are Hector-Trudel, originally excavated by Norman Clermont (1983), and Station 4, originally studied by Clermont and Chapdelaine (1982). The assemblages from these sites were further examined by Gates St-Pierre (2001) for the purposes of understanding the Melocheville tradition.

6.2.1 Assemblage Details

Similar to BiFw-6, both Hector-Trudel and Station 4 are both multi-component sites which were most extensively occupied during the Middle Woodland period. Their assemblages are hypothesized by Gates St-Pierre to be strong examples of the Melocheville ceramic tradition. The Hector-Trudel ceramic assemblage is made up of 1851 vessels found through the mending of 2127 rim sherds which measured more than 7 cm squared. The Station 4 assemblage includes 978 vessels, but this assemblage did not include systematic mending. Both sites' assemblages also include thousands of body sherds, as well as hundreds of sherds from believed to be juvenile pots (Gates St-Pierre, 2001). In contrast, the BiFw-6 assemblage is made up of 101 vessels from 271 rim sherds, and 83 of those 101 were determined to relate to the Middle Woodland-like periods. For the purpose of this analysis, only the BiFw-6 Middle Woodland-like ceramics will be used to compare to the Hector-Trudel and Station 4 assemblages.

6.2.2 Morphological Comparisons

A variety of Gate St-Pierre's data is described qualitatively, rather than providing specific numbers. Therefore, some comparisons between the assemblages does not include comparable numerical data. Vessels within the Hector-Trudel predominately have coil breaks, suggesting coil manufacturing as a main ceramic manufacture method on the site. Station 4 ceramics were found to be very similar to Hector-Trudel (Gates St-Pierre, 2001). This is comparable to BiFw-6, as 75% of BiFw-6 Middle Woodland-like vessels were noted as containing coil breaks. As with Hector-Trudel and Station 4, it is highly likely that coiling was the main ceramic manufacturing technique used on site, particularly during the Middle Woodland period.

Gates St-Pierre notes that the majority of Hector-Trudel ceramics were found to have a smoothed exterior surface treatment, however an exact figure was not provided. Only 2% of Hector-Trudel vessels include evidence of cord-malleated or paddled surface treatment. Additionally, 13% of vessels were channelled, particularly on the interior surface of the vessel. Station 4 was noted as being similar enough to Hector-Trudel that specifics were not provided (2001).

In comparison, only 5% (n=4) of BiFw-6's Middle Woodland-like ceramics have a clearly smoothed exterior and 1% (n=1) are cord malleated; the remainder do not have an exterior surface treatment, or at least a surface treatment could not be found on the sherds present. As previously mentioned, this anomaly may be impacted by the extensive exterior decorations on BiFw-6 Middle Woodland-like ceramics. Regarding interior surface treatment, 90% (n=75) of BiFw-6 Middle Woodland vessels were found to have smoothed interiors. However, other interior surface treatments were noted, including brushing (6%, n=5) and channelling (4%, n=3).

In regard to other morphological attributes, Hector-Trudel vessels are described by Gates St-Pierre as,

> straight or slightly everted rims and very slightly constricted necks, rounded shoulders, sub-globular and conical or sometimes rounded bases. The lips can be either round or flat, and castellations are present on less than 2% of the vases. Half of the vases are collared, collars which can take many different forms, but which are unusually thin. Finally, the collars are not only thin but also quite short generally, with a mean height of less than 2 cm (Gates St-Pierre, 2001, p. 51).

Station 4 is noted again as only having minor differences compared to the Hector-Trudel assemblage. However, one of these differences includes a slightly lower frequency of collars and punctations. Gates St. Pierre suggests the cause for this difference is that Station 4 may have been occupied for a shorter time frame at the end of the late Middle Woodland, while Hector-Trudel was occupied for the entirety of the late Middle Woodland (2001). In contrast to the Hector-Trudel assemblage, no BiFw-6 Middle Woodland-like ceramics had a developed collar. Rather, only 5% (n=4) had incipient collars and 77% (n=64) did not have a collar at all.

Developed collars in BiFw-6 ceramics appears to be solely a Late Woodland trait. The presence of collars within Hector-Trudel and Station 4 may speak to the late Middle Woodland period of these assemblages.

Gates St-Pierre notes that less than 2% of Hector-Trudel ceramics have castellations present and lips were either round or flat (2001). This is similar to the BiFw-6 assemblage, as castellations are an attribute which appears very infrequently among these ceramics; only two vessels appear to have castellations, one of those being a Middle Woodland vessel with poorly developed castellations and the other being a Late Late Woodland vessel. Regarding lip forms, BiFw-6's Middle Woodland-like vessel lips have a variety of forms, with the most common being straight lips (52%, n=43) and convex (33%, n=27). Additionally, within the BiFw-6 assemblage there are very few diagnostic neck and shoulder sherds, so comparison of morphological attributes for these vessel landmarks between the assemblages is very difficult to determine.

6.2.3 Decorative Comparisons

As previously mentioned, Gates St-Pierre did not provide quantitative data for all attributes within the Hector-Trudel and Station 4 ceramics in his overview. Therefore, it was not always possible to draw comparisons between quantitative data in this section. Similar to BiFw-6, vessels from Hector-Trudel and Station 4 contain a significant variety of decorative tools, techniques, and motifs. Regarding tool usage on Hector-Trudel ceramics, large cord-wrapped tool impressions were found on approximately one third of vessels. Dentate stamping made up another one third, and the final third of ceramics were either undecorated or decorated with other tools, such as linear stamp (Gates St-Pierre, 2001). Stamping was the most common technique, and much rarer techniques include push-pull, rocker stamping, and incising. A total of 94% of Hector-Trudel vessels had decoration present on the exterior surface; 73% had decorated lips, but decoration was less common on interiors of vessels (14%). Gates St-Pierre also notes "two or more different tools can be applied on the same ceramic vessel, but cord-wrapped stick and dentate stamping never occur together on the same vase; they are contemporaneous but seem to be mutually exclusive" (2001, pp. 57). Additionally, 75% to 85% of Melocheville vessels include small circular punctuates at the base of the collar which produce bosses on the interior of the vessel (Gates St-Pierre & Chapdelaine, 2013).

While BiFw-6 Middle Woodland-like ceramics include a variety of decorative tools, techniques, and motifs, there are some which appear more frequently than others. In contrast to Hector-Trudel and Station 4, the most common tool on BiFw-6 Middle Woodland-like exterior rims is pseudo-scallop shell, which makes up 42% (n=35) of exterior rim zone/band 1 and 10% (n=8) of exterior rim zone/band 2. The second most frequent decorative tools are dentate and incising making up 14% (n=12) and 11% (n=9) of exterior rim zone/band 1 respectively. While there are a smaller number of necks present in this assemblage, what does exist also shows a prevalence of pseudo-scallop shell.

Similar to the other assemblages, stamping is the most frequent decorative technique (70%, n=58) on exterior rims at BiFW-6. Other less frequent techniques include incising (11%, n=9), rocker stamping (4%, n=3), and dragged stamping (1%, n=1). Additionally, in contrast to Hector-Trudel and Station 4, three BiFw-6 Middle Woodland-like vessels have cord-wrapped tool and dentate occurring together; two on the interior rim and one on the exterior shoulder. Unlike with the Melocheville assemblages, while they are used less frequently than others, these tools are not mutually exclusive. Again, the contrast in decorative attributes between these assemblages speaks to their association with different parts of the Middle Woodland period; BiFw-6 is primarily an early Middle Woodland assemblage whereas the Melocheville assemblages of Hector-Trudel and Station 4 are late Middle Woodland.

6.2.4 Summary

Overall, if one were to suggest a ceramic tradition which most heavily influenced BiFw-6's Middle Woodland ceramics it would likely be the Point Peninsula tradition or perhaps the Laurel ceramic tradition. While it appears the BiFw-6 Middle Woodland assemblage and the Melocheville ceramic tradition assemblages both show a prevalence for coil manufacturing (as is typical for the Middle Woodland period) and being rarely castellated, there are a variety of differences in morphological and decorative traits. From the analysis, it appears that the majority of the BiFw-6 collection is primarily early Middle Woodland, and influenced by the Point Peninsula and Laurel ceramic traditions. In contrast, the Melocheville tradition at Hector-Trudel and Station 4 is characterized as a late Middle Woodland tradition and is more comparable to Transitional Woodland ceramic traditions such as Princess Point.

6.3 Petawawa Small Sites

Within the Petawawa River Valley, a large drainage system within eastern Algonquin Provincial Park, Ontario there are thirteen small multi-component archaeological sites (Mitchell et al., 1970). These sites are less than 200km from Leamy Lake Park and are connected by the Ottawa River and tributaries within the Petawawa River Valley. For the purpose of this thesis, only one of the thirteen have been included in this comparison as it had the most available information.

6.3.1 The Montgomery Lake 2 Site (M2)

Located on the south shore of Montgomery Lake, the Montgomery Lake 2 Site is a multi-component archaeological site with ceramics predominately associated with the Middle Woodland period, although it also includes Archaic material and "Iroquoian" (Late Woodland) sherds. There are also artifacts associated with the post-contact period. The assemblage is made up of nine rim sherds and 36 body sherds making up six vessels: five Middle Woodland and one "Iroquois". The ceramics are only described by decorative tool and motif, and descriptions of morphological traits are absent. Therefore, a comparison of the majority of morphological traits between assemblages could not be undertaken (Mitchell et al., 1970).

The Middle Woodland ceramics include a variety of techniques; one vessel includes dentate stamp, one vessel is plain, one vessel included both pseudo-scallop shell and dragged stamp, one vessel includes rocker stamp, and the final vessel includes pseudo-scallop shell. Exterior motifs include obliques above horizontals above obliques, horizontal rows of criss-crosses above wide vertical columns with bosses created by internal punctuates, horizontal bands of verticals, and finally horizontal bands of criss-crosses. Interior surface treatments include uneven horizontal wiping impressions, exfoliation, and horizontal channelling. Lip forms are described as being mildly everted, round to flat, and outflared. No description for manufacturing technique is provided. Mitchell et al. note that these vessels were identified by Dr. W. C. Noble as being of the Laurel ceramic tradition (1970). The Late Woodland vessel is described as corresponding to the Ontario Horizontal type, and specific details regarding this vessel's morphological or decorative traits are not provided.

In comparison, the BiFw-6 assemblage similarly contains a variety of decorative tools and motifs. As with the Montgomery Lake 2 site (although it is a much smaller sample), pseudo-scallop shell is the most predominant tool among BiFw-6 Middle Woodland-like ceramics. Additionally, the Montgomery Lake 2 Middle Woodland motifs are similar to that of BiFw-6, as horizontal bands of verticals, crosshatching (referred to as criss-cross by Mitchell et al., 1970), and horizontals above obliques do occur in the assemblage, albeit they are not the most common motifs. The BiFw-6 Middle Woodland assemblage is likely influenced by the Laurel cultural tradition and therefore it is logical that these two assemblages would share similarities.

6.4 Regional and Cultural Context Discussion

The comparison of ceramic assemblages from BiFw-6 with other archaeological sites in the surrounding region provides valuable insights into the positioning of the site within the broader archaeological landscape. Through analysis and comparison, both similarities and differences are clear, shedding light on the unique characteristics of BiFw-6's ceramic assemblage.

While comparisons with the ceramics of Hector-Trudel and Station 4 at Pointe-du-Buisson highlighted commonalities in manufacturing methods, there appears to be a number of differences in morphological attributes and decorative styles. This is reflective of BiFw-6's association with the early Middle Woodland period, and the influence of the Point Peninsula and Laurel ceramic traditions. In comparison, the Melocheville ceramic tradition is primarily late Middle Woodland, and appears to be influenced by and more comparable to Transitional Woodland ceramic traditions such as Princess Point.

The examination of ceramics from Sawdust Bay-2 revealed notable similarities with BiFw-6, however, distinct differences were also apparent, notably the variety of exterior decorative motifs and surface treatments present in BiFw-6. Therefore, while one can clearly see that both BiFw-6 and Sawdust Bay-2 are both influenced by the Point Peninsula tradition, one cannot definitively attribute BiFw-6 to Daechsel's Ottawa Valley Phase.

Additionally, while it does appear that influences on the BiFw-6 ceramic tradition came from the north, west, and east, the data analysis indicates there may also have been the

emergence of a stylistic tradition specific to BiFw-6. Laliberté's interlocking Kabeshinàn type and Kabeshinàn serrated type suggest a distinct ceramic tradition occurring at BiFw-6.

Overall, through an examination of the ceramic assemblage at BiFw-6 and comparisons with other regional archaeological assemblages, one can see evidence of interactions between cultural and ceramic traditions. The presence of similar decorative elements across sites suggests the circulation of ideas, aesthetic preferences, and meaning within the region. However, the presence of variations and unique motifs at BiFw-6 also suggests the emergence of distinct artistic expressions and local traditions within the Kabeshinàn community.

The diversity of morphological traits and decorative styles, as well as the long-lived nature of the use of BiFw-6 indicates a dynamic process of tradition-making and innovation. While some elements may reflect adherence to broader cultural traditions, such as Point Peninsula or Laurel, others may signify localized adaptations or innovations shaped by specific social, environmental, and/or historic contexts which are unique to BiFw-6 and Leamy Lake Park. This suggests that communities at BiFw-6 actively engaged in the creation and negotiation of their cultural identities through ceramic production, incorporating both external influences and local innovations into their material culture.

Overall, the evidence of cultural exchange and tradition making at BiFw-6 underscores the complexity and richness of the archaeological record. By examining ceramic assemblages within the broader regional context, we gain valuable insights into the diverse array of cultural practices, interactions, and dynamics shaping the archaeological landscape. Further research into the social, economic, and environmental factors influencing these patterns of cultural exchange and tradition making is crucial for a comprehensive understanding of the past peoples who lived at BiFw-6 and Leamy Lake Park.

6.5 BiFw-6 as a Persistent Place

Persistent places are defined as locations that are used repeatedly over the long-term occupation of a region (Schlanger, 1992, p. 92). These sites gain and maintain significance

through repeated human activity, with the ongoing presence of cultural materials reinforcing their importance over time (Schlanger, 1992).

BiFw-6 clearly served as a persistent place within a broader cultural landscape. While such places do not necessarily require permanent cultural features and are not solely determined by environmental factors, the environment's role at BiFw-6 is undeniable. The site's strategic location at the confluence of three major rivers—the Ottawa, Rideau, and Gatineau—made it an ideal stop for pre-contact Indigenous peoples traveling through the area. These rivers and their tributaries provided vital access to travel and trade routes throughout much of eastern North America, benefiting both pre- and post-contact Indigenous peoples, as well as European explorers, missionaries, traders, and settlers. Additionally, Leamy Lake Park's position between the Deschênes and Remic Rapids made it a logical stopping point during journeys. The archaeological record reveals significant occupation during the Middle Woodland period, with continued, though lesser, activity in the Late Woodland period. Even after contact, the site maintained its importance, serving both Indigenous peoples and settlers, and today it remains significant for recreational and archaeological purposes.

BiFw-6's strategic location within the unique geographic features of Leamy Lake Park and the greater National Capital Region provides compelling evidence of its role as a persistent place. Yet, the persistence of BiFw-6 is not solely defined by geography and environmental conditions. The cultural and historical significance of the area, as evidenced by a robust archaeological record and the presence of sacred sites and known ceremonial practices within the larger landscape, also plays a critical role in establishing BiFw-6 as a persistent place. This multifaceted understanding challenges the notion that geographic and environmental factors alone define a place's significance. Instead, it emphasizes the broader cultural and historical contexts that interact with these physical factors to create a place of lasting importance.

The concept of community, as articulated by Kolb and Snead (1997), underscores the importance of social reproduction and self-identification in understanding the significance of such places. The activities associated with BiFw-6—whether related to trade, social interaction, or ritual—played a crucial role in the negotiation of social identities and collective memory

within the community. These routinized practices, along with the production of material culture, contributed to the establishment and maintenance of BiFw-6 as a place of significance.

Moreover, Pauketat's (2001) idea of tradition is integral to understanding the persistence of BiFw-6. Tradition, seen as practices brought from the past to the present, is not a passive process but an active negotiation of social factors and identities. The material culture found at BiFw-6 is not merely a reflection of these traditions but a key element in their formation and perpetuation. This perspective allows us to view the repeated return to BiFw-6 and the creation of material culture there as actions filled with agency, informed by both tradition and the broader cultural landscape.

Nieves's (2015) notion of mobility as agency further enhances our understanding of BiFw-6 as a persistent place. The repeated return to this site by various groups was not simply a response to environmental stimuli but an active choice, indicative of the site's significance to these communities. This perspective aligns with the idea that animate subjects, including humans, do not exist in a passive state but engage in active relationships with their environment and each other, shaping the past, present, and future.

This understanding of persistence is further enriched by considering the theoretical framework of language, memory, and place-making. Wiley's (2008) concept of time perspectivism and collective memory suggests that memories, passed down through generations, can inform the knowledge of returning to certain places over long periods. Memory, closely tied to oral history and language, offers a nuanced understanding of the archaeological record. In the case of BiFw-7, the name "Kabeshinàn," used by local Algonquin First Nations communities, translates to "meeting place," "camping grounds," or "summer camp" in English. These translations hint at the diverse activities and functions associated with the site, enriching our understanding of its archaeological and cultural significance.

Moreover, Tilley (1994) and Basso (1996) emphasize the importance of names in landscape archaeology and place-making. The name "Kabeshinàn" transforms BiFw-6 from a mere physical location into a site imbued with social and cultural value. It serves as a reminder of the social interactions, gatherings, and cultural exchanges that have occurred there over time. Basso's concept of place-making highlights how places are not static but are continually

constructed and reconstructed through historical imagination. This perspective allows us to see BiFw-6 not just as an archaeological site but as a dynamic space that has played a significant role in shaping the identities of its inhabitants.

By integrating the Western Apache concept of place-making with the theory of persistent place, we gain a deeper understanding of how BiFw-6 exists as both a constant and an ever-changing space that impacts the identities of those who interacted with it. The name "Kabeshinàn" itself is a testament to the site's enduring significance, encapsulating its role as a place of gathering and cultural exchange. This name, along with the material culture and spatial features of the site, contributes to its persistent importance within the cultural landscape.

In sum, BiFw-6 exemplifies the intricate connections between agency, language, memory, and place. The linguistic connection through the name "Kabeshinàn links the site to the preserving of collective memories and cultural knowledge, allowing us to delve deeper into the site's significance. Overall, this multifaceted understanding of BiFw-6 emphasizes the broader cultural and historical contexts that interact with physical factors to create a place of lasting importance.

6.6 Future Directions

Moving forward there are promising avenues for research that can deepen our understanding of the cultural dynamics at the BiFw-6 site and its broader regional context. One such direction involves expanding the scope of analysis of the BiFw-6 site to include lithic artifacts. Lithic analysis offers a complementary perspective to ceramic studies, providing insights into technological practices, tradition making, and patterns of cultural interaction. Conducting lithic analysis of the BiFw-6 assemblage would enhance our understanding of cultural change over time by examining shifts in lithic tool typologies, raw material procurement strategies, and manufacturing techniques.

Moreover, analysing lithic raw materials can offer valuable insights into patterns of cultural exchange, trade, and interaction. By sourcing and characterizing lithic materials, researchers can trace the movement of raw materials across different regions, identifying networks of trade or exchange and exploring the extent of intercommunity connections. This

approach can provide a more comprehensive understanding of the socio-economic networks and cultural landscapes within which the BiFw-6 community was situated.

