

**Archaeological Assessment (Stage 2)
Boxwood Industrial Subdivision**

**Part Lots 27, 28 & 29, Geographic Township of Waterloo
City of Cambridge, R.M. of Waterloo, Ontario**

Submitted to

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- **Robert Von Bitter**, Archaeological Data Coordinator, Archaeology Unit, Heritage Branch, Ontario Ministry of Culture, Toronto.

Project Summary

A Stage 1 archaeological background study was previously conducted for a 90 hectare development property located in Cambridge, Ontario (Archaeologix Inc., 2007). The property is bounded to the north by Maple Grove Road, to the south by Royal York Road, to the west by Boxwood Drive and to the east by Speedsville Road. Due to the fact the study area exhibited significant potential for the recovery of archaeological resources, a Stage 2 assessment was recommended for this project. This report details the results of the Stage 2 archaeological field assessment conducted by Archaeologix Inc.. This work was conducted to fulfil a standard archaeological condition of development approval at the request of Delcan Corp., London office.

The study area consists primarily of ploughed, well weathered agricultural field, with lesser areas of scrubby brush, protected woodlot, and areas of poor drainage, steep slope and previous disturbance. The Stage 2 archaeological assessment of the ploughed agricultural field was conducted by pedestrian survey at a five metre interval. The Stage 2 assessment of the scrubby brush was conducted by the standard test pit method, also at a five metre interval. As the areas of protected woodlot are formally prohibited from alteration and will not be disturbed by development activities they were not subject to archaeological assessment. Areas of poor drainage, steep slope and previous disturbance were judged to have no to low potential for the recovery of archaeological remains and were not assessed. All areas that were not previously disturbed, steeply sloped or poorly drained were subject to the Stage 2 archaeological field assessment.

The Stage 2 archaeological assessment resulted in the identification of 23 archaeological locations, including 19 pre-contact Aboriginal and four Euro-Canadian sites. The pre-contact Aboriginal sites identified are Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 17 (AiHc-381), Location 18 (AiHc-382), Location 19, Location 20 (AiHc-383), Location 21 (AiHc-384), Location 22 and Location 23 (AiHc-385). The majority of pre-contact Aboriginal sites consisted of isolated finds or small amounts of artifacts and due to the paucity of cultural material identified these sites were judged to have a limited heritage value and no additional Stage 3 archaeological assessment is recommended for Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 19, Location 20 (AiHc-383) and Location 22. Pre-contact Aboriginal sites Location 17 (AiHc-381), Location 18 (AiHc-382), Location 21 (AiHc-384) and Location 23 (AiHc-385) produced enough cultural material during the Stage 2 assessment to warrant additional Stage 3 assessment in order to better evaluate their significance and information potential. The Euro-Canadian sites identified are Location 2 (AiHc-386), Location 5, Location 15 and Location 16. Three of these Euro-Canadian sites produced early 20th century Euro-Canadian cultural material and for that reason were judged to have a limited heritage value and no additional Stage 3 archaeological assessment is recommended for Location

5, Location 15 and Location 16. Location 2 (AiGx-386) produced a number of early to late 19th century artifacts and as such additional Stage 3 archaeological assessment is recommended in order to assess its significance and information potential.

This archaeological assessment was undertaken to fulfil a standard archaeological condition of development approval as imposed by the Province of Ontario. The Ontario Ministry of Culture is asked to review the results presented in this report and issue a letter of concurrence with the findings herein. As additional archaeological assessment is recommended a letter of clearance is not requested at this time.

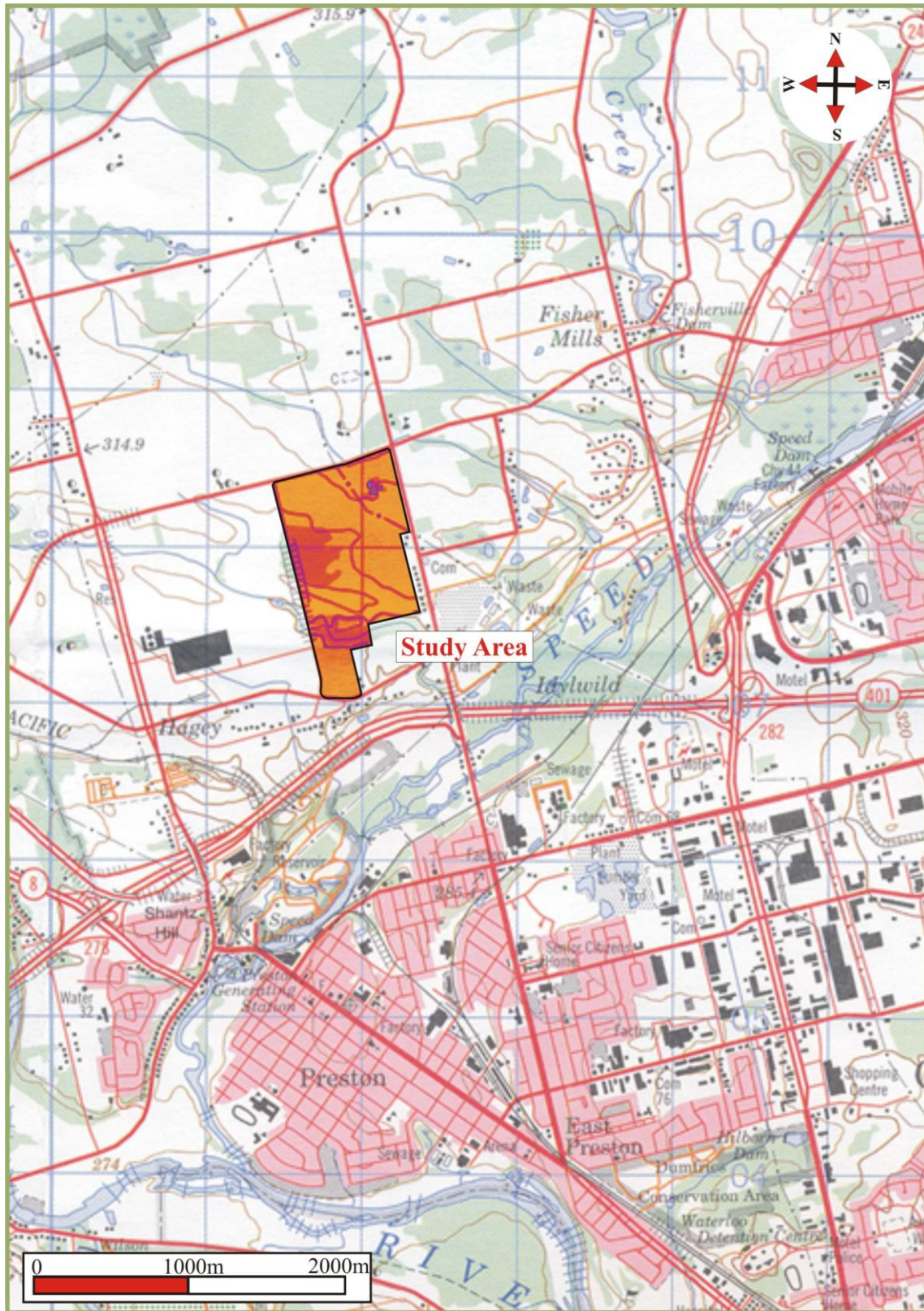
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1.0 PURPOSE

A Stage 1 archaeological background study was previously conducted for a 90 hectare development property located in Cambridge, Ontario (Archaeologix Inc., 2007). The property is bounded to the north by Maple Grove Road, to the south by Royal York Road, to the west by Boxwood Drive and to the east by Speedsville Road. Due to the fact the study area exhibited significant potential for the recovery of archaeological resources, a Stage 2 assessment was recommended for this project. This report details the results of the Stage 2 archaeological field assessment conducted by Archaeologix Inc.. This work was conducted to fulfil a standard archaeological condition of development approval at the request of Delcan Corp., London office.

