The Archaeology of the Dykstra Site (BbGw-5)

A Report on the Stage 4 Salvage Excavations of the
Holly Secondary Planning Area (43T-92026)
Part of the Northwest Half of Lot 2, Concession 12
City of Barrie, Simcoe County, Ontario

Submitted to

Ontario Ministry of Culture
400 University Avenue, 4th Floor
Toronto, Ontario M7A 2R9
Tel: (416) 314-7100

Prepared by

ARCHAEOLOGICAL SERVICES INC.
528 Bathurst Street
Toronto, Ontario M5S 2P9
Tel: (416) 966-1069 Fax: (416) 966-9723
Email: archaeology@sympatico.ca
Website: www.archaeologicalservices.on.ca

Licence #1999-007 & #00-016
CIF #1999-007-169 & 2000-056
ASI File #99PO-01

January 2006

PROJECT PERSONNEL

Project Director:	Dr. Ronald F. Williamson
Field Director:	Mr. Andrew Clish
Field Archaeologists:	Ms. Dana Campbell Ms Kristine Crawford Ms. Crystal Forrest Ms. Jen McKee Dr. Stephen Monckton Ms. Debbie Steiss Ms. Sarah Swingler Ms. Heidi Ritscher Ms. Caroline Thérault Ms. T. Traidle Mr. Chis Watts Ms. Keli Watson
Report Preparation:	Mr. Andrew Clish Ms. Irena Miklavcic Dr. Stephen Monckton[1] Ms. Debbie Steiss Mr. Stephen Cox Thomas[1] Dr. Ronald F. Williamson Mr. Rob Wojtowicz
Artifact Processing:	Mr. Rob Wojtowicz Miss. Crystal Forrest
Artifact Photography:	Ms. Irena Miklavcic Mr. Rob Wojtowicz
Graphics:	Mr. Andrew Clish

[1]Bioarchaeological Research

TABLE OF CONTENTS

List of Figures

List of Tables

List of Plates

CHAPTER 1
INTRODUCTION: THE EXCAVATION OF THE DYKSTRA SITE AND PREVIOUS REGIONAL RESEARCH

Andrew Clish and Ronald F. Williamson

1.1 PROJECT BACKGROUND

Archaeological Services Inc. was contracted by The Wellington Development (Holly) Corporation of Barrie, Ontario to conduct a salvage excavation of the Dykstra site (BGw-5). This work was conducted in accordance with the Ontario Heritage Act (R.S.O. 1990) under archaeological consulting license 1999-007 and 2000-016 issued to Archaeological Services Inc.

The Dykstra site was a Middle Iroquoian (ca 1350-1370 AD) special purpose settlement located within the Holly Secondary Planning Area (43T-92026) and the adjacent Environmental Protection Area in the northwest half of Lot 2, Concession 12, City of Barrie, Simcoe County, Ontario (Figure 1.1). This fourteenth century site covered an area of 0.5 hectares, and was situated on the margin of the Innisfill uplands overlooking the Bear Creek drainage system of the Simcoe lowlands. This site was situated on a sandy loam soil and was bordered on its north side by a substantial break-in-slope from which in places, visibility over the lowlands is as far as the eye can see. Approximately 2,800 square metres of the site was in arable field while the remaining 900 square metres was forested.

Stage 4 Salvage Excavation of the site took place in 2000. The excavation revealed one longhouse, several post rows that are likely fences, and two external features. The following report provides an interpretation of the site settlement pattern, an analysis of the site's material culture, and a discussion of the occupation, function and context of Dykstra relative to other Middle Iroquoian sites in southern Simcoe County.

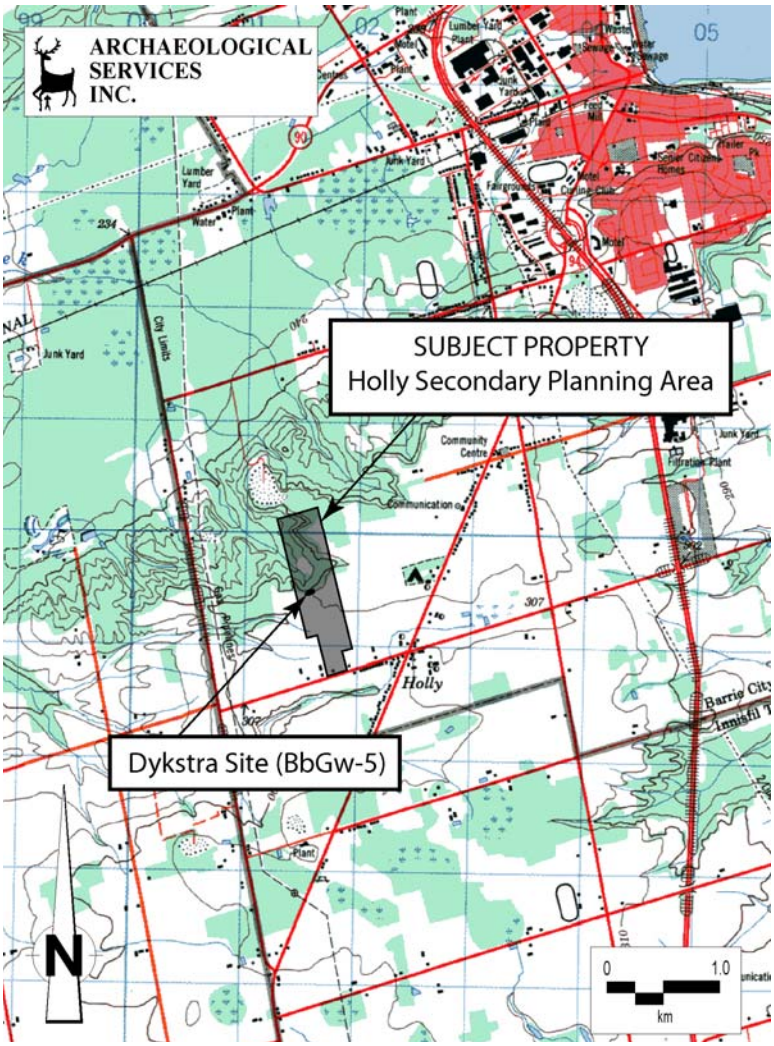


Figure 1.1: Location of the Dykstra site within the subject property, Holly Secondary Planning Area. NTS 31 D/5, 1986.

1.2 PREVIOUS INVESTIGATIONS AT THE DYKSTRA SITE (BbGw-5)

The Dykstra site was found in 1985 by Gary Warrick as part of his dissertation research. The results of his work at the site are described in his 1988 report entitled: "The Iroquoian Occupation of Southern Simcoe County: Results of the Southern Simcoe Archaeological Project 1985-1986". In this report, Warrick outlines his field methods and provides descriptions of the recovered material and site observations. In the case of Dykstra, he had conducted an intensive surface collection of the ploughed field and had excavated 16 one metre square units over the site area. He also reports a hillside midden deposit located just north of the break-in-slope. A second midden was reported on the east side of the site that could be seen on the surface of the ploughed field. A total of 815 artifacts was collected, mainly from the hillside midden. These include ceramics (n=703, 86.2%), flaked debitage and tools (n=104, 12.8%), groundstone tools (n=6, 0.7%) and bone (n=2, 0.2%). Based on 20 analyzable rim sherds, Warrick concluded that the site was a small 0.3 ha Middle Iroquoian occupation dating to between A.D. 1350 and 1370.

In 1992, *Ontario Archaeological Consulting Services* conducted an archaeological assessment of the Dykstra property. The ploughed field where the site was discovered was re-examined and artifacts were again seen on the surface of the field. Owen Keatley, who was directing the survey, elected to rely on Warrick's work to demonstrate the site size, date and cultural affiliation. No further collection of artifacts was undertaken.

In 1994, yet another assessment was conducted on the site by *D. R. Poulton and Associates*. The objective of this work was to assess whether Warrick's 1985 investigations would provide sufficient information to meet the Stage 3 guidelines defined by the Ministry of Culture. It was concluded that Warrick's work met those guidelines but that another examination of the ploughed field was necessary to re-establish the 1985 datum and determine the current condition of the site. In D.R. Poulton's report entitled: "The 1994 Archaeological Investigations of the Proposed Dykstra Subdivision (Draft Plan 43T-92026), Holly Planning Area, City of Barrie, Simcoe County, Ontario", the site is described as a 0.376 ha, small Middle Iroquoian Village site (Poulton and Sutton 1995). The location of the two middens and the artifact distribution on the surface of the field were consistent with Warrick's findings. No additional artifacts were collected during Poulton's Stage 3 investigation.

With the surface distribution of artifacts across the site defined by two competent researchers, the site perimeter was fenced with a 10 m buffer. This was undertaken to allow construction on the balance of the subdivision and to ensure that the site would not be disturbed until salvage excavation of the site could take place.

1.3 THE 1999–2000 INVESTIGATIONS

In 1999, *Archaeological Services Inc.* was contracted to carry out a salvage excavation of the site prior to the construction of the planned subdivision. These excavations began with a controlled collection of artifacts from the surface of the ploughed field as well as testpitting along the top of the slope at the north edge of the site. It should be noted that the northern limit of the ploughed field was approximately five metres farther south than when Warrick was on the site. There were

several positive testpits in the area of Warrick's east midden and again the surface distribution matched previous findings. Once the surface collection and testpitting was completed and mapped, six one metre square test units were excavated in areas of higher artifact concentrations within the ploughed field.

Following testing of the ploughzone, a Gradall was brought in to remove the topsoil from the ploughed area of the site to look for settlement patterns relating to the occupation of the site. Topsoil was removed from an area of 0.51 ha revealing one open-ended longhouse and a number of fence rows, some of which protected, or were associated with, activities that produced subsurface pit features. No palisade wall(s) were encountered. The unploughed area along the top-of-slope was excavated in one metre square units due to the presence of the east "midden". As the hillside midden was not threatened by the proposed development, it was not excavated.

A total of 6,134 artifacts was recovered from the 1999-2000 Stage 4 salvage excavations (Table 1.1). This assemblage consists of 4,617 ceramic artifacts including: 74 identified vessels, 138 unanalyzable rim fragments, 268 neck fragments, 47 neck and shoulder fragments, seven neck-shoulder and body fragments, 27 shoulder fragments, four shoulder and body fragments, 682 body fragments, 3,167 unanalyzable fragments, 30 miscellaneous ceramic objects, 111 smoking pipe fragments and 62 juvenile ceramics.

Table 1.1: Wellington Artifact Assemblage

Artifact Class / **Artifact Type**	**Garry Warrick 1985**	**Stage 1&2 (OACS) 1992**	**Stage 3 (DRP &A) 1994**	**Stage 4 (ASI) 1999-2000**
Ceramics				
Vessel				74
Unanalyzable Rim Sherd	27			138
Neck Sherd				268
Shoulder Sherd				27
Body Sherd	607			682
Neck/Shoulder/Body Combo.	33			58
Pipes	19			111
Juvenile	17			62
Misc.				30
Unanalyzable	664			3167
Subtotal	*703*	*0*	*0*	*4617*
Lithics				
Scraper	1			1
Projectile Point	1			3
Drill				2
Biface				3
Debitage	102			790
Groundstone	6			19
Subtotal	*110*	*0*	*0*	*818*
Fauna				
Bone	2			687
Worked Bone				12
Subtotal	*2*	*0*	*0*	*699*
Total	**815**	**None Collected**	**None Collected**	**6134**

Lithics account for 818 artifacts in the collection. The lithic collection consists of one scraper, three projectile points, two drills, three biface fragments, one abrader fragment, one adze fragment, one axe fragment, four hammerstones, 11 unidentifiable groundstone fragments and 790 pieces of debitage. The debitage consists of 7 cores, three primary reduction flakes, 18 primary thinning flakes, 221 secondary knapping flakes, 81 secondary retouch flakes, one bipolar flake and 459 pieces of shatter. A wide variety of raw materials is represented in the lithic collection including chert types such as Huronia, Balsam Lake, Onondaga, Fossil Hill, Trent Valley, Kettle Point, Bois Blanc, Lockport, Upper Mercer, Flint Ridge and Hudson's Bay Lowland, as well as Quartz/Quartzite, Chalcedony and Granite.

The faunal collection consists of 699 specimens: 310 mammal, 14 bird, seven reptile, 3 amphibian, 294 fish, 33 mollusc shell and 26 unidentifiable fragments. Twelve worked bone artifacts were also recovered.

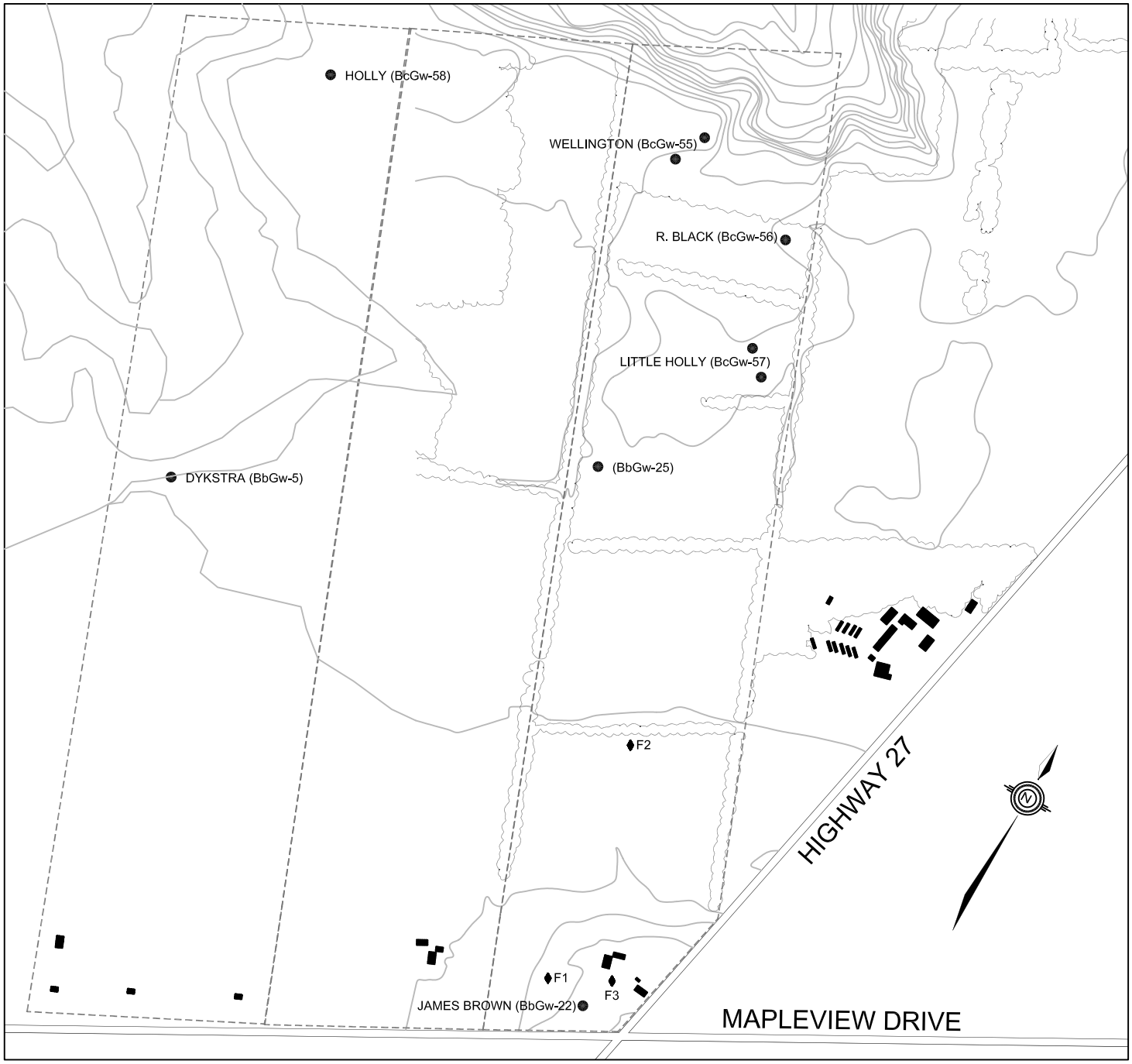
The following report includes an analysis of the material recovered during the salvage excavation.

1.4 GEOGRAPHICAL AND BIOPHYSICAL SETTING

The Innisfill Uplands form part of the larger Simcoe Uplands physiographic region, which extends from south of Barrie to the Penetang Peninsula. These Uplands consist of sands and gravels of such permeability that streams are rare on the upland plateaus, although springs located on the upland slopes feed permanent lowland streams. In particular, the site is located on Dundonald sandy loam, which is a well drained Gray Brown Podzolic soil (Hoffman et al. 1962). The Holly, Wellington and Dykstra sites are situated immediately adjacent to a small stream that flows into Bear Creek and eventually the Nottawasaga River (Figure 1.2).

Although prone to drought, limited by relatively low fertility and by moderate to severe slope, the soils of these upland margins would generally have been adequate for Iroquoian maize horticulture. The topography and soils of the central uplands originally supported a hardwood forest dominated by maple and beech in association with white pine, yellow birch, basswood and hemlock. Whereas these forests may have formed a fairly uniform closed canopy environment, it is also probable that the topographic variability and complex moisture regimes of the upland margins would have resulted in a much more diverse and dynamic forest cover along the upland slopes. The poor drainage of the surrounding lowlands, on the other hand, favoured species such as elm, cedar, tamarack, black ash and soft maple. Substantial bogs, such as the Minesing Swamp and the Allenby Marsh are also present throughout the lowland areas. These areas would have offered a wide variety of food and building resources.

The contrasts between the plateau and its marginal slopes would appear to have been a major factor influencing Iroquoian settlement patterns in the region, as all of the major sites occur along the upland margins. By placing their major settlements along these upland slopes these communities could avail themselves not only of well-drained openings in the forest, but more importantly, would have had ready access to spring water and the stack of environmental zones that flanked the slopes and valley floor.



Archaeological Services Inc.

site location
findspot
building
treeline
contours
subject property

0 50m
SCALE

DATE: January 24, 2006

DRAWN BY: S.F.
FILE: 91PO-FG1pt2

Figure 1.2: Site Locations on the Subject Property

CHAPTER 2
SETTLEMENT PATTERNS

Andrew Clish, Ronald F. Williamson and Irena Miklavcic

2.1 EXCAVATION AND RECORDING METHODS

The greater part of the Dykstra site was subject to topsoil removal with the exception of the north midden, which was excavated by one metre square block excavation, and the east midden, which was not threatened by the proposed development and therefore not excavated. Approximately 30 cm of topsoil was removed by Gradall to reveal the subsoil. Once the newly exposed area was shovel shinned, the exact location of features and posts were recorded by means of triangulation. Prior to triangulation, post moulds and features were further defined by trowelling, and square plans were drawn. As conditions warranted, and as the soil dried out during exposure to sun and wind, water was used to increase the visibility of the features.

The location and diameter of post moulds were recorded on pre-printed forms. They were sectioned only when it was necessary to obtain a depth and orientation, or to distinguish between large support posts and small pits. Comments on fill and contents were made and recovered artifacts were bagged separately.

Features were recorded by triangulation to a centre point and were then drawn on pre-printed forms. Location information and other attributes were also recorded. Features were excavated by trowel and shovel, their fill being screened through six-millimetre mesh. In all cases, features were sectioned along their central long axes, their profiles recorded and the remaining fill removed. Photographs were taken to document complex feature profiles.

It was considered important to represent as many recognized feature types from the site as possible by at least one soil sample. Of the soil samples collected, 19 samples representing a volume of 53.0 litres of soil, were processed using the double bucket method of flotation for the recovery of carbonized plant material.

2.2 VILLAGE PLAN

Excavation of the site resulted in the documentation of one longhouse (House 1), several post rows that are likely fences or exterior structures (Structure A, B, C, D and E), 102 features including one hearth, two semi-subterranean sweat lodges, two ash pits, 19 support posts, 74 general pits and 4 miscellaneous features (Figure 2.1). The broad open areas surrounding the house and exterior structures is divided into two parts, Exterior Activity Area 1 (EA01) in which the north midden is located, and Exterior Activity Area 2 in which House 1 and the majority of the features and posts are located.

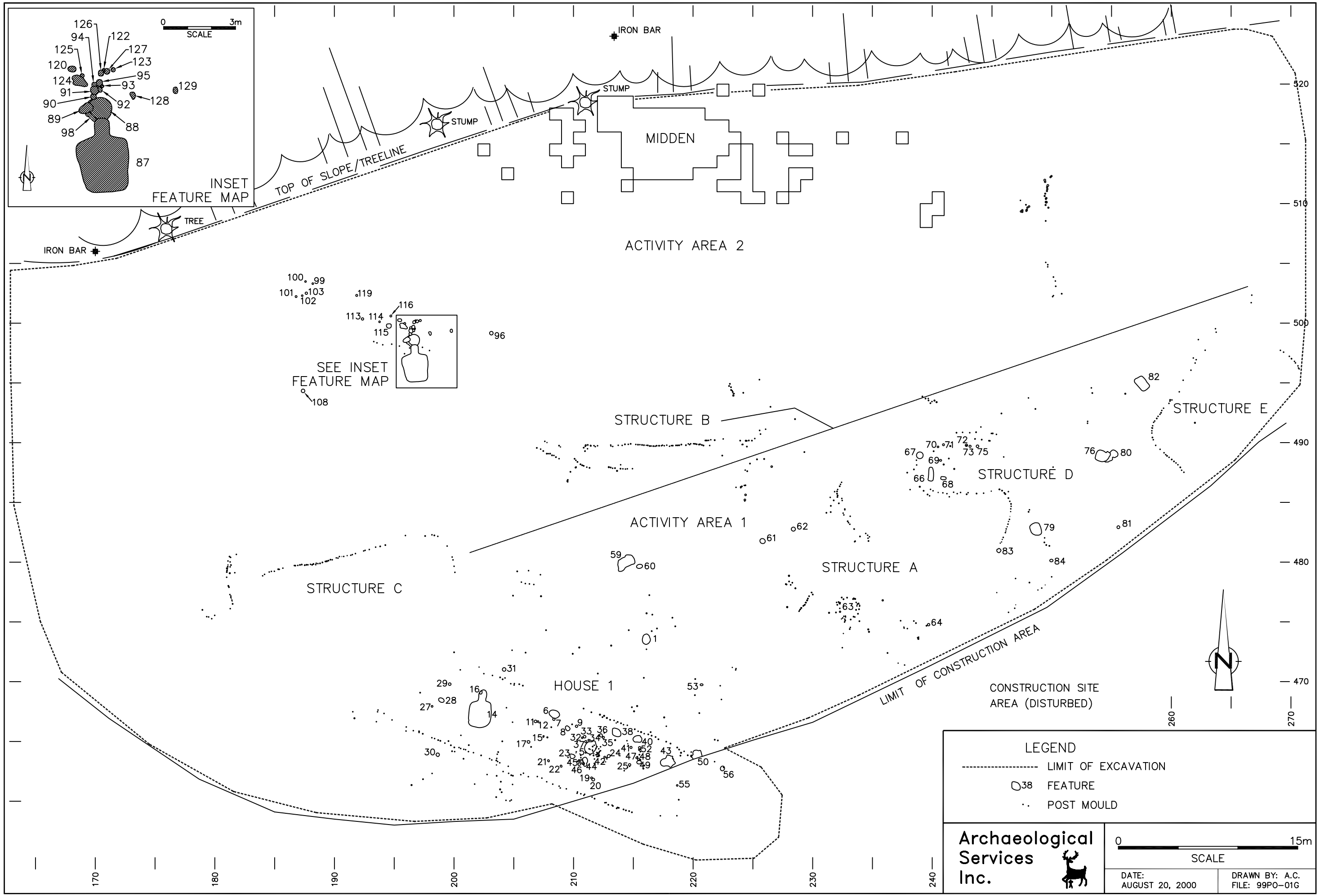


FIGURE 2.1: DYKSTRA SITE (BbGw-5): SITE PLAN

The settlement contains only one clear house, although several other cluster or lines of posts might represent housing elements, in particular Structures C, D and E (Figure 2.1). The north midden (excavated) and the east midden (not excavated) are in typical locations in relation to House 1, as well, both are on the cusp of the slope surrounding the northern and eastern edge of the site.

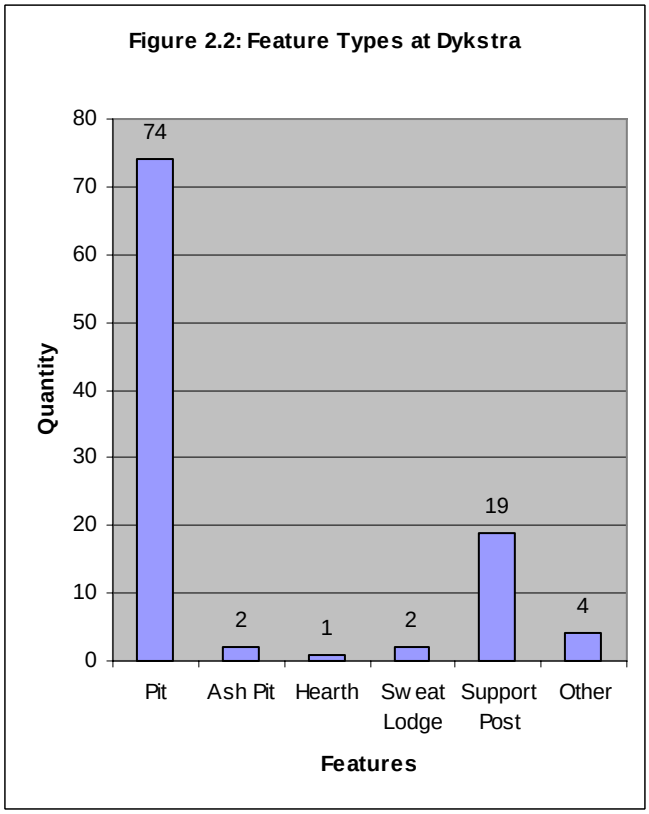
Tables 2.1 and 2.2 provide summary statistics for the dimensions of the longhouse and feature distribution within and adjacent to the house (Figures 2.2 and 2.3). In total, 102 features were exposed during the excavation including: one hearth, 74 general pits, two ash pits, 19 support posts, four post clusters and two sweat lodges. A complete inventory of all features excavated at the site is listed in Table 2.3 at the end of the chapter.

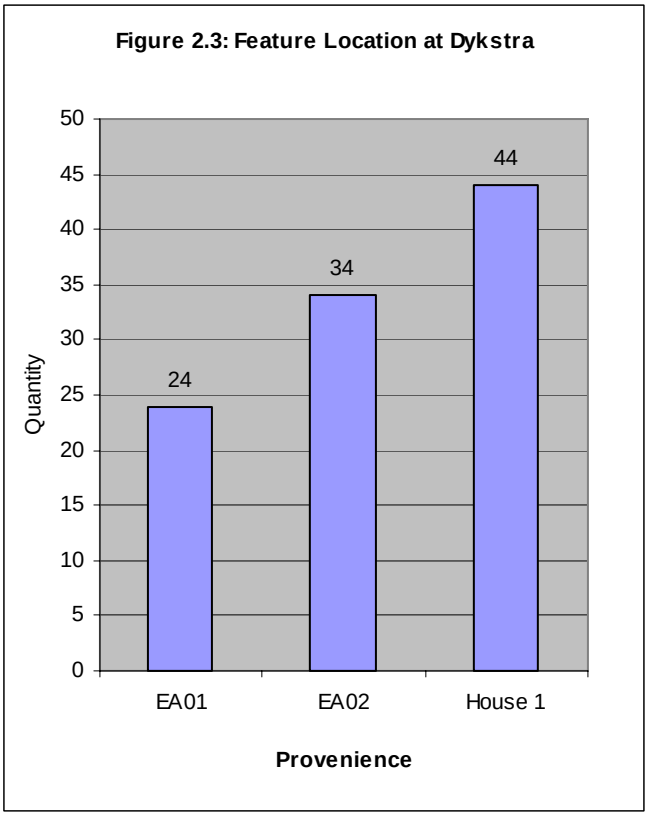
Table 2.1: House Attribute Summary

	Dykstra House 1
Length (m)	26.9
Width (m)	6.4
Orientation (°east of north)	111°
Perimeter (m)	58.5
Area (m^2)	172.2
WALL POSTS	
n	98
Density (per m)	1.7
Mean Diameter (cm)	6.6
Range (cm)	4-12
Standard Deviation	1.97
INTERIOR POSTS	
n	94
Density (per m^2)	0.5
Mean Diameter (cm)	5.2
Range (cm)	2-12
Standard Deviation	1.92
Total Posts	**192**
FEATURES	
Hearths	1
Ash Pits	1
Pits	29
Sweat Lodges	1
Support Posts	11
Other	1
Total Features	**44**

Table 2.2: Feature Distribution

	Pit	**Ash Pit**	**Support Post**	**Hearth**	**Sweat Lodge**	**Other**	**Total**
EA01	20		2			2	24
EA02	25	1	6		1	1	34
House 1	29	1	11	1	1	1	44
Total	**74**	**2**	**19**	**1**	**2**	**4**	**102**





2.3 SETTLEMENT PATTERN DESCRIPTION

2.3.1 House 1 (Figure 2.4)

House 1 was located approximately 10 m south of the southern limit of the surface scatter. Unfortunately, the southeast end of the house had been truncated by the adjacent construction activities because it extended south of the fenced area, beyond the boundary of the site as defined previously. The remaining portion of the house was 26.9 m long and 6.4 m wide. The walls of the house are oriented 111° east of north.

House 1 contained 30 features including one hearth and one semi-subterranean sweat lodge. The location of the hearth (Feature 43) is unusual in that it is situated within one metre of the north wall instead of the central long axis. The sweat lodge was located in the northwest area of the house, situated in the middle corridor of the house with the entrance to the north. The long axis of the sweat lodge was approximately 20 degrees off perpendicular to the house walls, an unusual orientation for these features. Given this orientation, it is possible that as is the case with Feature 87, it pre-or-post-dates the occupation of the house. Very little material was recovered from this feature and the same can be said about the longhouse as a whole. In fact, of the 30 features in the house, 15 contained artifacts with most of the materials recovered from only five of those features.

House 1 may have been open-ended as no post moulds could be found at the northwest end. Due to the construction disturbance at the southeast end, no other corroborative structural data are

available. It is, nevertheless, probable that this house was occupied seasonally given the relative lack of activity within the house and the likelihood that it was open-ended. In fact, Features 38. 40, 50 and 56 may also not relate to the occupation of the house as they are on or immediately adjacent to the north house wall.

Numerous curved rows of posts were found to the north and east of House 1 (Figure 2.4). These could have been fences or shelters of some type. A cluster of features (Features 66-75) was found on the east side of the house (Figure 2.1), while a second cluster of features (Features 87-129) were found to the north of the house midway towards the midden.

2.3.2 Structures & Exterior Area 1 (EA01)

Structure A is a circular arrangement of 32 posts measuring 1.6 m in diameter (Figure 2.4). There was no pit feature associated with these posts and no artifactual material was recovered nearby. This pattern is unlikely to represent the presence of cooking or drying racks since several such features would be required to produce the number of posts observed, and the posts and surrounding soils were free of fired soil, ash or charcoal. It is suggested that this structure may have been a briefly used as an above-ground sweatbath. These structures are not uncommon to other contemporaneous sites in the area (e.g., Wellington and Dunsmore sites). The difference in this case, is that the cluster is not within a house. Also, Alan Tyyska in his 1972 analysis, stated that there is no set pattern for these clusters to be associated with hearths. No hearth was located near this structure; in fact, no features were found within five metres of this cluster.

Structures B, C, D and E, constitute multiple rows of posts that are not associated with house structures (Figure 2.4) and probably functioned as ephemeral shelters, fence rows or perhaps wind breaks, which may have been especially necessary in the uplands. Their random placement and orientation suggest that these were built to cope with varying conditions, perhaps during intermittent occupations. All four structures were located in Exterior Area 1 (EA01), comprising the south half of the site. While Structure C and E appear to represent a series of wall segments that might have constituted house structures, the excellent soil conditions suggest that they were only ephemeral in nature.

No perimeter fence or palisade was found at the site.

2.3.3 Midden & Exterior Area 2 (EA02)

As discussed in Chapter 1, the location of Warrick's east midden was re-established during the testpitting of the top-of-slope at the northern edge of the site. The limits of this feature were determined through test-pitting. While the core area of this feature (65 units) was excavated in one metre squares, topsoil was, nevertheless, removed from the top-of-slope adjacent to the excavated core. No additional settlement patterns were found. The excavated units ranged in depth from 85 cm to 20 cm and in some cases plough scars could be seen in the subsoil below units that were 50 cm deep. This not only suggests that the area was previously ploughed but that the movement of soils through ploughing resulted in an uneven thickness of topsoil over this

area. The recovered artifacts were very small, also suggesting that the area had been repeatedly ploughed in the past. Despite the disturbance of the area, many small diagnostic ceramic vessel sherds and pipe fragments, including a human effigy fragment, were found.

It should be noted that the area may not represent a midden in any conventional sense. Indeed, on other sites of this time period, shallow deposits of artifacts that do not appear to have been associated with any settlement features have been interpreted as activity areas rather than as refuse deposits.

Feature 87, located in Exterior Area 2 (EA02), was a semi-subterranean sweat lodge (Figure 2.5) similar in size, construction pattern, and fill history to many others excavated at similar regional sites such as the Wiacek, Hubbert, Dunsmore, Holly and Wellington sites. The key difference in this case, however, is that this lodge is not associated with a house structure. The feature measured 3.1 m long, 2.2 m wide and had a depth of 46 cm. Interestingly, this feature and the associated features outside the entrance to the sweat lodge produced more artifacts than were found in all of House 1. One particularly interesting piece is the bone projectile point found in Feature 88 at the entrance to the sweat lodge (see Plate 6.4).

While no evidence of a structure was found, seven posts were found forming a line perpendicular to the central long axis of the sweat lodge. No other posts were found in the area. This row of posts may have provided some form of protection from winds blowing from the southwest, with the entrance situated on the leeward side of this row. The row of posts extended three metres west from the edge of the sweat lodge and only one metre to the east.

