The Stage 4 Salvage Excavation of the Orion Site (AlGu-45) Lot 56, Concession 1 W.Y.S Town of Richmond Hill, Regional Municipality of York, Ontario

**License Report** 

Prepared for

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#### The Stage 4 Salvage Excavation of the Orion Site (AlGu-45) Lot 56, Concession 1 W.Y.S Town of Richmond Hill, Regional Municipality of York, Ontario

# 1.0 INTRODUCTION & BACKGROUND TO THE STAGE 4 SALVAGE EXCAVATION OF THE ORION SITE (AlGu-45)

by Andrea Carnevale

In 1997, the proposed development of a residential subdivision necessitated the completion of a salvage excavation of the Late Iroquoian period Orion site (AlGu-45) located north of Gamble Road and west of Yonge Street within Lot 56, Concession 1 W.Y.S., Town of Richmond Hill, Regional Municipality of York, within the Cosburn Patterson Mather Limited Planning Area (Figure 1).

Cosburn Patterson Mather Limited subsequently retained Archaeological Services Inc. (ASI) to carry out all necessary archaeological mitigation of the subdivision's impact to the site.

All assessment activities were conducted under the project management of Mr. Martin Cooper, and the project field direction of Dr. Shaun Austin. The project was conducted under licence 1997-017, pursuant to the Ontario Heritage Act (R.S.O. 1990). Permission to access the site and to carry out all activities necessary for the purpose of this project was granted by Cosburn Patterson Mather Limited.



**Figure 1:** The location of the Orion site (AlGu-45) on Lot 56, Concession 1, W.Y.S., Town of Richmond Hill (NTS Sheets 30M14[Markham], ed.9 1994 & 30M/13 [Bolton], ed. 7 1994)

The Orion site was first identified by Archaeological Services Inc. in 1988 during the fieldwork phase of the Richmond Hill Archaeological Master Plan Project (ASI 1988). This work resulted in the recovery of 221 artifacts distributed over an area of approximately 250 square metres (ASI 1988: Appendices A-1 and A-2). On the basis of these initial investigations, the Orion site was identified as a small, Late Iroquoian special purpose (agricultural) cabin site associated with the Murphy-Goulding site (AlGu-3), which is located immediately southwest of Orion. The Orion site is located on sandy loam soils on a level terrain bordered on the east and west sides by moderately steep ravines formed by headwater tributaries of the Rouge River.

#### 2.0 ENVIRONMENTAL SETTINGS by Robert MacDonald

The Orion site is located on the southern flank of the Maple spur of the Oak Ridges Moraine (Chapman and Putnam 1984: Map 2226; Hewitt 1969: Map 2124). Roughly 2.5 kilometres to the northwest is the intersection of the Humber, Don, and Rouge River watersheds. The site itself is situated at the northwestern edge of the Rouge River drainage. In this area, many parallel entrenched streams rising along the flank of the porous upland flow towards the southeast. One such stream is located immediately to the west of Orion.

The Quaternary deposits in the vicinity are dominated by Halton Till of Late Wisconsinan age. A widespread component of the South Slope till plain, this clay loam till was laid down by a re-advance of the Lake Ontario Ice lobe which overrode the southern flank of the Oak Ridges Moraine. The moraine, an interlobate kame moraine characterized by ice-contact stratified sands and gravels, intermittently projects through the till sheet along the length of the Maple spur (Chapman and Putnam 1984:52-53; Hewitt 1969:5-8, Map 2124; Sharpe 1980).

Within a one kilometre radius of the site, the mapped soils are approximately as follows: 50% Oneida clay loam, 40% Pontypool sandy loam, 5% Woburn loam, and 5% bottomland. Oneida is a brunisolic grey-brown luvisol (BR.GBL) which develops on clay loam till. Topography is moderate and drainage is good. The Canada Land Inventory (CLI) rates Oneida as primarily Class 1 for agriculture, with smaller percentages of Class 3 with moderately severe limitations arising from undulating topography. Pontypool is a BR.GBL which develops on sandy outwash. Topography tends to be steep with good to excessive drainage. The CLI rates Pontypool as 60% Class 6 for agriculture with severe topography as the main limitation. Soils in this class have such severe limitations to cultivation that pasture is considered to be the only possible agricultural use. Forty percent of Pontypool soils are rated Class 3 for agriculture, with moderately severe limitations arising from low fertility and moisture-holding capacity. Woburn is a BR.GBL which develops on loam to sandy till. Topography is moderate to steep and drainage is good. The CLI rates Woburn as 70% Class 1 for agriculture and 30% Class 2, with moderate limitations arising from steep topography. The soils mapped as bottomland are immature soils, which have developed on recent alluvium along stream courses. Topography is level and drainage is variable but tends to be poor, with seasonal inundation. Given the restricted and linear distribution of these soils, they are not rated by the CLI (Hoffman and Richards 1955; OIP Map 30M/14).

# 2.1 PALEOVEGETATION

Under the widely used ecological zonation developed for Ontario by Hills (1958) and revised by Burger (1993), the Orion site is situated in Forest Site Region 6E, near the interface with Site Region 7E, in an area primarily rated Class 1 and 2 for Forestry (McCormack 1970; Canada Land Inventory Map 30M - Land Capability for Forestry, 1971). The principle limitations for forestry are localized moisture deficiency and nutritional problems associated with high carbonate levels. As illustrated in Table 1, under median moisture regimes and eco-climates the climax forest in this region tends to be dominated by hard maple (*Acer saccharum*) and beech (*Fagus grandifolia*), often in association with eastern hemlock (*Tsuga canadensis*), white pine (*Pinus strobus*), basswood (*Tilia americana*), and white ash (*Fraxinus americana*). On the droughty sands to the north, white pine, white ash, and red oak (*Quercus rubra*) would have competed well with hard maple, while eastern hemlock, yellow birch (*Betula lutea*), white elm (*Ulmus americana*), black ash (*Fraxinus nigra*) and eastern white cedar (*Thuja occidentalis*) would have been important in poorly drained bottomlands (Burger 1993; Hosie 1979). Frequencies of wood charcoal recovered from Orion are consistent with the above forest regime. Dominated by maple and beech, the charcoal assemblage also comprises significant quantities of elm and ash and lesser quantities of ironwood (*Ostrya virginiana*) white pine, and white and red oak (see Chapter 7).

Table 1: Typical Tree Species of Forest Site Regions 6E and 7E									
Hotter			Normal			Colder			
Drier	Normal	Wetter	Drier	Normal	Wetter	Drier	Normal	Wetter	
Site Region	6E					·			
r, w, b oak, h, r maple	h maple beech w, r, oak hickory butternut	r, si maple w, r ash	w pine h,r maple r oak w ash	h maple beech e hemlock w pine basswood w ash	e hemlock y birch b ash w elm ew cedar	r, w pine	w spruce ba fir w pine e hemlock	ba fir w spruce e larch ew cedar	
r, w pine w birch t, l aspen	b cherry ro elm		r pine t, l aspen	w birch r oak b cherry	w spruce ba fir				
Site Region	7E								
r, b, ch oak sb hickory butternut (chestnut)	w, r oak w ash h maple walnut tulip	r, si maple w, r ash w elm sycamore tulip	w, r oak sb, p hickory w pine w, ro elm	h maple beech basswood r, w oak sb, bn hickory	sw, pi oak r, b ash w elm bn hickory	e hemlock w pine h maple	w elm b ash r maple e hemlock	w spruce ba fir r maple y, w birch ew cedar	
t, l aspen	p hickory butternut	e cottonwood b gum		e cottonwood b cherry					
First row Second ro Bold = hi Normal = Small = low ( ) = s	First row = species of most stable "climax" vegetation Second row = pioneer species <b>Bold = high proportion of forest site region</b> Normal = moderate proportion of forest site region Small = low proportion of forest site region ( ) = species common in part of the site region				: a=american; b bu=bur; ch=che hite; h=hard; j= bin; r=red; ro=re trembling; w=v 1993:8)	=black; ba=b estnut & chinc jack; l=largeto ock; sb=shagb white; y=yellc	alsam; bl=blue quapin; e=easte ooth; m=mock oark; sc=scarle ow.	; ern; ernut; t; si=silver;	

# **3.0 SETTLEMENT PATTERNS** *by Andrea Carnevale*

#### 3.1 STAGE 3-4 INVESTIGATIONS

In 1997, the Orion site was investigated by Archaeological Services Inc. during an archaeological assessment of Lot 56, Concession 1 W.Y.S., for Cosburn Patterson Mather Limited. On October 10, 1997 the field was surveyed at an interval of five metres. Once artifacts were encountered and flagged, the survey interval was reduced to one metre within 20 metres of the outermost finds. The position of each flag was measured and recorded using a transit and stadia rod. Each measurement included the distance and angle relative to a permanent datum established on the site. The artifacts were distributed over an area of approximately 250 square metres. The recovered artifact assemblage included 13 ceramic sherds, one ground stone artifact, 10 pieces of lithic debitage, and one chert chunk (Appendix 1-4).

A second controlled surface collection was conducted on October 31, 1997 to further delineate the extent of the site. This work entailed intensive pedestrian survey of the site and its immediate surroundings conducted at one to two metre intervals. The location of each new surface find was recorded using a transit and stadia rod measured from a series of datum points that ultimately formed the foundation of the five metre grid used to guide the subsequent Stage 4 salvage excavation. A total of 17 artifacts was recovered including 10 ceramic sherds, two ground stone fragments, one secondary knapping flake, four pieces of lithic debitage, and one deer tooth fragment (Appendix 1-5).

Based on the results of the Stage 3 testing, it was recommended that that Orion site undergo Stage 4 salvage excavation. In November 1997, the plough zone, comprising approximately 35 centimetres of topsoil, was removed by Gradall to expose the subsoil across the site area. The newly exposed subsurface settlement features were delineated more precisely by shovel shining and trowelling. The total area exposed in this manner was approximately 0.62 hectare (Figure 2). Using the existing site datum and the secondary datum points, a five-metre grid was established over the exposed site to allow for exact recording of feature and post mould locations using triangulation.

The location and diameter of each post mould was recorded on pre-printed excavation forms. All post moulds exceeding 15 centimetre in diameter were sectioned to obtain depth and orientation data. The fill was screened through six-millimetre wire mesh in order to recover their constituent artifacts. Comments on fill and contents were recorded, and recovered artifacts were bagged separately for each post mould.

Feature locations were measured using triangulation from two datum points to the centre point of the feature. Location and attribute information was recorded on pre-printed excavation forms. Features were excavated using trowel and shovel, and the fill was screened through six-millimetre wire mesh in order to facilitate artifact recovery. The exact manner in which feature excavation and artifact recovery was carried out was dependant upon the size and complexity of each feature. In all cases, features were sectioned along their central long axis, and their profiles were recorded and the remaining fill removed. Where necessary, photographs were taken to document feature plans and profiles. In the case of larger or more complex features, sections were excavated in a manner as to provide the most useful vertical profiles for analysis and interpretation. Multiple flotation samples were taken from separate strata within complex features.

These activities resulted in the documentation of six longhouses and 83 well-defined subsurface cultural features (Figure 2). In addition, five external activity areas were defined. No palisade wall was documented surrounding the site.

In all, 1,015 artifacts were recovered during the 1997 excavation of the Orion site (Appendix 1-5) and were analyzed at the offices and laboratories of Archaeological Services Inc. in Toronto. Data was entered directly





450	460	470	480	490	500	510	520	530	540	550
DATE: JULY 20, 2007 FILE: 97CP-04C_final	0 15m SCALE 1:600							90 • FEATURE EXTERIOR ACTIVITY AREA	LEGEND LIMIT OF EXCAVATION	Archaeological Services

into the computer database that was subsequently used to generate both artifact catalogues and attribute analyses.

## **3.2 SETTLEMENT PATTERN**

Excavation of the Orion site resulted in the discovery and documentation of six well-defined longhouses and five discrete exterior activity areas (EA) (Figure 2). EAs are described as open areas between and surrounding houses utilized for outdoor activities. Numerous posts and exterior features were discovered in both contexts. The site was not surrounded by a palisade wall. In total, 83 subsurface cultural features were recorded both within and outside the house structures.

The following discussion comprises an analysis of the settlement features present at the site. It includes both general observations and detailed descriptions. Metric attributes for each of the houses are summarized in Table 2.

Table 2: House Variability						
	House 1	House 2	House 3	House 4	House 5	House 6
Length (m)	+22.5	36.5	64.2	20.5	~41.8	42.8
Width (m)	7.9	7.9	8.1	7.8	8.0	7.9
Orientation (°East of North)	169	193	179	154	183	179
Area (m <sup>2</sup> )	160	272	496	138.8	308	317
No. of features	7	8	19	3	9	18

The overall layout of the settlement area consists of an aligned collection of houses. The long axes of Houses 3, 5, and 6 were parallel to one another and aligned in a northwest-southeast direction. The long axis of House 1 was tilted slightly northwest of House 3, 5, and 6, while House 2 was tilted slightly northeast. The long axis of House 4 was oriented in a more pronounced northwest-southeast direction.

House 5 was located approximately 27.3 metres west of House 3, and House 3 was located 7.7 metres west of House 6. House 1 and 2 were located between House 3 and 5. House 1 was located approximately 10.8 metres southwest of House 3 and House 2 was located immediately northwest of House 3. House 4 was located 3.3 metres north of House 2. It is unclear whether this house was situated in this manner in order to make the most efficient use of space due to the nature of the slope on the site, or because this was a special-purpose structure. All of the houses were complete in plan with the exception of House 5, the western end of which was poorly defined, and House 1, the southern end of which extended into the unexcavated tree line.

# 3.2.1 House 1

House 1 was located in the southern-most part of the site, approximately 17.3 metres south of House 2 (Figure 2). It had a minimum length of 22.5 metres, a maximum width of 7.9 metres, providing for an enclosed area of approximately 160  $m^2$ , and was oriented 169° east of north (Figure 3).

The house walls were formed by both single row and paired posts. One section of wall trenching survived along the western wall at the southern end of the exposed area of the house (Feature 2). While the northern end of the house was rounded with short tapers, the southern end extended into the tree line and was not exposed. There were two noticeable gaps in the house walls; one on the eastern wall measuring approximately 1.4 metres in width, and another at the north end of the house measuring approximately 1.3 metres in width. These gaps may have acted as doorways or entrances. No major episodes of repair or rebuilding of the house walls were evident, although post pairs likely reflect replacement of individual wall elements as necessary.



Figure 3: Orion Site - House 1 and EA 2

House 1 contained relatively few features. Only three hearths were noted (Features 15, 17a, and 17b); however, fired soil layers are often very thin and faint, and it is not unusual for them to be partially or even completely removed from the subsoil as a result of deep ploughing. Often, the only indication of the presence of a hearth is a dense cluster of small posts, usually in the central corridor. These post mould patterns were likely produced through repeated insertion of stakes around the fire to facilitate cooking or for other food processing activities. One hearth feature (Feature 15) was located along the western wall, and the remaining two hearths were centrally aligned (Features 17a and 17b). This house also contained one pit feature located towards the south end (Feature 39) and one semi-subterranean sweat lodge situated perpendicular to the east wall (Feature 20) (Table 3). Most of the posts throughout the house were limited to the central corridor.

A line of larger posts was located parallel to the eastern wall of the house at the southern end of the exposed area. These posts may somehow be associated with a bunk structure in this portion of the house.