Additionally, comprehensive analysis of ceramic assemblages from other Leamy Lake sites holds considerable potential for advancing our understanding of regional cultural dynamics. By examining ceramics from neighbouring sites within the Leamy Lake Park area, we can assess the degree of cultural continuity or variation across different settlement locations. Comparisons of ceramic assemblages can provide insight into patterns of site interaction, social organization, and cultural affiliation, providing insight into whether the same or different group(s) inhabited multiple sites. Furthermore, comparative studies of ceramics from other Leamy Lake sites can help discern if there was a shared ceramic tradition among these settlements. By identifying commonalities and differences in ceramic styles, motifs, and technological attributes, we can better understand the cultural identity, transmission, and distinct tradition making associated with the Leamy Lake archaeological landscape.

In addition to lithic and ceramic analyses, future research endeavours could greatly benefit from thorough analysis of floral and faunal remains at BiFw-6 and other Leamy Lake sites. Exploring the botanical remains could provide valuable insights into past environments and subsistence practices. This would be particularly intriguing given the continuous occupation of BiFw-6 from the Middle Woodland through to the Contact period. Notably, the transition from the Middle to Late Woodland period saw the emergence of maize agriculture (Fox, 1990). Investigating whether there is evidence of agricultural activity at BiFw-6 or other Leamy Lake sites would add an exciting dimension to future research which may add to our understanding of the habitation of the site. Moreover, floral analysis can contribute to our understanding of trade networks, cultural exchange, and the diffusion of plant species across different regions.

Faunal analysis additionally holds potential for shedding light on subsistence strategies, resource exploitation patterns, and environmental interactions of past inhabitants. The examination of faunal material may provide insight into the diets and hunting practices of the Kabeshinàn community, as well as the cultural significance of certain species, and the utilization of animal resources for non-dietary purposes such as toolmaking. Such investigations can

provide clarity into human-animal relationships and the relationship between the peoples there and the broader landscape.

Additionally, conducting analyses of historic artifacts, particularly those dating to the Contact and Historic period, can provide insight into the later use of the area and its role in broader historical contexts. Exploring artifacts from the Contact period could offer information on the interactions between Indigenous peoples and European settlers, the emergence of new material culture traditions, and the impacts of colonialism on Indigenous lifeways and cultural practices at BiFw-6 and Leamy Lake. Notably, the study of historic artifacts from the fur trade could speak to the economic, social, and cultural dynamics of this period, including the role of Indigenous peoples as active participants in the fur trade network, the exchange of goods and ideas between Indigenous peoples and European settlers/traders, and the transformation of local landscapes in response to changing economic activities.

Finally, a beneficial avenue for future research would also include ethnographic studies with the local First Nation communities, notably the Algonquins of Pikwakanagan and Kitigan Zibi, to better understand their historic and continued connection to the site. This approach would allow one to gain insights directly from Indigenous communities who have maintained cultural ties to the area over generations and would provide a unique and critical perspective towards understanding the site's persistence. By incorporating traditional knowledge, oral histories, and contemporary cultural practices, ethnographic research could significantly deepen our understanding of the BiFw-6 site as a persistence place, revealing layers of meaning that archaeological data and analysis alone might not uncover.

In summary, research at BiFw-6 and the surrounding Leamy Lake area provides promising avenues for deepening our understanding of cultural dynamics and broader regional contexts. Future directions of research include, but are not limited to, the analysis of lithics, floral and faunal remains, Contact/Historic period artifacts, and ethnographic studies. These analyses would provide insight into trade, technological practices, tradition-making, subsistence strategies, the relationship between Indigenous peoples and the environment, later site use, and broader historical dynamics. Overall, these approaches offer rich opportunities for better

understanding the nuanced complexities of the peoples who occupied Leamy Lake Park and their interactions.

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Appendices

Appendix A: Features

This appendix provides an in-depth overview of the anthropogenic features at BiFw-6. The content is derived exclusively from field reports and visual figures from the original excavation; thus, subjectivity is inherent. While the author of this thesis endeavoured to maintain accuracy and clarity, it is acknowledged that discrepancies may exist.

Area A Features

Feature 1a[6]

A patch of charcoal with reddened soil, fire-cracked rocks, calcined bones, and spots of orange soil was found on the surface of C200 in the south-western end of area A. It was originally noted that the possibility of the feature originating from natural phenomenon could not be ruled out, but later analysis determined it was likely a hearth (Laliberté, 2001; Laliberté et al., 1998). Near the feature itself a large piece of sandstone was found, which was interpreted as likely being used for food preparation or cooking (Laliberté, 2001).

Feature 2a

Found in layer 20 in the 52N 61-62W unit and continuing into 51N 61W unit, feature 2a consists of a small mound of rusty brown soil which spread around a semicircle of orange to brick red reddened soil. The stain penetrated onto the C300 layer surface for about 4cm and was determined to be a hearth. On the edge of the brown soil there was also very dark brown soil stained with orange. Charcoal and ochre were also found scattered throughout the stain. Concentrations of sandstone stones were scattered around the feature, in groups of two or more (Laliberté et al., 1998).

[6] In the yearly field reports from excavations, it appears that some features were given the same number despite being different features located in separate areas of the site. For the purpose of this thesis and for clarity, I have referred to the duplicated feature numbers with additional letters (I.e., 5a, 5b, 67a, 67b.)

To the southwest of the hearth, numerous lithics, including anvils, hammerstones, lithics, and debitage were found. More sandstone flakes and used pebbles, possibly used as polishers, were found about one metre to the south of the feature. Ceramic sherds similar to others found in layer C200 were found to the northeast of the hearth. Immediately north of stain numerous charred bones were found. North of the 51N line many calcined bones were strewn throughout. Bones found in the C100 and C200 levels in 51-52N 61W, 52N 60W, and 50N 61W also appeared to be associated with the hearth. The fact that the bones were so spread was taken to indicate possible disturbance of the hearth, likely by flooding. Twenty centimetres to the northeast of the stain, a basin filled very dark brown sandy soil and lined with blackish clay soil was found. One concentration of stones was within the small basin. A suggested hypothesis for this was an emptying area for the hearth. Additionally, a number of glass beads dated to the 17th-18th century were found in association with this feature (Laliberté et al., 1998).

Feature 4a

Feature 4a was located in 54-55N 48-49W and was found in alignment with the Middle Woodland dwelling secondary hearths and appeared to be a hearth itself. It contained an orange-coloured soil matrix, with broken bones, and charcoal. However, unlike the other secondary hearths, no basin was found beneath the feature and there was evidence of mixed sediments around the feature. This information led the excavating team to be unable to associate feature 4a with the dwelling in layer C30 with certainty (Laliberté, 2002b).

Features 5a and 8a

Also located in area A in the 51N 54-52W section, features 5 and 8a were recorded in the interface of layers C300 and C400. Feature 5a consisted of a lens of orange-yellow silt, which contained a significant number of cut stone and ceramic sherds. Calcined bone and fire-cracked rock were found intermingled in the lens, which overlayed a thinner lens of dark

brown sandy silt in the eastern part of the excavation area, recorded as feature 8. Similar to feature 4, traces of red ochre where also found in the soil. It was hypothesized that these features were part of a dwelling floor that possibly could also include features 7a and 9 (Laliberté et al., 1997a).

Feature 8b

Located in 53N 62W at the interface of C200 and C300, feature 8b included a circular patch of blackish-brown soil approximately 5cm thick. Some lithic flakes were found to the west of the feature and two small stones were found on the south side. A significant number of bones were found within and around the feature. This feature was interpreted to possibly be a cooking area/hearth or an area to dispose of waste (Laliberté, 2004b)

Feature 9 (Figure 7)

Feature 9 was located in 51-52N 64-65W and was determined to be a hearth, based on reddened soil and was noted as likely being built similarly to feature 15b. Fire-cracked rocks were found in association with this hearth, but the arrangement suggested the rocks were used to heat water within ceramic vessels rather than forming the hearth itself (Laliberté, 2004b).

Feature 13

In the 51N 58W unit within area A it was found that the C300 and C400 areas were not distinguished. Feature 13 was found within this combined C300-400 layer and was determined to be approximately at the same depth of feature 5. While not originally believed to be anthropogenic in nature, the existence of an area of pinkish coloured soil which appeared to have been heated suggested the possibility of a hearth. At the same depth of the stain, several ceramic sherds were discovered around the feature which appeared to be much older than those in upper layers. While no fire-cracked rock, calcined bone, or charcoal were found, the feature was tentatively determined to be a hearth (Laliberté et al., 1997a).

Feature 15b

Located in 52N 62-63W at layers C30-C400 15b consisted of a basin a few centimetres deep. Rubefaction was not found but the presence of fire-cracked rocks and bones were taken to indicate this feature's function as a hearth (Laliberté, 2004b).

Feature 18

Feature 18, located in 52N 103-104W, was found to be very similar to feature 15 despite being located in a different part of the site. Also within the C30 layer, this feature was also determined to be a hearth which took the shape of a small mound of loamy soil overlayed with a layer of brownish soil which contained charcoal, bones, lithics, and ceramic remains (Laliberté, 2001). Additionally, a bowl-shaped pit was found associated with the feature in the western area of the trench. No artifacts or ecofacts were clearly associated with the pit but approximately sixty bones, a dozen lithic fragments, several dozen ceramic sherds, and two heat reddened stones were found within the previously mentioned soil mound (Laliberté, 2001).

Feature 21 (Figure 52)

Feature 21 was located in the 51N 59W unit within area A in the C200 layer (figure 50). A large number of calcined bones and charcoal was discovered at the bottom of the C100 layer and throughout the C200 layer. Traces of soil reddening were found at the surface of C300, which was hypothesized to indicate the core of the hearth matrix. It was further hypothesized by excavators that the small hearth was built in "the form of a small mound of earth, built directly on the ground, without any peripheral arrangement to stabilize the contents or prevent the scattering of ashes" (Laliberté et al., 1997a, p. 18).

Feature 22 (Figure 54)

Located at the base of the C200 layer in the centre of unit 51N 63W, an open hearth was located and noted as feature 22. This feature consisted of a small area of orange-brown to chocolate-brown soil which contained a number of calcined bones. More calcined bone and charcoal were also found in the area surrounding the feature, suggesting that the feature may have been washed away by flooding. A few glass beads dated to the 17-18th century were found in association with the feature (Laliberté et al., 1998). Additionally, a number of large ceramic fragments were excavated for layer 20 in 51N 62-64W, which were categorized at the time as a Huron style pot. The excavating team were able to successfully partially reconstruct this vessel (Laliberté et al., 1998).

Features 22 and 21 were found only 2.5 metres apart and were both found at the base of the C200 layer and on the surface of C300, suggesting that they may have both been part of a

single multi-family dwelling (Laliberté et al., 1997a). Feature 22 also appeared to be associated with feature 2, suggesting that they may have occurred at the same time (Laliberté et al., 1998).

Features 25 and 26 (Figures 7 and 55)

Found at the top of the C400 layer, feature 25 consisted of a rectangular raised area of red sandy silt which was surrounded by a small area of yellow sand. The presence of reddened soil, ochre, charcoal, and a number of calcined bones suggested that this feature was a hearth. Stones were found at the edge of the surrounding yellow sand, and more at a farther distance. The stones closer to the feature were found to have evidence of heating on only one side, which was taken to indicate they were either supported on the rim of the hearth or were used to support a wooden frame (Laliberté et al., 1997a).

Feature 26 was found to be the floor of a dwelling surrounding the hearth. This feature was made up of a layer of dark brown soil, containing some pebbles. A large number of cut stones, ceramics, calcined bone, charcoal, and traces of ochre were also found in association with the feature. The soil making up feature 26 was homogenous enough that the excavating team concluded this was a single dwelling. Also, throughout this layer were patches of black-ish brown greasy textured soil, pinkish patches, and areas flecked with yellow and brown were found. However, it was not definitively determined if these colour differences were anthropogenic or natural in nature (Laliberté et al., 1997a).

Feature 41 (Figure 56)

Feature 41 consists of pile of stones at the base of the C200 layer found in the 51N 67-69W section. Several of these stones appear to have been arranged in a circle around a large concentration of calcined bone in the western part of the excavation area. Another pile of stones was found in the central part of the excavation area and calcined bones were also found close to this feature. The excavating team originally hypothesized that these could be two separate hearths or one larger hearth that was partly dismantled. Their uncertainty derived from also finding traces of disturbance, including slightly decomposed pieces of wood and a metal rod in this area of the C200 layer. Due to this, it is more likely that the stones and debris were moved to this location when driven into the ground by a bulldozer during the historic period. This area is

known to be the former location of 20th century cottages and other buildings which were removed by bulldozer (Laliberté et al., 1997a).

Feature 42 (Figures 6 and 57)

Feature 42 was also found at the base of the C200 layer but this area did not appear to be affected by the previously mentioned disturbance. This feature consisted of a bowl-shaped pit of greyish ashy soil which contained more than 600 bone fragments but no stone. Reddened soil was found at the base of the pit extending into the C300 layer, which were taken to indicate a combustion area from a hearth or culinary waste burning area (Laliberté, 2001; Laliberté et al., 1997a). Additionally, a layer of "charcoally" soil mixed with bone was found extending over feature 42 for four square metres. The feature's location within the stratigraphy, as well as some historic period artifacts such as shards of bottle glass and a kaolin pipe fragment was interpreted to date the feature to the 18th century (Laliberté, 2001).

Features 49 and 50 (Figure 58)

Found on the surface of the C400 layer directly below features 43 and 45, features 49 and 50 consisted of two patches of heterogenous silty and sandy soil which was speckled with dark to light brown, and mixed with charcoal. Lithic fragments and ceramics were found within these patches. The nature of the features are uncertain, but the excavating team believed that they could have been the floor of an older occupation layer that was disturbed by the creation of the features above it (Laliberté et al., 1997a).

Features 60, 61, and 62 (Figure 59)

Feature 60 was found on the surface of the 201 layer in the northeast corner of the 51N 72-74W section of the site. Determined to be a hearth, it consisted of some stones surrounded by charcoal, a number of calcined bones, some bones that appeared to be fresher, and ceramic sherds associated with the contact period. The stratigraphy also suggested that feature 60 was slightly younger than features 61 and 62. Features 61 and 62 consisted of areas of dark brown mottled grey sandy silt which contained charcoal and some fresh bone. No cultural artifacts were found within them but the features were found to indicate organic enrichment which may have been caused by human activity such as the dumping of animal remains (Laliberté et al., 1997a).

Feature 66a (Figure 60)

Feature 66a was found between layers C200 and C300 on the southern side of the 51N 72-74W section. This feature was perhaps contemporary with features 61 and 62 and consisted of a thin area of greyish sandy silt that was mottled with brown and rust coloured sand, and contained a significant amount of charcoal, fresh bones, some lithic flakes, a wedge-like lithic, and some fire-cracked rocks. All of this was determined to suggest the feature's existence as a hearth or an area in which animal remains were prepared for consumption (Laliberté et al., 1997a).

Features 65, 67a, and 68a (Figure 61)

Found to the east of feature 66a, features 65 and 67a were located at the interface of C300 and C400 and determined to be a hearth. The hearth consisted of two distinct soil layers (which were designated as two different feature numbers), whose profile could be seen nicely in the stratigraphy. The upper layer (65) consisted of rust-coloured sandy silt which contained a significant amount of calcined bone, charcoal, pottery fragments, ochre granules, and some lithics and debitage. The lower layer (67a) was less homogenous and consisted of yellow silty sand mixed with brownish clayed silt with patches of sand penetrating from the C400 layer below. While not as rich in artifacts as the above layer, it contained charcoal, pottery sherds, calcined bone, lithic flakes, red ochre, and a piece of mica. A layer of brown clayey silt was found in the eastern half of the excavation area and was determined to be a dwelling floor (feature 68a). This layer contained a significant number of charcoal, calcined bones, and fire-cracked rocks (Laliberté et al., 1997a).

Area B Features

Feature 1b

While further excavating features 9 and 44 which were both believed to be part of the same Middle Woodland dwelling, the excavating team encountered feature 1b. Located in the C35 occupation layer with C300, this 1 m by 1 m hearth was found to be aligned with hearths 9 and 44. The rusty brown matrix making up this feature included a number of bone remains and

charcoal. Beneath this matrix very pronounced rubefaction was found, further confirming this feature's association with the other two previously mentioned hearths (Laliberté, 2002b).

Feature 2b

Feature 2b was found within 50-51N 48-50W within the C30 and C35 layers, immediately to the east of feature 44. This feature was noted as resembling the hearths that made up features 44, 9, and 1b in size and components. However, it is not in alignment with the previously mentioned features and areas of dark brown clayey sediment from layer C30 mixed with rubefaction led the excavating team to believe it was built after the dwelling associated with features 44, 9, and 1b (Laliberté, 2002b).

Feature 3b

Adding to the stratigraphic complexity of the site, feature 3b was found beneath feature 2b. Determined to be anthropogenic, this feature consisted of two pits within the vicinity of feature 44. The first pit was approximately 10 cm deep, 1.4 metres long, and forty centimetres wide. The second pit was smaller, except for its depth; this pit was approximately 14 cm deep and located at the northern end of the first pit. This feature was disturbed by the overlaying 2b feature and so the excavating team could not determine based on stratigraphy if it was contemporary to or older than the dwelling noted in the above layer. However, ceramics excavated from feature 3b suggested that it was much older than the above layer (Laliberté, 2002b).

Feature 4b

In area B in the 51N 52-54W section, feature 4b was recorded (figure 43). Located in the C300 layer, the feature consists of a semi-circle of small fire-cracked rocks surrounding an area of orange-brown silty soil which contained charcoal. This was adjoined to the west by an area of chocolate brown silty soil which may have been the location of a decomposed stump. Around the feature were more stones, some of which were fire-cracked, as well as charcoal, and an area or orange-brown silty soil which appeared to be tinged with red ochre. The semi-circle of stones and charcoal was hypothesized to be a small hearth, with some rocks possibly having been displaced by flooding or tree growth. No artifacts were directly associated with the hearth, but

many pieces of ceramics were collected in the area around the hearth, particularly from the western side (Laliberté et al., 1997a).

Feature 5b

Feature 5b was located in the C300 layer of the 51N 52-54W section but appeared to be disturbed by sand deposited from shoreline erosion. Additionally, the excavating team decided to only partially excavate this feature to provide protection to the site from further shoreline erosion. Despite this, 5b was determined to be a pre-contact hearth due to the orange matrix which bones, charcoal, and traces of rubefaction (Laliberté, 2002b).

Feature 6

A small pile of stones was also found a few centimetres to the west of the 5b hearth at the same depth, which were determined to be anthropogenic in nature and named feature 6. These stones appeared to be fire reddened and some were fire-cracked. Possible uses for these stones could be "to support ceramic containers on the edge of the hearth for heating or cooking the contents. Another was to boil water, the stones, previously heated being introduced into a ceramic vase or other water-filled container used as a cooking pot" (Laliberté, 2002b, p. 42-43). It was also noted that these stones could be associated with feature 4 due to it being close by and also within the same stratigraphic context, but they are physically closer to 5b.

Features 7a and 9 (Figure 10)

Located in section 53-54N 50W at the interface of layers C300 and C400, a compact layer of orange or rust-coloured clayey silt mixed with bits of charcoal was found covering the entire section. This layer, containing a large number of cut stone and ceramic sherds, was designated feature 7a. Immediately beneath feature 7a was a thinner layer of light to dark brown silty soil, which was called feature 9.

Feature 9 (figure 10) was located in layer C35 and also contained a large number of stone, ceramic remains, as well as charcoal, calcined bone, and fire-cracked rocks. The excavators determined that these features were both anthropogenic in nature, and very likely from the same habitation event. The features were determined to likely be the floor of a Middle

Woodland period dwelling, with the fire-cracked rock, high concentration of calcined bone and charcoal in the south-eastern part of the feature being the dwelling's hearth (Laliberté, 2001; Laliberté et al., 1997a). Feature 9 was also found only 50 cm away from feature 44 in the same layer, suggesting that the features may have been part of the same larger structure, with two intense burning areas that created the rubefaction found (Laliberté, 2001).