The Stage 2 field assessment was conducted between October 20th and 22nd 2008, under archaeological consulting license P001, issued to Jim Wilson, M.A. by the Ontario Ministry of Culture. The Stage 2 archaeological assessment resulted in the identification of 23 archaeological locations, including 19 pre-contact Aboriginal and four Euro-Canadian sites. The pre-contact Aboriginal sites identified are Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 17 (AiHc-381), Location 18 (AiHc-382), Location 19, Location 20 (AiHc-383), Location 21 (AiHc-384), Location 22 and Location 23 (AiHc-385). The majority of pre-contact Aboriginal sites consisted of isolated finds or small amounts of artifacts and due to the paucity of cultural material identified these sites were judged to have a limited heritage value and no additional Stage 3 archaeological assessment is recommended for Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 19, Location 20 (AiHc-383) and Location 22. Pre-contact Aboriginal sites Location 17 (AiHc-381), Location 18 (AiHc-382), Location 21 (AiHc-384) and Location 23 (AiHc-385) produced enough cultural material during the Stage 2 assessment to warrant additional Stage 3 assessment in order to better evaluate their significance and information potential. The Euro-Canadian sites identified are Location 2 (AiHc-386), Location 5, Location 15 and Location 16. Three of these Euro-Canadian sites produced early 20th century Euro-Canadian cultural material and for that reason were judged to have a limited heritage value and no additional Stage 3 archaeological assessment is recommended for Location 5, Location 15 and Location 16. Location 2 (AiGx-386) produced a number of early to late 19th century artifacts and as such additional Stage 3 archaeological assessment is recommended in order to assess its significance and information potential.

Figure 1: Location of Study Area



This archaeological assessment was undertaken to fulfil a standard archaeological condition of development approval as imposed by the Province of Ontario. The Ontario Ministry of Culture is asked to review the results presented in this report and issue a letter of concurrence with the findings herein. As additional archaeological assessment is recommended a letter of clearance is not requested at this time.

2.0 STUDY METHODS

2.1 Stage 2 Field Assessment Methods

The study area consists primarily of ploughed, well weathered agricultural field, with lesser areas of scrubby brush, protected woodlot, and areas of poor drainage, steep slope and previous disturbance. The Stage 2 archaeological assessment of the ploughed agricultural field was conducted by pedestrian survey at a five metre interval. In the event an artifact was encountered during the pedestrian survey, survey intervals were reduced to one metre within a twenty metre radius of the find and the field surface was closely examined for any additional cultural material. The Stage 2 assessment of the scrubby brush was conducted by the standard test pit method, also at a five metre interval. Test pits were excavated at five meter intervals, each test pit was approximately 30cm in diameter and was dug to subsoil and all soil was screened through 6mm hardware mesh to aid the recovery of small artifacts. In the event an artifact was recovered during the test pit survey additional test pits were dug in close proximity to the positive pit to aid in the recovery of any additional cultural material. As the areas of protected woodlot are formally prohibited from alteration and will not be disturbed by development activities they were not subject to archaeological assessment. Areas of poor drainage, steep slope and previous disturbance were judged to have no to low potential for the recovery of archaeological remains and were not assessed. All areas that were not previously disturbed, steeply sloped or poorly drained were subject to the Stage 2 archaeological field assessment. Figure 2 provides a detailed plan of the subject property with the methods and results of the Stage 2 field assessment clearly illustrated.

The weather during the assessment was sunny and cool and at no time were there conditions detrimental to the recovery of archaeological material. Permission to enter the property and remove artifacts was given by Andre Poirier, of the London Office of Delcan. All recovered artifacts will be housed at the corporate head office of Archaeologix until their transfer to the Ministry of Culture collections facility located at 900 Highbury Avenue, London.

Figure 2: Stage 2 Archaeological Assessment Methods & Results



Figure 3: Documentation of Pedestrian Survey Field Conditions



Figure 4: Documentation of Test Pit Survey



3.0 RESULTS

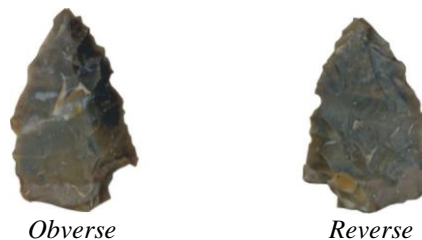
3.1 Results of the Stage 2 Excavations

The Stage 2 archaeological assessment was conducted using the methods outlined in Section 2.1 of this report in accordance with current Ontario Ministry of Culture Guidelines. The Stage 2 archaeological assessment resulted in the identification of 23 areas of archaeological significance including 19 pre-contact Aboriginal and four Euro-Canadian sites. The pre-contact Aboriginal sites identified are Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 17 (AiHc-381), Location 18 (AiHc-382), Location 19, Location 20 (AiHc-383), Location 21 (AiHc-384), Location 22 and Location 23 (AiHc-385). The Euro-Canadian sites identified are Location 2 (AiHc-386), Location 5, Location 15 and Location 16. Each of these sites are described in greater detail below. Figure 2 illustrates the location of each archaeological site identified and a complete listing of artifact recoveries is provided as Appendix A. All artifacts are illustrated at actual size.

3.1.1 Location 1 (AiHc-378)

The Stage 2 investigation of Location 1 resulted in the determination that this site consisted of a findspot of an isolated projectile point located at G.P.S. co-ordinates 17T NU 51828 / 08239. The projectile point recovered is missing the base and is a relatively small and thick tool with refined flake removal that has been manufactured on Kettle Point chert. Kettle Point chert is a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin.

Figure 5: Projectile Point Recovered, Location 1 (Actual Size)



This projectile point has sharply serrated, convex lateral or blade edges. There is evidence on one side that this point was notched, as flake removal is apparent creating a 90 degree shoulder angle towards the center of the point, however the other side is missing due to breakage. No edge grinding is evident. Table 1 provides the metric data in millimeters for the projectile point recovered.

Table 1: Projectile Point Metric Data in Millimeters

Length	Width	Thickness	Inter-Notch Width	Basal Width	Shoulder Width
27*	18	5	n/a	n/a	n/a

* measurement taken to break

This projectile point is most similar stylistically to Crawford Knoll projectile points from the Small Point Late Archaic Period (*circa* 1200 B.C.). The Small Point Archaic Period sees a distinct trend towards smaller and narrower points than previous Archaic Periods (Ellis & Ferris, 1990) and the Crawford Knoll projectile point recovered from Location 1 is a good example of this type. The archaeological record shows Crawford Knoll points distributed throughout southwestern Ontario, often with quiet variable workmanship and usually manufactured on Kettle Point or Bayport chert.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated, although diagnostic, artifact the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 1 (AiHc-378).

3.1.2 Location 2 (AiHc-386)

Location 2 consists of a 30m by 30m surface scatter of early-to-late 19th century Euro-Canadian artifacts located at GPS co-ordinates 17T NU 51880 / 08122. In total a representative sample of 50 Euro-Canadian artifacts were collected from the surface including 48 pieces of ceramic dishes and 2 personal artifacts. Each artifact class is discussed in greater detail below. Table 2 provides a summary of the Stage 2 artifacts collected from Location 2 and Appendix A provides a complete catalogue listing of all the Stage 2 recoveries.

Table 2: Stage 2 Artifact Summary for Location 2 (AiHc-386)

ARTIFACT	FREQ.	%
Pearlware	29	58
Utilitarian	16	32
Whiteware	3	6
Personal	2	4
Stage 2 Total	50	100%

Ceramic Artifacts

In total 48 fragments of ceramic cups, plates or pots were collected during the Stage 2 assessment at Location 2. Included in this total are 29 pieces of pearlware, 16 utilitarian ceramic pieces and three pieces of whiteware. Table 3 provides a breakdown of

the ceramic assemblage by ware type, while Table 4 provides a more detailed breakdown of the ceramic assemblage by decorative style.

Table 3: Summary of Ceramic Collection According to Ware Type

CERAMICS RECOVERED	FREQ.	%
Pearlware	29	60.4
Utilitarian	16	33.3
Whiteware	3	6.3
Ceramic Total	48	100%

Table 4: Summary of Ceramic Collection According to Decorative Style

CERAMICS RECOVERED	FREQ.	%
pearlware	16	33.3
earthenware, red	16	33.3
pearlware, painted	7	14.6
pearlware, edged	3	6.3
pearlware, transfer printed	2	4.2
pearlware, banded	1	2.1
whiteware	1	2.1
whiteware, painted	1	2.1
whiteware, transfer printed	1	2.1
Ceramic Total	48	100%

Pearlware

Pearlware, sometimes referred to as “China glazed”, is a variety of earthenware that was popular from 1780 to 1840. Pearlware is often difficult to recognize because of its similar appearance to later whiteware ceramics, however because of the addition of cobalt, the glaze has a light blue to blue-green tint. When placed on white earthenware bisque, this glaze gave the impression of a “whiter” ware than the earlier yellow tinted creamware. Pearlware is the most common type of ceramic recovered from AiHc-386, with 29 pieces recovered comprising 60.4% of the ceramic total. Most pearlware ceramics were manufactured with decoration, however due to the fragmentary nature of many of the ceramic pieces recovered sixteen (55%) of pearlware artifacts were classified as undecorated or plain.