FIGURE 2.4: DYKSTRA SITE (BbGw–5): HOUSE 1

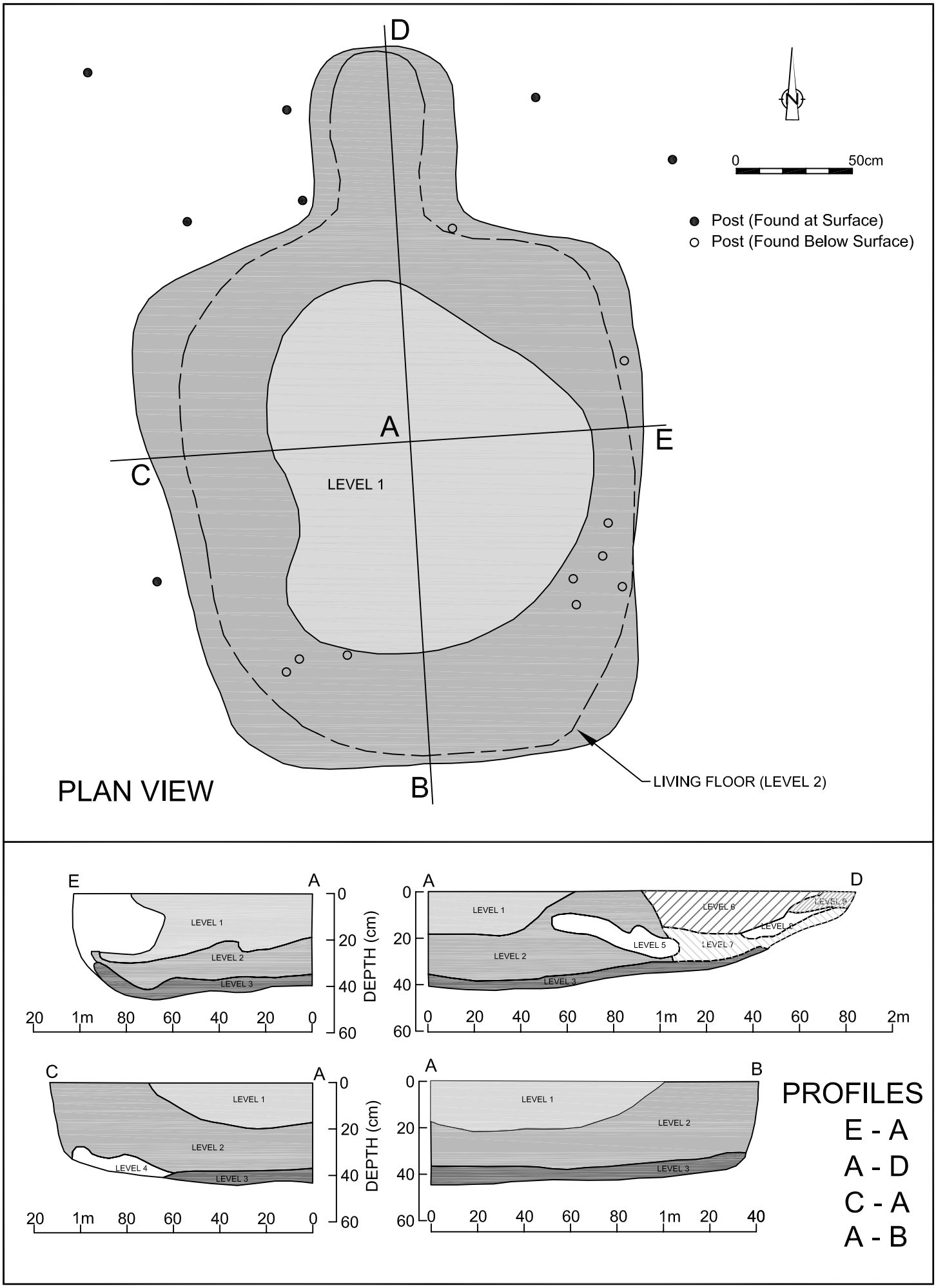


Figure 2.5 Dykstra Site (BbGw-5): Sweat Lodge Feature 87

Table 2.3: Features Excavated at the Dykstra Site

Feature Number	Feature Type	Dimensions (cm) Len	Wid	Dep	Plan Shape	Profile Shape	Feature Fill		Contents	% Flotation
						HOUSE 1				
5	Pit	120	90	42	Key Hole	Flat Bottomed	Mottled		POTTERY, BONE, CPR, FCR	5
6	Pit	95	65	20	Ovate	Skewed				
7	Support Post	21	21	18	Circular	Deep Basin				
8	Pit	40	27	8	Ovate	Irregular	Mottled			50
9	Support Post	19	19	21	Circular	Cone				
11	Pit	22	22	11	Circular	Skewed			POTTERY	
12	Pit	14	14	10	Circular	Deep Basin				
14	Sweat Lodge	320	187	42	Key Hole	Tub	Lensed	Layered	??	
15	Pit	20	15	15	Irregular	Cone	Mottled		BONE	
16	Pit	27	21	5	Ovate	Shallow Basin	Mottled			
17	Pit	22	18	12	Ovate	Cone			POTTERY	
19	Pit	17	17	12	Circular	Cone				
20	Pit	25	25	13	Circular	Deep Basin			POTTERY	
21	Pit	19	15	8	Ovate	Shallow Basin				
22	Pit	18	14	4	Ovate	Shallow Basin				
23	Ash Pit	50	40	10	Irregular	Shallow Basin	Mottled		SHELL	50
24	Pit	27	24	20	Ovate	Concoidal	Mottled		BONE	40
25	Support Post	22	21	40	Circular	Circular	Lensed		CHERT, BONE	
27	Pit	15	15	9	Circular	Cone	Mottled			
28	Pit	50	35	13	Ovate	Shallow Basin		Layered		
29	Pit	22	22	5	Circular	Shallow Basin				
30	Pit	31	29	13	Ovate	Shallow Basin	Mottled			15
32	Support Post	14	14	11	Circular	Deep Basin	Mottled			
33	Support Post	22	20	30	Ovate	Cone	Mottled		POTTERY	
34	Support Post	13	13	50	Circular	Circular	Mottled			
35	Pit	19	15	10	Ovate	CF				
36	Pit	29	21	15	Ovate	Cone	Mottled			
37	Support Post	18	18	28	Circular	Circular				
38	Pit	87	73	25	Ovate	Shallow Basin	Mottled			
40	Pit	70	49	20	Irregular	Shallow Basin	Mottled		POTTERY, BONE, LARGE PIECES OF CHARCOAL	
41	Support Post	19	17	26	Ovate	Circular			BONE	
42	Pit	15	15	5	Circular	Skewed				
43	Hearth	127	110	28	Irregular	Shallow Basin	Lensed	Layered	POTTERY, CHERT, BONE, FCR	10
44	Pit	52	43	10	Ovate	Skewed	Mottled		BONE	10
45	Support Post	32	16	38	Other	Irregular			BONE	
46	Pit	30	20	39	Ovate	Irregular			POTTERY, BONE	
47	Support Post	15	15	33	Circular	Circular	Mottled		POTTERY, BONE	

Table 2.3: Features Excavated at the Dykstra Site

Feature Number	Feature Type	Dimensions (cm) Len	Wid	Dep	Plan Shape	Profile Shape		Feature Fill		Contents	% Flotation
48	Other	19	16	30	Ovate	Irregular				POTTERY	
49	Pit	39	31	45	Ovate	Irregular		Lensed		POTTERY, CHERT, BONE	20
50	Pit	67	48	18	Irregular	Irregular	Mottled			POTTERY	5
52	Support Post	19	19	37	Circular	Circular				POTTERY, BONE	
55	Pit	15	12	7	Ovate	Shallow Basin					
56	Pit	43	34	12	Ovate	Shallow Basin	Mottled				
130	Pit	31	26	14	Ovate	Deep Basin	Mottled				
						EA01					
2	Pit	90	70	25	Ovate	Shallow Basin	Mottled				
31	Pit	30	30	15	Circular	Deep Basin	Mottled				
53	Pit	25	15	7	Ovate	Skewed					
59	Pit	186	90	45	Irregular	Irregular		Lensed	Layered	??	5
60	Pit	52	39	11	Ovate	Shallow Basin					
61	Pit	46	43	15	Ovate	Shallow Basin	Mottled				
62	Pit	35	34	8	Circular	Shallow Basin					
63	Other	224	220	0	Irregular	Slim Shallow					
64	Pit	21	18	13	Ovate	Deep Basin					
66	Pit	132	45	40	Ovate	Skewed	Mottled				
67	Pit	57	53	10	Ovate	Shallow Basin				POTTERY	
68	Pit	39	23	21	Ovate	Irregular				CHERT	
69	Pit	19	16	15	Ovate	Deep Basin	Mottled				
70	Support Post	14	14	20	Circular	Circular					
71	Other	17	17	27	Circular	Irregular	Mottled				
72	Support Post	20	20	29	Circular	Circular	Mottled				
73	Pit	14	14	18	Circular	Deep Basin					
75	Pit	23	21	18	Ovate	Deep Basin					
76	Pit	194	106	23	Irregular	Flat Bottomed			Layered	POTTERY, BONE	10
79	Pit	120	88	30	Ovate	Shallow Basin					
80	Pit	65	65	27	Irregular	Irregular	Mottled				
82	Pit	128	85	16	Ovate	Shallow Basin			Layered		5
83	Pit	36	34	18	Irregular	Irregular					
84	Pit	29	23	9	Ovate	Shallow Basin		Lensed			
						EA02					
87	Sweat Lodge	310	215	43	Key Hole	Tub		Lensed	Layered	POTTERY, CHERT, BONE, FCR	2
88	Pit	100	90	21	Ovate	Shallow Basin	Mottled			POTTERY, CHERT, BONE, FCR, BONE PROJECTILE POINT	10
89	Pit	65	44	15	Ovate	Shallow Basin	Mottled			POTTERY, BONE	
90	Pit	25	23	10	Circular	Shallow Basin	Mottled			POTTERY, BONE	
91	Pit	36	31	5	Circular	Shallow Basin	Mottled			POTTERY, BONE	

Table 2.3: Features Excavated at the Dykstra Site

Feature Number	Feature Type	Dimensions (cm) Len	Wid	Dep	Plan Shape	Profile Shape		Feature Fill	Contents	% Flotation
92	Pit	22		4	Ovate	Shallow Basin	Mottled		POTTERY	
93	Pit	15	12	3	Ovate	Shallow Basin	Mottled			
94	Pit	27	23	4	Ovate	Shallow Basin	Mottled		POTTERY, BONE	
95	Pit	26	26	6	Circular	Shallow Basin	Mottled		POTTERY, BONE	
96	Pit	30	26	5	Ovate	Shallow Basin	Mottled			
98	Pit	95					Mottled		POTTERY, CHERT, BONE, HAMMERSTONE	
99	Pit	15	12	7	Ovate	Shallow Basin				
100	Pit	15	13	10	Ovate	Deep Basin				
101	Pit	16	14	8	Ovate	Deep Basin	Mottled			
102	Pit	15	15	9	Circular	Deep Basin			POTTERY	
103	Pit	19	15	9	Circular	Shallow Basin	Mottled			
105	Pit	20	17	11	Ovate	Shallow Basin	Mottled			
106	Other	33	17	19	Other	Irregular	Mottled		BONE	
107	Pit	27	27	6	Circular	Shallow Basin	Mottled		BONE, SHELL	
108	Pit	58	56	9	Circular	Shallow Basin	Mottled		POTTERY, CHERT, GROUNDSTONE, BONE, FCR	25
113	Support Post	21	20	16	Ovate	Cone	Mottled		BONE	
114	Pit	15	15	5	Circular	Shallow Basin	Mottled			
115	Pit	43	40	11	Ovate	Shallow Basin	Mottled		BONE	
116	Pit	16	14	6	Circular	Shallow Basin	Mottled		POTTERY, BONE	
119	Support Post	17	17	12	Circular	Deep Basin	Mottled			
120	Pit	30	21	5	Ovate	Skewed	Mottled		CHERT, FCR	
122	Pit	13	12	5	Circular	Shallow Basin	Mottled			
123	Support Post	18	18	16	Circular	Cone	Mottled			
124	Ash Pit	78	60	12	Irregular	Irregular	Mottled		POTTERY, CHERT, BONE	10
125	Support Post	18	18	20	Circular	Cone	Mottled			
126	Pit	25	16	11	Ovate	Irregular	Mottled		CHERT	
127	Support Post	25	23	22	Circular	Deep Basin	Mottled		POTTERY, BONE, QUARTZ	
128	Pit	31	24	13	Irregular	Irregular	Mottled			
129	Support Post	28	18	21	Ovate	Cone	Mottled		CHERT, BONE, SHELL	

CHAPTER 3
CERAMIC ARTIFACT ANALYSIS

Robert Wojtowicz

3.1 INTRODUCTION

A total of 4,617 ceramic artifacts (Table 3.1) was recovered from the Dykstra Site (BbGw-5). Of these ceramics, 4,414 were sherds from body, neck, shoulder and rim fragments individually or in various combinations. In addition, 111 smoking pipe fragments, 62 juvenile manufactured ceramic vessel and pipe fragments, and 30 miscellaneous ceramic objects were also recovered. A complete catalogue of all artifacts discussed in this section can be found in Appendix A-D.

Ceramic fragments that were smaller than 24 mm or displayed excessive exterior exfoliation were classified as unanalyzable and account for 3,167 fragments, 68.59% of the total ceramic assemblage. Whenever possible, all ceramic artifacts were mended prior to analysis to the minimum number by provenience.

3.2 CERAMIC VESSELS AND MISCELLANEOUS CERAMIC OBJECTS

3.2.1 Analysis of Ceramic Vessels and Miscellaneous Ceramic Objects

The analysable ceramic vessel assemblage consists of 74 identified vessels, 138 unanalyzable rim fragments, 268 neck fragments, 47 neck/shoulder fragments, seven neck/shoulder/body fragments, 27 shoulder fragments, four shoulder/body fragments and 682 body fragments (Table 3.1).

Table 3.1: Dykstra Site Ceramic Artifacts

Type	n	%
Unanalyzable Fragments	3167	68.59
Body Fragments	682	14.77
Neck Fragments	268	5.80
Unanalyzable Rim Fragments	138	2.99
Pipe Fragments	111	2.40
Identified Vessels	74	1.60
Juvenile Ceramics	62	1.34
Neck/Shoulder Fragments	47	1.02
Misc. Ceramic Artifacts	30	0.65
Shoulder Fragments	27	0.58
Neck/Shoulder/Body Fragments	7	0.15
Shoulder/Body Fragments	4	0.09
Total	**4617**	**99.98**

Vessel Rims

Rims classified as analyzable exhibited interior and exterior surfaces, a lip, and sufficient exterior collar-neck area to ascertain decorative motif and associated attributes. The vessel rims were analysed using both an attribute and traditional typological approach. All rims were mended and sorted into 74 individual vessels, of which, 15 are represented only by castellation fragments and are not included in the following discussion. Summary descriptive statistics of individual attributes are presented in Tables 3.2 and 3.3.

Table 3.2: Dykstra Site Ceramic Vessel Descriptive Attributes

Rim Form	**n**	**%**	**Collar Base Shape**	**n**	**%**	**Rim Orientation**	**n**	**%**
Incipient	47	79.66	Rounded	51	86.44	Outflaring	49	83.05
Collared	6	10.17	Not Applicable	6	10.17	Vertical	6	10.17
Collarless	6	10.17	Angular	2	3.39	Insloping	4	6.78
Total	**59**	**100.00**	**Total**	**59**	**100.00**	**Total**	**59**	**100.00**

Lip Form	**n**	**%**	**Angle of the Lip to the Interior**	**n**	**%**
Flat	50	84.75	Right	36	61.02
Rounded	5	8.47	Obtuse	15	25.42
Concave	3	5.08	Acute	8	13.56
Pointed	1	1.69	**Total**	**59**	**100.00**
Total	**59**	**99.99**			

Interior Profile	**n**	**%**	**Exterior Profile**	**n**	**%**		
Concave	50	84.75	Convex	38	64.41		
Convex	6	10.17	Concave	11	18.64	**Collar Height (n=53)**	
Straight	3	5.08	Straight	9	15.25	Mean	13.5
Total	**59**	**100.00**	Irregular	1	1.69	Range	5.03-24.18
			Total	**59**	**99.99**	Standard Deviation	4.04

Interior Motif	**n**	**%**	**Interior Tech**	**n**	**%**	**Lip Width (n=59)**	
Plain	51	86.44	Plain	51	86.44	Mean	6.79
Oblique	7	11.86	Linear Stamp	8	13.56	Range	2.4-13
Vertical	1	1.69	**Total**	**59**	**100.00**	Standard Deviation	1.94
Total	**59**	**99.99**					

Lip Motif	**n**	**%**	**Lip Technique**	**n**	**%**	**Basel Collar Width (n=53)**	
Plain	50	84.75	Plain	50	84.75	Mean	9.19
Oblique	6	10.17	Linear Stamp	7	11.86	Range	2.91-13.51
Horizontal	3	5.08	Incised	1	1.69	Standard Deviation	2.19
Total	**59**	**100.00**	Indeterminate	1	1.69		
			Total	**59**	**99.99**		

Incipient collar forms dominate this assemblage (n=47; 79.66%). In contrast, collared and collarless rim forms constitute only one fifth of the assemblage (n=12; 20.34%). Collar base shapes of the rounded type are identified on 86.44% of the vessels (n=51), while only two (3.39%) vessels have angular collar base shapes. Six (10.17%) of the remaining vessels are collarless and thus not applicable to this attribute.

Most vessels, display a flat lip form (n=50; 84.75%). The remainder have rounded (n=5; 8.47%), concave (n=3; 5.08%) or pointed (n=1; 1.69%) lip forms. Three classifications were observed with respect to the angle of the lip to the interior of the vessel. These are right or 90 degrees (n=36; 61.02%), obtuse (n=15; 25.42%), or acute (n=8; 13.56%). The ceramic vessels display outflaring (n=49; 83.05%), vertical (n=6; 10.17%) and insloping (n=4; 6.78%) rim orientation.

Both the interior and exterior profiles of the ceramic sherds were observed to be concave, convex, straight or irregular. The interior profiles of the vessel collars are 50 concave (84.75%), six convex (10.17%) and three straight (5.08%). The proportion of concave, convex and straight exterior collar profiles are: 38 (64.41%), 11 (18.64%), and nine (15.25%) respectively. Only one vessel exhibits an irregular exterior profile.

The collar height of each sherd, when applicable, was measured, and resulted in a range between 5.03 mm and 24.18 mm with a mean height of 13.5 mm, and a standard deviation of 4.04. Lip widths range between 2.4 mm and 13 mm with a mean width of 6.79 mm and a standard deviation of 1.94. Basal collar widths range between 2.91 mm and 13.51 mm with a mean of 9.19 mm and a standard deviation of 2.19.

Most of the vessel interiors have a plain motif (n=51; 86.44%), while eight vessels display linear stamped obliques (n=7; 11.86%) or linear stamped verticals (n=1; 1.69%) motifs. In addition, the vessels display plain (n=50; 84.75%), oblique (n=6; 10.17%) and horizontal (n=3; 5.08%) lip motifs. These lip motifs were manufactured by either linear stamping (n=7; 11.86%) or incising (n=1; 1.69%) techniques.

Ten collar motifs were identified on the ceramic vessels of the Dykstra site (Table 3.3). The five most common collar decorative motifs are: oblique over horizontal (n=37; 62.71%), horizontal (n=6; 10.17%), oblique (n=5; 8.47%), oblique crossed by horizontal (n=4; 6.78%) and plain (n=2; 3.39%). The remaining five motifs are represented by one vessel each (8.45% of the total vessel assemblage) and include oblique over horizontal over interrupted oblique, oblique and vertical over horizontal, opposed (plain, left and right oblique), oblique over plain and opposed (left and right oblique).

The most common collar techniques identified in this ceramic sample are: linear stamped over incised (n=29; 49.15%), incised (n=6; 10.17%), linear stamped (n=6; 10.17%), linear stamped over linear stamped (n=4; 6.78%), linear stamped crossed by incised (n=4; 6.78%), linear stamped over push pull (n=3; 5.08%) and plain (n=2; 3.39%). The remaining five vessels (8.45% of the total vessel assemblage) are represented by dentate stamped over incised, incised over incised, incised over incised over linear stamped, linear stamped over plain and plain and incised.

Neck motifs are dominated by horizontal (n=30; 50.85%), followed by horizontal over oblique (n=14; 23.73%), oblique (n=5; 8.47%) and plain (8.47%). The remaining five neck motifs are represented by one vessel each (8.45% of the total vessel assemblage) and include horizontal over oblique over horizontal, continuation opposed collar motif, horizontal crossed by oblique, interrupted oblique and plain and opposed (left and right oblique).

Incised (n=29; 49.15%), incised over linear stamped (n=11; 18.64%), linear stamped (n=6; 10.17%), plain (n=5; 8.47%) and incised over linear punctuate (n=2; 3.39%) are the five most common techniques of motif manufacture identified on the neck sherds of this sample. The remaining six vessels (10.14%), each display a unique technique including continuation opposed collar motif, linear stamped over linear stamped, incised crossed by linear stamped, incised over linear stamp over incised, linear punctuate and plain and incised.

Table 3.3 Dykstra Site Ceramic Vessel Descriptive Attributes

Collar Motif	**n**	**%**	**Collar Technique**	**n**	**%**
Oblique over Horizontal	37	62.71	Linear Stamp over Incised	29	49.15
Horizontal	6	10.17	Incised	6	10.17
Oblique	5	8.47	Linear Stamp	6	10.17
Oblique crossed by Horizontal	4	6.78	Linear Stamp over Linear Stamp	4	6.78
Plain	2	3.39	Linear Stamp crossed by Incised	4	6.78
Oblique over Horizontal over Interrupted Oblique	1	1.69	Linear Stamp over Push Pull	3	5.08
Oblique and Vertical over Horizontal	1	1.69	Plain	2	3.39
Opposed (Plain and Left and Right Oblique)	1	1.69	Dentate Stamp over Incised	1	1.69
Oblique over Plain	1	1.69	Incised over Incised	1	1.69
Opposed (Left and Right Oblique)	1	1.69	Incised over Incised over Linear Stamp	1	1.69
Total	**59**	**99.97**	Linear Stamp over Plain	1	1.69
			Plain and Incised	1	1.69
			Total	**59**	**99.97**

Neck Motif	n	%	**Neck Technique**	n	%
Horizontal	30	50.85	Incised	29	49.15
Horizontal over Oblique	14	23.73	Incised over Linear Stamp	11	18.64
Oblique	5	8.47	Linear Stamp	6	10.17
Plain	5	8.47	Plain	5	8.47
Horizontal over Oblique over Horizontal	1	1.69	Incised over Linear Punctate	2	3.39
Continuation Opposed Collar Motif	1	1.69	Continuation Opposed Collar Motif	1	1.69
Horizontal crossed by Oblique	1	1.69	Linear Stamp over Linear Stamp	1	1.69
Interrupted Oblique	1	1.69	Incised crossed by Linear Stamp	1	1.69
Plain and Opposed (Left and Right Oblique)	1	1.69	Incised over Linear Stamp over Incised	1	1.69
Total	**59**	**99.97**	Linear Punctate	1	1.69
			Plain and Incised	1	1.69
			Total	**59**	**99.96**

Table 3.4 provides an overview of specific ceramic vessel types based on MacNeish (1952) and Wright (1966). MacNeish, in his study of Iroquoian pottery types, describes a type as “a class or group of objects having interrelated similar features or modes that have a temporal or spatial significance” (1952:2). This approach, therefore, uses the attributes of neck and collar motif, and rim shape, to construct classificatory types based upon the assumption that sets of combined attribute types represent a style in the mind of the potter. These were thought, in turn, to reflect

trends in time and space in which similarities and differences in frequencies of types between assemblages might relate to the ethnic identity and chronological placement (Wright 1966:17). Subsequent criticisms of typological studies (e.g., Ramsden 1977: 16-18; Smith 1983: 10-14) have questioned the simplistic methodology and inadequate sample used in the original definitions of types. Many Ontario researchers have recognized the advantages of attribute analysis in providing a more detailed and comparative description of assemblages. Nevertheless, it remains useful to report on the frequency of types in the assemblage for comparative purposes. Key attributes of variability for each type are described below.

Table 3.4: Dykstra Site Ceramic Vessel Types

Type	n	%
Middleport Oblique	40	67.80
Iroquois Linear	4	6.78
Type Indeterminate	4	6.78
Ontario Horizontal	3	5.08
Ontario Oblique	3	5.08
Pound Neck	3	5.08
Ripley Plain	2	3.39
Total	**59**	**99.99**

Middleport Oblique:

The type Middleport Oblique comprises 40 vessels, representing 67.80% of the total vessel assemblage (Table 3.5). Concave or channeled interior profiles are identified on 87.50% of the vessels and 80.00% of the vessels have a plain motif on both the interior and the lip.

Table 3.5 indicates the different variations of Middleport Oblique vessels, utilizing rim form with collar and neck motif. Vessels with oblique over horizontal motif on an incipient collar with horizontal or horizontal over oblique neck motif are representative of 28 vessels, 70.00% of the total type assemblage. The remaining 12 vessels represent eight different motifs of both the collared and incipient rim forms (Table 3.5). Middleport Oblique samples are illustrated in Plate 3.1.

Table 3.5:Dykstra Site Middleport Oblique Type Variability

Rim Form	Collar Motif	Neck Motif	n	%
Incipient	Oblique over Horizontal	Horizontal	21	52.50
Incipient	Oblique over Horizontal	Horizontal over Oblique	7	17.50
Collared	Oblique over Horizontal	Horizontal over Oblique	2	5.00
Incipient	Oblique over Horizontal	Oblique	2	5.00
Incipient	Oblique crossed by Horizontal	Horizontal	2	5.00
Incipient	Oblique crossed by Horizontal	Horizontal over Oblique	2	5.00
Incipient	Oblique over Plain	Horizontal	1	2.50
Collared	Oblique over Horizontal	Oblique	1	2.50
Incipient	Oblique over Horizontal	Horizontal over Oblique over Horizontal	1	2.50
Incipient	Horizontal	Horizontal	1	2.50
Total			**40**	**100.00**

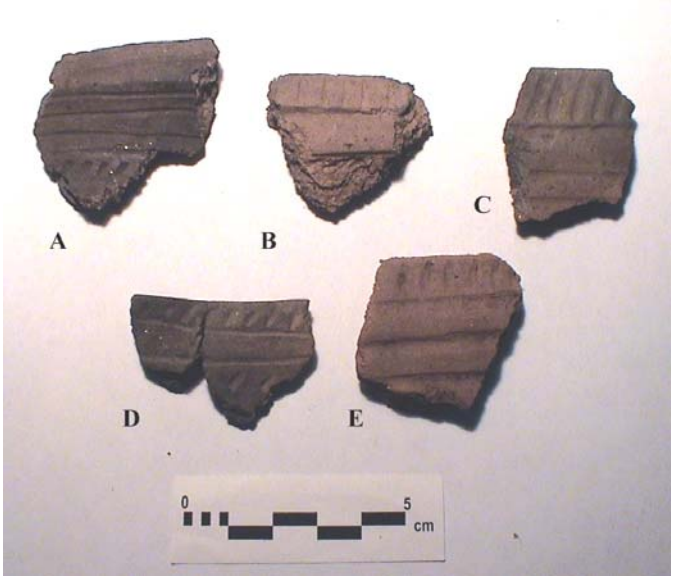


Plate 3.1: Dykstra Site Middleport Oblique Type
(A-E Catalogue 495-195: 4623, F87, L1, Q3: 4628, 514-228: 4632, 514-217/517-219: 4649,517-208:4640)

Iroquois Linear:

The Iroquois Linear vessel type accounts for four vessels, and represents 6.78% of the total vessel assemblage (Table 3.6). All vessels of the Iroquois Linear type display concave interior profiles on incipient collars or collarless rim forms.

Four different combinations of rim form with collar and neck motif are identified on vessels of the Iroquois Linear type (Table 3.6). Lip and interior motifs also display four different motif combinations including plain, oblique and horizontal.

All collar and neck motifs on vessels of the Iroquois Linear type were manufactured by linear stamped or push-pull technique. Samples of the Iroquois Linear type are illustrated in Plate 3.2.

Table 3.6: Dykstra Site Iroquois Linear Type Variability

Rim Form	Collar Motif	Neck Motif	n	%
Collarless	Oblique over Horizontal	Horizontal over Oblique	1	25.00
Incipient	Horizontal	Horizontal	1	25.00
Incipient	Oblique over Horizontal	Horizontal	1	25.00
Incipient	Oblique over Horizontal	Oblique	1	25.00
Total			**4**	**100.00**

Plate 3.2: Dykstra Site Iroquois Linear Type
(A - B Catalogue F76, L1 4665 and F87, L6, Q3: 4662)

Type Indeterminate:

Four vessels exhibit unique collar and neck motifs that do not correspond to any particular vessel type (Table 3.7). Concave interiors are identified on three of the four vessels and all of the vessels have a plain interior and lip.

Table 3.7 provides an overview of the variations within the vessels classified as type indeterminate utilizing rim form with collar and neck motifs. A sample of these vessels is illustrated in Plate 3.3.

Table 3.7: Dykstra Site Indeterminate Type Variability

Rim Form	Collar Motif	Neck Motif	n	%
Collarless	Opposed (Plain and L and R Oblique)	Collar Motif Continuation	1	25.00
Incipient	Horizontal	Plain	1	25.00
Incipient	Oblique and Vertical over Horizontal	Plain and Opposed (L and R Oblique)	1	25.00
Incipient	Oblique over Horizontal over Interrupted Oblique	Interrupted Oblique	1	25.00
Total			**4**	**100.00**

Plate 3.3: Dykstra Site Indeterminate Type
(A - C Catalogue 516-219: 4675, 515-215: 4646 and 510-230: 4674)

Ontario Horizontal:

Vessels typed as Ontario Horizontal account for 5.08% (n=3) of the total vessel assemblage. All of the vessels of the Ontario Horizontal type have channeled interiors on either an incipient or collarless rim form with plain lip. One vessel is identified with linear stamped vertical on the interior the remainder of the vessels are plain.

Collar motifs on vessels of the Ontario Horizontal type consisted solely of incised horizontal, while the necks exhibit decorative motifs of horizontal (n=1) or horizontal over oblique (n=2).

Vessel F88: 4661 displays additional surface treatment of check stamped on the lower neck, it also exhibits a unique underlying decorative motif, the horizontal lines appear to have been originally manufactured by push-pull or linear stamped technique, but superimposed by incising prior to firing (Plate 3.4).

Plate 3.4: Dykstra Site Ontario Horizontal

Ontario Oblique:
The three vessels typed as Ontario Oblique, display either a collarless rim form with convex interior (n=2) or incipient rim form with a concave interior.

All of the vessels of the Ontario Oblique type display oblique on the upper rim or collar, with either a plain neck (n=2) or oblique on the neck. One vessel displays a horizontal motif on the lip and one vessel has an interior motif of oblique, remaining vessels are plain. All decorative motifs are manufactured by linear stamping.

Pound Neck:
All three vessels classified as Pound Neck type display concave interiors on collared rim forms with plain lips. One vessel has linear stamped oblique on the interior the remaining two are plain.

Motifs identified on vessels of the Pound Neck type, consist of obliques on the collar and horizontals on the neck (n=2) (Plate 3.5:B), or an opposed motif of left and right obliques on the collar and horizontals crossed by obliques on the neck (Plate 3.5:A).

Plate 3.5: Dykstra Site Pound Neck
(A - B Catalogue F88: 4678 and F46: 4679)

Ripley Plain:
The two vessels of the Ripley Plain type display plain interior, lip, collar or upper rim and neck motif on ether incipient collared rim forms with a concave interior or a collarless rim form with a convex interior and deep notching along the lip (Plate 3.6).

Plate 3.6: Dykstra Site Ripley Plain
(F14 Q2, L1 and Q3, L1: 4670)

Castellation:

Sixteen castellations are identified in the Dykstra Site ceramic assemblage. Fifteen are isolated fragments, and one is associated with a previously analyzed vessel (Plate 3.4 and 3.7).

Table 3.8 provides the frequencies of castellation lip form shapes identified in the assemblage. The pointed lip form dominates the assemblage (n=10; 62.50%), this is followed by rounded (n=2; 12.50%) multiple rounded (n=2; 12.50%), notched (n=1; 6.25%) and multiple pointed forms (n=1; 6.25%).

Table 3.8: Dykstra Site Castellation Attributes Lip Form Shape

Lip Form Shape	n	%
Pointed	10	62.50
Rounded	2	12.50
Multiple Rounded	2	12.50
Notched	1	6.25
Multiple Pointed	1	6.25
Total	**16**	**100.00**

Base form development at the castellation did not vary substantially from the rim forms identified within the vessel assemblage. Incipient forms are identified on 64.71% of the castellations, this is followed by collarless (n=2), collared (n=1) and two have indeterminate base development.

Castellation collar and neck motif, with lip data are summarized in Table 3.9. Castellation collar motifs are dominated by oblique over horizontal (37.50%) and oblique crossed by horizontal (25.00%). While, more than half of the castellation neck motifs were decorated by horizontals (56.25%). Plate 3.7 illustrates the collar and neck motif of vertical line bounded by diverging obliques that descend onto the neck over interrupted horizontal over oblique.

Plate 3.7: Dykstra Site Castellation
(F88: 4661)

Table 3.9: Dykstra Site Castellation Attributes Lip Form Shape with Collar and Neck Motif

Lip Form Shape	Collar Motif	Neck Motif	n	%
Pointed	Oblique over Horizontal	Horizontal	3	18.75
Pointed	Oblique crossed by Horizontal	Horizontal	2	12.50
Multi. Pointed	Oblique over Horizontal	Horizontal	1	6.25
Multi. Rounded	Horizontal	Horizontal	1	6.25
Multi. Rounded	Oblique over Horizontal	Horizontal	1	6.25
Notched	Oblique over Horizontal	Horizontal	1	6.25
Pointed	Oblique crossed by Horizontal	Horizontal over Oblique	1	6.25
Pointed	Opposed (L and R Oblique)	Vertical and Oblique	1	6.25
Pointed	Plain	Plain	1	6.25
Pointed	Vertical and Diverging Oblique	Collar Motif Continuation over Interrupted Horizontal over Oblique	1	6.25
Pointed	Vertical over Interrupted Horizontal	Indeterminate	1	6.25
Rounded	Oblique crossed by Horizontal	Interrupted Horizontal	1	6.25
Rounded	Opposed (Plain and L and R Oblique)	Plain	1	6.25
Total			**16**	**100.00**

Neck Fragments

Three hundred and twenty-two neck fragments are identified apart from the vessel assemblage.

Plain fragments constitute over half (n=184; 57.14%) of the neck assemblage. Decorative motifs on the isolated neck fragments are identified on an additional 127 vessels (39.44%). Surface treatments comprise check stamped (n=5; 1.55%), ribbed paddle (n=4; 0.31%) and cord-wrapped paddle (n=2; 0.62%) account for the remainder of the neck assemblage.

Shoulder Fragments

Table 3.10 lists all the shoulder fragments that exhibit type and motif data. It should be identified that plain or other surface treated rounded shoulders are most likely under represented in the table. This is due to the difficulty of making accurate identification of rounded shoulder from the vessel body.

Table 3.10: Dykstra Site Shoulder Attributes, Type and Decorative Motif

Shoulder Type	Decoration	n	%
Rounded	Plain	40	47.06
Rounded	Ribbed Paddle	24	28.24
Rounded	Check-Stamped	13	15.29
Rounded	Linear Stamp Oblique	6	7.06
Rounded	Incised Vertical	1	1.18
Rounded	Dentate Stamp Oblique	1	1.18
Total		**85**	**100.01**

Body Fragments

Table 3.11 lists the variation in surface treatment on body fragments from the Dykstra Site. The dominant surface treatments on the body fragments consisted of ribbed paddle (n=303; 43.72%), plain (n=234; 33.77%) and check stamped (n=128; 18.47%). The two body fragments classified as decorated exhibit indeterminate decorative cord-impressed motif of either oblique or horizontal.

Two body fragments exhibit unusual traits, Vessel F88: 4577 a plain fragment exhibits extensive exterior burnishing and Vessel 511-223: 4443; a fragment with check-stamped surface treatment displays an indeterminate fabric impression on the interior.

Table 3.11: Dykstra Site Ceramic Body Fragment Treatment

Surface Treatment	n	%
Ribbed Paddle	303	43.72
Plain	234	33.77
Check-Stamped	128	18.47
Cord-wrapped Paddle	20	2.89
Ribbed Paddle and Check-Stamped	3	0.43
Ribbed Paddle and Scarification	2	0.29
Decorated	2	0.29
Scarification	1	0.14
Total	**693**	**100.00**

Miscellaneous Ceramic Objects

The miscellaneous ceramic objects recovered from the Dykstra Site consist of 29 pieces of manufacturing waste or fired clay and one ceramic artifact. The fragments identified as manufacturing waste or fired clay display irregular, untreated surfaces that do not have any apparent form or function.

Ceramic object 519-225:4199, measures 62.04 mm in length with a maximum width of 31.68 mm and a maximum height of 30.95 mm. The object is smoothed and undecorated with fracture points at both ends. The object exhibits a general appearance that resembles a left foot and ankle

(Plate 3.8). A similar stone artifact was recovered from a Middle Woodland LeVesconte Mound Site in Northumberland County, Ontario (Mounds of Sacred Earth: Burial Mounds of Ontario, W.A. Kenyon R.O.M. 1986. pg. 30, Plate 18 pg. 96).

Plate 3.8: Dykstra Site Miscellaneous Ceramic Artifact
(519-225:4199)

Recycling
Two unanalyzable rim fragments, 515-215: 4037 and 518-213: 4407 display mend hole perforations possibly for lashing.

3.2.2 Intra-Site Distribution of Ceramic Vessels

Table 3.12 lists the distribution of traditional ceramic vessel types by major provenience unit and feature. With 75.44% of the vessels originating from the Midden, it is difficult to make any meaningful comparison between House 1 and the multiple exterior feature clusters.

Table 3.12: Dykstra Site Ceramic Types by Provenience

Type	Midden	Feature 87	House 1	Feature 98	Feature 76	Feature 88	Feature 88 /Midden
Middleport Oblique	33	4	1	1			
Type Indeterminate	4						
Iroquois Linear	1	2			1		
Ontario Horizontal	2					1	
Pound Neck			1	1			1
Ontario Oblique	2						
Ripley Plain	1		1				
Total	**43**	**6**	**3**	**2**	**1**	**1**	**1**

Twenty-five artifacts are identified to have from one to four mends that either join fragments or represent fragments of the same artifact that do not mend, exceeding the same provenience unit and layer.

All but two of the mends are restricted to Feature 87 and the Midden. One mend was made between Feature 87 and 88, a fragment from Feature 88 mended with two from the Midden (Temporary Map 1). This suggests that at least a rough level of contemporaneity between Features 87, 88 and the Midden exists.

3.3 CERAMIC SMOKING PIPES

3.3.1 Analysis of Ceramic Smoking Pipes

The Dykstra Site ceramic smoking pipe assemblage comprises of 111 fragments. Pipe stem, elbow and mouthpiece fragments represent 36.03% of the assemblage, while bowl fragments account for 63.96% (Table 3.13).

Table 3.13:Dykstra Site Pipe Assemblage

Condition	n	%
Unidentifiable Bowl Fragment	48	43.24
Stem Fragment	25	22.52
Identifiable Bowl Fragment	23	20.72
Elbow Fragment	7	6.31
Indeterminate Stem	5	4.50
Stem with Mouthpiece	2	1.80
Stem and Elbow Fragment	1	0.90
Total	**111**	**99.99**

Smoothing is the dominant surface treatment identified on the pipe assemblage (61.26%). This is followed by surface treatment of burnishing (n=41) and untreated or rough (n=1). One fragment exhibits extensive exterior weathering and is classified as indeterminate.

Bowl Fragments
The identified smoking pipe types recovered from the Dykstra Site are: Barrel Decorated (n=6; 26.09%), Conical Decorated (n=6; 26.09%), Barrel Plain (n=4; 17.39%), Conical Plain (n=3; 13.04%), Cylindrical Decorated (n=2; 8.07%), Trumpet Plain (n=1; 4.35%) and Effigy Human (n=1; 4.35%) (Table 3.14).

Forty-eight additional bowl fragments are classified as unidentifiable, of which 25 are decorated and the balance are undecorated.

Table 3.14: Dykstra Site Smoking Pipe Types

Bowl Type	n	%
Barrel Decorated	6	26.09
Conical Decorated	6	26.09
Barrel Plain	4	17.39
Conical Plain	3	13.04
Cylindrical Decorated	2	8.70
Trumpet Plain	1	4.35
Effigy Human	1	4.35
Total	**23**	**100.01**

Barrel Decorated:

The six bowl fragments of the Barrel Decorated type motifs identified are listed in Table 3.15 and samples of the motifs are illustrated in Plate 3.8.

Artifact 519-216/515-216: 4795 is identified in Table 3.15 as having a complex motif. The motif consists of a series of vertical bands of six punctates that converge over a plain band. Under the plain band is an additional incised horizontal over a row of incised obliques (Plate 3.9:B).

The techniques used to manufacture the motifs on the Barrel Decorated type are incised, punctate and linear stamped and linear punctate. All bowl fragments have an insloped orientation.

Table 3.15: Dykstra Site Barrel Type Decorated Motifs

Motif	n
(2) Horizontal over Interrupted Oblique	1
(6) Horizontal over Oblique	1
(12) Horizontal over Oblique	1
(13+) Horizontal	1
(19) Horizontal over Oblique	1
Complex	1
Total	**6**

Plate 3.9: Dykstra Site Barrel Decorated Type
(A - C Catalogue 514-210/516-210: 4794, 519-216/515-216: 4795 and 518-213: 4793)

Barrel Decorated types from the Dykstra Site have a lip thickness that ranges from 3.90 mm to 7.49 mm with a mean of 5.33 mm and a standard deviation of 1.69.
Only one artifact (514-216: 4792) was sufficiently complete to obtain a measure of bowl height that is 41.12 mm.