Feature 7b

Feature 7b was located in the C300 layer of 51N 54W and consisted of two small stones on top of several ceramic sherds and approximately 50 cm south-east of a patch of brownish soil which was considered to be part of the feature. This patch contained some lithic debris and calcined bones. The excavating team noted that this was evidence of human activities in this area (Laliberté, 2002b).

Feature 10

Directly beneath feature 5a in 51N 52-53W a layer of charcoal spotted greyish brown silty sediments was found which extended into layer 400 and was designated as feature 10 (figure 44). Near the southern wall of the excavation units the layer extended deeper into layer 400 and was noted as taking the form of "a small, elongated pit". This pit contained fire-cracked rock and calcined bone, and a number of ceramic vessel fragments were collected both in the pit and along the edge of the pit's bowl. This feature was tentatively identified as a hearth due to the evidence of human activity, but an animal burrow could not be definitively ruled out (Laliberté et al., 1997a).

Feature 11

In the north-east corner of the 54-55N 50W section a lens including a basin with brownish clayey sediment and rusty brown and greenish-grey flecks was visible in the C400 layer. Named feature 11, this lens contained a number of calcined bones, many of which were stained with rust, likely from the iron concentrations in the soil. This feature was absent of fire-cracked rock, ceramics, or charcoal, and so was hypothesized to be a small midden or culinary waste pit. (Laliberté et al., 1997a). Similarly to feature 1, a large flat sandstone was found in

association with the feature which was interpreted to be used for food preparation or cooking (Laliberté, 2001).

Feature 35 (Figure 9)

A hearth, named feature 35 was located in units 53-54N 50-51W within area B. It consisted of a bowl-shaped area of greyish clay in C300 mottled with orange soil, about 2-3 cm deep. Calcined bones, charcoal, lithic flakes, and ceramics were found in the bowl which led the excavating team to believe it to be a hearth. No fire-cracked rocks were found within or around the feature (Laliberté et al., 1998). Further excavations led the team to believe that feature 35's hearth was at the centre of a sub-circular dwelling (Laliberté, 2002b). Laliberté noted,

> In 2002, excavation of the part of the outdoor hearth left in place in 1997 and of the surrounding squares provided additional evidence of a camp erected by a group of foreign origin, or of a different cultural allegiance from the previous inhabitants of the site, at the time when the C300 level clays were beginning to accumulate on the site.
>
> These people carried with them vessels with Laurel-Blackduck decoration, a ceramic tradition that reached its peak in the Middle Woodland period in the adjacent regions of central and northern Ontario. This particular episode in the occupation of the BiFw-6 site has been dated by radiocarbon and optical thermoluminescence methods to around 800AD (Laliberté, 1998a, p.I-6). The presence of ceramics of the same style around the periphery of Structure 88(2) discovered in 2002 suggests another exterior hearth, if not an emptying area for the main hearth of the dwelling (Laliberté, 2002b, p. 52)

Feature 36 (Figure 9)

Feature 36 was found in 52N 49-50W and corresponds to a hearth. It was found in the C300 layer but under 4-5 cm of alluvium. The above alluvium, as well as some disturbance of the feature, were likely caused by animals as many rodent holes and burrows are found in this area. At the eastern edge of the feature, two large angular granite boulders were found, while five smaller round and angular stones, some fire-cracked, were found in the north-western corner. Ceramic fragments were excavated from the surface of the feature and while no reddened soil

was found, a thin layer of oily textured dark brown clay soil was found containing charcoal and bone, suggesting the feature's function as a hearth (Laliberté et al., 1998).

Features 37 and 38 (Figure 10)

Features 37 and 38 refer to two small, irregularly shaped pits which were filled with brown clay soil, charcoal, bone, lithics, and ceramic remains in area B. Feature 37 was located in squares 55N 51-52W in the C-30 layer, and was found to be particularly abundant in ceramics and bone, which were primarily located on the western edge of the basin. This particular abundance of ceramics and bones were hypothesized to be a hearth dump (Laliberté et al., 1998). There also did appear to be more organic material and charcoal in the pit than in the surrounding area. The excavating team also hypothesized that this small pit was used to stabilize a support post of a dwelling (Laliberté et al., 1998).

Feature 38, located in 53N 52W, was a small pit in layer 35 with flared edge which was found to go 5cm into C400. It was filled with clayey alluvium containing charcoal, which formed a mound on its eastern edge. Several lithic flakes with evidence of being heated and two fire-cracked rocks were found in the vicinity of the pit. There was however a lack of rubefaction and bones suggesting it may not have been a hearth used for culinary purposes. Rather, an area which hearths were emptied was suggested. Features 37 and 38 were found approximately 1.6 and 1.9 metres away from hearth features 9 and 44, suggesting perhaps they may have been all part of a larger structure (Laliberté et al., 1998). Further excavations in later years led the excavation team to believe feature 38 to be a secondary hearth associated with a large Middle Woodland dwelling also associated with features 9, 43a, and 44 (Laliberté, 2002b).

Feature 43a (Figure 10)

A small earthen mound, named feature 43, was found between features 9 and 44 and appeared to have been intentionally placed between those two hearths. All three features were believed to be part of a Middle Woodland dwelling (Laliberté, 2002b). Notably, 43a was very circular and composed completely of the greenish-grey sandy clay found on the surface of level 400. There was also no layer C35 beneath it, suggesting that the feature may have made prior to,

or during the construction of, features 9 and 44. The feature was hypothesized to be an area for food preparation, cooking, or drying (Laliberté et al., 1997).

Feature 44 (Figure 10)

Feature 44, found within the C35 layer of 51-53N 49-51W, was an area of clay sediment that was slightly different than the surrounding layer. It contained thousands of bone fragments, as well as lithic and ceramic fragments, and was determined to be anthropogenic in nature. It did appear to be disturbed by flooding from the Ottawa River, but was determined to be a hearth particularly due to the presence of reddened soil and fire cracked rocks (Laliberté et al., 1997a). Feature 44 was associated with feature 9, and both were believed to be hearths within the same elongated structure/dwelling. Additionally, further excavations determined that feature 44 was built on top of an older occupation layer, which contained Early Middle Woodland ceramics. Ceramic sherds which were noted as "Uren-Middleport" were excavated from within this feature, suggesting that this feature is associated with the Late Woodland period. Additionally the large number of bone remains found in comparison with the small amount of lithics was interpreted to suggest this feature related to a short stay of the occupants (Laliberté, 2001).

Features 43b, 45, 46, 47, and 48

Features 43b, 45, 46, 47, and 48 were all found in the interface of the C300 and C400 layers and were determined to relate to the same spatial arrangement suggesting a dwelling. Feature 43b is a layer of silty, slightly sandy soil, rich in charcoal, lithics, ceramics, and bone remains. The western half of the excavation area was dark to chocolate brown and light brown to slightly orange in the eastern half. This layer was originally determined to be the floor of the dwelling. Later analysis and further excavation suggested that part of this area also included a small mound of clay that was equidistant from features 9 and 44, and may have been used for food preparation, cooking, or drying (Laliberté et al., 1998).

A significant number of calcined bones were found at the eastern edge, in a small mound and designated as feature 45. This was found to likely be a part of a hearth particularly because of the presence of reddened soil and calcined bone mixed with the soil. A rodent tunnel and small depression in the soil, likely caused by an animal, was also noted. This disturbance likely

destroyed the north and west sides of the hearth, except for the section present in the stratigraphy (Laliberté et al., 1997a). Features 46, 47, and 48 were located in the western edge of the hearth. These were three small circular depressions arranged in a triangle and a few centimetres deep. The soil is a similar brownish soil to that of feature 43. These features were interpreted by the excavation team to be post moulds for a structure used to cooking or smoking food above the hearth. Three small stones were also found surrounding the features which were hypothesized to have acted as support for this structure (Laliberté et al., 1997a).

Area C Features

Feature 66b (Figure 14)

A bowl-shaped depression was found in level C20, unit 66N 39W in relation to feature 70. This depression sat to the south of 70 and was surrounded by a thick patch of reddened soil which extended to feature 70. Feature 66b was thought to be younger than 70, which appeared to be confirmed by the existence of a thin grey lens under 66 which also surrounded 70 (Laliberté et al., 1998). It was later determined that feature 66 was likely older than 70, despite the presence of the grey lens (Laliberté, 2001)

Feature 66b also extended into 67N 39W which it largely covered. Unlike feature 70, it was found to contain charcoal, burnt wood, and burnt bones, and heat reddened soil, particularly near the centre of the feature, suggesting it was perhaps a hearth but was only used for a very short period of time (Laliberté, 2001; Laliberté et al., 1998). A copper metal bottle cap and a European style pipe fragment were collected from the hearth confirming this feature's younger age (Laliberté et al., 1998).

Feature 67b (Figure 14)

Feature 67b was first located in a 1995 test pit and is located less than 50 cm west of features 66 and 70. It was thought to be contemporary with feature 66 and was formed in an oval area of reddened soil, oriented northeast-southwest and found to contain several calcined bones. Over 100 small glass beads were collected from the north side of the feature, but no artifacts were found within the feature itself (Laliberté et al., 1998).

Feature 68b, 69a, and 69b (Figure 14)

Feature 68b took the form of a thin layer of dark brown clay in layer C-20 mixed with pockets of charcoal and over 500 calcined bone remains (Laliberté et al., 1998). C-20 was noted as being at the base of C200 and quite thin in places. Further excavation of the area surrounding 68b led to the discovery of artifacts related to the contact period within the perimeter of the hearth, such as kaolin pipe fragments, glass bottle fragments, crockery fragments, and a lead seal inscribed "CASTOR", which was noted as being used to identify fur bales during the fur trade (Laliberté, 2001). These artifacts suggested that C-20 and the features within it were likely associated with the 17th-18th century (Laliberté, 2001). Whereas features 66 and 67b contained rubefaction, this feature did not contain any evidence of this. This was determined by the excavating team to suggest that this was possibly an area to empty hearths such as 67 and 68b. Two traces of stake/post moulds were found on the surface of C300 and were noted as features 69a and 69b. 69a sat on the edge of feature 68, and 69b was located about 50 cm to the northeast (Laliberté et al., 1998).

Feature 70 (Figure 14)

Found in occupation layer 20 in area C, feature 70 took up the eastern half of 68N 39W and was only partially excavated. The feature consisted of an area of blackish-brown clay and organic mixed soil about 10 cm thick that near the eastern wall of the unit formed into a small depression which was 10 cm deep and 70 cm in diameter. Embedded in the bowl of the depression was a pocket of orange-brown soil, suggesting combustion took place. Additionally grey clay was found on the western edge of the feature at the C300 layer which was determined to have been likely placed there when the feature was originally dug. Some ceramic sherds and lithic debris were found, but the excavation suggested that these items were actually associated with the older layer below and not the feature itself. No bones or fire-cracked rocks were found in association with the feature, originally suggesting that while it appeared to be a hearth there was no evidence of culinary activities occurring there (Laliberté et al., 1998).

Later, further excavations led the team to question this hypothesis as in 2001 Laliberté noted, "as for structure 70, multiple natural cavities and traces of charred roots were noted...around the rubified bowl forming the heart of the structure" (Laliberté, 2001, p. 39). This

led the excavating team to conclude that feature 70 was not a hearth, and likely not older than nearby feature 66 despite it penetrating farther in level C200 and into C300. Ultimately, the team could not be certain if the feature was anthropogenic in nature or natural (Laliberté, 2001).

Feature 69c, 71, 73, and 76

Feature 71 corresponds to a hearth found in the southeast corner of area C in 65-66N 39W. Located in the C300 layer, the feature consisted of a thin area of brownish soil which contained charcoal, calcined bone, and a few artifacts. A shallow depression in the C300 layer at the northern edge of the area was determined to likely be the location of the hearth. No rubefaction was found but the presence of two fire-cracked rock were found nearby and were noted as the only stones encountered at the top of the C300 layer in this area (Laliberté et al., 1998).

Less than 20 cm from the western edge of feature 71 a stake mould was located and recorded as feature 76. This was interpreted as support for handling food over the hearth (feature 71). It was noted that this post mould raised little doubt for the excavating team. It consisted of "an octagonal outline in the horizontal section and a double bevel in the longitudinal section, which clearly show the imprint of a tapered post 4.5 cm in diameter, driven 9.5 cm into the ground" (Laliberté et al., 1998, p. 38). Two more stake moulds were found at the base of C300, recorded as features 69c and 73.

Feature 72

At the base of C300 in area C, a distinct layer related to a period of occupation was found and recorded as layer C30. Feature 72 was the only feature recorded in association with this occupation layer. It took the form of an area of soil with as debris at the base of the C30 layer in 68N 40W. Several stones, some of which appeared to have evidence of burning, were found surrounding this area. A number of calcined bones were collected slightly to the east which was taken as confirmation of the feature being a hearth (Laliberté et al., 1998). It was also noted that layer 30 appeared thicker in this area, and there was a decrease in the depth of C400 in the same area. This was interpreted as anthropogenic in nature, likely caused by levelling the ground in

preparation for installing a dwelling around feature 72, or simply from the ground being levelled by people walking on the floor of their dwelling (Laliberté et al., 1998).

Feature 77 (Figure 15)

Feature 77 was the only feature identified in occupation C40, a sublayer of C400 distinguished as an occupation layer, in area C. The feature took the form of an area of brown soil which contained calcined bones, lithic flakes, ceramic fragments, and some fire-cracked rocks. The feature was located in 67N 39-40W and was slightly raised. This meant that the feature was "in contact with layer 30 and had been disturbed during the development of the dwelling surrounding feature 72 in layer 30" (Laliberté et al., 1998, p. 39). Similarly to feature 72, the ground around 77 appeared to be levelled to accommodate a dwelling around it (Laliberté et al., 1998).

Area D Features

Feature 1c (Figure 16)

1c was excavated in 2003 and located at the interface of above fill and layer C300 in 60N 66W. It consisted of a patch of orange mottled blackish-grey clay, which contained bones and charcoal. The excavators originally believed this to be a combustion area linked to cottages built in the first half of the 20th century.

Features 2c, 3a, and 4c (Figure 16)

Excavated in 2003 in area D, features 2c (57-58N 67W), 3a (56N 67W), and 4c (57W 68W) are within the C30-C400 layers. All three were interpreted to be secondary hearths, particularly in relation to the multi-hearth dwelling found in area B in previous years. These hearth features included the presence of charcoal, lithics, ceramic fragments, fire-cracked rocks, and a number of bone remains. Feature 4c notably also contained charred nut shells which were used to place the features in the late summer or early autumn, the same time of the year as the dwelling was believed to have been used (Laliberté, 2004b).

Features 15a (Figure 16)

Feature 15a was found in the C30 level (between C300 and C400) and appearing on the C400 level in 59-60N 67-68W and appeared to be a small mound of loamy soil overlayed with a matrix of brownish soil mixed with charcoal, bones, lithics, and ceramic remains (Laliberté, 2004b). In total about 15 lithic fragments and thirty ceramic sherds were collected within and around the feature, which was interpreted to be a hearth (Laliberté, 2001). Near the north wall a small bowl-shaped pit was also found, which contained over 400 bones. In this northern area, layer C300 was found and appeared to be very heterogenous, which was originally interpreted to mean that the pit and layer might correspond to a different feature or perhaps part of the hearth that had been disturbed due to erosion. However, this was brought into question when a similar phenomenon was found with feature 18 (Laliberté, 2001).

Appendix B: Additional Figures

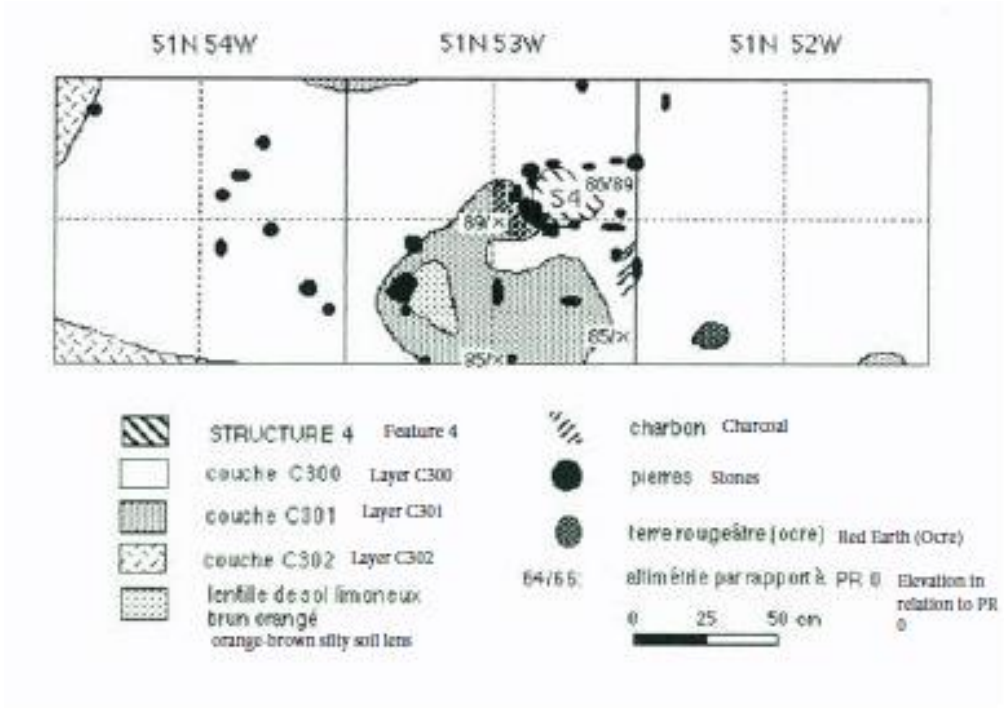

Figure 50.51N 52-54W (Area B) Layer 300, Feature 4.

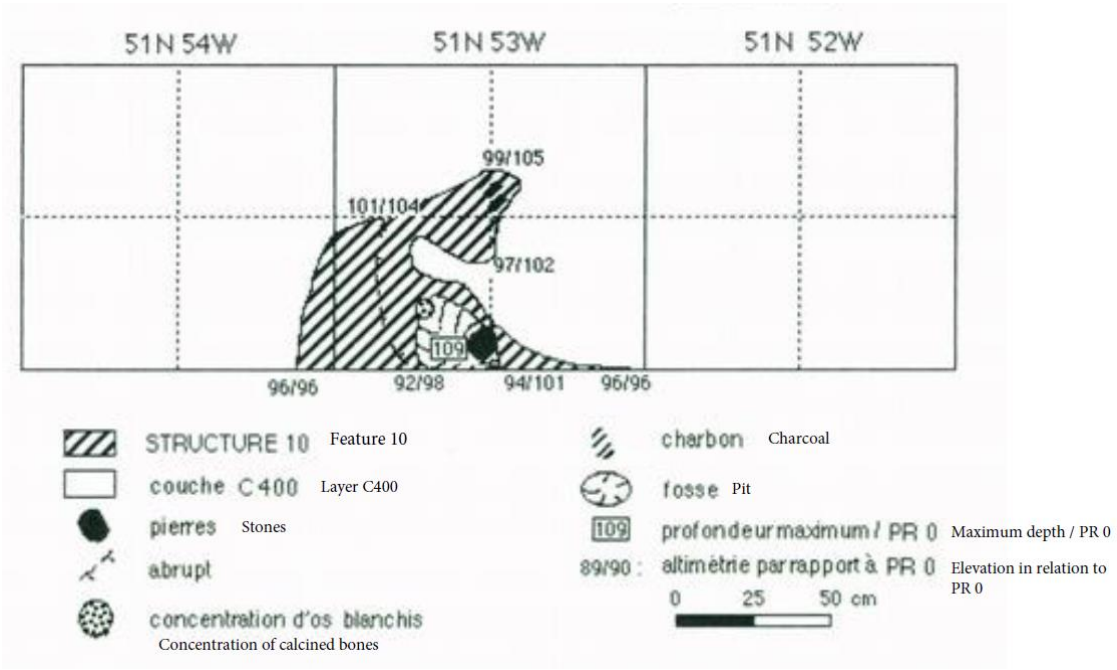

Figure 51. 51N 52-54W (Area B) Layer 400, Feature 10.