Of the decorated pearlware recovered hand painted was the most common type, with seven pieces. The earliest painted designs were done using only one colour, blue with their appearance beginning in the late 18th century and declining in popularity around 1830. The painting for blue painted pearlware was applied directly onto the plain fired bisquit and then glazed, this type of technique sealed the colour and protected the wares from daily damage (Lockett 1996:3). Because of this technique of application blue painted pearlware often looks as crisp today as when the wares were first manufactured which explains their enduring popularity (Lockett 1996:3). Four of the pearlware pieces

recovered from Location 2 have early blue designs. Polychrome painted pearlware started to become popular around the turn of the century. The most popular colours represented in this collection are muted shades of orange, brown and green. These colours are often referred to as the “Early Palette” colours that were used in Ontario, more brilliant colours such as red, pink, bright yellow and bright green were not used until as late as 1840 and are referred to as the “Late Palette” colours. All of the painted pearlware polychrome colours in the Location 2 assemblage fit into the Early Palette placing their date of manufacture to as early as 1795 to 1815 (Noel Hume 1969:129).

Figure 6: Examples of Pearlware Ceramics Recovered, Location 2 (Actual Size)



The next most commonly encountered type of decorated pearlware was edged, with three pieces. The most common edged ware forms recovered are with scalloped edges, often referred to as “shell edge”. Miller (1987) outlines the production range for edged pearlware according to rim decoration as follows; scalloped rim with impressed curved lines, 1780-1820, scalloped rim with impressed straight lines, 1795-1840, scalloped rim with impressed bud, 1800-1850, embossed raised patterns, 1820-1845, unscalloped and impressed rim, 1825-1891, unscalloped and unmoulded rim, 1850-1897. The current assemblage consists of blue scalloped edged pieces with impressed curved lines, making the date of manufacture in the 1780 to 1820 range.

Two transfer printed pearlware pieces were recovered during the Stage 2 examination of Location 2. Transfer printing was developed as early as 1780, but did not become common in Upper Canada until around 1810 (Kenyon 1985:46). The early transfer printed pearlwares were most frequently decorated in blue, with other colours, such as black, green, red and purple becoming popular after 1820. From Location 2 both of the transfer printed pieces are blue.

The final decorated pearlware piece is banded and is decorated with horizontal bands of varying width in muted shades of yellow and blue. This type of banded decoration applied to pearlware has been cited as being manufactured between 1790 and 1820 (Hume 1969:130).

Utilitarian Ceramic Wares

In addition to the tableware, sixteen utilitarian ceramic pieces were recovered from Location 2, comprising 33.3% of the ceramic assemblage. All of these pieces are red earthenware. Yellow and red earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels.

Figure 7: Examples of Utilitarian and Whiteware Ceramics Recovered, Location 2 (Actual Size)



1: Red Earthenware



2: Whiteware



3: Painted Whiteware

White Earthenware

Whiteware is a variety of earthenware with a near colorless glaze that replaced earlier near white ceramics such as pearlware and creamware by the early 1830's. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century. Three pieces of whiteware were recovered from Location 2, one catalogued as plain or undecorated, one hand painted and one very small blue transfer printed piece.

The hand painted piece is a polychrome, floral pattern tea ware. Painted wares of this type were popular from as early as 1830 through to the 1870's. Transfer printed whiteware became popular quite early in the 19th century and involved the transfer of an intricate pattern from a sheet of treated paper to the underglaze surface of the clay. Before 1830, almost all transfer printed wares were blue. After 1830, colors such as light blue, black, brown, green, purple and red became more common. Transfer printed whiteware ceramics were less densely decorated than the earlier pearlware types, with more of the white background showing through the designs.

Personal Artifacts

One clay pipe stem and one bowl fragment comprise the personal artifact assemblage. The white clay pipe stem fragment is plain, however it is quite fragmentary and may have had decoration or a manufacturer's mark. The pipe bowl fragment has moulded vertical lines. White clay pipes were very popular throughout the 19th century, with a decline in use by 1880 when they were replaced by briar pipes and cigarettes (Adams, 1994:93).

Figure 8: White Clay Pipe Fragments Recovered, Location 2 (Actual Size)



1: White Clay Pipe Stem



2: White Clay Pipe Bowl

The artifacts collected from Location 2 (AiHc-386) represent a range of early-to-mid 19th century Euro-Canadian cultural material. Late 18th to early 19th century pearlware ceramics were most often recovered, comprising 60% of the ceramic total and 58% of the overall Stage 2 artifact collection. Early decorative styles are represented, most notably the edged pearlware piece. In addition, there was also a complete absence of more recent material such as wire drawn nails or 20th century debris recovered.

Following the 2004 Ministry of Culture draft standards, any post-contact archaeological site with ten datable artifacts pre-dating 1900 in a 10 by 10 metre area requires further Stage 3 assessment (MCul, 2004). Due to the fact that Location 2 (AiHc-386) consists of a spatially discrete and relatively dense cluster of early-to-mid 19th century Euro-Canadian material it is recommended that the site be subject to a Stage 3 archaeological investigation to further evaluate its significance and information potential. This Stage 3 examination should include the controlled mapping of the surface finds as well as the hand excavation of a series of one metre test units to sample the nature and density of this cultural deposit.

3.1.3 Location 3

The Stage 2 investigation of Location 3 resulted in the determination that this site consisted of a findspot of an isolated utilized flake located at G.P.S. co-ordinates 17T NU 51491 / 08036. The utilized flake recovered is a fragment of a light Onondaga chert with one edge displaying use-wear. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 9: Utilized Flake Recovered, Location 3 (Actual Size)



Utilized flakes of chipped stone debitage are among the most frequently encountered indicators of pre-contact Aboriginal site occupation and due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 3.

3.1.4 Location 4

The Stage 2 investigation of Location 4 resulted in the determination that this site consisted of two pre-contact Aboriginal artifacts found approximately 20 meters apart from each other and located at G.P.S. co-ordinates 17T NU 51948 / 08117. One end scraper and one piece of chipped stone debitage were recovered.

The end scraper recovered has been manufactured on an Onondaga chert flake, the bulb of percussion is still apparent at the proximal end however the striking platform has been removed or snapped off. The unifacial retouch is steep and extends along the convex distal end, extending approximately 5mm further down one lateral edge than the other.

Figure 10: Pre-Contact Aboriginal Artifacts Recovered, Location 4 (Actual Size)



1: Scraper



2: Chipping Detritus

The chipped stone debitage is a piece of Onondaga chert debitage. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

As small end scraping tools were common tool kit accessories throughout an extended period of time in southwestern Ontario, this piece could not be used to place the site in either a temporal or cultural sequence. Chipped stone debitage is the most frequently encountered indicator of pre-contact Aboriginal site occupation and due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of these two non-diagnostic artifacts found relatively far from each other the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 4.

3.1.5 Location 5

Location 2 consists of a 35m east - west surface scatter of late 19th and 20th century Euro-Canadian artifacts located at GPS co-ordinates 17T NU 52060 / 08259. In total a representative sample of nine Euro-Canadian artifacts were collected from the surface including five fragments of ceramic dishes, three buttons and one piece of recent material. Each artifact class is discussed in greater detail below. Table 5 provides a summary of the Stage 2 artifacts collected from Location 5 and Appendix A provides a complete catalogue listing of all the Stage 2 recoveries.

