THE EARLY ARCHAIC OCCUPATION OF THE LAPHROAIG SITE, BRANT COUNTY, ONTARIO

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Laphroaig is primarily a late Early Archaic bifurcate base point site located along the Grand River, in southwestern Ontario. The excavation recovered a light scatter of material, including parts of four bifurcate base projectile points in a nine by seven metre area. A comparison of select attributes for bifurcate base projectile points from a number of sites in Ontario and New York State suggests that it is difficult to assign these points to specific types, although their range in size suggests subtle morphological change through time. The site size, structure and artifact assemblage suggest a small, long term winter or early spring occupation, presumably by an extended family or band. It is proposed that some late Early Archaic bands occupied regional territories, never traveling far from known resources.

INTRODUCTION

The Laphroaig site (AgHa-54) is an Early Archaic bifurcate base point site located near the Grand River in Brant County. This report summarizes the excavation and analysis of this site and examines some similarities and differences between bifurcate base points from Southern Ontario and New York state. Surprisingly, there do not appear to be any clear morphological distinctions between typed bifurcate base points, with some metric traits forming a continuum through time. The artifact frequencies suggest a fairly long term occupation, perhaps in the winter or early spring. The Laphroaig material is also examined in relation to environmental factors and this paper discusses the implications for late Early Archaic settlement-subsistence and band territory in Southern Ontario.

Site Location and Environment

Laphroaig is located at the corner of Highway 54 and a sideroad between the town of Caledonia and the village of Middleport, Brant County, in southwestern Ontario (Figures 1 and 2). This area is part of the Haldimand Clay Plain that overlies most of the Niagara Peninsula (Chapman and Putnam 1984:156-159). The soil at Laphroaig is a heavy clay loam overlying heavier clay subsoil. South of the City of Brantford, the Grand River has cut a wide, deep valley through the Haldimand Clay Plain, and inland from Laphroaig is a series of low, partially buried drumlins (Chapman and Putnam 1984:157).

In this area, the Grand River is approximately 50 m wide. It has a fairly narrow flood plain on the north side, with a steep bank rising approximately three metres above the alluvium of the flood plain. From the edge of the modern flood plain there is less than a metre drop to the low, summer water level. Laphroaig is situated on a flat terrace about 100 m north of the present bank of the Grand River. The site was discovered during the initial assessment of Highway 54 (Warrick 1991) when a single flake was recovered from a test pit. It was intermittently excavated from May to August in 1991.

Field Methodology

Only a small area within the existing highway right-of-way was to be impacted by construction. Part of the site may have been destroyed by previous road construction at the existing intersection, although the fall-off rate of debitage densities within the site excavations suggests the contrary. Beyond the site limits to the east, the topsoil was partially stripped when the sideroad was ditched. This explains why, for example, the full depth of topsoil covered only half of square 037:028. Although the ditching was located immediately east of square 037:028, the decline in artifact frequencies indicates that the whole occupation was excavated. The site may also continue on private property to the northeast, although debitage densities diminished in this direction.

A five-metre grid was established over the area to be impacted by construction. Each five-metre square was divided into 25 one-metre sub-squares and each excavated unit was identified by the easting and northing coordinate of its north-west corner. The topsoil from each square was shoveled into a six-millimetre mesh screen. After the ploughzone was completely excavated, the bottom of each square was trowelled and the subsoil examined for features and/or post moulds. Unfortunately, none were found at Laphroaig. A total

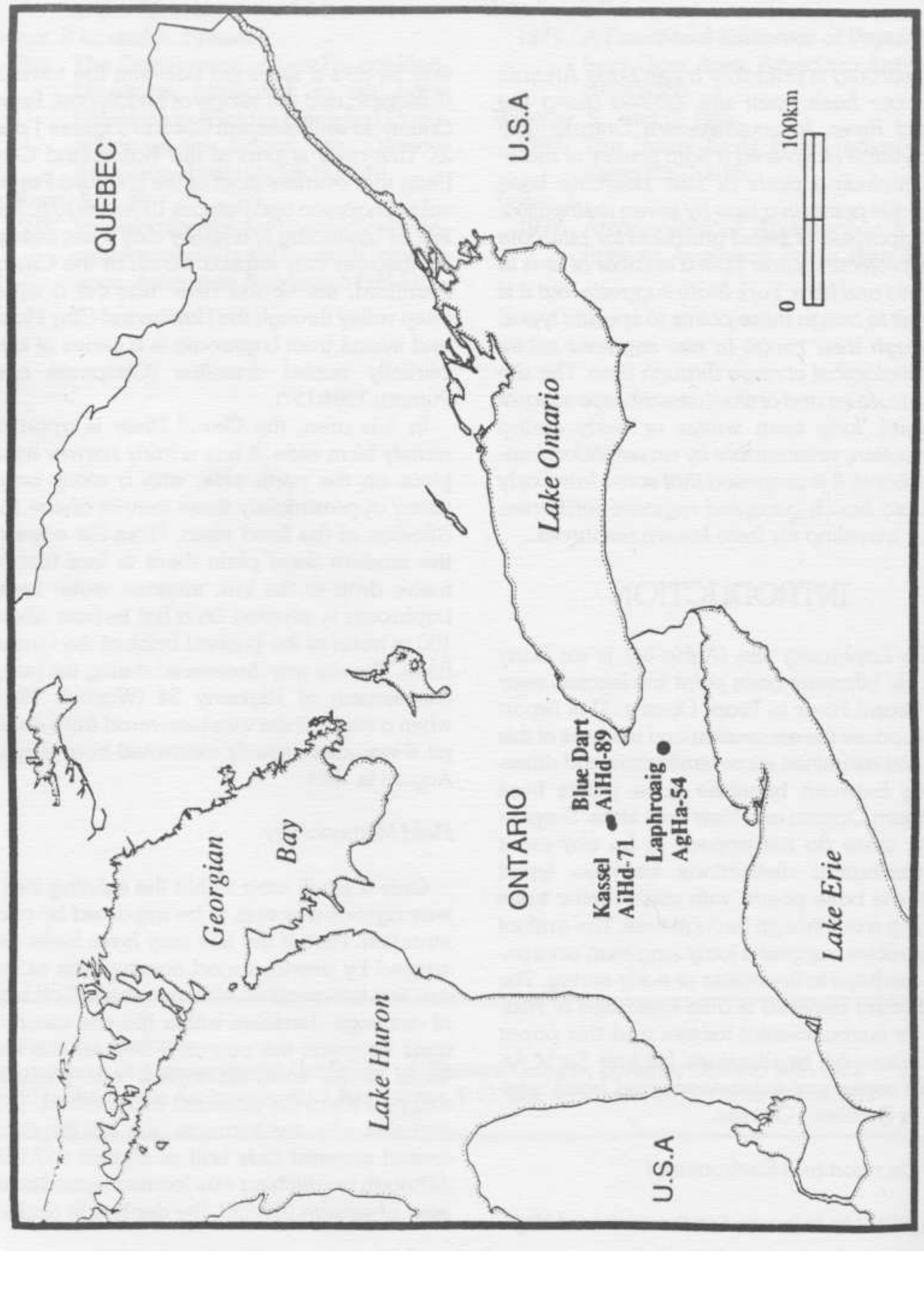

Figure 1. Southern Ontario

of 45 one-metre squares was excavated.

The topsoil depth for 11 one-metre squares ranged from 17 cm to 29 cm with a mean of 24 cm. Topsoil depth and the homogenous soil matrix indicate that the site had been previously cultivated.

ARTIFACT ANALYSIS

The prehistoric artifact assemblage from Laphroaig is composed entirely of chipped lithic tools and debitage. The artifact types and frequencies are reported in Table 1. Artifact dimensions are presented in tables throughout the text, with all measurements in millimeters (mm) and all weights in grams (g). Incomplete measurements are given in brackets and missing data are indicated by a dash. The mean and standard deviation are provided for some artifact classes; only complete measurements were used for these calculations.

Material

Four local cherts were recovered from Laphroaig. Haldimand chert from the Bois Blanc formation quarries in Haldimand County (Parker 1986:55; Eley and von Bitter 1989:18-19) is the

