Stage 2 Archaeological Assessment (Property Assessment)

NextEra Conestogo Wind Farm Wellington County, Ontario

OPG FIT Reference No: FIT- FU99SSX

Prepared for:

GENIVAR

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Stage 2 Archaeological Assessment (Property Assessment)

NextEra Conestogo Wind Farm Wellington County, Ontario

EXECUTIVE SUMMARY

Archaeological Services Inc. (ASI) was contracted by GENIVAR to conduct a Stage 2 Archaeological Assessment (Property Assessment) for the proposed NextEra Conestogo Wind Farm, Wellington County, Ontario. These assessments were conducted under the Renewable Energy Approvals process in accordance with the *Environmental Protection Act* (MOE 2009).

The purpose of this Stage 2 Assessment is to conduct field investigations within the project area previously determined to have archaeological potential. This work is required in order to identify the presence of archaeological sites and to establish whether they may be impacted by the proposed work.

A systematic pedestrian survey was conducted within the project study area, which was comprised entirely of open lands. One pre-contact Aboriginal findspot and one historic period archaeological site were identified; no further archaeological work is recommended for these sites. This assessment was conducted in accordance with the *Ontario Heritage Act* (2005) and the *Draft Standards and Guidelines for Consultant Archaeologists* (MCL 2009).

In light of these results, ASI makes the following recommendations:

- 1. Sites H1 and P1 do not represent significant archaeological resources. No additional assessment is required, and these sites can by cleared of further archaeological concern;
- 2. The assessed portion of the project study area, which includes Turbines 3, 4, 5, 7, 8 and 10 and their associated access roads and crane paths, can be considered clear of further archaeological concern, and, therefore, no additional archaeological assessment is necessary in these areas;
- 3. Unassessed lands within the project study area, including facilities associated with Turbines 1, 2, 6 and 9, remain subject to a Stage 2 Archaeological Assessment to be conducted at a future date when ground visibility and weathering are suitable for pedestrian survey; and
- 4. If additional lands are required to accommodate construction or staging areas, and if the lands are in the vicinity of areas of site potential indicated by the Stage 1 assessment detailed herein, those lands should be subject to a Stage 2 property assessment.



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1.0 INTRODUCTION

Archaeological Services Inc. (ASI) was contracted by GENIVAR to conduct a Stage 2 Archaeological Assessment (Property Assessment) for the proposed Nextera Conestogo Wind Farm (Figure 1). The protect study area consists of agricultural lands in Wellington County, near Arthur, Ontario. The purpose of this Stage 2 Archaeological Assessment is to conduct field investigations within the project area previously determined to have archaeological potential. This work is required in order to identify the presence of archaeological sites and to establish whether they may be impacted by the proposed work.

GENIVAR granted authorization to ASI to carry out the activities necessary for the completion of the Stage 2 Archaeological Assessment on May 10, 2010. This report presents the interim results of the fieldwork completed to date and makes several provisional recommendations.

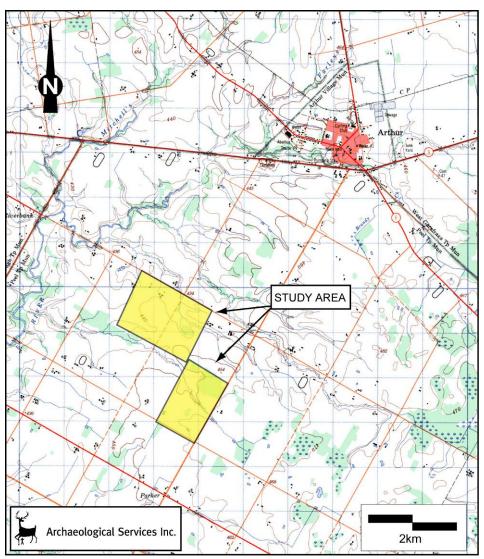


Figure 1: Location of the NextEra Conestogo Wind Farm project study area.