Table 5: Stage 2 Artifact Summary for Location 5

ARTIFACT	FREQ.	%
Ironstone	3	33
Button	3	33
Utilitarian	1	11
Unknown ceramic	1	11
Recent material	1	11
Stage 2 Total	9	100%

The most common ceramic type recovered during the Stage 2 investigation is ironstone, with two plain pieces and one black transfer printed fragment. Ironstone or graniteware is a variety of refined white earthenware introduced in the 1840's that became extremely popular in Upper Canada by the 1860's (Kenyon, 1985). It is usually much thicker than other whiteware, and often decorated with raised moulded designs of wheat or fruit. Transfer printing involves the transfer of an intricate pattern from a sheet of treated paper to the under-glaze surface of the clay.

Figure 11: Example of Ceramic Artifacts Recovered, Location 5 (Actual Size)



Three metal buttons were recovered from the field surface and have been identified as World War II buttons, two American and one Canadian.

Figure 12: Metal Buttons Recovered, Location 5 (Actual Size)



The American buttons recovered are made of brass have the eagle rampart with shield, under a sun, and were common buttons used on the front of the Class “A” service coat. Both of the buttons recovered are stamped with “New York City Button ...” on the reverse, making New York City the likely place of manufacture. The Canadian button recovered has “Canada” and a maple leaf within a circle with Latin inscription (not legible) under a crown. A quick internet search made it possible to find pictures of what each of these buttons would have looked like if they were in better shape



In addition to the ironstone tableware one utilitarian ceramic piece of red earthenware was recovered. Yellow and red earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels.

The remaining artifacts recovered include one burnt and fragmentary piece of ceramic and a small piece of plastic.

The Stage 2 assessment of Location 5 resulted in the recovery of a small and diffuse late 19th to 20th century artifact scatter. Following the 2004 Ministry of Culture draft standards, any post-contact archaeological site with ten datable artifacts pre-dating 1900 in a 10 by 10 metre area requires further Stage 3 assessment (MCul, 2004). Location 5 does not have the requisite amount of artifacts, the early date required or the

dense nature of material to recommend further archaeological assessment. The heritage value of this site is judged to be low and no additional archaeological assessment is recommended for Location 5.

3.1.6 Location 6

The Stage 2 investigation of Location 6 resulted in the determination that this site consisted of a findspot of an isolated biface fragment located at G.P.S. co-ordinates 17T NU 51868 / 08008. The biface recovered is missing the base and piece of the tip and has been manufactured on a high quality, dark Onondaga chert. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 13: Biface Fragment Recovered, Location 6 (Actual Size)



This bifacial tool has had both long biface thinning flakes removed and bifacial flake removal for edge preparation. The tip edge has been retouched, as has the edge along the lateral edge where a semi-circular piece has broken off. This biface fragment measures 40mm in length to the break with a maximum width of 21mm and a maximum thickness of 5mm. As bifacial tools were common tool kit accessories throughout an extended period of time in southwestern Ontario, this piece could not be used to place the site in a temporal or cultural sequence.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 6.

3.1.7 Location 7

The Stage 2 investigation of Location 7 resulted in the determination that this site consisted of a findspot of an isolated piece of chipped stone debitage located at G.P.S. co-ordinates 17T NU 51838 / 07964. This piece of Onondaga chert chipping detritus is a

fragment of a large secondary flake with the striking platform and bulb of percussion present. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 14: Chipping Detritus Recovered, Location 7 (Actual Size)



Chipped stone debitage is the most frequently encountered indicator of pre-contact Aboriginal site occupation. Due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 7.

3.1.8 Location 8

The Stage 2 investigation of Location 8 resulted in the determination that this site consisted of a findspot of an isolated biface fragment located at G.P.S. co-ordinates 17T NU 52117 / 08219. The biface recovered is a damaged tip fragment that shows evidence of prolonged exposure to heat.

Figure 15: Biface Fragment Recovered, Location 8 (Actual Size)



This biface tip has been manufactured on an undetermined chert and measures 27mm in length to the break with a maximum width of 22mm and a maximum thickness of 7mm. As bifacial tools were common tool kit accessories throughout an extended

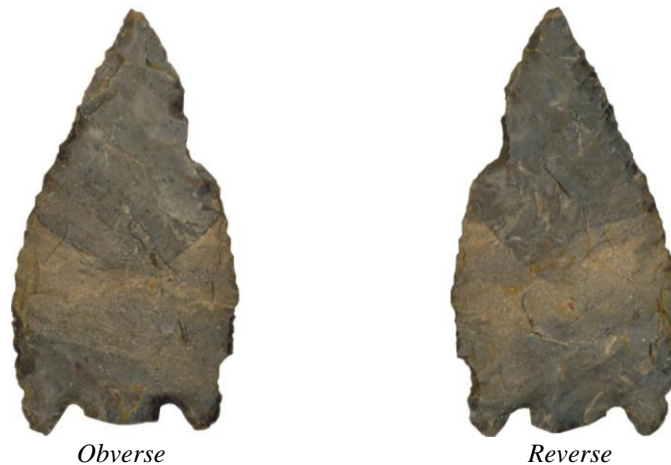
period of time in southwestern Ontario, this piece could not be used to place the site in a temporal or cultural sequence.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 8.

3.1.9 Location 9 (AiHc-379)

The Stage 2 investigation of Location 9 resulted in the determination that this site consisted of a findspot of an isolated projectile point located at G.P.S. co-ordinates 17T NU 51807 / 07933. The projectile point recovered is a relatively large, thin, corner or basally notched tool. It has refined flake removal, is missing the base or stem and has been manufactured on Onondaga chert. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 16: Projectile Point Recovered, Location 9 (Actual Size)



This projectile point has serrated blade edges, which are convex and constrict sharply towards the tip. The corner notches appear to extend straight up from the basal margin and end with circular cone flake scars at the notch terminus. Two fragments from one lateral edge broke off at one point and flake removal along each break has created a steep scraper-like edge. Table 6 provides the metric data in millimeters for the projectile point recovered.

Table 6: Projectile Point Metric Data in Millimeters

Length	Width	Thickness	Inter-Notch Width	Basal Width	Shoulder Width
57*	30	5	10	n/a	26

* measurement taken to break

This projectile point is most similar stylistically to some Early and Middle Archaic projectile point forms, most notably due to its fine workmanship, serrated edges and corner notching. These attributes can be found during other time periods and the unique shape of this projectile point makes this author wary of attaching a classification. Similarities can also be found with Eva projectile point found in the middle South Kentucky and Tennessee area of the U.S. and attributed to the Middle Archaic time period. It is most likely that this is a projectile point from the Archaic period.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated artifact, the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 9 (AiHc-379).

3.1.10 Location 10

The Stage 2 investigation of Location 10 resulted in the determination that this site consisted of a findspot of an isolated retouched flake located at G.P.S. co-ordinates 17T NU 51858 / 07927. The retouched flake recovered is a fragment of Onondaga chert. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 17: Retouched Flake Recovered, Location 10 (Actual Size)



This flake appears to be a piece from a bifacially worked tool that has broken off during exposure to heat. One surface has biface thinning flakes removed and the other has the bumpy appearance often found when heat exposure causes a piece of chert to be lifted from the rest. One small edge of this flake shows steep scraper like flake retouch.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact, the heritage

value of this site was judged to be low and no further archeological assessment is recommended for Location 10.

3.1.11 Location 11

The Stage 2 investigation of Location 11 resulted in the determination that this site consisted of a findspot of an isolated piece of chipped stone debitage located at G.P.S. co-ordinates 17T NU 52125 / 07929. This piece of Onondaga chert chipping detritus is a very small shatter fragment. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 18: Chipping Detritus Recovered, Location 11 (Actual Size)



Chipped stone debitage is the most frequently encountered indicator of pre-contact Aboriginal site occupation. Due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 11.

3.1.12 Location 12 (AiHc-380)

The Stage 2 investigation of Location 12 resulted in the determination that this site consisted of one projectile point and one chipped stone debitage flake recovered 5 meters apart and located at G.P.S. co-ordinates 17T NU 52029 / 07763. The projectile point recovered is small and side notched and has been manufactured on an Onondaga chert flake and the piece of chipping detritus is Kettle Point chert. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham. Kettle Point chert is a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin.

Figure 19: Pre-Contact Aboriginal Artifacts Recovered, Location 12 (Actual Size)



1: Projectile Point

2: Chipping Detritus

This projectile point is essentially unifacially worked, with biface reduction flake removal and lateral edge, notch and base preparation flake removal on one surface and very minimal flake removal along the base and notches with only a small area of flake removal along one lateral edge near the tip on the other surface. This projectile point is characterized by its small side notching, incipient basal ears and minimal flake removal. Table 7 provides the metric data in millimeters for the projectile point recovered.