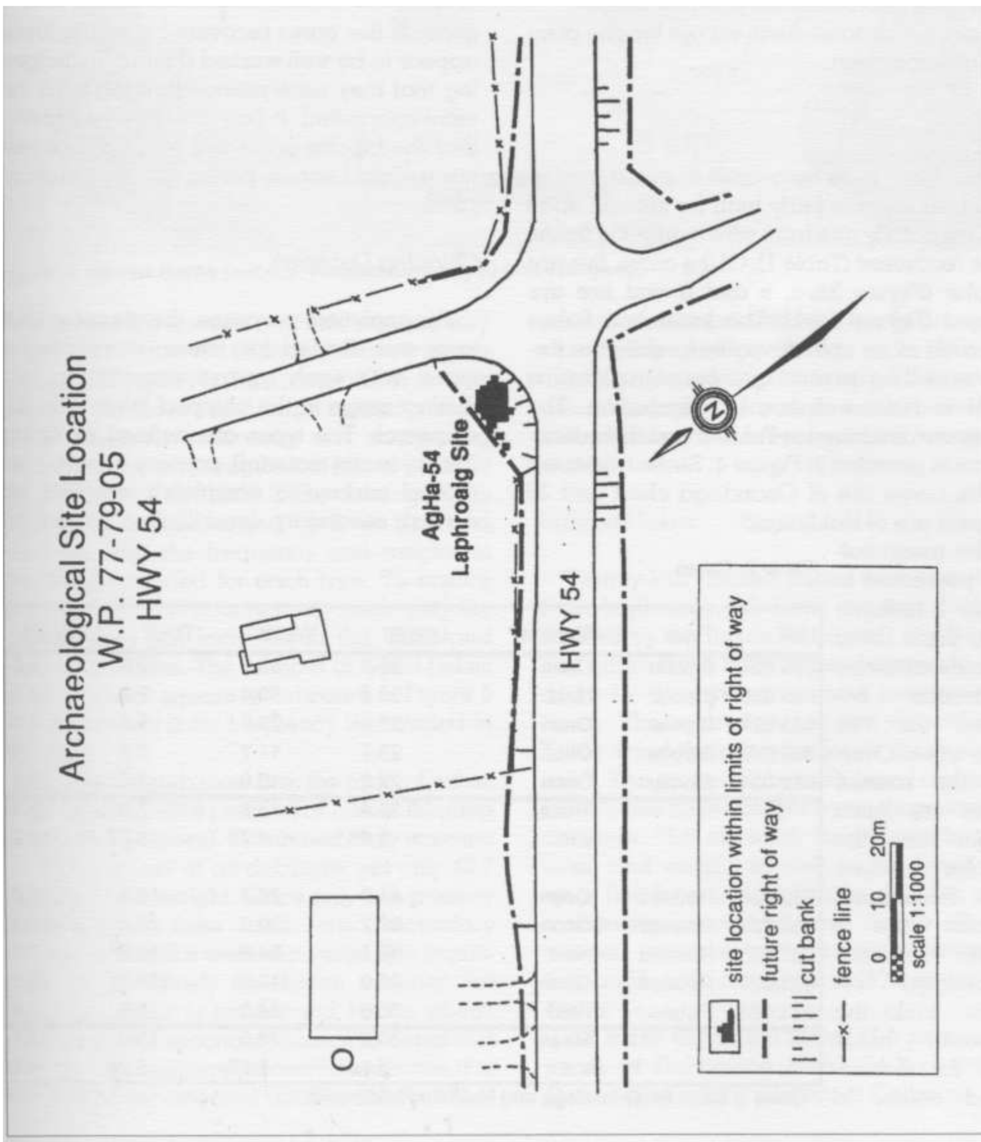

Figure 2. The Laphroaig Site and Environs

highest in frequency (35 percent by weight). Slightly lower frequencies of Onondaga chert from the area between the Onondaga Escarpment and the north shore of Lake Erie (Eley and von Bitter 1989:17-18), and Colborne chert, also from the Bois Blanc formation quarries in Haldimand County (Eley and von Bitter 1989:18), were also recovered. These cherts can be found within 10 to 15 km of Laphroaig. Selkirk chert (Eley and von Bitter 1989:16-17), from secondary glacial and stream deposits north of Lake Erie, is represented by only a few flakes. All the tools from Laphroaig are of either Onondaga or Haldimand chert, except for one point of Colborne chert.

Table 1. Prehistoric artifacts recovered from Laphroaig.

Artifact Type	Frequency	Percentage
Cores	10	2.5
Chipping Debitage	354	88.3
Utilized Flakes	24	6.0
Scraper	1	0.2
Wedge	1	0.2
Bifaces	5	1.3
Knife	1	0.2
Projectile Points	5	1.3
TOTAL	401	100.0

Cores

Ten cores were recovered from Laphroaig. This frequency is fairly high for such a small site, especially one from which only 354 flakes were recovered (Table 1). Of the cores, five are bipolar (Figure 3:a-c, e and f) and five are rotated (Figure 3:g-k). The latter had flakes removed in no specific pattern, while the former rested on an anvil and were struck with a billet to remove flakes by percussion. The cores are described in Table 2 and their distribution is provided in Figure 4. Seventy percent of the cores are of Onondaga chert and 30 percent are of Haldimand.

The mean values presented in Table 2 indicate that there is a considerable size difference between the two core types. Over-all, the rotated cores are much larger than the bipolar cores. The Haldimand bipolar core is larger than the Onondaga versions, while the opposite holds true for the rotated cores. In general, the cores recovered from Laphroaig appear to be well worked (Figure 3), suggesting that they were reduced almost until they were exhausted. It has also been suggested that the bipolar cores are worked core remnants (Paul Lennox, personal communication 1996).

Chipping Debitage

For analytical purposes, the chipping debitage was divided into seven morphological types, with each type representing a fairly distinct stage in the chipped lithic reduction sequence. The types are defined as shatter (blocky waste material), primary decortication (dorsal surface is completely covered with cortex), secondary decortication (dorsal sur-

Table 2. Cores.

Unit	Type	Material*	Length	Width	Thick	Weight
035:027	Bipolar	Onon	28.1	19.6	10.0	5.6
035:028	Bipolar	Raid	34.6	19.4	7.2	3.9
035:027	Bipolar	Onon	28.4	23.7	6.7	4.3
033:026	Bipolar	Onon	23.7	11.2	7.3	2.0
032:031	Bipolar	Onon	27.2	15.0	8.5	2.8
		Mean	28.4	17.8	7.9	3.7
		s.d.	3.93	4.79	1.32	1.39
032:030	Rotated	Onon	41.6	26.8	18.2	15.4
032:027	Rotated	Onon	37.2	30.3	18.6	18.2
031:025	Rotated	Hald	35.1	24.6	10.2	7.7
032:029	Rotated	Onon	29.0	(14.9)	(12.2)	(3.2)
033:028	Rotated	Raid	35.6	24.3	8.6	9.4
		Mean	35.7	26.5	13.9	12.7
		s.d.	4.54	2.77	5.24	4.95

*Onon is short for Onondaga and Hald for Haldimand.

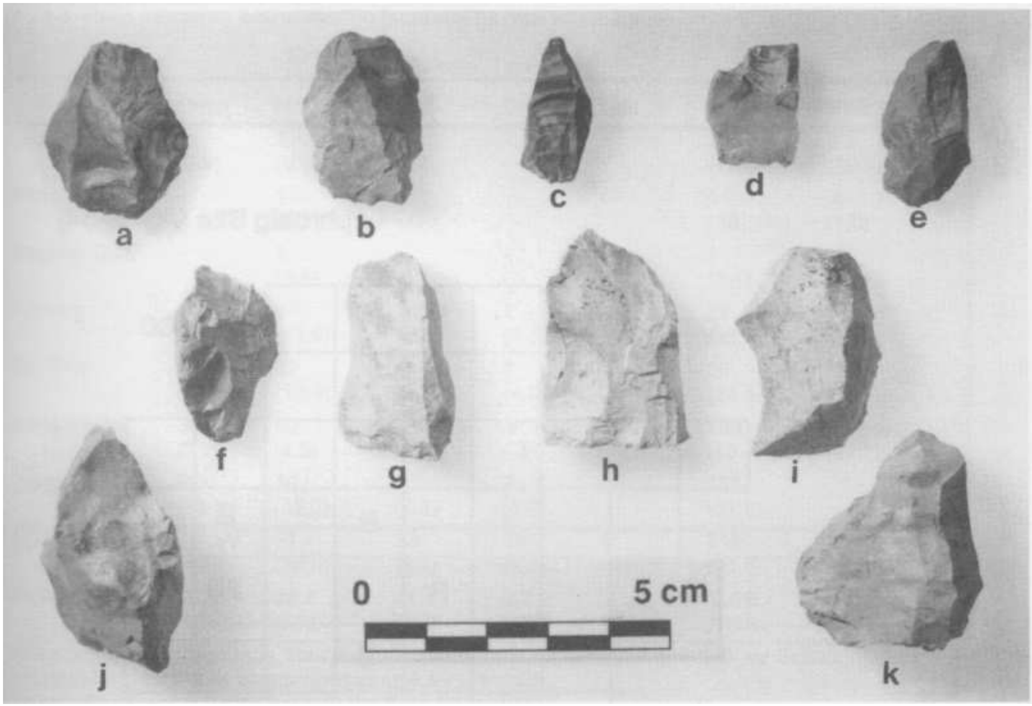

Figure 3. Bipolar Cores (a-c,e,f), Rotated Cores (g-k) and Wedge (d)

face is partially covered with cortex), primary (large flakes removed to shape a core), biface thinning (smaller flakes removed to shape biface preforms or tools), edge trimming (small flakes removed in forming and sharpening bifacial tools) and fragments (distal ends of broken flakes). In Table 3, the debitage from Laphroaig is summarized by flake type and material, with the frequency and weight (in brackets) provided for each type. To ensure that each flake is counted only once, only the typed flakes are included in the Total and Percent columns. The number of typed flakes per one-metre square is indicated in Figure 5 and the coded flake frequency is provided in Figure 6.

Most of the debitage is in the form of either edge finishing (49.8 percent) or biface thinning flakes (30.1 percent). Combined, they account for 79.9 percent of all debitage, yet only 42.7 percent of the weight. Since only one primary decortication flake and one secondary decortication flake were recovered, it is impossible to accurately determine whether the cortex is nodular or tabular and, hence, whether a primary or secondary source material was utilized. The debitage recovered indicates that the main lithic-oriented activity conducted at the site was associated with the finishing and sharpening of chipped lithic tools. Although the frequency of edge finishing flakes seems unusually high, many more could have been missed during the screening of the heavy clay subsoil.

Utilized Flakes

Twenty-four utilized flakes were recovered from Laphroaig. All have use-wear, as evidenced by tiny flakes less than 1 mm high on one edge. None have larger edge wear flake scars (> 2 mm) that indicate intentional retouch. The utilized flakes are described in Table 4 and their distribution is shown in Figure 7. The utilized flakes are typed according to the same flake categories as those used for debitage. The material, length, width, thickness, and weight as well as the location of wear (left lateral, right lateral, distal or proximal/dorsal or ventral), the shape of wear (convex, concave, straight, pointed or irregular), and length of wear (L of W) are provided (Table 4).

Of these expedient tools, 37.5 percent are made of Haldimand chert, 54.2 percent of Onondaga and 8.3 percent of Colborne. Most