Base Map: NTS Sheet 40P/15 (Palmerston)

2.0 BACKGROUND RESEARCH

In 2007, ASI completed a Stage 1 Archaeological Assessment (Background Research and Property Inspection) for the Conestogo Wind Farm Project, in the Counties of Wellington and Dufferin (ASI 2007, PIF P057-359-2007). Turbine sites and access roads were not known at the time of project initiation. The assessment recommended that a Stage 2 Archaeological Assessment (Property Assessment) be conducted on all lands that will be impacted by proposed construction.

In 2010, GENIVAR contracted Archaeological Services Inc. to conduct an addendum Stage 1 assessment as a part of the NextEra Conestogo Wind Farm. The assessment was completed in May 2010 (ASI 2010; PIF P057-624-2010), and its results are summarized below.

2.1 Summary of Stage 1 Archaeological Assessment

According to the OASD (email communication, Robert von Bitter, MTC Data Coordinator, April 27, 2010), there are no previously registered sites within or immediately adjacent to the study area. In general, the study corridor vicinity has not been subjected to systematic archaeological research, and therefore, the paucity of known sites should not be considered a predictor of archaeological site potential.

The study area is located within the Dundalk Till Plain physiographic region of Southern Ontario. The gently undulating till plain comprises an area of approximately 2,370 square kilometres, and low drumlinoidal swells appear with their long axes oriented south-eastward (Chapman and Putnam 1984). With an elevation of 425 to 530 m, this region forms the watershed from which issues the headwaters of the Saugeen, Maitland, and Grand River, as well as those of the Nottawasaga River. A few pockets of poorly drained soil are present within the project study area. However, much of the project falls within areas of imperfectly to well drained soils, and there is potential for archaeological sites on these lands (ASI 2010: Figure 2).

The Conestogo River flanks the northwestern edge of the project study area, and many of its tributaries bisect it as well. Due to the proximity of numerous water sources, it may be concluded that there is potential for the recovery of Aboriginal cultural material within the project study area.

The 1906 *Illustrated Atlas of the County of Wellington* was reviewed to determine the potential for the presence of historical archaeological remains within the project study area during the nineteenth century. It is located within portions of Lots 5 to 9, Concessions XV to XIX, in the former Township of Peel. No historic features are illustrated near any of the proposed turbine sites or access roads. It should be noted, however, that not all features of interest were mapped systematically in the Ontario series of historical atlases, given that they were financed by subscription, and subscribers were given preference with regard to the level of detail provided on the maps.

An added factor, to archaeological potential, is the development of the network of concession roads and railroads through the course of the nineteenth century. These transportation routes frequently influenced the siting of farmsteads and businesses. Accordingly, undisturbed lands within 100 m of an early settlement road, such as Wellington Road 12 and 14th Line, are considered to have potential for the presence of Euro-Canadian archaeological sites.



The Stage 1 property inspection determined that project study area consists of a rural landscape that is currently extensively used for agricultural purposes: the lands have suffered only limited disturbance and therefore exhibit archaeological site potential. It was recommended that areas identified as having archaeological potential within the project study area be subject to Stage 2 Archaeological Assessment.

3.0 STAGE 2 FIELD ASSESSMENT (PROPERTY ASSESSMENT)

Based on the determination of archaeological site potential completed as part of the Stage 1 work detailed above (ASI 2010), the proposed impact area was subject to a Stage 2 Archaeological Assessment (Property Assessment) in accordance with the *Ontario Heritage Act* (2005) and the *Draft Standards and Guidelines for Consultant Archaeologists* (MCL 2009; Section 2). The field assessment occurred between May 13 and June 9, 2010, under the direction of Mr. Andrew Riddle (R146), ASI. The weather varied between overcast with light rain and clear sunny skies. Viewing conditions were considered excellent to good.

3.1 Methodology

According to the *Draft Standards and Guidelines*, any undisturbed areas within 300 m of any feature of archaeological potential must be subject to systematic test pit survey (closed lands) or pedestrian survey (open lands) at 5 m intervals (MCL 2009; Section 2). All areas that lay beyond 300 m of any archaeological feature are considered to have no archaeological potential and did not require testing. For this Stage 2 assessment, large sections of lots containing facilities were assessed. Some areas deemed to have no archaeological potential by the predictive model were field-verified.

The results of this assessment are mapped (Figures 2 and 3) and associated photographs are presented in Section 6.0.