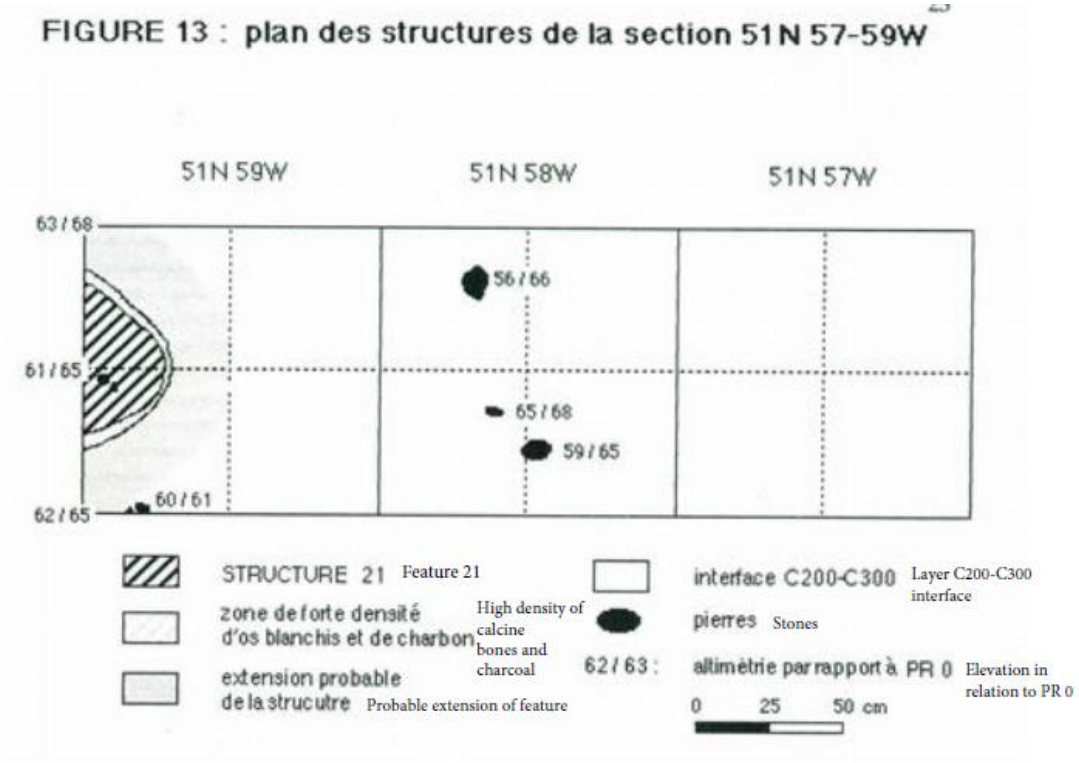

Figure 52. 51N 57-59W (Area A) Layer 200-300 Interface, Feature 21.

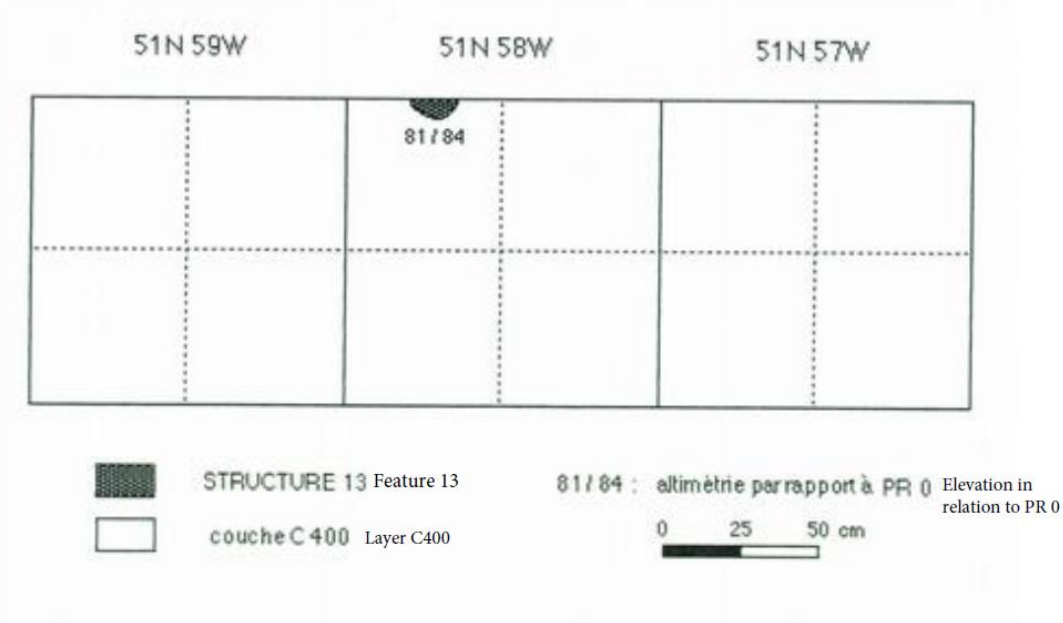

Figure 53. 51N 57-59W (Area A) Layer 400, Feature 13.

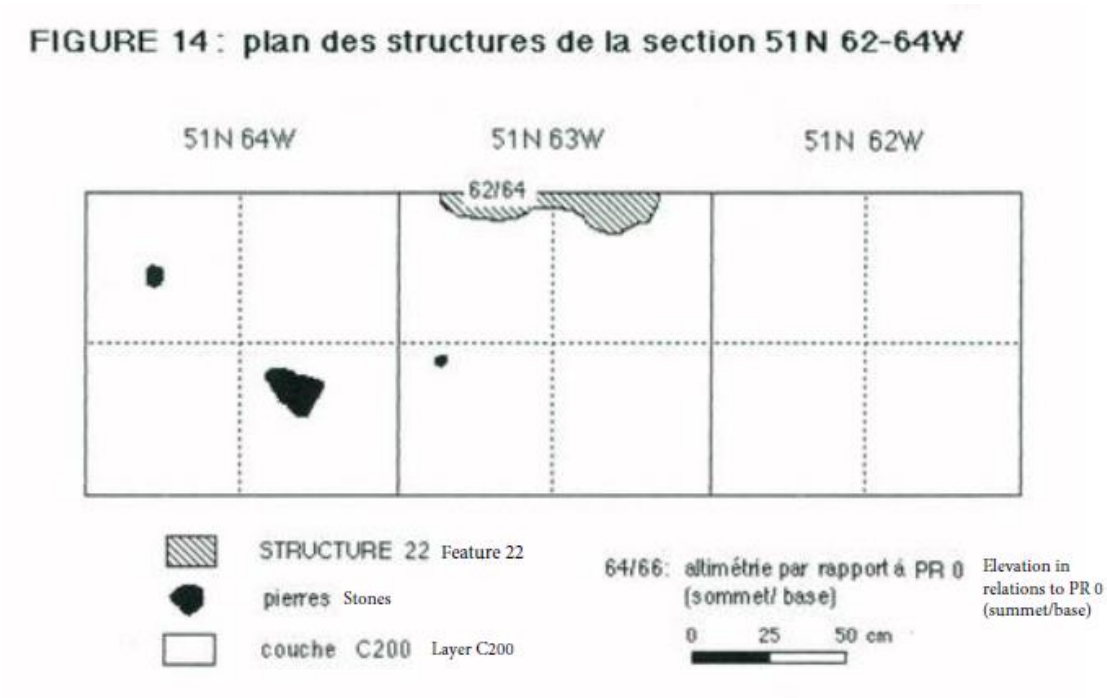

Figure 54. 51N 62-64W (Area A) Layer 200, Feature 22.

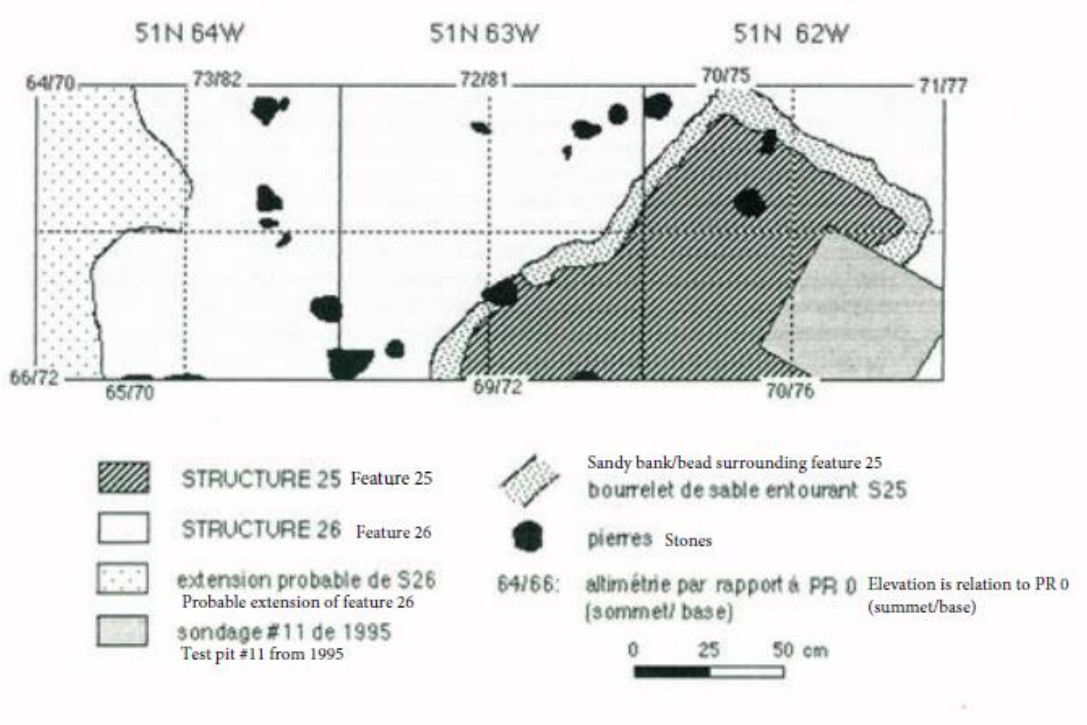

Figure 55. 51N 62-64W (Area A) Features 25 and 26.

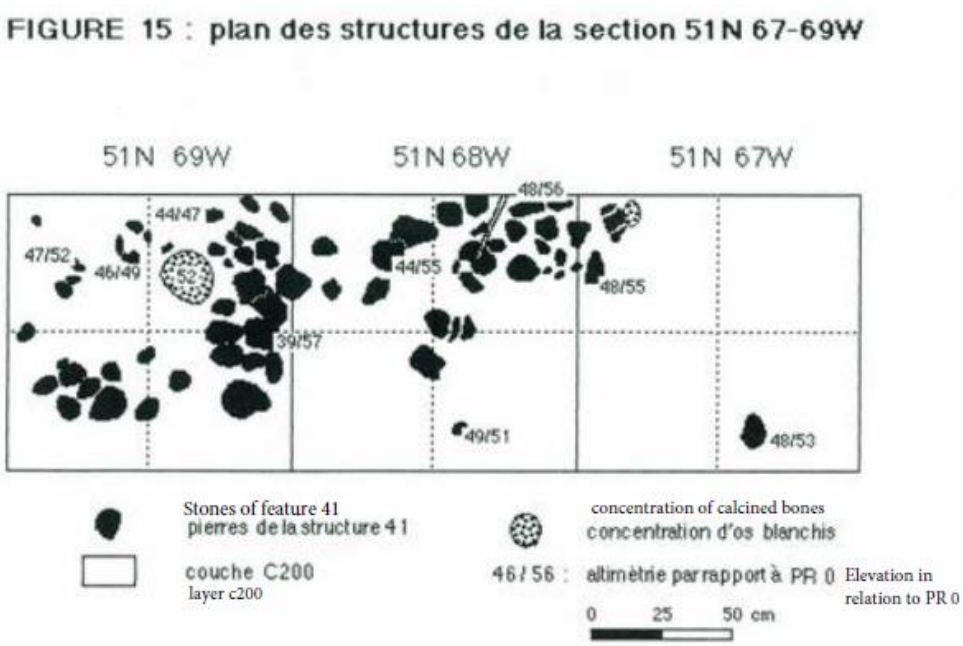

Figure 56. 51N 67-69W (Area A) Layer 200, Feature 41.

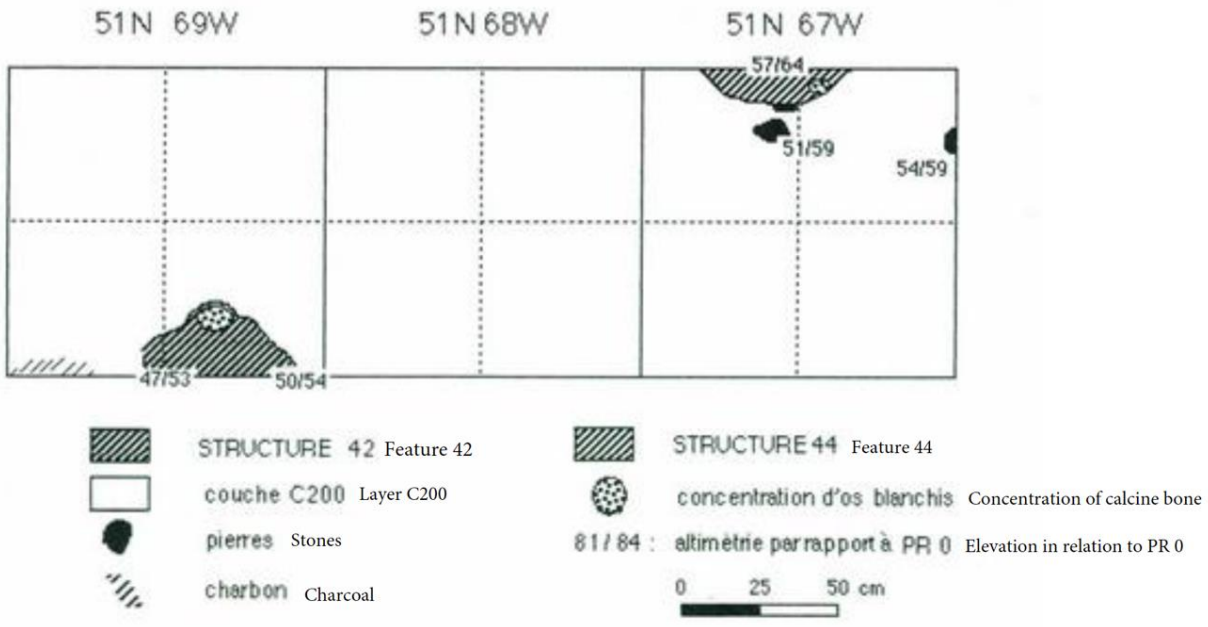

Figure 57. 51N 67-69W (Area A) Layer 200, Features 42 and 44.

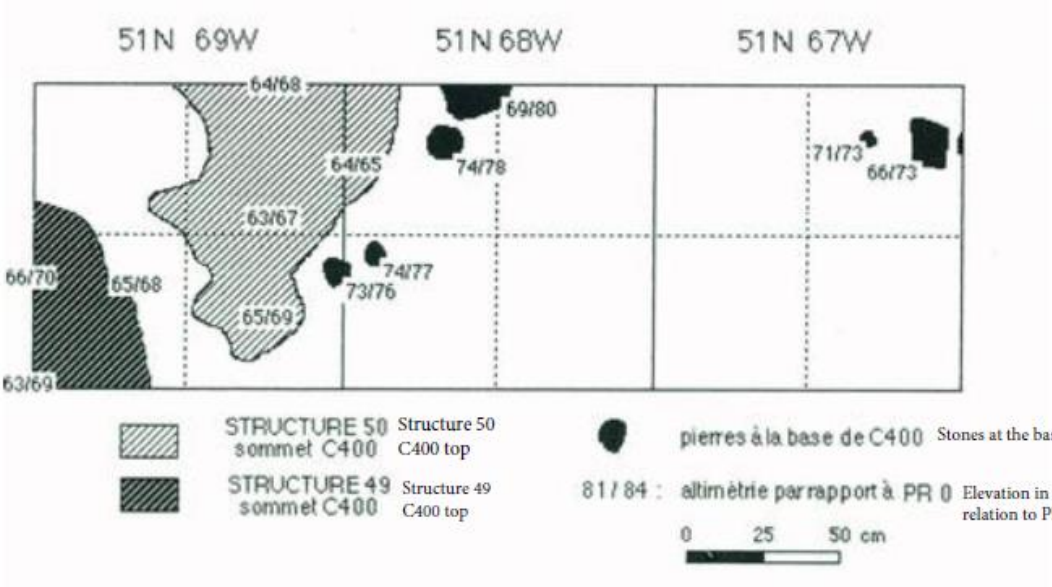

Figure 58. 51N 67-69W (Area A) Layer 400, Features 49 and 50.

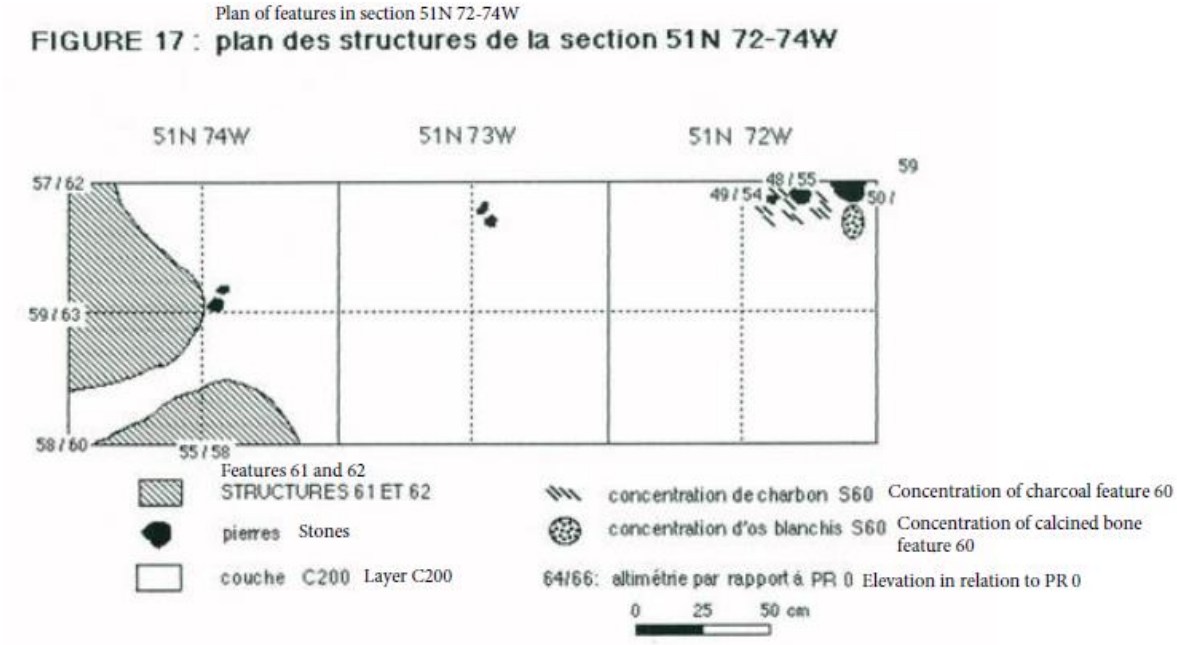

Figure 59. 51N 72-74W (Area A) Layer 200, Features 61 and 62.