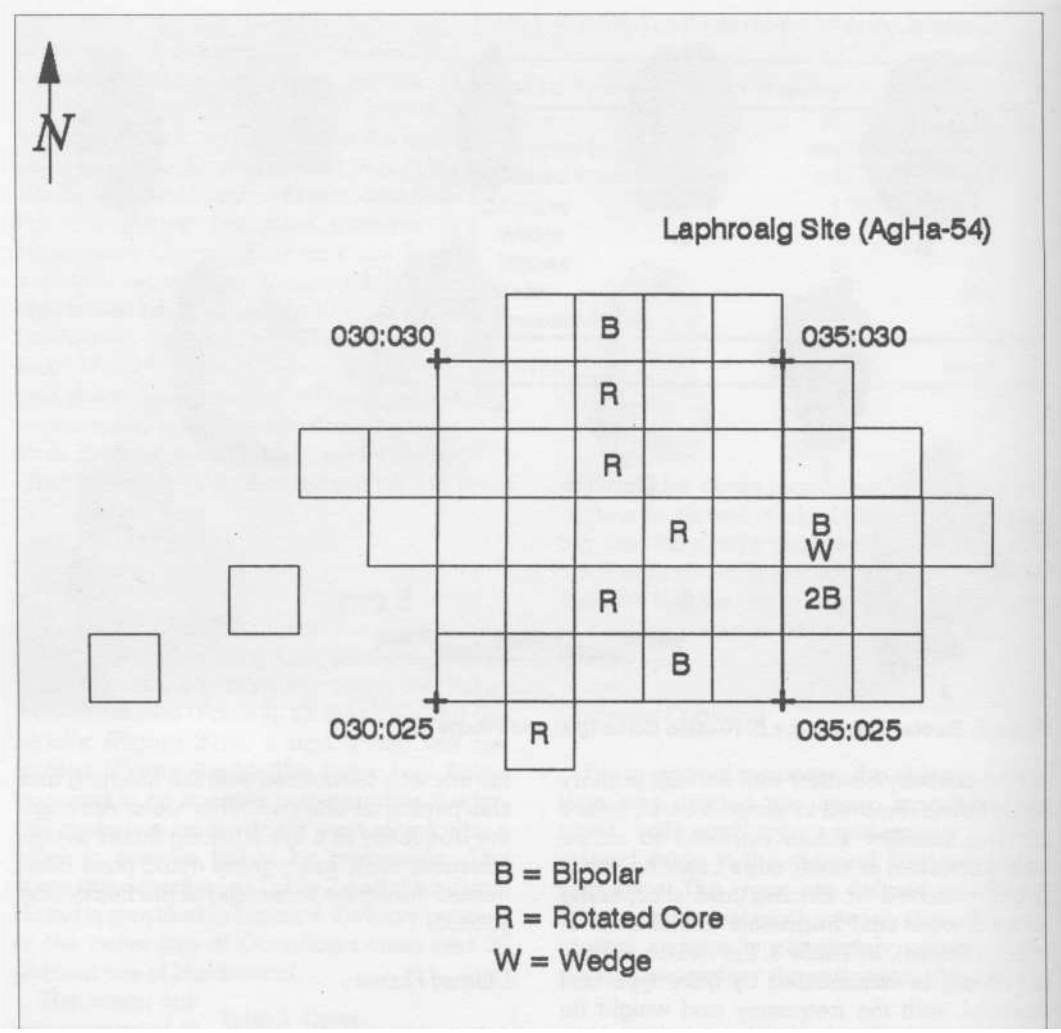

Figure 4. Distribution of Cores and Wedge

are made from primary flakes (58.3 percent) which is notable because these flakes comprise only 6.2 percent of the entire debitage assemblage. In fact, there are nearly as many utilized primary flakes (n=14) as there are primary flakes in the debitage sample (n=22). The remaining utilized flakes are biface thinning flakes (37.5 percent) and one un-typed fragment. The average weight of the utilized primary flakes is 5.7 g, while the figure for utilized biface thinning flakes is 3.1 g. This is substantially more than the average weight of these types from the debitage assemblage (1.5 g for primary flakes and .45 for biface thinning flakes). The large flakes were obviously selected for utilization. Furthermore, most (83.4 percent) are utilized on the dorsal surface, indicating that curvature was a consideration when selecting flakes for utilization, presumably because this would make it easier to hold while providing a sharper cutting edge angle.

Two utilized flakes (recovered from units 30:29 and 32:29) appear to have been utilized as scrapers. Both are made from primary flakes with utilization on the distal edge of the dorsal surface. The remainder are simply identified as general utilized flakes. Interestingly, there is a tight cluster of utilized flakes in the southeast corner of the excavated area (Figure 7).

Scraper

A single formal end scraper (Figure 8:g),

Table 3. Flake frequency and weight (in brackets) by type and material.

	Material[1] Type						
Flake Type	Onon	Hald	Colb	Selk	Unk	TOTAL	PERCENT[2]
Shatter	11 (8.9)	7 (8.9)	2 (.5)	-	-	20 (18.3)	9.1 (19.6)
Prim. Dec.	-	1 (.9)	-	-	-	1 (.9)	.4 (1.0)
Second. Dec.	-	1 (1.1)	-	-	-	1 (1.1)	.4 (1.2)
Primary	14 (17.6)	6 (11.9)	1 (1.8)	1 (1.8)	-	22 (33.1)	10.0 (35.5)
Bif. Thin.	22 (11.0)	32 (10.9)	4 (3.5)	7 (4.0)	1 (.1)	66 (29.5)	30.1 (31.6)
Edge Finish	30 (2.7)	50 (4.8)	26 (2.6)	3 (.3)	-	109 (10.4)	49.8 (11.1)
Fragments	86 (36.5)	40 (12.2)	7 (2.1)	2 (1.0)	-	135 (51.8)	
TOTAL[2]	77 (40.2)	97 (38.5)	33 (8.4)	11 (6.1)	1 (.1)	219 (93.3)	99.8% (100%)
PERCENT[2]	46.0 (52.9)	38.7 (34.9)	11.3 (7.2)	3.7 (4.9)	.3 (.1)	100% (100%)	

[1]Onon is short for Onondaga, Raid for Haldimand, Colb for Colborne and Selk for Selkirk. Unidentified material is categorized as Unk for unknown.
[2]Total and percent columns exclude the flake fragments

recovered from unit 31:26 (Figure 10), is made from a primary flake of Haldimand chert. It is 31.4 mm long, 18.0 mm wide, 7.5 mm thick, and has a bit that is angled at 60 degrees and is 17.0 mm wide. It appears to be similar to the end scrapers recovered from the Early Archaic Kassel site, located near Kitchener (Lennox 1993:13, Figure 6), but is less finely worked than those from the Early Archaic Nettling Site along the north shore of Lake Erie (Ellis et al. 1991:12, Figures 7 and 8).

Wedge

A single wedge was recovered from unit 35:28 (Figure 3:d; Figure 4). It is made of Haldimand chert and is 20.1 mm long, 16.2 mm wide, 5.1 mm thick, and weighs 1.6 g. The wedge is small and rectangular, making it significantly different in shape than the bipolar cores. It is also substantially smaller than the average size of the bipolar cores listed in Table 2.

Bifaces

Five biface fragments of three different types were recovered from Laphroaig (Figure 8:b-f). Their classification is based on the extent of bifacial reduction. The bifaces are described in Table 5 and their distribution shown in Figure 10. One (Figure 8:b) is simply a shaped biface with no bifacial thinning, two are biface blanks (Figure 8:c and d) which have more pronounced thinning, and two are finished bifaces (Figure 8:e and f) which are generally thinner and have evidence of finer flaking. One is of Haldimand chert and the remainder are Onondaga. These bifaces are too few and too fragmented for a detailed analysis of Early Archaic biface reduction techniques.

Knife

A bifacial knife (Figure 8:a) made of Haldimand chert was recovered from unit 35:27 (Figure 10). The stem or base is missing, but the remaining fragment is 65.1 mm long, 30.1 mm wide, 9.4 mm thick, and weighs 17.3 grams. The lateral margins are finely flaked, resulting in serrated edges, and one lateral edge was more extensively resharpened, resulting in a slightly asymmetrical form. Serrated edges are often associated with Early Archaic projectile points (Ellis et al. 1990:73).

Table 4. Utilized flakes.

Unit	Type	Mat*	Length	Width	Thick	Weight	Locale	Shape	L of W
035:026	bif thin	Hald	(18.4)	21.1	3.5	(1.2)	p/d	cv	13.8
027:027	bif thin	Hald	(31.1)	22.4	5.6	(3.2)	rl/d	str	17.3
036:029	bif thin	Colb	10.4	12.8	2.8	.3	d/d	str	15.1
035:027	bif thin	Onon	17.7	20.3	3.3	.7	rl/d	cv	10.3
032:027	bif thin	Hald	32.3	19.4	4.9	1.8	ll/d	str	22.2
035:030	bif thin	Hald	25.8	16.1	3.6	1.2	d/d	str	10.0
032:027	bif thin	Onon	28.3	25.6	4.7	2.3	d/v	str	(10.1)
033:026	bif thin	Onon	26.5	20.2	3.2	1.3	ll/d	cv	6.1
035:027	bif thin	Onon	22.5	12.9	2.5	.5	d/d	irr	14.1
		Mean	23.4	19.0	3.8	3.1			13.6
		s.d.	7.31	4.29	1.04	2.16			4.93
030:029	primary	Onon	35.6	39.9	7.5	8.9	d/d	str	26.1
036:027	primary	Onon	21.3	39.8	5.6	4.0	d/d	irr	21.7
032:027	primary	Hald	(32.5)	17.6	3.6	(2.5)	ll/d	str	24.1
032:027	primary	Raid	27.4	24.3	6.2	3.9	d/d	str	21.2
032:029	primary	Onon	44.0	50.9	9.6	18.0	d/d	str	40.0
030:027	primary	Onon	28.4	32.8	7.9	6.3	p/v	str	18.2
034:027	primary	Colb	25.4	17.5	6.9	1.8	rl/d	cv	24.6
033:026	primary	Hald	29.3	30.9	6.1	4.3	rl/v	irr	21.8
036:028	primary	Onon	27.7	26.6	6.1	2.9	ll/v	str	16.9
036:028	primary	Onon	40.3	15.6	6.5	4.1	d/d	cv	10.0
035:027	primary	Hald	31.8	29.4	9.1	5.4	d/d	irr	16.8
034:029	primary	Hald	25.2	31.1	6.7	4.5	ll/d	str	15.5
035:027	primary	Onon	(23.3)	14.8	4.1	(1.4)	rl/d	str	(10.1)
035:027	primary	Onon	39.2	21.2	7.0	4.3	p/d	cv	6.7
027:027	fragment	Onon	(18.2)	(12.7)	(5.9)	(1.7)	-/d	str	(16.3)
		Mean	31.3	28.0	6.6	5.7			20.3
		s.d.	6.98	10.59	1.64	4.25			8.18

*Onon is short for Onondaga, Hald for Haldimand, and Colb for Colborne.

Projectile Points

The five projectile points (Figure 9) are described in Table 6 and their distribution is shown in Figure 10. Four of the points (Table 6:a-d) are very similar in size and shape and appear to belong to a single morphological type (Figure 9:a-d). Of the four, two are complete and two are small shoulder and stem fragments. All are very small with an average length of 29.4 mm (n=2), average shoulder width of 16.6 mm (n=3), and average thickness of 4.8 mm (n=4). They have slightly expanding stems with an average length of 7.5 mm (n=2), an average basal width of 11.5 mm (n=2), and an average neck width of 10.6 mm (n=3). All

Table 5. Bifaces.