The single semi-subterranean sweat lodge (Feature 20) was located along the eastern wall of the house. The structure was oriented perpendicular to the house wall and measured 3.5 metres in length and 2.0 metres in width. This feature was carefully excavated in quadrants. The excavation revealed a ramp entrance leading from the interior of the house into the sweat lodge, which was located on the other side of the house wall. Layers of fill incorporating domestic refuse and a flat basal living floor at a depth of 50 centimetres were also discovered.

The north end of House 1 was essentially devoid of features or posts. It is possible that this space was used for above ground storage. In addition, there were eight exterior pit features (Features 25, 26, 28, 29, 30, 31, 32, and 37) within Exterior Activity Area 2 located between House 1 and the southern half of House 3 (Table 9).

Table 3:	Table 3: House 1 Summary Description of Features											
Site	Feature	Feature	Dime	Dimension		Plan Shape	<b>Profile Shape</b>	Fill Composition				
Context	Number	Туре	(cm)									
			L	W	D							
H01	2	wall trench	220	32	19	rectanguloid	shallow basin	Dark brown soil mottled with subsoil and charcoal				
H01	15	hearth	97	77	17	circular	irregular	Fire reddened soil mottled with subsoil				
H01	17a	hearth	116	65	12	ovate	shallow basin	Homogeneous fire reddened soil				
H01	17b	hearth	116	62	9	ovate	shallow basin	Homogeneous fire reddened soil				
H01	19	support post	30	20	39	ovate	no profile	Dark brown soil mottled with subsoil				
H01	20	sweat lodge	350	200	50	key hole	bath tub	Level 1: Clay loam mottled with ash and charcoal; Level 2: Light brown clay loam mottled with charcoal; Level 3: Dark brown black silt loam mottled with charcoal; Level 4: Very dark brown black soil mottled with charcoal				
H01	39	pit	37	17	9	ovate	shallow basin	Dark brown soil mottled with subsoil and charcoal				

# 3.2.2 House 2

House 2 was located approximately 17.3 metres north of House 1, with its long axis tilted slightly northeast of House 3 (Figure 2). It had a maximum length of 36.5 metres, a maximum width of 7.9 metres, providing for an enclosed area of approximately  $272 \text{ m}^2$ , and was oriented  $193^\circ$  east of north (Figure 4).

The house walls were formed by both single row and paired posts. The house ends were rounded with short tapers. There were eight noticeable gaps in the house walls: one at the north end of the house measuring 1.6 metres in width, six along the eastern wall each measuring approximately 1.4 metres in width, and one at the south end of the house measuring approximately 1.8 metres in width. These gaps may have acted as doorways or entrances. It is interesting to note that one of the gaps in the eastern wall of House 2 is opposite to a gap in the



Figure 4: Orion Site - House 2 and EA 1

western wall of House 3, possibly indicating facing doorways.

House 2 had one centrally aligned hearth (Feature 11) and a series of six pits located throughout the interior (Table 4), mainly restricted to the central corridor. In addition, two exterior features, one pit (Feature 14) and one hearth (Feature 1), were associated with House 2 and located on the east side of the house at its north end, in Exterior Activity Area 1 (Table 9).

Three clusters of small interior posts were recorded in the vicinity of the house's central features along the central corridor of the house. One cluster was located adjacent to Feature 11 and was likely associated with cooking or other food processing activities.

Similar to House 1, the north end of House 2 was essentially devoid of features or posts.

Table 4:	House 2 Sur	nmary Descript	ion of I	Featu	res			
Site	Feature	Feature	Dime	ensior	1	Plan Shape	Profile Shape	Fill Composition
Context	Number	Туре	(cm)	(cm)				
			L	W	D			
H02	3	pit	110	91	49	ovate	shallow basin	Dark brown soil mottled with charcoal
H02	5	pit	64	43	15	ovate	shallow basin	Dark brown soil mottled with subsoil
H02	6	support post	36	36	53	circular	no profile	Dark brown soil mottled with subsoil
H02	9	pit	90	59	16	ovate	shallow basin	Dark brown soil mottled with subsoil
								and charcoal
H02	10	pit	106	66	22	ovate	shallow basin	Dark brown soil mottled with subsoil
H02	11	hearth	110	83	7	rectanguloid	shallow basin	Dark brown soil mottled with subsoil
H02	12	pit	58	44	18	ovate	shallow basin	Dark brown soil (10YR3/2) mottled with
								subsoil and charcoal
H02	16	pit	29	28	8	circular	skewed	Dark brown soil (10YR3/2) mottled with
								charcoal and subsoil

# 3.2.3 House 3

House 3 was located east of Houses 1 and 2 and west of House 6 (Figure 2). It had a maximum length of 64.2 metres, a maximum width of 8.1 metres, providing for an enclosed area of approximately 496 m<sup>2</sup>, and was oriented  $179^{\circ}$  east of north (Figure 5).

The house walls were formed by both single row and paired posts. Its southern end abutted the tree line, and as such was not well defined; however, it appears to have had a rounded end with short tapers and two sections of wall trenching (Feature 2). The northern end was rounded with short tapers. There were three noticeable gaps in the walls: one at the north end of the house measuring 2.4 metres in width, one along the western wall measuring approximately 2.7 metres in width, and one at the south end of the house along the eastern wall measuring approximately 2.1 metres in width. These gaps may have acted as doorways or entrances. As mentioned above, one of the gaps in the western wall of House 3 is parallel to a gap in the eastern wall of House 2.

House 3 had two centrally aligned hearths (Features 95 and 100), and another located adjacent to the west wall (Feature 33). There is also a series of 16 pits throughout its interior (Table 5). Most of the feature and post activity throughout the house was restricted to the central corridor. Many small interior posts were recorded around the house's central features, including dense clusters located within the central corridor in the centre of the house.

Exterior Activity Area 2 was located on the west side of House 3 and Exterior Activity Area 3 was located on its east side (Table 9).



Figure 5: Orion Site - House 3

Table 5:	able 5: House 3 Summary Description of Features											
Site	Feature	Feature	Dime	ension		Plan Shape	<b>Profile Shape</b>	Fill Composition				
Context	Number	Туре	(cm)									
			L	W	D							
H03	33	hearth	44	37	2	ovate	surface stain	Dark brown soil mottled with fire				
								reddened soil and charcoal				
H03	35	pit	27	27	8	circular	shallow basin	Dark brown soil mottled with subsoil				
H03	36	pit	108	48	15	irregular	flat bottom	Dark brown soil mottled with subsoil and charcoal				
H03	38	pit	31	29	18	circular	shallow basin	Dark brown soil mottled with subsoil				
H03	40	pit	34	25	28	ovate	deep basin	Dark brown soil (10YR3/2) mottled with charcoal and subsoil				
H03	41	pit	46	37	14	ovate	shallow basin	Dark grey/black soil mottled with subsoil				
H03	42	pit	94	52	20	irregular	shallow basin	Dark brown soil mottled with subsoil and charcoal				
H03	44	pit	62	43	15	ovate	irregular	Dark brown soil (10YR3/3) mottled with subsoil and charcoal				
H03	57	pit	20	20	15	circular	no profile	Dark brown soil mottled with subsoil and charcoal				
H03	77	pit	74	29	33	ovate	shallow basin	Very dark brown soil (10YR2/2) mottled with subsoil and charcoal				
H03	78	pit	29	29	16	circular	shallow basin	Very dark brown soil mottled with subsoil and charcoal				
H03	80	pit	40	33	36	ovate	deep basin	Very dark brown soil (10YR2/2) mottled with subsoil and charcoal				
H03	81	pit	48	34	24	ovate	skewed	Very dark brown soil mottled with subsoil, fire reddened soil, fire cracked rock and charcoal				
H03	82	pit	48	44	14	circular	shallow basin	Dark brown soil mottled with subsoil				
H03	94	pit	40	36	14	circular	shallow basin	Dark brown soil (10YR3/2) mottled with subsoil and charcoal				
H03	95	hearth	130	92	10	ovate	shallow basin	Fire reddened soil mottled with subsoil				
H03	96	pit	54	35	20	ovate	shallow basin	Dark brown soil (10YR2/1) mottled with subsoil and charcoal				
H03	100	hearth	132	104	5	ovate	surface stain	Yellowish red soil mottled with subsoil				
H03	101	pit	40	36	14	circular	shallow basin	Main fill: dark brown soil (10YR3/2) mottled with ash, subsoil and charcoal Lense Fill: fire reddened soil mottled with charcoal				

## 3.2.4 House 4

House 4 was located in the northern-most part of the site, approximately 2.9 metres north of House 2 (Figure 2). It had a maximum length of 20.5 metres and a maximum width of 7.8 metres, providing for an enclosed area of approximately  $138.8 \text{ m}^2$ , and was oriented  $154^\circ$  east of north. It was the smallest house on the site (Figure 6).

The house walls were formed by both single row and paired posts. The house ends were rounded with short tapers. There were six noticeable gaps in the walls: one at the northwest end of the house measuring 2.2 metres in width, three along the north facing wall measuring approximately 2.4 metres, 2.3 metres, and 2.8 metres in width respectively, one at the southeast end of the house measuring approximately 1.4 metres and one along the south facing wall of the house measuring approximately 1.9 metres in width. Some of these gaps may have acted as doorways or entrances. Others may be a result of the use of less deeply sunk posts.

House 4 contained one hearth (Feature 23) and two pits (Features 13 and 24) (Table 6). Most of the feature and post activity throughout the house was confined to the central corridor.



Figure 6: Orion Site - House 4

Numerous small interior posts were recorded in the house with one cluster located in the central corridor approximately two metres east of the house's only hearth (Feature 23). Such post mould patterns were likely produced through the repeated insertion of stakes around fire to facilitate cooking or for other food processing activities. A second linear cluster of posts was located at the northern end of the house. This space may have been used for above ground storage.

Table 6:	Fable 6: House 4 Summary Description of Features											
Site	Feature	Feature	Dimension		Plan Shape	<b>Profile Shape</b>	Fill Composition					
Context	Number	Туре	(cm)									
			L	W	D							
H04	13	pit	42	15	11	ovate	shallow basin	Homogeneous dark brown soil				
H04	23	hearth	148	88	24	ovate	shallow basin	Lense of dark yellow brown soil				
								(10YR4/6) mottled with charcoal				
H04	24	pit	108	68	14	rectanguloid	shallow basin	Very dark grey soil (10YR3/1) mottled				
		_						with subsoil and charcoal				

# 3.2.5 House 5

House 5 was located in the western-most part of the site approximately 9.3 metres west of House 1 (Figure 2). It had a maximum length of 41.8 metres and a maximum width of 8.0 metres, providing for an enclosed area of approximately  $308 \text{ m}^2$ , and was oriented  $183^\circ$  east of north (Figure 7).

The house walls were formed by both single row and paired posts. The northwestern end was not well defined but appears to have had a rounded end with short tapers. There is a row of large posts that bisects the house diagonally at the northern end at the point where the west wall is poorly defined. The southern end was rounded with short tapers.

House 5 contained eight pits (Table 7). Most of the feature and post activity throughout the house was confined to the central corridor.

Numerous small interior posts were recorded throughout the house's central corridor, including a small cluster in the middle of the house. None of these posts were associated with a hearth that had survived plough disturbance.

Table 7: I	House 5 Sur	nmary Descripti	ion of F	Feature	s			
Site	Feature	Feature	Dime	ension		Plan Shape	<b>Profile Shape</b>	Fill Composition
Context	Number	Туре	(cm)					
			L	W	D			
H05	84	support post	22	22	32	circular	no profile	Homogeneous dark brown soil
H05	85	pit	142	87	32	ovate	shallow basin	Brownish black soil (10YR2/1)
								mottled with subsoil fire reddened soil and charcoal
H05	86	pit	92	87	16	circular	shallow basin	Dark brown soil mottled with subsoil and charcoal
H05	87	pit	66	42	10	ovate	shallow basin	Dark brown soil (10YR3/2) mottled
								with subsoil and charcoal
H05	88	pit	114	72	20	OA	shallow basin	Brownish black soil (10YR2/1)
								mottled with subsoil and charcoal
H05	89	pit	52	35	14	ovate	shallow basin	Dark brown soil (10YR3/2) mottled
								with subsoil and charcoal
H05	90	pit	50	34	15	ovate	shallow basin	Dark brown soil (10YR3/2) mottled
								with subsoil and charcoal
H05	91	pit	140	93	26	ovate	shallow basin	Very dark grey soil (10YR3/1)
								mottled with subsoil and charcoal
H05	92	pit	37	24	19	ovate	deep basin	Brownish black soil (10YR2/1)
					-			mottled with subsoil and charcoal



Figure 7: Orion Site - House 5

# 3.2.6 House 6

House 6 was located approximately 7.9 metres east of and parallel to House 3 (Figure 2). It had a maximum length of 42.8 metres and a maximum width of 7.9 metres, providing for an enclosed area of approximately 317  $m^2$ , and was oriented 179° east of north (Figure 8).

The house walls were formed by both single row and paired posts. The house ends were rounded with short tapers. There were four noticeable gaps in the walls: one at the north end of the house, measuring 1.2 metres in width, and three along the western wall of the house measuring approximately 0.9 metres, 1.3 metres and 1.6 metres in width respectively. These gaps may have acted as doorways or entrances.

House 6 had one centrally aligned hearth (Feature 99) and 14 pits distributed throughout the interior (Table 8). Most of the feature and post activity throughout the house was confined to the central corridor. Numerous small interior posts were recorded in the vicinity of the house's central features including a number of dense clusters along the central corridor. These likely represent the former locations of other hearths.

Exterior Activity Area 3 was located on the west side of the house, between House 6 and House 3 (Table 9).

Table 8: I	Table 8: House 6 Summary Description of Features												
Site	Feature	Feature	Dime	nsion		Plan Shape	<b>Profile Shape</b>	Fill Composition					
Context	Number	Туре	(cm)										
			L	W	D								
H06	45	support post	33	29	24	ovate	no profile	Dark brown soil mottled with subsoil					
H06	48	Pit	168	50	21	irregular	shallow basin	Homogeneous dark brown black					
H06	51	Pit	80	53	17	rectanguloid	skewed	Greyish brown soil mottled with subsoil					
H06	52	Pit	100	78	20	ovate	shallow basin	Dark yellowish brown soil mottled with charcoal					
H06	54	Pit	45	55	13	ovate	shallow basin	Dark greyish brown soil mottled with subsoil					
H06	58	Pit	183	103	41	ovate	shallow basin	Dark brown black soil mottled with charcoal					
H06	61	Pit	51	46	24	circular	skewed	Dark brown soil mottled with subsoil and ash					
H06	62	Pit	50	37	14	ovate	shallow basin	Dark brown soil mottled with subsoil					
H06	63	Pit	240	85	46	other	shallow basin	Dark brown soil mottled with subsoil and charcoal					
H06	64	Pit	108	57	19	ovate	skewed	Dark brown soil mottled with subsoil, fire reddened soil and charcoal					
H06	67	pit	52	52	10	circular	shallow basin	Very dark grey soil (10YR3/1) mottled with subsoil and charcoal					
H06	68	support post	41	32	51	ovate	no profile	Dark brown soil mottled with subsoil and charcoal					
H06	69	pit	75	45	33	ovate	deep basin	Dark brown soil mottled with subsoil and charcoal					
H06	70	pit	71	64	28	ovate	shallow basin	Black soil mottled with charcoal					
H06	71	pit	51	50	39	ovate	deep basin	Lense 1: Ash mottled with charcoal Lense 2: Dark soil mottled with charcoal, subsoil, and ash Lense 3: Subsoil mottled with dark brown soil and charcoal					
H06	72	pit	152	70	21	irregular	deep basin	Dark brown soil mottled with subsoil and charcoal					
H06	73	wall trench	148	21	21	linear	irregular	Dark brown soil mottled with charcoal					
H06	99	hearth	114	125	30	ovate	shallow basin	Dark brown soil mottled with subsoil and yellowish red soil (5YR4/6)					



Figure 8: Orion Site - House 6 and EA 3

# **3.3 EXTERIOR ACTIVITY AREAS**

Five large exterior activity areas (EA) were defined within which 19 features (19% of all features, Table 9) were discovered in open-air contexts (Figure 2).