Conical Decorated:
The six Conical Decorated types identified in the Dykstra assemblage display a similar motif pattern of horizontal over vertical or oblique with an outflaring orientation. Unlike the Barrel Decorated type that exhibits between two to 19 horizontal lines that encompass the bowl, the Conical Decorated types range between three and six horizontal lines. A complete listing of Conical Decorated motifs are listed in Table 3.16.

Lip thickness on the bowls of the Conical Decorative types ranged from 2.52 mm to 6.24 mm with a mean of 4.48 mm and a standard deviation of 1.27. Bowl height was obtained from one specimen (460-215, Post 5: 4803) and measured 61.27 mm (Plate 3.10). Bowl diameter was available on three specimens and measured 22.65 mm (516-219: 4799), 33.26 mm (Feature 108: 4800) and 35.23 mm (460-215, Post 5: 4803) (Plate 3.10 and 3.11).

Table 3.16: Dykstra Site Conical Type Decorated Motifs

Motif	n
(3) Horizontal over Opposed (Filled Isosceles Tri.)	1
(3) Horizontal over Vertical	1
(3 to 6) Horizontal	1
(3) Horizontal over Oblique over a Single Oblique Plat Bounded by Vertical	1
(4) Horizontals over Vertical	1
(5) Horizontals over Vertical	1
Total	**6**

Plate 3.10: Dykstra Site Conical Decorated Type
(460-215, Post 5: 4803)

Plate 3.11: Dykstra Site Conical Decorated Type
(A - C Catalogue 515-218:4802, 515-218: 4801 and 516-219: 4799)

Barrel Plain:
The four bowl fragments classified as the Barrel Plain type all exhibit an insloping orientation with plain motifs. Lip thickness ranged from: 2.4 mm, 4.1 mm, 5.86 mm and 9.13 mm.

Conical Plain:
The Conical Plain bowl fragments (n=3) all exhibit plain motifs with outflaring orientations. Lip thickness ranged from 5.03 mm and 8.04 mm and 8.94 mm.

Cylindrical Decorated:
The Cylindrical Decorated type is represented by one bowl fragment and one complete pipe. The bowl fragment (514-217: 4797) exhibits a motif of incised verticals and obliques that are crossed by obliques and has a lip thickness of 4.92 mm (Plate 3.12:B).

The complete pipe (F14, Q2, L2: 4796) has a decorative motif consisting of a single horizontal line over an opposed complex of left and right obliques that are broken by punctate and plain sections. The pipe has a bowl height of 36.82 mm with a bowl diameter of 16.98 mm and a lip thickness of 4.62 mm (Plate 3.12:A). Both of the pipes display a vertical orientation.

Plate 3.12: Dykstra Site Cylindrical Decorated Type
(A - B Catalogue F14, Q2, L2: 4796 and 514-217:4797)

Trumpet Plain:
One plain slightly outflaring bowl fragment is classified as Trumpet Plain type and has a lip thickness of 7.6 mm.

Effigy Human
Specimen 513-220: 5011 is an effigy fragment, likely a small human head. The artifact measures 23.38 mm in height with a width of 19.35 mm and a maximum thickness of 16.24 mm. The artifact is fragmented at the neck and back of the head. This suggests that the effigy may have had a headdress or hair feature of some type. The facial features are naturalistic with both the mouth and the eyes open; however, the ears are not depicted. The effigy form is characterized by an open mouth and flattened cheeks and is reminiscent of the "blowing face" False Face mask of the seventeenth century. The surface of the effigy is burnished (Plate 3.13).

Plate 3.13: Dykstra Site Effigy Human
(513-220: 5011)

Elbows and Stems
Thirty-five pipe stem and elbow fragments are represented in the Dykstra assemblage. One stem fragment exhibits an indeterminate decorative motif while the remainder are undecorated.

Mouthpieces
Only two isolated pipe mouthpieces were recovered from the Dykstra Site, both are tapered. A borehole diameter was obtained from one specimen that measured 2.51 mm.

Two additional mouthpieces associated with complete pipe are of the bulbous form measuring 2.64 mm (F14, Q2, L2: 4796, Plate 3.12), and grounded form that measures 4.89 mm (460-215, Post5: 4803, Plate 3.10).

3.3.2 Intra-Site Distribution of Ceramic Smoking Pipes

Smoking pipe stem, elbow and mouthpiece fragments with defined proveniences were recovered almost entirely (97.37%) from the Midden; an additional fragment was recovered from exterior Feature 59. The distribution of ceramic smoking pipe types and unidentifiable bowl fragments among the major provenience units and exterior features is listed in Table 3.17.

Table 3.17: Dykstra Site Distribution of Smoking Pipe Types and Unanalyzable Bowl Fragments by Provenience

	Macro Location			
Bowl Type	**Midden**	**House 1**	**Exterior Feature 87**	**Exterior Feature 108**
Barrel Decorated	6			
Barrel Plain	2		2	
Conical Decorated	4	1		1
Conical Plain	2			
Trumpet Plain	1			
Cylindrical Decorated	1	1		
Human Effigy	1			
Unanalyzable Bowl Fragments	46	1		
Total	**63**	**3**	**2**	**1**

Smoking pipe bowl fragments recovered from the Midden accounted for 91.30% (n=63) of the total assemblage, this is followed by House 1 (n=3; 4.35%), Exterior Feature 87 (n=2; 2.90%) and Feature 108 (n=1; 1.45%).

3.4 JUVENILE MANUFACTURED CERAMICS VESSELS AND PIPES

3.4.1 Analysis of Juvenile Manufactured Ceramics Vessels and Pipes

Sixty-two fragments are identified as ceramic vessels and pipes manufactured by juveniles. The criteria utilized to distinguish between adult and child manufactured vessels and pipes is based on the belief that ceramic vessels manufactured by children would lack the qualitative characteristics generally associated with adult vessels and would be poorly manufactured in construction and execution of motif.

The juvenile ceramic vessel assemblage consists of: 22 identified vessels, 12 unanalyzable rim fragments, one neck fragment, four neck and shoulder fragments, one shoulder fragment, four neck-shoulder and body fragments, one shoulder and body fragment and eight body fragments. In addition, six fragments could only be identified to be of juvenile manufacture (Table 3.18).

Juvenile manufactured pipes are represented by two bowl fragments and one stem fragment with a mouthpiece (Table 3.18).

Whenever possible, all ceramic artifacts were mended prior to analysis to the minimum number by provenience unit.

Table 3.18: Dykstra Site Juvenile Ceramic Artifacts

Type	n	%
Identified Vessels	22	35.48
Unanalyzable Rim Fragments	12	19.35
Body Fragments	8	12.90
Indeterminate Fragments	6	9.68
Neck and Shoulder Fragments	4	6.45
Neck and Shoulder and Body Fragments	4	6.45
Pipe Fragments	3	4.84
Neck Fragments	1	1.61
Shoulder Fragments	1	1.61
Shoulder and Body Fragments	1	1.61
Total	**62**	**99.99**

Juvenile Vessel Rims

Juvenile rims were analyzed utilizing the same methodology as the adult vessels, in that the sherds must exhibit interior and exterior surfaces, a lip, and sufficient exterior collar-neck area to ascertain decorative motif and associated attributes. The rims were analyzed using only attributes and were not enumerated by typological approach. All rims were sorted and mended into 22 individual vessels.

Summary descriptive statistics of individual attributes are presented in Table 3.19.

Juvenile rims are primarily of the collarless (n=11; 50%) forms. The remainder rim forms are incipient (n=6; 27.27%), collared (n=1; 18.18%) and irregular (n=4; 4.55%). All identified collar base shapes are of the round type. The remainders are collarless, irregular or indeterminate forms.

Identified lip forms are irregular (n=10; 45.45%), flat (n=8; 36.36%) or rounded (n=4; 18.18%). The angles of the lip to the interior range from 90 degrees or right (n=8; 36.36%), acute (n=5; 22.73%) and obtuse (n=4; 18.18%). The remaining five vessels have indeterminate angles.

Outflaring rim orientation was observed on most juvenile vessels (n=13; 59.09%). The remainder are classified as vertical (n=4; 18.18%), indeterminate (n=4; 18.18%) and insloping (n=1; 4.55%).

The number of concave and convex interior profiles are eight (36.36%) and five (22.73%) respectively, wile the remainder are classified as irregular (n=9; 40.91%). The exterior profiles of the vessel collars or upper rim are: convex (n=12; 54.55%), irregular (n=7; 31.82%) or straight (n=3; 13.64%).

Collar heights could only be measured on three vessels and are: 3.61 mm, 8.89 mm and 12.32 mm. Lip widths range between 2.6 mm and 10.36 mm with a mean width of 5.74 mm and a standard deviation of 2.08. Basal collar widths could only be measured on two vessels and are 5.26 mm and 7.52 mm.

Table 3.19: Dykstra Site Juvenile Ceramic Vessel Descriptive Attributes

Rim Form	**n**	**%**
Collarless	11	50.00
Incipient	6	27.27
Irregular	4	18.18
Collared	1	4.55
Total	22	100.00

Collar Base Shape	**n**	**%**
Not Applicable	11	50.00
Round	7	31.82
Irregular	2	9.09
Indeterminate	2	9.09
Total	22	100.00

Rim Orientation	**n**	**%**
Outflaring	13	59.09
Vertical	4	18.18
Indeterminate	4	18.18
Insloping	1	4.55
Total	22	100.00

Lip Form	**n**	**%**
Irregular	10	45.45
Flat	8	36.36
Rounded	4	18.18
Total	22	99.99

Angle of the Lip to the Interior	**n**	**%**
Right	8	36.36
Acute	5	22.73
Indeterminate	5	22.73
Obtuse	4	18.18
Total	22	100.00

Collar Height n=3	
Range	3.61-8.89-12.32

Lip Width n=16	
Mean	5.74
Range	2.6-10.36
Standard Deviation	2.08

Interior Profile	**n**	**%**
Irregular	9	40.91
Concave	8	36.36
Convex	5	22.73
Total	22	100.00

Exterior Profile	**n**	**%**
Convex	12	54.55
Irregular	7	31.82
Straight	3	13.64
Total	22	100.01

Basel Collar Width n=2	
Range	5.26-7.52

Interior Motif	**n**	**%**
Plain	20	90.91
Indeterminate	2	9.09
Total	22	100.00

Collar Motif	**n**	**%**
Plain	13	59.09
Oblique	6	27.27
Horizontal	1	4.55
Oblique crossed by Horizontal	1	4.55
Vertical	1	4.55
Total	22	100.01

Collar Technique	**n**	**%**
Plain	13	59.09
Incised	4	18.18
Linear Stamp	4	18.18
Linear Stamp crossed by incised	1	4.55
Total	22	100.00

Interior Tech	**n**	**%**
Plain	20	90.91
Indeterminate	2	9.09
Total	22	100.00

Lip Motif	**n**	**%**
Plain	19	86.36
Oblique	2	9.09
Indeterminate	1	4.55
Total	22	100.00

Neck Motif	n	%
Plain	17	77.27
Oblique	2	9.09
Horizontal	2	9.09
Indeterminate	1	4.55
Total	22	100.00

Neck Technique	**n**	**%**
Plain	17	77.27
Incised	3	13.64
Linear Stamp	1	4.55
Punctate	1	4.55
Total	22	100.01

Lip Technique	**n**	**%**
Plain	19	86.36
Linear Stamp	2	9.09
Indeterminate	1	4.55
Total	22	100.00

The interiors of the Juvenile vessels were almost exclusively plain (n=20; 90.91%), with two vessels exhibiting an indeterminate motif (9.09%).

Plain lip motifs are identified on 86.36% (n=19) of the juvenile vessels, the remaining three vessels display a linear stamped oblique motif (n=2; 9.09%) or are classified as indeterminate (n=1; 4.55%).
The most common upper rim or collar motif is plain (n=13; 59.09%) followed by decorative patterns of oblique (n=6; 27.27%), horizontal (n=1; 4.55%), oblique crossed by horizontal (n=1; 4.55%) and vertical (n=1; 4.55%). Incising (n=4; 18.18%) and linear stamping (n=4; 18.18%) are the most common techniques of manufacture for the decorative collar motifs. One additional collar motif was manufactured by both incising and linear stamping.

Juvenile necks are predominantly plain (n=17; 77.27%). This is followed by oblique (n=2; 9.09%), horizontal (n=2; 9.09%) and one indeterminate motif (4.55%). Incising (n=3; 13.64%), linear stamping (n=1; 4.55%) and punctate (n=1; 4.55%) are the techniques observed in the manufacture of the neck motifs within this sample of juvenile ceramics.

Samples of both plain and decorated juvenile vessels are illustrated in Plate 3.14 and 3.15.

Plate 3.14: Dykstra Site Plain Juvenile Vessels
(A-C Catalogue F87, L1, Q4: 4813, F49 L1: 4810 and F14, L1, Q4: 4808)

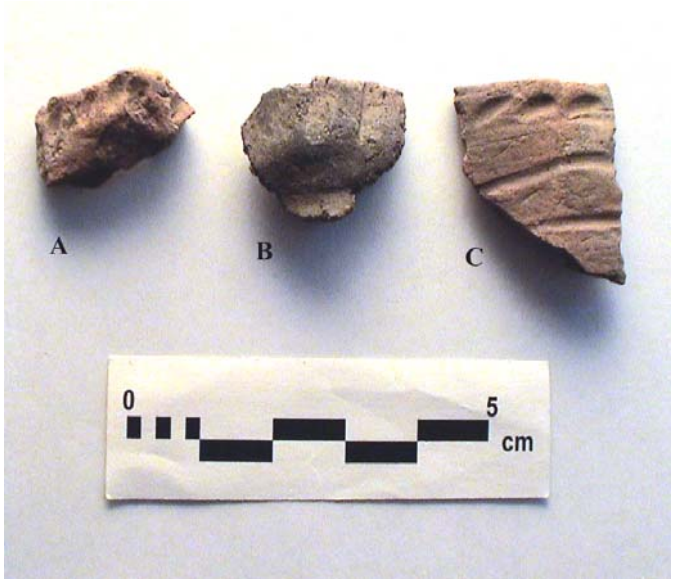


Plate 3.15: Dykstra Site Decorated Juvenile Vessels
(A-C Catalogue 517-217: 4864, 515-220: 4848 and 513-216: 4826)

Castellations
Castellation were identified on only one juvenile vessel (517-217: 4864, Plate 3.15:A) and exhibit a rounded lip form.

Rim Fragments
Of the twelve juvenile rim fragments identified, three display decorative motifs and four are indeterminate. The decorated fragments include two that exhibit a single type of decorative motif and one that has multiple differing decorative motifs. One indeterminate fragment exhibits a decorative motif on the lip.

Neck Fragments
Nine neck fragments are identified in the assemblage either as isolated fragments or in combination with shoulder or shoulder body fragments. Four neck fragments exhibit decorative motifs, of which all are represented by oblique. The five remaining fragments are plain.

Shoulder Fragments
Ten rounded shoulder fragments are identified, either as isolated fragments or in combination with neck and body fragments. Eight of the shoulder fragments are plain and two exhibit decorative motifs. The decorative motifs consist of linear stamped oblique (n=1) and incised interrupted horizontal (n=1).

Body fragments
Thirteen body fragments are identified to have been manufactured by juveniles. Of the thirteen fragments, seven are plain, and two display surface treatment, one with cord-wrapped paddle and the other with ribbed paddle. The four remaining fragments are decorated by: fingernail impressed oblique (n=1), incised interrupted horizontal (n=1) or have indeterminate decorations (n=2).

Juvenile Ceramic pipes
Juvenile ceramic pipes are comprised of three fragments consisting of one stem with mouthpiece and two bowls. The stem with mouthpiece fragment is smooth and has an irregular tapered shape with a borehole diameter of 1.73 mm.

The two bowl fragments are both plain and smooth with either an ouflaring or indeterminate orientation. Bowl fragment F50: 4811 is sufficiently complete to obtain a measurement of bowl height (33.09 mm) and lip thickness (4.21 mm) (Plate 3.16:B).

Bowl fragment 514-221: 4836 has a lip thickness of 4.91 mm (Plate 3.16:A).

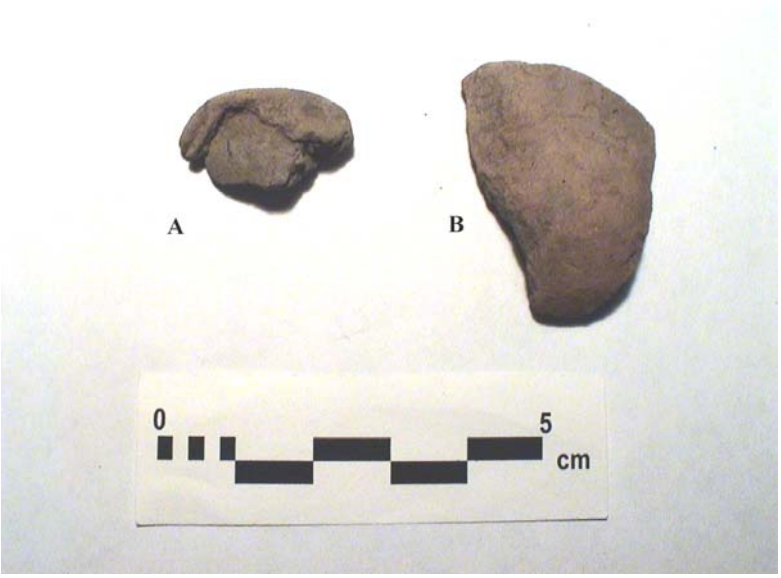


Plate 3.16: Dykstra Site Juvenile Pipes
(A-B Catalogue 514-221: 4836 and F50: 4811)

3.4.2 Intra-Site Distribution of Juvenile Manufactured Ceramic Vessels and Pipes

The distribution of all juvenile ceramics is listed in Table 3.20. Most (n=48; 81.36%) of the juvenile ceramic artifacts were recovered from the Midden. Additional material was also recovered from House 1 (n=4; 6.78%), exterior Feature 87 (n=5; 8.47%) and adjacent Feature 88 (n=1; 1.69%), as well as exterior Feature 59 (n=1; 1.69%).

Table 3.20: Dykstra Site Juvenile Ceramic Artifacts by Provenience

Provenience	**n**	**%**
Midden	48	81.36
Exterior F87	5	8.47
House 1	4	6.78
Exterior F88	1	1.69
Exterior F59	1	1.69
Total	**59**	**99.99**

3.5 INTER-SITE CERAMIC ANALYSIS

Table 3.21 lists the ceramic types identified at Middle Iroquoian sites from Simcoe County as defined by Sutton (1999).

Based solely on ceramic types, it appears that the Dykstra Site would be chronologically near the end sequence of Cluster 2, occupation of Simcoe County (Table 3.22). However, the accuracy of Cluster 2 chronology is tentative at best with six of the nine site types being represented by 30 or fewer rims or vessels.

From the ceramic seriation of the Holly cluster, however, the Dykstra site dates to the mid-to late fourteenth century (Gable 3.22). The site post-dates the Barrie site, the late thirteenth century Wellington site and the early fourteenth century Holly site. It is contemporaneous with the Wiacek site and pre-dates the early fifteenth century Hubbert site. Given some of the cultural similarities among these sites, all may represent one community moving through time. Thus it can be argued that people from the Barrie, Wellington, Holly or contemporaneous sites may have been precursors to the Dykstra people.

Table 3.21 Ceramic Types of Middle Iroquoian Sites in Simcoe County

Site	Little 2 (BcGw-28)		Partridge (BcGw-12)		Beswetherick (BcGw-1)		Kenny (BcGx-15)		Sparrow (BcGw-8)		Little 1 (BcGw-15)		Dykstra (BdGw-5)		Davey (BeHa-11)		Cundles (BcGw-11)	
Type	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**	**n**	**%**
Uren Corded					6	4.69												
Uren Punctate					2	1.56												
Iroquois Linear	1	3.57	2	22.22	9	7.03					1	3.7	4	6.78				
Ontario Oblique	12	42.86	2	22.22	8	6.25	5	22.73	3	13.04	3	11.11	3	5.08	2	2.33		
Ontario Horizontal	1	3.57			29	22.66			2	8.7	1	3.7	3	5.08	8	9.3	2	22.22
Middleport Oblique					40	31.25			2	8.7	1	3.7	40	67.8	42	48.84	2	22.22
Middleport Criss-Cross	10	35.71	2	22.22	2	1.56	4	18.18	8	34.78	9	33.33			4	4.65	1	11.11
Pound Neck	3	10.71	1	11.11	24	18.75	5	22.73	3	13.04	7	25.93	3	5.08	13	15.12	2	22.22
Lawson Incised			1	11.11			3	13.64										
Lawson Opposed															4	4.65		
Huron Incised							1	4.55							4	4.65	1	11.11
Black Neck							1	4.55							4	4.65		
Warminster Horizontal					1	0.78	1	4.55										
Copland Incised											2	7.41						
Sidey Notched															1	1.16		
L.H.C							1	4.55										
High Collar															1	1.16		
Ripley Plain	1	3.57			2	1.56	1	4.55	3	13.04	3	11.11	2	3.39				
Type Indeterminate			1	11.11	5	3.91			2	8.7			4	6.78	2	2.33	1	11.11
Niagara Collared															1	1.16		
Total	**28**	**99.99**	**9**	**99.99**	**128**	**100.00**	**22**	**100.03**	**23**	**100**	**27**	**99.99**	**59**	**99.99**	**86**	**100**	**9**	**99.99**

Table 3.22: Ceramic Types from Early, Middle and Late Iroquoian Sites within Simcoe County													
		Barrie		**Wellington**		**Holly**		**Dykstra**		**Wiacek (MTO & ASI)**		**Hubbert**	
	Calibrated 14C Date	**-**		**AD 1256 ± 50**		**-**		**-**		**AD 1320 ± 50**		**AD 1408 ± 75**	
		n	%	n	%	n	%	n	%	n	%	n	%
EOI/UREN	Uren Types	60	20.4	9	6.0	7	1.16						
	Ontario Oblique	42	14.3	24	15.9	48	7.97	3	5.1	1	0.6		
	Iroquois Linear	110	37.4	12	7.9	59	9.80	4	6.8	2	1.2		
	Ripley Corded					1	0.17						
	Goessens Punctate					13	2.16						
	Glen Meyer Neck					3	0.50						
	Stafford Stamped					1	0.17						
MOI	Ontario Horizontal	64	21.8	35	23.2	129	21.43	3	5.1	14	8.6	1	1.0
	Middleport Oblique			41	27.2	197	32.72	40	67.8	38	23.5	11	11.3
	Middleport XX	2	0.7			14	2.33			4	2.5		
MOI/LOI	Pound Neck			13	8.6	55	9.14	3	5.1	36	22.2	14	14.4
	Black Neck									15	9.3	5	5.2
LOI	Lawson Incised					8	1.33			11	6.8	9	9.3
	Huron Incised									4	2.5	35	36.1
	Lawson Opposed					2	0.33			9	5.6	2	2.1
	Copeland Incised									4	2.5	-	-
	Warminster X									1	0.6	-	-
	Pound Blank					1	0.17			5	3.1	2	2.1
	High Collared									5	3.1	3	3.1
	Niagara Collared			2	1.3	14	2.33			4	2.5	3	3.1
	Ripley Plain	6	2.0	13	8.6	24	3.99	2	3.4	1	0.6	1	1.0
	Other	10	3.4	2	1.3	26	4.32	4	6.8	8	4.9	11	11.3
Total		**294**	**100.0**	**151**	**100.0**	**602**	**100.0**	**59**	**100.0**	**162**	**100.0**	**97**	**100.0**

CHAPTER 4
LITHIC ARTIFACT ANALYSIS

Irena Miklavcic and Debbie Steiss

4.1 INTRODUCTION

A total of 818 lithic artifacts was recovered from the Dykstra site, comprising formal and informal flaked and groundstone tools as well as the by-products of stone tool manufacture (Figure 4.1 and 4.2). The assemblage is summarized in Table 4.1. The flaked stone artifacts include nine formal tools (1.1% of the total lithic assemblage) and 790 pieces of debitage (96.6%). The formal tools consist of two drill bases (0.2%), one scraper (0.1%), three projectile points (0.4%) and three bifaces (0.4%). The debitage consists of five cores (0.6%), two bipolar cores (0.2%), one bipolar flake (0.1%), three primary reduction flakes (0.4%), 18 primary thinning flakes (2.2%), 221 secondary knapping flakes (27.01%), 81 secondary retouch flakes (9.9%) and 459 pieces of shatter (56.1%). Groundstone artifacts account for 2.3% (n=19) of the total lithic assemblage. The groundstone artifacts include: one abrader (0.1%), one adze (0.1%), one axe (0.1%), four hammerstones (0.5%) and 11 miscellaneous groundstone fragments (1.3%). A complete catalogue of all artifacts discussed in this section can be found in Appendix E-H.

Figure 4.1: Debitage Recovered at Dykstra

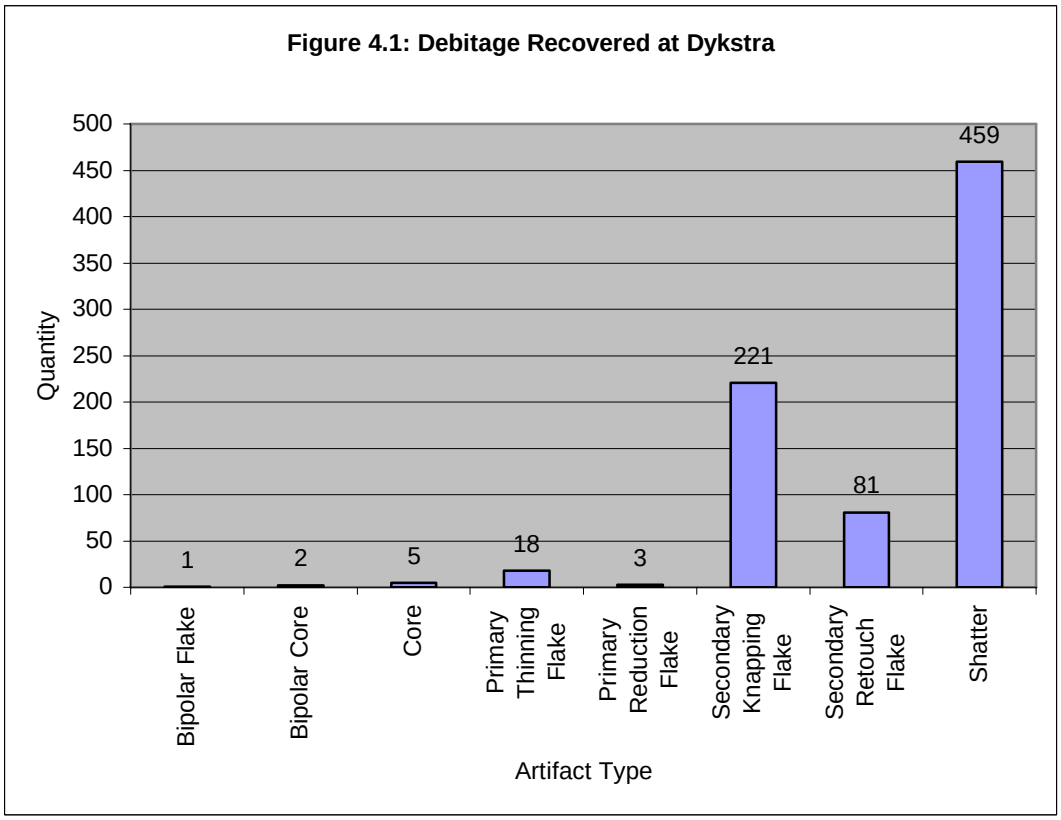


Figure 4.2: Bifaces, Formal Tools and Groundstone Recovered at Dykstra

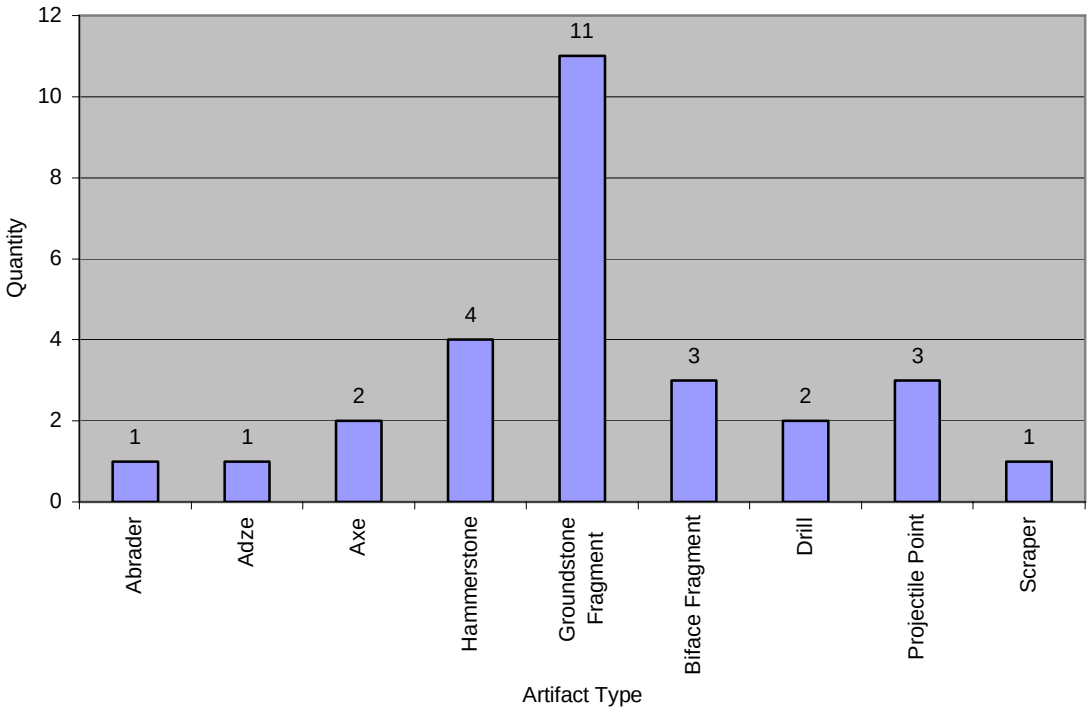


Table 4.1: Summary of Flaked and Groundstone Artifact Assemblage

Artifact Class	Quantity	Percent
Flaked Stone Formal Tools		
Drill	2	0.2%
Scraper	1	0.1%
Projectile Point	3	0.4%
Biface	3	0.4%
Subtotal Flaked Stone Formal Tools	*9*	*1.1%*
Flaked Stone Debitage		
Core	5	0.6%
Bipolar Core	2	0.2%
Bipolar Flake	1	0.1%
Primary Reduction Flake	3	0.4%
Primary Thinning Flake	18	2.2%
Secondary Knapping Flake	221	27.0%
Secondary Retouch Flake	81	9.9%
Shatter	459	56.1%
Subtotal Flaked Stone Debitage	*790*	*96.6%*
Groundstone		
Abrader	1	0.1%
Adze	1	0.1%
Axe	2	0.2%
Hammerstone	4	0.5%
Miscellaneous	11	1.3%
Subtotal Groundstone	*19*	*2.3%*
Total	**818**	**100.0%**

The flaked lithic raw material is dominated by Huronia (n=335, 41.0%), Balsam Lake (n=177, 21.6%) and Onondaga (n=111, 13.6%) cherts, the first and others likely derived from local till sources (Figure 4.3). The raw material is summarized in Table 4.2. A number of other chert types were also used including Fossil Hill (n=58, 7.1%), Trent Valley (n=13, 1.6%), Kettle Point (n=10, 1.2%), Bois Blanc (n=9, 1.1%), Lockport (n=7, 0.9%), Chalcedony (n=5, 0.6%), Upper Mercer (n=4, 0.5%), Flint Ridge (n=1, 0.1%) and Hudson's Bay Lowland (n=1, 0.1%). Twenty-five pieces of debitage (3.1%) could not be identified to a particular chert type. Tools were also made from quartz or quartzite, as 43 pieces of quartz/quartzite debitage (5.3%) were recovered from the lithic sample. Thermal alteration was recorded for 73 (8.9%) of the flaked stone artifacts. One groundstone tool was manufactured from granite (0.1%), while the remaining 18 were made from unidentifiable raw materials (2.2%).

Figure 4.3: Raw Material Recovered at Dykstra

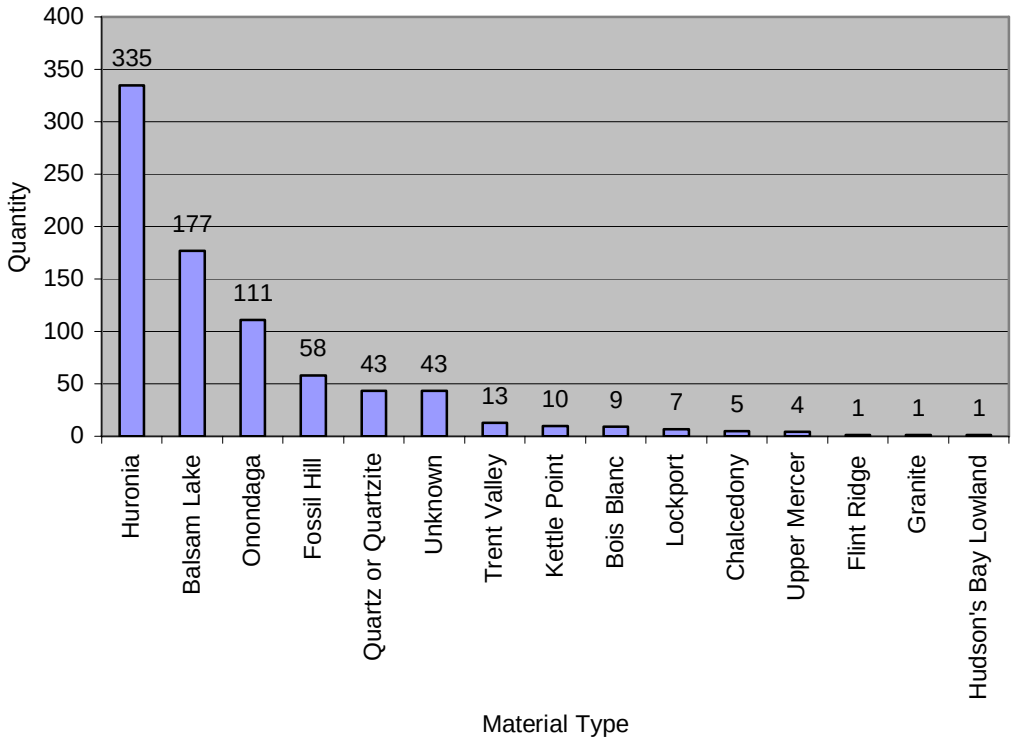


Table 4.2: Summary of Raw Material

Raw Material	Debitage	Biface	Scraper	Drill	Projectile Point	Groundstone	Total	Percent
Balsam Lake	177						177	21.6%
Bois Blanc	9						9	1.1%
Chalcedony	5						5	0.6%
Fossil Hill	54	2			2		58	7.1%
Flint Ridge	1						1	0.1%
Granite						1	1	0.1%
Hudson's Bay Lowland	1						1	0.1%
Huronia	332		1	2			335	41.0%
Kettle Point	9				1		10	1.2%
Lockport	7						7	0.9%
Onondaga	110	1					111	13.6%
Quartz or Quartzite	43						43	5.3%
Trent Valley	13						13	1.6%
Upper Mercer	4						4	0.5%
Unknown	25					18	43	5.3%
Total	**790**	**3**	**1**	**2**	**3**	**19**	**818**	**100.0%**

4.2 FLAKED STONE

4.2.1 Formal Tools

Drills
Two (0.2%) fragmented drill bases were recovered at Dykstra. One was found in unit 514-221 in Midden 1 (Cat. .3206). This artifact was made from Huronia chert. Its base width is 17.1 mm while the shaft of the drill would have been approximately 10.3 mm in width. The second drill fragment is also a drill base manufactured from Huronia chert (Cat. .3195). This drill base is 13.8 mm in width with a 6.3 mm wide drill shaft. This artifact was recovered from unit 514-217 in Midden 1.

Scrapers
One (0.1%) complete Huronia chert scraper (Cat. .3290) was recovered from unit 460-215 in House 1 (Plate 4.1:a). The overall measurement of this crudely manufactured tool is 23.8 x 20.4 x 6.7 mm in length, width and thickness. The working edge is 7.8 mm in length and 4.3 mm in height.

Projectile Points
Two, nearly complete, projectile points and one projectile point fragment were recovered from Midden 1 at Dykstra (0.4%). The first is an Early Archaic side-notched point (Cat. .3292) made of Fossil Hill chert, which was recovered from the topsoil of Unit 515-232 (Plate 4.1:b). Lacking only the point tip, the specimen has the following dimensions: overall length=28.7 mm, tang height 3.8 mm, blade width=21.9 mm, basal width=17.0 mm, internotch width=12.5 mm and overall thickness=4.8 mm. This projectile point predates the occupation of Dykstra.

The second specimen (Cat. .3147) is a complete triangular projectile point manufactured from Kettle Point chert (Plate 4.1:c). This projectile point was recovered in the topsoil of Unit 518-212 within Midden 1 located in the northern portion of the site. The triangular point is isosceles in

shape and bilaterally symmetrical. One lateral edge is convex and tapers at the base, while the opposite edge is concave and flares at the base. This specimen measures 39.1 x 5.0 in length and thickness with a basal width of 15.3 mm. This triangular point resembles the Nanticoke Triangular point type of the Middle Iroquoian period. It should be noted, however, that Nanticoke Triangular points are so similar in size and shape to the Nanticoke Notched form that these may have been intended as preforms for the latter (Dodd and Ellis 1987).