Table 7: Projectile Point Metric Data in Millimeters

Length	Width	Thickness	Inter-Notch Width	Basal Width	Shoulder Width
35	20	5	13	14	19

The chipping detritus recovered is a very small shatter fragment. Chipped stone debitage is the most frequently encountered indicator of pre-contact Aboriginal site occupation. Due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated artifact, the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 12 (AiHc-380).

3.1.13 Location 13

The Stage 2 investigation of Location 13 resulted in the determination that this site consisted of a findspot of an isolated end scraper fragment located at G.P.S. coordinates 17T NU 52030 / 07522. This scraper fragment has a classic end scraper form but is missing the proximal end and has been manufactured on Onondaga chert. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake

Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 20: End Scraper Recovered, Location 13 (Actual Size)



The end scraper recovered has steep unifacial flake removal and some battering along the distal edge. It measures 30mm in length to the break with a maximum width of 25mm and a maximum thickness of 9mm. This tool is most similar to end scrapers found during the Early Archaic Period. It should be noted however that end scrapers are common tool kit accessories throughout an extended period of time in southwestern Ontario.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of this isolated artifact, the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 13.

3.1.15 Location 15

Location 15 consists of a 100m by 100m surface scatter of late 19th and 20th century Euro-Canadian artifacts located at GPS co-ordinates 17T NU 52001 / 07402. In total a representative sample of 139 Euro-Canadian artifacts were collected from the surface including 62 fragments of ceramic dishes, 51 miscellaneous glass, 17 recent material, 6 faunal remains and 3 personal artifacts. Each artifact class is discussed in greater detail below. Table 8 provides a summary of the Stage 2 artifacts collected from Location 15 and Appendix A provides a complete catalogue listing of all the Stage 2 recoveries.

Table 8: Stage 2 Artifact Summary for Location 15

ARTIFACT	FREQ.	%
<i>Non-Ceramic Artifacts</i>		
misc. glass	51	37
recent material	17	12
faunal remains	6	4
personal	3	2
<i>Non-Ceramic Total</i>	77	55

Ceramic Artifacts		
porcelain	21	15
whiteware	18	13
ironstone	13	9
utilitarian	7	5
pearlware	3	2
Ceramic Artifact Total	62	45
Stage 2 Artifact Total	139	100

Ceramic artifacts comprise 45% of the Stage 2 assemblage and consist of mostly 20th century material. Table 9 provides a breakdown of the ceramic assemblage by ware type, while Table 10 provides a more detailed breakdown of the ceramic assemblage by decorative style.

Table 9: Ceramic Artifacts by Ware Type

CERAMICS RECOVERED	FREQ.	%
porcelain	21	34
whiteware	18	29
ironstone	13	21
utilitarian	7	11
pearlware	3	5
Total	62	100

Table 10: Ceramic Artifacts by Decorative Style

CERAMICS RECOVERED	FREQ.	%
porcelain	12	19
whiteware	12	19
ironstone	9	15
porcelain, semi	8	13
earthenware, red	4	6
whiteware, moulded	4	6
ironstone, transfer printed	3	5
stoneware	3	5
whiteware, transfer printed	2	3
ironstone, painted	1	2
pearlware	1	2
pearlware, edged	1	2
pearlware, transfer printed	1	2
porcelain, transfer printed	1	2
Total	62	100

Porcelain was the most common ceramic ware type recovered, with 21 pieces comprising 34% of the ceramic total. Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to a light. Because of its high cost, porcelain is extremely rare on 19th century sites in Ontario, however by the turn of the century it becomes relatively common, as production techniques were developed in Europe which greatly reduced costs. 12 plain or undecorated porcelain, eight semi-porcelain and one transfer printed porcelain piece was recovered.

Figure 21: Example of Porcelain Recovered, Location 15 (Actual Size)



1: Porcelain



2: Transfer Printed
Porcelain

The next most common ceramic type is whiteware, with 18 pieces comprising 29% of the total. Whiteware is a variety of earthenware with a near colourless glaze that replaced earlier near white ceramics such as pearlware and creamware by the late 1820's to early 1830's, however the initial manufacture date of what archaeologists call "whiteware" is not known. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century. Twelve pieces of plain or undecorated whiteware were found. Decorated whiteware recovered includes four moulded and two transfer printed.

Ironstone comprises 21% of the ceramic total and is a variety of refined white earthenware introduced in the 1840's that became extremely popular in Upper Canada by the 1860's (Kenyon, 1985). It is usually much thicker than other whiteware, and often decorated with raised moulded designs of wheat or fruit. Nine pieces of plain ironstone, three transfer printed and one hand painted piece were recovered.

In addition to the ironstone tableware seven utilitarian ceramic pieces were recovered, including four red earthenware and three stoneware pieces. Yellow and red earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels.

Figure 22: Example of Ironstone Recovered, Location 15 (Actual Size)



1: Ironstone



2: Transfer Printed
Ironstone

The final ceramic type recovered, with three pieces comprising 5% of the ceramic total, is pearlware. One plain pearlware, one edged and one transfer printed piece were recovered. Pearlware, sometimes referred to as “China glazed”, is a variety of earthenware that was popular from 1780 to 1840. Pearlware is often difficult to recognize because of its similar appearance to later whiteware ceramics, however because of the addition of cobalt, the glaze has a light blue to blue-green tint. When placed on white earthenware bisque, this glaze gave the impression of a “whiter” ware than the earlier yellow tinted creamware.

The Stage 2 assessment of Location 15 resulted in the recovery of a large scatter of predominantly 20th century material. Following the 2004 Ministry of Culture draft standards, any post-contact archaeological site with ten datable artifacts pre-dating 1900 in a 10 by 10 metre area requires further Stage 3 assessment (MCul, 2004). Although pearlware ceramics can be reliably dated to the early 19th century only three pieces were recovered in a 100m by 100m area. Location 15 does not have the requisite amount of early artifacts or the dense nature of material to recommend further archaeological assessment. The heritage value of this site is judged to be low and no additional archaeological assessment is recommended for Location 15.

3.1.16 Location 16

Location 16 consists of a series of 38 positive test pits in an 80m by 80m area producing late 19th and 20th century Euro-Canadian artifacts and located at GPS coordinates 17T NU 52002 / 08211. The artifacts were recovered in the vicinity of a demolished residence, the gravel drive and piles of debris were evident. In total 54 Euro-Canadian artifacts were recovered including 26 fragments of ceramic dishes, 15 structural, 8 kitchen/food related, 4 miscellaneous metal and 1 recent material. Each artifact class is discussed in greater detail below. Table 11 provides a summary of the Stage 2 artifacts collected from Location 16 and Appendix A provides a complete catalogue listing of all the Stage 2 recoveries.

Table 11: Stage 2 Artifact Summary for Location 16

ARTIFACT	FREQ.	%
<i>Non-Ceramic Artifacts</i>		
structural	15	38
kitchen/food related	8	20
Misc. metal	4	10
recent	1	3
<i>Ceramic Artifact Total</i>	28	70
<i>Ceramic Artifacts</i>		
ironstone	4	10
whiteware	4	10
utilitarian	1	3
porcelain	1	3
undetermined ceramic	1	3
yellowware	1	3
<i>Ceramic Total</i>	12	30
Stage 2 Artifact Total	40	100

Table 12: Ceramic Artifacts by Ware Type

CERAMICS RECOVERED	FREQ.	%
ironstone	4	15
whiteware	4	15
utilitarian	1	4
porcelain	1	4
undetermined ceramic	1	4
yellowware	1	4
Total	12	100

Table 13: Ceramic Artifacts by Decorative Style

CERAMICS RECOVERED	FREQ.	%
ironstone	3	12
whiteware	2	8
earthenware, red	1	4
whiteware, edged	1	4
whiteware, transfer printed	1	4
yellowware banded	1	4
ironstone, moulded	1	4
porcelain, transfer printed	1	4
ceramic, misc.	1	4
Total	12	100

Non-ceramic artifacts comprise 70% of the Stage 2 artifacts collected. Structural artifacts were most often recovered and include six window pane fragments, four cut nails, three red brick fragments and two wire drawn nails. The kitchen/food related assemblage includes four bottle glass fragments, including modern beer bottle fragments and four faunal remains. The faunal remains include one tooth and one butchered bone. The miscellaneous metal collection includes unidentifiable fragments of corroded metal and a large chain link. The recent material is a plastic and rubber tire from a child's toy.