EA1 was located northeast of House 2 and southeast of House 4. This activity area comprised seven post moulds, one pit, and one hearth (Figure 4).

EA2 and EA3 were the largest and most feature rich activity areas located on the site (Figure 2). EA2 was located between Houses 1 and 3. Eight pits and several small posts were documented in this activity area. EA3 was located between Houses 3 and 6. Several small post moulds, five pits, and one small hearth were uncovered in this activity area.

EA4 was located to the south and east of House 6. This activity area was similar in size to EA1 and EA5. Although no post moulds were uncovered in EA4, this activity area contained three pit features.

EA5 was located just north of House 5 at the western edge of the site. Unlike the other four activity areas, EA5 was defined by nine small to medium post moulds.

Many routine tasks seem to have been performed both within and outside of the houses suggesting that the site was occupied during the warm season if not on a year-round basis.

Table 9: 1	Table 9: Exterior Activity Area Summary Description of Features												
Site	Feature	Feature	Dimens	ion (cm	)	Plan Shape	<b>Profile Shape</b>	Fill Composition					
Context	Number	Туре											
			L	W	D								
EA1	1	Pit	167	50	45	rectangular	irregular	Dark brown soil mottled with subsoil and charcoal					
EA1	14	hearth	51	29	9	ovate	shallow basin	Subsoil mottled with yellowish red soil					
EA2	25	pit	165	67	20	ovate	shallow basin	Dark brown soil mottled with subsoil and charcoal					
EA2	26	pit	220	32	19	ovate	shallow basin	Dark brown soil mottled with subsoil and charcoal					
EA2	28	pit	120	38	21	ovate	shallow basin	Dark brown soil mottled with charcoal					
EA2	29	pit	262	140	28	ovate	shallow basin	Homogeneous dark brown black and charcoal					
EA2	30	pit	39	21	9	ovate	shallow basin	Dark brown soil mottled with subsoil					
EA2	31	pit	99	52	16	rectangular	shallow basin	Dark brown soil mottled with subsoil and charcoal					
EA2	32	pit	80	50	21	ovate	shallow basin	Dark brown soil mottled with subsoil and charcoal					
EA2	37	pit	39	27	13	ovate	flat-bottomed	Dark brown soil mottled with subsoil and charcoal					
EA3	46	pit	133	60	48	ovate	shallow basin	Dark brown soil mottled with fire reddened soil, subsoil and charcoal					
EA3	47	pit	72	33	27	irregular	irregular	Dark greyish brown soil mottled with charcoal					
EA3	50	hearth	72	66	10	circular	shallow basin	Yellow brown soil (5YR4/6) mottled with fire reddened soil, subsoil and charcoal					
EA3	55	pit	238	80	20	irregular	shallow basin	Dark brown soil mottled with subsoil and charcoal					

Site Context	Feature Number	Feature Type	Dimension (cm)		Plan Shape	<b>Profile Shape</b>	Fill Composition	
		- 5 F -	L	W	D			
EA3	56	pit	175	52	29	irregular	shallow basin	Very dark brown soil (10YR2/2) mottled with subsoil and charcoal
EA3	59	pit	52	18	16	irregular	irregular	Very dark brown soil (10YR2/2) mottled with subsoil and charcoal
EA4	74	pit	63	46	32	ovate	irregular	Dark brown soil mottled with fire reddened soil, subsoil and charcoal
EA4	75	pit	122	80	33	irregular	shallow basin	Dark brown soil mottled with subsoil and charcoal
EA4	76	pit	190	75	19	irregular	irregular	Dark brown soil mottled with subsoil and charcoal

Table 9: Exterior Activity Area Summary Description of Features

#### 4.0 CERAMIC ARTIFACTS by Robert Wojtowicz

#### 4.1 INTRODUCTION

A total of 776 ceramic artifacts (Table 10) were recovered from the site. The sherds form portions of vessel rims, neck, shoulder, and body fragments individually or in various combinations (Appendix 1 and 2). The ceramic vessel assemblage consists of 33 rims, 14 rim fragments, 56 neck sherds, 26 neck and shoulder sherds, 23 shoulder sherds, 416 body sherds, and 198 unanalyzable sherds. The ceramic smoking pipe assemblage consists of five bowl fragments and five stem and elbow fragments.

Of the 416 body sherds recovered, nine show evidence of decoration or surface treatment in the form of smoothed over ribbed paddle (n=7), smoothed over check stamped (n=1), and red ochre slip (n=1).

Table 10: Orion Site Ceramics Artifacts		
Ceramic Artifacts	n	%
Body Sherds	416	53.6
Unanalyzable Sherds*	198	25.5
Neck Sherds	56	7.2
Rims	33	4.3
Shoulder and Neck Sherds	26	3.4
Shoulder Sherds	23	3.0
Unanalyzable Rim Fragments	14	1.8
Pipe Bowl Fragments	5	0.6
Pipe Stem and Elbow Fragments	5	0.6
Total	776	100

\*All sherds smaller than a 25 mm were considered to be unanalyzable

#### 4.1.1 Vessel Rims

Forty-seven rim and rim fragments were recovered forming portions of 26 identifiable vessels. Rims were considered analyzable if they exhibited interior and exterior surfaces, a lip, and sufficient exterior collar-neck area to ascertain decorative styles and attributes. The vessel rims were analysed using both an attribute and a traditional typological approach. Summary descriptive statistics of individual attributes and metrics are presented in Table 11.

Collar development is predominantly well defined (88.5%) among these vessel rims. Incipient collared forms constitute 7.7% of the assemblage with one collarless vessel. Lip forms are predominantly flat (92.3%), with rounded and pointed lip forms identified on one vessel each. The angle of the lip to the interior is obtuse (42.3%), 90 degrees (30.8%), or acute (26.9%). All vessels exhibit an outflaring rim orientation.

The interior collar profiles of the vessels are concave (50.0%), straight (30.8%), and convex (19.2%). The exterior profiles of the vessels are straight (50%), convex (30.8%), and concave (19.2%). Collar base shapes are either angular (76%) or rounded (24%).

The collar heights in this assemblage (excluding four rims identified as Lalonde High Collared) range between 8.9 mm and 46 mm with a mean height of 13.8 mm and a standard deviation of 2.45. The Lalonde High Collared collar heights range between 29.1 mm and 91.3 mm with a mean height of 56.5 mm. Lip widths range between 2 mm and 11.3 mm with a mean width of 5.2 mm and a standard deviation of 2.45. Basal collar widths range between 6.2 mm and 22.9 mm with a mean of 12.4 mm and a standard deviation of 5.44.

The three most common collar decorative motifs are simple (61.5%), opposed over horizontal (7.7%), oblique and horizontal (7.7%), and horizontal (7.3%).

Incising and linear stamping are the predominant collar decorative techniques (34.6% for each technique). Complex techniques incorporating various combinations of incising, linear stamping, and smoothing (plain) occur on the remaining 30.5% of the collar sample.

Neck sherds are predominantly plain (42.3%), or display decorative motifs characterized by oblique (23.1%) or horizontal markings (15.4%). Less common neck motifs include oblique over horizontal (7.7%), opposed (7.7%) and, oblique over oblique (3.8%).

The most common neck techniques are plain (42.3%) and incised (26.9%). In descending order, the remaining neck techniques are: linear punctate (19.2%), linear punctate over incised (3.8%), linear stamp over incised (3.8%) and linear stamp over linear stamp (3.8%).

Table 11: Orion Site Ceran	nic Ve	ssel Rim	Descriptive Attributes					
Rim Form	n	%	Lip Form	n	%	Angle of the Lip to the	n	%
Collared	24	88.5	Flat	24	92.3	Interior		
Incipient Collared	2	7.7	Pointed	1	3.8	Obtuse	11	42.3
Collarless	1	3.8	Rounded	1	3.8	Right	8	30.8
Total	26	100.0	Total	26	100.0	Acute	7	26.9
						Total	26	100.0
<b>Rim Orientation</b>	n	%	Interior Profile	n	%			
Outflaring	26	100.0	Concave	13	50.0	<b>Exterior Profile</b>	n	%
Total	26	100.0	Straight	8	30.8	Straight	13	50.0
			Convex	5	19.2	Convex	8	30.8
			Total	26	100.0	Concave	5	19.2
Collar Motifs	n	%				Total	26	100.0
Oblique	14	53.8	Collar Technique	n	%			
Opposed over Horizontal	2	7.7	Incised	9	34.6	Collar Base Shape	n	%
Vertical	2	7.7	Linear stamped	9	34.6	Angular	19	76.0
Oblique and Horizontal	2	7.7	Incised over incised	2	7.7	Rounded	6	24.0
Opposed	-	3.8	Incised and incised	- 1	3.8	Total	25	100.0
Plain	1	3.8	Plain	1	3.8			
Oblique crossed by	1	3.8	Incised and Linear Stamp	1	3.8			
Oblique	-	510			210			
Oblique and Plain and Vertical	1	3.8	Linear Stamped and Incised	1	3.8			
Horizontal over Opposed over Horizontal	1	3.8	Incised and Plain and Linear Stamp	1	3.8			
Opposed over Horizontal	1	3.8	Incised over Incised over	1	3.8			
crossed by Vertical			Incised					
Total	26	100.0	Total	26	100.0			
Neck Motif	n	%	Neck Technique	n	%			
Plain	11	42.3	Plain	11	42.3			
Oblique	6	23.1	Incised	7	26.9			
Horizontal	4	15.4	Linear Punctate	5	19.2			
Oblique over Horizontal	2	7.7	Linear Punctate over Incised	1	3.8			
Opposed	2	7.7	Linear Stamp over Incised	1	3.8	Lip Width (n=26)		
Oblique over Oblique	1	3.8	Linear Stamp over Linear Stamp	1	3.8	Mean	5.23	
Total	26	100.0	Total	26	100.0	Range	2-11.3	
						Standard Deviation	2.45	
Interior motif	n	%	Interior technique	n	%			
Plain	22	84.6	Plain	22	84.6			
Oblique	4	15.4	Linear Punctate	3	11.5	Collar Height (n=22)		
Total	26	100.0	Finger Nail	1	3.8	Mean	13.8	
			Total	26	22.0	Standard Deviation	1.98	
						Range	8.9-46	
Lip Motif	n	%	Lip Technique	n	%	c		
Plain	23	92.0	Plain	23	92.0	Basel Collar Width (n=	=26)	
Oblique	1	4.0	Linear Stamped	1	4.0	Mean	12.36	
Punctate	1	4.0	Punctate	1	4.0	Range	6.2-22.9	
Total	25	100.0	Total	25	100.0	Standard Deviation	5.44	

The vessel interiors are predominantly plain (84.6%). Three vessels (11.5%) display linear punctate oblique and one exhibits fingernail-impressed oblique.

The majority of the vessel lips are plain (92%). One vessel exhibits a decorative motif of linear stamped oblique and an additional vessel exhibits a single horizontal row of annular punctates.

Table 12 provides an overview of specific ceramic vessels as described by MacNeish (1952). The typological approach used in the analysis of the Late Iroquoian material in Ontario is based on MacNeish (1952), Ripley (1952), Wright (1966), and Emerson (1968). MacNeish in his study of Iroquoian pottery types described a type as "a class or group of objects having interrelated similar features or modes that have a temporal or spatial significance" (1952:2). Thus, this approach uses the attributes of neck and collar motifs and rim shape to construct classificatory types based upon the assumption that sets of combined attributes (type) represented a style in the mind of the potter. These were thought, in turn, to reflect trends in time and space in which similarities and

Table 12: Orion Site Cerami	Table 12: Orion Site Ceramic Vessel Types								
Туре	n	%							
Black Necked	7	26.9							
Huron Incised	5	19.2							
Lalonde High Collar	4	15.4							
Lawson Incised	3	11.5							
Lawson Opposed	2	7.7							
Sidey Notched	1	3.8							
Pound Neck	1	3.8							
Pound Blank	1	3.8							
Ripley Plain	1	3.8							
Copeland Incised	1	3.8							
Total	26	100.0							

differences in frequencies of types between assemblages might relate to identity and chronological placement (Wright 1966:17). Subsequent criticisms of typological studies (e.g., Ramsden 1977: 16-18; Smith 1997) have questioned the simplistic methodology and inadequate sample used in the original definitions of types. Indeed, many Ontario researchers have recognized the advantages of attribute analysis in providing for more detailed and comparative descriptions of assemblages. Nevertheless, it remains useful to report on the frequencies of types in assemblages for comparative purposes (if one provides an accurate account of each type). To accomplish this, key attributes of variability for each type are described.

# 4.1.2 Black Neck

The Black Neck ceramic type comprises 26.9% of the vessel assemblage. 85.7% of the vessels display a convex or straight interior profile. Secondary decoration is limited to one specimen that displays an interior motif of single row fingernail-impressed obliques. Black Neck vessels recovered from the Orion site predominantly exhibit neck motifs of oblique over horizontal, opposed or obliques (Table 13 and Plate 1).

Two of the Black Neck vessels exhibit neck motifs of horizontals that are considered to be the earliest examples of the Black Neck type; a derivation from the Pound Neck type (Lennox and Kenyon 1984: 16).

Table 13:Orion Site Black Neck Variability											
Rim Form	Collar Motifs	Neck Motif	n	%							
Collared	Oblique	Oblique over Horizontal	2	28.6							
Incipient collared	Oblique	Horizontal	1	14.3							
Collared	Oblique	Horizontal	1	14.3							
Collared	Oblique	Opposed	1	14.3							
Collared	Oblique	Oblique over Oblique	1	14.3							
Collared	Oblique crossed by Oblique	Oblique	1	14.3							
Total			7	100.0							

# 4.1.3 Huron Incised

Five vessels are typed as Huron Incised. 80.0% of these vessels display straight or convex interior profiles. All vessels exhibit a simple collar motif of obliques or verticals, while two vessels have a neck motif of a single

band of linear punctate obliques. Secondary decoration appears on one vessel as interior linear stamped obliques (Plate 2).



#### 4.1.4 Lalonde High Collared (LHC)

Four vessels, representing 15.4% of the assemblage, are identified as Lalonde High Collared. All vessels exhibit a concave interior profile on a well-defined high collar that ranges in height from 29.1 to 91.3 mm. The vessels display a collar motif of either a horizontal line below or between an opposed motif (Table 14 and Plate 3).

Vessel 15 (V15) exhibits a unique combination of Black Neck and LHC traits; the collar has an opposed motif over a horizontal line. While generally LHC vessels have a plain neck, V15 exhibits a classic opposed motif, a trait most commonly associated with the Black Neck type. This may represent a form of overlap between the two types.