Unit 517-214 in Midden 1 contained a projectile point tip (Cat. .3278) manufactured from Fossil Hill chert (Plate 4.1:d). Although simply a fragment of a complete point, this refined tip measures 9.7 x 13.0 x 3.8 mm in length, width and thickness.

Bifaces
Three (0.4%) biface fragments were also recovered from Dykstra. Two were manufactured from Fossil Hill chert and one on Onondaga chert. One Fossil Hill chert biface (Cat. .3049) was recovered on the surface of the topsoil during a controlled surface collection (CSC). It measures 19.5 mm in width and 4.4 mm in thickness (Plate 4.1:e). The second Fossil Hill chert biface (Cat. .3109) was recovered in Feature 129 of Unit 495-195 in EA02. This crude biface measures 31.0 x 9.0 x 8.0 mm in length, width and thickness (Plate 4.1:f). The biface manufactured from Onondaga chert (Cat. .3118) measures 25.0 x 31.0 x 5.0 mm and was recovered in unit 512-216 of Midden 1 (Plate 4.1:g).

4.2.2 Debitage

Cores
Five core fragments and two bipolar core fragments were identified in the lithic sample recovered from Dykstra. Although Huronia is the predominant raw material, cores of Balsam Lake, Hudson's Bay Lowland and Trent Valley chert are also represented in the sample. All seven cores were recovered from Midden 1. Two specimens (Cat. .3027 and .3028) were recovered from unit 510-225, Cat. .3186 was recovered from unit 514-216, two cores (Cat. .3213) were recovered in unit 515-214, Cat. .3228 was found in unit 515-218 and .3007 from unit 517-208. No thermal alteration is evident on any of the cores.

Flakes
Three primary reduction flakes (0.4%), 18 primary thinning flakes (2.2%), 221 secondary knapping flakes (27.0%), 81 secondary retouch flakes (9.95%), one bipolar flake (0.1%) and 459 pieces of shatter (56.1%) were recovered totalling 783 pieces of debitage. These flakes were manufactured from Balsam Lake (n=175, 21.4%), Bois Blanc (n=9, 1.1%), Chalcedony (n=5, 0.6%), Fossil Hill (n=54, 6.6%), Flint Ridge (n=1, 0.1%), Huronia (n=329, 40.2%), Kettle Point (n=9, 1.1%), Lockport (n=7, 0.8%), Onondaga (n=110, 13.5%), Quartz/Quartzite (n=43, 5.3 %), Trent Valley (n=12, 1.5%) and Upper Mercer (n=4, 0.5%). Twenty-five pieces of debitage (3.1%) could not be identified to a particular chert type. Thermal alteration was observed on 73 pieces. No cortex, utilization or retouch was identified on any of the flakes. Flaked lithics were recovered across the entire site from the controlled surface collection (CSC) and test pits as well as units in Midden 1, EA01, EA02, House 1, Structure B and Structure D.

4.3 GROUNDSTONE

The groundstone assemblage at Dykstra comprises 19 (2.3%) specimens including: one abrader (0.1%), three celts (one adze [0.1%] and two axe [0.2%] fragments), four hammerstones (0.5%) and 11 miscellaneous groundstone fragments (1.3%). The complete abrader (Cat. .3295) was recovered in Feature 108 of unit 495-185 in EA02. This smooth stone measures 142.7 x 42.1 x 25.9 mm in length, width and thickness and was manufactured from sandstone. It exhibits battering on the lateral margins, possibly from hafting, as well as abrasion on both faces indicating obvious but not intensive use (Plate 4.2:a).

A celt is a general term for a wood working tool that includes both axes and adzes. An axe has a symmetrical bit, while an adze has an asymmetrical bit. The two would have been hafted differently to accommodate their function: the axe being used to chop down trees, the adze being used to shape, plane or hollow wood to make, for example, a dug out canoe. One fragmented groundstone adze (Cat. .3173) was recovered in unit 513-216 of Midden 1 (Plate 4.2:b). The tool is fragmented on all sides except for one smooth, bevelled edge that shows signs of abrasion. This adze was manufactured from sandstone.

One axe fragment (Cat. .3139) was recovered in the topsoil of a test pit while another axe fragment (Cat. .3162) was found in unit 512-219 of Midden 1. Although extremely battered, likely from modern ploughing, a number of smooth surfaces are preserved on the dorsal and ventral faces of specimen .3139 (Plate 4.2:c). The bevelled edge joining these two surfaces with the lateral edge, however, is no longer present as the distal “bit” portion is typically one of the first sections to fracture off an axe. This axe is manufactured from Slate and measures 44.9 mm in width and 17.9 mm in thickness. The second axe fragment has not retained any smoothly ground surfaces; however, specimen .3162 has retained the shape of the proximal end of the axe (opposite to the bit) that would have been hafted to the shaft (Plate 4.2:d). This artifact was manufactured of slate with a maximum width of 39.2 mm, a minimum width of 27.7 mm and a thickness of 11.8 mm.

Four specimens exhibiting significant battering along their margins were recovered from Dykstra. The presence of battering indicates that they had been used as hammers during the tool making process for either single flake reduction or bipolar reduction. These hammerstones appear to be beach cobbles of varying materials: granite (Cat. .3227 [n=1] and .3294 [n=2]) and sandstone (Cat. .3099) (n=1). Of particular interest, the ventral side of one granite hammerstone (Cat. .3227) has been pounded flat from use. Specimens .3294 and .3227 were recovered in Midden 1 within units 519-225 and 515-218 respectively, while specimen .3099 was recovered in Feature 98 of unit 495-195 in EA02.

Eleven miscellaneous groundstone fragments were recovered. Specimen .3064 was recovered in Level 1 of Feature 14 in unit 465-200 of House 1. The majority of groundstone fragments were recovered in Midden 1 within units 513-216 (Cat. .3291), 514-217 (Cat. .3196), 515-209 (Cat. .3212), 515-217 (Cat. .3226), 515-218 (Cat. .3289), 515-219 (Cat. .3235), 516-217 (Cat. .3259), 516-219 (Cat. .3044) and 517-213 (Cat. .3274). The final groundstone fragment (Cat. .3140) was found in a test pit.

Plate 4.1: Flaked Lithic Artifacts
(a Scraper .3290 460-215; b Early Archaic Projectile Point .3292 515-232; c Triangular Projectile Point .3147 518-212; d Projectile Point Tip .3278 517-214: e-g Bifaces .3049 CSC, .3109 495-195 F.129 and .3118 512-216)

Plate 4.1: Groundstone Lithic Artifacts
(a Abrader .3295 495-185 F.108; b Adze .3173 513-216; c-d Axe fragments .3139 test pit and .3126 512-219)

4.4 SPATIAL DISTRIBUTION

Approximately 84% of the artifact assemblage described above was recovered from Midden 1 (n=686), while 1.6% was recovered from EA01 (n=13) and 8.4% from EA02 (n=69). House 1, the only nearly complete dwelling structure at Dykstra, yielded 1.2% (n=10) of the lithic artifacts, while Structure B and Structure D contained 0.4% (n=3) and 0.2% (n=2) respectively. The remaining artifacts were distributed around the site and were recovered in test pits (1.2%, n=10) and during the controlled surface collection (3.1%, n=25). The distribution of the lithic artifacts by provenience is provided in Table 4.3 (Figure 4.4).

Table 4.3: Distribution of Lithic Artifacts by Provenience

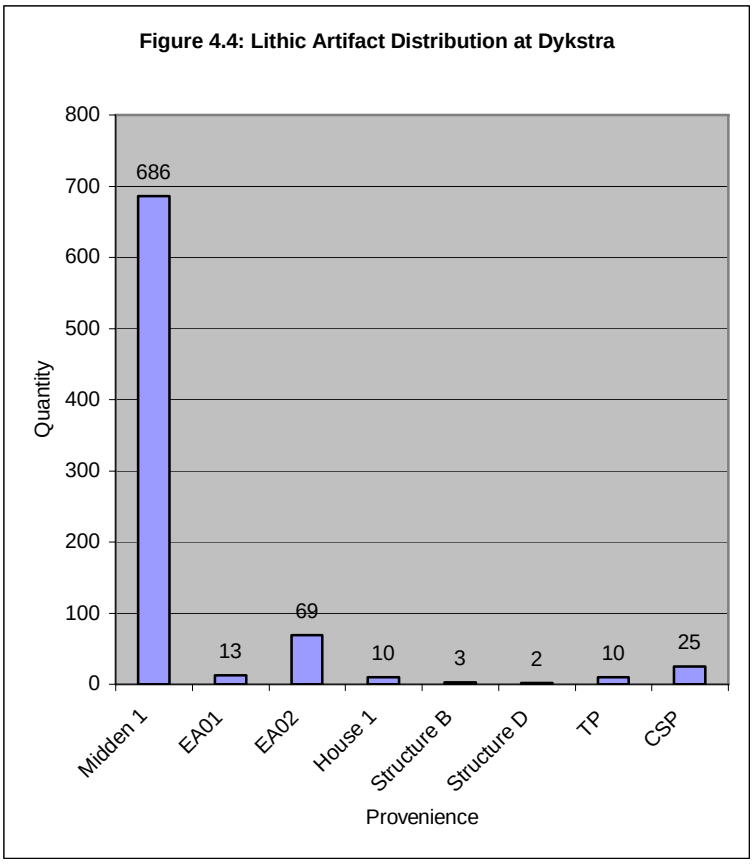
Provenience	Debitage	Biface	Formal Tool	Groundstone	**Total**	**Percent**
Midden 1	666	1	5	14	686	83.9%
EA01	13				13	1.6%
EA02	66	1		2	69	8.4%
House 1	8		1	1	10	1.2%
Structure B	3				3	0.4%
Structure D	2				2	0.2%
TP	8			2	10	1.2%
CSC	24	1			25	3.1%
Total	790	3	6	19	818	100.0%

Midden 1 contained 84.3% of the debitage (n=666), 33.3% of the bifaces (n=1), 83.3% of the formal tools (n=5) and 73.7% of the groundstone tools (n=14). No other artifact types were recovered in the north midden. The midden contained all of the cores and chunks (n=7), all the bipolar flakes (n=1), and all the primary reduction flakes (n=3) from the site, 83.3% of the primary thinning flakes (n=15), 89.1% of the secondary knapping flakes (n=197), 82.7% of the secondary retouch flakes (n=67) and 81.9% of the shatter (n=376). All debitage types are represented in this area.

Combined, the exterior activity areas (EA01 and EA02) contained 10.0% of the debitage (n=79), 33.3% of the bifaces (n=1) and 10.5% of the groundstone tools (n=2). No formal tools were recovered in the either EA01 or EA02. The activity areas contained 16.7% of the primary thinning flakes (n=3), 7.2% of the secondary knapping flakes (n=16), 9.9% of the secondary retouch flakes (n=8) and 11.3% of the shatter (n=52). No cores, bipolar flakes or primary reduction flakes were recovered in EA01 or EA02.

House 1 contained 1.0% of the debitage (n=8), while Structure B and D contained 0.7% of the debitage assemblage (n=5). House 1 also contained 16.7% of the formal tools (n=1) and 5.3% of the groundstone artifacts (n=1). No bifaces were encountered in House 1. Of the debitage recovered within House 1, only 0.9% of the secondary knapping flakes (n=2) and 1.3% of the shatter (n=6) were found in this structure. No cores, bipolar flakes, primary reduction flakes, primary thinning flakes or secondary retouch flakes were recovered from House 1. Structure B contained 0.5% of the secondary knapping flakes (n=1), 1.2% of the secondary retouch flakes (n=1) and 0.2% of the lithic shatter (n=1). Structure D also contained 1.2% of the secondary

retouch flakes (n=1) and 0.2% of the lithic shatter (n=1). No cores, bipolar flakes, primary reduction or primary thinning flakes were recovered in any of the houses or structures.



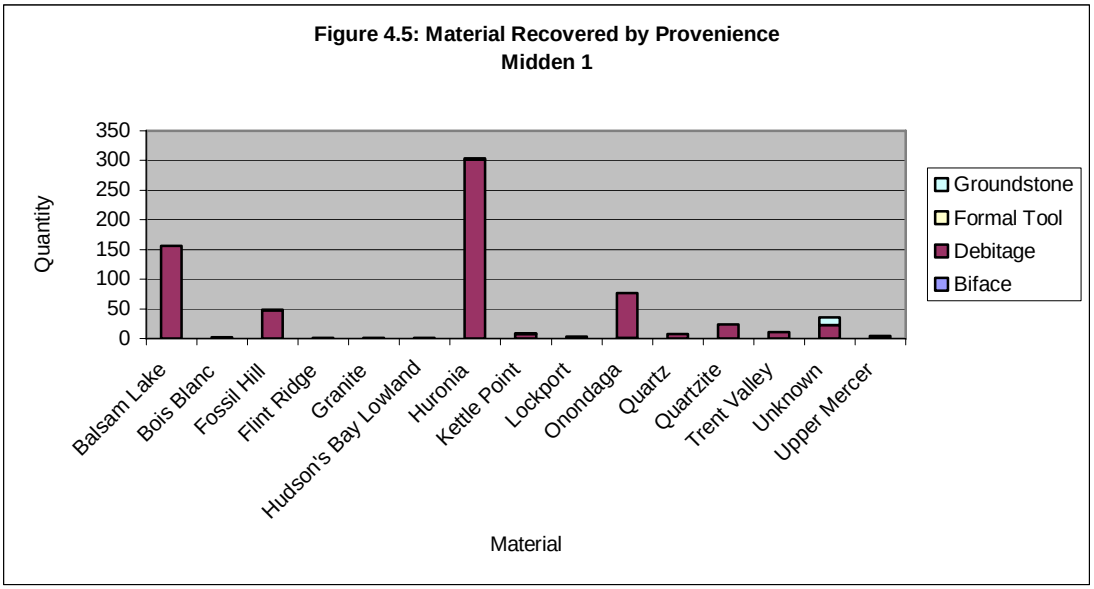
Figures 4.5-4.11 provide a visual representation of the distribution of materials used for flaked artifacts. A total of 15 different materials were recovered from Dykstra: Balsam Lake, Bois Blanc, Chalcedony, Fossil Hill, Flint Ridge, Granite, Hudson's Bay Lowland, Huronia, Kettle Point, Lockport, Onondaga, quartz, Quartzite, Trent Valley and Upper Mercer.

Fourteen out of 15 different raw materials were recovered in Midden 1 (Figure 4.5). The midden contained 88.1% of the Balsam Lake artifacts (n=156), 22.2% of the Bois Blanc artifacts (n=2), 84.5% of the Fossil Hill artifacts (n=49), 90.7% of the Huronia artifacts (n=304), 90.0% of the Kettle Point artifacts (n=9), 42.9% of the Lockport artifacts (n=3), 69.4% of the Onondaga artifacts (n=77), 74.4% of the quartz and Quartzite artifacts (n=32), 84.6% of the Trent Valley artifacts (n=11), and all of the Upper Mercer (n=4), Flint Ridge (n=1), Granite (n=1) and Hudson's Bay Lowland (n=1) artifacts. Midden 1 also contained 83.7% (n=36) of the artifacts manufactured from unknown cherts.

EA01 contained the following quantities of raw materials (Figure 4.6); 1.1% of the Balsam Lake artifacts (n=2), 1.2% of the Huronia artifacts (n=4), 14.3% of the Lockport artifacts (n=1), 0.9% of the Onondaga artifacts (n=1) and all of the Chalcedony artifacts (n=5) (Figure 4.7). No artifacts manufactured from unknown materials were recovered in this activity area. Similarly, EA02 contained 5.6% of Balsam Lake (n=10), 77.8% of Bois Blanc (n=7), 8.6% of Fossil Hill (n=5), 3.0% of Huronia (n=10), 42.9% of Lockport (n=3), 18.9% of Onondaga (n=21), 23.3% of quartz and quartzite (n=10), and 7.7% of Trent Valley (n=1). This activity area also contained 4.7% (n=2) of the artifacts manufactured from unknown material (Figure 4.7).

House 1, one of three structures at Dykstra where artifacts were recovered, contained 1.1% of the Balsam Lake artifacts (n=2), 1.2% of the Huronia artifacts (n=4) and 0.9% of the Onondaga artifacts (n=1) (Figure 4.8). House 1 also contained 7.0% (n=3) of the artifacts manufactured from unknown cherts. Structure B contained the following quantities of raw materials (Figure 4.9); 0.6% of Balsam Lake (n=1), 0.3% of Huronia (n=1) and 0.9% of Onondaga (n=1). Finally, Structure D contained 0.6% (n=2) of the Huronia chert artifacts recovered from Dykstra (Figure 4.9).

The balance of the artifact materials recovered from Dykstra was encountered during the controlled surface collection (CSC) and within test pits excavated across the site (Figure 4.10). These include 3.4% of the Balsam Lake artifacts (n=6), 6.9% of the Fossil Hill artifacts (n=4), 3.0% of the Huronia artifacts (n=10), 10.0% of the Kettle Point artifacts (n=1), 9.0% of the Onondaga artifacts (n=10), 5.6% of the quartz artifacts (n=1) and 7.7% of the Trent Valley artifacts (n=1). Two (4.7%) artifacts manufactured from unkown chert were recovered in the test pits excavated at Dykstra (Figure 4.11).



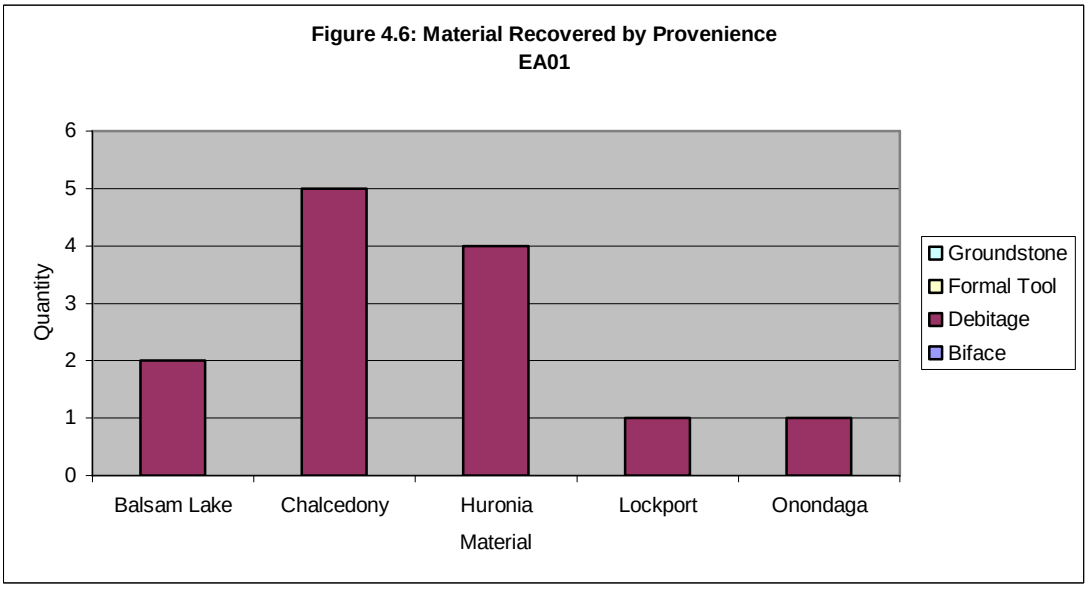


Figure 4.7: Material Recovered by Provenience
EA02

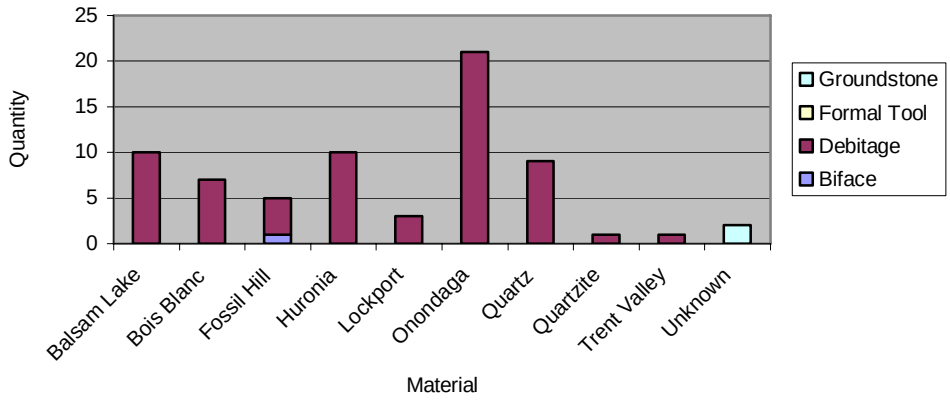


Figure 4.8: Material Recovered by Provenience
House 1

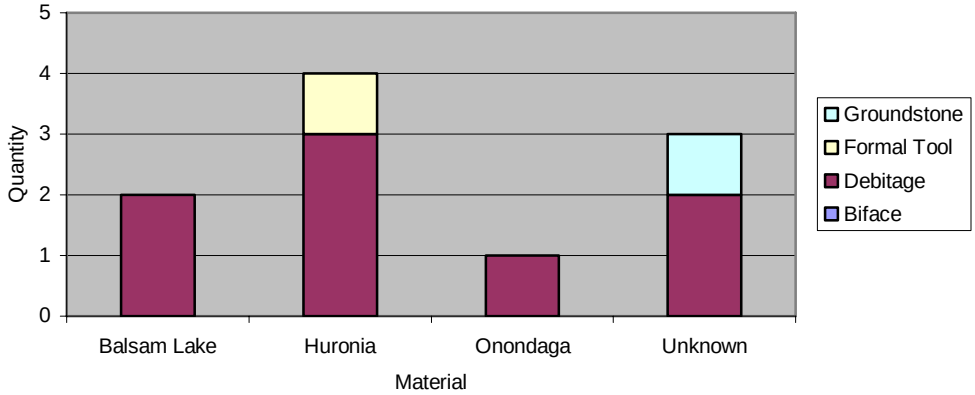


Figure 4.9: Material Recovered by Provenience
Structures B & D

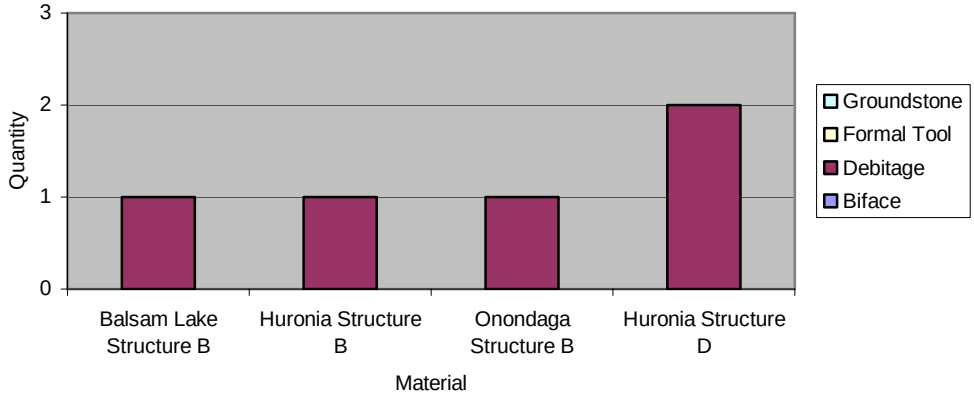


Figure 4.10: Material Recovered by Provenience
Controlled Surface Collection

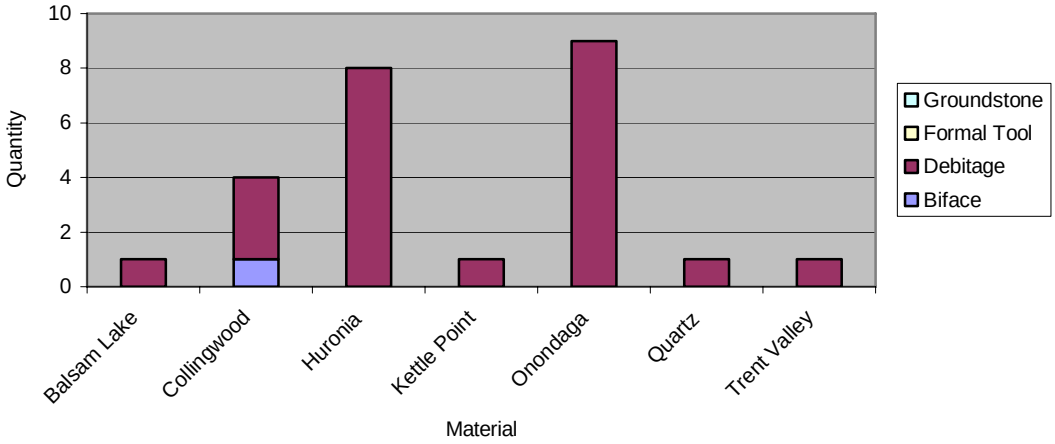
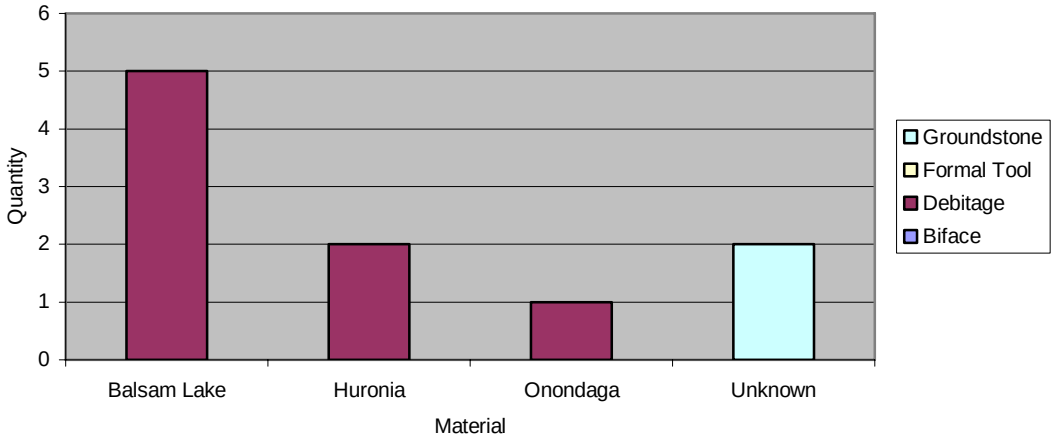


Figure 4.11: Material Recovered by Provenience
Test Pits



Finally, Table 4.4 below provides the distribution of artifacts discussed in this chapter by feature. Approximately 90% (n=737) of the artifacts were recovered in non-feature contexts while the balance (10%, n=81) was recovered in features across the site. The features that contained the majority of the artifacts include: Feature 87, a sweat lodge in EA02 containing 31 pieces of debitage; Feature 88, an oval shaped pit located at the entrance to the sweat lodge (F.87) in EA02 containing 11 pieces of debitage; Feature 98, another pit located adjacent to F.87 and F.88 in EA02 containing five pieces of debitage and one hammerstone fragment; Feature 124, an ash pit located among the features cluster around F.87, containing four pieces of debitage, Feature 129, also adjacent to F.87, containing four pieces of debitage and one biface fragment; Feature 108, a pit located 10 m west of F.87 in EA02 containing four pieces of debitage and one abrader; Feature 76, a large (194 x 106 cm) irregularly shaped pit located in EA01 between Structures D and E containing six pieces of debitage; Feature 68, an oval pit located in EA01 west of Structure

D containing two pieces of debitage; and Feature 14, a sweat lodge located within House 1 containing two pieces of debitage and one groundstone fragment. These features combined contain 8.9% of the lithic artifact assemblage. All other features contained one artifact per feature (F.25, F.40, F.43, F.49, F.89, F.120, F.126 and F.127).

Table 4.4: Distribution of Lithic Artifacts by Feature

Feature	Midden 1	EA01	EA02	House 1	Structure B	Structure D	CSP	TP	Total	%
NA	686	7	3	3	3		25	10	737	90.1%
14				3					3	0.4%
25				1					1	0.1%
40				1					1	0.1%
43				1					1	0.1%
49				1					1	0.1%
68						2			2	0.2%
76		6							6	0.7%
87			31						31	3.8%
88			11						11	1.3%
89			1						1	0.1%
98			6						6	0.7%
108			5						5	0.6%
120			1						1	0.1%
124			4						4	0.5%
126			1						1	0.1%
127			1						1	0.1%
129			5						5	0.6%
Total	**686**	**13**	**69**	**10**	**3**	**2**	**25**	**10**	**818**	**100.0%**

4.5 DISCUSSION

The lithic artifact assemblage at Dykstra is mainly composed of flaked debitage, and is relatively devoid of both flaked and groundstone formal tools. Fourteen different types of material were present in the lithic assemblage. Huronia, Balsam Lake, Onondaga and Fossil Hill chert were the most common materials used to manufacture the flaked stone tools. This is consistent with the material types found at nearby sites within the Barrie/Simcoe area. The large number of raw materials used suggests a conservative lithic industry where good quality chert was at a premium and every effort was made to derive the maximum worth from both local and imported raw materials.

The lithic debitage was scattered across the entire site with the heaviest concentration in the Midden located in the northern most part of the site. House 1 contained 50% more debitage than Structure B and D combined, and EA02 contained approximately five times more lithic artifacs than EA01. The majority of the lithic assemblage (approximately 90%) were found in non-feature contexts while 10% were recovered in pits (n=35), sweat lodges (n=34), support posts (n=7), ash pits (n=4) and a hearth feature (n=1).

CHAPTER 5
FLORAL ANALYSIS

Stephen Monckton
Bioarchaeological Research

Irena Miklavcic
Archaeological Services Inc.

5.1 INTRODUCTION

Samples were collected from exposed features and the midden area and analysed by Dr. Stephen Monckton of Bioarchaeological Research. These were all subjected to the double bucket method of flotation using a 0.425mm screen. Of these samples, 19 were analysed representing a volume of 53.0 litres of soil; 18 samples from 14 features and one sample from House 1. It was considered important to represent as many recognized feature types from the site as possible by at least one sample.

5.2 ANALYTICAL METHODS

All soil samples were processed using the double bucket flotation method using a 0.425 mm screen. Light and heavy fractions were passed through screens, which aided in the sorting of material. These light fractions were allowed to dry then passed through a series of nine standard geological screens measuring 4.00, 2.80, 2.36, 2.00, 1.40, 1.00, 0.710, 0.425 and 0.212 mm respectively. This served to separate the light fraction into particle size categories that facilitated sorting. All material larger than 2.36 mm was sorted into categories of uncharred organic material, wood charcoal, other plant parts including seeds, unidentifiable plant material, mineral and bone. Material smaller than 2.36 mm was sorted for seeds only (Monckton 1992). Additional plant material was recovered manually. This was examined, counted and weighed separately.

Wood charcoal fragments were broken in half in order to provide fresh transverse sections for identification of cell structure under a stereoscope. All identifications were made using a ST-300 stereo dissection microscope at 7 - 40X magnifications. The weights of the identified fragments provided a basis on which to quantify the relative contributions of tree genera to the overall assemblage.

5.3 RESULTS

A total of 19 samples of soil were analysed by Stephen G. Monckton. In addition to 309 wood charcoal specimens (see Table 5.3), 129 components of plant remains (Table 5.1) and 159 seeds (Table 5.2) were recovered from 53.0 litres of soil. Seed frequencies ranged from 0.0-21.0 seeds/litre with an average of 3.0 seeds/litre.

Cultigens comprised 8.8% of the seed sample, whereas fleshy fruits constituted 39.0%, green grain and other wild taxa collected comprise 27.0% of the sample (Table 5.2). The cultigens

recovered include maize (*Zea mays*) and bean (*Phaseolus vulgaris*). Other major cultivated plant taxa such as cucurbit, tobacco and sunflower are not present.

The noncultigens include fleshy fruits such as bramble (*Rubus* sp.), strawberry (*Fragaria* sp.), elderberry (*Sambucus* sp.) and pincherry (*Prunus pennsylvanica*). Other noncultigens include greens/grains such as spikenard (*Nardostachys jatamansi* dc.), chenopod (*Chenopodium berlandierii*), bed sumac (*Rhus typhina*), small grass (*family Poaceae*) and cat-tail (Typha latifolia) (Table 5.2). Most of these taxa thrive in disturbed habitats today and would have been available to the people in forest edge areas with less competition for light.

Analysis of the wood charcoal fragments revealed a familiar range of tree genre, including maple (*Acer saccharum*), beech (*Fagus grandifolia*), ash (*Fraxinus* sp.), elm (*Ulmus americana*), ironwood (*Ostrya virginiana*), red deciduous, white pine (*Pinus strobus*), unidentifiable cedar (*family Cupressaceae*) and iron conifer (*family Cupressaceae*). Beech is dominant in the samples analyzed followed by maple. Table 5.3 provides wood species data from the archaeological contexts including both houses and the north midden.

5.3.1 Cultigens

Maize was the single most abundant cultigen represented by kernel, cob and seed fragments (Table 5.1). A total of 74 maize kernel fragments, 17 cob fragments and 13 seed fragments were recovered. These specimens were recovered from eight features and one non-feature context in House 1, as well as from two features in EA01 and one feature in EA02. No complete maize kernel, cob or seeds were encountered in the samples.

The only other cultigen recovered from this site is bean, which is represented here by only one seed. This may be the result of differential preservation (Monckton 1992). The under-representation of bean may also be related to its homogeneous structure, which makes it difficult to distinguish from other materials when very fragmented. For example, distinctions between the homogeneous tissues of small nut meat fragments and bean would probably require SEM analysis. Current thinking still favours the hypothesis that food preparation is fundamentally responsible for the under-representation of beans at most sites.

Unlike other sites in the Simcoe region, such as Wellington, or contemporaneous sites such as Serena, cultigens such as cucurbit, tobacco and sunflower were not encountered in the soil samples examined.

5.3.2 Non-Cultigens

Fleshy fruits clearly played a key role in Iroquoian subsistence practices as evidenced from a number of Middle and Late Ontario Iroquoian sites in southern Simcoe County (e.g. Monckton 1994; 1996b; 1998). In the seventeenth century, the Jesuits were impressed by the quantities of fleshy fruits available to the Huron (Thwaites 1896-1901; 10:103). Recent dietary analysis of historic Huron plant food indicates that fruit would have contributed about a quarter of the daily calories needed by the average person (Monckton 1992: 84-86).

Table 5.1: Dykstra Plant Remains Components

Feature	Context	Square	Level	Quad	Sample Volume (L)	Sorted Fractions Wt.(g)	Wood Charcoal Wt (g)	Maize Kernel Fragments N	Maize kernel Fragments Wt.(g)	Maize Cob Fragments N	Maize Cob Fragments Wt.(g)	Unidentified Material N	Unidentified Material Wt.(g)	Total Sample N	Total Sample Wt.(g)
5	House 1	460-210			6	10.89	2.3	7	0.04	1	0.01	2	0.01	10	0.06
8	House 1	465-205			2	11.14	0.91	3	0.01	1	0.01	3	0.01	7	0.03
14	House 1	465-200	2	2	2	17	5.04	2	0.01					2	0.01
14	House 1	465-200	1	2	2	3.64	0.58	3	0.01					3	0.01
14	House 1	465-200	5	2	2	2.00	0.35							0	0
20	House 1	495-185			1	18.46	2.64							0	0
23	House 1	460-205			3	11.16	1.1	13	0.38					13	0.38
24	House 1	460-210			3	41.93	5.12	8	0.07	1	0.01	1	0.01	10	0.09
30	House 1	460-195			2	8.9	2.09					7	0.11	7	0.11
44a	House 1	460-210			2	19.84	4.39	3	0.01			1	0.01	4	0.02
49	House 1	460-215	1		2	5.63	0.45	1	0.01	1	0.01			2	0.02
49	House 1	460-215	2		1	7.71	0.4			1	0.01			1	0.01
50	House 1	460-220			2	31.53	13.13	2	0.01	3	0.01	1	0.01	6	0.03
59	EA01	480-210			9	81.51	17.7	8	0.01	4	0.01	10	0.14	22	0.16
76	EA01	485-250			2	9.65	3.3	1	0.09			3	0.01	4	0.1
76	EA01	485-250	2		2	1.3	0.07							0	0
82	EA01	485-255			1	9.11	1.43					6	0.01	6	0.01
87	EA02	495-195	6	2	2	27.4	1.77	2	0.01			1	0.01	3	0.02
-	House 1	460-210			7	72.49	4.39	21	0.17	5	0.06	3	0.01	29	0.24
			Sum		53	391.29	67.16	74	0.83	17	0.13	38	0.34	129	1.3
			%					57.36	63.85	13.18	10.00	29.46	26.15	100.00	100.00

Bramble (*Rubus* sp.) is the most commonly represented taxon at Dykstra (n=51), as it is in most Iroquoian plant assemblages (Table 5.2). It is found in House 1 (n=32), EA01 (n=16) and EA02 (n=3). The majority of the bramble seeds found in House 1 (17.6% of the total bramble seeds) were recovered from Feature 20, a pit located in the southeast portion of the house. The majority of bramble in EA01 (19.6% of the total bramble seeds) was found in Feature 59, a pit feature located between House 1 and Structure A, and Feature 82, another pit feature located adjacent to Structure E.

Other abundant fruit remains are elderberry (*Sambucus* sp.) (n=7), pincherry (*Prunus pennsylvanica*) (n=3) and strawberry (*Fragaria* sp.) (n=1), however, neither are as numerous nor widespread as bramble. Elderberry was found in House 1 and EA01, while pincherry and strawberry were only found in House 1.