Figure 23: Non-Ceramic Artifacts Recovered, Location 16 (Actual Size)



Ceramic artifacts comprise 30% of the Stage 2 assemblage and consist mostly of 20th century material. Table 12 provides a breakdown of the ceramic assemblage by ware type, while Table 11 provides a more detailed breakdown of the ceramic assemblage by decorative style.

Both ironstone and whiteware were recovered in equal quantities, each with 4 pieces comprising 15% of the ceramic total. Ironstone or graniteware is a variety of refined white earthenware introduced in the 1840's that became extremely popular in Upper Canada by the 1860's (Kenyon, 1985). It is usually much thicker than other whiteware, and often decorated with raised moulded designs of wheat or fruit. Three pieces of plain ironstone and one moulded piece were recovered. Whiteware is a variety of earthenware with a near colourless glaze that replaced earlier near white ceramics such as pearlware and creamware by the late 1820's to early 1830's, however the initial

manufacture date of what archaeologists call “whiteware” is not known. Early whiteware tends to have a porous paste, with more vitrified, harder, ceramics becoming increasingly common later in the 19th century. Two pieces of plain or undecorated whiteware, one edged and one transfer printed piece were recovered.

Figure 24: Example of Ceramics Recovered, Location 16 (Actual Size)



In addition to the refined tablewares, one piece of red earthenware was recovered. Yellow and red earthenware vessels were manufactured throughout the late 18th and 19th centuries and were the most common utilitarian ware in the first half of the 19th century, eventually being replaced by more durable stoneware vessels.

One piece of porcelain, unknown ceramic and yellowware comprise the remainder of the ceramics recovered during the Stage 2 investigation. Porcelain is a type of earthenware fired at such a high temperature that the clay has begun to vitrify; consequently the ceramic is translucent when held up to a light. Because of its high cost, porcelain is extremely rare on 19th century sites in Ontario, however by the turn of the century it becomes relatively common, as production techniques were developed in Europe which greatly reduced costs. Unfortunately one of the ceramic pieces recovered could not be catalogued into a specific ceramic-ware classification. This piece was so heavily damaged and fragmentary that it was impossible to accurately identify it by ceramic type. Yellowware ceramics were first manufactured in the 1840’s, and continue to be manufactured in limited quantities today.

The Stage 2 assessment of Location 16 resulted in the identification of an 80m by 80m area producing predominantly 20th century material. Following the 2004 Ministry of Culture draft standards, any post-contact archaeological site with ten datable artifacts pre-dating 1900 in a 10 by 10 metre area requires further Stage 3 assessment (MCul, 2004). Location 16 does not have the requisite amount of early artifacts or the dense nature of material to recommend further archaeological assessment. In addition, the close proximity of the demolished 20th century residential building also suggests a low heritage value for the site. The heritage value of this site is judged to be low and no additional archaeological assessment is recommended for Location 16.

3.1.17 Location 17 (AiHc-381)

The Stage 2 investigation of Location 17 (AiHc-381) resulted in the determination that this site consisted of a single positive test pit producing pre-contact Aboriginal cultural material located at G.P.S. co-ordinates 17T NU 52086 / 08239. One piece of Onondaga chert chipped stone debitage was recovered. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 25: Chipping Detritus Recovered, Location 17 (Actual Size)



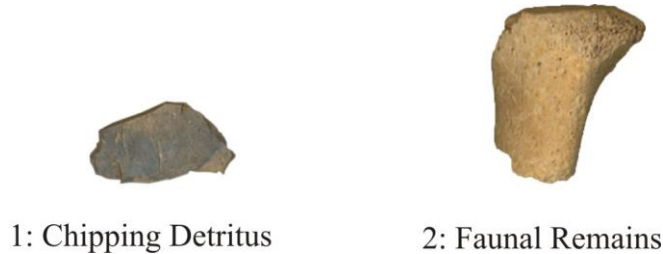
Chipped stone debitage is the most frequently encountered indicator of pre-contact Aboriginal site occupation. Due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

The Ontario Ministry of Culture draft standards determines site significance according to different methods of identification during the Stage 2 archaeological assessment and differentiates between pedestrian and test pit surveys. Test pit surveys, by nature, disturb a relatively small amount of soil and small pre-contact Aboriginal sites of some significance may appear to be much smaller than they are as it is difficult to determine the amount of artifacts that may be present in a site area during a test pit survey. As there is a possibility that additional artifacts are below the surface but not uncovered, a precautionary Stage 3 excavation is recommended in close proximity to the positive test pit to help better judge the quantity and significance of artifacts at Location 17 (AiHc-381). This Stage 3 examination should include the controlled mapping of positive test pits as well as the hand excavation of a series of one metre test units to sample the nature and density of this cultural deposit.

3.1.17 Location 18 (AiHc-382)

The Stage 2 investigation of Location 18 (AiHc-382) resulted in the determination that this site consisted of two positive test pits 2m apart producing pre-contact Aboriginal cultural material located at G.P.S. co-ordinates 17T NU 51682 / 07201. One piece of Onondaga chert chipped stone debitage and one faunal remain were recovered.

Figure 26: Artifacts Recovered, Location 18 (Actual Size)



The chipping detritus is a small shatter fragment and the faunal remains is the end of a mammalian long bone. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

The 2004 Ontario Ministry of Culture draft standards states that Stage 3 assessment is required for any sites with two or more positive test pits in a 10m by 10m area. As the two positive test pits are located two meters apart, on a north – south trajectory, Location 18 meets the requirements for additional archaeological assessment and a Stage 3 site specific assessment is recommended for Location 18 (AiHc-382). This Stage 3 examination should include the controlled mapping of positive test pits as well as the hand excavation of a series of one metre test units to sample the nature and density of this cultural deposit.

3.1.19 Location 19

The Stage 2 investigation of Location 19 resulted in the determination that this site consisted of a 20m linear surface scatter of pre-contact Aboriginal artifacts located at G.P.S. co-ordinates 17T NU 51754 / 07079. One complete end scraper and two pieces of chipped stone debitage were recovered.

The end scraper recovered has been manufactured on Kettle Point chert. It has steep unifacial flake removal and extensive battering along the distal edge and use wear along each side, more evident along the concave lateral margin. This tool measures 45mm in length with a maximum width of 27mm and a maximum thickness of 11mm. Kettle Point chert is a relatively high quality raw material that outcrops between Kettle Point and Ipperwash, on Lake Huron. Currently, Kettle Point occurs as submerged outcrops extending for approximately 1350 metres into Lake Huron. Secondary deposits of Kettle Point chert have been reported in Essex County and in the Ausable Basin.

Both chipped stone debitage pieces are small shatter fragments, the larger being of Onondaga chert, while the smaller is too small to determine chert type. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the

embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 27: Pre-Contact Aboriginal Artifacts Recovered, Location 19 (Actual Size)



1: Scraper



2: Chipping Detritus

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of these two non-diagnostic artifacts, the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 19.

3.1.20 Location 20 (AiHc-383)

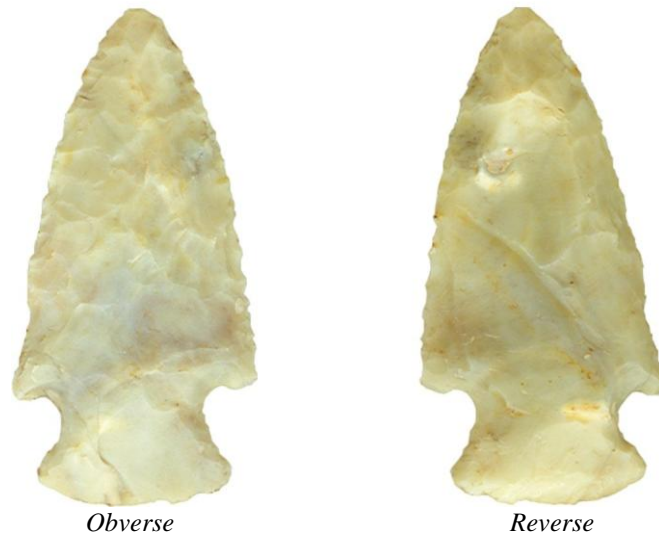
The Stage 2 investigation of Location 20 resulted in the determination that this site consisted of a findspot of an isolated projectile point located at G.P.S. co-ordinates 17T NU 51779 / 06905. The projectile point recovered is a complete side notched point that has been manufactured on Flint Ridge chert.