Unit	Type	Mat.*	Length	Width	Thic	Weight
035:027	Blank	Hald	(25.4)	22.4	8.3	(4.4)
032:027	Blank	Onon	(26.0)	(22.5)	7.7	(2.5)
031:030	Rough	Onon	(43.4)	(34.4)	(8.0)	(10.7)
035:029	Finished	Onon	(24.6)	25.6	7.8	(3.9)
036:026	Finished	Onon	(19.6)	(9.2)	5.5	(0.7)

*Onon is short for Onondaga and Hald for Haldimand.

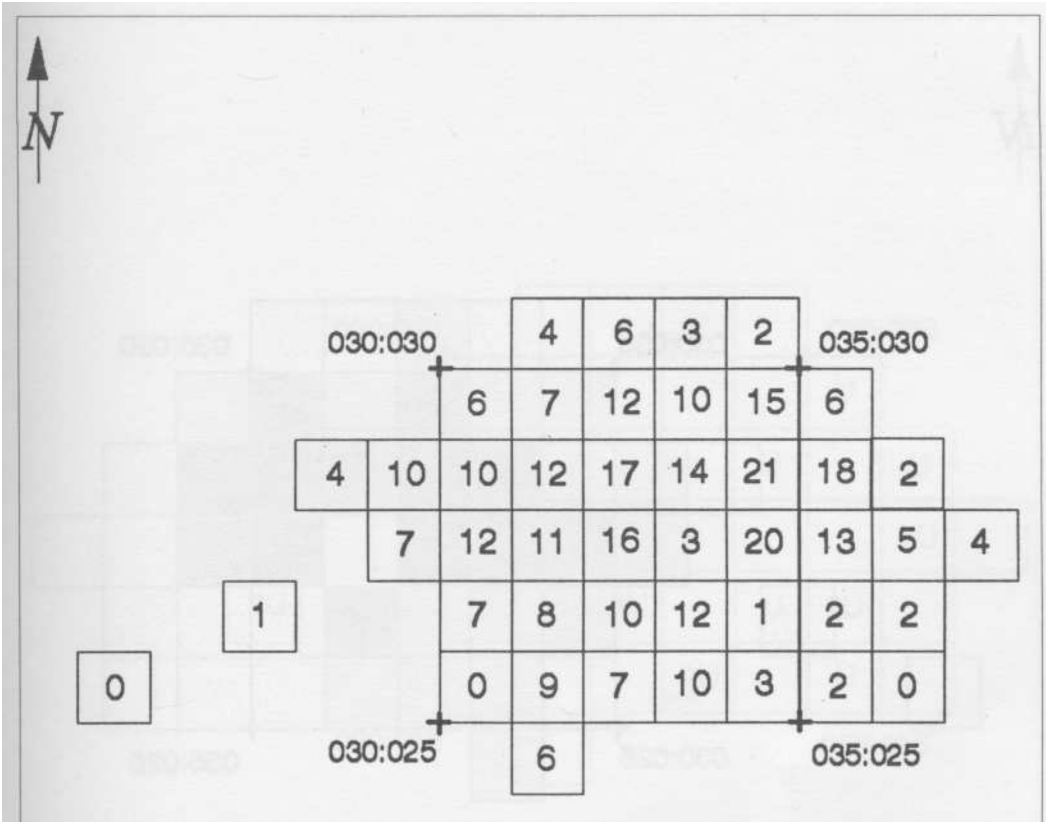

Figure 5. Flake Count per Unit

appear to have squared shoulders and straight, lateral blade edges that are heavily resharpened, as indicated by a series of small flakes removed from the blade edges, giving them a slightly asymmetric appearance. Overall, the complete specimens are *very* finely flaked. The bases are slightly concave, which is a diagnostic trait of Early Archaic bifurcate base points (Ellis et al. 1990:78).

A large side-notched projectile point (Table 6:e; Figure 9e) was recovered from unit 29:29. The Onondaga chert used for this point is much darker than that used for the other tools and debitage recovered from Laphroaig and suggests that the source is distinct. This point was manufactured from a large ovate biface preform, which suggests that this could be a Middle Woodland point similar in shape to the Snyders type (Justice 1987:Figure 43a). Given the size of this point and the large side notches, it could also be a larger Early Archaic form such as Thebes, or a Middle Archaic Raddatz type point (Justice 1987: 54, 67). Since these point types generally have square to concave bases, it is unclear if this point is, indeed, one of these earlier types. These point forms are generally not associated with the bifurcate base horizon.

DISCUSSION

Age *arid Cultural* Affiliation

Based on the distinctive concave or bifurcate base points, the Laphroaig site was occupied primarily during the later stage of the Early Archaic period. A single Middle Wood-land, Early Archaic or possibly Middle Archaic type point made from a darker form of Onondaga chert, was recovered from west of the bifurcate base material (Figure 10). This point is believed to be an intrusive, isolated point that was lost or discarded near the bifurcate base component. Indeed, surveys along the Grand River record numerous, often overlap-ping, occupations (e.g., Warrick 1991). Given the relatively tight cluster of material, it is assumed that the remainder of the material is

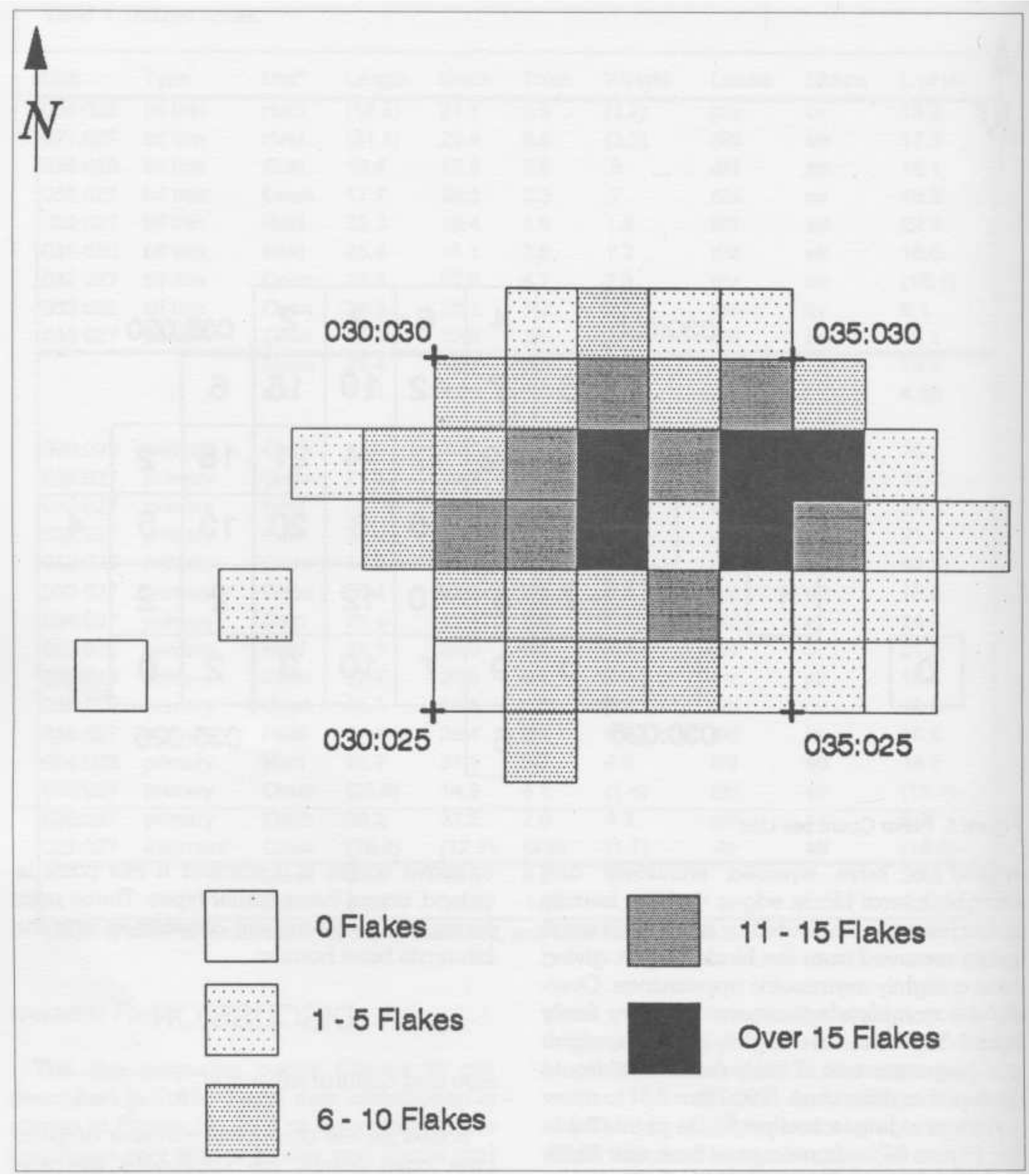

Figure 6. Coded Flake Count per Unit

all representative of the bifurcate base occupation of Laphroaig.

Bifurcate base points are found throughout the eastern United States (Justice 1987:91-99), including Tennessee (Chapman 1980:124), Michigan (Fitting 1964), New York (Ritchie 1961:115; Levine 1989) and the Atlantic seaboard (Dincauze 1976). In Southern Ontario, bifurcate base points have been identified from surface surveys north of Lake Ontario (Roberts 1985:90), as well as from the Richmond Hill (Austin 1994:64), Brantford (Ramsden and Williamson 1988:Plate le), Cambridge (Williamson 1987:Plate la) and Rideau Lakes (Watson 1990:15) areas. Although there is distinctive metric variation in bifurcate base points (e.g., Wright 1978:Plate I, 13-21,25,26, 28-32), those recovered from the Blue Dart and Kassel sites in the Regional Municipality of Waterloo (Lennox 1993:14, 24) and the Allan Site in Haldimand County (Parker 1986:80) have been identified as LeCroy.