3.2 Field Assessment

The project study area consists of actively cultivated agricultural fields along Sideroad 6 and Wellington Road 12 south of the Town of Arthur, Ontario (Figures 2 & 3; Plates 1-12). In general, the terrain is flat to gently undulating (Plates 4 & 7), and soils are composed primarily of a light clay-loam that had been ploughed and well-weathered prior to pedestrian survey.

Although young soya bean and wheat crop was present on some properties (Plates 6 & 11), ground visibility was greater than 80% in all areas that were assessed. Tree-lots within the project study area, such as that lying north of Turbine 10 (Plate 12 at right), will not be impacted by the proposed work and, therefore, were not assessed.

Three portions of the project study area had insufficient ground visibility and were not assessed. The fields containing Turbines 6 and 9 were covered in corn and soybean stalks, and a strip of land between Turbines 2 and 3 had a mature hay crop. These properties will be assessed in the future once the crop has been removed and both ploughing and weathering has taken place.



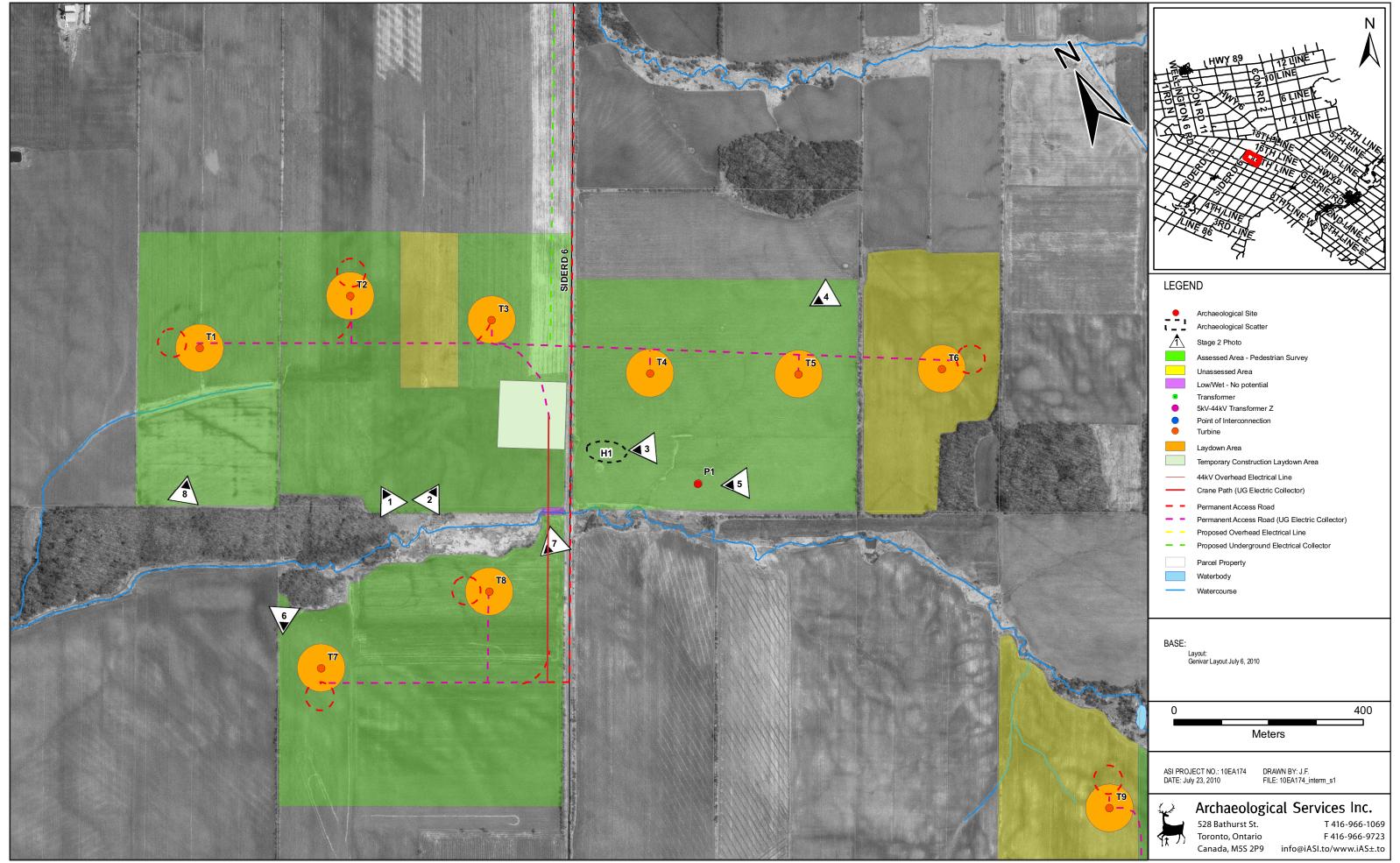


Figure 1: Next Era Conestogo Wind Farm (10EA-174) Stage 2 Assessment Results (Sheet 1)



Figure 2: Next Era Conestogo Wind Farm (10EA-174) Stage 2 Assessment Results (Sheet 2)

The survey yielded two archaeological sites:

3.3.1 Site H1

Site H1 is a Euro-Canadian period artifact scatter located east of Sideroad 6 in proximity to Turbine 4. The scatter covers an area measuring approximately 80 m (east-west) by 40 m (north-south) and includes more than 200 ironstone and stoneware vessel fragments, glass container fragments, bones, clay pipe fragments and a single machine cut nail (Plate 13). A representative sample of artifacts was collected for analysis and is described in more detail in Appendix A. The contents of the scatter suggest a late 19th century and early 20th century dump site, as evidenced by the high proportion of ceramic and glass vessel fragments and the paucity of architectural materials, such as nails, window glass and brick. Based on the lack of a primary context, Site H1 is not considered to be culturally significant, and further archaeological work will not be recommended for this site.

3.3.2 Site P1

Site P1 is a pre-contact Aboriginal findspot of a single Onondaga chert flake, located approximately 200 m southeast of Site H1 on a gentle slope down to the low, wet field edge (Table 1). Intensified pedestrian survey failed to yield any additional artifacts in the vicinity. Due to the small sample size and lack of any culturally diagnostic artifacts, Site P1 is not considered to be culturally significant, and further archaeological work will not be recommended for this findspot.