Table 14: Orion Site Lalonde High Collar Variability											
<b>Rim Form</b>	<b>Collar Height</b>	Collar Motifs	Neck Motif	n	%						
Collared	37.6	Opposed over Horizontal	Opposed	1	25.0						
Collared	29.1	Opposed over Horizontal crossed by Vertical	Plain	1	25.0						
Collared	91.3	Opposed (over Horizontal?)	Plain	1	25.0						
Collared	68.2	Horizontal over Opposed over Horizontal	Plain	1	25.0						
Total				4	100.0						



Plate 3: Examples of Lalonde High Collar ceramic vessels: #1031:V15 (a); 460-205:V25 (b)

## 4.1.5 Lawson Incised

The three Lawson Incised vessels recovered from the site all exhibit concave interiors with a motif of obliques on a well-defined collar. Neck motifs are limited to two vessels both of which exhibit a single row of linear punctate oblique. Secondary decoration appears on one specimen as interior linear punctate obliques (Plate 4).



Plate 4: Example of Lawson Incised ceramic vessel: #1017



Plate 5: Example of Lawson Opposed ceramic vessel: #1022:V9

# 4.1.6 Lawson Opposed

Two vessels are classified as Lawson Opposed. One vessel (V9) exhibits an opposed motif on a developed collar with secondary lip decoration consisting of a single band of punctates (Plate 5). The second vessel typed as Lawson Opposed (V22) exhibits a collar motif of obliques and horizontals on an incipient collar measuring 46 mm in height.

# 4.1.7 Sidey Notched

One vessel is identified as Sidey Notched, as it displays a motif of obliques on a developed collar with a convex interior profile. Secondary decorations appear as linear punctate obliques on the interior and linear stamp obliques on the lip.



Plate 6: Example of Pound Neck (#1019:V3 [a]), and Pound Blank (#1025 [b]) ceramic vessels

# 4.1.10 Ripley Plain

The single example of Ripley Plain recovered from the site shows no decoration on a rolled collarless rim.

# 4.1.11 Copeland Incised

One Copeland Incised type recovered from the site displays a motif of obliques and horizontals on a welldeveloped channelled collar with a single row of linear punctate obliques on the neck (Plate 7).

# 4.1.8 Pound Neck

One Pound Neck type vessel exhibits verticals on a developed channelled collar with horizontals on the neck (Plate 6a).

# 4.1.9 Pound Blank

The one Pound Blank type recovered from the site exhibits a collar motif of obliques with alternating sections of plain and verticals on a developed channelled collar with horizontals on the neck (Plate 6b).



Plate 7: Example of Copeland Incised ceramic vessel: #1023 (a); #1024 and #1018 (b)

# 4.1.12 Castellations

Complete or partial castellations were identified on five of the 26 vessels in this assemblage and on two unidentifiable rim fragments. Table 15 identifies basic castellation shapes and collar motifs followed by a brief description of each castellation.

Table 15: Orion Site Basic Castellation Data														
Cast Lip Form Shape	n	%		Collar Motif	n	%								
Pointed	4	57.1		Oblique	2	28.6								
Turret	1	14.3		Indeterminate	2	28.6								
Nubbin	1	14.3		Oblique over Plain over Oblique	1	14.3								
Indeterminate	1	14.3		Oblique, Vertical over Punctate	1	14.3								
Total	7	100.0		Vertical	1	14.3								
				Total	7	100.0								

Vessel 8 (Pound Necked) has one complete pointed castellation. The castellation is developed and overhanging. The interior and lip are plain. The collar motif at the apex of the castellation consists of incised obliques.

Vessel 16 (Black Neck) has a complete turret castellation. The interior and lip are plain on the turret while the collar motif at the apex of the castellation consists of incised obliques.

Vessel 21 (Copeland Incised) has one complete pointed castellation. The interior and lip are plain. The collar motif at the apex of the castellation consists of linear stamped obliques and verticals over oval punctates.

Vessel 22 (Lawson Opposed) has a partial castellation with an indeterminate shape. The collar motif changes as it approaches the castellation. The collar motif at the apex of the castellation consists of obliques over plain over obliques. The interior and lip are plain.

Vessel 25 (Lalonde High Collared) has one complete nubbin castellation. The motif below the castellation is a simple incised vertical line. The lip and the interior are plain.

Rim fragment #1004 (1989 Controlled Surface Collection) consists of a partial pointed castellation. The interior and lip are plain. The motif on the castellation fragment consists of incised obliques on a short collar.

Rim fragment #1005 (1989 Controlled Surface Collection) is a complete castellation; however, only the top of the rim can be analyzed. The recognisable attributes include a rolled rim with a pointed castellation and a plain interior and lip. The visible collar motif consists of obliques crossed by one, possibly two, horizontal lines.

# 4.1.13 Shoulder Sherds

Forty-eight shoulder sherds were recovered from the site (Table 16). The predominant shoulder shape is rounded (95.8%) and two shoulders are carinated. Twenty-eight (64.6%) of the shoulder sherds are decorated. The predominant decorations appearing on both rounded and carinated shoulder types are obliques and verticals (58.4%). One shoulder was identified with a complex motif (specimen #1204), consisting of alternating triangular panels with incised oblique and plain bounded by punctates. It was recovered from Feature 70 in House 6.

Table 16: (	Drion Site Shoulder Decorations and Ty	ypes		
Sherd Type	e Decoration (Technique)	Shoulder Type	n	%
Shoulder	Oblique (Linear Punctate)	Rounded	19	39.6
Shoulder	Plain (Plain)	Rounded	16	33.3
Shoulder	Oblique (Linear Stamped)	Rounded	5	10.4
Shoulder	Vertical (Linear Stamped)	Rounded	2	4.2
Shoulder	Complex Motif	Rounded	1	2.1
Shoulder	Horizontal (Incised)	Rounded	1	2.1
Shoulder	Horizontal (Incised) over Oblique	Rounded	1	2.1
	(Linear Punctate)			
Shoulder	Vertical (Linear Stamped)	Carinated	1	2.1
Shoulder	Oblique (Linear Stamped), Slightly	Rounded	1	2.1
	Angular			
Shoulder	Plain (Plain)	Carinated	1	2.1
Total			48	100.0

# 4.2 JUVENILE CERAMICS

Juvenile ceramics are restricted to two identifiable rim sherds (Appendix 1). Juvenile Vessel 1 (V1) is identified as a plain collarless vessel with a rounded lip and convex exterior. Juvenile Vessel 2 (V2) has a plain incipient collared vessel with a straight interior profile. Both vessels are crudely made with uneven surfaces and no formal decoration.

#### 4.3 INTER-SITE COMPARISON

The limited ceramic sample from a site the size of Orion makes substantial inter-site comparisons difficult. By employing ceramic attribute chronological trends established by Ramsden (1977), the Orion site would be classified as a Late Ontario Iroquoian site dating to approximately the first half of the fifteenth century. The temporal position of ceramic vessels from the Orion site in comparison with the Late Ontario Iroquoian Murphy-Goulding site (AlGu-3), which also dates to the first half of the fifteenth century, displays a general similarity in ceramic types especially those assigned to later building periods at Murphy-Goulding (ASI 1998) (Table 17). The absence of the Lalonde High Collar type at the Murphy-Goulding site and the presence of this type at the Orion site would normally place into question the establishment of the close ceramic affiliation between these two sites, although as discussed in Section 9, these two sites may represent opposite ends of a single large settlement. The two components may be somewhat distinct either in terms of their socio-political relationships or in chronological terms. 4.6% of the rims from Murphy-Goulding exceeded 30 mm in height; two of the four "high collared" rim forms were assigned to the Pound Blank type, and two to the Lawson Opposed type due to their respective collar motifs.

Table 17: Ceramic Vessel Types									
Murphy-Goulding site Ceramic	e Vessel T	Orion site Ceramic Vess	Orion site Ceramic Vessel Types						
Туре	n	%	Туре	n	%				
Black Neck	15	27.3	Black Neck	7	26.9				
Lawson Opposed	9	16.4	Lawson Opposed	2	7.7				
Huron Incised	8	14.5	Huron Incised	5	19.2				
Pound Neck	7	12.7	Pound Neck	1	3.8				
Aberrant	5	9.1	Lalonde High Collar	4	15.4				
Pound Blank	4	7.3	Pound Blank	1	3.8				
Warminster Crossed	3	5.5	Sidey Notched	1	3.8				
Lawson Incised	2	3.6	Lawson Incised	3	11.5				
Seed Incised	1	1.8	Ripley Plain	1	3.8				
Middleport Oblique	1	1.8	Copeland Incised	1	3.8				
Total	55	100	Total	26	100				

Table 18 outlines ceramic vessels by type recovered within features. Unfortunately, the intra-house sample is not substantive enough to be used for any meaningful interpretations on chronology or site sequence.

Table 18: Orion Site Ceramic Ty	oology By Pr	rovenience Unit
Provenience	Feature	Туре
Exterior Activity Area 1	1	Huron Incised
Exterior Activity Area 1	1	Huron Incised
Exterior Activity Area 1	1	Lawson Opposed
Exterior Activity Area 1	1	Ripley Plain
Exterior Activity Area 1	1	Black Neck
Exterior Activity Area 2	29	Black Neck
House 1	20	Pound Neck
House 1	20	Huron Incised
House 1	20	Lalonde High Collar
House 1	20	Black Neck
House 1	20	Copeland Incised
House 1	20	Lawson Opposed
House 1	20	Lawson Incised
House 1	20	Lalonde High Collar
House 3	PM 35	Huron Incised
House 3	77	Huron Incised
House 3	PM 35	Black Neck
House 3	77	Black Neck
House 3		Black Neck
House 4	PM	Lawson Incised
House 4	PM 2	Pound Blank
House 5	91	Lalonde High Collar
House 6	52	Black Neck
House 6	63	Lalonde High Collar
Surface		Sidey Notched
Surface		Lawson Incised

#### 4.4 CERAMIC SMOKING PIPE ASSEMBLAGE

The ceramic smoking pipe assemblage consists of ten specimens: two identifiable bowls, three partially analyzable fragments, and five stem and elbow fragments (Table 19). The following is a discussion of the attribute and metric analyses, as well as a brief overview of the intra-site distribution of identifiable fragments.

Table 19: (	Orion Site Ceramic Smoking Pip	e Inventory
Cat #	Provenience	Description
1214	460-205 F20, Q1, House 1	Unidentifiable effigy, legs of squatting human on the stem portion of the effigy, smoothed
1213	460-205 F20, Q1, House 1	Plain pipe stem fragment, smoothed
1206	460-205 F20, Q3, House 1	Plain elbow fragment., smoothed
1209	460-205 F20, Q2, L2 and 3, House 1	Decorated barrel bowl, convex interior with a flat lip, 5 incised horizontals over single row punctates, min. bowl ht. 42.6 mm, lip 2.6 mm, bowl rim exterior dia. 38.1 mm, interior rim dia. 32.1 mm, burnished
1208	485-210 PM10, House 3	Plain, tapered pipe stem fragment, min length 51.1mm, bore hole dia. 3.8 mm smoothed
1210	475-215 F81, House 3	Plain unidentifiable bowl? Bowl rim flaked, min. bowl ht. 54.6 mm, bowl rim exterior dia. 38.1 mm, interior rim dia. 29.1 mm, burnished
1211	470-180 PM7, House 5	Plain trumpet, rounded lip, with red ocher slip, min. bowl ht. 65 mm, lip 5.4 mm, bowl exterior rim dia. 48.1 mm, interior rim dia. 30.1 mm, burnished
1212	485-225 F63, House 6	Unidentifiable effigy, exterior surface incised and raised, smoothed
1207	F58, House 6	Plain stem fragment, smoothed
1205	475-235 PM20, House 6	Plain tapered pipe stem frag with red ocher slip, min. length 71.2mm, bore hole dia. 3.7mm burnished.

#### 4.4.1 Pipe Bowls

Non-effigy pipe bowls consist of three individual trumpet, barrel, and unanalyzable bowls. The plain trumpet pipe (Cat. #1211) has an exterior bowl diameter of 48.1 mm with a flared, rounded lip. The surface of the trumpet pipe is burnished and shows traces of a red ochre slip. The barrel bowl (Cat. #1209) has a convex interior with a flat lip and an exterior diameter of 38.1 mm. The bowl decoration consists of five horizontal incised lines over a single row of punctates. Both pipes are characteristically large with an average bowl height of 54.1 mm. The unanalyzable bowl fragment (Cat. #1210) exhibits a plain, burnished surface where the circumference of the bowl rim appears to have been intentionally flaked, possibly as a prelude to being ground down for further use.

The two remaining bowl fragments could not be completely analyzed. Specimen 1214 is possibly a human effigy showing the legs of a squatting human at the base of the bowl blending into the pipe. Specimen 1212 exhibits a modelled and incised exterior surface.

#### 4.4.2 Pipe Stem and Elbow Fragments

Stem fragments recovered from the site consist of two burnished tapered stems with mouthpieces. The borehole diameters measure 3.8 mm and 3.7 mm repectively. One pipe stem (Cat. #1205) exhibits traces of a red ochre slip. The remaining three fragments (two stems and one elbow) are smoothed with no identifiable formal attributes.



Plate 8: Pipe bowls: a- Trumpet (#1211); b- Barrel (#1209); c- Unanalyzable (#1210); d-Squatting human effigy (#1214); and e- Modelled (#1212)

# 4.4.3 Pipe Bowl Intra-Site Distribution

Both the squatting human effigy and the decorated barrel bowl were recovered from Feature 20, a semisubterranean sweat lodge located in House 1. The unanalyzable plain, flaked pipe bowl was recovered from House 3 and the trumpet pipe from House 5.

#### 5.0 FLAKED LITHIC ARTIFACTS

by Andrea Carnevale

A total of 16 flaked lithic artifacts were recovered from the surface collection survey. This sample includes 14 shatter fragments, one secondary knapping flake, and one chunk. All these lithic artifacts are Onondaga chert. Thermal alteration was recorded on two shatter fragments (CSC: L4), while retouch was evident on one secondary knapping flake (CSC: L3, Plate 9:a) and one piece of debitage (CSC: L2).

A total of 28 lithic artifacts consisting of formal and informal flaked tools as well as the by-products of stone tool manufacture was recovered during the Stage 4 excavation. The flaked stone artifacts include one formal tool (3.6% of the total lithic assemblage) and 27 pieces of debitage. A biface fragment (3.6%) was the only formal tool recovered from the site. The flaked lithic debitage recovered during the Stage 4 excavation is all Onondaga chert. Thermal alteration was identified on 4.5% of the flaked stone artifacts, while retouch was evident on 15.9% of the artifacts. A complete catalogue of all flaked lithic artifacts is presented in Appendix 3 (Table 20).

#### 5.1 **BIFACE**

One proximal end of an Onondaga chert biface was recovered from Unit 503-190 in House 2 (530-190: L23, Plate 9:b). It measures 14.81 x 16.34 x 4.31 mm in length, width and thickness respectively. It has been thinned and retouched along one lateral edge with step fracturing along the base.

#### 5.2 **CORES AND CHERT CHUNK**

Two chunks of chert were recovered from the site; one is Onondaga chert and the other is Balsam Lake chert. The first chunk (CSC: L1) was recovered from the surface collection survey while the second was recovered from Unit 490-210 in House 3 (490-210: L19). No cortex or thermal alteration is evident on either of these artifacts.

#### 5.3 DEBITAGE

The debitage consists of six secondary knapping flakes (13.6%) and 35 pieces of shatter (79.5%).

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Table 20: Orion Site Flaked Lithic Artit	facts	
Lithic Artifacts	n	%
Biface	1	2.3
Cores and Chunks	2	4.5
Secondary Knapping Flakes	6	13.6
Shatter	35	79.5
Total	44	100.0

Plate 9: Secondary knapping flake Cat. #L3 (a)

and biface Cat. #L23 (b).