Table 5.2: Dykstra Seeds (N)

Feature	Context	Square	Level	Quad	Maize	Bean	Bramble	Strawberry	Elderberry	Pincherry	Spikenard	Chenopod	Bed Sumac	Small Grass	Cat-tail	Unknown	Unidentified	Total
5	House 1	460-210			1		1		1						1		6	10
8	House 1	465-205			1		1											2
14	House 1	465-200	2	2	1								1				1	3
14	House 1	465-200	1	2	1													1
14	House 1	465-200	5	2														0
20	House 1	495-185					9		3				1				7	20
23	House 1	460-205										3						3
24	House 1	460-210			1		1			2			2				6	12
30	House 1	460-195					9											9
44a	House 1	460-210			1		3	1				3						8
49	House 1	460-215	1		1				1				1				1	4
49	House 1	460-215	2				2						2					4
50	House 1	460-220			1								1					2
59	EA01	480-210			1		5					5	3	1				15
76	EA01	485-250			1		4				1		2				1	9
76	EA01	485-250	2				2		1			1						4
82	EA01	485-255					5		1		1	1	2				11	21
87	EA02	495-195	6	2	1		3						5				1	10
-	House 1	460-210			2	1	6			1			6				6	22
			Sum		13	1	51	1	7	3	2	13	26	1	1	0	40	159
			%		8.18	0.63	32.08	0.63	4.40	1.89	1.26	8.18	16.35	0.63	0.63	0.00	25.16	100.00

Taxa belonging to the greens and/or grains category are comparatively abundant in the Dykstra assemblage. Bed sumac (*Rhus typhina*) seeds are the most common in this category (n=26), of which 53.8% was recovered within House 1, 26.9% in EA01 and 19.2% in EA02. Other greens or grains include chenopod (*Chenopodium berlandierii*) (n=13) found in House 1 and EA01, spikenard (*Nardostachys jatamansi* dc.) (n=2) recovered only in EA01, small grass (n=1) from EA01 and cat-tail (*Typha latifolia*). Cat-tail seeds occur in the context of House 1 only. Cat-tail seeds likely represent the presence of rush mats referred to in the ethnohistoric record (Thwaites 1896-1901: 42:205; 58:209; 59:129, 133, 155). It should be noted, however, that in terms of size, cat-tail seeds are the smallest of the identified taxa and may pass through the collection screen.

It remains difficult to evaluate the contributions of taxa within the greens/grains category to peoples' diets, if they were indeed consumed. With greens, for instance, it is likely that only the leaves were consumed, rendering difficult any quantification on the basis of seeds alone.

Finally, 38 fragments of unidentified plant material weighing 0.34g and 40 unidentifiable seed fragment from eight features (F5, F14, F24, F49, F76, F82, F87 and F20) and in House 1 unit 460-210 were recovered from the soil samples.

5.3.3 Wood Charcoal

The remains of firewood and construction material provide information on the local environment and potentially, on cultural preferences in wood use. Wood charcoal was found in all feature contexts where soil samples were collected. Table 5.3 provides the wood charcoal weights and frequency summary. Wood charcoal remains were found to be dominated by beech (Fagus grandifolia) (n=108), and maple (*Acer* sp.) (n=71), with much smaller quantities of red deciduous (n=17), white pine (*Pinus strobus*) (n=15), iron conifer (*family Cupressaceae*) (n=13), unidentifiable cedar (*family Cupressaceae*) (n=7), ironwood (*Ostrya virginiana*) (n=2) and elm (*Ulmus americana*) (n=2). In this region, maple usually dominates most charcoal assemblages and is usually followed by either beech or ash (Monckton 1992; 1994; 1998).

It has been proposed that the most likely way in which the firewood was gathered then ultimately entered the archaeological record as charcoal, was through the collection of deadwood from the forest floor (Monckton 1992: 87-90; 1998). Such a practice would not only have been quicker than tree cutting, but would also have provided dry fuel. It would also result in a sampling of the species available in a relatively unbiased fashion.

If such was the case, the range of wood taxa represented in the Dykstra samples suggests that people were collecting dried wood from the floors of the relatively diverse forests of the Innisfil Uplands margins, which were dominated by beech and maple (MacDonald 2002: 310-313).

Table 5.3: Dykstra Wood Charcoal

Feature	Context	Square	Level	Quad	Maple	Beech	Ash	Elm	Ironwood	Red Deciduous	White Pine	Unident. Cedar	Iron Conifer	Unident.	Total
5	House 1	460-210			5	8			2					3	18
8	House 1	465-205			3	11				2				3	19
14	House 1	465-200	2	2	7	4				1				3	15
14	House 1	465-200	1	2	4	1								4	9
14	House 1	465-200	5	2	2					1				2	5
23	House 1	460-205				5				2				3	10
24	House 1	460-210			1	18				1				6	26
20	House 1	495-185								2				8	10
30	House 1	460-195									6			3	9
44a	House 1	460-210			15	2				1	4			3	25
49	House 1	460-215	1								1			8	9
49	House 1	460-215	2		2	3									5
50	House 1	460-220			13	14		2		2				3	34
59	EA01	480-210			1	2				1		6	3	9	22
76	EA01	485-250			8	10				2				5	25
76	EA01	485-250	2			6								2	8
82	EA01	485-255				10								2	12
87	EA02	495-195	6	2	8	5				2			3	3	21
-	House 1	460-210			2	9					4	1	7	4	27
			Sum		71	108	0	2	2	17	15	7	13	74	309
			%		22.98	34.95	0.00	0.65	0.65	5.50	4.85	2.27	4.21	23.95	100.00

5.4 CONCLUSIONS

Only two of four plant food staples – maize and bean – were recovered, while sunflower and cucurbit are not present in this sample. Maize was the most strongly represented. Plant remains also indicate that the settlement benefited from a well developed anthropogenic plant community made up of locally available forest edge plant species, such as bramble, strawberry, pincherry and elderberry. Greens and/or grains such as chenopod and spikenard are minor contributors. Of the other plant taxa, bed sumac is the most common. Cat-tail and small grass are each represented by one seed specimen. There were no nut specimens recovered.

It is of interest that tobacco is not represented in the floral sample. This site, therefore, may not have supported specialized or ceremonial activities marked by the use of tobacco.

CHAPTER 6
ZOOARCHAEOLOGICAL ANALYSIS

Stephen Cox Thomas
Bioarchaeological Research

6.1 FAUNAL ANALYSIS

6.1.1 Introduction

The faunal assemblage from the Dykstra Site consists of 687 specimens (Table 6.1). The material was recovered from 74 provenience units including 32 features and 42 one-metre squares. A complete inventory of all faunal specimens is listed in Appendix C.

6.1.2 Preservation

Preservation ranged from excellent–with bone cortex in hard, almost like-new condition–to poor, with cortex so softened and breakage, and root damage, and/or surface pitting so extensive that taxonomic analysis would be seriously impaired. In most of the major and some of the minor features, preservation tended to be good: bone cortex is fairly hard; surface attrition, if any, would generally not impair assessment of butcher marks and use wear, and the main factor limiting taxonomic identification would be pre- or postdepositional breakage. Such breakage would tend to limit osteometry more than identification. (Preservation standards after Thomas 1998: 125.)

Table 6.1: Summary of Inventoried Specimens by Provenience

Category	House 1 Core	Entire House 1 Area	Feature 87 Complex	Area West of Feat. 87	Midden 1	Entire Site
Mammal	61	72	160	4	69	310
Bird	5	7	7	0	0	14
Reptile	0	0	6	0	1	7
Amphibian	0	0	1	2	0	3
Fish	64	68	193	27	1	294
Mollusc	12	13	13	5	2	33
Class Unknown	3	3	14	1	8	26
Total	145	163	394	39	81	687
Worked	7	7	3	0	2	12
Prov. Units*	9	15	11	3	37	74
Specimen Bags	17	23	17	3	43	94

*Features or metre squares; levels and quadrants not included.

The information in Table 6.1 may be used indirectly to estimate the degree of preservation, although none of these ways, by itself, is consistently reliable. One rough index of preservation is the ratio of robust bones to delicate bones. Generally, the bones of mammals and reptiles (mostly turtle) are more robust than the bones of fish and amphibians, and are, therefore, more

resistant to deterioration. A high ratio of robust to delicate specimens would suggest that taphonomic stress has selectively removed delicate material from the assemblage. This measure is dependant on the relative numbers of bones from each zoological class originally deposited. Another index involves the proportion of specimens which can not be identified to zoological class. A relatively high percentage of material unidentified to class would suggest a poor state of preservation. Finally, the state of preservation may also effect the ratio of excavation units to recovered specimens. Generally, bone preserves better in more basic soil conditions, and one factor which can raise soil pH is the presence of large amounts of bone. Bone is more likely to be better preserved where it is concentrated in large amounts in a thick midden or a thick lens within a feature. Therefore, preservation conditions are likely to be better in cases where the specimen total is high.

Based on the above, we would expect to find poorest preservation in the units of Midden 1, and the best preservation to be the Feature 87 complex; however, in relation to its large volume, Feature 87 itself yielded few specimens, and many specimens were poorly preserved. Preservation was far superior in certain features immediately adjacent to Feature 87, particularly Features 88 and 98.

The assemblage contained no obvious evidence of Euro-Canadian farm animals. This suggests relatively little contamination of the site by Historic Period debris.

6.1.3 Overview of Collection by Area

6.1.3.1 House 1

Most bone found in House 1 was recovered from two five-metre squares. The most prolific feature within Unit 465-200 was Feature 14 which yielded 90 specimens. Within Unit 460-210, Feature 41 yielded 17 items and Feature 46 yielded 14.

Feature 14
This feature, excavated by levels, produced 90 faunal specimens including seven worked items. The worked bone assemblage includes: two formal awls, one with a styloid and one with a spatulate tip; an expedient bipointed awl; a piece of beaver incisor chisel manufacturing debris; a perforated deer phalanx; a tube or large bead fragment; and one incomplete worked item.

Taxa recognized among the 46 mammal specimens are deer, beaver, and some identifiable bones of a medium-small mammal (possibly woodchuck). Yellow perch bones, including many measurable specimens, are the first most numerous fish taxa present in this feature. Bullhead appears to be the second most numerous taxon and some bullhead bones are measurable. Sucker bones appear to be the third most numerous. No fish vertebrae were recovered.

This feature also produced seven of the 12 items in the worked bone assemblage. Five of these came from Layer 1.

Feature 41
The artifact count of 17 items was inflated with 11 unidentifiable flakes of freshwater mussel shell and six med-large mammal specimens.

Feature 46
All 14 items found in this feature are fish bone. Included are three lake whitefish vertebrae, probably representing consumption of a stored food resource imported from a lakeside fishing camp.

House 1 Area, Discussion
Yellow perch remains dominate the assemblage in Feature 14, and probably dominate the entire House 1 assemblage followed by bullhead and sucker. Most of the yellow perch bones are smaller than expected for a population of mature perch from Lake Simcoe. A substantial proportion of yellow perch bones in the subadult size range would suggest that the yellow perch remains do not represent the exploitation of spawning runs in the spring. Among the perch bones are numerous measurable specimens.

Fish vertebrae from House 1 are apparently limited lake whitefish, found in Feature 46. These probably represent consumption of a stored food resource imported from a lakeside fishing camp. There seem to be no vertebrae from the more locally available species of fish which are represented in the cranial bone assemblage. In contrast, many vertebrae from locally available fish species were found in features closer to the ravine edge. This pattern may reflect differences in disposal patterns of fish processing vs. fish consumption debris.

The bullhead bones from this area tend to reflect larger individuals than those found closer to the ravine edge. If this impression were confirmed by osteometry, this, and the larger number of yellow perch bones would suggest a more downstream focus to fish procurement than would seem to predominate in the features closer to the ravine edge.

Minor features include two with potentially identifiable juvenile bird bone (four in Feature 44 and one in Feature 49), and some medium-small mammal bone. Identification of this material may indicate season of deposition.

Six minor features containing faunal debris occur outside of the two major five-metre squares discussed above. Together they contribute 18 specimens to the House 1 assemblage. Of special interest are:

- Feature 15 Measurable yellow perch
- Feature 47 Yellow perch
- Feature 49 One possibly identifiable juvenile bird element which may indicate the season of deposition of the feature fill
- Feature 52 Two identifiable juvenile medium-small mammal which may indicate the season of feature fill deposition

6.1.3.2 Feature 87 Complex

The Feature 87 Complex includes several features contained within the five-metre square 495-195. This complex consists of Feature 87, a semisubterranean sweat lodge oriented with its entrance to the north, and numerous smaller features tightly clustered around its entrance. Eleven features in this part of the site produced 394 specimens. Four of these features–Features 87, 88, 98, and 124–produced just over 95% of all the faunal material found in this area–380 specimens.

Feature 87
This feature, a semi-subterranean sweat lodge, produced 14 faunal specimens. Preservation is generally poor. The faunal assemblage includes a canid mandible specimen and a deer vertebral fragment.

Feature 88
Feature 88 appears to be contiguous with the entryway to Feature 87. It yielded more than 177 specimens including a side-notched projectile point made from a large mammal long bone and a part of a perforated netting needle-like implement made from a large bird or medium mammal long bone.

Mammal remains include deer, possibly dog, and some medium-small mammal specimens. Relatively few of the mammal bones in this feature were burned.

This feature produced over 100 fish bone specimens. Among these are measurable cranial bones of bullhead and yellow perch, and numerous sucker bones.

Of particular interest in the fish assemblage are the left and right basipterygia of a large lake trout. Basipterygia would have been removed to facilitate drying and, therefore, represent the importance of fresh, lake-derived fish, procured during the late fall for storage and later winter consumption.

Many fish vertebra were recovered, probably representing sucker, bullhead, and yellow perch. Minority species represented in the fish vertebra assemblage include lake trout, northern pike, and possibly a black bass (*Micropterus* sp.).

Feature 98
Feature 98 is immediately north of the entryway to Feature 87, and is contiguous with Feature 88. One hundred seventy two faunal specimens were recovered including a formal mammal bone awl with a styloid tip.

Mammal taxa include deer and a squirrel sized species possibly gray squirrel. Many of the mammal bones were charred.

Bird species in the ruffed grouse-teal size range are represented by five almost complete and identifiable major skeletal elements.

Many fish bones were recovered. Species represented by cranial bones include sucker, bullhead (including some measurable bones from very small individuals), yellow perch (including measurable bones), and small sunfish.

Among the fish assemblage are many vertebrae. Most are probably attributable to sucker, bullhead, and yellow perch, presumably all locally available species. Also present are one lake trout and one lake whitefish vertebra. These could represent consumption of a stored food resource, probably imported to Dykstra from a lakeside fishing camp.

Feature 124
Feature 124 is located close to and the north of Feature 89. Seventeen specimens were recovered, but this total is inflated by three unidentifiable freshwater mussel shell fragments and two specimens which could not be identified to zoological class. The mammal bone is primarily attributable to one or more medium-small species, and all is calcined or charred.

Among the fish remains are some measurable bullhead specimens.

Feature 87 Complex Discussion
Bullhead remains dominate the fish assemblage. Among the measurable bullhead bones (at least those found in Features 94, 95, and 98) are some from very small individuals. The presence of smaller bullheads may indicate a focus on habitat more limited in terms of fish productivity, such as would be more typical of upstream rather than downstream locations.

6.1.3.3 Feature Cluster West of the Feature 87 Complex

Features 106, 107 and 108, located in close proximity to the west of the Feature 87 complex in five-metre square 495-185, produced 39 faunal specimens. Feature 108, which yielded 32 items, is the only one of the three to yield many specimens. No worked items were found in this area.

Among the fish cranial bones are measurable bullhead, sucker, and yellow perch. A probable American eel dentary was observed. This is noteworthy because Dykstra is located outside of the Lake Ontario drainage, and this element would indicate the importation of eel from some distance. American eel vertebrae was also identified in the faunal collection recovered from the Wellington site (BcGw-55).

Two other units in this cluster, Features 106 and 107, yielded seven additional specimens. The total in Feature 107 was inflated by the presence of five flakes of freshwater mussel shell. One possible sturgeon branchial was noted in Feature 106, and a yellow perch bone was found in Feature 107. No worked bone was found in any of the features in this group.

Relationship to the Feature 87 Complex
In general, the assemblage from this area is similar to that from the Feature 87 complex, particularly in the way it contrasts with the House 1 assemblage. Bullhead and sucker

predominate rather than yellow perch; very small bullhead are present; and vertebrae of locally available fish species are generously represented.

6.1.3.4 Midden 1

The metre-squares attributed to Midden 1 include 37 squares; 26 from N510 to N518, and from E208 to E229 and another square located immediately adjacent to this area in unit 519-222. These units produced 81 specimens. Two pieces of worked bone were noted: part of a barbed antler projectile or harpoon point, and a handle portion of what might have been a robust awl or bodkin.

Mammal remains predominate the Midden 1 assemblage, comprising 85% of the total. Mammalian taxa present appear to be deer, beaver, woodchuck and a squirrel-sized animal. Non-mammalian taxa recognized include turtle and sturgeon.

Generally, bone preservation in Midden 1 was the worst in the entire Dykstra faunal assemblage. One indication of poor preservation conditions in Midden 1 is the extremely high ratio of mammal and turtle bone to fish and amphibian bone–70:1. The large proportion of burned bone may also relate to poor bone preservation. Charred and calcined bone seems to be more resistant to soil acidity than unburned bone. Calcined or charred specimens were noted in 29 of the 37 squares in Midden 1 that produced faunal material, and 14 squares yielded no more than one piece of burned mammal bone.

6.1.3.5 Metre Squares Outside of the Midden 1 Area

Five one-metre squares outside of the Midden 1 area produced five faunal specimens. Taxa recognized include deer, sturgeon and sucker. No worked bone was noted. Grid coordinates for these squares are: 500-190, 508-239, 514-202, 515-237, and 515-232.

6.1.4 Summary and Discussion of the Faunal Inventory

The group of features including Feature 87 to the west and northwest to Features 100 and 101, bear a similarity to the House 1 features in that both groups consist of a scatter of features arranged in a similar orientation. Both scatters are as wide across the narrowest dimension, and each group includes a north-facing semi-subterranean sweat lodge, although it is possible that Feature 14 and other features are not contemporaneous with House 1.

The major dissimilarities are that the House 1 group is associated with a post hole pattern indicative of a longhouse structure, and it includes many more features. The Feature 87 area certainly lacks a post hole pattern characteristic of an Iroquoian longhouse, although there was perhaps a temporary structure

Yellow perch dominates the fish assemblage in Feature 14, and probably throughout the House 1 assemblage in general. In contrast, the Feature 87 area is dominated by bullhead and sucker. If the House 1 and the Feature 87 areas were last used at different times of the year, the respective fish assemblages might well differ with respect to species composition, fish size ranges, and body portion representation.

Fish vertebrae from locally available species are generously represented in the Feature 87 complex while they were lacking in the House 1 assemblage. This may reflect differences related to the deposition of processing vs. subsistence debris.

Yellow perch may be the dominant fish species or one of the two most important fish species in Iroquoian faunal assemblages in the Lover's Creek-Barrie region (Thomas 1996b). Therefore, the House 1 assemblage is in line with assemblages from sites like Barrie, Dunsmore, and Wiacek. Yellow perch remains are usually not as numerically significant in Iroquoian assemblages in the Greater Toronto Area.

6.2 THE WORKED FAUNAL ASSEMBLAGE

6.2.1 Introduction

Most worked bone was retrieved from feature fill rather than midden fill. Seven of the 12 worked bone items came from Feature 14. Within Feature 14, five items came from Level 1, and two came from Level 2.

6.2.2 The Worked Bone Assemblage

Feature 14, Level 1, Quadrant 1 (N465-E200) (Specimen 0001 in catalogue.)
Large bird or medium to large mammal, major long bone fragment, 34 mm long, 5 mm wide, 2.5 mm thick.

Bead or tube end fragment: One end is grooved and snapped with saw skip marks or lightly incised lines parallel to the cut end at 5 mm and 9 mm intervals. The cut end is strongly bevelled on the outside, and slightly bevelled on the inside. There is polish on the exterior surface and on the bevelled end. Side breaks appear to be perimortem fractures and the end break type is ambiguous. Slight rounding on some ridges and edges may have resulted from the chemical weathering of bone.

Feature 14, Level 1, Quadrant 1 (N465-E200)
Beaver (*Castor anadensis*), mandibular first incisor, left, mid-section with lingual surface removed, 37 mm long and 7.5 mm wide at occlusal-most end.

Rodent incisor chisel manufacturing debris: The lingual surface was removed at least partly by longitudinal and transverse grinding. Much of the buccal surface is textured by transverse

grinding. The root end terminates in a probable rough perimortem fracture evened by controlled flaking. The occlusal end terminates in a perimortem fracture diagonal to long axis.

Feature 14, Level 1, Quadrant 1 (N465-E200)
Large mammal, major long bone fragment (thickness and transverse curvature is consistent with white-tailed deer metapodial), 13 mm long, 9 mm wide, 5 mm thick. Calcined.

Manufacturing failure; grooved and split along the longitudinal axis on one side, perimortem fracture along the other side, and lack of obvious polish or other modification indicate failure to complete manufacturing process. Dry bone fractures at ends.

Feature 14, Level 1, Quadrant 2 (N465-E200)
Probable large mammal, consistent in curvature with ulna midshaft section of white-tailed deer, 103 mm long, 13mm wide, 2 mm thick.

Formal awl with flat spatulate tip (Plate 6.1). The major portion is lacking cortex over much of one side. Thoroughly shaped, any evidence of groove and split operations are smoothed away. Spatulate tip is rounded, not pointed, and there are no obvious use-related striations although the surface of one side of the tip has completely deteriorated. The posterior end terminates in a transverse cut that is rounded and smoothed. On each side edge at the posterior end, are a series of 4 shallow indentations that make a weekly scalloped pattern similar to that observed on the end of a flat bone artifact from the Parsons site (Thomas 1998: Plate 29e). Lightly incised lines 38 mm in length from the posterior end mark both flat surfaces on the handle area. On one face are two series of diagonal lines, on the other the lines are more random.

Plate 6.1: Formal awl with flat spatulate tip.

Feature 14, Level 1, Quadrant 3 (N465-E200)
White-tailed deer (*Odocoileus virginianus*), proximal phalanx, complete. Proximal epiphysis is present but has come loose from the body.

Longitudinally perforated deer phalanx: Proximal perforation is roughly carved in an oval shape measuring 6.8 by 4.7 mm, with prominent gouges and minor smoothing on the inner surface. The distal perforation is cylindrical, measuring approximately 3.2 mm in diameter, and the interior is partly smoothed. The distal perforation is not deviated towards the flexor surface, and while

there is some attrition around the periphery of the hole, it does not create a strongly conical indentation.

Feature 14, Level 2, Quadrant 2 (N465-E200)
Large mammal, major long bone fragment, 53 mm long, 10 mm wide, 6 mm thick.

Crude, expedient bipointed bone sliver awl: Perimortem fracture fragment naturally broken into a narrow bipoint. One pointed end is slightly modified by longitudinal grinding into a blunt tip by longitudinal grinding. This tip and adjacent ridges show probable use-related smoothing. The status of the other end is difficult to evaluate because it is more cancellous and the surfaces are not as well preserved.

Feature 14, Level 2, Quadrant 3 (N465-E200)
Large mammal, major long bone, consistent with white-tailed deer (*Odocoileus virginianus*), metapodial at the proximal third of the flexor surface, 79 mm long, 7 mm wide, 5 mm thick.

Complete formal awl with styloid point (Plate 6.2): Sliver isolated on two long sides by groove and split operations, cut edges smoothed and polished by longitudinal and diagonal grinding. Tip area is more thoroughly smoothed and polished, but there are no obvious annular or longitudinal use-related striations, nor obvious traces of resharpening. There is a small spall removed from the tip, the edges are rounded by possibly use-related smoothing. Posterior end is squared off and smoothed.

Plate 6.2: Complete formal awl with styloid point.

Feature 88 (N495-E195)
Medium mammal, curvature and elongated trabecular structure is consistent with cranial surface of dog radial midshaft, or large bird, major long bone, 42 mm long, 7 mm wide, 1.8 mm thick.

Body section of a probable flat perforated netting needle (Plate 6.3): Any traces of groove and split operations are thoroughly smoothed over, and side edges are rounded. Polished on all surfaces. Broken at central perforation with perimortem fracture. Remnant of perforation indicates a hole 3-4 mm in diameter. Break at opposite end is a recent dry bone fracture.

Plate 6.3: Flat perforated netting needle fragment.

Feature 88 (N495-E195)
Large mammal long bone shaft section, 51 mm long, 15 mm wide, 4.3 mm thick.

Complete side notched projectile point (Plate 6.4): Shaped by longitudinal grinding, side notched point with small side notches. Exterior surface is rounded, modified by longitudinal and some transverse grinding, then smoothed. Inner surface is shaped with a flat grindstone, and still retains the medullary concavity of the long bone along the proximal half of its length. The base is straight and thinned by whittling, then the carved facets are smoothed over. The side edges are ground flat rather than shaped into knife edges. The very tip has a flat oval cross-section.

Plate 6.4: Complete bone side notched projectile point.

Feature 98 (N495-E195)
Large mammal long bone–consistent with white-tailed deer (*Odocoileus virginianus*) radius, left, central half, medial edge fragment–119 mm long, 11 mm wide.

Major portion of a formal awl with a styloid point (Plate 6.5): Part of the point is shaped by groove and split operation and then longitudinally ground, smoothed, and highly polished. One side of the proximal end appears to be a natural perimortem fracture surface, slightly smoothed and lightly polished, possibly by prehension wear. The other side of the proximal end appears to be a long perimortem fracture, unmodified by grinding or smoothing, suggesting a break after manufacture and subsequent use. The posterior end is a rough, irregular area of complex fracture, apparently related to carnivore gnawing on the cortical and medullary surfaces. Given the degree of finish on the taper and the intact side of the handle area, and taking into account the carnivore damage at the posterior end and the broken side edge with no prehension wear, this may have been a formal awl which was discarded after partial destruction by a dog.

Plate 6.5: Formal bone awl with a styloid point

Midden 1, N512-215
Cervid metapodial ridge fragment, consistent with white-tailed deer (*Odocoileus virginianus*), 30 mm long, 11 mm wide, 5 mm thick, charred.

Probable bodkin or robust awl handle section: One side grooved and split, and the other side is grooved and split and shaped by controlled flaking. Both sides and inner medullary surface are smoothed and all sides slightly polished from prehension wear. Random transverse striations on inner and outer (cortical) surfaces may be scuff marks. A break at one end is a perimortem fracture while a break at the other end is a dry bone fracture.

Midden 1, N517-E208
Cervid antler, probably main beam cortex fragment, 27 mm long, 14 mm wide, 6.5 mm thick.

Barbed projectile or harpoon point section with missing tip (Plate 6.6): Shaped by longitudinal grinding and oval in cross section. The side edges are not formed into a knife edge. The proximal break is at the base of the barb, which has a whittled indent approximately 3.5 mm from the barb tip. The type of proximal break is ambiguous. The distal break is a recent dry bone fracture.

Plate 6.6: Distal end of a bone projectile or harpoon point.

6.3 ANALYSIS OF SPECIMENS SELECTED FROM THE FAUNAL ASSEMBLAGE

6.3.1 Introduction

The faunal inventory raised several salient questions which could be addressed by analysis of a limited set of faunal specimens:

- Season of feature deposition might be inferred by the presence of juvenile bird and juvenile small mammal elements
- The presence of eel in the assemblage
- The presence of lake trout in the assemblage
- The presence of black bear in the assemblage – or confirmation that a particularly ambiguous specimen was correctly identified as black bear and was not attributable to human

In addition, it seemed possible to obtain a taxonomic identification for the bone used to make a flat, spatulate-tipped awl or netting needle-like object from Feature 14 (Level 1, Quadrant 2).

To address the above issues, laboratory analysis was conducted on twenty-nine specimens derived from eight units: Features 14 (three units), 44, 49, 59, 88, 98, and 108, and Midden 1 (three, one-metre squares). The objective was to analyse a few specific items selected from the collection as a whole, not to analyse all specimens from selected provenience units. As such, the results, presented below in Table 6.2, may be used to address certain questions about the use of specific wildlife resources, and do not present a balanced picture of the whole subsistence system as reflected in the collection.

The analysis procedure used here is essentially that described in Thomas (1998: 123-124) and, except for a few obvious issues – such as quantification, and determination of minimum numbers of individuals (MNI), which we do not deal with here – is in accord with Cooper et al. (1995: 29-35). Zooarchaeological identification work was done in the Howard G. Savage Faunal Archaeo-Osteology Collection of the Anthropology Department at the University of Toronto.

6.3.2 Findings

Season of deposition may sometimes be inferred from the presence in the deposit of remains attributable to migratory birds, hibernating mammals or juvenile mammals.

All suspected passenger pigeon (*Ectopistes migratorius*) bones were identified as such either on the positive or on the probable level ("Cf. *Ectopistes migratorius*"). These remains were noted in Features 44 (n=4) and 49 (n=1). These features are approximately five metres apart, and both are located within the defined limits of House 1. All specimens show traces of immaturity: juvenile avian cortex or articular condyles that were unformed or unfused. In terms of length, the specimens were close to or slightly smaller than bones from mature individuals. These data would be consistent with the springtime hunt reported for the New York State Iroquois. This pattern of hunting focused on squabs which were almost ready to take flight and leave the nest

while avoiding mature birds (Fenton and Deardorff 1943: 292-295). It is possible that such a hunt might have been mounted in mid- to late May in southern Ontario.

All specimens tentatively inventoried as woodchuck (*Marmota monax*) were positively identified as woodchuck in the comparative osteology laboratory. These specimens were found in six provenience units – six features and two one-metre squares in Midden 1. Two each occurred in Features 14 and 52; both located inside the limits of House 1 and positioned at least 13 metres apart. Five specimens occurred in Features 88 and 98, both of which overlap the entryway of Feature 87, a semi-subterranean sweat lodge located in Unit 495-195. Two more were found in adjacent squares of Midden 1 – Unit 515-217 and 516-218.

Before making archaeological inferences based on woodchuck remains, it is advisable to consider whether any of the material attributable to this burrowing species represents an intrusive carcass or subsistence debris. Archaeologists sometimes encounter the remains of woodchucks that have died in recent times, in their burrows or in the plow zone matrix. In sorting out potentially intrusive remains from subsistence debris it is advisable to be cautious of spatially concentrated remains that could be attributed to a single carcass. Factors to consider include attributes of alteration including butchering marks, thermal alteration, and to a lesser extent, fracture type.

There is no obvious indication that any woodchuck material in this collection represents recent, intrusive material, although the evidence is not entirely conclusive. The woodchuck remains in this collection are relatively well distributed. The grouping which comes closest to representing a major portion of a single carcass was found in Feature 88, which consist of three lumbar vertebrae (two of which articulate) and a first rib. No cut marks or thermal alteration was observed on any of the woodchuck specimens, but perimortem fractures were noted on specimens 0021 from Feature 14 and 0561 from Feature 52. Such breakage can be caused by carnivore scavenging rather than carcass processing by humans, but traces of carnivore gnawing were lacking.

Assuming that the woodchuck material represents subsistence debris, and since the woodchuck hibernates, it is likely that these remains were not deposited during late October to some time in March (Banfield 1981: 108-109). It should be possible to narrow the inferred season of deposition because the woodchuck matures fairly rapidly and has only one birthing season each year. Thus, season of death can be estimated by reference to the fusion sequence of the epiphyses of various bones. For example, right ulna specimen 0051 has a prominent line remaining around half of the fused proximal epiphysis. This indicates recent fusion. In some rodents, the epiphyses of the elbow joint is intermediate in the fusion sequence (Zuck 1939: 395, 397; Munyer 1964: 249), so the time of death of this individual may be presumed to be during the late summer or early fall. Of the eight specimens for which fusion status can be observed, seven have unfused epiphyses, and the three molars in the left maxilla specimen of 2021 are relatively unworn.

If the woodchuck specimens are indeed representative of the originally deposited subsistence remains, the tendency towards unfused epiphyses indicates that the woodchuck prey population

was predominantly younger. This suggests that the woodchuck population in the site catchment area may have been under significant hunting pressure.

The element recognized as American eel (*Anguilla rostrata*) in the inventory was confirmed in the comparative osteology laboratory. Assuming that the individual represented was caught during its seaward migration in the fall (Scott and Crossman 1979: 625), this specimen would represent an autumn season of deposition. This specimen probably represents food imported to the site from a substantial distance; the actual distance would depend on how far upstream eels can swim in a drainage system, and where they can be caught most efficiently during their fall migration.

The inventory strongly suggests that a fish vertebra analysis would support the notion of access to fall-spawning lacustrine salmonids. The presence of an additional fish species indicative of long distance transport might not be surprising. The lack of other eel bones in the collection, particularly vertebrae, strongly argues against a well developed pattern of eel exploitation at Dykstra. Perhaps this specimen represents an item of occasional trade.

Upon laboratory examination, the suspected lake trout (*Salvelinus namaycush*) basipterygia from Feature 88 was attributable to walleye (*Stizostedion vitreum*). The comparable size of the two identified left and right elements suggest that one individual is represented. The specimens exceed the size of laboratory specimen FA1021-1, derived from a fish 60.5 cm in total length. Therefore, even if walleye were present in systems such as the Don or the Humber, a fish of this size is likley lacustrine in origin. Walleye spawn in the spring in southern Ontario (Scott and Crossman 1979: 771) and are likely to have been hunted then as well. Alternatively, it could have been caught as a bycatch in the fishery for fall-spawning lacustrine salmonids (cf. MacCrimmon and Skobe 1979: 106-107).

The inventory noted a group of five bird bones in Feature 98 in the ruffed grouse -teal size range. They were examined in the laboratory on the chance that they might represent a species of migratory bird. All were identified as ruffed grouse (*Bonasa umbellus*) bones. The ruffed grouse is not migratory, and therefore cannot be attributed to a specific season.

The distal portion of a human metapodial is similar to that of a black bear. Therefore, a metapodial shaft fragment (item 2011) of a black bear (*Ursus americanus*) was examined in the lab for further analysis. In the bear, the metapodial head has a sagittal crest while the human metapodial lacks this diagnostic feature. The head of the Dykstra specimen was broken leaving only the distal shaft, which bore a strong resemblance to a human metapodial. Careful laboratory comparison substantiated the initial tentative identification of black bear.

Table 6.2: Catalogue of Faunal Specimens Selected from the Dykstra Assemblage by Provenience

Catalogue Number, Provenience	Specimen Description
0001, Feat. 14, L1, Q1 N465-E200	Class unknown, possibly Aves. Thin, hard cortex suggests avian, but it may be from a young individual of a large or medium-large mammal species. If Avian, the form, faint ridging, and relative flatness are somewhat consistent with the dorsal surface of the proximal end of a right humerus of a trumpeter swan (*Cygnus buccinator*) or bald eagle (*Haliaeetus leucocephalus*). The size and transverse shaft curvature indicate elements too large for great blue heron (*Ardea herodias*), Canada goose (*Branta canadensis*), wild turkey (*Meleagris gallopavo*), and even sandhill crane (*Grus canadensis*). (Only avian alternatives checked here.) **Worked:** Bead or tube end fragment: One end grooved and snapped with saw skip marks or lightly incised lines parallel to the cut end at 5 mm and 9 mm intervals. Cut end strongly bevelled on outside, slightly bevelled inside. Polish on exterior surface and on bevelled end. Light polish on interior surface as from cord. Side breaks appear to be perimortem fractures and the end break type is ambiguous. Slight rounding on some ridges and edges may result from chemical weathering of bone.
0021, Feat. 14, L1, Q4 N465-E200	*Marmota monax*, innominate, ilium, right, anterior ½ section less iliac crest. Iliac crest unfused. Posterior break is perimortem fracture.
0051, Feat. 14, L2, Q4 N465-E200	*Marmota monax*, ulna, right, major portion less distal epiphysis. Proximal epiphysis fused, epiphyseal line = 50%. Distal epiphysis unfused and a narrow band of juvenile cortex borders the distal end.
0541, Feat. 44 N460-E210	*Ectopistes migratorius*, radius, left, entire. Gracile but length approximates a mature individual. Traces of juvenile avian cortex at distal end.
0542, Feat. 44 N460-E210	Cf. *Ectopistes migratorius*, coracoid, left, central ¾ shaft section less glenoid end and sternal articular surface. Prominent juvenile avian cortex at ends. Size ≅ 85% mature.
0543, Feat. 44 N460-E210	*Ectopistes migratorius*, femur, left, distal ¾ shaft section less distal articular area. Distal condyle unfused. Prominent juvenile avian cortex over proximal and distal thirds of shaft. Slightly smaller than mature.
0544, Feat. 44 N460-E210	*Ectopistes migratorius*, tibiotarsus, left, distal ¾ shaft section less distal condyle. Distal condyle unfused. Prominent juvenile avian cortex over proximal and distal thirds of shaft. More gracile than mature reference specimen.
0551, Feat. 49 N460-E215	Cf. *Ectopistes migratorius*, tibiotarsus, left, proximal ½ section less entire proximal condyle. Includes the proximal end of the medullary artery foramen proximal to much of the fibular crest. Prominent juvenile avian cortex over most of specimen. Two pieces, unjoined.
0561, Feat. 52 N460-E215	*Marmota monax*, tibia, left, distal ¼ shaft section less distal epiphysis. Distal epiphysis unfused, juvenile cortex at distal end. Proximal break is perimortem fracture.
0562, Feat. 52 N460-E215	*Lepus americanus*, vertebra, cervical, 4th or 5th, major portion. Anterior and posterior vertebral centrum epiphyses unfused.
0151, Feat.88 N495-E195	*Stizostedion vitreum*, basipterygium, left, entire. Large individual, relative size > FA1022-1.
0152, Feat.88 N495-E195	*Stizostedion vitreum*, basipterygium, right, major portion. Large individual, relative size > FA1022-1. Two pieces, not joined.
0153, Feat.88 N495-E195	*Stizostedion* cf. *vitreum*, palatine, left, major portion. Large individual. Preservation is poor and specimen highly deteriorated.
0154, Feat.88 N495-E195	*Marmota monax*, vertebra, lumbar 1 or 2, major portion. Anterior vertebral centrum epiphysis fused. Posterior vertebral centrum epiphysis unfused.
0155, Feat.88 N495-E195	*Marmota monax*, vertebra, lumbar 4 or 5, major portion. Anterior vertebral centrum epiphysis fused. Posterior vertebral centrum epiphysis unfused.
0156, Feat.88 N495-E195	*Marmota monax*, vertebra, lumbar 5 or 6, major portion. Anterior vertebral centrum epiphysis unfused. Posterior vertebral centrum epiphysis unfused.
0157, Feat.88	*Marmota monax*, rib, first, right, entire.