Flint Ridge Chalcedony is a higher quality Flint Ridge deposit of bluish-grey chert that is semi-translucent and vitreous. It occurs as a bedded chert within the parent limestone and is irregularly distributed throughout the Flint Ridge formation of east-central Ohio along the Flint Ridge in Licking, Muskingum and Perry Counties (DeRegaucourt & Georgiady, 1998). It appears this chert was highly prized by the Aboriginal inhabitants of Ohio and was widely traded and utilized, as evidenced by Flint Ridge chalcedony tools found as wide spread as Indiana, northern Kentucky, Ohio, Michigan, southern Ontario, northern west Virginia and western Pennsylvania (DeRegaucourt & Georgiady, 1998).

This point is corner notched and characterized by refined flake removal, straight to convex blade edges and a convex basal edge. The blade edges are almost serrated and have fine flake removal along the edge in addition to the biface thinning flakes removed. The flake removal has created a blade shape that is thinner close to the edges and more

raised in a ridge down the midpoint. This blade shape is only evident on one side, while the other has had large flakes removed. The removal of these large flakes has thinned most of the blade and part of the hafting element and no fine flake removal along one of the blade edges and much of the surface remains. Areas that do not show large flake removal have the same morphology as the other side of the point.

Figure 28: Projectile Point Recovered, Location 20 (Actual Size)



The notches are wide and extend from the side up towards the midline and tip of the point. Each notch is markedly similar to the other and each display some battering at the deepest edge of the notch. A small portion of one barb has broken off. There is fine edge preparation flake removal on one side of the base while the other has had a large flake removed and no edge work remains. The large flakes removed from the blade of the point and from the base of the point are from alternate sides.

Table 14: Projectile Point Metric Data in Millimeters

Length	Width	Thickness	Inter-Notch Width	Basal Width	Shoulder Width
66	33	7	19	16	33

This projectile point has been manufactured on an exotic chert in relation to where it was recovered. This projectile provides a classic example of a Middle Woodland Snyders Point (450 BC-250 AD).

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated artifact, the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 20 (AiHc-383).

3.1.21 Location 21

The Stage 2 investigation of Location 21 resulted in the determination that this site consisted of a 20m by 50m surface scatter of pre-contact Aboriginal artifacts located at G.P.S. co-ordinates 17T NU 51838 / 06891. A total of eleven pieces of pre-contact Aboriginal material were recovered, including seven chipped detritus, three utilized flakes and one projectile point; each of which are described in greater detail below.

The chipped stone debitage, projectile point and two of the utilized flakes have been manufactured on Onondaga chert. The remaining utilized flake is Selkirk chert. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham. Selkirk chert is a moderate quality raw material that outcrops close to the embouchure of the Grand River along the north shore of Lake Erie. Its distribution as a secondary source material is similar to Onondaga chert, and it is frequently encountered as far west as the Chatham area. The chipped stone debitage includes three large shatter fragments and four small shatter fragments. One of the larger pieces has evidence of exposure to heat. The Onondaga chert utilized flakes have irregular utilized edges that are less than 5mm in length. The Selkirk chert utilized flake has cortex present and a convex utilized edge that is 18mm in length.

Figure 29: Utilized Flakes Recovered, Location 21 (Actual Size)



The projectile point recovered is a side notched tool that is missing the tip. The notches are small and extend straight from the side towards the midpoint of this tool. One blade edge has steep flake removal extending from the break down towards the shoulder and could have been used as a side scraper. Table 14 provides metric data for this projectile point in millimeters.

Figure 30: Projectile Point Recovered, Location 21 (Actual Size)



Table 14: Projectile Point Metric Data in Millimeters

Length	Width	Thickness	Inter-Notch Width	Basal Width	Shoulder Width
30	24	6	17	23	24

This side notched point shares many characteristics to Meadowood blades, which were often worked into a variety of tool types. Meadowood points, from the Meadowood Complex are associated with the Early Woodland Period (*circa* 900-400 B.C.).

The 2004 Ontario Ministry of Culture draft standards states that Stage 3 assessment is required for any pre-contact Aboriginal sites identified during pedestrian survey, that produce more than ten artifacts in close proximity. As Location 23 consists of a spatially discrete and dense concentration of pre-contact Aboriginal cultural material additional Stage 3 assessment is recommended. This Stage 3 examination should include the controlled mapping of surface finds as well as the hand excavation of a series of one metre test units to sample the nature and density of this cultural deposit.

3.1.22 Location 22

The Stage 2 investigation of Location 22 resulted in the determination that this site consisted of a findspot of an isolated piece of pre-contact Aboriginal cultural material located at G.P.S. co-ordinates 17T NU 51914 / 06891. One piece of Onondaga chert chipped stone debitage was recovered. Onondaga chert is a high quality raw material that outcrops along the north shore of Lake Erie east of the embouchure of the Grand River. This material can also be recovered from secondary, glacial deposits across much of southwestern Ontario, east of Chatham.

Figure 31: Chipping Detritus Recovered, Location 22 (Actual Size)



Chipped stone debitage is the most frequently encountered indicator of pre-contact Aboriginal site occupation. Due to its relative frequency it has a low significance and interpretive value when only a small amount is recovered and it is not associated with any diagnostic material.

Despite the reduction of survey intervals to one meter within a twenty meter radius of this find, no additional archaeological material was recovered. Due to the low significance and information potential of an isolated non-diagnostic artifact, the heritage value of this site was judged to be low and no further archeological assessment is recommended for Location 22.

3.1.23 Location 23 (AiHc-385)

The Stage 2 investigation of Location 23 resulted in the determination that this site consisted of a findspot of an isolated piece of pre-contact Aboriginal cultural material located at G.P.S. co-ordinates 17T NU 51665 / 07495. One Collingwood chert Paleo-Indian side scraper was identified (C. Ellis, Personal Communication 2008). Collingwood, or Fossil Hill, chert is a relatively high quality Middle Silurian material that outcrops in the southern Georgian Bay area and can be found in glacial deposits near the chert outcrops. Even though Collingwood chert seldom appears in till in the southwestern part of the province it was used extensively in fluted point industries during the Early Paleo-Indian Period.

This tool has had extensive unifacial retouch along one side, with fine flake removal all of the same length creating an almost serrated edge. There is some use wear and retouch along the other edge. The notch on the tool is likely from a recent incident and not created by a Paleo-Indian tool maker. The thin protruding tip is possibly a graver tip; it has sparse flake removal on one side only but could have been used as a graver. The sparse flake removal makes it difficult to determine if this graver-like tip was intentionally created. The side scraper measures 54mm in length with a maximum width of 23mm and a maximum thickness of 5mm.

Figure 32: Side Scraper Recovered, Location 23 (Actual Size)



This tool is a classic Paleo-Indian side scraper and has been manufactured on Collingwood chert (Fossil Hill formation), which is a widely preferred raw material choice for Paleo-Indian tool kit assemblages (Ellis & Ferris 1990). The Paleo-Indian Period in south western Ontario extends from 9000 – 8550 B.C. for the Early Paleo-Indian, and 8350 – 7500 B.C. for the Late Paleo-Indian. Side scrapers of this type were common tools in both the Early and Late Paleo-Indian Periods.

Paleo-Indian sites are often characterized by a low frequency of artifacts recovered, especially during initial stages of archaeological assessment. The lifeways of Paleo-Indian groups included regular movement between encampments and the manufacture of lithic tools is thought to have been done in a manner that generates a different type of archaeological site than those we find in later time periods. Paleo-Indian groups are thought to have done the bulk of all major reduction activities of lithic tools at or close to the primary quarry. They then would travel with a collection of blanks or preforms to form into more refined tools as they were needed as they travelled from camp to camp. For this reason Paleo-Indian sites that are not located at a lithic raw material sites often produce only very small chert flakes that are the result of fine flake removal and tool shaping activities. These small flakes are often overlooked or slip through the hardware mesh that would generally catch most artifacts.