LeCroy points have deeply bifurcated bases with pointed basal ears and straight, generally

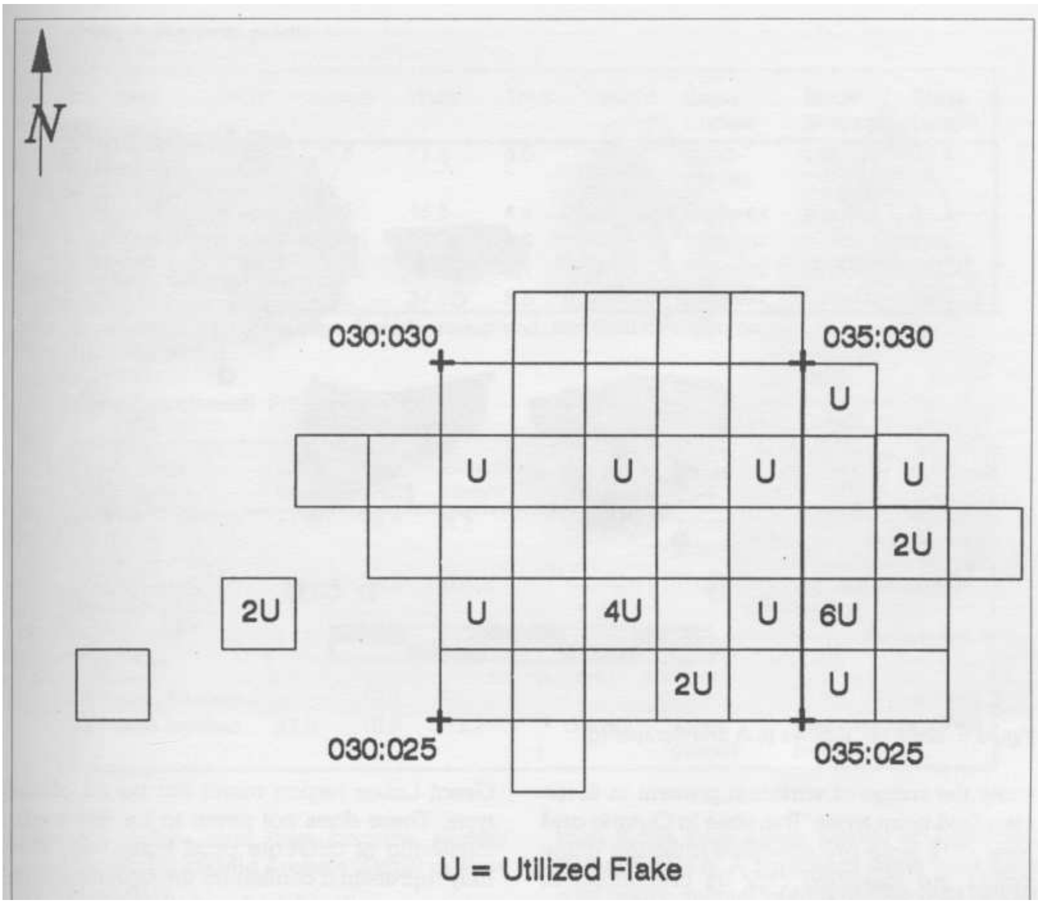

Figure 7. Distribution of Utilized Flakes

resharpened, blade edges that are occasionally serrated and usually triangular in outline (Justice 1987:91). They range in size from 19-35 mm long, 16-28 mm wide and 4-6 mm thick (Justice 1987:246). The type known as Lake Erie Bifurcate Base, although similar to LeCroy, is usually longer and narrower and often has a serrated blade and a straight to slightly expanding stem. In addition, the Lake Erie Bifurcate Base point has a smaller hafting area than the LeCroy point and often exhibits burinated basal tangs (Justice 1987:92). Lake Erie Bifurcate Base points range from 22-38 mm long, 16-20 mm wide and 3-6 mm thick (Justice 1987:246). A third possibly related point type is the early Middle Archaic Neville type, originally defined by Dincauze (1976) from the Neville site in New Hampshire. Examples of this type have been identified in Southern Ontario but to date no sites have been excavated (Ellis et al. 1990: 80). Justice (1987:99) lumps Neville points with Stanly Stemmed, but the latter appear to be somewhat larger with broader blades. Stanly points range from 40-80 mm in length and from 25-45 mm in width (Justice 1987:246). Neville or Stanly points from New York State generally have contracting stems with straight bases (e.g., Funk 1979: plates 7 and 8; Dumont and Dumont 1979: plate 1; Tompkins and DiMaria 1979: Figure 2) which are distinctly different from the points from Laphroaig. The Middle Archaic Stanly/Neville-like points illustrated by Ellis et al. (1990:80, Figure 4.10) appear to be similar in form to the points from Laphroaig, but are not consistent with the type description given by Justice (1987:99).

Table 7 provides the metrics for some examples of bifurcate point types from Ontario and New York state. These points, for the most part, were measured from photographs in the referenced reports. Although this is by no means the most satisfactory approach for recovering metric data, the object of the exercise was simply to obtain comparative information to

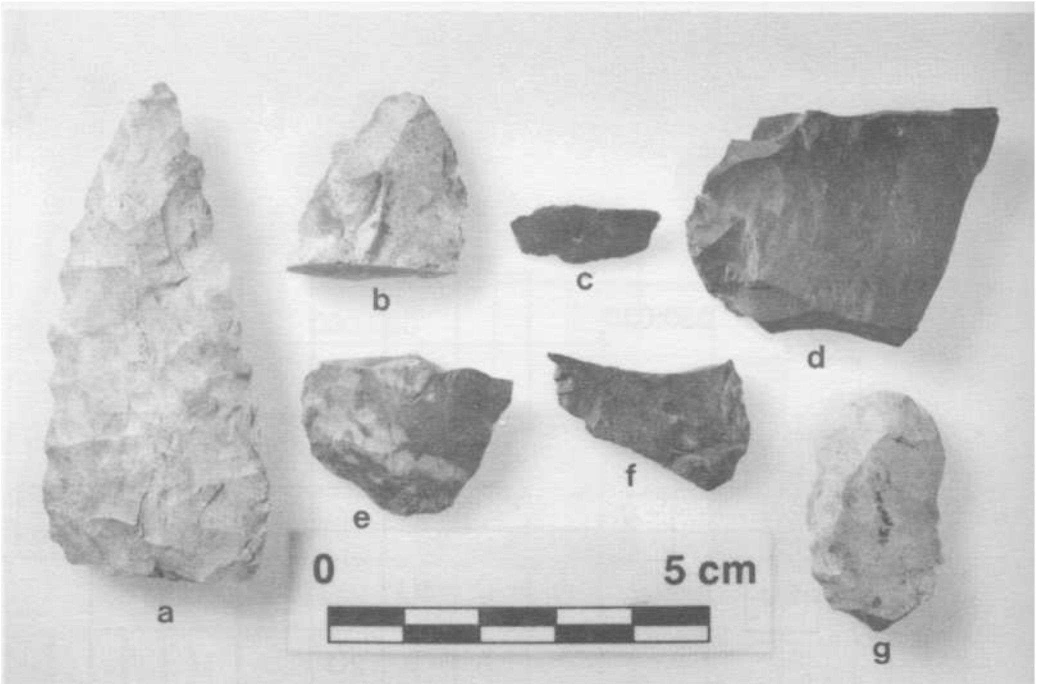

Figure 8. Knife (a), Bifaces (b-f) and Scraper (g)

show the range of variation present in these identified point types. The sites in Ontario and New York state are specified although many points are identified only as originating in Southern Ontario. The length and width of the points in Table 7 were plotted on a scattergram (Figure 11), as were the base width and stem length (Figure 12) and base width and neck width (Figure 13). For each point used in this comparison, base width was measured across the point base and neck width was measured immediately beneath the shoulder. In Figures 11 to 13, those points not typed by the original author are simply identified as "Bifurcate".

The scattergram of length and width (Figure 11) indicates wide variation between and within types, presumably because many bifurcate point blades are heavily reworked. In contrast, the base width and stem length (Figure 12) and the base width and neck width (Figure 13) scattergrams suggest similarity between some bifurcate base points, presumably because the bases are generally not reworked. This suggests that it is better to type bifurcate points using their stem length and basal width rather than overall length. The variation among bifurcate point types indicates that the points identified as LeCroy from the Great Lakes region might not be all of one type. There does not seem to be any major clustering of bifurcate point types, and they may represent a continuum through time, with one type grading into the next.

Despite the problems associated with assigning bifurcate base projectile points to specific types, it is clear that the four points from Laphroaig are most comparable in size and shape to Lake Erie Bifurcate Base points. The Laphroaig points are slightly shorter than average (most likely because of resharpening), but they do fall within the accepted size range. The two complete Laphroaig specimens each have small sections broken off or removed from one basal tang. These appear to have been caused by a sideways blow to the very tip of the tang; presumably, these are what Justice (1987:92) refers to as burinated basal tangs. Temporally, Lake Erie Bifurcate Base points date between the Early Archaic LeCroy and the Middle Archaic Stanly Stemmed points, or circa 6,300 to 5,800 B.C. (Justice 1987:95). This time range is accepted for the occupation of the bifurcate component at Laphroaig. Bifurcate base points appear to become longer and narrower through time, as they grade from late Early Archaic LeCroy type points to Lake Erie

Table 6. Projectile points.

	Unit	Mat*	Length	Width	Thick	Weight	Cross Section	Blade Shape	Blade Length
a	031:029	Onon	26.5	17.2	5.0	1.4	piano-convex	straight	18.5
b	032:027	Hald	32.2	15.5	4.5	1.6	biconvex	straight	24.5
c	032:027	Colb	(19.0)	(16.4)	4.6	(1.5)	biconvex	-	-
d	033:026	Onon	(16.8)	17.0	5.1	(1.0)	biconvex	straight	(12.0)
e	029:029	Onon	62.9	37.5	8.8	19.8	biconvex	convex	48.0

*Onon is short for Onondaga, Hald for Haldimand, and Colb for Colborne. Table 6

(continued). Projectile points.

	Hafting Element	Basal Width	Neck Width	Shoulder Height	Basal Shape	Basal Finish	Comment
a	straight stem	12.0	10.5	8.2	concave	thinned/ ground	blade edges are resharpened
b	straight stem	10.9	10.5	6.8	concave	thinned	blade edges are resharpened
c	straight stem	11.8	10.8	(8.0)	concave	thinned	broken basal tangs & blade
d	straight stem	-	10.7	-	-	-	tip and base broken
e	side notched	27.9	19.8	13.2	convex	lightly ground	made from an ovate preform

Bifurcate points, and then become slightly wider again as Middle Archaic Stanly or Neville type points.

Lake Erie Bifurcate Base points are distributed from the western end of Lake Erie through to the Midwest (Justice 1987:95, Map 39). Their tentative identification at Laphroaig extends their distribution north of Lake Erie into southwestern Ontario. This requires corroboration on sites with diagnostic artifacts excavated with associated radiocarbon dates. In light of their restricted distribution, Lake Erie type points might also represent a regional bifurcate base variant.