# 6.0 GROUND STONE ARTIFACTS

by Martin Cooper

#### 6.1 INTRODUCTION

A total of 18 ground stone artifacts was recovered from the site (Table 21). These include five celt and celt fragments, eight hammers, two whetstones, two manos or grinding stones, and a single unidentifiable ground stone artifact. Two of the hammers also had a secondary use as a mano. Appendix 4 summarizes the metric and descriptive attributes of these artifacts.

Ten of the ground stone artifacts were recovered from house posts; seven of these were derived from a single wall post in House 1. It is likely that these were discarded items that were placed or wedged into the posts to provide added support.

# 6.2 CELTS

The five celt and celt fragments include two bit portions, two retouched fragments, and one unidentifiable fragment. All five items are chloride schist.

One celt (G2, Plate 10:a) consisted of a bit portion of small impact flake scars on its symmetrical bit. The dorsal surface was bevelled. Based on its symmetrical bit it likely functioned as an axe.

A second bit portion of a celt (G25, Plate 10:b) was asymmetric, suggesting an adze function. It had a transverse break, which is also suggestive of an adze function. The bit was battered suggesting a secondary use as a wedge.

Two reworked celt fragments include a longitudinal fragment (G1) retouched by grinding on both lateral margins and a spall flake (G3) from a bit that was resharpened. These reworked tools were likely used for cutting and/or scraping.

The unidentifiable ground stone fragment consists of a single fragment of chlorite schist with a small section of polished surface. This item likely originated from a celt.

Table 21: Orion Site Ground Stone Artifacts												
Artifact	n	%										
Celts	5	28%										
Hammers	8	44%										
Whetstones	2	11%										
Manos	2	11%										
Misc. ground stone	1	6%										
Total	18	100%										



Plate 10: Ground stone artifacts: celt fragments Cat. #G2 (a) and #G25 (b).

# 6.3 HAMMERS

Hammers consist of pebbles or cobbles with at least one working facet that usually exhibit pecking and/or grinding. Frequently, centrally placed depressions, pits or roughening is found on one or more of the hammer's surface; these depressions likely facilitated a secure grip of the hammer. These distinct hammers are often referred

to as bi-pitted anvil stones. Hammers were likely brought to the site or manufactured on site to be used in the initial reduction stages of biface manufacture.

A total of eight hammers were recovered, two of which were also used as manos. These hammers represent a variety of materials, including sandstone, gabbros, amphibolite, and granite cobbles.

Four of the hammers had centrally placed roughening on both surfaces to facilitate grip, while two hammers had grip roughening on one surface only. One of these had a natural grip depression on the opposing surface.

Hammer facets located on the lateral margins of the cobble ranged from single to multiple. Secondary grinding facets on two of the hammers indicate a secondary function as a mano. These were characterized by a flattened smooth surface on the hammer.

# 6.4 MANOS

In addition to the two hammers with secondary grinding surfaces discussed above, two manos or grinding stones were recovered. These were likely used for grinding vegetable material such as maize. Both manos exhibit one flat polished grinding surface. They are both formed from sandstone cobbles.

# 6.5 WHETSTONES

Two whetstones used for tool sharpening were recovered. One whetstone (G15) is a sandstone slab. The single working surface has been worked to a concave depression and contains several grooves that may have facilitated or were created by sharpening awls and honing axe bits. The second whetstone (G8) is a flat sandstone cobble. The single working surface is concave.

# 6.6 MISCELLANEOUS GROUND STONE

One miscellaneous ground stone fragment was recovered on the site. This single fragment of smoothed shale may have been modified culturally or naturally.

#### 7.0 PLANT REMAINS ANALYSIS by Stephen G. Monckton

## 7.1 INTRODUCTION

Soil samples were collected from features and midden areas and were analysed by Dr. Stephen Monckton of Bioarchaeological Research. These were all subject to the double bucket method of flotation using a 0.425 mm screen. Of these samples, 18 were analysed from 15 features representing a volume of 112 litres of soil. The analysis of these plant remains reveals that a considerable variety of both cultivated and wild plant species were utilized by the occupants of the settlement.

## 7.2 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 to separate the light fractions 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 that was 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.

# 7.3 RESULTS

A total of 18 samples was analyzed. In addition to 350 wood charcoal specimens (see Table 25), 414 components of plant remains (Table 22) and 342 seeds (Table 23) were recovered from 112 litres of soil. Seed frequencies ranged from 0-10 seeds per litre with an average of three seeds per litre. All major cultivated plant taxa (maize, tobacco, and sunflower) were present except for bean cucurbit. Non-cultigens (including a wide variety of fleshy fruits and greens) comprised the majority of plant taxa.

Cultigens comprised 23.4% of the seed sample, whereas fleshy fruits constituted 28.1%, green grain 7.0% of the sample, and the balance by other wild or unknown taxa collected (Table 23). The cultigens recovered include maize (*Zea mays*), tobacco (*Nicotiana* sp.), and sunflower (*Helianthus annuus*). Maize was the single most abundant cultigen represented by kernel, cob, and seed fragments (Table 22). A total of 289 maize kernel fragments, 34 cob fragments, and 50 seeds were recovered. No complete maize kernels or cobs were encountered in the samples.

The non-cultigens included fleshy fruits such as bramble (*Rubus* sp.), strawberry (*Fragaria* sp.), cherry (*Prunus* sp.), elderberry (*Sambucus* sp.), hawthorn (*Crataegus* sp.), and nightshade (*Solanum* sp.). Other non-cultigens include greens/grains such as knotweed (*Polygonum* sp.), chenopod (*Chenopodium* sp.), and spikenard (*Nardostachys* sp.). Other taxa present include sumac (*Rhus* sp.), ironwood (*Ostrya* sp.), bush honeysuckle (*Diervilla* sp.), evening primrose (*Oenothera* sp.), sedum (*Sedum* sp.), utricularia (*Utricularia* sp.), small grass (*Poaceae* sp.), and thistle (*Asteraceae* sp.). Most of these taxa thrive in disturbed habitats today and would have been available to the people in the forest edge areas where there was less competition for light.

Analysis of the wood charcoal fragments revealed a familiar range of tree genre including, maple (Acer sp.), beech (*Fagus* sp.), ash (*Fraxinus* sp.), white oak (*Quercus alba*), red oak (*Quercus rubra*), elm (*Ulmus* sp.), ironwood (*Ostrya* sp.), wite pine (*Pinus* sp.), and unidentifiable conifer. Maple is dominant in the samples analyzed, followed by beech and white pine. Table 25 provides wood species data from the archaeological contexts.

Table 22: Orion Plant Remains Sample Components															
Feature	Context	Square	Level	Quad	Sample Volume (L)	Sample Weight (g)	Wood Charcoal Wt (g)	Maize Kernel Fragments (N)	Maize Kernel Fragments Wt (g)	Maize Cob Fragments (N)	Maize Cupules Wt (g)	Unidentified Remains (N)	Unidentified Remains Wt (g)	Total Sample N	Total Sample Wt (g) (incl. wood charcoal)
1	EA1	520-200			7	59.3	31.45	90	0.81	27	0.26	19	0.2	136	32.72
55	EA3	470-225			9	63.86	15.99	153	4	4	0.23	9	0.23	166	20.57
56	EA3	470-225			6	16.5	6.11					1	0.01	1	6.12
15	House 1	460-200			5	2.82	0.52					1	0.01	1	0.53
20	House 1	460-205	1	4	7	7.73	0.65	3	0.26					3	0.91
20	House 1	460-205	3	2	3	21.37	6.66	3	0.01			1	0.01	4	6.68
20	House 1	460-205	4	2	6	101.49	56.76	1	0.13			13	0.29	14	57.18
20	House 1	460-205	4	4	4	31.87	31.63	1	0.01			3	0.01	4	31.65
3	House 2	495-195			6	11.7	3.9							0	3.9
9	House 2	510-190			7	6.88	1.67					1	0.01	1	1.68
41	House 3	495-205			6	21.49	7.96	1	0.01	1	0.01	5	0.01	7	8.08
77	House 3	470-220			5	38.99	22.24	5	0.16			5	0.09	10	22.49
80	House 3	470-215			4	31.74	4.06	9	0.19			1	0.01	10	4.26
24	House 4	530-185			8	31.72	1.45	1	0.01			2	0.12	3	1.58
92	House 5	485-175			8	127.49	32.24	10	1.8	1	0.01	20	0.26	31	34.31
63	House 6	485-225			8	72.49	2.44	4	0.12			7	0.2	11	2.76
69	House 6	485-230			9	25.34	2.67	8	0.38	1	0.01	3	0.11	12	3.17
72	House 6	495-225			4	16.3	3.39							0	3.39
		Sum			112	689.12	231.80	289	8.01	34	0.52	91	1.66	414	241.99
	%					95.8	69.8	3.3	8.2	0.2	22.0	0.7	100.0	100.0	

# 7.3.1 Cultigens

Maize (*Zea mays*) is the most prominent cultigen recovered from Orion (Table 23). The bulk of the seed, kernel and cob fragments were recovered in EA3 (49.1% of the total maize seed, cob and kernel sample) and EA1 (32.7%). Of the maize recovered from EA3, all 49.1% (n=183) originated from Feature 55, a pit feature located between House 3 and House 6. Similarly, all maize recovered from EA1 (n=122) was recovered from Feature 1, a hearth located to the east of House 2.

Sunflower (*Helianthus annuus*) is usually the second most visible cultigen present in the archaeological record, usually due to the small but recognizable achene fragments. At Orion, 22 fragments were recovered, all from Feature 69 - a pit feature in House 6.

Tobacco (*Nicotiana* sp.), a relatively common cultigen at most Iroquoian sites, was the third and final cultigen recovered at Orion. A total of eight seeds were recovered; six from Feature 55 (pit feature) in EA3, one seed from Feature 1 (hearth feature) in EA1 and one from Feature 3 (pit feature) in House 2. Unfortunately,

quantification of this taxon is unreliable given the production of up to one million seeds per plant (Goodspeed 1954). It is, therefore, difficult to determine the degree to which the site inhabitants produced tobacco themselves as opposed to having received it by trade.

Very few tobacco seeds were recovered at Orion in comparison to sites such as Myers Road, a transitional Early to Middle Iroquoian site, where as many as 1,310 seeds were collected in a single refuse feature (Monckton 1998), or the historic period Auger site, where 161 seeds were recovered from a sheet midden sample (Monckton 1992: 68). Both of these examples possibly represent the deliberate burning of tobacco leaves (ASI 2005).

Tabl	e 23: Orion Pl	ant Remains C	ultigens	and Fl	eshy Fru	its									
Feature	Context	Square	Level	Quad	Maize	Sunflower	Tobacco	Bramble	Strawberry	Cherry	Elderberry	Hawthorn	Nightshade	Total Cultigen & Fruit Seeds	Total Seeds (Table 23 & 24)
1	EA1	520-200			5		1	19	1	1	2			29	68
55	EA3	470-225			26		6	14			3			49	92
56	EA3	470-225												0	0
15	House 1	460-200												0	0
20	House 1	460-205	1	4	2			1						3	4
20	House 1	460-205	3	2				4						4	7
20	House 1	460-205	4	2	1			11						12	35
20	House 1	460-205	4	4				5				1		6	12
3	House 2	495-195					1	6	1					8	9
9	House 2	510-190												0	9
41	House 3	495-205						1						1	1
77	House 3	470-220			1									1	4
80	House 3	470-215			1									1	1
24	House 4	530-185						3						3	6
92	House 5	485-175			11			5						16	20
63	House 6	485-225			1						1			2	2
69	House 6	485-230			2	22		1						25	45
72	House 6	495-225						13				2	1	16	27
		Sum			50	22	8	83	2	1	6	3	1	176	342
		%			14.6	6.4	2.3	24.3	0.6	0.3	1.8	0.9	0.3	51.5	100.0

# 7.3.2 Non-cultigens

Non-cultigens recovered include a wide range of fleshy fruits and other plant taxa (Table 24). Of the fleshy fruits, bramble (*Rubus* sp.) is the most abundant (n=83, 24.3% of the total seed assemblage), which is typical of virtually all Iroquoian sites examined. It is found in both EA1 (n=19) and EA3 (n=14), as well as all six houses (H1 n=21, H2 n=6, H3 n=1, H4 n=3, H5 n=5, and H6 n=14). The majority of the bramble seeds were found in a single feature; namely Feature 20, a sweat lodge in House 1 (n=21, 6.1% of the total seeds). Other taxa within this category include elderberry (*Sambucus* sp., n=6, 1.8%), hawthorn (*Crataegus* sp., n=3, 0.9%), strawberry (*Fragaria* sp., n=2, 0.6%), cherry (*Prunus* sp., n=1, 0.3%), and nightshade (*Solanum* sp., n=1, n=1, n=1).

0.9%), strawberry (*Fragaria* sp., n=2, 0.6%), cherry (*Prunus* sp., n=1, 0.3%), and nightshade (*Solanum* sp., n=1, 0.3%). Although not as numerous or widespread as bramble, these are also quite commonly represented in

Iroquoian villages and more detailed discussions of them can be found in Monckton (1992). These species of fleshy fruit were recovered in EA1, EA3, House 1, House 2, and House 6.

Taxa belonging to the greens and/or grains category are comparatively rare in the Orion assemblage. Knotweed seeds are the most common (n=15), and were recovered in EA1, House 1, House 2, and House 4. Other potential greens or grains include spikenard (n=6) and chenopod (n=3). These were recovered in EA1, EA3, House 1, and House 5. 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 any quantification difficult on the basis of seeds alone.

Other taxa recovered include sumac (*Rhus* sp.), ironwood (*Ostrya* sp.), bush honeysuckle (*Diervilla* sp.), evening primrose (*Oenothera* sp.), sedum (*Sedum* sp.), utricularia (*Utricularia* sp.), small grass (*Poaceae* sp.) and thistle (*Asteraceae* sp.), all of which are quite common on Iroquoian sites. Utricularia is the most abundant member represented of these taxa. A total of 18 seeds were recovered, all from Feature 69, a pit feature in House 6. This plant occurs in fresh water and marshy wet soil. It is a carnivorous plant often cultivated for its flowers. Similarly, all 14 thistle seeds were recovered in Feature 1, a hearth feature located in EA1. The balance of these taxa is represented by one to six seed specimens (Table 24).

Finally, the non-cultigen seed assemblage also comprises 39 unknown seed species and 56 unidentifiable seeds.