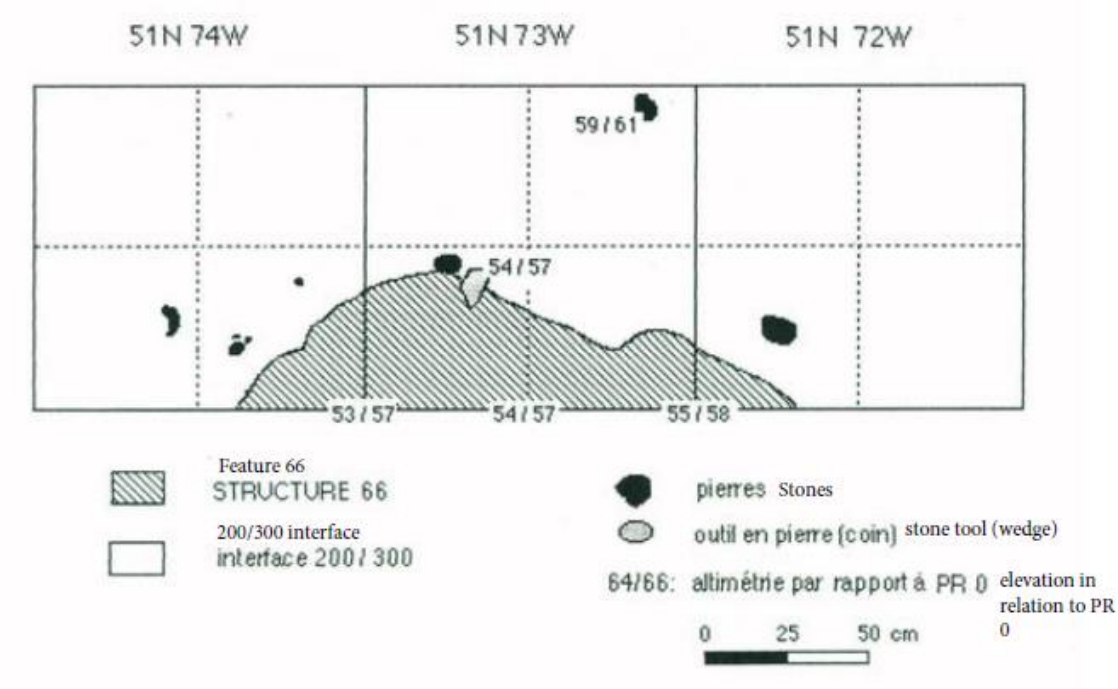

Figure 60. 51N 72-74W (Area A), 200/300 Layer Interface, Feature 66.

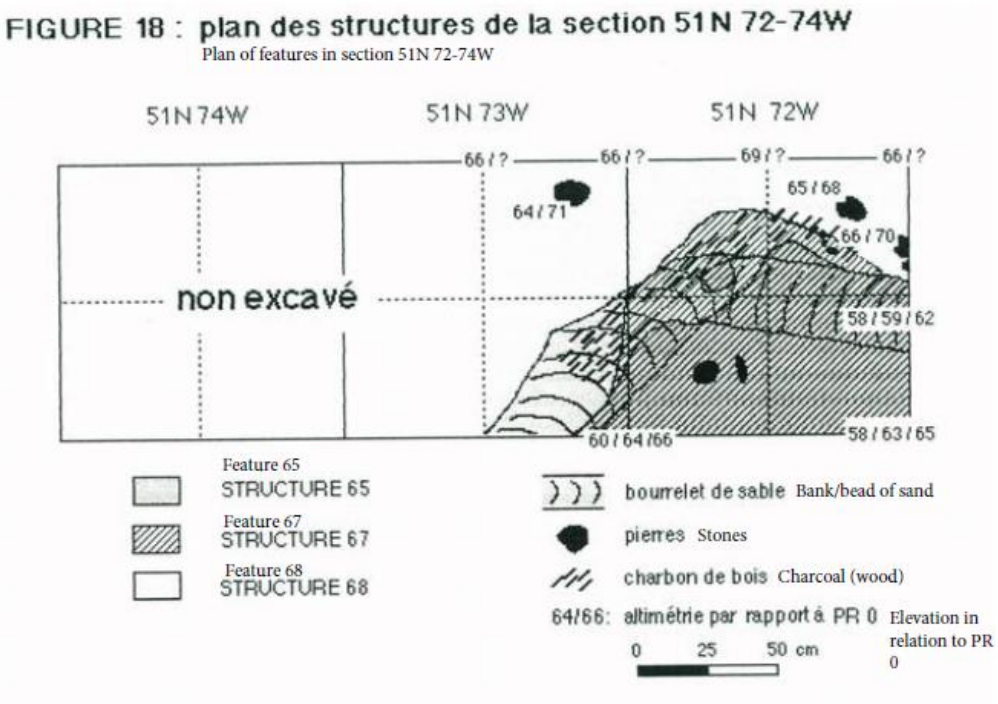

Figure 61. 51N 72-74W (Area A), Features 65, 67, and 68.

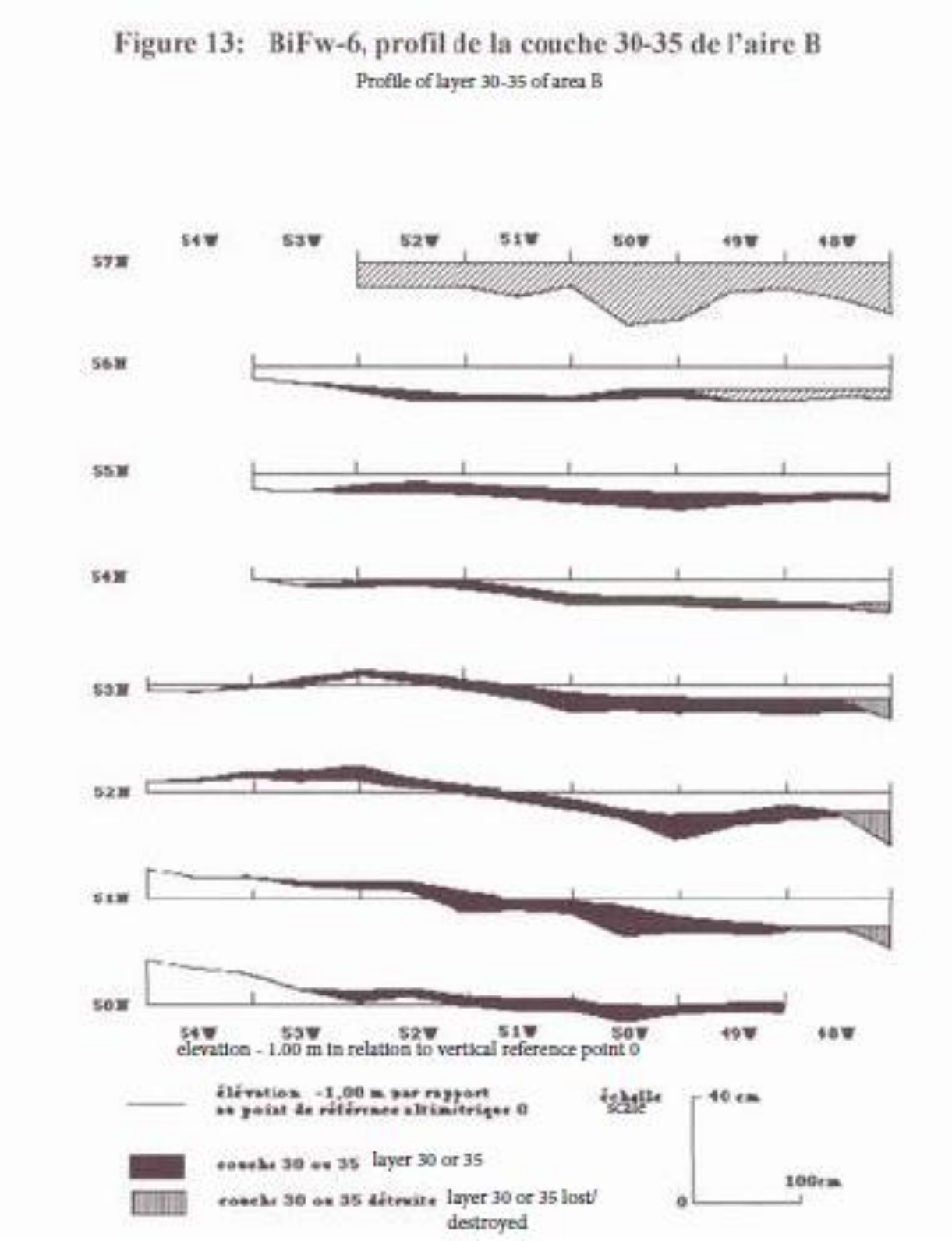

Figure 62. Profile of layer 30-35 of Area B.

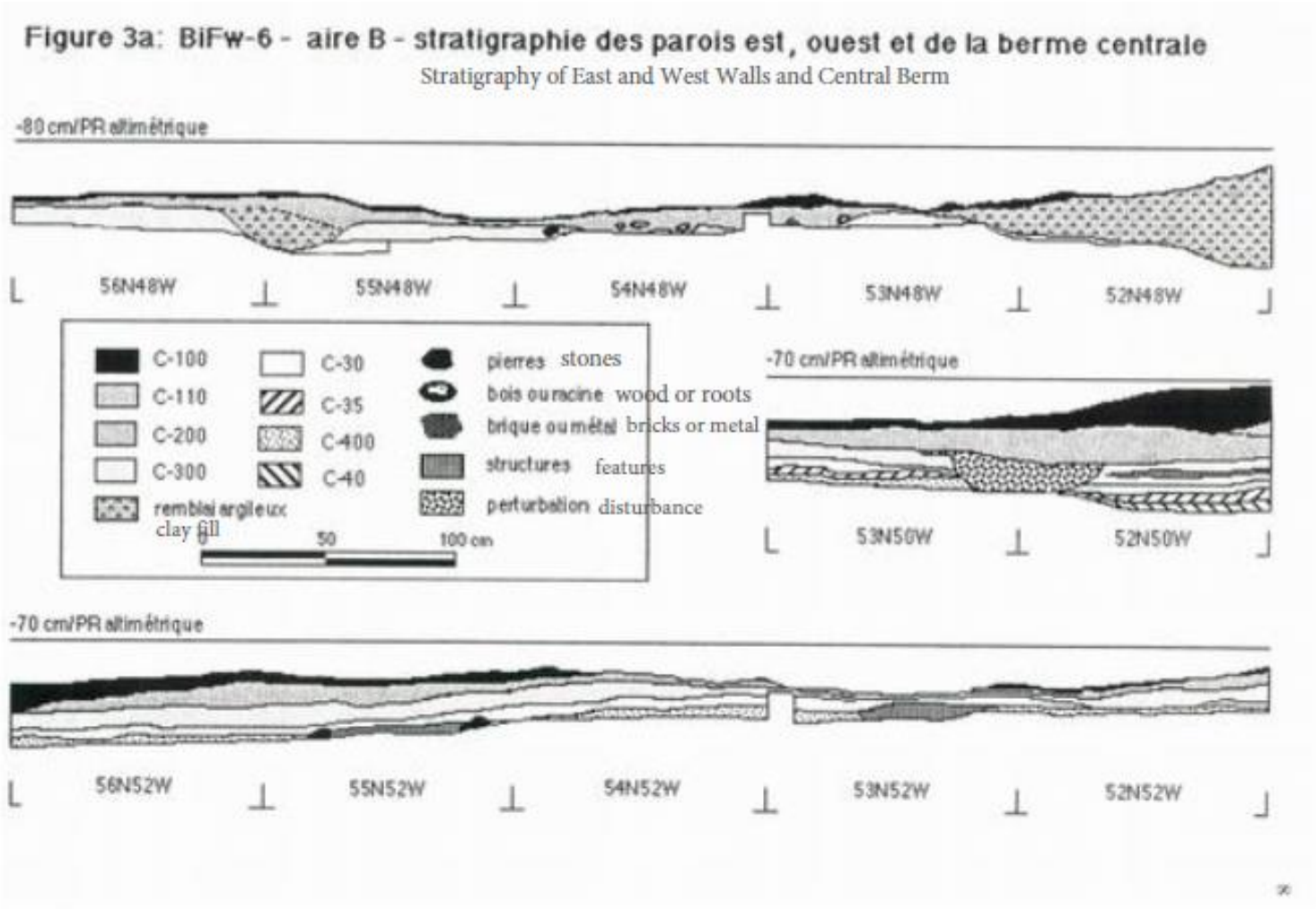

Figure 63. Area B - Stratigraphy of East and West Walls and Central Berm.

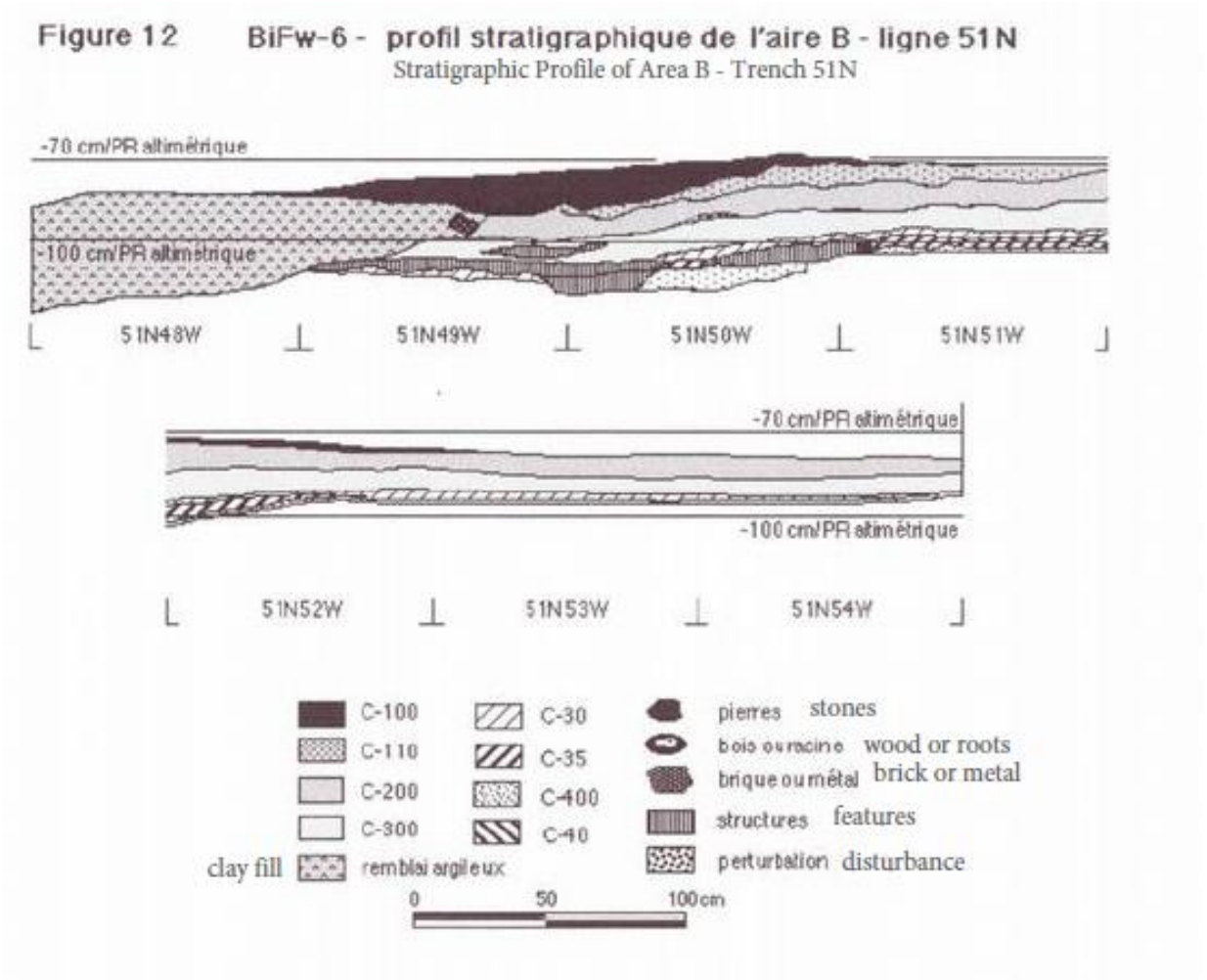

Figure 64. Stratigraphic Profile of Area B - Trench 51N.

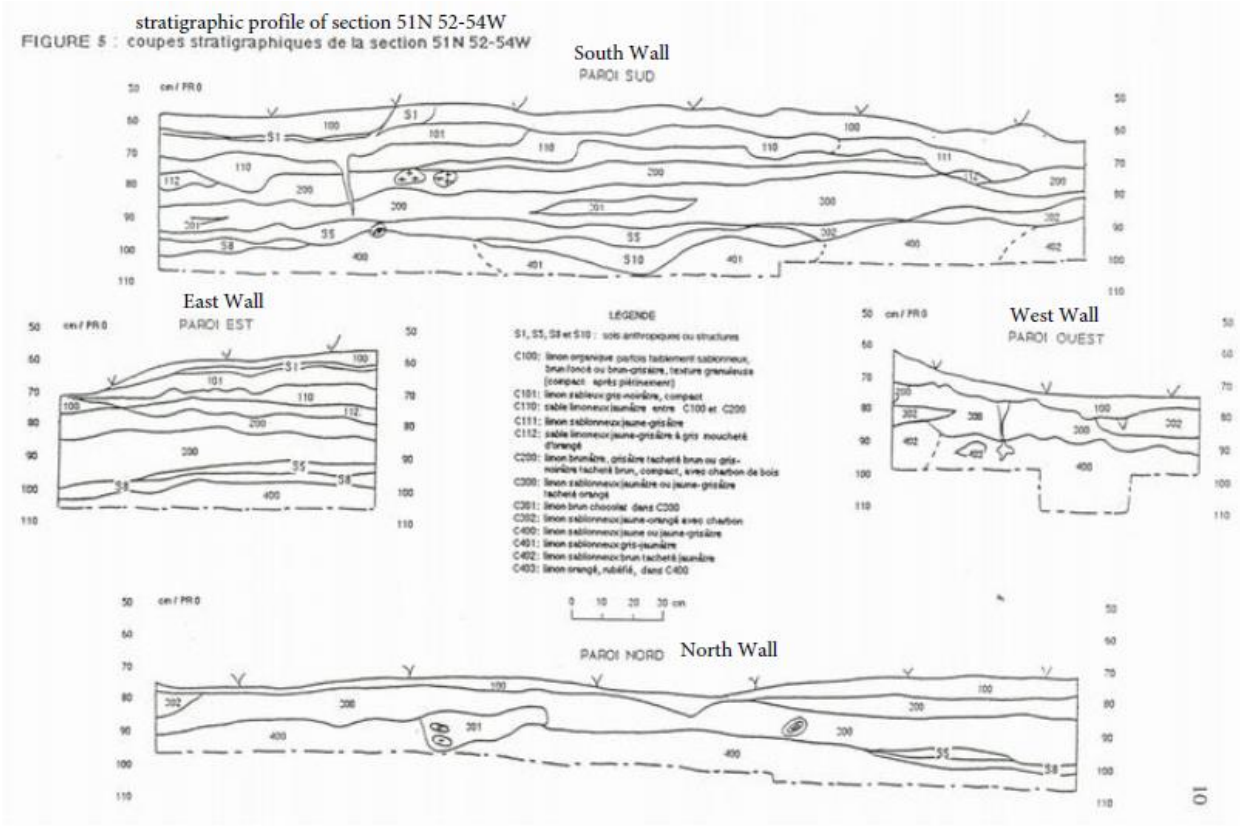

Figure 65. Stratigraphic Profile of Section 51N 52-54W (Area B).