Table 1: 10EA-174 Site P1—Stage 2 Lithic Catalogue								
Туре	Material	Thermal	Retouch/	Comments				

Cat # Layer Qty Type Material Hermat Alt. Utilized Comments

L1 surface 1 Flake Onondaga No No

4.0 CONCLUSIONS AND RECOMMENDATIONS

Archaeological Services Inc. (ASI) was contracted by GENIVAR to conduct a Stage 2 Archaeological Assessment (Property Assessment) for the proposed NextEra Conestogo Wind Farm. The project study area consists of actively cultivated agricultural fields along Sideroad 6 and 14th Line, south of the Town of Arthur, Ontario. The Stage 1 Archaeological Assessment (Background Research and Property Inspection) previously conducted by ASI (2010) indicated that potential existed for the recovery of Aboriginal and Euro-Canadian archaeological resources in the project study area.

Field assessment of the project study area was conducted between May 13 and June 9, 2010, under the field direction of Mr. Andrew Riddle (R146), in accordance with the *Ontario Heritage Act* and the *Draft Standards and Guidelines for Consultant Archaeologists* (MCL 2009). Although the entire project study area consisted of opens lands which would be assessed by pedestrian survey, three parcels were not available for survey due to mature crops, and these will be assessed at a later time after they have been ploughed and properly weathered. Although one pre-contact Aboriginal findspot and one Euro-Canadian period archaeological site were identified, further archaeological work is recommended for either site.



In light of these results, ASI makes the following recommendations:

- 1. Sites H1 and P1 do not represent significant archaeological resources. No additional assessment is required, and these sites can by cleared of further archaeological concern;
- 2. The assessed portion of the project study area, which includes Turbines 3, 4, 5, 7, 8 and 10 and their associated access roads and crane paths, can be considered clear of further archaeological concern and, therefore, no additional archaeological assessment is necessary in these areas:
- 3. Unassessed lands within the project study area, including facilities associated with Turbines 1, 2, 6 and 9, remain subject to a Stage 2 archaeological assessment to be conducted at a future date when ground visibility and weathering are suitable for pedestrian survey; and
- 4. If additional lands are required to accommodate construction or staging areas, and if the lands are in the vicinity of areas of site potential indicated by the Stage 1 assessment detailed herein, those lands should be subject to a Stage 2 property assessment.