To date, there are only two single component bifurcate base sites reported in Southern Ontario. Three bifurcate base points recovered from the Kassel site (Lennox 1993:14, Figure 7) are similar in size and shape to those from Laphroaig, although they are somewhat smaller (Figures 11-13) with slightly deeper basal concavities. Their overall size and shape suggest that they are comparable in age. The single point recovered from the Blue Dart site is substantially larger with a more deeply bifurcated base (Lennox 1993:23, Figure 13) than those from either Kassel or Laphroaig (Figures 11-13). A sample of white pine charcoal from a subsoil feature at Blue Dart yielded a radiocarbon date of 8,320+-60 B.P. (Lennox 1993:20) or 6,370+-60 B.C. The subtle changes in point size and shape might suggest a slightly later date for the occupations at both Laphroaig and Kassel (approximately 6,000 to 5,800 B.C.). Unfortunately, since neither site is radiocarbon dated, their exact temporal position cannot' be determined.

The chipped lithic tools from Laphroaig are reminiscent of tools recovered on other Early Archaic period sites in Southern Ontario. The bifaces are badly fragmented, but they are morphologically similar to those recovered at the earlier Nettling (Ellis et al. 1991:10, Figure 5) and Culloden Acres sites near London (Ellis and Deller 1991:5, Figure 2). As well, a long, slim bifacial knife was recovered from one site in the Early Archaic Kipling cluster of Nettling sites, located north of Toronto (Jeff Bursey, personal communication 1995). Although the bifaces from these earlier sites are not serrated, they are long and narrow, much like the one from Laphroaig.

Table 7. Bifurcate base points from Southern Ontario and New York State.

Locale	Type	Length	Width	Thick	Stem Length	Neck Width	**Base** Width	Reference
Corrado		24	22	6	11	13	14	Ramsden 1992:Plate 1
Corrado			20	5	12	13	14	Ramsden 1992:Plate 1
Cambridge	LeCroy	29	26	6				Williamson 1987:Plate la
Brantford			17		8	12	12	Ramsden and Williamson 1988:plate le
Richmond Hill	LeCroy	48	21	7	9	12	14	Austin 1994:65, Figure 10i
Allan Site	LeCroy	35	22	5	7	12	13	Parker 1986:264, Plate 10b
Rideau Lakes	LeCroy	27	21		10	8	9	**Watson 1990:14,** Figure 5a
Kassel	LeCroy	25	20	3	8	8	9	Lennox 1993:14, Figure 7b
Kassel	LeCroy	24	15	3	7	8	9	Lennox 1993:14, Figure 7c
Blue Dart	LeCroy	33	29	5	12	13	15	Lennox 1993:23, Figure 13a
Laphroaig		32	16	5	7	10	11	this report
Laphroaig		27	17	5	8	11	12	this report
S. Ontario	Stanly/ Neville	38	20		8	10	11	Ellis et al. 1990:80
S. Ontario	Stanly	32	16		5	10	10	Ellis et al. 1990:80
S. Ontario	Stanly	-	18		7	10	10	Ellis et al. 1990:80
Russ Site, **NY**	Stanly/ Neville	32	30		10	12	16	Funk 1979:Plate 7
Russ Site	Stanly		22		9	12	12	Funk 1979:Plate 7
Russ Site	Stanly	38	24		9	12	13	Funk 1979:Plate 7
Russ Site	Stanly	28	19		13	13	14	Funk 1979:Plate 7
S. Ontario		38	17		7	7	10	Ellis et at. 1990:79, Figure 4.9
S. Ontario	-	42	16		7	11	12	Ellis et at. 1990:79, Figure 4.9
S. Ontario		33	24		12	11	13	Ellis et al. 1990:79, Figure 4.9
S. Ontario		27	25		12	12	14	Ellis et at. 1990:79, Figure 4.9
S. Ontario		25	22		11	18	21	Ellis et al. 1990:79, Figure 4.9
S. Ontario		23	18		11	16	18	Ellis et al. 1990:79, Figure 4.9
S. Ontario		23	17		13	10	12	Ellis et al. 1990:79, Figure 4.9
S. Ontario	-	27	19		9	8	10	Ellis et al. 1990:79, Figure 4.9
	Mean	30.9	20.5	5.0	9.3	11.2	12.6	
	s.d.	6.60	3.95	1.25	2.22	2.47	2.83	

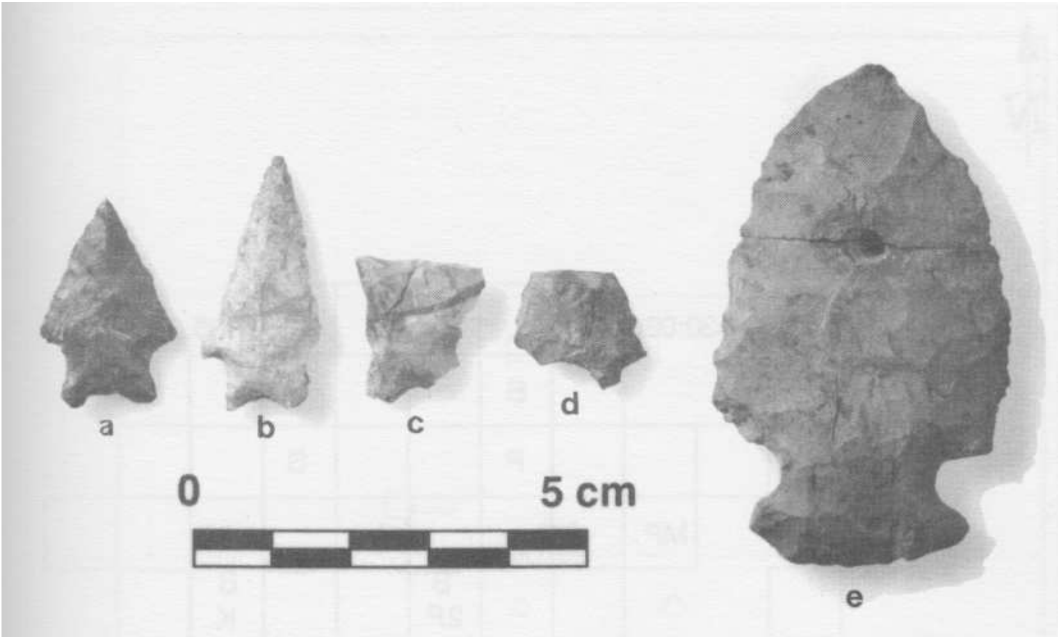

Figure 9. Projectile Points

The scraper from Laphroaig is similar to the end scrapers from Kassel (Lennox 1993:13, Figure 6), once again pointing to contemporaneity. By comparison, more finely worked, convex end scrapers were found at the earlier Nettling (Ellis et al. 1991:12, Figures 7 and 8) and Culloden Acres (Ellis and Deller 1991:5, Figure 2) sites, but they are generally absent from the later bifurcate base point sites. This suggests that changes in scraper form may serve as a temporal and/or cultural marker for the Early Archaic.

Paleo-Environment

Marl and wood deposits from lake cores dating to approximately 6,000-5,800 B.C. indicate that the Southern Ontario climate was about four degrees Celsius cooler (mean annual temperature) and much drier than the modern environment (Edwards and Fritz 1988: 1405, Figure 8). Paleo-pollen diagrams from Hams Lake, located in Brant County about four kilometres northeast of Paris (Bennett 1987: 1797, Figure 4), indicate that the forest composition would have had about 50 percent pine and 25 percent oak with much lower percentages of maple, ironwood, elm and ash. Although Wright (1978:69) cautioned against relying too heavily on paleo-environmental data, considerable work has been done in the interim (e.g., Karrow and Warner 1990), and such data are now widely accepted and utilized.

On the basis of the paleo-pollen record, the late Early Archaic would have contained a wide array of tree and plant species and would have sustained many animal species (e.g., Keene 1981). Nicholas (1987:105) observes that forest growth during the Early Archaic is not directly comparable to the modern subarctic forest and that there is no known analogous forest available for comparison. Nicholas (1987), like many other researchers (e.g., Tuck 1972), is concerned more with the earlier Dalton or Nettling/St. Albans points, and not with the later bifurcate base horizon. On the basis of the available paleo-pollen information, the forest during the latter part of the Early Archaic would perhaps be similar to the north-ern edge of the transitional zone between the Carolinian and Canadian Biotic Provinces, with forest growth composed mainly of scrub red oak, maple and coniferous trees. Meltzer and Smith (1986:19) argue that Early Archaic subsistence throughout the Northeast was a