Legend:

S1, S5, S8, and S10: Anthropogenic soils and features

C100: Organic silt, sometimes slightly sandy, dark brown or greyish-brown, granular texture (compact after trampling)
C101: Compact dark-grey sandy silt
C110: Yellowish silty sand between C100 and C200
C111: Greyish-yellow sandy silt
C112: Greyish-yellow to orange-flecked grey silty sand
C200: Brownish silt, greyish brown or grey-blackish mottled brown, compact with charcoal
C300: Yellowish or greyish-yellow sandy silt with orange flecking
C301: Chocolate brown silt in C300
C302: Yellow-orange sandy silt with charcoal
C400: Golden-yellow sandy loam or greyish-yellow
C401: Yellow-grey sandy loam
C402: Brown sandy loam with yellowish speckles
C403: Orange silt, rubefaction in layer C400

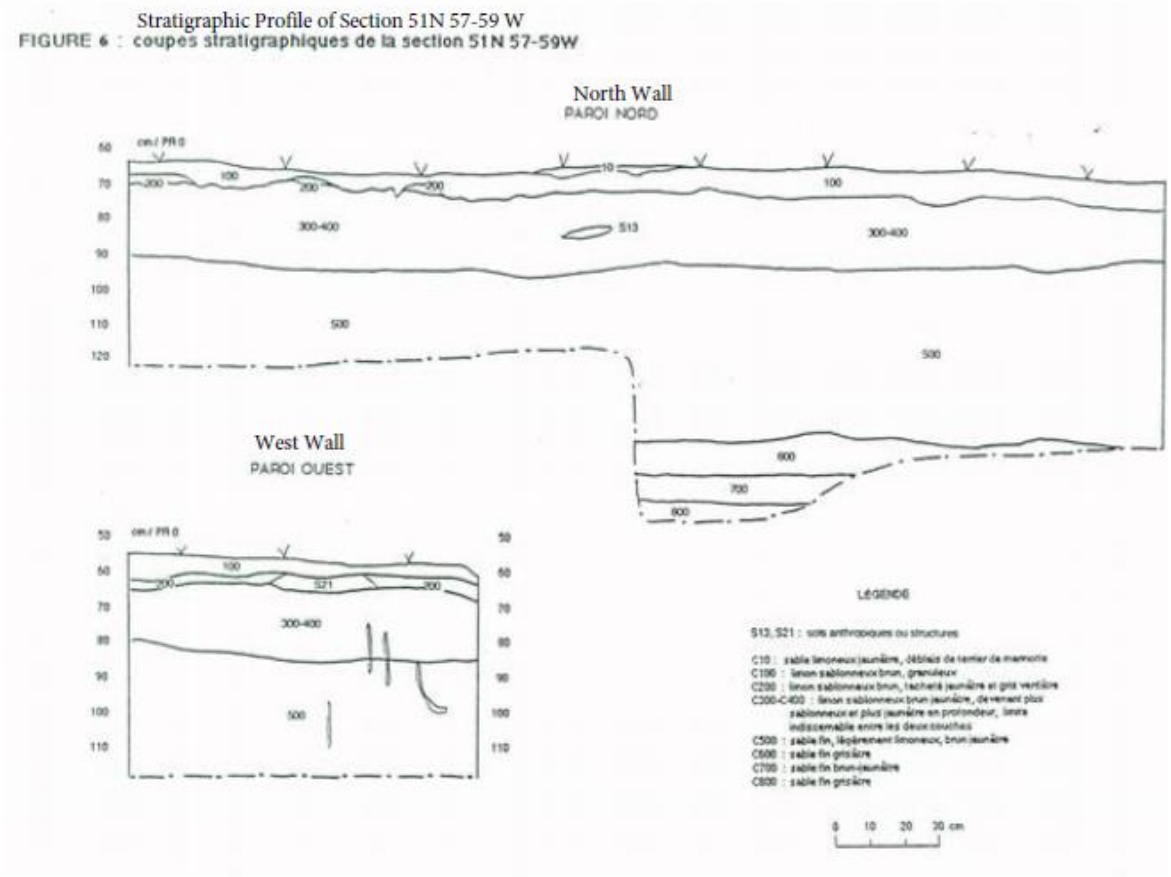

Figure 66. Stratigraphic Profile of Section 51N 57-59W (Area B).

Legend

S13, S21: Anthropogenic soils of features
C10: Yellowish silt sand, groundhog burrow
C100: Brown sandy silt, granular
C200: Brown sandy loam with yellowish and greenish-grey flecks
C300-C400: Yellowish-brown sandy loam, becoming sandier and more yellowish at depth, indisputable boundary between the two layers
C500: Fine sand, slightly silty, yellowish brown
C600: Fine greyish sand
C700: Fine yellowish-brown sand
C800: Fine greyish sand

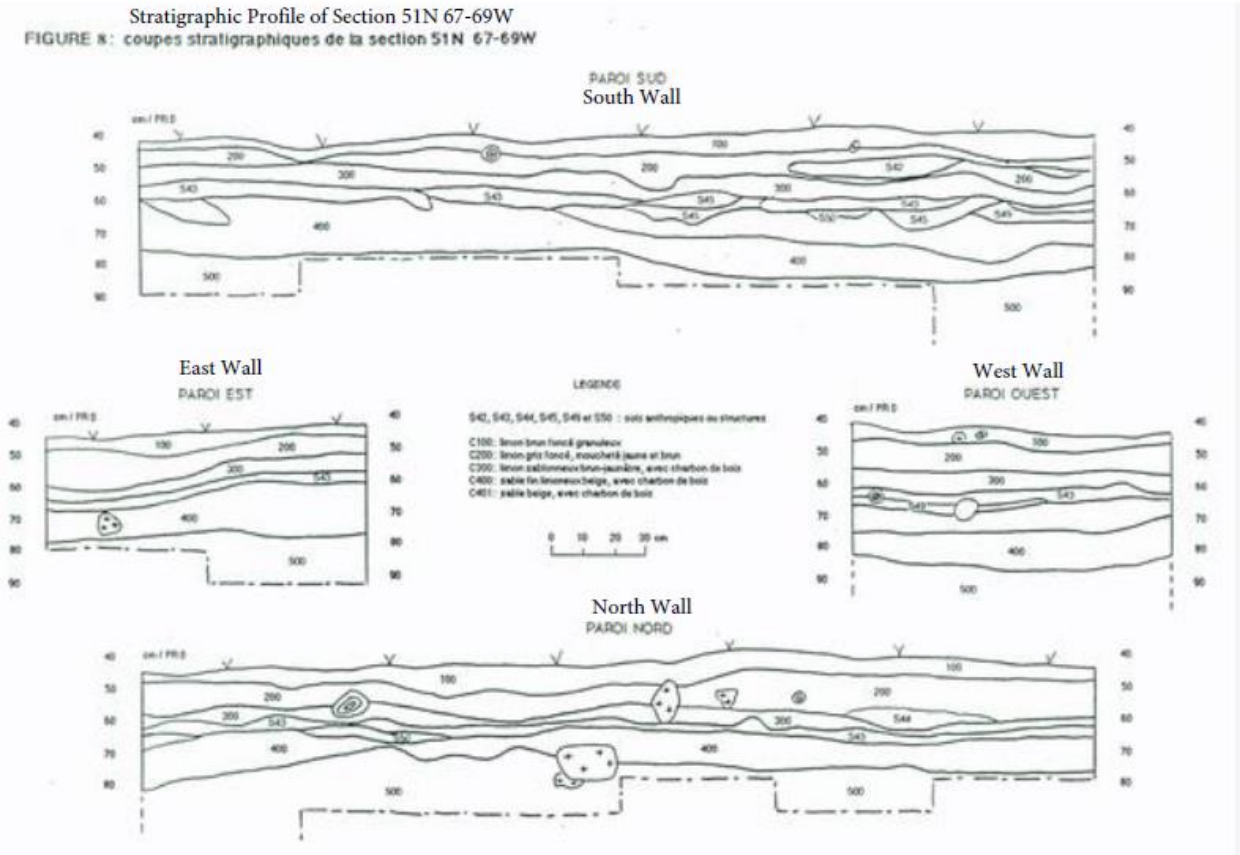

Figure 67. Stratigraphic Profile of 51N 67-69W.

Legend

S42, S43, S44, S45, and S50: Anthropogenic soils and features

C100: Dark brown granular silt

C200: Dark grey silt with yellow and brown flecks

C300: Yellowish-brown sandy silt with charcoal

C400: Fine beige silty sand with charcoal

C401: Beige sand with charcoal

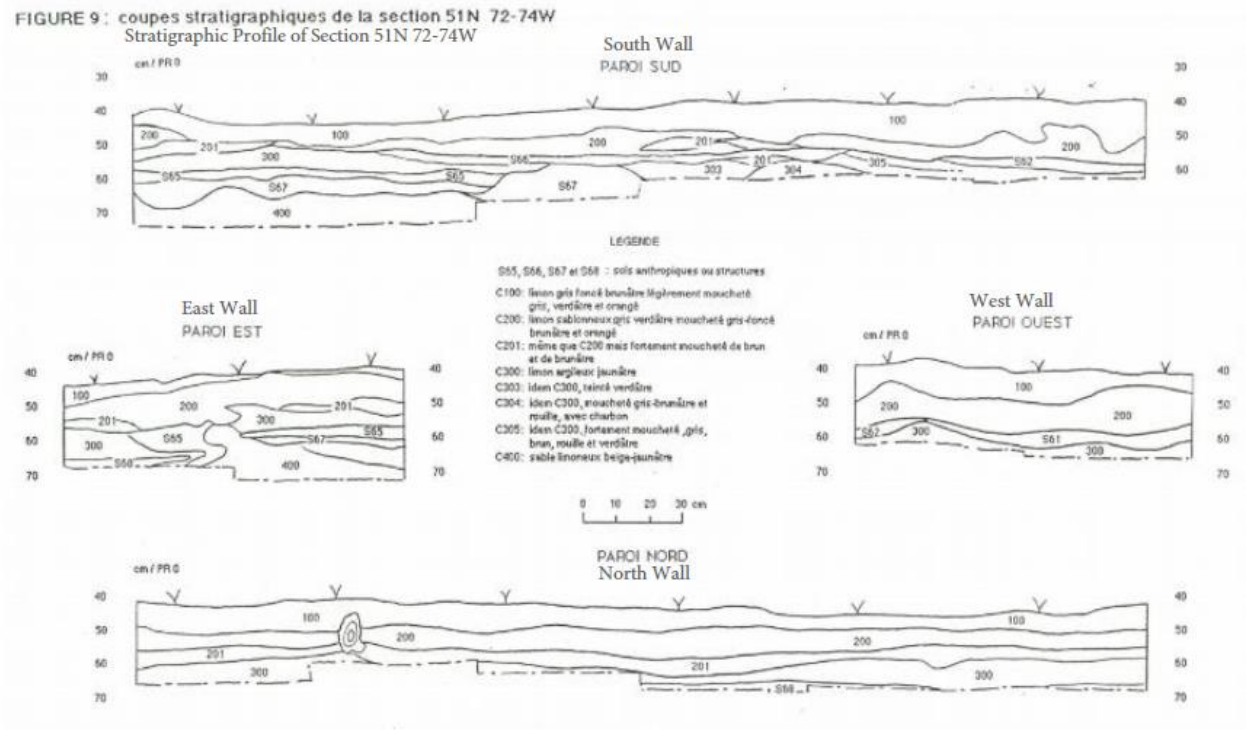

Figure 68. Stratigraphic Profile of 51N 72-74W (Area A).

Legend

S7, S9, and S11: Anthropogenic soils and features
C100: Dark brown or greyish-brown organic silt compact by trampling
C200: Brownish silt, mottled with greenish-grey and orange or yellowish-grey mottled with drack brown, compact and heterogeneous
C300: Yellowish or beige-orange sandy silt with greenish flecks
C302: Orange silt in C300
C400: Yellowish-brown silt, compact, becoming sandy at depth
C401: Greenish-grey silt, heterogeneous, merging with the base of feature 9.

Appendix C: Ceramics by Area

Vessels from Area A

Vessel No	Area	Context	Depth	Associated Feature	Archaeological Time Period	Notes
114	A	51N 59W	NH[7]		Middle Woodland	
156	A	52N 68W	200	41	Early Late Woodland	Feature in level 200 in 48N 64W (1a)
101	A	51N 72-74W	201	60, 61, and 62	Late Late Woodland	Huron-Wendat Ceramic Tradition
100	A	50N 62W	20		Late Woodland	Huron-Wendat Ceramic Tradition
108	A	51N 64W	200/300		Early Late Woodland	Feature (66a) in 200/300 interface in 51N 72-74W
187	A	52N 64W	200/300		Late Late Woodland	Feature (66a) in 200/300 interface in 51N 72-74W
157	A	55N 65W	300		Middle Woodland	
202	A	52N 65W	300		Middle Woodland	
160	A	55N 67W	300 interface		Middle Woodland	

[7]It is not clear what the abbreviation NH stands for. The sherds which make up this vessel were noted as being associated with the NH depth of 51N 59W in the excavation catalogue, but no clear reference to this abbreviation were made in the associated excavation reports. Due to this lack of information and for the purpose of this thesis, this vessel was excluded from the vertical stratigraphic analysis.

203	A	53N 63W	300 bottom		Middle Woodland	
195	A	49N 62W	30		Middle Woodland	
196	A	49N 63W	30		Middle Woodland	
185	A	50N 62W	30		Middle Woodland	
193	A	50N 62W	30		Possible Middle Woodland	
177	A	50N 63W	30		Middle Woodland	
189	A	50N 63W	30		Middle Woodland	
197	A	50N 63W	30		Middle Woodland	
196	A	49N 63W	30		Middle Woodland	
182	A	53N 62W	30		Middle Woodland	
199	A	53N 62W	30		Middle Woodland	
201	A	53N 62W	30		Middle Woodland	
194	A	53N 63W	30		Middle Woodland	
182	A	53N 62W	30		Middle Woodland	
192	A	49-51N 61-62W	30		Middle Woodland	
190	A	53N 61W	30/400		Middle Woodland	Nearby feature in level 30/400

						in 52N 62-63W (15b)
109	A	51N 64W	400		Late Early Woodland/Early Middle Woodland	Nearby feature in level 400 in 51N 62W (25)

Table 20. Ceramics in Area A.

Vessels from Area B

Vessel No	Area	Context	Depth	Associated Feature(s)	Archaeological Time Period	Notes
121	B	53N 49W	200		Early Late Woodland	
105	B	sondage 11	level 3		Middle Woodland	
141	B	sondage 11	level 3		Transitional or Early Woodland	
111	B	54N 50W	N10/300	9	Middle Woodland	
112	B	54N 50W	N10/300	9	Middle Woodland	
113	B	51N 54W	N10/300	5a, 8	Middle Woodland	
173	B	51N 50W	300		Transitional Woodland	Nearby feature in level 300 in 49-50N 51-52W (1b)
198	B	51N 50W	300		Middle Woodland	Nearby feature in level 300 in

						49-50N 51-52W (1b)
120	B	56N 48W	300.A1		Early Late Woodland	
122	B	55N 48W	300.A1		Transitional or Early Woodland	
163	B	56N 48W	300 bottom		Middle Woodland	
179	B	50N 52W	300 bottom	1b	Middle Woodland	
171	B	52N 49W	300 bottom (pit)	Middle Woodland	Nearby features in level 300/400 in 53N 50W (43b, 45, 46, 47, 48), and in level 300 in 53-54N 50-51W (35), 52-53N 50-51W (36)	
172	B	52N 49W	300 bottom (pit)	Middle Woodland	Nearby features in level 300/400 in 53N 50W (43b, 45, 46, 47, 48), and in level 300 in 53-54N 50-51W (35), 52-53N 50-51W (36)	
117	B	52N 50W	30		Middle Woodland	Nearby feature in level 30 in 50-51N 48-50W (2b)

164	B	57N 48W	30		Middle Woodland	
165	B	55N 48W	30		Middle Woodland	
169	B	53N 49W	30		Middle Woodland	Nearby feature in level 30 in 50-51N 48-50W (2b)
174	B	51N 50W	30	2b, 3b	Middle Woodland	
176	B	51N 50W	30	2b, 3b	Middle Woodland	
183	B	53N 49W	30		Early Late Woodland	Nearby feature in level 30 in 50-51N 48-50W (2b)
B01	B	54N 49W	30		Unknown	
133	B	55N 52W	30 S-37		Middle Woodland	
148	B	53N 52W	30.A1		Middle Woodland	
138	B	55N 51W	30.A2		Middle Woodland	
145	B	54N 51W	30.A2		Middle Woodland	
147	B	53N 51W	30.A2		Middle Woodland	
144	B	52N 52W	30.A3		Middle Woodland	Nearby feature

						in level 30 in 49-50N 51-52W (5b)
133	B	55N 52W	30 S-37		Middle Woodland	
135	B	52N 50W	35	43a	Middle Woodland	
146	B	52N 50W	35	43a	Middle Woodland	
170	B	52N 50W	35	43a	Middle Woodland	
175	B	52N 50W	35	43a, 44,	Middle Woodland	Nearby feature in level 35 in 52-53N 49-50W (9)
143	B	52N 51W	35.A2		Middle Woodland	Nearby feature in level 35 in 52N 50W (43a) and 50-52N 49-50W (3b)
110	B	51N 53W	N20/400		Possible Middle Woodland	
131	B	55N 51W	400.A1		Middle Woodland	Nearby feature in level 400 in 54-55N

						50 W (11)
132	B	56N 52W	401.A1		Unknown	

Table 21. Ceramics in Area B.

Vessels from Area C

Vessel No	Area	Context	Depth	Associated Feature(s)	Archaeological Time Period	Notes
102	C	sondage 3	level 2		Possible Middle Woodland	
155	C	69N 38W	20		Middle Late Woodland	Nearby features in level 20 in 67-68N 39W (66b) and 68N 39W (70)
103	C	67N 39W	300.A1		Middle Late Woodland	Nearby features in level 300 in 66N 39W, 68N 40W Uren-Middleport Ceramic Tradition
124	C	68N 39W	300.A1		Transitional Woodland	Possibly Laurel-Blackduck Ceramic Tradition
128	C	70N 41W	30		Middle Woodland	Nearby feature in level 30 in

						66-67N 40W (72)
142	C	69N 40W	30.A2		Middle Woodland	Nearby feature in level 30 in 66-67N 40W (72) Possible Laurel Ceramic Tradition
137	C	67-68N 39W	30/40		Middle Woodland	
129	C	70N 41W	400.A1		Middle Woodland	
129	C	70N 41W	400.A1		Middle Woodland	
130	C	68N 39W	40		Middle Woodland	Nearby feature in level 40 in 65N 39-40W (77)

Table 22. Ceramics in Area C.

Vessels from Area D

Vessel No	Area	Context	Depth	Associated Feature(s)	Archaeological Time Period	Notes
181	D	58N 67-69W	300 bottom	4c	Middle Woodland	
186	D	57-58N 67W	300 bottom	primarily from 3a	Middle Woodland	Just below 15a feature
191	D	60N 67W	300 bottom		Middle Woodland	

Table 23. Ceramics in Area D.