Table 6.2: Catalogue of Faunal Specimens Selected from the Dykstra Assemblage by Provenience

Catalogue Number, Provenience	Specimen Description
N495-E195	Rib head epiphysis fused.
0351, Feat. 98 N495-E195	*Sciurus carolinensis*, humerus, left, proximal epiphysis, major portion. Proximal epiphysis unfused.
0352, Feat. 98 N495-E195	*Lepus americansus*, metacarpal 3, right, entire. Distal epiphysis fused.
0353, Feat. 98 N495-E195	*Marmota monax*, radius, right, distal epiphysis, major portion. Distal epiphysis unfused. Size is small.
0354, Feat. 98 N495-E195	*Bonasa umbellus*, humerus, right, major portion. Three pieces, unjoined. Breaks appear to be mix of perimortem and dry bone fractures.
0355, Feat. 98 N495-E195	*Bonasa umbellus*, coracoid, right, entire.
0356, Feat. 98 N495-E195	*Bonasa umbellus*, ulna, right, entire.
0357, Feat. 98 N495-E195	*Bonasa umbellus*, carpometacarpus, right, entire.
0358, Feat. 98 N495-E195	*Bonasa umbellus*, scapula, left, glenoid ⅓ end section. Break appears to be a combination of perimortem and dry bone fractures.
0501, Feat. 108 N495-E185	*Anguilla rostrata*, dentary, left, major portion.
2001, Midden 1 N515-E217	*Marmota monax*, femur, right, proximal ⅓ section less head, neck, and tip of greater trochanter. Breaks are recent dry bone fractures. Preservation is poor.
2011, Midden 1 N516-E217	*Ursus americanus*, metapodial, miscellaneous, distal ⅓ shaft section less head. Distal condyle would have been fused. From a small individual even taking into account probable shrinkage. Thoroughly calcined. Breakage is recent dry bone fracturing.
2021, Midden 1 N516-E218	*Marmota monax*, maxilla, and adjacent portion of palatine, left, including alveolus for molars 1-3. Molars 1-3 in situ. Permanent M1-3 erupted, minor wear on ridges exposed thin lines of dentin. Probably from a young, mature individual.

6.3.3 Summary and Discussion

Zooarchaeological analysis of the fish assemblage from the Feature 87 complex would provide good evidence for an upstream fishery focused on local populations including species such as brown bullhead, white sucker, and yellow perch. These species are available in downstream and lakeside locations in larger numbers than can be found far inland. The size ranges for populations of these species are larger in downstream and lakeside habitats than for far upstream areas. Many bullhead, sucker, and yellow perch specimens in the Feature 87 complex are significantly smaller than comparable material from other inland sites such as Moatfield and Grandview.

The fish vertebra analysis supplemented by conventional analysis demonstrates access to lacustrine fish populations. An issue to be addressed is whether lacustrine salmonids were brought to Dykstra by their own fishing groups, or as an imported food supplement. This point may contribute to the question of site functionality, whether this site represents a satellite settlement or a self-contained village.

One of the most fascinating issues to be examined is the difference in fish body portion representation between House 1 and the Feature 87 complex. The features in the Feature 87 complex, which appear to be constrained in a northwest to southeast pattern, might represent a lightly constructed structure which lacked substantial post holes penetrating far enough into the subsoil to register archaeologically. In some analyses of fish remains there is an apparent lack of vertebrae attributable to non-salmonid fish species which were otherwise well represented by cranial bones (cf. Moatfield). Feature 14 and House 1 in general appear typical of this pattern. This suggests that processing refuse and cooking/consumption refuse may be disposed of in different areas. This runs counter to the expectation that relatively small, probably opportunistically procured fish would be subject to a relatively simple preparation process, possibly even cooked whole. In contrast, vertebrae of locally available, non-salmonid species seem to be relatively well represented in the assemblage from the Feature 87 complex.

CHAPTER 7
SUMMARY AND CONCLUSIONS

Ronald F. Williamson

Using ceramic seriation and the AMS dates run on maize from a number of the other regional sites, Dykstra would appear to have been occupied before Wiacek and after Holly and Wellington. There is also a possibility that Dykstra may be linked with the nearby Lee site.

It is clear that the Dykstra site was not a village as had been originally thought. With only one, probably open-ended house, several fence rows, a few external structures and a small midden/activity area, the site was probably occupied intermittently and perhaps seasonally. The assemblage and settlement patterns from the site should be compared closely with the data recovered from the nearby Lee located on the adjacent property to the west. While the Dykstra site may have been a satellite cabin of the Lee site, it is equally possible that it relates to another regional site.

REFERENCES CITED

Cooper, J., P. Hamalainen, H. Henderson, J. MacLean, S. Needs-Howarth, A. Meachem, R. Thomas and S. C. Thomas

1995 Stage 4 draft guidelines: Recommendations concerning zooarchaeological remains. *Arch Notes, Newsletter of the Ontario Archaeological Society* 95(5):29-35.

Fenton, W.N. and M.H. Deardorff

1943 The Last Passenger Pigeon Hunts of the Cornplanter Senecas. *Journal of the Washington Academy of Sciences*, Vol. 33, No. 10, October 15, 1943, pp. 292-295.

Godfrey, E.W.

1986 *The Birds of Canada*, Revised Edition. National Museum of Natural Sciences, National Museums of Canada, Ottawa.

Hoffman, D.W., R.E. Wicklund and N.R. Richards

1962 *Soil Survey of Simcoe County, Ontario*. Report no.29 of the Ontario Soil Survey. Research Branch, Canada Department of Agriculture, Ottawa and Ontario Agriculture College, Ontario.

Howard, H.

1980 *The Avifauna of Emeryville Shellmound.* Contributions to Science, Natural History Museum of Los Angeles County No. 330. Reprinted, originally published in 1929.

Howell, A.B.

1926 *Anatomy of the Wood Rat: Comparative Anatomy of the Subgenera of the American Wood Rat (Genus* Neotoma*).* The Williams & Wilkins Co., Baltimore Md.

Lennox, P.A., C.F. Dodd and C.R. Murphy

1986 *The Wiacek Site: A Late Middleport Component, Simcoe County, Ontario*, Ontario Ministry of Transport. and Communications, Toronto, Ontario.

MacCrimmon, H.R. and E. Skobe

1970 The Fisheries of Lake Simcoe. Ontario Department of Lands and Forests, Fish and Wildlife Branch.

Mandrak, N.E. and E.J. Crossman

1992 *A Checklist of Ontario Freshwater Fishes Annotated with Distribution Maps*. Royal Ontario Museum, Toronto.

Miller, M.E., G.C. Christensen and H.E. Evans

1964 *Anatomy of the Dog.* W. B. Saunders, Philadelphia.

Monckton, Stephen G.

1998 "Myers Road Plant Remains," The Myers Road Site (AiHb-13): A Prehistoric Iroquoian Village in Cambridge, Ontario. R.F. Williamson (ed), Occasional Publication of the London Chapter, Ontario Archaeological Society, No. 7.

1992 *Huron Paleoethnobotany*. Ontario Archaeological Reports, No.1. Toronto: Ontario Heritage Foundation.

Mujib, K.A.
1967 The cranial osteology of the Gadidae. *Journal of the Fisheries Research Board of Canada* 24(6):1315-1375.

Munyer, E.A.
1964 Growth of the appendicular skeleton of the muskrat, *Ondatra zibethicus zibethicus* Linnaeus). *Transactions of the Illinois Academy of Science* 57(4):243-252.

Norden, C.R.
1961 Post-cranial bones of the Salmon-Trout Family Salmonidae. *Journal of the Fisheries Research Board of Canada* 18 (5):679-791.

Poulton, D.R. and R.E. Sutton
1995 *The 1994 Archaeological Investigations of the Proposed Dykstra Subdivision (Draft Plan 43T-92026), Holly Planning Area, City of Barrie, Simcoe County, Ontario.* Ms. on file at the Ontario Ministry of Culture, Toronto.

Sutton, R.E.
1999 The Barrie Site: A Pioneering Iroquoian Village Located in Simcoe County, Ontario. *Ontario Archaeology* No 67.

Thomas, S.C.
1996a Chapter 6: Faunal Analysis. In *The Archaeology of the Dunsmore Site (BcGw-10): A Late Iroquoian Community*, edited by David Robertson, pp. 126-179. Report on file with the Ontario Ministry of Citizenship, Culture, & Recreation. Copies available from Archaeological Services Inc., Toronto.

1996b Chapter 6: Faunal Analysis. In *Sweatlodges and Solidarity: The Archaeology of the Hubbert Site*, edited by Robert I. MacDonald and Ronald F. Williamson, pp. 93-165. Report on file with the Ministry of Citizenship, Culture, & Recreation. Copies available from Archaeological Services Inc., Toronto.

1997 Section 10.4, Faunal analysis: Feature 158, truck yard. In *In the Shadow of the Bridge: The Archaeology of the Peace Bridge Site (AfGr-9), 1994-1996 Investigations*, edited by Ronald F. Williamson and Robert I. MacDonald, pp. 475-492. Occasional Publications of Archaeological Services Inc., Vol. 1. Archaeological Services Inc., Toronto.

1998 Zooarchaeology of the Parsons Site. In *The Archaeology of the Parsons Site: A Fifty Year Perspective*, edited by Ronald F. Williamson and David A. Robertson, pp. 121-139. Special Volume of *Ontario Archaeology* (65/66).

Wilson, D.E. and S. Ruff (editors)
1999 *The Smithsonian Book of North American Mammals.* Smithsonian Institution Press, Washington.

Zuck, T.T.
1938 Age order of epiphyseal fusion in the guinea pig. *Anatomical Record* 70 (4): 389-399.

APPENDIX A
CERAMIC VESSEL DECORATIVE ATTRIBUTES

Appendix A: Dykstra Site Ceramic Vessel Decorative Attributes - Rim Sherds

CATNO	COLLAR MOTIF	COLLAR TECHNIQUE	NECK MOTIF	NECK TECHNIQUE	INTERIOR MOTIF	INTERIO TECHNIQUE	LIP MOTIF	LIP TECHNIQUE	SHOULDER MOTIF	SHOULDER TECHNIQUE
4621	Oblique over Horizontal	Linear Stamp over Incised	Oblique	Incised	Obliqe	Linear Stamp	Plain	Plain		
4622	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Oblique	Linear Stamp		
4623	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4624	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Horizontal	Incised		
4625	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4626	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Oblique	Linear Stamp	Plain	Plain		
4627	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4628	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4629	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4630	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4631	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Oblique	Indeterminate		
4632	Oblique over Horizontal	Linear Stamp over Push-Pull	Horizontal	Incised	Plain	Plain	Plain	Plain		
4633	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4634	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Oblique	Linear Stamp		
4635	Oblique over Plain	Linear Stamp over Plain	Horizontal	Incised	Plain	Plain	Plain	Plain		
4636	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4637	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4638	Horizontal	Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		

CATNO	COLLAR MOTIF	COLLAR TECHNIQUE	NECK MOTIF	NECK TECHNIQUE	INTERIOR MOTIF	INTERIO TECHNIQUE	LIP MOTIF	LIP TECHNIQUE	SHOULDER MOTIF	SHOULDER TECHNIQUE
4639	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Oblique	Linear Stamp	Plain	Plain		
4640	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4641	Oblique crossed by Horizontal	Linear Stamp crossed by Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4642	Oblique over Horizontal	Dentate Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4643	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4644	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4645	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4646	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4647	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4648	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4649	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Punctate	Plain	Plain	Plain	Plain		
4650	Oblique over Horizontal	Linear Stamp over Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4651	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4652	Oblique crossed by Horizontal	Linear Stamp crossed by Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4653	Oblique crossed by Horizontal	Linear Stamp crossed by Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4654	Oblique over Horizontal	Linear Stamp over Push Pull	Horizontal	Incised	Plain	Plain	Plain	Plain		

CATNO	COLLAR MOTIF	COLLAR TECHNIQUE	NECK MOTIF	NECK TECHNIQUE	INTERIOR MOTIF	INTERIO TECHNIQUE	LIP MOTIF	LIP TECHNIQUE	SHOULDER MOTIF	SHOULDER TECHNIQUE
4655	Oblique crossed by Horizontal	Linear Stamp crossed by Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4656	Oblique over Horizontal	Linear Stamp over Incised	Oblique	Linear Stamp	Plain	Plain	Plain	Plain		
4657	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique over Horizontal	Incised over Linear Stamp over Incised	Plain	Plain	Plain	Plain		
4658	Oblique over Horizontal	Linear Stamp over Push Pull	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Oblique	Linear Stamp		
4659	Oblique over Horizontal	Linear Stamp over Incised	Horizontal over Oblique	Incised over Linear Stamp	Plain	Plain	Plain	Plain		
4660	Horizontal	Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4661	Horizontal	Incised	Horizontal over Oblique	Incised over Linear Punctate	Plain	Plain	Plain	Plain		
4662	Oblique over Horizontal	Linear Stamp over Linear Stamp	Oblique	Linear Stamp	Plain	Plain	Oblique	Linear Stamp		
4663	Oblique over Horizontal	Linear Stamp over Linear Stamp	Horizontal over Oblique	Linear Stamp over Linear Stamp	Oblique	Linear Stamp	Horizontal	Linear Stamp		
4664	Horizontal	Linear Stamp	Horizontal	Linear Stamp	Plain	Plain	Plain	Plain		
4665	Oblique over Horizontal	Linear Stamp over Linear Stamp	Horizontal	Linear Stamp	Oblique	Linear Stamp	Oblique	Linear Stamp		
4666	Horizontal	Incised	Horizontal over Oblique	Incised over Linear Stamp	Vertical	Linear Stamp	Plain	Plain		
4667	Oblique	Linear Stamp	Oblique	Linear Stamp	Plain	Plain	Plain	Plain		
4668	Horizontal	Incised	Plain	Plain	Plain	Plain	Plain	Plain		
4669	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain		
4670	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain	Plain
4671	Oblique over Horizontal	Linear Stamp over Linear Stamp	Oblique	Linear Punctate	Plain	Plain	Plain	Plain		
4672	Oblique	Linear Stamp	Plain	Plain	Oblique	Linear Stamp	Plain	Plain		
4673	Oblique	Linear Stamp	Plain	Plain	Plain	Plain	Horizontal	Linear Stamp		

CATNO	COLLAR MOTIF	COLLAR TECHNIQUE	NECK MOTIF	NECK TECHNIQUE	INTERIOR MOTIF	INTERIO TECHNIQUE	LIP MOTIF	LIP TECHNIQUE	SHOULDER MOTIF	SHOULDER TECHNIQUE
4674	Oblique over Horizontal over Interrupted Oblique	Incised over Incised over Linear Stamp	Interrupted Oblique	Linear Stamp	Plain	Plain	Plain	Plain		
4675	Oblique and Vertical over Horizontal	Incised and incised over Incised	Plain and Opposed (L and R Oblique)	Plain and Incised	Plain	Plain	Plain	Plain		
4676	Opposed (Plain and L and R Oblique)	Plain and Incised	Motif Continuation	Motif Continuation	Plain	Plain	Plain	Plain		
4677	Oblique	Incised	Horizontal	Incised	Plain	Plain	Plain	Plain		
4678	Oppsed (L and R Oblique)	Linear Stamp	Horizontal crossed by Oblique	Incised crossed by Linear Stamp	Oblique	Linear Stamp	Plain	Plain		
4679	Oblique	Linear Stamp	Horizontal	Incised	Plain	Plain	Plain	Plain		
4680	-castellation-									
4681	-castellation-									
4682	-castellation-									
4683	-castellation-									
4684	-castellation-									
4685	-castellation-									
4686	-castellation-									
4687	-castellation-									
4688	-castellation-									
4689	-castellation-									
4690	-castellation-									
4691	-castellation-									
4692	-castellation-									
4693	-castellation-									
4694	-castellation-									

APPENDIX B
DYKSTRA CERAMIC CATALOGUE

Appendix B: Dykstra Site Ceramic Catalogue - Body Sherds

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
CSC								
	CSC			4208	1	Misc. Fired Clay		
	CSC			4209	1	Body	Plain	
	CSC			4210	2	Body	Ribbed Paddle	
	CSC			4211	2	Neck	Plain	
	CSC			4212	1	Neck/Shoulder fragment	Plain	Rounded
	CSC			4213	51	Unanalyzable sherd		
	CSC			4468	16	Unanalyzable sherd		
	CSC			5000	3	Unanalyzable Rim Frag.		
	CSC			5001	3	Neck	Decorated	
EA01								
		59		4494	1	Shoulder	Check-Stamped	Rounded
		59		4495	1	Neck/Shoulder fragment	Plain	Rounded
		59		4496	1	Neck/Shoulder fragment	Plain/Check-Stamped	Rounded
		59		4497	2	Body	Ribbed Paddle	
		59		4498	7	Unanalyzable sherd		
		60		4499	1	Body	Check-Stamped	
		67		4500	1	Body	Ribbed Paddle	
		67		4501	3	Body	Plain	
		76		4502	1	Shoulder/Body	Linear Stamp Oblique/Plain	Rounded
		76		4503	3	Unanalyzable sherd		
		76		4504	1	Body	Check-Stamped	
		76		4505	1	Body	Ribbed Paddle	
	484-210			4216	14	Unanalyzable sherd		
	484-210			4217	1	Neck	Plain	
	484-210			4218	1	Body	Check-Stamped	
	484-210			4995	1	Unanalyzable Rim Frag.		
	485-210			4219	3	Unanalyzable sherd		
	485-210			4997	1	Neck	Decorated	
	487-212			4220	14	Unanalyzable sherd		
	487-212			4998	1	Unanalyzable Rim Frag.		
	487-212			4999	1	Neck	Decorated	
	487-214			4221	3	Unanalyzable sherd		
EA02								
		*	*	4573	1	Neck/Shoulder/Body fragment	Plain/Check-Stamped	Rounded

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
		102		4612	1	Unanalyzable sherd		
		108		4613	4	Unanalyzable sherd		
		108		4614	2	Body	Ribbed Paddle	
		108		4615	1	Body	Plain	
		108		4616	1	Neck/Shoulder fragment	Plain	Rounded (Fingernail Plat motif interioer
		108		4617	1	Neck	Plain	
		116		4618	1	Unanalyzable sherd		
		124		4619	1	Body	Check-Stamped	
		127		4620	1	Body	Plain	
		87	*	4571	1	Body	Ribbed Paddle/Check-Stamped	
		87	*	4572	1	Neck	Check-Stamped	
		87	1	4506	1	Unanalyzable sherd		
		87	1	4549	1	Body	Ribbed Paddle	
		87	1	4991	2	Neck	Decorated	
		87	2	4507	5	Unanalyzable sherd		
		87	2	4508	1	Neck	Plain	
		87	2	4509	3	Body	Ribbed Paddle	
		87	2	4520	6	Body	Plain	
		87	2	4521	8	Body	Check-Stamped	
		87	2	4522	3	Body	Cord-wrapped Paddle	
		87	2	4523	5	Body	Ribbed Paddle	
		87	2	4524	1	Neck/Shoulder/Body fragment	Plain/Ribbed Paddle	Rounded
		87	2	4525	25	Unanalyzable sherd		
		87	2	4526	13	Unanalyzable sherd		
		87	2	4527	2	Body	Plain	
		87	2	4528	1	Neck	Plain	
		87	2	4529	1	Body	Ribbed Paddle/Check-Stamped	
		87	2	4530	5	Body	Ribbed Paddle	
		87	2	4531	1	Body	Cord-wrapped Paddle	
		87	2	4532	5	Body	Check-Stamped	
		87	2	4546	1	Neck/Shoulder/Body fragment	Plain/LS Oblique/Cord-wrapped Paddle	Rounded
		87	2	4547	1	Body	Ribbed Paddle	
		87	2	4548	1	Body	Check-Stamped	
		87	2	4555	3	Unanalyzable sherd		
		87	2	4556	1	Neck	Decorated	
		87	2	4557	6	Body	Check-Stamped	
		87	2	4558	7	Neck	Plain	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
		87	2	4559	1	Body	Ribbed Paddle/Check-Stamped	
		87	2	4560	1	Shoulder	Plain	Rounded
		87	2	4561	2	Body	Plain	
		87	2	4562	1	Misc. Fired Clay		
		87	2	4563	10	Unanalyzable sherd		
		87	2	4564	2	Neck	Decorated	
		87	2	4565	6	Body	Ribbed Paddle	
		87	2	4570	1	Unanalyzable sherd		
		87	2	4989	2	Neck	Decorated	
		87	3	4510	2	Body	Ribbed Paddle	
		87	3	4511	1	Body	Cord-wrapped Paddle	
		87	3	4512	2	Body	Check-Stamped	
		87	3	4513	1	Neck/Shoulder fragment	Plain	Rounded
		87	3	4514	17	Unanalyzable sherd		
		87	3	4533	21	Unanalyzable sherd		
		87	3	4534	4	Body	Check-Stamped	
		87	3	4535	1	Neck	Plain	
		87	3	4536	1	Neck	Decorated	
		87	3	4537	1	Neck/Shoulder fragment	Plain/Check-Stamped	Rounded
		87	3	4538	4	Body	Plain	
		87	3	4539	4	Body	Ribbed Paddle	
		87	3	4540	1	Body	Cord-wrapped Paddle	
		87	3	4550	1	Body	Cord-wrapped Paddle	
		87	3	4551	1	Unanalyzable Rim Frag.		
		87	3	4566	9	Unanalyzable sherd		
		87	3	4567	3	Body	Plain	
		87	3	4568	2	Body	Ribbed Paddle	
		87	3	4569	2	Body	Check-Stamped	
		87	3	4990	1	Unanalyzable Rim Frag.		
		87	4	4515	4	Unanalyzable sherd		
		87	4	4516	1	Body	Plain	
		87	4	4517	2	Body	Check-Stamped	
		87	4	4518	1	Shoulder	Check-Stamped	Rounded
		87	4	4519	2	Neck	Plain	
		87	4	4541	3	Unanalyzable sherd		
		87	4	4542	2	Body	Check-Stamped	
		87	4	4543	1	Body	Ribbed Paddle	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
		87	4	4544	1	Body	Plain	
		87	4	4545	1	Neck	Plain	
		87	4	4552	1	Body	Ribbed Paddle	
		87	4	4553	2	Body	Check-Stamped	
		87	4	4554	2	Unanalyzable sherd		
		87	4	4992	1	Neck	Decorated	
		88		4574	6	Body	Ribbed Paddle	
		88		4575	1	Neck/Shoulder/Body fragment	Check-Stamped	Rounded
		88		4576	1	Neck/Shoulder/Body fragment	Check-Stamped/Ribbed Paddle/RP and CS	Rounded
		88		4577	1	Body	Plain	Burnished
		88		4578	5	Neck	Plain	
		88		4579	1	Unanalyzable Rim Frag.		
		88		4580	13	Body	Check-Stamped	
		88		4581	2	Neck/Shoulder fragment	Plain	Rounded
		88		4582	2	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
		88		4583	11	Body	Plain	
		88		4584	24	Body	Ribbed Paddle	
		88		4585	88	Unanalyzable sherd		
		88		4586	1	Shoulder	Check-Stamped	Rounded
		88		4587	3	Unanalyzable sherd		
		88		4993	1	Unanalyzable Rim Frag.		
		89		4588	2	Body	Check-Stamped	
		89		4589	1	Body	Plain	
		89		4590	3	Unanalyzable sherd		
		91		4591	2	Body	Plain	
		91		4592	2	Unanalyzable sherd		
		91		4593	1	Unanalyzable sherd		
		91		4994	1	Unanalyzable Rim Frag.		
		92		4594	5	Unanalyzable sherd		
		94		4595	3	Neck	Plain	
		94		4596	1	Body	Ribbed Paddle	
		94		4597	1	Body	Plain	
		94		4598	2	Unanalyzable sherd		
		95		4599	1	Neck	Decorated	
		95		4600	2	Neck	Plain	
		95		4601	17	Unanalyzable sherd		
		95		4602	9	Body	Plain	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
		98		4603	3	Unanalyzable sherd		
		98		4604	1	Unanalyzable Rim Frag.		
		98		4605	1	Neck	Check-Stamped	
		98		4606	1	Neck	Plain	
		98		4607	5	Body	Plain	
		98		4608	5	Body	Ribbed Paddle	
		98		4609	2	Body	Check-Stamped	
		98		4610	1	Misc. Fired Clay		
		98		4611	34	Unanalyzable sherd		
	485-192			4467	4	Unanalyzable sherd		
	485-192			4996	1	Unanalyzable Rim Frag.		
House 1								
		11		4470	2	Unanalyzable sherd		
		14	1	4471	1	Neck	Plain	
		14	1	4472	2	Body	Plain	
		14	1	4473	1	Body	Ribbed Paddle/Scarification	
		14	1	4474	1	Misc. Fired Clay		
		14	1	4475	1	Shoulder/Body	Ribbed Paddle	Rounded
		14	1	4476	1	Unanalyzable sherd		
		14	1	4477	1	Body	Plain	
		14	2	4984	1	Unanalyzable Rim Frag.		
		17		4478	2	Unanalyzable sherd		
		20		4479	1	Unanalyzable sherd		
		33		4480	1	Body	Ribbed Paddle	
		40		4481	1	Unanalyzable sherd		
		43		4482	3	Unanalyzable sherd		
		43		4483	1	Body	Check-Stamped	
		43		4484	1	Body	Plain	
		47		4485	1	Unanalyzable sherd		
		47		4486	1	Misc. Fired Clay		
		48		4487	1	Shoulder	Check-Stamped	Rounded
		49		4488	2	Unanalyzable sherd		
		5		4469	1	Unanalyzable sherd		
		5		4985	1	Neck/Shoulder fragment	Decorated/LS Oblique	Rounded
		50		4489	4	Unanalyzable sherd		
		50		4490	2	Body	Ribbed Paddle	
		50		4491	2	Body	Check-Stamped	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
		50		4492	2	Body	Plain	
		50		4493	1	Neck	Plain	
		50		4986	2	Neck	Plain	
		50		4987	3	Unanalyzable sherd		
		50		4988	1	Neck	Decorated	
Midden 1								
	508-239			4222	1	Body	Ribbed Paddle	
	508-239			4223	1	Body	Plain	
	508-239			4224	20	Unanalyzable sherd		
	508-239			4225	1	Misc. Fired Clay		
	509-239			4226	33	Unanalyzable sherd		
	509-239			4227	2	Neck	Decorated	
	509-239			4228	1	Shoulder	Plain	Rounded
	509-239			4229	2	Body	Plain	
	509-239			4230	1	Body	Ribbed Paddle	
	509-239			4231	1	Misc. Fired Clay		
	509-239			4867	1	Unanalyzable Rim Frag.		
	509-240			4232	3	Body	Plain	
	509-240			4233	13	Unanalyzable sherd		
	509-240			4868	1	Unanalyzable Rim Frag.		
	509-244			4234	4	Unanalyzable sherd		
	509-244			4235	1	Body	Ribbed Paddle	
	510-209			4236	1	Body	Plain	
	510-209			4237	7	Unanalyzable sherd		
	510-224			4238	25	Unanalyzable sherd		
	510-224			4239	1	Body	Check-Stamped	
	510-224			4240	1	Neck	Decorated	
	510-224			4241	1	Neck/Shoulder fragment	Plain	Rounded
	510-224			4869	1	Unanalyzable Rim Frag.		
	510-225			4242	27	Unanalyzable sherd		
	510-225			4243	2	Neck/Shoulder fragment	Plain	Rounded
	510-225			4244	2	Body	Check-Stamped	
	510-225			4245	1	Body	Plain	
	510-225			4246	1	Neck	Plain	
	510-225			4247	1	Misc. Fired Clay		
	510-225			4248	1	Body	Decorated	Hor or Obl Cord impressed and unknow
	510-225			5004	1	Unanalyzable Rim Frag.		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	510-227			4249	2	Unanalyzable sherd		
	510-227			4250	2	Body	Plain	
	510-230			4435	2	Body	Plain	
	510-230			4436	6	Body	Ribbed Paddle	
	510-230			4437	1	Body	Check-Stamped	
	510-230			4438	1	Shoulder	Plain	Rounded
	510-230			4439	29	Unanalyzable sherd		
	510-230			4870	2	Unanalyzable Rim Frag.		
	510-230			4871	1	Neck	Decorated	
	510-230			4964	1	Unanalyzable Rim Frag.		
	510-240			4251	10	Unanalyzable sherd		
	510-240			4252	2	Body	Ribbed Paddle	
	510-240			4253	1	Body	Plain	
	510-240			4254	1	Unanalyzable sherd		
	510-240			4255	1	Neck	Plain	
	510-240			4256	1	Shoulder	Ribbed Paddle	Rounded
	511-214			4257	18	Unanalyzable sherd		
	511-214			4258	1	Body	Plain	
	511-214			4259	1	Body	Ribbed Paddle	
	511-214			4894	1	Unanalyzable Rim Frag.		
	511-222			4440	2	Neck	Plain	
	511-222			4441	9	Body	Ribbed Paddle	
	511-222			4442	29	Unanalyzable sherd		
	511-222			4873	1	Unanalyzable Rim Frag.		
	511-223			4443	1	Body	Check-Stamped	Interior has fabric Impressed
	511-223			4444	5	Unanalyzable sherd		
	511-223			4445	1	Neck	Plain	
	511-223			4446	1	Unanalyzable sherd		
	511-223			4895	1	Unanalyzable Rim Frag.		
	511-224			4260	1	Misc. Fired Clay		
	511-224			4261	1	Body	Check-Stamped	
	511-224			4262	1	Shoulder	Linear Stamp (Oblique)	Rounded
	511-224			4263	2	Body	Ribbed Paddle	
	511-224			4264	25	Unanalyzable sherd		
	511-224			4872	1	Neck	Decorated	
	511-224			4893	2	Unanalyzable Rim Frag.		
	511-228			4265	6	Unanalyzable sherd		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	511-228			4266	1	Body	Plain	
	511-228			4267	1	Body	Check-Stamped	
	511-228			4268	1	Neck/Shoulder fragment	Plain	Rounded
	511-228			4269	1	Neck	Plain	
	511-228			4270	1	Body	Plain	
	512-204			4271	8	Unanalyzable sherd		
	512-204			4272	1	Body	Plain	
	512-204			4273	1	Body	Ribbed Paddle	
	512-208			4896	1	Unanalyzable Rim Frag.		
	512-215			4447	3	Body	Ribbed Paddle	
	512-215			4448	1	Body	Plain	
	512-215			4449	6	Unanalyzable sherd		
	512-215			4874	1	Unanalyzable Rim Frag.		
	512-216			4450	4	Unanalyzable sherd		
	512-216			4451	1	Neck	Decorated	
	512-216			4452	1	Neck/Shoulder fragment	Plain/Check-Stamped	Rounded
	512-216			4453	1	Body	Plain	
	512-216			4454	1	Neck	Cord-wrapped Paddle	
	512-217			4274	1	Body	Ribbed Paddle	
	512-217			4275	1	Body	Check-Stamped	
	512-217			4276	1	Body	Cord-wrapped Paddle	
	512-217			4277	1	Neck	Plain	
	512-217			4278	1	Shoulder	Ribbed Paddle	Rounded
	512-217			4279	31	Unanalyzable sherd		
	512-217			4875	1	Unanalyzable Rim Frag.		
	512-217			4876	1	Neck	Decorated	
	512-218			4280	3	Body	Plain	
	512-218			4281	5	Body	Ribbed Paddle	
	512-218			4282	1	Shoulder	Ribbed Paddle	Rounded
	512-218			4283	63	Unanalyzable sherd		
	512-218			4877	1	Body	Check-Stamped	
	512-218			4878	3	Unanalyzable Rim Frag.		
	512-218			4879	2	Neck	Decorated	
	512-219			4284	1	Body	Cord-wrapped Paddle	
	512-219			4285	3	Body	Check-Stamped	
	512-219			4286	1	Body	Ribbed Paddle	
	512-219			4287	2	Neck	Plain	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	512-219			4288	3	Neck	Decorated	
	512-219			4289	47	Unanalyzable sherd		
	512-219			4880	1	Unanalyzable Rim Frag.		
	512-224			4290	24	Unanalyzable sherd		
	512-224			4291	4	Body	Ribbed Paddle	
	512-224			4292	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	512-224			4293	1	Shoulder	Ribbed Paddle	Rounded
	512-224			4294	1	Neck	Decorated	
	512-224			4881	1	Unanalyzable Rim Frag.		
	512-228			4295	1	Neck/Shoulder fragment	Plain	Rounded
	512-228			4296	2	Unanalyzable sherd		
	512-228			4297	28	Unanalyzable sherd		
	512-228			4298	5	Body	Ribbed Paddle	
	512-228			4299	1	Body	Plain	
	512-228			4300	1	Body	Check-Stamped	
	512-228			4882	1	Unanalyzable Rim Frag.		
	512-229			4455	2	Body	Plain	
	512-229			4456	2	Body	Ribbed Paddle	
	512-229			4457	5	Unanalyzable sherd		
	512-229			4458	2	Neck	Decorated	
	512-229			4459	1	Neck	Plain	
	512-229			4460	3	Unanalyzable sherd		
	512-229			4461	1	Shoulder	Check-Stamped	Rounded
	513-209			4301	4	Unanalyzable sherd		
	513-214			4466	15	Unanalyzable sherd		
	513-214			4883	2	Unanalyzable Rim Frag.		
	513-215			4462	2	Body	Plain	
	513-215			4463	2	Body	Ribbed Paddle	
	513-215			4464	1	Misc. Fired Clay		
	513-215			4465	18	Unanalyzable sherd		
	513-215			4884	1	Unanalyzable Rim Frag.		
	513-216			4302	27	Unanalyzable sherd		
	513-216			4303	2	Body	Ribbed Paddle	
	513-216			4304	1	Body	Check-Stamped	
	513-216			4305	1	Neck	Decorated	
	513-216			4306	1	Body	Plain	
	513-216			4307	1	Neck/Shoulder fragment	Plain	Rounded