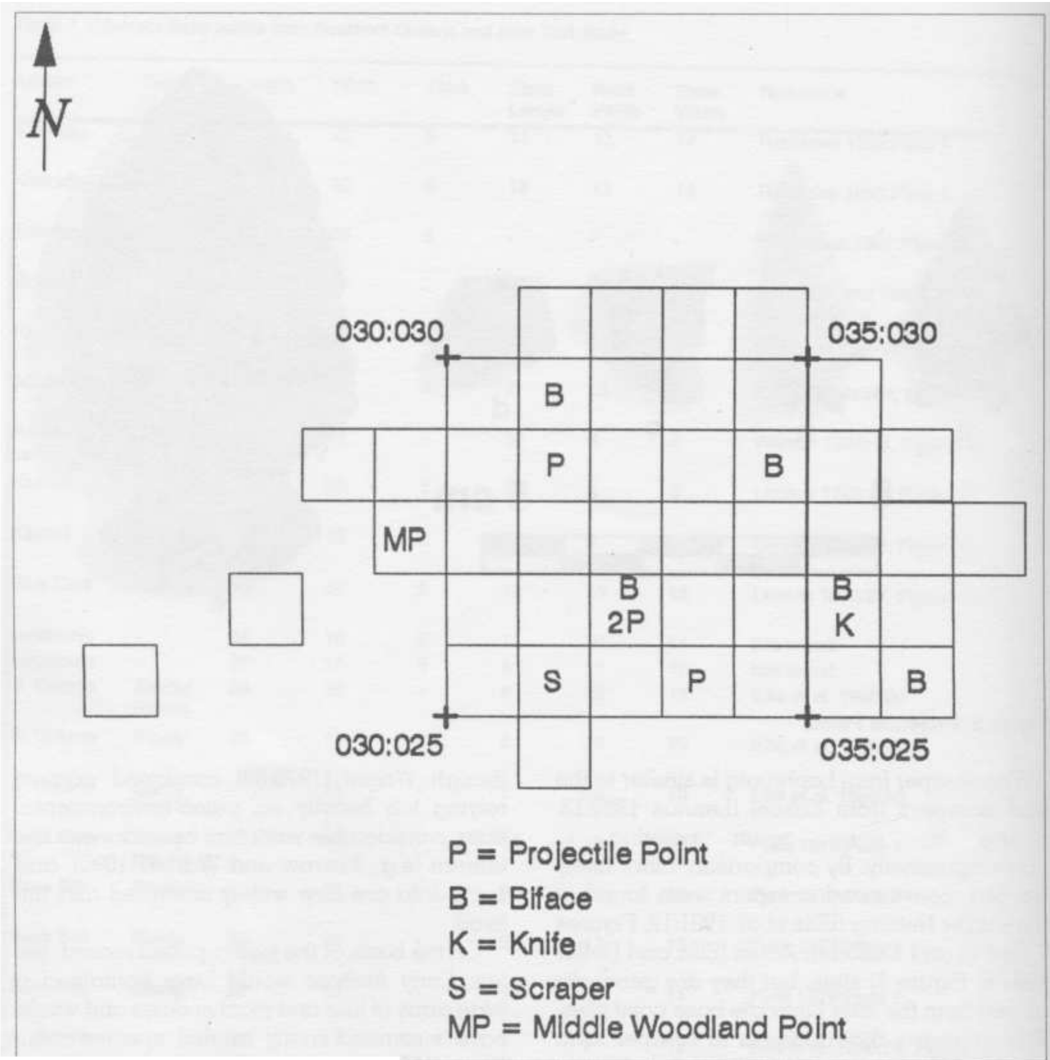

Figure 10. Distribution of Formal Tools

diffuse or general adaptation to a mixed forest environment. The environment would have consisted of "local, landscape mosaics... consisting of lakes, ponds, extensive wetlands and emergent riverine systems." This led to "the creation of local areas of high resource diversity, productivity, and reliability" (Nicholas 1987:105). Hence, the environment in the Grand River vicinity during the latter part of the Early Archaic would have been fairly rich, providing a diverse subsistence base for settlement.

Site Function, *Seasonality and Duration of* Occupation

The high frequency of cores and utilized flakes compared to debitage at Laphroaig indicates that expedient tools were used to perform many tasks. The mean length of the rotated cores is only slightly longer than the mean length of the utilized primary flakes. The rotated cores were presumably the source for the flakes to be used as expedient tools. By comparison, the bipolar cores are too small to have been the source for most of the flakes used for tools. The source materials for utilized biface thinning flakes were probably rough bifaces or biface preforms, which were removed from the site during abandonment. The absence of bifacial cores suggests that they were transported as raw material. Notably, there is a much higher ratio of utilized flakes to

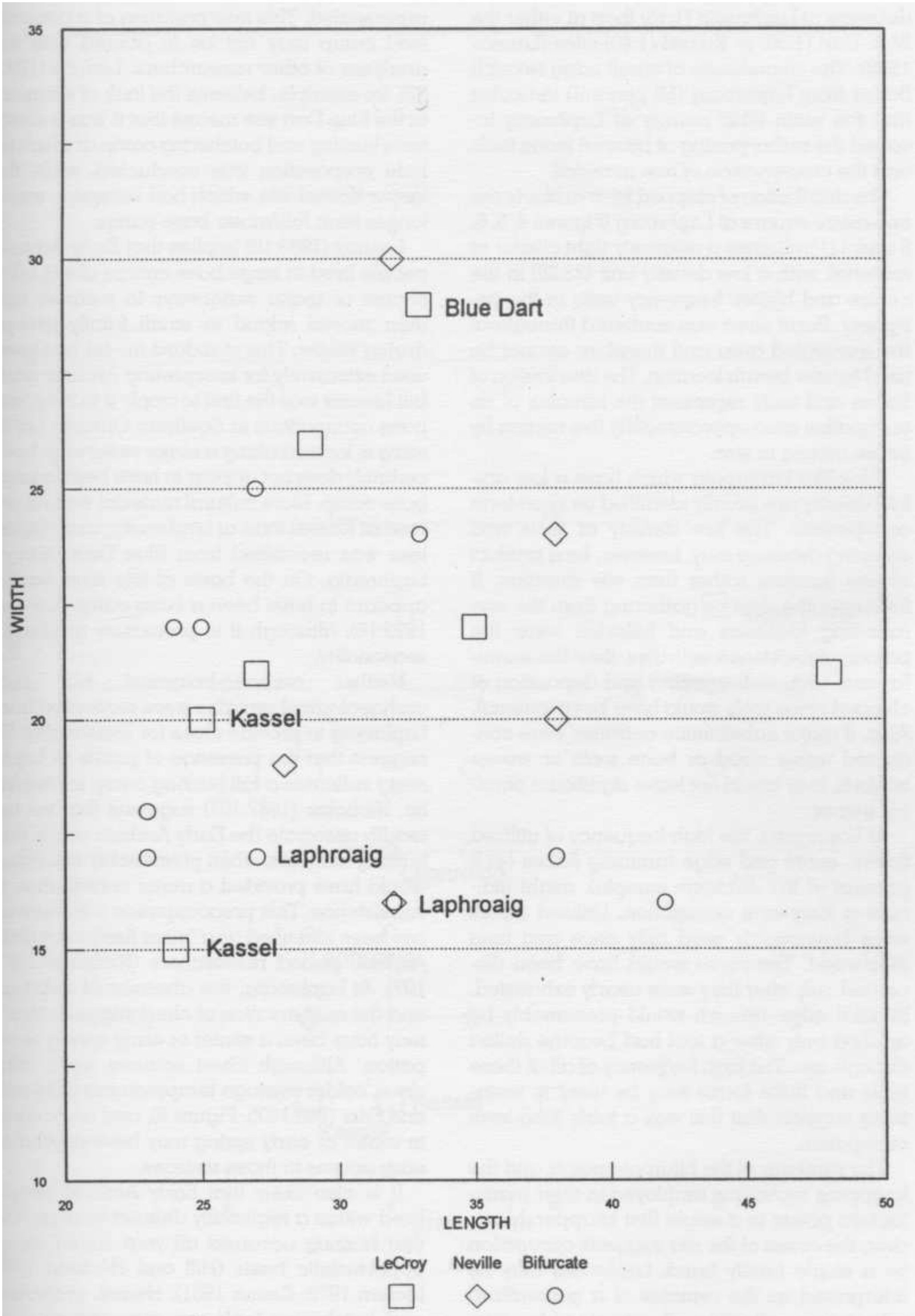

Figure 11. Point Width by Length Scattergram

debitage at Laphroaig (1:15) than at either the Blue Dart (1:50) or Kassel (1:40) sites (Lennox 1993). The abundance of small edge retouch flakes from Laphroaig (50 percent) indicates that the main lithic activity at Laphroaig involved the resharpening of bifacial stone tools and the conservation of raw material.

The distribution of chipped lithic artifacts per one-metre square at Laphroaig (Figures 4, 5, 6, 8 and 11) indicates a relatively tight cluster of material, with a low density unit (33:28) in the centre and higher frequency units in the periphery. Burnt chert was scattered throughout the excavated area and therefore cannot be used to infer hearth location. The distribution of flakes and tools represent the remains of an occupation area approximately five metres by seven metres in size.

Sites like Laphroaig which have a low artifact density are usually identified as short-term occupations. The low density of tools and chipping debitage may, however, be a product of site function rather than site duration. If fishing in the river or gathering from the surrounding lowlands and hillsides were the primary subsistence activities, then the manufacture, use, resharpening and deposition of chipped stone tools would have been minimal. Also, if major subsistence activities were conducted using wood or bone tools or woven baskets, they would not leave significant physical traces.

At Laphroaig, the high frequency of utilized flakes, cores and edge trimming flakes (49.8 percent of the debitage sample), might indicate a long-term occupation. Utilized flakes were presumably used only once and then discarded. The cores would have been discarded only after they were nearly exhausted. Bifacial edge retouch would presumably be applied only after a tool had become dulled through use. The high frequency of all of these tools and flake forms may be used to tentatively suggest that this was a fairly long-term occupation.

The similarity of the bifurcate points and the knapping technique employed in their manufacture points to a single flint knapper. Moreover, the extent of the site suggests occupation by a single family band. Laphroaig may be interpreted as the remains of a generalized adaptation, reflecting all aspects of hunting, gathering and fishing, rather than a special purpose camp where only one activity was represented. This interpretation of a generalized camp may not be in accord with the analyses of other researchers. Lennox (1993:23), for example, believes the lack of scrapers at the Blue Dart site means that it was a short-term hunting and butchering camp at which no hide preparation was conducted, while the larger Kassel site, which had scrapers, was a longer term fall/winter base camp.

Lennox (1993:16) implies that Early Archaic people lived in large base camps along lakeshores or major waterways in summer and then moved inland in small family groups during winter. This standard model has been used extensively for interpreting Archaic sites, but Lennox was the first to apply it to bifurcate base occupations in Southern Ontario. Laphroaig is located along a major waterway, but it certainly does not appear to have been a large base camp. More cultural material was recovered at Kassel than at Laphroaig, and slightly less was recovered from Blue Dart than at Laphroaig. On the basis of site size, Kassel appears to have been a base camp (Lennox 1993:16), although it is premature to identify seasonality.

Neither archaeo-botanical nor zooarchaeological remains were recovered from Laphroaig to provide clues for seasonality. To suggest that the presence of points at Laphroaig indicates a fall hunting camp is simplistic. Nicholas (1987:107) suggests that we too readily associate the Early Archaic solely with hunting activities, when presumably collecting would have provided a major contribution to subsistence. This preoccupation with hunting has been identified as a "meat fixation" among Archaic period researchers (Nicholas 1987:107). At Laphroaig, the absence of debitage and the conservation of chert suggests that it may have been a winter or early spring occupation. Although chert sources were fairly close, colder average temperatures (Edwards and Fritz 1988:1405, Figure 8), and snow cover in winter or early spring may have precluded easy access to those sources.