Vessels from Unknown Area

Vessel No	Area	Context	Depth	Associated Feature(s)	Archaeological Time Period	Notes
104		Sondage 17	Level 2		Middle Woodland	
106		sector 5	surface		Middle Woodland	
107		sector 9	surface		Middle Woodland	
118		UC-95N	Beach surface		Middle Woodland	
119		UN-95N			Possible Middle Woodland	
139		beach	Surface		Late Early Woodland/Early Middle Woodland	
149		centre beach	Surface		Late Late Woodland	
150		north beach	Surface		Middle Woodland	
151		centre beach	Surface		Middle Woodland	
152		centre beach	Surface		Middle Woodland	
153		North beach	Surface		Early Late Woodland	
154		Beach	Surface		Middle Woodland	
158		Sondage A2	300 top		Middle Woodland	

159		Sondage A5	30		Middle Woodland	
161		Sondage A7	30		Middle Woodland	
162		Beach	Surface		Late Woodland	
180		Sondage A6	100		Middle Woodland	
200		Centre beach			Possible Middle Woodland	
B02		UC-95N	Surface		Possible Middle Woodland	
B04		UC-95N	Surface		Unknown	

Table 24. Ceramics in Unknown Area.

Appendix D: Data Breakdown

Ceramic Breakdown by Tool

Late Early Woodland/Early Middle Woodland Lip Breakdown by Tool

Tool	Lip #	Lip %
Cord Wrapped Tool	2	100%

Late Early Woodland/Early Middle Woodland Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext Rim Zone 3 #	Ext. Rim Zone 3 %
Cord Wrapped Tool	2	100%				50%
Ovate Bosses			1	50%	1	
Unobservable			1	50%	1	50%

Late Early Woodland/Early Middle Woodland Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Cord Wrapped Tool	1	50%	1	50%		
Ovate Punctate			1	50%		
Undecorated	1	50%			1	50%

Unobservable					1	50%

Late Early Woodland/Early Middle Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Unobservable	2	100%	2	100%	2	100%

Late Early Woodland/Early Middle Woodland Interior Neck Breakdown by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Unobservable	2	100%	2	100%	2	100%

Middle Woodland Lip Breakdown by Tool

Tool	Lip #	Lip %
Complex Dentate	1	1%
Cord Wrapped Tool	4	5%
Dentate	13	17%
Dentate overlaid with Incising	1	1%

Elongated Dentate	1	1%
Linear Stamp	6	8%
Pseudo-Scallop Shell	42	56%
Undecorated	4	5%
Unknown	2	3%
Unobservable	1	1%

Middle Woodland Exterior Rim Breakdown by Tool

Tool	**Ext. Rim Zone 1 #**	**Ext. Rim Zone 1 %**	**Ext. Rim Zone 2 #**	**Ext. Rim Zone 2 %**	**Ext. Rim Zone 3 #**	**Ext. Rim Zone 3 %**
Bosses			2	3%		
Circular Dentate			1	1%		
Complex Dentate	1	1%				
Complex Pseudo-Scallop Shell	1	1%				
Cord Wrapped Tool	6	8%	1	1%	1	1%
Dentate	10	13%	3	4%		
Dentate and Linear Stamp	1	1%				

Finger Nail	1	1%				
Incising	9	12%	1	1%		
Linear Stamp	5	7%	1	1%		
Pseudo-Scallop Shell	34	45%	8	11%	2	3%
Pseudo-Scallop Shell and Dentate	1	1%				
Pseudo-Scallop Shell - Dentate	2	3%				
Undecorated	1	1%				
Unknown	1	1%				
Unobservable	2	3%	37	49%	49	65%
Zone not present			21	28%	23	31%

Middle Woodland Interior Rim Breakdown by Tool

Tool	**Int Rim. Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int. Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int. Rim Zone 3 %**
Circular Dentate	1	1%				
Complex Dentate	1	1%				
Cord Wrapped Tool	5	7%	2	3%		

Cord Wrapped Tool and Dentate	1	1%				
Dentate	14	19%	2	3%		
Incising	2	3%				
Linear Stamp	3	4%	4	5%		
Ovate Punctate	1	1%				
Pseudo-Scallop Shell	32	43%	1	1%		
Pseudo-Scallop Shell - Dentate	1	1%	1	1%		
Punctate			2	3%		
Undecorated	8	11%	10	13%	4	5%
Unknown	3	4%				
Unobservable	1	4%	35	47%	47	63%
Zone not present			18	24%	24	32%

Middle Woodland Exterior Neck Breakdown by Tool

Tool	**Ext. Neck Zone 1 %**	**Ext. Neck Zone 2 %**	**Ext. Neck Zone 3 %**	**Ext. Neck Zone 4 %**	**Ext. Neck Zone 5 %**

Cord Wrapped Tool	1%		2%		1%
Dentate	7%	2%			
Incising	1%	3%			
Impressed				1%	
Linear Stamp	4%				
Pseudo-Scallop Shell	15%	33%	29%		
Punctate	1%				
Undecorated					
Unknown		1%	1%	1%	1%
Unobservable	72%	84%	85%	88%	88%
Zone not present		8%	9%	9%	9%

Middle Woodland Interior Neck Breakdown by Tool

Tool	**Int. Neck Zone 1 #**	**Int. Neck Zone 1 %**	**Int. Neck Zone 2 #**	**Int. Neck Zone 2 %**	**Int. Neck Zone 3 #**	**Int. Neck Zone 3 %**
Bosses	1	1%				
Cord Wrapped Tool	1	1%			**1**	**1%**

Elongated Dentate	1	1%				
Fingernail	1	1%				
Incising	1	1%				
Linear Stamp	1	1%				
Pseudo-Scallop Shell	2	3%	1	1%		
Undecorated	14	19%	3	4%	3	4%
Unknown	1	1%	1	1%	1	1%
Unobservable	52	69%	63	84%	63	84%
Zone not present			7	9%	7	9%

Possible Middle Woodland Lip Breakdown by Tool

Tool	**Lip #**	**Lip %**
Dentate	2	33%
Pseudo-Scallop Shell	1	17%
Undecorated	1	17%
Unobservable	2	33%

Possible Middle Woodland Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Dentate	2	33%				
Pseudo-Scallop Shell	1	17%				
Undecorated	1	17%	1	17%	1	17%
Unobservable	2	33%	4	67%	4	67%
Zone not present			1	17%	1	17%

Possible Middle Woodland Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Dentate	2	33%				
Undecorated	2	33%	2	33%	2	33%
Unobservable	2	33%	3	50%	3	50%
Zone not present			1	17%	1	17%

Possible Middle Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Pseudo-Scallop Shell	1	17%				
Unobservable	5	83%	5	83%	5	83%
Zone not present			1	17%	1	17%

Possible Middle Woodland Interior Neck Breakdown by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	17%	1	17%		
Unobservable	5	83%	5	83%	5	83%
Zone not present					1	17%

Transitional Woodland Lip Breakdown by Tool

Tool	Lip #	Lip %
Linear Stamp	2	50%
Fingernail	1	25%
Incising	1	25%

Transitional Woodland Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Circular Punctate			1	25%		
Fingernail	1	25%				
Incising	1	25%	1	25%		
Linear Stamp	1	25%	1	25%	1	25%
Undecorated	1	25%				
Unobservable			1	25%	2	50%
Zone not present					1	25%

Transitional Woodland Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Bosses			1	25%		
Incising	1	25%				
Undecorated	3	75%	2	50%	1	25%
Unobservable			1	25%	2	50%
Zone Not Present					1	25%

Transitional Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Unobservable	4	100%	4	100%	4	100%

Transitional Woodland Interior Neck Breakdown by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Unobservable	4	100%	4	100%	4	100%

Early Late Woodland Lip Tool Breakdown

Tool	Lip #	Lip
Dentate over Incised	1	25%
Linear Stamped	2	50%
Undecorated	1	25%

Early Late Woodland Exterior Rim Zone Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Bosses			1	25%		

Cord Wrapped Tool			1	25%		
Dentate and Linear Stamp	1	25%				
Incising	1	25%				
Linear Stamp	2	50%				
Unobservable			1	25%	2	50%
Zone Not Present			1	25%	2	50%

Early Late Woodland Interior Rim Breakdown by Tool

Tool	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int. Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int. Rim Zone 3 %**
Cord Wrapped Tool	2	50%				
Incised	1	25%				
Linear Stamp	1	25%				
Punctate			1	25%		
Undecorated			1	25%		
Unobservable			1	25%	2	50%

Zone Not Present			1	25%	2	50%

Early Late Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Cord Wrapped Tool	1	25%				
Elongated Dentate			1	25%		
Linear Stamp	1	25%	1	25%		
Unobservable	2	50%	2	50%	4	100%

Early Late Woodland Interior Neck Breakdown by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	2	50%	2	50%		
Unobservable	2	50%	2	50%	4	100%

Middle Late Woodland Lip Breakdown by Tool

Tool	Lip #	Lip %

Linear Stamp	2	100%

Middle Late Woodland Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3#	Ext. Rim Zone 3 %
Linear Stamp	2	100%	1	50%		
Incising			1	50%		
Zone not present					2	100%

Middle Late Woodland Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	2	100%	2	100%		
Zone not present					2	100%

Middle Late Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Lip Breakdown by Tool

Tool	Lip #	Lip %
Undecorated	2	100%

Late Woodland Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Incised	1	50%				
Linear Stamp	1	50%				
Unobservable			1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	2	100%				
Unobservable			1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %

Undecorated	1	50%				
Unobservable	1	50%	2	100%	2	100%

Late Woodland Interior Neck Breakdown by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	2	100%	2	100%

Late Late Woodland Lip Breakdown by Tool

Tool	Lip #	Lip
Undecorated	3	100%

Late Late Woodland Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 2 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Linear Stamp	3	100%	2	67%	2	67%
Zone not present			1	33%	1	33%

Late Late Woodland Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	3	100%	2	67%	2	67%

Zone not present			1	33%	1	33%

Late Late Woodland Exterior Neck Breakdown by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	2	67%	2	67%
Zone not present			1	33%	1	33%

Late Late Woodland Interior Neck Breakdown by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	2	67%	2	67%
Zone not present			1	33%	1	33%

Unknown Lip Breakdown by Tool

Tool	Lip #	Lip %
Undecorated	1	33%
Unobservable	2	67%

Unknown Exterior Rim Breakdown by Tool

Tool	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	3	100%	3	100%

Unknown Interior Rim Breakdown by Tool

Tool	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	3	100%	3	100%

Unknown Exterior Neck by Tool

Tool	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %	Ext. Neck Zone 4 #	Ext Neck Zone 4 %
Bosses	1	33%						
Cord Wrapped Tool			1	33%	1	33%		
Undecorated							1	33%
Unobservable	2	67%	2	67%	2	67%	2	67%

Unknown Interior Neck by Tool

Tool	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %	Int. Neck Zone 4 #	Int Neck Zone 4 %

Undecorated	1	33%	1	33%	1	33%	1	33%
Unobservable	2	67%	2	67%	2	67%	2	67%

Ceramic Breakdown by Motif

Late Early Woodland/Early Middle Woodland Lip Breakdown by Motif

Motif	Lip #	Lip %
Left Obliques	1	50%
Right Obliques	1	50%

Late Early Woodland/Early Middle Woodland Exterior Rim Breakdown by Motif

Motif	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Horizontals			1	50%	1	50%
Right obliques	2	100%				
Unobservable			1	50%	1	50%

Late Early Woodland/Early Middle Woodland Interior Rim Breakdown by Motif

Motif	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Horizontals			1	50%		

Right obliques	1	50%				
Undecorated	1	50%			1	50%
Unobservable			1	50%	1	50%

Late Early Woodland/Early Middle Woodland Exterior Neck Breakdown by Motif

Motif	**Ext. Neck Zone 1 No.**	**Ext. Neck Zone 1 %**
Unobservable	2	100%

Late Early Woodland/Early Middle Woodland Interior Neck Breakdown by Motif

Motif	**Int. Neck Zone 1 No.**	**Int. Neck Zone 1 %**
Unobservable	2	100%

Middle Woodland Lip Breakdown by Motif

Motif	**Lip #**	**Lip %**
Horizontals	3	4%
Horizontals overlaid with Verticals	1	1%
Left Obliques	3	4%
Right Obliques	32	43%

RO making HO bands	1	1%
Undecorated	4	5%
Unknown	1	1%
Unobservable	1	1%
Verticals	28	37%
Verticals beside Right Obliques	1	1%

Middle Woodland Exterior Rim Breakdown by Motif

Motif	**Ext. Rim Zone 1 #**	**Ext. Rim Zone 1 %**	**Ext. Rim Zone 2 #**	**Ext. Rim Zone 2 %**	**Ext. Rim Zone 3 #**	**Ext. Rim Zone 3 %**
Crosshatching	8	11%				
HO lines, some overlaid with RO, beside LO	1	1%				
HO rows of VE beside other HO bands	1	1%				
Horizontal band(s)	7	9%	5	7%		

Horizontals	6	8%	5	7%		
Left Obliques	8	11%	3	4%	1	1%
LO band(s) above RO band(s)	1	1%				
Right Obliques	25	33%	3	4%		
Right Obliques with space between						
Right obliques over Horizontals	1	1%				
RO making HO band(s)	5	7%	1	1%	1	1%
Undecorated	1	1%				
Unknown	1	1%				
Unobservable	2	3%	37	49%	49	65%
VE in HO band(s)	1	1%				
Verticals	6	8%				
Verticals beside Right Obliques	1	1%				
Zone not present			21	28%	23	31%

Middle Woodland Interior Rim Breakdown by Motif

Motif	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int Rim Zone 2 %**	**Int. Rim Zone 2 #**	**Int Rim Zone 3 %**

Crosshatching	2	3%				
Horizontal bands	2	3%	2	3%		
Horizontals	7	9%	6	8%		
Horizontals making Vertical	1	1%				
Left Obliques	5	7%				
Left obliques beside right obliques			1	1%		
Left obliques in horizontal band	1	1%				
Slightly curved left obliques	1	1%				
Right Obliques	25	33%	1	1%		
Right obliques beside left obliques	1	1%	1	1%		
Curved right obliques	1	1%				
RO making HO bands	4	5%				
Right oblique bands	1	1%				
Undecorated	9	12%	9	12%	4	5%
Unknown	3	4%				

Unobservable	3	4%	37	49%	49	65%
Verticals with Horizontals overlaid	1	1%				
Verticals	7	9%	1	1%		
Verticals beside RO	1	1%				
Verticals (crescent shaped)			1	1%		
Zone not present			16	21%	22	29%

Middle Woodland Exterior Neck Breakdown by Motif

Motif	**Ext. Neck Zone 1 #**	**Ext Neck Zone 1 %**	**Ext. Neck Zone 2 #**	**Ext. Neck Zone 2 %**	**Ext. Neck Zone 3 #**	**Ext. Neck Zone 3 %**	**Ext. Neck Zone 4 #**	**Ext. Neck Zone 4**	**Ext. Neck Zone 5 #**	**Ext. Neck Zone 5**
Crosshatching	1	1%								
Horizontal bands	4	5%			1	1%			1	1%
Horizontals	5	7%					1	1%		
Horizontals bands overlaid with Verticals	1	1%								
Horizontal bands some overlaid with right obliques			1	1%	2	3%				
Left Obliques	1	1%	1	1%						

Left obliques in slight Left oblique bands with blank space between	1	1%								
Left oblique band between two horizontal bands			1	1%						
Right Obliques	5	7%								
Right oblique making Horizontal band, sometimes overlapping with another horizontal band							1	1%		
RO making HO bands	1	1%								
Undecorated										
Unknown	1	1%	1	1%	1	1%	1	1%	1	1%
Unobservable	51	68%	64	85%	64	85%	64	85%	65	87%
VE in HO band	2	3%								
Verticals	1	1%								

Verticals beside left obliques, sometimes making crosshatching, beside horizontals. Some horizontals overlay obliques	1	1%								
Horizontal zigzag			1	1%						
Zone not present			6	8%	7	9%	8	11%	8	11%

Middle Woodland Interior Neck Breakdown by Motif

Motif	**Int. Neck Zone 1 #**	**Int Neck Zone 1 %**	**Int. Neck Zone 2 #**	**Int. Neck Zone 2 No**	**Int. Neck Zone 3 #**	**Int. Neck Zone 3 %**	**Int. Neck Zone 4 #**	**Int. Neck Zone 4 %**
Horizontal bands	1	1%						
Horizontals	3	4%			1	1%		
Horizontals is vertical columns	1	1%						
Right Obliques			1	1%				
Undecorated	12	16%	5	4%	5	4%	5	4%

Unknown	1	1%	1	1%	1	1%	1	1%
Unobservable	55	73%	62	83%	62	83%	62	83%
Verticals	1	1%						
Verticals (crescent shaped)	1	1%						
Zone not present			6	8%	6	7%	7	7%

Possible Middle Woodland Lip Breakdown by Motif

Motif	**Lip #**	**Lip %**
Horizontals	1	17%
Right Obliques	1	17%
Undecorated	1	17%
Unobservable	2	33%
Verticals	1	17%

Possible Middle Woodland Exterior Rim Breakdown by Motif

Motif	**Ext. Rim Zone 1 #**	**Ext. Rim Zone 1 %**	**Ext. Rim Zone 2 #**	**Ext. Rim Zone 2 %**	**Ext. Rim**	**Ext. Rim Zone 3 %**
Horizontals	1	17%				

Horizontal Bands	1	17%				
Right Obliques	1	17%				
Undecorated	1	17%				
Unobservable	2	33%	4	67%	4	67%
Zone Not Present			2	33%	2	33%

Possible Middle Woodland Interior Rim Breakdown by Motif

Motif	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int. Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int. Rim Zone 3 %**
Horizontal Bands	2	33%				
Undecorated	2	33%				
Unobservable	2	33%	4	67%	4	67%
Zone Not Present			2	33%	2	33%

Possible Middle Woodland Exterior Neck Breakdown by Motif

Motif	**Ext. Neck Zone 1 #**	**Ext. Neck Zone 1 %**	**Ext. Neck Zone 2 #**	**Ext. Neck Zone 2 %**	**Ext. Neck Zone 3 #**	**Ext. Neck Zone 3 %**
Horizontals	1	17%				
Undecorated						

Unobservable	5	83%	5	83%	5	83%
Zone Not Present			1	17%	1	17%

Possible Middle Woodland Interior Neck Breakdown by Motif

Motif	**Int. Neck Zone 1 #**	**Int. Neck Zone 1 %**	**Int. Neck Zone 2 #**	**Int. Neck Zone 2 %**	**Int. Neck Zone 3 #**	**Int. Neck Zone 3 %**
Undecorated	1	17%	1	17%		
Unobservable	5	83%	5	83%	5	83%
Zone not present					1	17%

Transitional Woodland Lip Breakdown by Motif

Motif	**Lip #**	**Lip %**
Verticals	1	25%
Right Obliques	2	50%
Crosshatching with overlapping Horizontals	1	25%

Transitional Woodland Exterior Rim Breakdown by Motif

Motif	**Ext. Rim Zone 1 #**	**Ext Rim Zone 1 %**	**Ext. Rim Zone 2 #**	**Ext Rim Zone 2 %**	**Ext. Rim Zone 3 #**	**Ext Rim Zone 3 %**

Horizontals	1	25%	2	50%	1	25%
Right Obliques	2	50%				
Undecorated	1	25%	1	25%		
Unobservable					1	25%
Zone not present			1	25%	2	50%

Transitional Woodland Interior Rim Breakdown by Motif

Motif	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int. Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int Rim Zone 3 #**
Horizontal			1	25%		
Undecorated	3	75%	1	25%	1	25%
Unobservable			2	50%	2	50%
Verticals over Right Obliques	1	25%				
Zone Not Present					1	25%