Tab	le 24: Orion	n Plant Rem	ains G	brains/	Grasse	es and	Other	Taxa												
Feature	Context	Square	Level	Quad	Knotweed sp.	Erect Knotweed	Chenopod	Spikenard	Sumac	Ironwood	Bush Honeysuckle	<b>Evening Primrose</b>	Sedum	Utricularia	Small Grass	Thistle	Unknown	Unident.	Total Grain/Grass & Other Seeds	Total Seeds (Table 23 & 24)
1	EA1	520-200			4	1		1	3	1						14	2	13	39	68
55	EA3	470-225					1	3									24	15	43	92
56	EA3	470-225																	0	0
15	House 1	460-200																	0	0
20	House 1	460-205	1	4											1				1	4
20	House 1	460-205	3	2													1	2	3	7
20	House 1	460-205	4	2	4			1			1	1			3		8	5	23	35
20	House 1	460-205	4	4														6	6	12
3	House 2	495-195																1	1	9
9	House 2	510-190			5													4	9	9
41	House 3	495-205																	0	1
77	House 3	470-220															3		3	4
80	House 3	470-215																	0	1
24	House 4	530-185				1			2										3	6
92	House 5	485-175					1		1									2	4	20
63	House 6	485-225																	0	2
69	House 6	485-230											2	18					20	45
72	House 6	495-225					1	1									1	8	11	27
		Sum			13	2	3	6	6	1	1	1	2	18	4	14	39	56	166	342
		%			3.8	0.6	0.9	1.8	1.8	0.3	0.3	0.3	0.6	5.3	1.2	4.1	11.4	16.4	48.5	100.0

# 7.3.2 Wood Charcoal

The remains of firewood and construction material provide information on the local environment and potentially on cultural preference in wood use. Tree taxa represented by wood charcoal include maple (Acer sp.), beech (*Fagus* sp.), ash (*Fraxinus* sp.), white oak (*Quercus alba*), red oak (*Quercus rubra*), elm (*Ulmus* sp.), ironwood (*Ostrya* sp.), white pine (*Pinus* sp.), unidentifiable conifer, as well as unknown charcoal specimens. The assemblage is dominated by maple (n=110) and beech (n=71) (Table 25). In this region, maple usually dominates most charcoal assemblages followed by either beech or ash (n=24) (Monckton 1992; 1994; 1998). White pine (n=29) and red oak (n=21) are also common.

It has been proposed that the firewood that ultimately entered in the archaeological record as wood charcoal was collected as 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 relatively unbiased sampling of available species.

Table 25: Orion Plant Remains Wood Charcoal																
Feature	Context	Square	Level	Quad	Maple	Beech	Ash	White Oak	Red Oak	Elm	Ironwood	White Pine	conifer	Unknown	Unident.	Total Wood
1	EA1	520-200			8	5				6	1	1			6	27
55	EA3	470-225			7	5					1	2	1		10	26
56	EA3	470-225			25											25
15	House 1	460-200														0
20	House 1	460-205	1	4	3	2									1	6
20	House 1	460-205	3	2	2	11	5					2			5	25
20	House 1	460-205	4	2			2					16	1		7	26
20	House 1	460-205	4	4	1							4	1		4	10
3	House 2	495-195			4	6			1		1				4	16
9	House 2	510-190			6	2	1		3						1	13
41	House 3	495-205			4	2		2	14			2			1	25
77	House 3	470-220			15	7	1				1				1	25
80	House 3	470-215			9	7	3				2	2			2	25
24	House 4	530-185			3	4			1		1				5	14
92	House 5	485-175			11	3	1		2		4				5	26
63	House 6	485-225			3	15	1			1	3				2	25
69	House 6	485-230			7	2	10								6	25
72	House 6	495-225			2								4		5	11
		Sum			110	71	24	2	21	7	14	29	7	0	65	350
		%			31.4	20.3	6.9	0.6	6.0	2.0	4.0	8.3	2.0	0.0	18.6	100.0

# 7.4 DISCUSSION

The inhabitants of the Orion site only cultivated two of four plant food staples – maize and sunflower – as well as tobacco, at least based on the archaeological evidence. Bean 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, cherry, elderberry, hawthorn, and nightshade. Greens and/or grains such as knotweed, chenopod, and spikenard are also contributors. Of the other plant taxa, utricularia is the most common indicating wet soil in close proximity to the site.

#### 8.0 ZOOARCHAEOLOGICAL REMAINS by Ann Balmer

## 8.1 INTRODUCTION

The primary purpose of the faunal bone identification was to determine the faunal classes represented at the Orion site, discover patterns of thermal alteration, and identify the presence of worked bone. The faunal assemblage from the Orion site consists of 177 specimens recovered during the Stage 4 excavation. This assemblage includes 61 thermally altered specimens and six pieces of worked bone. A summary of the faunal material is provided below and a complete inventory is provided in Appendix 5.

## 8.2 METHODOLOGY

All faunal material was recovered through six-millimetre mesh dry screening. The faunal assemblage was collected and stored in bags, each representing part of a feature. All specimens were examined and identified to class. Where possible, an effort was made to identify all faunal material to family or species. This was carried out with the use of a limited reference collection which included partial skeletons of white tailed deer, moose, caribou, beaver, otter, bear, grey squirrel, chipmunk, and herring gull.

Upon analysis, the bone was sorted into several categories; class, possibly identifiable bone, unidentifiable bone, thermally altered bone, worked bone, and bone with evidence of cut marks or carnivore gnawing. In most cases, each group from one bag was assigned a common catalogue number. Bone identified to species was assigned an individual catalogue number. The catalogue numbers and contents were recorded on each bag. All worked bone encountered while examining and cataloguing the faunal material was bagged separately.

#### 8.3 GENERAL OBSERVATIONS

The total faunal assemblage is quite small, consisting of 177 specimens; 131 bone, and 46 shell. The majority of bone includes mammal (n=97, 54.8%) and fish (n=22, 12.4%), followed by turtle, bird, and amphibian (combined n=9, 5.1%). Three specimens (1.7%) are unidentifiable. Table 26 outlines the class breakdown of the faunal material.

Table 26: Total Faunal Material by Class		
Class	n (NISP)	%
Mammalia	97	54.8
Osteichthyes (Fish)	22	12.4
Reptilia (Turtle)	5	2.8
Aves (Bird)	3	1.7
Amphibian	1	0.6
Shell	46	26.0
Unidentifiable	3	1.7
Total	177	100.0

Six taxonomic groups are represented by 54 specimens identified to order or more specific taxa (Table 27). White tailed deer is represented by five elements; two molars, one proximal metapodial portion, one distal tibia portion, and one third phalanx. *Anas* sp., woodchuck and chipmunk are represented by one specimen each. In addition, 42 bivalve shell fragments and four snail shell fragments were recovered.

#### 8.4 **MODIFICATIONS**

#### 8.4.1 Thermally Altered Bone

Thermally altered bone comprises 34.5% of the faunal assemblage (n=61). A total of 55 thermally altered specimens were identified as mammal, four as fish, and two are unidentifiable (Table 28).

#### 8.4.2 Gnawed Bone

Two bone fragments (1.1%) identified as mammal exhibits evidence of carnivore gnaw marks. This is apparent from the canine tooth puncture marks on each specimen. The presence of these marks may indicate that there were dogs at the site at the time of occupation; however, no canine bone was encountered in the sample. Both specimens (Cat. #.0561) were recovered in the sweat lodge (Feature 20) in House 1.

#### 8.4.3 Cut Marks

None of the bone exhibits cut marks related to butchering or skinning. Any marks present are related to grinding and polishing the bone.

#### 8.5 WORKED BONE ARTIFACTS

The worked bone artifact assemblage comprises one bead, three awls, a modified radius exhibiting grinding and/or polishing, and one possible pendant. Six worked pieces were identified (Table 29).

Table 29	: Worked Bone	Catalogue		
Cat #	Provenience	ID	Class	Description
.0533	F1	bead	mammal	polished; length 3 cm
.0505	Post 2 Fill	awl	large mammal	conical point; highly polished; smoothed, blunt base; polishing striations
			long bone	visible; length 16.5 cm; thickness 1.5 cm; width 1 cm
.0513	Post 9	awl	deer proximal	complete; high polish; sharp conical point; part of proximal articular facet
			metapodial	present; length 11.4 cm
.0515	Post 14	awl	large mammal	large conical point; polished; partially finished base end; length 11.5 cm;
				thickness .9 cm; width 1.5 cm
.0547	F20	pendant?	bivalve	almost complete half of bivalve; hole drilled in thick portion of exterior
				side of shell
.0517	H6 Post 20	modified	medium mammal	flattened on medial(?) side; cortex thinned; shaping striations visible
		radius		

Table 27: Faunal Material by Species	
Species	n
White Tailed Deer	5
Anas sp.	1
Woodchuck	1
Chipmunk	1
Bivalve shell	42
Snail shell	4
Total	54

Table 28: Thermally Altered I	Faunal Material	
Class	n	%
Mammal	55	90.2
Fish	4	6.6
Other	2	3.2
Total	61	100.0

# 8.5.1 Beads

The assemblage contains one bead (Cat. #.0533) manufactured from an unidentifiable mammal bone with a highly polished surface. This bead was recovered in Feature 1 in EA1.

# 8.5.2 Awls

Three awls were identified in the faunal assemblage (Plate 11). All three were manufactured from mammal bone, have conical points, and appear to be relatively complete. The first specimen (Cat. #.0515) was recovered in Post 14 of House 4. This awl measures  $11.5 \times 0.9 \times 1.5$  cm in length, width, and thickness. It is polished with a conical point and a partially finished base (Plate 11:a). This awl was manufactured from a shaft fragment of a mammal bone.

The second awl (Cat. #.0513) was recovered from a post in House 6. This awl is 11.4 cm in length and was manufactured from the proximal metapodial of a deer. It is complete and highly polished with a sharp conical point at one end and part of a proximal articular facet at the other (Plate 11:b).

The final awl (Cat. #0505) is the largest of the three specimens measuring 16.4 x 1.0 x 1.5 cm in length, width and thickness. It was recovered in the fill of a post located in House 6. This awl is highly polished with visible polish striations. One end has been ground to a conical point, and the other end is a smoothed blunt base (Plate 11:c).

## 8.5.3 Pendant

A nearly complete bivalve shell was recovered from the sweat lodge (Feature 20) of House 1. This particular specimen appears to have a hole drilled in the thick portion of the shell (Plate 12). One edge of the hole appears to be smoothed, but the other side of the hole is absent due to a fracture in the shell. It may have been used as a pendant (Cat. #.0547).



Plate 11: Bone Awls, Cat. #.0515 (a), #.0513 (b) and #.0505 (c).



Plate 12: Possible shell pendant Cat. #.0547.

A medium sized mammal radius with fused epiphyses exhibits flattening along one side. Polishing or grinding striations are visible along the medial surface. The cortex appears to be thinned. This specimen (Cat. #.0517) was recovered in the fill of a post in House 6.

# 9.0 SUMMARY AND CONCLUSIONS

by Irena Miklavcic

# 9.1 THE ORION SITE AND THE IROQUOIAN OCCUPATION OF YORK REGION

The Orion site was encountered in the Cosburn Patterson Mather Limited Planning Area within Lot 56, Concession 1 W.Y.S. This 0.62 hectare site was located on the southern flank of the Maple spur of the Oak Ridges Moraine on level sandy loam soil bordered by steep ravines on the east and west sides formed by the Rouge River. Based on ceramic seriation, Orion can be dated to the first half of the fifteenth century within the Late Iroquoian period.

The site was first identified by Archaeological Services Inc. in 1988 during the fieldwork phase of the Richmond Hill Archaeological Master Plan at which time it was interpreted as a special purpose site associated with the nearby Murphy-Goulding (AlGu-3) site (ASI 1988). At this time, 221 artifacts were recovered from an area of 250 square metres. In 1997 Archaeological Services Inc. was contracted to conduct the Stage 3 and 4 investigation. The first controlled surface collection (CSC) of the agricultural land was conducted on October 10, 1997 and resulted in the recovery of 13 ceramic artifacts, one ground stone, ten pieces of lithic debitage and one chert chunk. The second CSC was completed on October 31, 1997 at which time 10 ceramic artifacts, two ground stone, five pieces of lithic debitage and one deer tooth fragment were encountered. These finds lead to the Stage 4 salvage excavation of the agricultural land in November of 1997 where 0.62 hectares were exposed. In all, 1015 artifacts were recovered during the 1997 excavation of the Orion site; these include 776 ceramic artifacts, 44 lithic, 18 ground stone, and 177 faunal.

In addition to the artifacts recovered, 18 soil samples (112 litres) were collected from a variety of contexts within the six longhouses, five external activity areas and 83 features. Of the six longhouses uncovered, House 1 was incompletely exposed but the other five were complete (Houses 2, 3, 4, 5, and 6). There was only one grouping of aligned houses. House 3, 5 and 6 were aligned along a northwest-southeast axis. House 4 was aligned along a more pronounced northwest-southeast axis than the grouping of Houses 3, 5, and 6. House 1 was tilted slightly more northwest, and House 2 was tilted slightly more northeast. None of the houses exhibited evidence of expansion or contraction over time. House 3 contained the most number of features (n=19) followed by House 6 (n=18), House 5 (n=9), House 2 (n=8), House 1 (n=7), and House 4 (n=3). The remaining 19 features were recovered in the five external activity areas identified amongst the houses.

EA1 was located east of House 2 between houses 2 and 4. It is the smallest outdoor activity area and contained two features as well as post moulds. EA2 and EA3 were the largest outdoor activity areas. EA2 was located between Houses 1 and 3 and contained eight features as well as post moulds. EA3 was located between Houses 3 and 6 and contained post moulds and six features. EA4 was located southeast of House 6 and contained only three features. No features were encountered in EA5; however, post moulds were uncovered in this area and likely served as the wind-break for the large gap in the northwest wall of House 5. No middens were encountered at Orion nor was there any evidence of a surrounding palisade wall.

A total of 776 ceramic vessel, pipe, and juvenile ceramic sherds were recovered from Orion. This assemblage contained 26 identifiable vessels with five partial or complete castellations. Nine body sherds showed evidence of decoration or surface treatment, including one with red ochre slip. Vessel attributes from the Orion and Murphy-Goulding sites are comparable, especially those assigned to later building periods at Murphy-Goulding due to the presence of high collared rims at both sites. Two juvenile ceramic rim sherds were recovered as well as ten smoking pipes. One pipe bowl in particular appears to depict a human effigy (Cat. #1214). The carving shows the legs of a squatting human figure at the base of the bowl blending into the pipe. This artifact was recovered in a sweat lodge (Feature 20) within House 1. A second pipe recovered in the same sweat lodge (Feature 20) has a decorated barrel bowl. A pipe possibly depicting an unidentifiable effigy (Cat. #1212) and a pipe stem exhibiting traces of a red ochre slip (Cat. #1205) were recovered within House 6 from a pit and post

mould, respectively. Based on ceramic attribute chronological trends established by Ramsden, Orion is classified as a Late Ontario Iroquoian site dating to the first half of the fifteenth century

Both flaked and ground stone artifacts comprised the lithic assemblage recovered from Orion. In total, 44 flaked lithic artifacts were recovered, the majority of which were recovered from the Stage 3 CSC (n=16) followed by House 1 (n=7) and House 6 (n=7). The lithic assemblage comprised 35 pieces of shatter, six secondary knapping flakes, two chunks, and one tool. The tool was the proximal end of a biface recovered from House 2 (L23). There is evidence that it had been thinned and retouched along one lateral edge with step fracturing along the base. All but one item is from Onondaga chert. The overwhelming dominance of Onondaga chert as a raw material is typical of Late Woodland settlements in York Region (Robertson and Williamson 1998:149). The ground stone artifacts were represented by 18 specimens: eight hammers, five celts, two whetstones, two manos, and one miscellaneous ground stone. These ground stone artifacts were recovered within house wall posts.

The artifact assemblage also included 177 faunal specimens; 131 bone fragments, including six pieces of worked bone, and 46 shell fragments. The species identified in this sample include white-tailed deer, woodchuck, chipmunk, *Anas* sp., bivalves, and snail shells. In all, 32% of the sample showed evidence of modification; 55 were thermally altered and two showed gnaw marks, possibly created by a dog. No canine bone however, was identified in the sample. The worked bone consisted of three awls, one bead, one pendant, and one modified radius. The majority of worked bone was mammal.