ASI advises compliance with the following legislation:

- This report is submitted to the Minister of Tourism and Culture as a condition of licensing in accordance with Part VI of the *Ontario Heritage Act*, RSO 1990, c 0.18. The report is reviewed to ensure that the licensed consultant archaeologist has met the terms and conditions of their archaeological licence, and that the archaeological fieldwork and report recommendations ensure the conservation, protection and preservation of the cultural heritage of Ontario.
- Should previously undocumented archaeological resources be discovered, they may be a new archaeological site and therefore subject to Section 48 (1) of the *Ontario Heritage Act*. The proponent or person discovering the archaeological resources must cease alteration of the site immediately and engage a licensed consultant archaeologist to carry out archaeological fieldwork, in compliance with sec. 48 (1) of the *Ontario Heritage Act*.
- The Cemeteries Act requires that any person discovering human remains must notify the police or coroner and the Registrar of Cemeteries, Ministry of Business and Consumer Services.

The documentation and artifacts related to the archaeological assessment of this project will be curated by Archaeological Services Inc. until such a time that arrangements for their ultimate transfer to Her Majesty the Queen in right of Ontario, or other public institution, can be made to the satisfaction of the project owner, the Ontario Ministry of Tourism and Culture, and any other legitimate interest groups.



5.0 REFERENCES CITED

ASI (Archaeological Services Inc.)

- 2010 Addendum Stage 1 Archaeological Assessment (Background Research and Property Inspection) NextEra Conestogo Wind Farm Project, Wellington County, Ontario. Report on file with the Ministry of Tourism and Culture.
- 2007 Stage 1 Archaeological Assessment Wind Farm Project, Wellington and Dufferin County, Ontario. Report on file with the Ministry of Tourism and Culture.

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

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MCL (Ministry of Culture)

- 2009 Standards and Guidelines for Consultant Archaeologists (draft, June 2009). Cultural Programs Branch, Ontario Ministry of Tourism and Culture, Toronto.
- 2006 Standards and Guidelines for Consultant Archaeologists (final draft, September 2006). Cultural Programs Branch, Ontario Ministry of Tourism and Culture, Toronto.
- 2005 Ontario Heritage Act.

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1875 Illustrated Historical Atlas of the County of Wentworth, Ontario. Toronto.

Ministry of Environment

2009 Environmental Project Act.



6.0 PHOTOGRAPHY



Plate 1: View north across project study area at slightly undulating terrain.



Plate 3: View west-northwest across Site H1 towards Sideroad 6.



Plate 5: View west-northwest at findspot P1.



Plate 2: View northeast across temporary laydown area adjacent to Sideroad 6.



Plate 4: View west across project study area towards Site H1 at flat terrain.



Plate 6: View south-southwest across flat terrain towards farm property (outside project study area).



Plate 7: View west-southwest across location of T8 towards T7 at ground cover and undulating terrain.



Plate 8: View north-northeast from treeline to T1 at pedestrian survey in progress.



Plate 9: View west-northwest along 14th Line at ground cover (wheat) and terrain.



Plate 10: View north-northeast across assessed field towards unassessed property near T9.



Plate 11: View west-northwest along northern limit of assessed property along 14th Line at gently sloping terrain and wildlife.



Plate 12: View south-southwest across project study area towards T10 and 14th Line.