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	513-216			4885	1	Neck	Decorated	
	513-217			4308	1	Body	Ribbed Paddle	
	513-217			4309	2	Neck	Plain	
	513-217			4310	1	Body	Check-Stamped	
	513-217			4311	3	Body	Plain	
	513-217			4312	2	Misc. Fired Clay		
	513-217			4313	21	Unanalyzable sherd		
	513-217			4886	1	Unanalyzable Rim Frag.		
	513-217			4887	1	Unanalyzable Rim Frag.		
	513-217			4888	1	Neck	Decorated	
	513-217			4897	1	Unanalyzable Rim Frag.		
	513-218			4314	1	Neck	Plain	
	513-218			4315	1	Body	Check-Stamped	
	513-218			4316	1	Body	Plain	
	513-218			4317	6	Body	Ribbed Paddle	
	513-218			4318	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	513-218			4319	44	Unanalyzable sherd		
	513-218			4889	2	Neck	Decorated	
	513-218			4890	2	Unanalyzable Rim Frag.		
	513-219			4320	81	Unanalyzable sherd		
	513-219			4321	1	Body	Plain	
	513-219			4322	1	Body	Check-Stamped	
	513-219			4323	2	Body	Ribbed Paddle	
	513-219			4324	3	Neck	Plain	
	513-219			4891	3	Unanalyzable Rim Frag.		
	513-219			4892	1	Neck	Decorated	
	513-220			4325	1	Body	Ribbed Paddle	
	513-220			4326	1	Body	Plain	
	513-220			4327	1	Misc. Fired Clay		
	513-220			4328	1	Neck	Plain	
	513-220			4329	1	Body	Check-Stamped	
	513-220			4330	8	Unanalyzable sherd		
	513-220			4898	1	Unanalyzable Rim Frag.		
	513-221			4331	1	Misc. Fired Clay		
	513-221			4332	1	Body	Cord-wrapped Paddle	
	513-221			4333	1	Body	Ribbed Paddle	
	513-221			4334	2	Body	Check-Stamped	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	513-221			4335	1	Body	Plain	
	513-221			4336	16	Unanalyzable sherd		
	513-221			4899	1	Unanalyzable Rim Frag.		
	513-224			4337	1	Unanalyzable sherd		
	513-224			4338	1	Neck	Decorated	
	513-224			4339	9	Unanalyzable sherd		
	513-224			4340	1	Body	Check-Stamped	
	513-224			4341	1	Body	Ribbed Paddle	
	514-202			4418	3	Unanalyzable sherd		
	514-208			4342	5	Unanalyzable sherd		
	514-210			4343	1	Unanalyzable Rim Frag.		
	514-210			4344	4	Unanalyzable sherd		
	514-210			4345	2	Neck	Plain	
	514-210			4346	2	Body	Plain	
	514-210			4347	1	Body	Ribbed Paddle	
	514-215			4348	42	Unanalyzable sherd		
	514-215			4349	4	Body	Ribbed Paddle	
	514-215			4350	1	Body	Plain	
	514-215			4351	1	Neck	Plain	
	514-215			4352	1	Neck/Shoulder fragment	Plain	Rounded
	514-215			4353	1	Body	Check-Stamped	
	514-215			4900	3	Unanalyzable Rim Frag.		
	514-216			4419	55	Unanalyzable sherd		
	514-216			4420	2	Neck	Decorated	
	514-216			4421	1	Neck	Plain	
	514-216			4422	2	Body	Plain	
	514-216			4423	4	Body	Ribbed Paddle	
	514-216			4424	2	Misc. Fired Clay		
	514-216			4901	1	Unanalyzable Rim Frag.		
	514-216			5006	1	Unanalyzable Rim Frag.		
	514-217			4425	1	Unanalyzable sherd		
	514-217			4426	1	Misc. Fired Clay		
	514-217			4427	3	Neck	Plain	
	514-217			4428	3	Neck	Decorated	
	514-217			4429	1	Body	Ribbed Paddle	
	514-217			4430	1	Neck/Shoulder fragment	Plain	Rounded
	514-217			4431	59	Unanalyzable sherd		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	514-217			4432	1	Body	Scarification	
	514-217			4433	2	Body	Cord-wrapped Paddle	
	514-217			4434	9	Body	Ribbed Paddle	
	514-217			4902	11	Unanalyzable Rim Frag.		
	514-217			4903	1	Neck/Shoulder fragment	Plain/Dentate Stamp Oblique	Rounded
	514-217			5005	1	Unanalyzable Rim Frag.		
	514-218			4000	5	Neck	Plain	
	514-218			4001	4	Body	Ribbed Paddle	
	514-218			4002	6	Body	Plain	
	514-218			4003	2	Body	Check-Stamped	
	514-218			4004	1	Body	Cord-wrapped Paddle	
	514-218			4005	1	Neck/Shoulder fragment	Plain	Rounded
	514-218			4006	51	Unanalyzable sherd		
	514-218			4904	5	Neck	Decorated	
	514-218			4905	3	Unanalyzable Rim Frag.		
	514-219			4011	3	Body	Ribbed Paddle	
	514-219			4012	1	Neck	Plain	
	514-219			4013	2	Body	Check-Stamped	
	514-219			4014	5	Body	Plain	
	514-219			4015	1	Neck/Shoulder fragment	Plain	Rounded
	514-219			4016	1	Shoulder/Body fragment	Plain	Rounded
	514-219			4017	1	Neck	Cord-wrapped Paddle	
	514-219			4018	2	Neck	Ribbed Paddle	
	514-219			4019	46	Unanalyzable sherd		
	514-219			4906	3	Neck	Decorated	
	514-219			4907	3	Unanalyzable Rim Frag.		
	514-219			4908	1	Unanalyzable sherd		
	514-220			4354	9	Unanalyzable sherd		
	514-220			4355	1	Shoulder	Ribbed Paddle	Rounded
	514-220			4356	1	Body	Plain	
	514-220			4357	1	Body	Ribbed Paddle	
	514-221			4007	1	Body	Ribbed Paddle	
	514-221			4008	1	Body	Check-Stamped	
	514-221			4009	16	Unanalyzable sherd		
	514-221			4010	1	Body	Plain	
	514-221			4909	3	Unanalyzable Rim Frag.		
	514-221			4910	1	Neck	Decorated	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	514-222			4020	1	Body	Plain	
	514-222			4021	1	Body	Ribbed Paddle	
	514-222			4022	2	Body	Check-Stamped	
	514-222			4023	3	Unanalyzable sherd		
	514-222			4911	1	Neck	Decorated	
	514-224			4024	11	Unanalyzable sherd		
	514-224			4025	2	Body	Ribbed Paddle	
	514-224			4026	1	Body	Plain	
	514-224			4027	1	Neck/Shoulder fragment	Plain	Rounded
	514-224			4912	2	Unanalyzable Rim Frag.		
	514-228			4358	2	Body	Plain	
	514-228			4359	1	Body	Ribbed Paddle	
	514-228			4360	6	Unanalyzable sherd		
	514-228			4913	1	Unanalyzable Rim Frag.		
	514-229			4361	2	Neck/Shoulder fragment	Plain/Check-Stamped	Rounded
	514-229			4362	8	Unanalyzable sherd		
	515-209			4028	1	Neck	Plain	
	515-209			4029	1	Body	Check-Stamped	
	515-209			4030	1	Body	Plain	
	515-209			4031	1	Body	Cord-wrapped Paddle	
	515-209			4032	11	Unanalyzable sherd		
	515-209			4914	1	Neck	Decorated	
	515-214			4033	9	Unanalyzable sherd		
	515-214			4034	2	Body	Check-Stamped	
	515-214			4035	2	Neck	Plain	
	515-214			4036	3	Body	Plain	
	515-214			4915	2	Unanalyzable Rim Frag.		
	515-214			4916	1	Neck	Decorated	
	515-215			4037	1	Unanalyzable sherd		Mend Hole
	515-215			4038	33	Unanalyzable sherd		
	515-215			4039	1	Body	Cord-wrapped Paddle	
	515-215			4040	6	Body	Check-Stamped	
	515-215			4041	2	Body	Plain	
	515-215			4042	2	Body	Ribbed Paddle	
	515-215			4043	4	Neck	Plain	
	515-215			4044	1	Neck	Decorated	
	515-215			4045	1	Misc. Fired Clay		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	515-215			4917	1	Neck	Decorated	
	515-215			4918	1	Unanalyzable Rim Frag.		
	515-216			4046	75	Unanalyzable sherd		
	515-216			4047	3	Body	Ribbed Paddle	
	515-216			4048	7	Body	Plain	
	515-216			4049	1	Neck	Plain	
	515-216			4050	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	515-216			4051	5	Unanalyzable sherd		
	515-216			4052	2	Neck	Plain	
	515-216			4053	2	Body	Ribbed Paddle	
	515-216			4054	2	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	515-216			4055	1	Shoulder	Plain	Rounded
	515-216			4056	1	Misc. Fired Clay		
	515-216			4057	1	Unanalyzable sherd		
	515-216			4919	1	Unanalyzable sherd		
	515-216			4920	2	Neck	Decorated	
	515-216			4921	3	Unanalyzable Rim Frag.		
	515-216			5008	1	Unanalyzable Rim Frag.		
	515-217			4058	2	Body	Check-Stamped	
	515-217			4059	10	Body	Ribbed Paddle	
	515-217			4060	11	Body	Plain	
	515-217			4061	2	Neck	Plain	
	515-217			4062	3	Shoulder	Ribbed Paddle	Rounded
	515-217			4063	1	Shoulder	Plain	Rounded
	515-217			4064	1	Shoulder	Check-Stamped	Rounded
	515-217			4065	1	Neck/Shoulder fragment	Plain	Rounded
	515-217			4066	68	Unanalyzable sherd		
	515-217			4922	4	Unanalyzable Rim Frag.		
	515-217			4923	3	Neck	Decorated	
	515-218			4067	216	Unanalyzable sherd		
	515-218			4068	1	Shoulder	Plain	Rounded
	515-218			4069	5	Neck	Plain	
	515-218			4070	9	Body	Plain	
	515-218			4071	1	Misc. Fired Clay		
	515-218			4072	5	Body	Check-Stamped	
	515-218			4073	14	Body	Ribbed Paddle	
	515-218			4924	5	Unanalyzable Rim Frag.		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	515-218			4925	4	Neck	Decorated	
	515-219			4074	3	Body	Plain	
	515-219			4075	1	Neck	Plain	
	515-219			4076	5	Body	Ribbed Paddle	
	515-219			4077	3	Body	Check-Stamped	
	515-219			4078	1	Misc. Fired Clay		
	515-219			4079	127	Unanalyzable sherd		
	515-219			4926	3	Neck	Decorated	
	515-219			4927	2	Unanalyzable Rim Frag.		
	515-219			5007	2	Unanalyzable Rim Frag.		
	515-220			4080	1	Misc. Fired Clay		
	515-220			4081	3	Body	Plain	
	515-220			4082	1	Body	Check-Stamped	
	515-220			4083	1	Body	Ribbed Paddle	
	515-220			4084	108	Unanalyzable sherd		
	515-220			4928	1	Unanalyzable Rim Frag.		
	515-220			4929	1	Unanalyzable Rim Frag.		
	515-221			4085	2	Misc. Fired Clay		
	515-221			4086	1	Body	Ribbed Paddle	
	515-221			4087	4	Body	Plain	
	515-221			4088	3	Body	Check-Stamped	
	515-221			4089	1	Neck	Plain	
	515-221			4090	56	Unanalyzable sherd		
	515-222			4091	1	Shoulder	Plain	Rounded
	515-222			4092	1	Shoulder/Body	Ribbed Paddle	Rounded
	515-222			4093	1	Neck	Plain	
	515-222			4094	1	Body	Plain	
	515-222			4095	51	Unanalyzable sherd		
	515-222			4096	1	Unanalyzable Rim Frag.		
	515-223			4097	1	Misc. Fired Clay		
	515-223			4098	1	Body	Ribbed Paddle	
	515-223			4099	14	Unanalyzable sherd		
	515-227			4100	1	Body	Check-Stamped	
	515-227			4101	11	Unanalyzable sherd		
	515-227			4930	3	Neck	Decorated	
	515-227			4931	2	Unanalyzable Rim Frag.		
	515-232			4102	1	Neck	Plain	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	515-232			4103	2	Body	Ribbed Paddle	
	515-232			4104	1	Unanalyzable sherd		
	515-237			4105	21	Unanalyzable sherd		
	516-209			4106	1	Neck	Plain	
	516-209			4107	1	Neck/Shoulder fragment	Plain	Rounded
	516-209			4108	1	Body	Check-Stamped	
	516-209			4109	2	Body	Plain	
	516-209			4110	27	Unanalyzable sherd		
	516-209			4932	1	Neck/Shoulder fragment	Decorated/LS Oblique	Rounded
	516-209			4933	1	Unanalyzable sherd		
	516-210			4111	1	Neck	Decorated	
	516-210			4112	1	Body	Check-Stamped	
	516-210			4113	1	Body	Ribbed Paddle	
	516-210			4114	7	Unanalyzable sherd		
	516-210			4934	1	Neck	Decorated	
	516-210			4935	1	Unanalyzable Rim Frag.		
	516-212			4363	2	Body	Ribbed Paddle	
	516-212			4364	1	Neck	Plain	
	516-212			4365	16	Unanalyzable sherd		
	516-212			4936	1	Unanalyzable sherd		
	516-213			4366	22	Unanalyzable sherd		
	516-213			4367	2	Body	Ribbed Paddle	
	516-213			4368	2	Body	Plain	
	516-213			4369	1	Neck/Shoulder fragment	Plain	Rounded
	516-213			4370	1	Neck	Plain	
	516-213			4371	2	Body	Check-Stamped	
	516-213			4937	1	Neck	Decorated	
	516-213			5010	1	Unanalyzable Rim Frag.		
	516-214			4372	11	Unanalyzable sherd		
	516-214			4373	5	Body	Ribbed Paddle	
	516-214			4374	1	Neck	Ribbed Paddle	
	516-214			4375	1	Body	Plain	
	516-214			4938	1	Neck	Decorated	
	516-214			4939	1	Unanalyzable Rim Frag.		
	516-215			4115	3	Neck	Plain	
	516-215			4116	3	Body	Plain	
	516-215			4117	4	Body	Ribbed Paddle	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	516-215			4118	66	Unanalyzable sherd		
	516-215			4940	3	Neck	Decorated	
	516-215			4941	1	Unanalyzable sherd		
	516-215			4942	3	Unanalyzable Rim Frag.		
	516-216			4119	12	Unanalyzable sherd		
	516-216			4120	4	Body	Plain	
	516-216			4121	3	Neck	Plain	
	516-216			4122	1	Neck	Decorated	
	516-216			4123	6	Body	Ribbed Paddle	
	516-216			4124	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	516-216			4125	1	Body	Decorated	Cord-Impressed Horizontal or Oblique
	516-216			4943	1	Unanalyzable Rim Frag.		
	516-216			4944	2	Unanalyzable sherd		
	516-217			4126	1	Neck/Shoulder/Body Fragmen	Plain	Rounded
	516-217			4127	1	Neck	Decorated	
	516-217			4128	1	Neck	Ribbed Paddle	
	516-217			4129	5	Neck	Plain	
	516-217			4130	128	Unanalyzable sherd		
	516-217			4131	11	Body	Plain	
	516-217			4132	2	Neck	Plain	
	516-217			4133	9	Body	Ribbed Paddle	
	516-217			4134	3	Body	Check-Stamped	
	516-217			4945	4	Unanalyzable Rim Frag.		
	516-217			4946	3	Neck	Decorated	
	516-218			4135	35	Unanalyzable sherd		
	516-218			4136	4	Body	Plain	
	516-218			4137	1	Neck/Shoulder fragment	Plain	Rounded
	516-218			4138	7	Body	Ribbed Paddle	
	516-218			4139	1	Neck	Decorated	
	516-218			4140	9	Neck	Plain	
	516-218			4141	1	Misc. Fired Clay		
	516-218			4947	4	Neck	Decorated	
	516-218			4948	1	Neck/Shoulder fragment	Plain/LS Oblique	Rounded
	516-219			4376	2	Unanalyzable Rim Frag.		
	516-219			4377	4	Body	Plain	
	516-219			4378	5	Body	Ribbed Paddle	
	516-219			4379	22	Unanalyzable sherd		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	516-219			4949	2	Unanalyzable Rim Frag.		
	516-219			4950	2	Neck	Decorated	
	516-219			4951	1	Unanalyzable sherd		
	516-219			4952	1	Neck	Decorated	
	516-220			4380	7	Unanalyzable sherd		
	516-220			4381	2	Body	Ribbed Paddle	
	516-220			4382	1	Body	Plain	
	516-222			4383	1	Body	Ribbed Paddle	
	516-222			4384	4	Unanalyzable sherd		
	516-222			4963	1	Unanalyzable Rim Frag.		
	516-223			4142	13	Unanalyzable sherd		
	517-208			4385	1	Neck	Decorated	
	517-208			4386	1	Body	Plain	
	517-208			4387	1	Body	Ribbed Paddle	
	517-208			4388	21	Unanalyzable sherd		
	517-208			4966	1	Neck/Shoulder fragment	Decorated/Plain	Rounded
	517-208			4967	1	Neck	Decorated	
	517-209			4143	38	Unanalyzable sherd		
	517-209			4144	1	Neck/Shoulder fragment	Plain	Rounded
	517-209			4145	1	Shoulder	Plain	Rounded
	517-209			4146	2	Neck	Plain	
	517-209			4147	1	Body	Plain	
	517-209			4148	3	Body	Ribbed Paddle	
	517-209			4149	1	Neck	check-Stamped/Decorated	
	517-209			4150	1	Misc. Fired Clay		
	517-209			4965	2	Neck	Decorated	
	517-212			4155	3	Body	Ribbed Paddle	
	517-212			4156	13	Unanalyzable sherd		
	517-212			4157	4	Neck	Plain	
	517-212			4158	1	Neck/Shoulder fragment	Plain	Rounded
	517-213			4151	2	Neck	Plain	
	517-213			4152	1	Shoulder	Ribbed Paddle	Rounded
	517-213			4153	4	Body	Plain	
	517-213			4154	24	Unanalyzable sherd		
	517-213			4968	7	Neck	Decorated	
	517-214			4159	73	Unanalyzable sherd		
	517-214			4160	1	Unanalyzable Rim Frag.		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	517-214			4161	2	Neck	Plain	
	517-214			4162	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	517-214			4163	3	Body	Plain	
	517-214			4164	2	Body	Ribbed Paddle	
	517-214			4165	1	Neck/Shoulder fragment	Plain	Rounded
	517-214			4166	1	Misc. Fired Clay		
	517-214			4167	1	Body	Check-Stamped	
	517-214			4969	1	Unanalyzable Rim Frag.		
	517-215			4389	2	Unanalyzable sherd		
	517-215			4390	1	Neck	Plain	
	517-215			4391	15	Unanalyzable sherd		
	517-215			4392	3	Body	Ribbed Paddle	
	517-215			4393	1	Body	Check-Stamped	
	517-215			4970	2	Neck	Decorated	
	517-215			4971	1	Unanalyzable Rim Frag.		
	517-216			4394	39	Unanalyzable sherd		
	517-216			4395	1	Unanalyzable Rim Frag.		
	517-216			4396	2	Neck	Decorated	
	517-216			4397	5	Body	Ribbed Paddle	
	517-216			4398	8	Body	Plain	
	517-216			4399	1	Body	ribbed Paddle/Scarification	
	517-216			4400	2	Neck	Plain	
	517-216			4401	2	Shoulder	Plain	Rounded
	517-216			4972	3	Neck	Decorated	
	517-216			4973	1	Unanalyzable Rim Frag.		
	517-217			4402	18	Unanalyzable sherd		
	517-217			4403	2	Unanalyzable Rim Frag.		
	517-217			4404	3	Body	Ribbed Paddle	
	517-217			4405	4	Neck	Plain	
	517-217			4406	2	Body	Plain	
	517-217			4974	1	Unanalyzable Rim Frag.		
	517-218			4168	10	Unanalyzable sherd		
	517-218			4169	1	Neck	Plain	
	517-218			4170	1	Body	Plain	
	517-218			4171	6	Body	Ribbed Paddle	
	517-218			4172	1	Body	Check-Stamped	
	517-218			4173	1	Unanalyzable sherd		

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	517-218			4174	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded
	517-218			4175	1	Neck	Decorated	
	517-218			4975	1	Unanalyzable Rim Frag.		
	517-218			5009	1	Unanalyzable Rim Frag.		
	517-219			4176	58	Unanalyzable sherd		
	517-219			4177	1	Neck/Shoulder fragment	Plain	Rounded
	517-219			4178	1	Neck	Decorated	
	517-219			4179	1	Body	Ribbed Paddle	
	517-219			4180	2	Body	Check-Stamped	
	517-219			4181	1	Misc. Fired Clay		
	517-219			4976	2	Neck	Decorated	
	517-219			4977	1	Unanalyzable Rim Frag.		
	517-220			4182	2	Neck	Plain	
	517-220			4183	6	Unanalyzable sherd		
	517-220			4184	1	Neck/Shoulder/Body fragment	Decorated/Incised Vertical/Check-Stamped	Rounded
	518-212			4185	6	Body	Ribbed Paddle	
	518-212			4186	1	Neck	Plain	
	518-212			4187	1	Body	Plain	
	518-212			4188	3	Body	Cord-wrapped Paddle	
	518-212			4189	44	Unanalyzable sherd		
	518-212			4978	3	Unanalyzable Rim Frag.		
	518-212			4979	1	Neck	Decorated	
	518-213			4407	1	Unanalyzable sherd		Mend Hole
	518-213			4408	1	Neck	Decorated	
	518-213			4409	2	Neck	Plain	
	518-213			4410	1	Body	Ribbed Paddle	
	518-213			4411	4	Body	Plain	
	518-213			4412	25	Unanalyzable sherd		
	518-213			4980	1	Unanalyzable Rim Frag.		
	518-213			4981	1	Neck	Decorated	
	518-214			4413	1	Neck	Plain	
	518-214			4414	4	Body	Ribbed Paddle	
	518-214			4415	23	Unanalyzable sherd		
	519-214			4190	7	Body	Plain	
	519-214			4191	2	Body	Ribbed Paddle	
	519-214			4192	1	Neck	Plain	
	519-214			4193	1	Neck/Shoulder fragment	Plain/Ribbed Paddle	Rounded

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SHERD TYPE	DECORATION	COMMENTS
	519-214			4194	59	Unanalyzable sherd		
	519-214			4982	4	Unanalyzable Rim Frag.		
	519-214			4983	4	Neck	Decorated	
	519-222			4195	3	Neck	Plain	
	519-222			4196	3	Body	Plain	
	519-222			4197	1	Body	Ribbed Paddle	
	519-222			4198	15	Unanalyzable sherd		
	519-225			4199	1	Misc. Ceramic Object	Plain	Foot Shaped
	519-225			4200	1	Body	Cord-wrapped Paddle	
	519-225			4201	1	Neck	Decorated	
	519-225			4202	1	Body	Check-Stamped	
	519-225			4203	1	Neck/Shoulder fragment	Plain/Check-Stamped	Rounded
	519-225			4204	1	Body	Ribbed Paddle	
	519-225			4205	1	Shoulder	Plain	Rounded
	519-225			4206	39	Unanalyzable sherd		
	519-225			4207	2	Body	Plain	
Unknown								
	Unknown			4214	1	Unanalyzable sherd		
	Unknown			4215	1	Body	Ribbed Paddle	
	Unknown			4416	3	Unanalyzable sherd		
	Unknown			4417	1	Body	Ribbed Paddle	
	Unknown			5002	1	Neck	Decorated	
	Unknown			5003	1	Unanalyzable Rim Frag.		

APPENDIX C
PIPE BOWL CATALOGUE

Appendix C: Dykstra Site Pipe Bowl Catalogue

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SURFACE TREATMENT	DECORATIVE MOTIF	DECORATIVE TECHNIQUE	BOWL TYPE	BOWL D. (mm)	BOWL H. (mm)	LIP T. (mm)
CSC												
	CSC			4772	1	Smoothed						
EA02												
		108		4800	1	Slightly Burnished	(3 to 6) Horizontal	Incised	Conical Decorated	33.3		2.52
		87	1	4760	1	Slightly Burnished	Plain	Plain	Barrel Plain			5.86
		87	1	4761	1	Smoothed	Plain	Plain	Barrel Plain			9.13
House 1												
		14	2	4796	1	Slightly Burnished	(1) Horizontal over Opposed (Complex)	Incised over Incised and Punctate	Cylindrical Decorated	17	36.82	4.62
		52		4780	1	Slightly Burnished						3.67
	460-215	Post 5		4803	1	Burnished	(4) Horizontals over Vertical	Incised over Linear Stamp	Conical Decorated	35.2	61.27	3.79
Midden 1												
	*			4756	1	Smoothed	Plain	Plain	Conical Plain			5.03
	*			4794	1	Slightly Burnished	(12) Horizontal over Oblique	Incised over Linear Stamp	Barrel Decorated			4.99
	*			4795	1	Smoothed	Complex	Complex	Barrel Decorated			7.42
	509-237			4741	1	Slightly Burnished						
	509-240			4744	1	Smoothed						
	509-240			4768	1	Burnished						
	509-240			4774	1	Slightly Burnished						
	510-224			4751	1	Slightly Burnished						
	510-224			4764	1	Slightly Burnished						
	512-215			4771	1	Smoothed						
	512-218			4787	1	Smoothed						
	512-218			4788	1	Smoothed						2.43
	512-219			4779	1	Smoothed						
	513-220			5011	1	Slightly Burnished			Effigy Human			
	513-221			4750	1	Slightly Burnished						
	513-224			4752	1	Smoothed						
	514-215			4743	1	Smoothed						
	514-215			4773	1	Slightly Burnished						2.87
	514-216			4740	1	Smoothed						
	514-216			4776	1	Slightly Burnished						4.66

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SURFACE TREATMENT	DECORATIVE MOTIF	DECORATIVE TECHNIQUE	BOWL TYPE	BOWL D. (mm)	BOWL H. (mm)	LIP T. (mm)
	514-216			4792	1	Smoothed	(6) Horizontal over Oblique	Incised over Linear Stamp	Barrel Decorated		41.12	3.9
	514-217			4765	1	Smoothed						2.12
	514-217			4797	1	Slightly Burnished	Vertical and Oblique crossed by Oblique	Incised crossed by Incised	Cylindrical Decorated			4.92
	514-219			4758	1	Slightly Burnished	Plain	Plain	Barrel Plain			2.4
	514-219			4763	1	Smoothed						5.24
	514-219			4789	1	Slightly Burnished						
	514-219			4790	1	Smoothed						
	514-224			4755	1	Smoothed	Plain	Plain	Trumpet Plain			7.6
	514-224			4759	1	Smoothed	Plain	Plain	Barrel Plain			4.1
	515-212			4782	1	Smoothed						3.57
	515-216			4784	1	Untreated and Rough						2.67
	515-217			4747	1	Slightly Burnished						
	515-217			4753	1	Slightly Burnished						
	515-217			4781	1	Smoothed						4.71
	515-218			4734	1	Smoothed						
	515-218			4770	1	Smoothed						
	515-218			4801	1	Burnished	(5) Horizontals over Vertical	Incised over Linear Stamp	Conical Decorated			4.31
	515-218			4802	1	Slightly Burnished	(3) Horizontal over Oblique over a Single Oblique Plat Bounded by Vertical	Incised over Linear Stamp over Linear Stamp and Incised	Conical Decorated			5.08
	515-221			4766	1	Smoothed						
	515-221			4851	1	Smoothed						2.83
	515-223			4775	1	Smoothed						
	516-209			4733	1	Smoothed						5.34
	516-213			4737	1	Burnished						
	516-214			4769	1	Burnished	(13+) Horizontal	Incised	Barrel Decorated			4.07
	516-215			4748	1	Smoothed						
	516-216			4749	1	Smoothed						3.05
	516-216			4798	1	Slightly Burnished	(3) Horizontal over Opposed (Filled Isociles Tri.)	Incised over Linear Stamp	Conical Decorated			4.94
	516-217			4739	1	Smoothed						
	516-217			4746	1	Smoothed						
	516-217			4757	1	Slightly Burnished	Plain	Plain	Conical Plain			8.04

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SURFACE TREATMENT	DECORATIVE MOTIF	DECORATIVE TECHNIQUE	BOWL TYPE	BOWL D. (mm)	BOWL H. (mm)	LIP T. (mm)
	516-217			4767	1	Slightly Burnished						
	516-218			4735	1	Slightly Burnished						
	516-218			4742	1	Slightly Burnished						
	516-218			4754	1	Smoothed						
	516-218			4783	1	Smoothed						
	516-218			4791	1	Smoothed	(2) Horizontal over Interrupted Oblique	Incised over Punctate over Interrupted Punctate	Barrel Decorated			4.11
	516-219			4799	1	Burnished	(3) Horizontal over Vertical	Incised over Linear Stamp	Conical Decorated	22.7		6.24
	517-213			4785	1	Smoothed						
	517-213			4786	1	Smoothed						
	517-220			4745	1	Smoothed						
	518-213			4793	1	Slightly Burnished	(19) Horizontal over Oblique	Incised over Linear Punctate	Barrel Decorated			7.49
	518-214			4778	1	Smoothed						
	518-216			4777	1	Smoothed						
Unknown												
	Prov. U			4762	1	Smoothed	Plain	Plain	Conical Plain			8.94

APPENDIX D
PIPE STEM CATALOGUE

Appendix D: Dykstra Site Pipe Stem Catalogue

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SURFACE TREATMENT	MOUTHPIECE TYPES	MAX. BORE DIAM. (mm)	MATERIAL	COMMENTS
CSC										
	CSC			4725	1	Slightly Burnished				
EA01										
		59		4714	1	Slightly Burnished				
House 1										
	460-215			4712	1	Smoothed				
Midden 1										
	*			4732	1	Slightly Burnished				
	511-224			4721	1	Slightly Burnished				
	512-217			4719	1	Smoothed				
	512-219			4704	1	Smoothed				
	512-224			4700	1	Slightly Burnished				
	512-228			4702	1	Slightly Burnished				
	513-217			4727	1	Weathered	Tapered			
	513-218			4701	1	Slightly Burnished				
	513-218			4708	1	Smoothed				
	513-219			4697	1	Slightly Burnished				
	513-220			4724	1	Slightly Burnished				
	514-214			4738	1	Smoothed				
	514-216			4705	1	Slightly Burnished				
	514-216			4706	1	Smoothed				
	514-217			4703	1	Smoothed				
	514-219			4696	1	Slightly Burnished				
	514-219			4731	1	Smoothed				
	515-214			4715	1	Smoothed				
	515-216			4716	1	Smoothed				
	515-217			4728	1	Smoothed				Decorated Indeterminate
	515-217			4729	1	Slightly Burnished				
	515-218			4699	1	Smoothed				
	515-218			4711	1	Smoothed				
	515-218			4723	1	Smoothed				
	515-219			4717	1	Slightly Burnished				
	515-219			4718	1	Slightly Burnished				
	515-219			4722	1	Smoothed				
	515-222			4707	1	Smoothed				

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	SURFACE TREATMENT	MOUTHPIECE TYPES	MAX. BORE DIAM. (mm)	MATERIAL	COMMENTS
	515-227			4736	1	Slightly Burnished				
	516-212			4720	1	Smoothed				
	516-220			4695	1	Slightly Burnished	Tapered	2.51		
	516-222			4710	1	Smoothed				
	517-215			4713	1	Smoothed				
	517-216			4709	1	Smoothed				
	517-219			4698	1	Smoothed				
	518-214			4730	1	Smoothed				
	519-214			4726	1	Smoothed				

APPENDIX E
FORMAL TOOL CATALOGUE

Appendix E: Dykstra Site Formal Tools Catalogue

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	TYPE	SECTION	PERIOD	CULTURE	MATERIAL	L (mm)	W (mm)	T (mm)	TA
House 1														
	460-215			0.3290	1	Scraper	complete			Huronia				
Midden 1														
	514-217			0.3195	1	Drill	base			Huronia				
	514-221			0.3206	1	Drill	base			Huronia				
	515-232			0.3292	1	Side-Notched Pr	complete			Fossil Hill	28.7	21.9	4.8	
	517-214			0.3278	1	Projectile Point	tip			Fossil Hill				
	518-212			0.3147	1	Triangular Proje	complete			Kettle Point	39.1	15.3	5.0	

APPENDIX F
BIFACE CATALOGUE

Appendix F: Dykstra Site Biface Catalogue

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	CATEGORY	MATERIAL	L	W	T	TA	COMMENTS
CSP												
	CSP			0.3049	1	Biface	Fossil Hill	0.0	0.0	0.0		
EA02												
	495-195	129		0.3109	1	Biface	Fossil Hill	31.0	9.0	8.0		
Midden 1												
	512-216			0.3118	1	Biface	Onondaga	25.0	31.0	5.0		