Eighteen soil samples representing 112 litres were analysed. The vast majority of theses samples were recovered from pit features within the houses and from Feature 20, a sweat lodge in House 1. Of the 342 seeds recovered only three cultigens were present: maize, sunflower, and tobacco. Bean and cucurbit were absent. The tobacco seeds were exclusively found in EA1, EA3 and House 2 possibly indicating that these areas may have supported specialized or ceremonial activities. Non-cultigens in the sample included bramble, elderberry and hawthorn. In addition to the seeds recovered, 350 wood charcoal fragments within the samples were identified to genus or species. Wood charcoal was dominated by maple and beech, both of which were quite common in the region. All the taxa recovered in these soil samples are commonly represented in Iroquoian villages.

Located approximately 250 m southwest of Orion is the Murphy-Goulding site. This Late Iroquoian site was first identified by A.J. Clarke in 1929. It was re-discovered by ASI in 1988 during the course of the Richmond Hill Archaeological Master Plan Project (ASI 1988), and a portion of it was salvage excavated in 1994 in anticipation of the development of the property (ASI 1998). This work resulted in the documentation of four longhouses, two middens or refuse deposits (one situated along the slope on the west side of the site) and the recovery of a comparatively small artifact assemblage. No evidence of a palisade was found. Three of the houses were only partially documented as they extended beyond the limits of the excavation area.

The layout of the four houses (Figure 9) indicates that two major occupation periods are represented within this portion of the village. This is especially evident in the fact that Houses 3 and 4 overlap Houses 1 and 2. While the contemporaneity of Houses 1 and 2 is strongly suggested by their almost perfect parallel alignment, it is not certain if Houses 3 and 4 were similarly erected during a single building episode.

Although there was no evidence regarding the possible contemporaneity of Houses 3 and 4, it did appear certain that House 1 was built prior to House 3 in that several House 3 wall posts were visible on the surface of a feature belonging to House 1. Similarly, it was known that House 2 was constructed before House 4 as several House 2 wall posts were recorded below a feature belonging to House 4.

It was clear that the site extended further north, probably connecting with the Orion site. Indeed, the close similarities in settlement patterns and artifact assemblages between Murphy-Goulding and Orion suggest that they constitute the northern and southern extremes of the same village (Figure 9). Encompassing an area in excess of three hectares, it is possible that the Orion/Murphy-Goulding site represents an early tribal-like coalescence in the upper Rouge River-Don River drainage basins similar to that proposed for the Parsons and McKenzie-Woodbridge sites in the Humber River basin (Williamson et al. 1998), the Draper site on West



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Figure 9: The locations of the Orion and Murphy-Goulding sites: potentially a single Iroquoian village

Duffins Creek (Finlayson 1985), and the Mantle site on Stouffville Creek (Williamson 2006). This possibility is given additional credence by the fact that an area of high artifact concentration was identified by Northeastern Archaeological Associates in 2004 on Lot 27, approximately midway between the excavated portions of Murphy-Goulding and Orion (NAA 2004).

#### **10.0 REFERENCES**

ASI (Archaeological Services Inc.)

- 1988 Report on Phase 2 and 3 of the Master Plan of Archaeological Resources for the Town of Richmond Hill, Ontario. Report Submitted in the Town of Richmond Hill, Ontario.
- 1998 Final Report on Archaeological Salvage Excavation of the Murphy-Goulding Site (AlGu-3), Town of Richmond Hill, Regional Municipality of York, Ontario. Report on file, Ontario Ministry of Culture, Toronto.

#### Burger, D.

1993 *Revised Site Regions of Ontario: Concepts, Methodology and Utility.* Ontario Forest Research Institute, Forest Research Report 129.

Chapman, L.J. and D.F. Putnam

1984 *The Physiography of Southern Ontario*. Ontario Ministry of Natural Resources, Ontario Geological Survey Special Volume 2, Map 2124.

CLI (Canada Land Inventory)

1971 Land Capability for Forestry Map 30M/14. Canada Department of Regional Expansion, Ottawa.

Emerson, J.N.

1968 *Understanding Iroquois Pottery in Ontario: A Rethinking*. Ontario Archaeological Society, Special Publication, Ontario Archaeological Society, Toronto, Ontario.

Finlayson, William D.

1985 *The 1975 and 1978 Rescue Excavations at the Draper Site: Introduction and Settlement Pattern.* Archaeological Survey of Canada, Mercury Series Paper 130. National Museum of Canada, Ottawa.

Goodspeed, T.H.

1954 *The Genus Nicotiana: Origins, Relationships and Evolution of its Species in the light of their Distribution, Morphology, and Cytogenetics.* Chronica Botanica Company, Waltham, Massachusetts.

Hewitt, D.F.

1969 Industrial Mineral Resources: Markham-Newmarket. Ontario Department of Mines, Map 2124.

Hills, G.A.

1958 Forest-Soil Relationships in the Site Regions of Ontario. In *First North American Forest Soils Conference*, pp. 190-212. Agricultural Experiment Station, Michigan State University, East Lansing, Michigan.

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

1955 Soil Survey of York County. Ontario Soil Survey Report 19. Canada Department of Agriculture College, Ottawa, Ontario.

Hosie, R.C.

1979 Native Trees of Canada, 8th edition. Fitzhenry & Whiteside, Don Mills, Ontario.

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

1986 *The Wiacek Site: A Late Middleport Component, Simcoe County, Ontario.* Report on file, Ontario Ministry of Transportation and Communications, Environmental Unit, Planning and Design Section, Southwest Region, London.

#### Lennox, P and I. Kenyon

1984 "Was that Middleport Necked or Pound Oblique? A Study in Iroquoian Ceramic Typology," *Ontario Archaeology*. No 42: 13-26.

## MacNeish, R.S.

1952 *Ontario Iroquois Pottery Types*. National Museum of Canada, Bulletin 124. Department of Resources and Development, Ottawa, Ontario.

#### McCormack, R.J.

1970 *Land capability for forestry, Canada Land Inventory, Report No. 4*. Department of Regional Economic Expansion, Ottawa, Ontario.

#### Monckton, S.G.

- 1992 *Huron Paleoethnobotany*. Ontario Archaeological Reports, No.1. Toronto: Ontario Heritage Foundation.
- 1998 Myers Road Plant Remains. In The *Myers Road Site (AiHb-13): A Prehistoric Iroquoian Village in Cambridge, Ontario.* R.F. Williamson (editor), Occasional Publication of the London Chapter, Ontario Archaeological Society, No. 7.

NAA (Northeastern Archaeological Associates)

2004 Partial Stage 1 to 3 Archaeological Assessment of Part Lot 51, Concession 1, Former Township of Vaughan, Also Known ast #171, 149, 125, and 103 Gamble Road, Town of Richmond Hill. Report submitted to Terra Gold Developments Inc., Toronto, Ontario.

Ontario Institute of Pedology

n.d. Untitled Soil Capability for Agriculture Map. Sheet 30M/14 Markham. 1:50,000 scale. Unpublished map on file with the Ontario Institute of Pedology, Guelph.

# Ripley, F.

1952 The Huron and Lalonde Occupation of Ontario. *American Antiquity* 17(3): 197-210.

#### Ramsden, P.G.

1977 *A Refinement of some Aspects of Huron Ceramic Analysis.* National Museum of Man Mercury Series, Paper No. 63.

#### Robertson, D.A. and R.F. Williamson

1998 The Archaeology of the Parsons Site: Summary and Conclusions. In *The Archaeology of the Parsons Site: A Fifty Year Perspective*, edited by R.F. Williamson and D.A. Robertson, pp. 146-150. Special Volume, Ontario Archaeology, No 65/66.

# Sharpe, D.R.

1980 Quaternary Geology, Metropolitan Toronto. Ontario Department of Mines, Map 2204.

# Smith, D.G.

1997 Archaeological Systematics and Analysis of Iroquoian Ceramics: A Case Study from the Crawford Lake Area, Ontario. London: London Museum of Indian Archaeology Bulletin No. 15 Williamson, R.F.

2006 The Mantle Site: Urban Planning in Sixteenth Century Ontario. Paper presented at the Canadian Archaeological Association Annual Meeting, Toronto. Ms. On file, Archaeological Services Inc. Toronto.

Williamson, R.F., M.S. Cooper, and D.A. Robertson

1998 The 1989-90 Excavations at the Parsons Site: Introduction and Retrospect. In *The Archaeology of the Parsons Site: A Fifty Year Perspective*, edited by R.F. Williamson and D.A. Robertson, pp.4-16. Special Volume, Ontario Archaeology, No 65/66.

Wright, J.V.

1966 *The Ontario Iroquoian Tradition*. National Museum of Canada, Bulletin 210. National Museum of Canada, Ottawa, Ontario.

Appendix 1: Orion Site (AlGu-45)	Ceramic Vessel Catalogue					
Cat. #	Unit	Feature	Level	Quad	Vessel #	Туре
1001	Surface				1	Sidey Notched
1011	500-200	1			2	Huron Incised
1035	490-210	PM 35			3	Huron Incised
1033	470-220	77			4	Huron Incised
1015	520-200	1			5	Huron Incised
1003	Surface				6	Lawson Incised
1021	535-180	PM			7	Lawson Incised
1019	460-205	20	2	2	8	Pound Neck
1026	520-200	1			9	Lawson Opposed
1036	490-210	PM 35			10	Black Neck
1025	535-180	PM 2			11	Pound Blank
1010	520-200	1			12	Ripley Plain
1028, 1029	460-205	20	2	2	13	Huron Incised
1031, 1030, 1040	460-205	20	3	1	15	Lalonde High Collar
1038	460-205	20	4	4	16	Black Neck
1037		52			17	Black Neck
1032	470-220	77			18	Black Neck
1012	520-200	1			19	Black Neck
1039	485-225	63			20	Lalonde High Collar
1018, 1023, 1024	485-205	20	1/2/3	2/3	21	Copeland Incised
1022	460-205	20	1	3	22	Lawson Opposed
1017	460-205	20	2/3	2	23	Lawson Incised
1031	480-175	91			24	Lalonde High Collar
1016	460-205	20	2	2	25	Lalonde High Collar
1202	475-215				26	Black Neck
1201		F 29			27	Black Neck
Juvenile						
1027	H1 wall 2 trench				1	
1020	460-205	20		1	2	

# Appendix 2: Orion Site (AlGu-45) Ceramic Artifact Catalogue

Unit	Context	Feature	Level	Quad	Catalogue Number	Vessel Number	Lip Form	Angle of Lip to Interior	Rim Orientation	Interior Profile	Exterior Profile	Collar Base Shape	Collar Height	Lip Width	Basel Collar Width	Collar Technique	Neck Technique	Interior Motif	Interior T echnique	Lip Motif	Lip Technique	Type
490-210	H3	PM 35			1036	10	flat	obtuse	outflaring	straight	straight	angular	9.5	4	9.1	linear	incised	plain	plain	plain	plain	Black Neck
460-205	H1	20	4	4	1038	16	flat	acute	outflaring	concave	concave	angular	17	2.4	8.4	incised	incised	oblique	finger nail	plain	plain	Black Neck
	H6	52			1037	17	flat	right	outflaring	convex	concave	angular	14.7	5.6	10.1	linear stamped	linear punctate	plain	plain	plain	plain	Black Neck
470-220	H3	77			1032	18	flat	right	outflaring	convex	straight	angular	11.2	3.2	8.4	linear stamped	linear stamp over linear	plain	plain	plain	plain	Black Neck
520-200	EA1	1			1012	19	flat	acute	outflaring	straight	straight	rounded	11.1	3.8	6.2	incised	incised	plain	plain	plain	plain	Black Neck
475-215	H3				1202	26	NA	obtuse	outflaring	straight	straight	angular	12.4	n.a.	9.3	linear	linear stamp	plain	plain	NA	NA	Black Neck
	EA2	F 29			1201	27	flat	acute	outflaring	straight	straight	rounded	15.2	3.7	9.4	stamped linear stamped	incised	plain	plain	plain	plain	Black Neck
Surface					1003	6	flat	obtuse	outflaring	concave	convex	angular	15.4	5.9	10.5	incised	linear punctate			plain	plain	Lawson Incised
535-180	H4	PM			1021	7	roun ded	right	outflaring	concave	convex	angular	10.1	6	8.9	incised	plain	plain	plain	plain	plain	Lawson Incised
460-205	H1	20	2/ 3	2	1017	23	flat	obtuse	outflaring	concave	straight	angular	24.3	9.9	22.9	linear stamped	linear punctate	plain	plain	plain	plain	Lawson Incised
500-200	EA1	1			1011	2	flat	obtuse	outflaring	straight		angular	8.9	2	8.8	incised	linear	plain	plain	plain	plain	Huron Incised
490-210	H3	PM 35			1035	3	flat	right	outflaring	straight		rounded	13	4.8	10.4	linear stamped	plain	plain	plain	plain	plain	Huron Incised
470-220	H3	77			1033	4	flat	obtuse	outflaring	straight		angular	16.1	5.3	12.9	linear	plain	plain	plain	plain	plain	Huron Incised
520-200	EA1	1			1015	5	flat	acute	outflaring	straight		angular	17	3.3	10.4	incised	linear punctate	oblique	linear punctate	plain	plain	Huron
460-205	H1	20	2	2	1028 1029	13	flat	acute	outflaring	convex		rounded	11.1	4.4	7.3	linear stamped	plain	plain	plain	plain	plain	Huron
460-205	H1	20	3	1	102) 1031 1030	15	flat	obtuse	outflaring		convex	angular		5.1	13.4	incised	incised	plain	plain	plain	plain	Lalonde High Collar
485-225	H6	63			1040 1039	20	flat	acute	outflaring		straight	angular		5.4	7.8	incised over	plain	plain	plain	plain	plain	Lalonde High Collar
480-175	Н5	91			1031	24	flat	right	outflaring		straight	angular		9.6	20.1	incised Incised (over	plain	plain	plain	plain	plain	Lalonde High Collar
460-205	H1	20	2	2	1016	25	flat	right	outflaring		convex	angular		6.8	19.9	incised?) incised over incised over incised	plain	plain	plain	plain	plain	Lalonde High Collar

Appen	dix 3: (	Orion Site	(AlGu-45	) Flaked L	ithic Ar	tifact Catalog	gue			
Cat. #	Qty.	Unit	Context	Feature	Quad	Level	Artifact Type	Flake Type	Material	Description
L1	1		Surface				chunk		Onondaga	
			CSC							
L2	10		Surface				shatter		Onondaga	1- with inverse retouch
			CSC							
L3	1		Surface				secondary knapping flake	secondary knapping flake	Onondaga	with retouch along right margin
			CSC							
L4	4		Surface				shatter		Onondaga	1- with cortex, 2- thermally altered
		150 000	CSC				1		0 1	
L5	1	450-200	HI	Wall 2			shatter		Onondaga	
T.C	1	450 200	111	I rench			d li		On an la sa	
LO	1	450-200	HI	wall 2 Tranah			secondary knapping liake	secondary knapping liake	Onondaga	
17	1	460 200		Trenen			shatter		Onondaga	with retouch
L/ I 8	1	460-200	Н1	F20	02	Level 2&3	shatter		Onondaga	with letouch
	1	460-205	H1	F20	$\frac{Q^2}{\Omega^2}$	Level 4	shatter		Onondaga	with retouch
L10	2	460-205	H1	F20	$\frac{Q^2}{O3}$	Fill	shatter		Onondaga	with retoten
L10	1	460-205	H1	F20	$\overrightarrow{03}$	Fill	secondary knapping flake	secondary knapping flake	Onondaga	
L12	1	470-220	H3	F77	<b>X</b> 2	1 111	shatter	secondary mapping nane	Onondaga	
L13	1	475-205	EA2	F29			shatter		Onondaga	
L14	3	475-235	H6	P20			shatter		Onondaga	
L15	2	475-235	H6	P20			secondary knapping flake	secondary knapping flake	Onondaga	
L16	1	480-200	EA2				shatter	5 11 0	Onondaga	with retouch
L17	1	480-230	H6	P36			shatter		Indeterminate	
L18	1	480-230	H6	F67		Fill	shatter		Onondaga	
L19	1	490-210	H3	P35		Fill	chunk		Balsam Lake	
L20	3	520-200	EA1	F1			shatter		Onondaga	
L21	1	520-200	EA1	F1			secondary knapping flake	secondary knapping flake	Onondaga	with alternate retouch
L22	4	530-190	H4	P3			shatter		Onondaga	
L23	1	530-190	H4	Р3			biface fragment	biface fragment	Onondaga	thinned, step fracturing along base,
					_					retouch along lateral edge