It is also likely that Early Archaic people lived within a regionally defined territory and that hunting occurred all year round on an opportunistic basis (Hill and Hurtado 1989; Jochim 1976; Keene 1981). Hence, projectiles and butchering tools are expected on most Early Archaic sites, regardless of the season of occupation. This interpretation is consistent

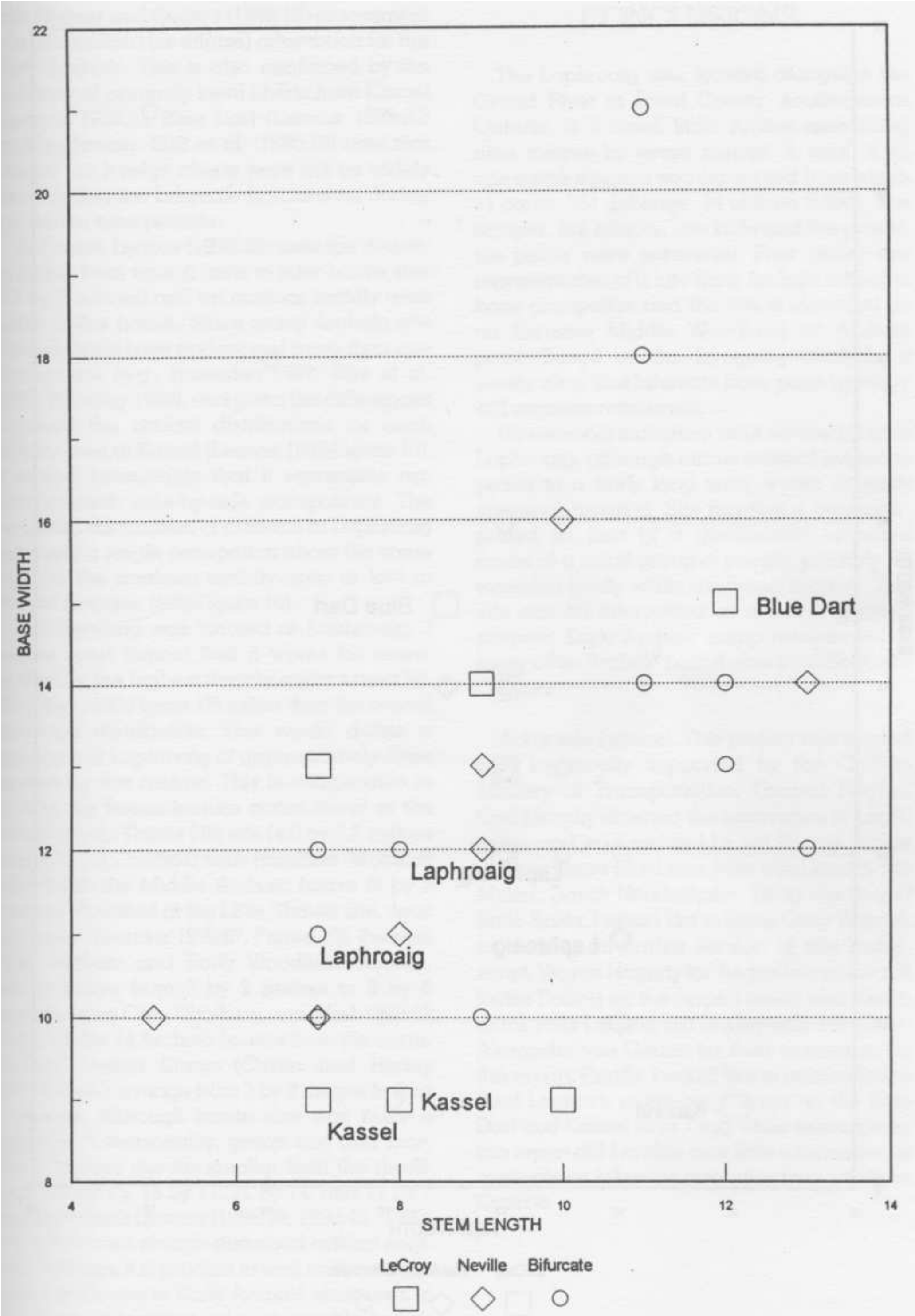

Figure 12. Point Base Width by Stem Length Scattergram

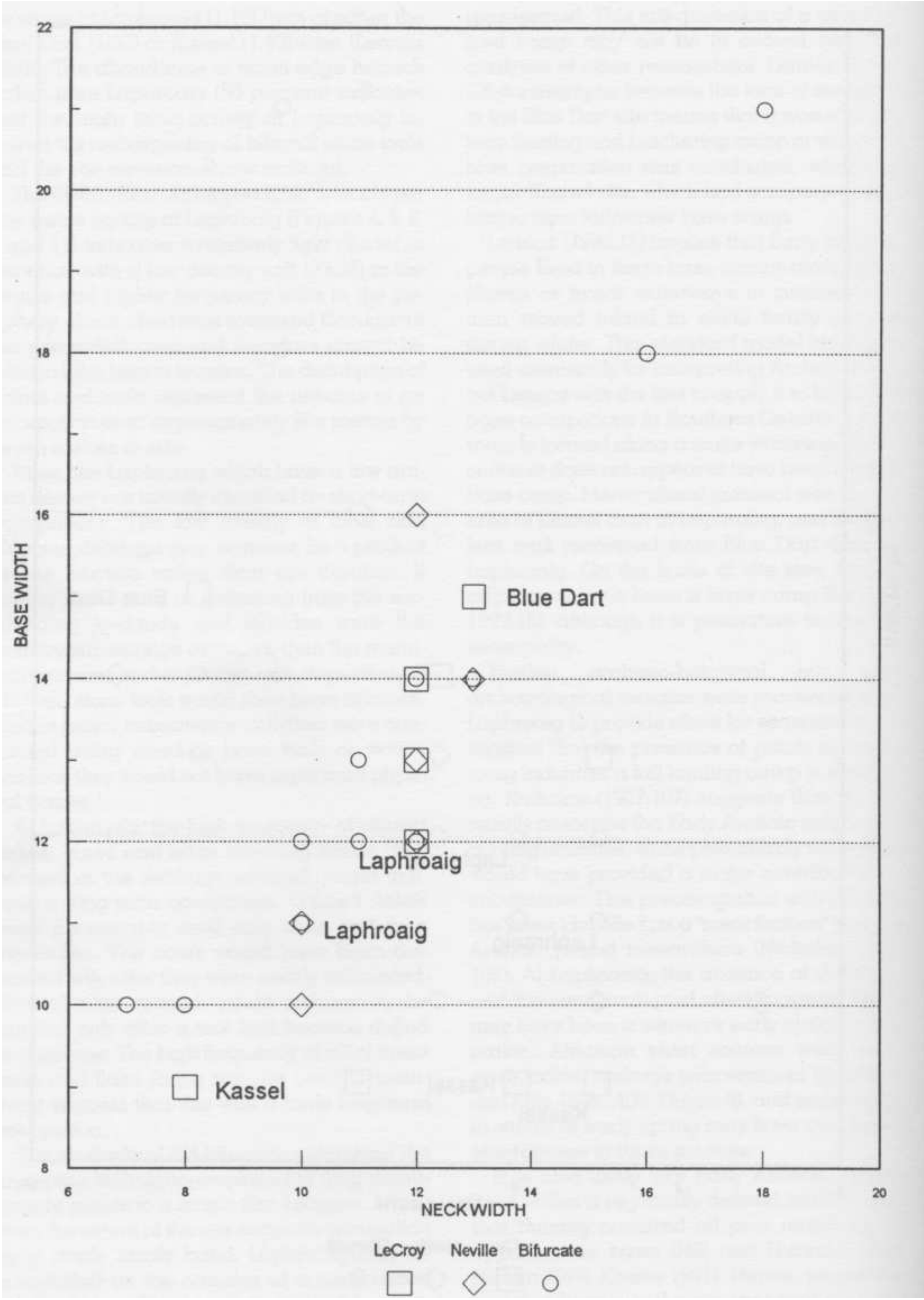

Figure 13. Point Base Width by Neck Width Scattergram

with Meltzer and Smith's (1986:19) assessment of a generalized (or diffuse) adaptation for the Early Archaic. This is also reinforced by the recovery of primarily local cherts from Kassel (Lennox 1993:6), Blue Dart (Lennox 1993:20) and Laphroaig. Ellis et al. (1990:78) note that "exotic" or foreign cherts were not as widely used during the bifurcate horizons as during the earlier time periods.

At Kassel, Lennox (1993: 25) uses the density of flakes from topsoil units to infer house size (11 by 7 metres) and an outdoor activity area north of the house. Since many Archaic site assemblages have evidence of more than one occupation (e.g., Ramsden 1992; Ellis et al. 1991; Woodley 1990), and given the differences between the artifact distributions for each activity area at Kassel (Lennox 1993:Figure 10), it seems reasonable that it represents two independent, side-by-side occupations. The restricted distribution of artifacts at Laphroaig suggests a single occupation about the same size as the northern activity area or loci at Kassel (Lennox 1993:Figure 10).

If a dwelling was located at Laphroaig, it seems most logical that it would be represented by the highest density artifact area (cf. Woodley 1990:Figure 17) rather than the overall debitage distribution. This would define a structure at Laphroaig of approximately three metres by five metres. This is comparable in size to the house-feature stains found at the Late Archaic Thistle Hill site (4.0 by 3.2 metres and 4.3 by 3.2 metres) near Hamilton (Woodley 1990:9-12), the Middle Archaic house (6 by 5 metres) identified at the Little Shaver site, near Ancaster (Timmins 1996:67, Figure 10), the nine Late Archaic and Early Woodland houses, which range from 3 by 2 metres to 9 by 6 metres, from Ohio (Stothers and Abel 1993:53 to 61), or the 14 Archaic houses from the north-eastern United States (Custer and Hodny 1989:58) which range from 3 by 2 metres to 8 by 6 metres. Although house size was likely a function of seasonality, group size and time, these houses are far smaller than the dwellings (18 by 13, 18 by 17, 21 by 14, and 11 by 7 metres) which Lennox (1986:19, 1990:45 , 1993: 25) infers from plough-disturbed artifact scatters. Perhaps it is prudent to wait until we have better evidence of Early Archaic structures in the form of features or post moulds before accepting house size estimates.

CONCLUSIONS

The Laphroaig site, located alongside the Grand River in Brant County, southwestern Ontario, is a small lithic scatter measuring nine metres by seven metres. A total of 45 one-metre squares was excavated from which 11 cores, 354 debitage, 24 utilized flakes, one scraper, five bifaces, one knife and five projectile points were recovered. Four points are representative of a late Early Archaic bifurcate base occupation and the fifth is identified as an intrusive Middle Woodland or Archaic point. Based on the foregoing analysis, it seems clear that bifurcate base point typology still requires refinement.

No seasonal indicators were recovered from Laphroaig, although circumstantial evidence points to a fairly long term, winter or early spring occupation. Site function is best interpreted as part of a generalized seasonal round of a small group of people, possibly an extended family within a regional territory. This site can be interpreted as a small, general purpose Early Archaic camp reminiscent of many other Archaic period sites from Southern Ontario.

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