The recovery of a Collingwood chert, classic Paleo-Indian side scraper falls into the category of an example of a resource of special interest. Additional Stage 3 archaeological assessment is recommended to better evaluate the significance and information potential of Location 23 (AiHc-385) and to better assess the heritage value of this site. This Stage 3 examination should include the controlled mapping of surface finds as well as the hand excavation of a series of one meter test units to sample the nature and density of this cultural deposit. Due to the fact that Paleo-Indian sites generally have smaller artifacts than later time periods, hardware mesh of a smaller diameter (3mm) should be used for screening.

4.0 RECOMMENDATIONS

The Stage 2 archaeological assessment resulted in the identification of 23 archaeological locations, including 19 pre-contact Aboriginal and four Euro-Canadian sites. The pre-contact Aboriginal sites identified are Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 17 (AiHc-381), Location 18 (AiHc-382), Location 19, Location 20 (AiHc-383), Location 21 (AiHc-384), Location 22 and Location 23 (AiHc-385). The majority of pre-contact Aboriginal sites consisted of isolated finds or small amounts of artifacts and due to the paucity of cultural material identified these sites were judged to have a limited heritage value and no additional Stage 3 archaeological assessment is recommended for Location 1 (AiHc-378), Location 3, Location 4, Location 6, Location 7, Location 8, Location 9 (AiHc-379), Location 10, Location 11, Location 12 (AiHc-380), Location 13, Location 19, Location 20 (AiHc-383) and Location 22. Pre-contact Aboriginal sites Location 17 (AiHc-381), Location 18 (AiHc-382), Location 21 (AiHc-384) and Location 23 (AiHc-385) produced enough cultural material during the Stage 2 assessment to warrant additional Stage 3 assessment in order to better evaluate their significance and information potential. The Euro-Canadian sites identified are Location 2 (AiHc-386), Location 5, Location 15 and Location 16. Three of these Euro-Canadian sites produced early 20th century Euro-Canadian cultural material and for that reason were judged to have a limited heritage value and no additional Stage 3 archaeological assessment is recommended for Location 5, Location 15 and Location 16. Location 2 (AiGx-386) produced a number of early to late 19th century artifacts and as such additional Stage 3 archaeological assessment is recommended in order to assess its significance and information potential.

This archaeological assessment was undertaken to fulfil a standard archaeological condition of development approval as imposed by the Province of Ontario. The Ontario Ministry of Culture is asked to review the results presented in this report and issue a letter of concurrence with the findings herein. As additional archaeological assessment is recommended a letter of clearance is not requested at this time.

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Appendix A: Stage 2 Artifact Catalogues

Location 1

Cat	Artifact	Freq.	Comments
1	projectile point	1	notched, Kettle Point chert, missing base

Location 2

Cat	Artifact	Freq.	Comments
1	pearlware	16	
2	pearlware, painted	7	E.P, 4 blue floral design, 1 orange, 1 orange & brown, 1 green & brown
3	pearlware, transfer printed	2	blue
4	pearlware, banded	1	yellow & blue
5	pearlware, edged	3	2 blue, impressed curved lines, scalloped edge, 1 blue fragment
6	whiteware	1	
7	whiteware, painted	1	red & blue
8	whiteware, transfer printed	1	blue
9	earthenware, red	16	
10	white clay pipe stem	1	plain
11	white clay pipe bowl	1	moulded vertical lines

Location 3

Cat	Artifact	Freq.	Comments
1	utilized flake	1	Onondaga chert

Location 4

Cat	Artifact	Freq.	Comments
1	scraper	1	end scraper, Onondaga chert, complete
2	chipping detritus	1	Onondaga chert

Location 5

Cat	Artifact	Freq.	Comments
1	button	3	2 large metal with birds, shank on back, American, 1 medium metal with 2 holes, " CANADA", embossed maple leaf surrounded by a circle with writing inside of it and a crown on top
2	ironstone	2	
3	ironstone, transfer printed	1	black
4	earthenware, red	1	
5	ceramic, misc.	1	burnt
6	recent material	1	small piece of white plastic

Location 6

Cat	Artifact	Freq.	Comments
1	biface	1	midsection, dark Onondaga chert

Location 7

Cat	Artifact	Freq.	Comments
1	chipping detritus	1	Onondaga chert

Location 8

Cat	Artifact	Freq.	Comments
1	biface	1	tip, burnt

Location 9

Cat	Artifact	Freq.	Comments
1	projectile point	1	corner notched, missing base, Onondaga chert

Location 10

Cat	Artifact	Freq.	Comments
1	retouched flake	1	Onondaga chert

Location 11

Cat	Artifact	Freq.	Comments
1	chipping detritus	1	Onondaga chert

Location 12

Cat	Artifact	Freq.	Comments
1	projectile point	1	complete, side notched, Onondaga chert, made one flake
2	chipping detritus	1	Collingwood chert

Location 13

Cat	Artifact	Freq.	Comments
1	scraper	1	end scraper, Onondaga chert

Location 15

Cat	Artifact	Freq.	Comments
1	pearlware	1	
2	pearlware, transfer printed	1	blue
3	pearlware, edged	1	green, scalloped rim, fragment
4	whiteware	12	
5	whiteware, transfer printed	2	blue
6	ironstone	9	
7	ironstone, painted	1	2 green bands
8	whiteware, moulded	4	modern
9	ironstone, transfer printed	3	1 blue, 1 green, 1 brown
10	porcelain	12	1 with brown slip
11	porcelain, transfer printed	1	blue
12	porcelain, semi	8	1 with impressed lines & gold gilding, 1 with transfer printed acorn pattern, 1 with blue transfer print design
13	weeping tile	2	
14	earthenware, red	4	
15	stoneware	3	2 are refined blue, 1 with slip interior, grey slip exterior and blue painted band
16	toy	2	1 plastic doll leg, 1 multicoloured glass marble
17	button	1	shell with 2 hole, slightly burnt

18	metal, misc.	3	
19	wrench	1	
20	faunal remains	6	1 butchered, mammal
21	recent material	11	7 pieces of plastic (1 part of hair curler), 1 fuse, 1 porcelain knob, 1 pieces of rubber, 1 unknown
22	glass, white	5	milk glass
23	glass, window	12	
24	glass, bottle	32	5 brown (beer bottle glass), 4 blue, 2 seven-up green, 21 clear (1 base with moulded star), 1 purple
25	glass	2	1 opaque pink, 1 red

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Location 16

Cat	Artifact	Freq.	Comments
1	pearlware	1	
2	whiteware	1	
3	whiteware, edged	1	blue, straight rim, fragmentary
4	whiteware, transfer printed	1	green & pink
5	yellowware banded	1	white & black
6	ironstone	3	
7	ironstone, moulded	1	basket weave design
8	porcelain, transfer printed	1	green, brown & yellow
9	earthenware, red	15	
10	ceramic, misc.	1	no glaze, fragment
11	nail, cut	4	
12	nail, wire drawn	2	
13	metal hardware, misc.	1	link from large chain
14	metal, misc.	3	1 tube with holes, "GOODY"
15	glass, window	6	
16	glass, bottle	4	
17	faunal remains	4	1 tooth, 1 butchered, mammal
18	recent material	1	1 plastic tire from toy
19	brick	3	red

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Location 17

Cat	Artifact	Freq.	Comments
1	chipping detritus	1	Onondaga chert

Location 18

Cat	Artifact	Freq.	Comments
1	chipping detritus	1	Onondaga chert
2	faunal remains	1	mammal

Location 19

Cat	Artifact	Freq.	Comments
1	scraper	1	Kettle Point chert, end scraper, complete
2	chipping detritus	2	1 Onondaga chert, 1 dark unknown

Location 20

Cat	Artifact	Freq.	Comments
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1	projectile point	1	complete, corner notched
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Location 21

Cat	Artifact	Freq.	Comments
1	projectile point	1	side notched, Onondaga chert, broken, rework as side scraper
2	utilized flake	3	2 Onondaga chert, 1 Selkirk
3	chipping detritus	7	all Onondaga chert, 2 burnt

Location 22

Cat	Artifact	Freq.	Comments
1	chipping detritus	1	Onondaga chert

Location 23

Cat	Artifact	Freq.	Comments
1	side scraper	1	Collingwood chert