巷	ij	ature	lad	vel								** /.				
C	Ūr	Fe	õ	Le	Artifact	Material	Complete	Portion	L	w	т	WL (kg)	Bit Wear	Pecked Surface	Other Use Wear	Comments
G1				Surface	celt	chloride schist	no	mid frag	91	32	10	(8)			both lateral edges retouched by grinding	Celt frag retouched by grinding on both lateral margins to create cutting/scraping tool.
G2				Surface	celt	chloride schist	no	bit portion					sharp polished		0 0	symmetrical bit portion of celt with small impact flake scars.Dorsal side bevelled
G3				Surface	celt	chloride schist	no	bit frag							bit frag/spall flake with retouch	spall flake from a celt bit that has been resharpened for cutting scraping tool
G5	495-225	PM9		fill	hammer/ mano	amphibolite	yes		11 6	98	44			central roughening	lateral hammer facets	large hammer with grip roughening and multiple hammer facets. Flattened on one side, possibly secondary use as a mano
G7	475-235	PM20		fill	hammer/ mano	amphibolite	yes		10 1	91	58			central roughening	multiple hammer facets	large hammer with grip roughening and multiple hammer facets. Flattened on one side, possibly secondary use as a mano
G8	475-235	PM20		fill	whetstone	sandstone	yes		67	52	15					whetstone made on flat sandstone cobble. One working surface that has been worked to a depression
G10	460-195	PM21		fill	hammer	granite	yes		11 1	96	50			central roughening	lateral hammer facets	hammer made on granite cobble with surface roughening on one side to facilitate grip. Moderate lateral hammer facets
G11	460-195	PM21		fill	mano	sandstone	yes		92	66	60				one surface flat and smooth	mano made on sandstone cobble with one flat smooth surface
G12	460-195	PM21		fill	hammer	sandstone	yes		71	57	41					small hammer made on sandstone cobble with hammer facets at both
G13	460-195	PM21		fill	hammer	gabro	yes		74	53	43					small hammer made on gabro cobble with pecked hammer facets on lateral margins
G15	460-195	PM21		fill	whetstone	sandstone	yes	frag								whetstone made on sandstone slab. One working surface that has been worked to a depression and several grooves for sharpening awls
G16	460-195	PM21		fill	hammer	granite	yes		96	84	46			central roughening		large hammer made on granite cobble with grip roughening and multiple hammer facets. Flattened on one side, possibly secondary use as a mano
G17	460-195	PM21		fill	hammer	sandstone	yes		76	63	48			central roughening		small hammer made on sandstone cobble with grip roughening and moderate hammer facets on lateral margins
G22 G23	510-199 520-200	F1		topsoil	misc. celt	shale chloride schist	no no	frag frag								piece of smooth shale, probably non-cultural
G25	460-205	F20	3		celt	chloride schist	no	bit portion					battered			bit portion of a chloride schist adze. Transverse break characteristic of adze function. Battered bit suggesting secondary use as wedge
G26	495-225	F72			hammer	gabro	yes		13 7	12 7	70	2.1		central roughening		large hammer with grip roughening on one surface and natural depression on the other. One well defined hammer facet on one margin
G29	490-230	F73		fill	mano	sandstone	yes		14 1	80	84	1.4				large mano made of sandstone with flat polished grinding surface. Friable surface.

## Appendix 5: Orion Site (AlGu-45) Faunal Artifact Catalogue

Cat. #	Otv.	Jnit	House/ ?eature/ Post	strata	ength	Vidth	<b>Thickness</b>	Chermal Alteration	Cut-mark	Comments	\geable?	exable?	nawed?	awn?	Cut?	Articulation?	3ody Region	lass	Type	Jement	ortion	dent?	Vorked	~	
.0500	1	-	44	Surface	-	-		N N	N	probably deer	N	N	N	N	N	N	head	mammal	- Odocoileus	molar	fragment	Y	N	N	
0501	1	480-200		Topsoil				v	N	r	N	N	N	N	N	N		mammal	virginianus mammal -		fragment	v	N	N	N
0502	1	510 100		Topsoil				v	N		N	N	N	N	N	N		mommol	unidentifiable		fragmont	N	N	N	N
.0505	1	310-199	DO	ropson	165		1.5	1 N	IN N	A 3377 . 1	IN N	IN N	IN N	IN N	IN N	IN N		mammai	unidentifiable		iraginent	IN N	IN N	IN N	N
.0505	1	475-230	P2	FIII	16.5	1	1.5	Ν	Ŷ	A wL: conical point; highly polished; smoothed blunt base; polish striations	Ν	N	N	N	N	N	shaft	mammai	large mammai			N	Ŷ	N	N
.0507	1	530-190	P3	Fill				Ν	N	VISIOIC	Ν	Ν	Ν	Ν	Ν	Ν	forelimb	mammal	small mammal	humerus	left shaft	Y	Ν	N	Ν
.0508	1	530-190	Р3	Fill				N	N		Ν	Ν	Ν	Ν	Ν	Ν		mammal	mammal - unidentifiable			N	Ν	N	N
.0509	4	530-190	Р3	Fill				Y	N		Ν	Ν	Ν	Ν	Ν	N		mammal	mammal - unidentifiable			N	Ν	Ν	Ν
.0511	1	480-230	Р9	Fill				Ν	N		Ν	Ν	Ν	Ν	Ν	Ν		bird	bird -			N	Ν	N	Ν
.0512	2	480-230	P9	Fill				Ν	Ν		Ν	Ν	Ν	Ν	Ν	Ν		shell	bivalve			Y	Ν	Ν	Ν
.0513	1	480-230	Р9	Fill	11.4			N	Ν	AWL: complete, highly polished; sharp conical point; part of proximal articular facet present	Ν	N	N	N	N	N	long bone shaft	mammal	Odocoileus virginianus	metapodial	proximal	Y	Y	N	N
.0515	1	535-180	P14		11.5	0.9	1.5	Ν	Ν	AWL: large conical point, polished; partially finished base end	Ν	Ν	Ν	Ν	Ν	Ν	long bone shaft	mammal	large mammal		shaft fragment	N	Y	N	Ν
.0517	1	475-235	H6 P20	Fill				N	N	fused epiphyses; grinding/polishing on medial (?) side, cortex thinned, striations visible	Ν	Ν	N	Ν	N	Ν	forelimb	mammal	medium mammal	radius	complete	Y	Y	Y	Ν
.0518	1	475-235	H6 P20	Fill				Y	N		Ν	Ν	Ν	Ν	Ν	Ν		mammal	mammal - unidentifiable			N	Ν	N	Ν
.0520	1	480-230	P36	Fill				N	N	operculum	N	N	N	N	N	N		fish	fish - identifiable		complete	Y	N	N	N
.0521	1	480-230	P30	F111				N	IN		IN	N	IN	IN	IN	IN		nsn	unidentifiable			N	IN	IN	IN
.0523	1	535-180	(Post ?)					N	N		Ν	Ν	Ν	Ν	Ν	N	head	mammal	Odocoileus virginianus	molar	complete	Y	Ν	N	N
.0524 .0525	1 1	535-180 535-180	(Post ?) (Post ?)					N N	N N	tibio - fibula?	N N	N N	N N	N N	N N	N N	hindlimb head	amphibian mammal	Anas sp. Tamias striatus	mandibular	right distal	Y Y	N N	N N	N N
.0526	6	535-180	(Post ?)					Y	N		N	N	N	N	N	N		mammal	mammal -	tooth row		N	N	N	N
.0527	1	535-180	(Post ?)					N	N		N	N	N	N	N	N		fish	unidentifiable fish -			N	N	N	N
.0529	1	520-200	F1	Fill				N	N		Ν	N	N	Ν	N	N		mammal	unidentifiable mammal -			N	N	N	N
.0530	1	520-200	F1	Fill				Y	N		N	Ν	Ν	N	Ν	N		mammal	unidentifiable mammal - unidentifiable			N	N	N	N

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Cat.#	Otv.	Unit	House/ Feature/ Post	Strata	Length	Width	Thickness	Thermal Alteration	Cut-mark	Comments	Ageable?	Sexable?	Gnawed?	Sawn?	Cut?	Articulation?	Body Region	Class	Type	Element	Portion	Ident?	Worked	R	L
.0531 .0532 .0533	1 1 1	520-200 520-200 520-200	F1 F1 F1	Fill Fill Fill	3			N N Y	N N N	BEAD: polished	N N N	N N N	N N N	N N N	N N N	N N N		turtle shell mammal	turtle bivalve mammal - unidentifiable			Y Y N	N N Y	N N N	N N N
.0535 .0536	1 1	450-200 450-200	F2 F2	Fill Fill				N N	N N		N N	N N	N N	N N	N N	N N		mammal mammal	medium mammal mammal - unidentifiable mammal -			Y N	N N	N N	N N
.0537 .0538 .0539	1 1 4	450-200 450-200 450-200	F1 F2 F2	l Fill Fill				Y Y Y	N N N	Beaver?	N N N	N N N	N N N	N N N	N N N	N N N	extremity	mammal mammal fish	unidentifiable medium mammal fish -	phalanx 2	complete	N Y N	N N	N N	N N
.0540 .0542	1 1	450-200 540-180	F2 PM Support	Fill				N Y	N N	phalanx - wing	N N	N N	N N	N N	N N	N N		bird other	bird- identifiable other			Y N	N N	N N	N N
.0544 .0546	1	495-195 460-205	F3 F20	Q1				N N	N N	badly exfoliated	N N	N N	N N	N N	N N	N N	hindlimb	mammal shell	<i>Odocoileus virginianus</i> bivalve	tibia	distal	Y N	N	N	Y
.0547	9	460-205	F20	Q1				N	N	almost complete, possible hole drilled in shell	N	N	N	N	N	N		shell	bivalve			Y	N Y	N N	N
.0548 .0549	3 2	460-205 460-205	F20 F20	Q1 Q1				N Y	N N		N N	N N	N N	N N	N N	N N		mammal mammal	mammal - identifiable mammal -			Y Y	N	N	N
.0550	1 0 2	460-205	F20	Q1				N	N		N	N	N	N	N	N		mammal	identifiable mammal - unidentifiable			N	N N	N N	N N
.0552 .0553 .0554	3 0 3 3	460-205 460-205 460-205	F20 F20 F20	Q1 Q1 01				Y N N	N N N	ID ?	N N N	N N N	N N N	N N N	N N N	N N N		turtle fish	unidentifiable turtle fish -			N Y N	N N	N N	N N
.0555	1	460-205	F20	Q1				N	N		N	N	N	N	N	N		bird	unidentifiable bird - unidentifiable			N	N N	N N	N N
.0557 .0558	1	460-205 460-205	F20 F20	Q2 L2 Q2 L2				N N	N N		N N	N N	N N	N N	N N	N N	head	turtle mammal	turtle Marmota monax	mandibular tooth row	distal	Y Y	N N	N Y	N N
.0559	2	460-205	F20 F20	Q2 L2 Q3				N	N		N	N	Y	N	N	N	nindiimb	mammai mammal	mammal mammal - unidentifiable	udia	proximai	r N	N N	Y N	N N
.0562 .0563	2 1	460-205 460-205	F20 F20	Q3 Q3				N Y	N N		N N	N N	N N	N N	N N	N N		mammal mammal	mammal - unidentifiable mammal -			N N	N	N	N
.0564	4	460-205	F20	Q3				N N	N N		N N	N N	N N	N N	N N	N N		fish	unidentifiable fish - unidentifiable fish - identifiable			N V	N N N	N N N	N N N
.0566 .0567	4 4	460-205 460-205	F20 F20	Q3 Q3				N N	N N		N N	N N	N N	N N	N N	N N		shell	bivalve snail			N N	N N	N N	N N

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## Appendix 5: Orion Site (AlGu-45) Faunal Artifact Catalogue

Cat.#	Otv.	Unit	House/ Feature/ Post	Strata	Length	Width	Thickness	Thermal Alteration	<b>Cut-mark</b>	Comments	Ageable?	Sexable?	Gnawed?	Sawn?	Cut?	Articulation?	Body Region	Class	Type	Element	Portion	Ident?	Worked	В	L
.0569	1	490-210	F39					Y	Ν		Ν	Ν	Ν	Ν	Ν	Ν		other	other			Ν	Ν	Ν	Ν
.0571	1		F52					Ν	Ν		Ν	Ν	Ν	Ν	Ν	Ν		shell	bivalve		fragments	Ν			
0573	2		F58					N	N		N	N	N	N	N	N		mammal	mammal -			v	Ν	Ν	N
.0010	2		150								11	11	11	.,	11	14		mammai	identifiable			•	Ν	Ν	Ν
.0575	1	480-230	F67	Fill				Ν	Ν	class unidentifiable	Ν	Ν	Ν	Ν	Ν	Ν		other	other			Ν	Ν	Ν	Ν
.0577	3	485-230	F69					Ν	Ν		Ν	Ν	Ν	Ν	Ν	Ν		fish	fish - identifiable			Y	Ν	Ν	Ν
.0578	4	485-230	F69					Ν	Ν		Ν	Ν	Ν	Ν	Ν	Ν		fish	fish -			Ν			
.0580	2	490-225	F70					Y	N		N	N	N	N	Ν	N		mammal	unidentifiable small mammal			Y	Ν	Ν	Ν
0591	2	to 495-225	F70					N	N		N	N	N	N	N	N						N	Ν	Ν	N
.0381	3	490-225 to 495-225	F/0					IN	IN		IN	IN	IN	IN	IN	IN		шапша	unidentifiable			IN	N	N	N
.0582	2	490-225	F70					Y	N		Ν	Ν	Ν	Ν	Ν	Ν		mammal	mammal -			Ν	IN	IN	IN
		495_225																	undentmable				N	N	N
.0584	3	480-225	F71					Ν	Ν		Ν	Ν	Ν	Ν	Ν	Ν		mammal	medium mammal			Y	N	N	N
.0585	1	480-225	F71					Y	N		N	N	N	N	N	N		mammal	mammal -			N			
																			unidentifiable				Ν	Ν	Ν
.0587	1	495-225	F72	Fill				Ν	Ν	carnivore?	Ν	Ν	Ν	Ν	Ν	Ν	extremity	mammal	medium mammal	phalanx 3	complete	Y	Ν	Ν	Ν
.0589	1	470-225	F77					N	N		N	N	N	N	N	N	extremity	mammal	Odocoileus virginianus	phalanx 3	complete	Y	N	N	N