Plate 13: Site H1 artifacts: H1 egg cup base, H27 sleigh bell, H6 ironstone, H2 floware, H21 container glass, H12 semi-porcelain. H16 amber glass

APPENDIX A: 10EA-174 Site H1—Stage 2 Artifact Catalogue

Cat #	Qty	Layer	Class	Туре	Material	Ware	Motif	Form	Comments
F1	1	Surface	Mammal	Medium	Bone				indeterminate long-bone, weathered, bleached.
H1	1	Surface	Kitchen/Food	Tableware	Ceramic	Ironstone	Undecorated	Other	complete egg cup base
H2	1	Surface	Kitchen/Food	Tableware	Ceramic	RWE	Floware	Flatware	indigo motif on upper surface, partially exfoliated
Н3	1	Surface	Kitchen/Food	Tableware	Ceramic	RWE	Factory-made slip - banded	Holloware	one thin and one thick band of robin's egg blue on exterior
H4	1	Surface	Kitchen/Food	Teaware	Ceramic	Ironstone	Moulded	Teacup	thick moulded D-shaped complete handle
H5	1	Surface	Kitchen/Food	Tableware	Ceramic	Ironstone	Moulded	Flatware	small rim fragment with partial scalloped brink, discoloured by rust
Н6	1	Surface	Kitchen/Food	Tableware	Ceramic	Ironstone	Moulded	Lid	moulded wavy scrolls and 2 large ribs, large tureen lid
H7	1	Surface	Kitchen/Food	Tableware	Ceramic	RWE	Transfer print	Flatware	landscape motif on upper surface
Н8	1	Surface	Kitchen/Food	Teaware	Ceramic	Ironstone	Floware	Teas	floral chain motif, sm. partial lid for teapot or sugar bow
Н9	1	Surface	Kitchen/Food	Tableware	Ceramic	Ironstone	Transfer print	Flatware	scalloped rim, scrolls and vines motif, partial printed maker's mark on underside, unidentifiable top line with "ROTHESAY" and crest underneath
H10	1	Surface	Kitchen/Food	Tableware	Ceramic	Ironstone	Transfer print	Holloware	light blue geometric motif on interior and exterior, partially exfoliated, likely a serving vessel or bowl
H11	1	Surface	Kitchen/Food	Kitchenware	Ceramic	Stoneware	Glazed	Holloware	smooth grey glaze on exterior, mottled light brown glaze with dark brown blob on interior
H12	1	Surface	Indeterminate	Unidentified	Porcellaneous Ware				semi-porcelain hollowware vessel, narrow at one end with hole in the bottom
H13	1	Surface	Kitchen/Food	Container - Liquor	Glass				heavily solarized glass, large complete whiskey finish
H14	1	Surface	Indeterminate	Container - Unidentifiable	Glass				heavily solarized glass, partial square or rectangular base fragment
H15	1	Surface	Personal Artifacts	Container - Medicine	Glass				solarized glass, complete prescription finish



Cat #	Qty	Layer	Class	Туре	Material	Ware	Motif	Form	Comments
H16	1	Surface	Indeterminate	Container - Unidentifiable	Glass				amber glass
H17	1	Surface	Indeterminate	Container - Unidentifiable	Glass				thick light green glass, round body fragment
H18	1	Surface	Indeterminate	Container - Unidentifiable	Glass				light blue glass, small base with 12 flat body panels, embossed on bottom "250"
H19	1	Surface	Indeterminate	Container - Unidentifiable	Glass				lightly solarized glass, moulded thick band on exterior with indented ovals, likely decorative or bowl
H20	1	Surface	Kitchen/Food	Liner	Glass				light blue glass, embossed letters "E C . 17 . 6"
H21	1	Surface	Indeterminate	Container - Unidentifiable	Glass				white glass base with mottled pink, orange, blue, and yellow glass on interior, decorative bowl or vase
H22	1	Surface	Personal Artifacts	Smoking Pipe	White Ball Clay				impressed maker's mark on stem, "BANN" on left side, "TREAL" on right side
H23	1	Surface	Personal Artifacts	Smoking Pipe	White Ball Clay				stem fragment with impressed maker's mark, "MONT" on left side, "TS" on right side
H24	1	Surface	Personal Artifacts	Smoking Pipe	White Ball Clay				moulded climbing vines motif
H25	1	Surface	Kitchen/Food	Knife - Table	Bone				half of an undecorated carved bone handle
H26	1	Surface	Architectural	Nail - Machine Cut	Metal - Ferrous				
H27	1	Surface	Tools/ Equipment	Other	Metal - White				sleighbell with engraved motif, small hole in upper portion