APPENDIX G
DEBITAGE CATALOGUE

Appendix G: Dykstra Site Debitage Catalogue

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
CSC									
	CSC			0.3045	1	Secondary knapping flake	Huronia	0	
	CSC			0.3046	2	Secondary knapping flake	Onondaga	1	
	CSC			0.3047	2	Secondary retouch flake	Onondaga	2	
	CSC			0.3047	1	Secondary retouch flake	Fossil Hill	0	
	CSC			0.3047	1	Secondary retouch flake	Huronia	0	
	CSC			0.3048	2	Shatter	Fossil Hill	0	
	CSC			0.3048	1	Shatter	Kettle Point	0	
	CSC			0.3048	1	Shatter	Trent Valley	0	
	CSC			0.3048	1	Shatter	Balsam Lake	0	
	CSC			0.3048	1	Shatter	Quartz	0	
	CSC			0.3048	6	Shatter	Huronia	0	
	CSC			0.3048	5	Shatter	Onondaga	4	
EA01									
	484-210			0.3015	1	Primary thinning flake	Onondaga	0	
	484-210			0.3016	1	Primary thinning flake	Huronia	0	
	484-210			0.3017	3	Shatter	Huronia	0	
	484-210			0.3017	2	Shatter	Balsam Lake	0	
	485-250	76		0.3072	1	Shatter	Lockport	0	
	485-250	76		0.3072	5	Shatter	Chalcedony	0	
EA02									
	485-192			0.3141	2	Secondary knapping flake	Fossil Hill	0	
	485-192			0.3142	1	Secondary retouch flake	Fossil Hill	0	
	495-185	108		0.3100	1	Secondary knapping flake	Balsam Lake	0	
	495-185	108		0.3101	2	Shatter	Balsam Lake	0	
	495-185	108		0.3102	1	Secondary retouch flake	Onondaga	0	
	495-195	87	1	0.3018	1	Shatter	Quartz	0	
	495-195	87	1	0.3073	2	Shatter	Onondaga	0	
	495-195	87	2	0.3074	1	Primary thinning flake	Onondaga	0	
	495-195	87	2	0.3075	1	Shatter	Bois Blanc	0	
	495-195	87	2	0.3075	2	Shatter	Onondaga	1	
	495-195	87	2	0.3076	1	Secondary knapping flake	Quartz	0	
	495-195	87	2	0.3077	1	Shatter	Bois Blanc	0	
	495-195	87	2	0.3077	1	Shatter	Onondaga	0	
	495-195	87	2	0.3078	1	Secondary retouch flake	Huronia	1	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	495-195	87	3	0.3079	1	Secondary knapping flake	Lockport	0	
	495-195	87	3	0.3080	1	Shatter	Quartz	0	
	495-195	87	3	0.3080	1	Shatter	Lockport	0	
	495-195	87	3	0.3081	1	Secondary knapping flake	Huronia	0	
	495-195	87	3	0.3082	3	Shatter	Huronia	2	
	495-195	87	3	0.3083	2	Secondary knapping flake	Bois Blanc	0	
	495-195	87	3	0.3084	1	Secondary retouch flake	Huronia	0	
	495-195	87	3	0.3085	3	Shatter	Quartz	0	
	495-195	87	3	0.3085	1	Shatter	Huronia	1	
	495-195	87	4	0.3086	1	Shatter	Onondaga	1	
	495-195	87	4	0.3087	1	Secondary knapping flake	Onondaga	0	
	495-195	87	4	0.3087	2	Secondary knapping flake	Bois Blanc	0	
	495-195	87	4	0.3088	1	Secondary retouch flake	Onondaga	0	
	495-195	87	4	0.3089	1	Secondary knapping flake	Onondaga	0	
	495-195	88		0.3090	2	Shatter	Quartz	0	
	495-195	88		0.3090	2	Shatter	Onondaga	1	
	495-195	88		0.3090	1	Shatter	Balsam Lake	0	
	495-195	88		0.3091	1	Shatter	Huronia	0	
	495-195	88		0.3092	1	Secondary knapping flake	Onondaga	0	
	495-195	88		0.3093	3	Shatter	Onondaga	1	
	495-195	88		0.3094	1	Secondary retouch flake	Balsam Lake	0	
	495-195	89		0.3095	1	Shatter	Huronia	0	
	495-195	98		0.3096	2	Secondary retouch flake	Onondaga	0	
	495-195	98		0.3097	1	Secondary knapping flake	Onondaga	0	
	495-195	98		0.3098	1	Shatter	Lockport	0	
	495-195	98		0.3098	1	Shatter	Balsam Lake	0	
	495-195	124		0.3104	4	Shatter	Balsam Lake	2	
	495-195	126		0.3105	1	Shatter	Onondaga	1	
	495-195	127		0.3106	1	Secondary knapping flake	Quartzite	0	
	495-195	129		0.3107	1	Secondary knapping flake	Fossil Hill	0	
	495-195	129		0.3108	1	Shatter	Trent Valley	0	
	495-195	129		0.3108	1	Shatter	Quartz	0	
	495-195	129		0.3108	1	Shatter	Huronia	0	
	500-195	120		0.3103	1	Shatter	Bois Blanc	0	
House 1									
	460-210			0.3063	2	Shatter	Unknown	1	
	460-210	25		0.3067	1	Shatter	Balsam Lake	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	460-210	43		0.3068	1	Shatter	Huronia	0	
	460-215	49		0.3069	1	Shatter	Huronia	0	
	465-200	14	1	0.3019	1	Secondary knapping flake	Onondaga	1	
	465-200	14	2	0.3064	1	Shatter	Balsam Lake	0	
	465-215	40		0.3066	1	Secondary knapping flake	Huronia	1	
Midden 1									
	508-239			0.3038	3	Secondary retouch flake	Onondaga	0	
	508-239			0.3039	2	Shatter	Huronia	0	
	508-239			0.3039	2	Shatter	Balsam Lake	0	
	509-239			0.3033	1	Primary thinning flake	Fossil Hill	0	
	509-239			0.3034	2	Shatter	Fossil Hill	0	
	509-239			0.3035	1	Bi-polar flake	Huronia	0	
	509-240			0.3036	1	Shatter	Fossil Hill	0	
	509-240			0.3036	1	Shatter	Balsam Lake	0	
	510-209			0.3031	1	Secondary knapping flake	Balsam Lake	0	
	510-209			0.3031	1	Secondary knapping flake	Onondaga	0	
	510-209			0.3032	1	Shatter	Onondaga	0	
	510-209			0.3032	1	Shatter	Huronia	0	
	510-224			0.3029	2	Secondary retouch flake	Onondaga	1	
	510-224			0.3030	1	Shatter	Balsam Lake	1	
	510-224			0.3030	1	Shatter	Onondaga	0	
	510-224			0.3030	1	Shatter	Quartz	0	
	510-225			0.3026	2	Shatter	Balsam Lake	0	
	510-225			0.3026	4	Shatter	Huronia	0	
	510-225			0.3027	1	Core fragment	Hudson's Bay Lowland	0	
	510-225			0.3028	1	Bipolar core fragment	Trent Valley	0	
	510-227			0.3025	1	Secondary knapping flake	Onondaga	1	
	510-230			0.3110	1	Shatter	Onondaga	0	
	510-230			0.3110	2	Shatter	Unknown	0	
	510-230			0.3110	1	Shatter	Huronia	0	
	510-240			0.3024	1	Shatter	Fossil Hill	0	
	510-240			0.3024	1	Shatter	Upper Mercer	1	
	510-240			0.3024	2	Shatter	Onondaga	1	
	510-240			0.3024	1	Shatter	Balsam Lake	0	
	511-214			0.3022	1	Secondary retouch flake	Kettle Point	0	
	511-214			0.3023	1	Shatter	Kettle Point	0	
	511-222			0.3111	1	Primary thinning flake	Fossil Hill	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	511-222			0.3112	1	Shatter	Fossil Hill	0	
	511-222			0.3112	1	Shatter	Trent Valley	0	
	511-222			0.3112	1	Shatter	Onondaga	0	
	511-223			0.3113	1	Shatter	Onondaga	1	
	511-224			0.3020	1	Secondary retouch flake	Onondaga	0	
	511-224			0.3021	2	Shatter	Onondaga	0	
	511-224			0.3021	1	Shatter	Quartz	0	
	511-228			0.3154	2	Shatter	Fossil Hill	0	
	512-204			0.3155	1	Shatter	Huronia	0	
	512-215			0.3114	1	Shatter	Onondaga	0	
	512-215			0.3114	1	Shatter	Quartzite	0	
	512-215			0.3114	1	Shatter	Fossil Hill	0	
	512-216			0.3115	1	Secondary knapping flake	Onondaga	0	
	512-216			0.3116	1	Secondary retouch flake	Onondaga	0	
	512-216			0.3117	1	Shatter	Quartzite	0	
	512-216			0.3117	1	Shatter	Balsam Lake	0	
	512-217			0.3156	2	Secondary knapping flake	Huronia	0	
	512-217			0.3157	5	Shatter	Huronia	2	
	512-218			0.3158	1	Primary thinning flake	Huronia	0	
	512-218			0.3159	2	Secondary knapping flake	Huronia	0	
	512-218			0.3159	1	Secondary knapping flake	Balsam Lake	0	
	512-219			0.3160	1	Secondary knapping flake	Huronia	0	
	512-219			0.3160	1	Secondary knapping flake	Balsam Lake	0	
	512-219			0.3161	1	Shatter	Balsam Lake	0	
	512-219			0.3161	5	Shatter	Huronia	0	
	512-224			0.3163	3	Secondary knapping flake	Huronia	0	
	512-224			0.3163	1	Secondary knapping flake	Balsam Lake	0	
	512-224			0.3164	4	Secondary retouch flake	Huronia	1	
	512-224			0.3164	1	Secondary retouch flake	Balsam Lake	0	
	512-224			0.3164	1	Secondary retouch flake	Fossil Hill	0	
	512-224			0.3165	1	Shatter	Huronia	0	
	512-228			0.3166	1	Primary thinning flake	Huronia	0	
	512-228			0.3167	2	Secondary retouch flake	Huronia	1	
	512-228			0.3168	3	Shatter	Huronia	0	
	512-229			0.3119	1	Secondary knapping flake	Fossil Hill	0	
	512-229			0.3120	1	Shatter	Balsam Lake	0	
	513-209			0.3169	2	Secondary knapping flake	Huronia	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	513-214			0.3121	1	Secondary knapping flake	Balsam Lake	0	
	513-214			0.3121	1	Secondary knapping flake	Bois Blanc	0	
	513-214			0.3122	1	Shatter	Kettle Point	0	
	513-214			0.3122	1	Shatter	Onondaga	0	
	513-214			0.3122	1	Shatter	Bois Blanc	0	
	513-215			0.3123	1	Primary thinning flake	Onondaga	0	
	513-215			0.3124	1	Secondary retouch flake	Onondaga	0	
	513-215			0.3125	1	Secondary knapping flake	Quartzite	0	
	513-215			0.3126	1	Shatter	Quartzite	0	
	513-215			0.3126	2	Shatter	Onondaga	0	
	513-215			0.3126	2	Shatter	Balsam Lake	0	
	513-215			0.3126	1	Shatter	Upper Mercer	0	
	513-216			0.3170	3	Secondary knapping flake	Huronia	1	
	513-216			0.3170	1	Secondary knapping flake	Lockport	0	
	513-216			0.3171	2	Secondary retouch flake	Huronia	0	
	513-216			0.3172	3	Shatter	Huronia	0	
	513-217			0.3174	1	Secondary knapping flake	Kettle Point	0	
	513-217			0.3174	1	Secondary knapping flake	Huronia	0	
	513-217			0.3175	1	Secondary retouch flake	Huronia	0	
	513-217			0.3176	4	Shatter	Huronia	0	
	513-217			0.3176	1	Shatter	Quartzite	0	
	513-217			0.3176	1	Shatter	Balsam Lake	0	
	513-218			0.3177	1	Secondary knapping flake	Fossil Hill	0	
	513-218			0.3177	4	Secondary knapping flake	Huronia	0	
	513-218			0.3178	1	Secondary retouch flake	Fossil Hill	0	
	513-218			0.3179	1	Shatter	Huronia	0	
	513-219			0.3180	2	Secondary knapping flake	Huronia	0	
	513-219			0.3180	2	Secondary knapping flake	Fossil Hill	0	
	513-219			0.3181	3	Shatter	Huronia	1	
	513-219			0.3181	2	Shatter	Balsam Lake	0	
	513-220			0.3182	1	Secondary knapping flake	Quartzite	0	
	513-220			0.3183	3	Secondary retouch flake	Huronia	0	
	513-220			0.3184	1	Shatter	Balsam Lake	0	
	513-220			0.3184	1	Shatter	Fossil Hill	0	
	513-220			0.3184	1	Shatter	Huronia	0	
	513-221			0.3127	1	Secondary knapping flake	Onondaga	0	
	513-221			0.3128	3	Shatter	Balsam Lake	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	513-221			0.3128	1	Shatter	Onondaga	0	
	513-221			0.3129	1	Secondary retouch flake	Upper Mercer	0	
	513-224			0.3130	1	Shatter	Huronia	0	
	513-224			0.3130	1	Shatter	Onondaga	0	
	514-208			0.3185	1	Secondary retouch flake	Huronia	1	
	514-208			0.3185	1	Secondary retouch flake	Fossil Hill	0	
	514-210			0.3131	1	Shatter	Fossil Hill	0	
	514-210			0.3132	1	Shatter	Huronia	0	
	514-215			0.3133	1	Secondary retouch flake	Huronia	0	
	514-215			0.3133	1	Secondary retouch flake	Fossil Hill	0	
	514-215			0.3134	2	Shatter	Huronia	0	
	514-215			0.3134	1	Shatter	Onondaga	0	
	514-215			0.3134	3	Shatter	Balsam Lake	0	
	514-216			0.3186	1	Core	Huronia	0	
	514-216			0.3187	1	Primary thinning flake	Balsam Lake	0	
	514-216			0.3188	4	Secondary knapping flake	Huronia	0	
	514-216			0.3189	2	Secondary retouch flake	Huronia	0	
	514-216			0.3190	1	Shatter	Balsam Lake	0	
	514-216			0.3190	5	Shatter	Huronia	1	
	514-217			0.3191	1	Primary thinning flake	Quartzite	0	
	514-217			0.3191	1	Primary thinning flake	Huronia	0	
	514-217			0.3191	1	Primary thinning flake	Balsam Lake	0	
	514-217			0.3192	6	Secondary knapping flake	Huronia	0	
	514-217			0.3192	1	Secondary knapping flake	Quartzite	0	
	514-217			0.3193	1	Secondary retouch flake	Huronia	0	
	514-217			0.3194	2	Shatter	Balsam Lake	0	
	514-217			0.3194	6	Shatter	Unknown	6	
	514-217			0.3194	1	Shatter	Fossil Hill	0	
	514-217			0.3194	1	Shatter	Huronia	0	
	514-217			0.3194	1	Shatter	Quartzite	0	
	514-218			0.3197	2	Primary reduction flake	Fossil Hill	0	
	514-218			0.3198	4	Secondary knapping flake	Huronia	1	
	514-218			0.3198	1	Secondary knapping flake	Fossil Hill	0	
	514-218			0.3199	1	Secondary retouch flake	Huronia	0	
	514-218			0.3200	5	Shatter	Huronia	0	
	514-219			0.3201	2	Secondary knapping flake	Balsam Lake	0	
	514-219			0.3201	2	Secondary knapping flake	Kettle Point	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	514-219			0.3201	5	Secondary knapping flake	Huronia	0	
	514-219			0.3202	1	Secondary retouch flake	Huronia	0	
	514-219			0.3203	1	Shatter	Trent Valley	1	
	514-219			0.3203	5	Shatter	Balsam Lake	0	
	514-219			0.3203	5	Shatter	Huronia	0	
	514-220			0.3061	2	Secondary knapping flake	Onondaga	0	
	514-221			0.3204	1	Secondary knapping flake	Balsam Lake	0	
	514-221			0.3205	1	Shatter	Trent Valley	1	
	514-221			0.3205	1	Shatter	Balsam Lake	0	
	514-221			0.3205	1	Shatter	Huronia	0	
	514-222			0.3207	1	Secondary knapping flake	Balsam Lake	0	
	514-222			0.3207	2	Secondary knapping flake	Huronia	0	
	514-222			0.3208	1	Shatter	Balsam Lake	0	
	514-224			0.3209	1	Secondary knapping flake	Quartzite	0	
	514-224			0.3209	2	Secondary knapping flake	Balsam Lake	0	
	514-228			0.3062	3	Shatter	Huronia	0	
	514-228			0.3062	1	Shatter	Onondaga	1	
	514-228			0.3062	7	Shatter	Balsam Lake	0	
	514-229			0.3058	1	Secondary knapping flake	Fossil Hill	0	
	514-229			0.3059	1	Secondary retouch flake	Huronia	0	
	514-229			0.3060	1	Shatter	Balsam Lake	0	
	514-229			0.3060	1	Shatter	Huronia	0	
	515-209			0.3210	1	Secondary knapping flake	Balsam Lake	0	
	515-209			0.3210	1	Secondary knapping flake	Kettle Point	0	
	515-209			0.3211	2	Shatter	Balsam Lake	0	
	515-214			0.3213	1	Core	Balsam Lake	0	
	515-214			0.3213	1	Core	Huronia	0	
	515-214			0.3214	2	Secondary knapping flake	Huronia	0	
	515-214			0.3214	1	Secondary knapping flake	Trent Valley	1	
	515-214			0.3215	1	Secondary retouch flake	Huronia	0	
	515-214			0.3215	1	Secondary retouch flake	Balsam Lake	0	
	515-214			0.3216	1	Shatter	Balsam Lake	0	
	515-215			0.3217	1	Secondary knapping flake	Huronia	1	
	515-215			0.3218	1	Shatter	Trent Valley	0	
	515-215			0.3218	3	Shatter	Huronia	0	
	515-216			0.3219	1	Primary thinning flake	Balsam Lake	0	
	515-216			0.3220	1	Secondary knapping flake	Huronia	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	515-216			0.3220	1	Secondary knapping flake	Balsam Lake	0	
	515-216			0.3221	1	Secondary retouch flake	Huronia	0	
	515-216			0.3222	1	Shatter	Unknown	1	
	515-216			0.3222	1	Shatter	Balsam Lake	0	
	515-216			0.3222	1	Shatter	Huronia	0	
	515-216			0.3222	1	Shatter	Quartzite	0	
	515-217			0.3223	4	Secondary knapping flake	Huronia	0	
	515-217			0.3223	2	Secondary knapping flake	Quartzite	0	
	515-217			0.3223	1	Secondary knapping flake	Balsam Lake	0	
	515-217			0.3223	2	Secondary knapping flake	Fossil Hill	0	
	515-217			0.3224	1	Secondary retouch flake	Balsam Lake	0	
	515-217			0.3224	1	Secondary retouch flake	Huronia	0	
	515-217			0.3225	2	Shatter	Balsam Lake	0	
	515-217			0.3225	6	Shatter	Huronia	1	
	515-218			0.3228	1	Core	Balsam Lake	0	
	515-218			0.3229	5	Secondary knapping flake	Onondaga	1	
	515-218			0.3229	2	Secondary knapping flake	Huronia	0	
	515-218			0.3229	2	Secondary knapping flake	Balsam Lake	0	
	515-218			0.3230	1	Secondary retouch flake	Onondaga	0	
	515-218			0.3230	1	Secondary retouch flake	Huronia	0	
	515-218			0.3231	10	Shatter	Huronia	1	
	515-218			0.3231	4	Shatter	Balsam Lake	0	
	515-219			0.3232	1	Secondary knapping flake	Quartzite	0	
	515-219			0.3232	5	Secondary knapping flake	Huronia	0	
	515-219			0.3233	1	Secondary retouch flake	Onondaga	1	
	515-219			0.3234	2	Shatter	Huronia	0	
	515-219			0.3234	3	Shatter	Onondaga	0	
	515-220			0.3236	1	Primary thinning flake	Fossil Hill	0	
	515-220			0.3237	2	Secondary knapping flake	Balsam Lake	0	
	515-220			0.3237	1	Secondary knapping flake	Quartzite	0	
	515-220			0.3237	1	Secondary knapping flake	Trent Valley	0	
	515-220			0.3238	2	Secondary retouch flake	Huronia	0	
	515-220			0.3239	4	Shatter	Balsam Lake	0	
	515-220			0.3239	5	Shatter	Huronia	0	
	515-221			0.3240	3	Secondary knapping flake	Huronia	0	
	515-221			0.3241	1	Shatter	Fossil Hill	0	
	515-221			0.3241	3	Shatter	Huronia	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	515-221			0.3241	2	Shatter	Balsam Lake	0	
	515-222			0.3242	3	Secondary knapping flake	Huronia	0	
	515-222			0.3242	3	Secondary knapping flake	Balsam Lake	0	
	515-222			0.3243	7	Shatter	Huronia	0	
	515-222			0.3243	2	Shatter	Balsam Lake	0	
	515-223			0.3244	2	Shatter	Huronia	0	
	515-223			0.3244	1	Shatter	Balsam Lake	0	
	515-223			0.3244	1	Shatter	Lockport	0	
	515-227			0.3245	5	Secondary knapping flake	Huronia	0	
	515-227			0.3245	1	Secondary knapping flake	Unknown	0	
	515-227			0.3246	1	Secondary retouch flake	Balsam Lake	0	
	515-227			0.3246	2	Secondary retouch flake	Huronia	0	
	515-227			0.3247	3	Shatter	Balsam Lake	0	
	515-227			0.3247	6	Shatter	Huronia	1	
	515-232			0.3248	1	Secondary knapping flake	Huronia	0	
	515-232			0.3249	1	Shatter	Huronia	0	
	515-237			0.3250	2	Secondary knapping flake	Fossil Hill	0	
	515-237			0.3250	1	Secondary knapping flake	Balsam Lake	0	
	515-237			0.3250	1	Secondary knapping flake	Huronia	0	
	515-237			0.3251	1	Shatter	Huronia	1	
	516-209			0.3252	2	Secondary knapping flake	Huronia	1	
	516-209			0.3252	1	Secondary knapping flake	Fossil Hill	0	
	516-209			0.3253	2	Shatter	Huronia	0	
	516-209			0.3253	2	Shatter	Balsam Lake	0	
	516-210			0.3254	1	Shatter	Quartzite	0	
	516-210			0.3254	1	Shatter	Huronia	0	
	516-210			0.3254	1	Shatter	Balsam Lake	0	
	516-212			0.3053	2	Secondary knapping flake	Huronia	0	
	516-212			0.3053	1	Secondary knapping flake	Balsam Lake	0	
	516-212			0.3054	2	Shatter	Onondaga	1	
	516-212			0.3054	1	Shatter	Huronia	0	
	516-213			0.3050	1	Secondary knapping flake	Huronia	0	
	516-213			0.3050	1	Secondary knapping flake	Quartzite	0	
	516-213			0.3050	1	Secondary knapping flake	Onondaga	1	
	516-213			0.3051	1	Secondary retouch flake	Balsam Lake	0	
	516-213			0.3052	3	Shatter	Huronia	0	
	516-213			0.3052	2	Shatter	Trent Valley	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	516-213			0.3052	4	Shatter	Balsam Lake	1	
	516-214			0.3055	1	Secondary knapping flake	Onondaga	0	
	516-214			0.3055	1	Secondary knapping flake	Balsam Lake	0	
	516-214			0.3055	1	Secondary knapping flake	Fossil Hill	0	
	516-214			0.3056	2	Secondary retouch flake	Onondaga	0	
	516-214			0.3057	2	Shatter	Huronia	0	
	516-214			0.3057	1	Shatter	Quartzite	0	
	516-215			0.3255	2	Secondary knapping flake	Balsam Lake	0	
	516-215			0.3255	2	Secondary knapping flake	Huronia	0	
	516-215			0.3256	2	Secondary retouch flake	Huronia	0	
	516-215			0.3257	1	Shatter	Balsam Lake	0	
	516-215			0.3257	2	Shatter	Huronia	1	
	516-216			0.3258	4	Secondary knapping flake	Huronia	0	
	516-217			0.3260	1	Primary reduction flake	Unknown	0	
	516-217			0.3261	1	Primary thinning flake	Quartz	0	
	516-217			0.3262	1	Secondary knapping flake	Balsam Lake	0	
	516-217			0.3262	2	Secondary knapping flake	Unknown	0	
	516-217			0.3262	3	Secondary knapping flake	Huronia	0	
	516-217			0.3262	1	Secondary knapping flake	Fossil Hill	0	
	516-217			0.3263	1	Secondary retouch flake	Huronia	0	
	516-217			0.3263	1	Secondary retouch flake	Balsam Lake	0	
	516-217			0.3264	7	Shatter	Huronai	2	
	516-217			0.3264	3	Shatter	Unknown	0	
	516-217			0.3264	1	Shatter	Quartz	0	
	516-217			0.3264	4	Shatter	Balsam Lake	0	
	516-218			0.3265	2	Secondary knapping flake	Fossil Hill	0	
	516-218			0.3266	2	Shatter	Unknown	0	
	516-218			0.3266	1	Shatter	Huronia	0	
	516-218			0.3266	2	Shatter	Balsam Lake	1	
	516-219			0.3040	2	Primary thinning flake	Huronia	0	
	516-219			0.3041	1	Secondary knapping flake	Quartzite	0	
	516-219			0.3042	1	Secondary retouch flake	Balsam Lake	0	
	516-219			0.3042	1	Secondary retouch flake	Onondaga	0	
	516-219			0.3043	1	Shatter	Huronia	0	
	516-219			0.3043	2	Shatter	Onondaga	0	
	516-219			0.3043	3	Shatter	Balsam Lake	2	
	516-220			0.3013	1	Secondary knapping flake	Fossil Hill	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	516-220			0.3013	1	Secondary knapping flake	Balsam Lake	0	
	516-220			0.3014	1	Shatter	Onondaga	0	
	516-220			0.3014	1	Shatter	Balsam Lake	0	
	516-220			0.3014	2	Shatter	Huronia	0	
	516-220			0.3014	1	Shatter	Quartzite	0	
	516-222			0.3010	1	Secondary knapping flake	Onondaga	0	
	516-222			0.3010	1	Secondary knapping flake	Balsam Lake	0	
	516-222			0.3011	1	Secondary retouch flake	Onondaga	0	
	516-222			0.3012	1	Shatter	Quartz	0	
	516-222			0.3012	2	Shatter	Huronia	0	
	516-223			0.3267	1	Secondary knapping flake	Fossil Hill	0	
	516-223			0.3267	3	Secondary knapping flake	Huronia	0	
	516-223			0.3267	1	Secondary knapping flake	Balsam Lake	0	
	516-223			0.3268	1	Secondary retouch flake	Balsam Lake	0	
	516-223			0.3269	3	Shatter	Huronia	0	
	516-223			0.3269	2	Shatter	Balsam Lake	0	
	517-208			0.3005	1	Secondary retouch flake	Trent Valley	0	
	517-208			0.3006	6	Shatter	Balsam Lake	0	
	517-208			0.3006	2	Shatter	Onondaga	1	
	517-208			0.3006	1	Shatter	Huronia	0	
	517-208			0.3007	1	Bipolar core	Huronia	0	22 x 10 x 10 mm
	517-209			0.3270	2	Secondary knapping flake	Huronia	0	
	517-209			0.3270	1	Secondary knapping flake	Fossil Hill	0	
	517-209			0.3270	1	Secondary knapping flake	Balsam Lake	0	
	517-209			0.3271	1	Shatter	Balsam Lake	0	
	517-209			0.3271	2	Shatter	Huronia	0	
	517-212			0.3272	1	Secondary knapping flake	Balsam Lake	0	
	517-212			0.3272	3	Secondary knapping flake	Huronia	1	
	517-212			0.3273	1	Shatter	Huronia	1	
	517-213			0.3275	1	Secondary knapping flake	Huronia	0	
	517-213			0.3275	1	Secondary knapping flake	Fossil Hill	0	
	517-213			0.3275	1	Secondary knapping flake	Quartz	0	
	517-213			0.3276	1	Secondary retouch flake	Fossil Hill	0	
	517-213			0.3277	3	Shatter	Balsam Lake	0	
	517-213			0.3277	4	Shatter	Huronia	0	
	517-214			0.3279	4	Shatter	Huronia	0	
	517-214			0.3279	1	Shatter	Balsam Lake	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	517-214			0.3279	2	Shatter	Fossil Hill	0	
	517-215			0.3008	1	Secondary knapping flake	Onondaga	0	
	517-215			0.3009	2	Shatter	Quartzite	0	
	517-215			0.3009	1	Shatter	Balsam Lake	0	
	517-215			0.3009	1	Shatter	Huronia	0	
	517-215			0.3009	1	Shatter	Unknown	1	
	517-215			0.3009	3	Shatter	Onondaga	0	
	517-216			0.3000	1	Secondary knapping flake	Huronia	0	
	517-216			0.3001	1	Secondary retouch flake	Balsam Lake	0	
	517-216			0.3001	1	Secondary retouch flake	Onondaga	0	
	517-216			0.3002	1	Shatter	Huronia	0	
	517-216			0.3002	2	Shatter	Onondaga	1	
	517-216			0.3002	1	Shatter	Balsam Lake	0	
	517-216			0.3002	1	Shatter	Quartzite	0	
	517-217			0.3143	1	Secondary retouch flake	Balsam Lake	0	
	517-217			0.3144	1	Shatter	Quartzite	0	
	517-217			0.3144	5	Shatter	Balsam Lake	0	
	517-217			0.3144	3	Shatter	Onondaga	0	
	517-217			0.3144	3	Shatter	Unknown	0	
	517-217			0.3144	2	Shatter	Huronia	0	
	517-218			0.3280	1	Secondary knapping flake	Balsam Lake	0	
	517-218			0.3281	1	Shatter	Quartz	0	
	517-218			0.3281	1	Shatter	Flint Ridge	0	
	517-219			0.3282	1	Primary thinning flake	Huronia	0	
	517-219			0.3283	1	Secondary knapping flake	Huronia	0	
	517-219			0.3283	1	Secondary knapping flake	Fossil Hill	0	
	517-219			0.3283	1	Secondary knapping flake	Upper Mercer	1	
	517-219			0.3284	1	Shatter	Trent Valley	0	
	517-219			0.3284	1	Shatter	Fossil Hill	0	
	517-219			0.3284	3	Shatter	Huronia	0	
	517-220			0.3285	1	Shatter	Huronia	0	
	518-212			0.3145	1	Secondary knapping flake	Onondaga	0	
	518-212			0.3146	1	Shatter	Huronia	0	
	518-212			0.3146	5	Shatter	Onondaga	1	
	518-213			0.3148	1	Secondary knapping flake	Quartz	0	
	518-213			0.3148	1	Secondary knapping flake	Onondaga	0	
	518-213			0.3148	1	Secondary knapping flake	Balsam Lake	0	

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	DESCRIPTION	MATERIAL	TA	COMMENTS
	518-213			0.3149	1	Secondary retouch flake	Onondaga	0	
	518-213			0.3149	1	Secondary retouch flake	Balsam Lake	0	
	518-213			0.3150	1	Shatter	Kettle Point	0	
	518-213			0.3150	2	Shatter	Balsam Lake	0	
	518-213			0.3150	2	Shatter	Onondaga	0	
	518-213			0.3150	2	Shatter	Huronia	0	
	518-214			0.3151	2	Secondary knapping flake	Huronia	0	
	518-214			0.3152	1	Secondary retouch flake	Huronia	0	
	518-214			0.3153	2	Shatter	Huronia	1	
	518-214			0.3153	2	Shatter	Balsam Lake	0	
	519-214			0.3286	2	Secondary knapping flake	Huronia	0	
	519-214			0.3286	1	Secondary knapping flake	Fossil Hill	0	
	519-214			0.3287	1	Shatter	Huronia	0	
	519-214			0.3287	1	Shatter	Balsam Lake	0	
	519-214			0.3287	1	Shatter	Fossil Hill	0	
	519-222			0.3288	1	Secondary knapping flake	Lockport	0	
	519-222			0.3288	1	Secondary knapping flake	Balsam Lake	0	
	519-222			0.3288	1	Secondary knapping flake	Huronia	0	
	519-225			0.3293	1	Shatter	Huronia	0	
	519-225			0.3293	1	Shatter	Unknown	0	
Structure B									
	487-212			0.3003	1	Secondary knapping flake	Huronia	0	
	487-212			0.3004	1	Secondary retouch flake	Balsam Lake	0	
	487-214			0.3037	1	Shatter	Onondaga	1	
Structure D									
	485-240	68		0.3070	1	Shatter	Huronia	0	
	485-240	68		0.3071	1	Secondary retouch flake	Huronia	0	
TP									
	TP			0.3135	1	Secondary knapping flake	Onondaga	0	
	TP			0.3136	2	Shatter	Huronia	0	
	TP			0.3137	1	Secondary knapping flake	Balsam Lake	0	
	TP			0.3138	4	Shatter	Balsam Lake	0	

APPENDIX H
GROUNDSTONE CATALOGUE

Appendix H: Dykstra Site Groundstone Catalogue

CONTEXT	UNIT	FN	QUAD	CATNO	QTY	TYPE	SECTION	MATERIAL	L (mm)	W (mm)	T (mm)	COMMENTS
EA02												
	495-185	108		0.3295	1	Abrader	complete	Unknown	142.7	42.1	25.9	possibly hafted
	495-195	98		0.3099	1	Hammerstone	fragment	Unknown	63.1	54.9	36.3	
House 1												
	465-200	14	1	0.3064	1	misc	fragment	Unknown				
Midden 1												
	512-219			0.3162	1	Axe	fragment	Unknown		39.7	11.8	
	513-216			0.3173	1	Adze	fragment	Unknown				
	513-216			0.3291	1	misc	fragment	Unknown				
	514-217			0.3196	1	misc	fragment	Unknown				
	515-209			0.3212	1	misc	fragment	Unknown				
	515-217			0.3226	1	misc	fragment	Unknown				
	515-218			0.3227	1	Hammerstone	complete	Granite	47.0	42.5	29.5	
	515-218			0.3289	1	misc	fragment	Unknown				
	515-219			0.3235	1	misc	fragment	Unknown				
	516-217			0.3259	1	misc	fragment	Unknown				
	516-219			0.3044	1	misc	fragment	Unknown				
	517-213			0.3274	1	misc	fragment	Unknown				
	519-225			0.3294	2	Hammerstone	complete	Unknown				
TP												
	TP			0.3139	1	Axe	fragment	Unknown		44.9	17.9	
	TP			0.3140	1	misc	fragment	Unknown				

APPENDIX I
INVENTORY OF DYKSTRA FAUNAL SPECIMENS

Appendix I: Inventory of Dykstra Faunal Specimens
Listed by Provenience

* Indicates fish bones that are measureable
"+ ID" Indicates a positive identification made in the comparative osteology laboratory

Provenience	Totals									Description
	Mam.	Bird	Rept.	Frog	Fish	Mol.	Class U/I	Total	Worked	
F005 N460E210	3	0	0	0	0		0	3	0	Mammal: Beaver incisor & 2 calcined.
F014, L1, Q1 N465E200L1	9	0	0	0	8	0	0	17	3	Mammal: Prob deer rib & 4 calcined. Worked: beaver incisor. Worked: med-lg mammal tube/bead, lg mammal mfg debris. Fish: Yellow perch*, bullhead*, sucker.
F014, L1, Q1 N465E200L1	1	0	0	0	0	0	0	1	1	Mammal: Worked: grooved & split deer metapodial, calcined.
F014, L1, Q2 N465E200L1	9	1	0	0	10	0	0	20	1	Mammal: Beaver, large mammal. Bird: Worked: large flat netting needle, probably large bird. Fish: Yellow perch*, bullhead.
F014, L1, Q3 N465E200L1	7	0	0	0	3	0	0	10	1	Mammal: Medium-small mammal (identifiable), & 5 calcined. Worked: axially perforated deer phalanx (2 pieces fit). Fish: Yellow perch.*
F014, L1, Q4 N465E200L1	11	0	0	0	11	1	3	26	0	Mammal: Deer, woodchuck (+ ID), & 6 calcined. Fish: Yellow perch.* Mollusc: Freshwater mussel: Unidentifiable fragment.
F014, L2, Q1 N465E200L2	1	0	0	0	3	0	0	4	0	Mammal: Calcined. Fish: Yellow perch*, bullhead.
F014, L2, Q2 N465E200L2	5	0	0	0	2	0	0	7	1	Mammal: 4 calcined. Worked: Expedient splinter awl, large mammal. Fish: Yellow perch.
F014, L2, Q3 N465E200L2	2	0	0	0	2	0	0	4	1	Mammal: Medium-small mammal. Worked: awl, large mammal. Fish: Yellow perch.*

Provenience	Totals									Description
F014, L2, Q4 N465E200L2	1	0	0	0	0	0	0	1	0	Mammal: Woodchuck (+ ID) entire ulna.
F015 N465E205	0	0	0	0	3	0	0	3	0	Fish: Yellow perch*.
F023 N460E205	0	0	0	0	0	1	0	1	0	Mollusc: Freshwater mussel, unidentifiable, charred.
F024 N460E210	0	0	0	0	6	0	0	6	0	Fish: Bullhead*, northern pike (?).
F025 N460E210	1	0	0	0	1	0	0	2	0	Fish: Bullhead*.
F040 N465E215	3	0	0	0	0	0	0	3	0	Mammal: Medium to large, calcined.
F041 N460E210	6	0	0	0	0	11	0	17	0	Mammal: Medium-large, 1 with a perforation about the diameter of coat hanger wire, possibly from an archaeological marker. Mollusc: Freshwater mussel, unidentifiable shell flakes.
F043 N460E210	5	0	0	0	1	0	0	6	0	Mammal: Medium to small mammal, probably a carnivore, all calcined or charred. Fish: Yellow perch (?).
F044 N460E210	0	4	0	0	1	0	0	5	0	Bird: 4 juvenile passenger pigeon-sized bird bones (+ ID). Seasonality indicator: Juvenile bird elements indicate seasonality.
F045 N460E210	0	0	0	0	2	0	0	2	0	
F046 N460E210	0	0	0	0	14	0	0	14	0	Fish: Vertebra, 3 lake whitefish.
F047 N460E215	0	0	0	0	1	0	0	1	0	Fish: Yellow perch.
F049 N460E215	0	1	0	0	0	0	0	1	0	Bird: Passenger pigeon (+ ID). Seasonality indicator: Juvenile passenger pigeon.
F052 N460E215	8	1	0	0	0	0	0	9	0	Mammal: Juvenile woodchuck & more mature showshoe hare (+ ID), & 6 calcined mammal. Seasonality indicator: Juvenile medium-small mammal may indicate season.

Provenience	Totals									Description
F087, L2, Q4 N495E195L2	2	0	0	0	0	0	0	2	0	Mammal: Large mammal, 1 calcined.
F087, L3, Q3 N495E195L3	1	0	0	0	0	0	0	1	0	Mammal: Deer vertebral fragment.
F087, L6, Q2 N495E195L6	2	0	0	0	0	0	0	2	0	Mammal: Canid mandible fragment with teeth, poorly preserved.
F087, L6, Q3 N495E195L6	6	0	0	0	0	0	0	6	0	Mammal: Large mammal major long bone, poorly preserved, and 1 calcined.
F087, L8, Q2 N495E195L8	3	0	0	0	0	0	0	3	0	Mammal: Canid mandible fragment with tooth roots, poorly preserved.
F088 N495E195	1	0	0	0	0	0	0	1	0	Mammal: Large mammal vertebral fragment, charred.
F088 N495E195	58	2	6	1	100	4	5	176	1	Mammal: Deer, poss dog, immature woodchuck (+ ID). Some burned. Seasonality - immature woodchuck. Worked: Side notched proj. pt. fm lg mammal long bone. Bird: Worked: Lg bird (?) or med. mammal, long, flat object, poss perforated netting needle. Reptile: Turtle. Mollusc: Freshwater mussel, 4 unidentifiable.
F089 N495E195	0	0	0	0	2	0	0	2	0	Fish: Bullhead & yellow perch vertebrae.
F090 N495E195	0	0	0	0	1	0	0	1	0	Fish: Sucker.
F091 N495E195	0	0	0	0	2	0	0	2	0	Fish: Bullhead vertebra & another identifiable fish bone.
F094 N495E195	0	0	0	0	1	0	0	1	0	Fish: Bullhead* (very small).
F095 N495E195	1	0	0	0	1	0	1	3	0	Mammal: Beaver. Fish: Bullhead* (very small).
F098 N495E195	3	0	0	0	0	0	1	4	0	Mammal: Medium to large mammal. All burned.

Provenience					Totals					Description
F098 N495E195	74	5	0	0	79	5	5	168	1	Mammal: Deer vertebra & long bone specimens (many charred), gray squirrel & woodchuck (+ ID). Seasonality: immature squirrel & woodchuck. Worked: Awl, entire. Bird: 5 ruffed grouse (+ ID). Fish: Sucker, Bullhead* (including 2 or more very small individuals), yellow perch*, small sunfish. Many fish vertebrae including 1 lake trout & 1 lake whitefish.
F106 N495E185	0	0	0	0	1	0	0	1	0	Fish: Possible sturgeon branchial.
F107 N495E185	0	0	0	0	1	5	0	6	0	Fish: Yellow perch*. Mollusc: Freshwater mussel: 5 unidentifiable fragments.
F108 N495E185	4	0	0	2	25	0	1	32	0	Fish: Bullhead* (very small), sucker, yellow perch*, American eel (dentary, + ID). Vertebrae include sucker & yellow perch.
F114 N500E190	0	0	0	0	1	0	0	1	0	Fish: Poorly preserved.
F115 N500E190	2	0	0	0	0	0	0	2	0	Mammal: Calcined.
F116 N500E190	0	0	0	0	2	0	0	2	0	
F124 N495E195	9	0	0	0	3	3	2	17	0	Mammal: Medium-small mammal, all calcined or burned. Fish: Bullhead*. Mollusc: Freshwater mussel, unidentifiable pieces of shell.
F127 N495E195	0	0	0	0	1	0	0	1	0	Fish: Yellow perch.
F129 N495E195	0	0	0	0	3	1	0	4	0	Fish: Sucker. One fish vertebra. Mollusc: Freshwater mussel: 1 unidentifiable.
Midden 1 N510E209	0	0	0	0	1	0	1	2	0	Fish: Sturgeon dermal plate fragment, calcined.
Midden 1 N510E225	1	0	0	0	0	0	0	1	0	Mammal: Squirrel-sized mammal.
Midden 1 N512E229	1	0	0	0	0	0	0	1	0	Mammal: Calcined.

Provenience	Totals									Description
Midden 1 N513E214	1	0	0	0	0	0	0	1	0	Mammal: Medium-large mammal, poorly preserved.
Midden 1 N513E217	1	0	0	0	0	0	0	1	0	Mammal: Deer tooth fragment.
Midden 1 N513E221	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N513E224	1	0	0	0	0	0	0	1	0	Mammal: Large mammal, charred.
Midden 1 N514E214	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N514E216	3	0	0	0	0	0	1	4	0	Mammal: Calcined or charred.
Midden 1 N514E218	1	0	0	0	0	0	0	1	0	Mammal: Large mammal, calcined.
Midden 1 N514E219	1	0	0	0	0	0	0	1	0	Mammal: Deer, calcined.
Midden 1 N514E220	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N514E224	1	0	0	0	0	0	0	1	0	Mammal: Large mammal.
Midden 1 N515E214	2	0	0	0	0	0	0	2	0	Mammal: Calcined.
Midden 1 N515E214	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N515E215	3	0	0	0	0	0	0	3	1	Mammal: Calcined. Worked: Part of heavy duty implement, large mammal, charred.
Midden 1 N515E217	2	0	0	0	0	2	0	4	0	Mammal: Large mammal, calcined, & 1 woodchuck (+ ID). Mollusc: Freshwater mussel: Unidentifiable.
Midden 1 N515E218	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N515E218	6	0	0	0	0	0	0	6	0	Mammal: Calcined. Mollusc: Misc.: 1 fossil.

Provenience	Totals									Description
Midden 1 N515E218	1	0	0	0	0	0	0	1	0	Mammal: Large mammal, charred.
Midden 1 N515E220	0	0	0	0	0	0	1	1	0	Mollusc: Misc.: 2 fossils.
Midden 1 N515E222	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N516E212	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N516E213	1	0	0	0	0	0	0	1	0	Mammal: Large mammal, calcined.
Midden 1 N516E215	2	0	0	0	0	0	0	2	0	Mammal: Calcined & charred.
Midden 1 N516E217	8	0	0	0	0	0	0	8	0	Mammal: Deer tooth fragment, dog-sized canid tooth fragment, calcined bear metapodial (distal ½ section less condyle, + ID) & 2 calcined unidentifiable.
Midden 1 N516E218	2	0	0	0	0	0	0	2	0	Mammal: Woodchuck (+ ID) & 1 calcined large mammal.
Midden 1 N516E219	1	0	0	0	0	0	0	1	0	Mammal: Large mammal, calcined.
Midden 1 N516E220	2	0	0	0	0	0	0	2	0	Mammal: Large mammal, 1 calcined.
Midden 1 N516E222	1	0	0	0	0	0	0	1	0	Mammal: Deer, poorly preserved.
Midden 1 N517E208	1	0	0	0	0	0	0	1	1	Mammal: Worked: Cervid antler barbed harpoon point.
Midden 1 N517E209	4	0	0	0	0	0	0	4	0	Mammal: Deer & 1 unidentifiable mammal, calcined.
Midden 1 N517E209	1	0	0	0	0	0	0	1	0	
Midden 1 N517E213	0	0	0	0	0	0	2	2	0	Mollusc: Class unknown: 2 calcined.

Provenience	Totals									Description
Midden 1 N517E214	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N517E214	1	0	0	0	0	0		1	0	Mammal: Large mammal, calcined.
Midden 1 N517E215	1	0	0	0	0	0	0	1	0	Mammal: Large mammal.
Midden 1 N517E216	1	0	0	0	0	0	3	4	0	Mammal: Calcined. Mollusc: Unidentified: 1 calcined.
Midden 1 N517E217	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
Midden 1 N517E219	4	0	0	0	0	0	0	4	0	Mammal: Deer, all calcined or charred.
Midden 1 N517E219	2	0	0	0	0	0	0	2	0	Mammal: Large mammal, 1 calcined.
Midden 1 N518E213	1	0	0	0	0	0	0	1	0	Mammal: Deer, charred.
Midden 1 N519E222	2	0	1	0	0	0	0	3	0	Mammal: Beaver. Rept: Turtle, calcined.
N514E202	1	0	0	0	0	0	0	1	0	Mammal: Deer tooth fragment.
N515E237	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
N515E232	1	0	0	0	0	0	0	1	0	Mammal: Calcined.
N500E190	0	0	0	0	1	0	0	1	0	Fish: Sucker.
N508E239	0	0	0	0	1	0	0	1	0	Fish: Sturgeon, dermal plate, calcined.
SITE TOTALS	310	14	7	3	294	33	26	687	12	