Transitional Woodland Exterior Neck Breakdown by Motif

Motif	Ext. Neck Zone 1 #	Ext Neck Zone 1 %	Ext. Neck Zone 2 #	Ext Neck Zone 2 %	Ext. Neck Zone 3 #	Ext Neck Zone 3 %4
Unobservable	4	100%	4	100%	4	100%

Transitional Woodland Interior Neck Breakdown by Motif

Motif	Int. Neck Zone 1 #	Int Neck Zone 1 %	Int. Neck Zone 2 #	Int Neck Zone 2 %	Int. Neck Zone 3 #	Int Neck Zone 3 %
Unobservable	4	100%	4	100%	4	100%

Early Late Woodland Lip Breakdown by Motif

Motif	Lip #	Lip %
Horizontals	1	25%
Right Obliques beside Verticals	1	25%
Verticals	1	25%
Undecorated	1	25%

Early Late Woodland Exterior Rim Breakdown by Motif

Motif	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %

Crosshatching	1	25%				
Horizontal Band			2	50%		
Right Oblique	1	25%				
Right Obliques overlaying Horizontal Bands	1	25%				
Unobservable			1	25%	2	50%
Verticals	1	25%				
Zone Not Present			1	25%	2	50%

Early Late Woodland Interior Rim Breakdown by Motif

Motif	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int. Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int. Rim Zone 3 %**
Crosshatching	1	25%				
Horizontals	1	25%				
Horizontal Band(s)			1	25%		

Right Obliques	2	50%				
Undecorated			1	25%		
Unobservable			1	25%	2	50%
Zone Not Present			1	25%	2	50%

Early Late Woodland Exterior Neck Breakdown by Motif

Motif	**Ext. Neck Zone 1 #**	**Ext Neck Zone 1 %**	**Ext. Neck Zone 2 #**	**Ext Neck Zone 2 %**	**Ext. Neck Zone 3 #**	**Ext Neck Zone 3 %**
Horizontal Band(s)			1	25%		
Left Obliques			1	25%		
Right Obliques	1	25%				
Unobservable	2	50%	2	50%	4	100%
Verticals	1	25%				

Early Late Woodland Interior Neck Breakdown by Motif

Motif	**Int. Neck Zone 1 #**	**Int Neck Zone 1 %**	**Int. Neck Zone 2 #**	**Int Neck Zone 2 %**	**Int. Neck Zone 3 #**	**Int Neck Zone 3 %**

Undecorated	2	50%	2	50%		
Unobservable	2	50%	2	50%	4	100%

Middle Late Woodland Lip Breakdown by Motif

Motif	**Lip #**	**Lip %**
Horizontals	2	100%

Middle Late Woodland Exterior Rim Breakdown by Motif

Motif	**Ext. Rim Zone 1 #**	**Ext. Rim Zone 1 %**	**Ext. Rim Zone 2 #**	**Ext. Rim Zone 2 %**	**Ext. Rim Zone 3 #**	**Ext. Rim Zone 3 %**
Crosshatching			1	50%		
Horizontal band(s)	1	50%	1	50%		
Verticals	1	50%				
Zone not present					2	100%

Middle Late Woodland Interior Rim Breakdown by Motif

Motif	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone**	**Int. Rim Zone 2 %**		**Int. Rim Zone 3 %**
Undecorated	2	100%	2	100%		
Zone not present					2	100%

Middle Late Woodland Exterior Neck Breakdown by Motif

Motif	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	1	50%	1	50%
Zone not present			1	50%	1	50%

Middle Late Woodland Interior Neck Breakdown by Motif

Motif	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Lip Breakdown by Motif

Motif	Lip #	Lip %
Undecorated	2	100%

Late Woodland Exterior Rim Breakdown by Motif

Motif	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %

Horizontal band above Right Oblique with some overlapping Left Obliques	1	50%				
Horizontals beside Verticals	1	50%				
Unobservable			1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Interior Rim Breakdown by Motif

Motif	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int. Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int. Rim Zone 3 %**
Undecorated	2	100%				
Unobservable			1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Exterior Neck Breakdown by Motif

Motif	**Ext. Neck Zone 1 #**	**Ext. Neck Zone 1 %**	**Ext. Neck Zone 2 #**	**Ext. Neck Zone 2 %**	**Ext. Neck Zone 3 #**	**Ext. Neck Zone 3 %**
Undecorated	1	50%				

Unobservable	1	50%	2	100%	2	100%

Late Woodland Interior Neck Breakdown by Motif

Motif	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	2	100%	2	100%

Late Late Woodland Lip Breakdown by Motif

Motif	Lip #	Lip %
Undecorated	3	100%

Late Late Woodland Exterior Rim Breakdown by Motif

Motif	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %	Ext. Rim Zone 4 #	Ext. Rim Zone 4 %
Horizontal bands			1	33%				
Horizontal bands (wavey)			1	33%				
Left obliques							1	33%

Left Oblique bands					1	33%		
Right Obliques	1	33%						
Right oblique bands beside left oblique bands					1	33%		
Right obliques to Verticals to right obliques to horizontals repeating	1	33%						
Verticals	1	33%						
Zone not present			1	33%	1	33%	2	67%

Late Late Woodland Interior Rim Breakdown by Motif

Motif	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	3	100%	2	67%	2	67%
Zone not present			1	33%	1	33%

Late Late Woodland Exterior Neck Breakdown by Motif

Motif	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Unobservable	2	67%	2	67%	2	67%
Undecorated	1	33%				
Zone not present			1	33%	1	33%

Late Late Woodland Interior Neck Breakdown by Motif

Motif	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Unobservable	2	67%	2	67%	2	67%
Undecorated	1	33%				
Zone not present			1	33%	1	33%

Unknown Lip Breakdown by Motif

Motif	Lip #	Lip %
Undecorated	1	33%
Unobservable	2	67%

Unknown Exterior Rim Breakdown by Motif

Motif	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext Rim Zone 2 %

Undecorated	1	33%		
Unobservable	2	67%	3	100%

Unknown Interior Rim Breakdown by Motif

Motif	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %
Undecorated	1	33%		
Unobservable	2	67%	3	100%

Unknown Exterior Neck Breakdown by Motif

Motif	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %	Ext. Neck Zone 4 #	Ext. Neck Zone 4 %
Horizontal band(s)	1	33%	1	33%				
Right obliques					1	33%		
Undecorated							1	33%
Unobservable	2	67%	2	67%	2	67%	2	67%

Unknown Interior Neck Breakdown by Motif

Motif	Int. Neck Zone 1 #	Int Neck 1 %	Int. Neck Zone 2 #	Int Neck Zone 2 %	Int. Neck Zone 3 #	Int Neck Zone 3 %	Int. Neck Zone 4 #	Int Neck Zone 4 %
Undecorated	1	33%	1	33%	1	33%	1	33%

Unobservable	2	67%	2	67%	2	67%	2	67%

Ceramic Breakdown by Technique

Late Early Woodland/Early Middle Woodland Lip Breakdown by Technique

Tech	Lip #	Lip %
Stamped	2	100%

Late Early Woodland/Early Middle Woodland Exterior Rim Breakdown by Technique

Tech	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Stamped	2	100%	1	50%	1	50%
Unobservable			1	50%	1	50%

Late Early Woodland/Early Middle Woodland Interior Rim Breakdown by Technique

Tech	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Stamped	1	50%	1	50%		
Undecorated	1	50%			1	50%
Unobservable			1	50%	1	50%

Late Early Woodland/Early Middle Woodland Exterior Neck Breakdown by Technique

Tech	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %

Unobservable	2	100%	2	100%	2	100%

Late Early Woodland/Early Middle Woodland Interior Neck Breakdown by Technique

Tech	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Unobservable	2	100%	2	100%	2	100%

Middle Woodland Lip Breakdown by Technique

Technique	Lip #	Lip %
Dragged Stamped	2	3%
Stamped	65	87%
Stamped with incised overlaid	1	1%
Undecorated	4	5%
Unknown	2	3%
Unobservable	1	1%

Middle Woodland Exterior Rim Breakdown by Technique

Technique	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Dragged Stamped	1	1%				
Incising	9	12%	1	1%		

Rocker Stamped	3	4%				
Stamped	58	77%	14	19%	3	4%
Undecorated	1	1%				
Unknown	2	3%				
Unobservable	1	1%	40	53%	47	63%
Zone not present			20	27%	25	33%

Middle Woodland Interior Rim Breakdown by Technique

Technique	**Int. Rim Zone 1 #**	**Int. Rim Zone 1 %**	**Int. Rim Zone 2 #**	**Int Rim Zone 2 %**	**Int. Rim Zone 3 #**	**Int Rim Zone 3 %**
Dragged Stamped	3	4%				
Incising	2	3%				
Rocker Stamped	2	3%	2	3%		
Stamped	53	71%	9	12%		
Undecorated	9	12%	8	11%	3	4%
Unknown	4	5%				
Unobservable	2	3%	38	51%	48	64%
Zone not present			18	24%	24	32%

Middle Woodland Exterior Neck Breakdown by Technique

Technique	Ext. Neck Zone 1 #	Ext Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %	Ext. Neck Zone 4 #	Ext. Neck Zone 4 %	Ext. Neck Zone 5 #	Ext Neck Zone 5 %
Dragged Stamped	1	1%								
Incising	2	3%	1	1%						
Stamped	19	25%	4	5%	2	3%	2	3%	1	1%
Stamped and incised					1	1%				
Unknown	1	1%	1	1%	1	1%	1	1%	1	1%
Unobservable	52	69%	63	84%	64	85%	64	85%	64	85%
Zone not present			6	8%	7	9%	8	11%	9	12%

Middle Woodland Interior Neck Breakdown by Technique

Technique	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int Neck Zone 2 %	Int. Neck Zone 3 #	Int Neck Zone 3 %	Int. Neck Zone 4 #	Int Neck Zone 4 %	Int. Neck Zone 5 #	Int Neck Zone 5 %
Bosses	1	1%								
Impressed	1	1%								
Incised	1	1%								
Rocker stamped	1	1%								
Stamped	4	5%	1	1%	1	1%				

Undecorated	12	16%	4	5%	4	5%	2	3%	1	1%
Unobservable	53	71%	62	83%	62	83%	64	85%	64	85%
Unknown	2	3%	1	1%	1	1%	1	1%	1	1%
Zone not present			7	9%	7	9%	8	11%	9	12%

Possible Middle Woodland Lip Breakdown by Technique

Tech	Lip #	Lip %
Stamped	3	50%
Undecorated	1	17%
Unobservable	2	33%

Possible Middle Woodland Exterior Rim Breakdown by Technique

Tech	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Stamped	3	50%				
Undecorated	1	17%				
Unobservable	2	33%	4	67%	4	67%
Zone not present			2	33%	2	33%

Possible Middle Woodland Interior Rim Breakdown by Technique

Tech	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %

Stamped	2	33%				
Undecorated	2	33%	1	17%	1	17%
Unobservable	2	33%	4	67%	4	67%
Zone not present			1	17%	1	17%

Possible Middle Woodland Exterior Neck Breakdown by Technique

Tech	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Stamped	1	17%				
Unobservable	5	83%	5	83%	5	83%
Zone not present			1	17%	1	17%

Possible Middle Woodland Interior Neck Breakdown by Technique

Tech	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	17%	1	17%		
Unobservable	5	83%	5	83%	5	83%
Zone not present					1	17%

Transitional Woodland Lip Breakdown by Technique

Tech	Lip #	Lip %
Stamped	3	75%

Incised	1	25%

Transitional Woodland Exterior Rim Breakdown by Technique

Tech	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Stamped	3	75%	2	50%	1	25%
Undecorated	1	25%				
Unobservable			1	25%	1	25%
Zone not present			1	25%	2	50%

Transitional Woodland Interior Rim Breakdown by Technique

Tech	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Stamped			1	25%		
Incised	1	25%				
Undecorated	3	75%	2	50%	1	25%
Unobservable			1	25%	2	50%
Zone not present					1	25%

Transitional Woodland Exterior Neck Breakdown by Technique

Tech	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Unobservable	4	100%	4	100%	4	100%

Transitional Woodland Interior Neck Breakdown by Technique

Tech	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Unobservable	4	100%	4	100%	4	100%

Early Late Woodland Lip Breakdown by Technique

Tech	Lip #	Lip %
Stamped	2	50%
Stamped over Incised	1	25%
Undecorated	1	25%

Early Late Woodland Exterior Rim Breakdown by Technique

Tech	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Incised	1	25%				
Stamped	3	75%	2	50%		
Unobservable			1	25%	2	50%
Zone Not Present			1	25%	2	50%

Early Late Woodland Interior Rim Breakdown by Technique

Tech	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %

Incised	1	25%				
Stamped	2	50%	1	25%		
Undecorated	1	25%	1	25%		
Unobservable			1	25%	2	50%
Zone not present			1	25%	2	50%

Early Late Woodland Exterior Neck Breakdown by Technique

Tech	**Ext. Neck Zone 1 #**	**Ext. Neck Zone 1 %**	**Ext. Neck Zone 2 #**	**Ext. Neck Zone 2 %**	**Ext. Neck Zone 3 #**	**Ext. Neck Zone 3 %**
Dragged Stamped			1	25%		
Stamped	2	50%	1	25%		
Unobservable	2	50%	2	50%	4	100%

Early Late Woodland Interior Neck Breakdown by Technique

Tech	**Int. Neck Zone 1 #**	**Int. Neck Zone 1 %**	**Int. Neck Zone 2 #**	**Int. Neck Zone 2 %**	**Int. Neck Zone 3 #**	**Int. Neck Zone 3 %**
Undecorated	2	50%	2	50%		
Unobservable	2	50%	2	50%	4	100%

Middle Late Woodland Lip Breakdown by Technique

Technique	Lip #	Lip %
Stamped	2	100%

Middle Late Woodland Exterior Rim Breakdown by Technique

Technique	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Linear Stamp	2	100%	1	50%		
Incising			1	50%		
Zone not present					2	100%

Middle Late Woodland Interior Rim Breakdown by Technique

Technique	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	2	100%	2	100%		
Zone not present					2	100%

Middle Late Woodland Exterior Neck Breakdown by Technique

Technique	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	1	50%	1	50%

Zone not present			1	50%	1	50%

Middle Late Woodland Interior Neck Breakdown by Technique

Technique	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Lip Breakdown by Technique

Tech	Lip #	Lip %
Undecorated	2	100%

Late Woodland Exterior Rim Breakdown by Technique

Tech	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Incised	1	50%				
Stamped	1	50%				
Unobservable			1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Interior Rim Breakdown by Technique

Tech	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	2	100%				
Unobservable			1	50%	1	50%
Zone not present			1	50%	1	50%

Late Woodland Exterior Neck Breakdown by Technique

Technique	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	2	100%	2	100%

Late Woodland Interior Neck Breakdown by Technique

Technique	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	50%				
Unobservable	1	50%	2	100%	2	100%

Late Late Woodland Lip Breakdown by Technique

Technique	Lip #	Lip %
Undecorated	3	100%

Late Late Woodland Exterior Rim Breakdown by Technique

Technique	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Stamped	3	100%	2	67%	2	67%
Zone not present			1	33%	1	33%

Late Late Woodland Interior Rim Breakdown by Technique

Technique	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	3	100%	2	67%	2	67%
Zone not present			1	33%	1	33%

Late Late Woodland Exterior Neck Breakdown by Technique

Technique	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	2	67%	2	67%
Zone not present			1	33%	1	33%

Late Late Woodland Interior Neck Breakdown by Technique

Technique	Int. Neck Zone 1 #	Int. Neck Zone 1 %	Int. Neck Zone 2 #	Int. Neck Zone 2 %	Int. Neck Zone 3 #	Int. Neck Zone 3 %
Undecorated	1	33%				

Unobservable	2	67%	2	67%	2	67%
Zone not present			1	33%	1	33%

Unknown Woodland Lip Breakdown by Technique

Technique	Lip #	Lip %
Undecorated	1	33%
Unobservable	2	67%

Unknown Woodland Exterior Rim Breakdown by Technique

Technique	Ext. Rim Zone 1 #	Ext. Rim Zone 1 %	Ext. Rim Zone 2 #	Ext. Rim Zone 2 %	Ext. Rim Zone 3 #	Ext. Rim Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	3	100%	3	100%

Unknown Woodland Interior Rim Breakdown by Technique

Technique	Int. Rim Zone 1 #	Int. Rim Zone 1 %	Int. Rim Zone 2 #	Int. Rim Zone 2 %	Int. Rim Zone 3 #	Int. Rim Zone 3 %
Undecorated	1	33%				
Unobservable	2	67%	3	100%	3	100%

Unknown Woodland Exterior Neck Breakdown by Technique

Technique	Ext. Neck Zone 1 #	Ext. Neck Zone 1 %	Ext. Neck Zone 2 #	Ext. Neck Zone 2 %	Ext. Neck Zone 3 #	Ext. Neck Zone 3 %	Ext. Neck Zone 4 #	Ext Neck Zone 4 %
Stamped	1	33%	1	33%	1	33%		

Undecorated							1	33%
Unobservable	2	67%	2	67%	2	67%	2	67%

Unknown Woodland Interior Neck Breakdown by Technique

Technique	**Int. Neck Zone 1 #**	**Int. Neck Zone 1 %**	**Int. Neck Zone 2 #**	**Int. Neck Zone 2 %**	**Int. Neck Zone 3 #**	**Int. Neck Zone 3 %**
Undecorated	1	33%	1	33%	1	33%
Unobservable	2	67%	2	67%	2	67%

Rim Orientation Frequency & Percentage by Time Period

Rim Orientation/ Time Period	Slight Everted		Everted		Everted, outflaring		Inverted		Slight everted, outflaring		Outflaring		Slight outflaring		Straight		Unobservable		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
Late Late Woodland											2	67	1	33					3	100
Middle Late Woodland									2	100									2	100
Late Woodland													1	50	1	50			2	100
Early Late Woodland					2	50					1	25	1	25					4	100
Transitional Woodland					3	74							1	25					4	100
Middle Woodland	2	3	1	1	6	21	1	1	2	3	19	25	23	31	9	12	2	3	75	100
Poss. Middle Woodland											1	25	2	50	1	25			4	100
Late Early Woodland/ Early Late Woodland													2	100					2	100

Lip Form Frequency and Percentage by Time Period

Lip Form/ Time Period	Complex		Concave		Convex		Straight		Diagonal to Profile		Rolled		Unobservable		Total	
	f	%	f	%	f	%	f	%	f	%	f	%	f	%	f	%
LLW							3	100							3	100
MLW					2	100									2	100
LW					1	50	1	50							2	100
ELW					1	25	3	75							4	100
TW	1	25			2	50	1	25							4	100
MW	3	4	1	1	25	33	41	55	2	3	1	1	2	3	75	100
P. MW	1	17			2	33			1	17			2	33	6	100
LEW/EMW							2	100							2	100

Appendix E: Representative Photographs

Figure 69. Vessel 101, Huron-Wendat Ceramic Tradition Vessel.

Figure 70. Vessel 101, Huron-Wendat Ceramic Tradition Vessel.

Figure 71. Vessel 137, Middle Woodland Period Vessel.

Figure 72. Vessel 102, Possible Middle Woodland Vessel.

Figure 73. Vessel 173, Transitional Woodland Period Vessel.

Figure 74. Vessel 103, Uren-Middleport Ceramic Tradition Vessel.

Figure 75. Vessel 124, Possible Laurel-Blackduck Ceramic Tradition Vessel.

Figure 76. Vessel 170, Middle Woodland Period Vessel

Figure 77. Vessel 142, Possible Laurel Ceramic Tradition.

Figure 78. Vessel 182, Middle Woodland Period Vessel, Interlocking Kabeshinàn type.

Figure 79. Vessel 156, Early Late Woodland Period Vessel.

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