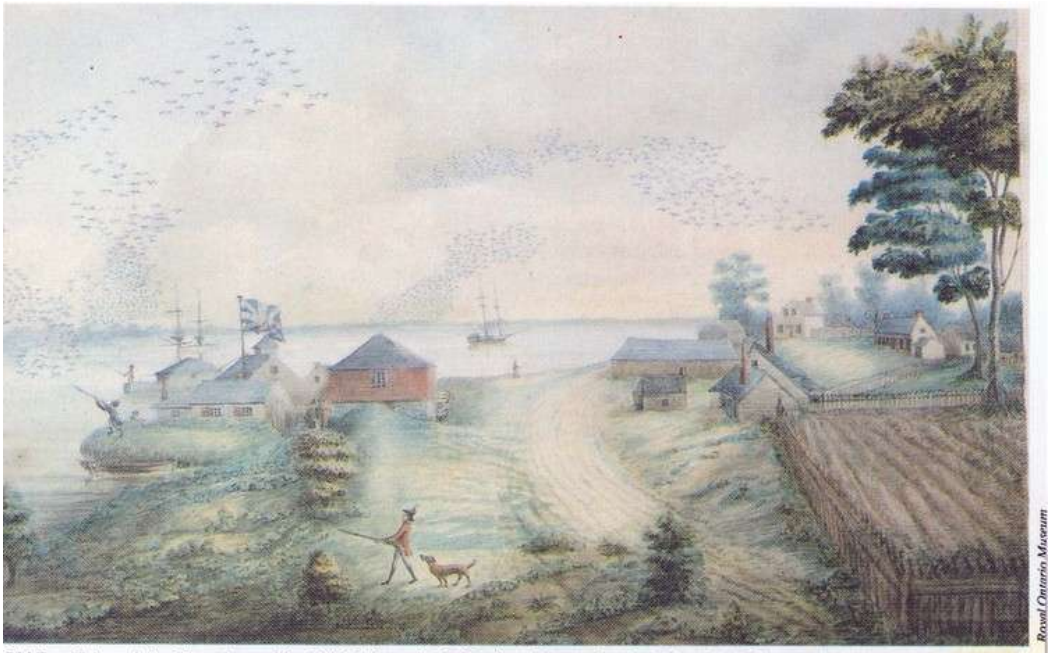
2013 ARCHAEOLOGICAL INVESTIGATIONS AT OLD FORT ERIE N.H.S. (AfGr-3)



Old Fort Erie and the Migrations of the Wild Pidgeon in the Spring . Watercolour by Edward Walsh, 1804.

WILFRID LAURIER UNIVERSITY

ARCHAEOLOGICAL FIELD SCHOOL

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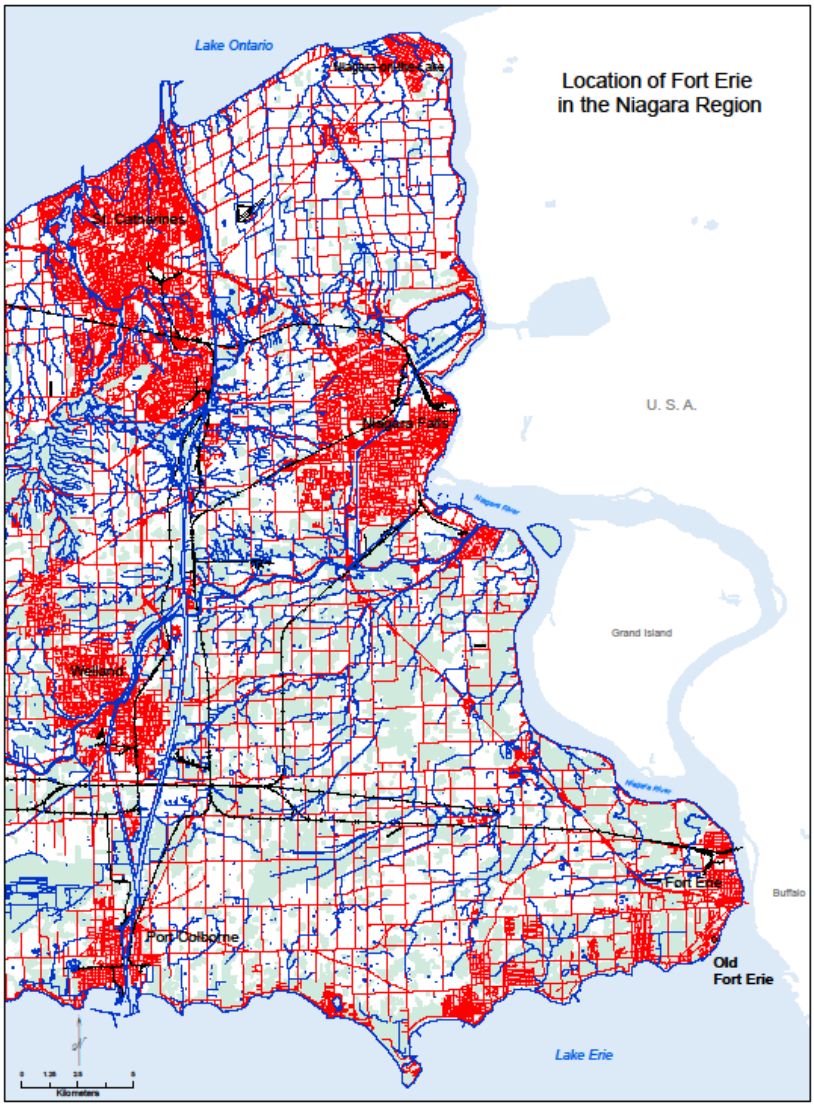
I offer my sincere apologies to any whom I have inadvertently omitted from these acknowledgments.

1.0 Introduction

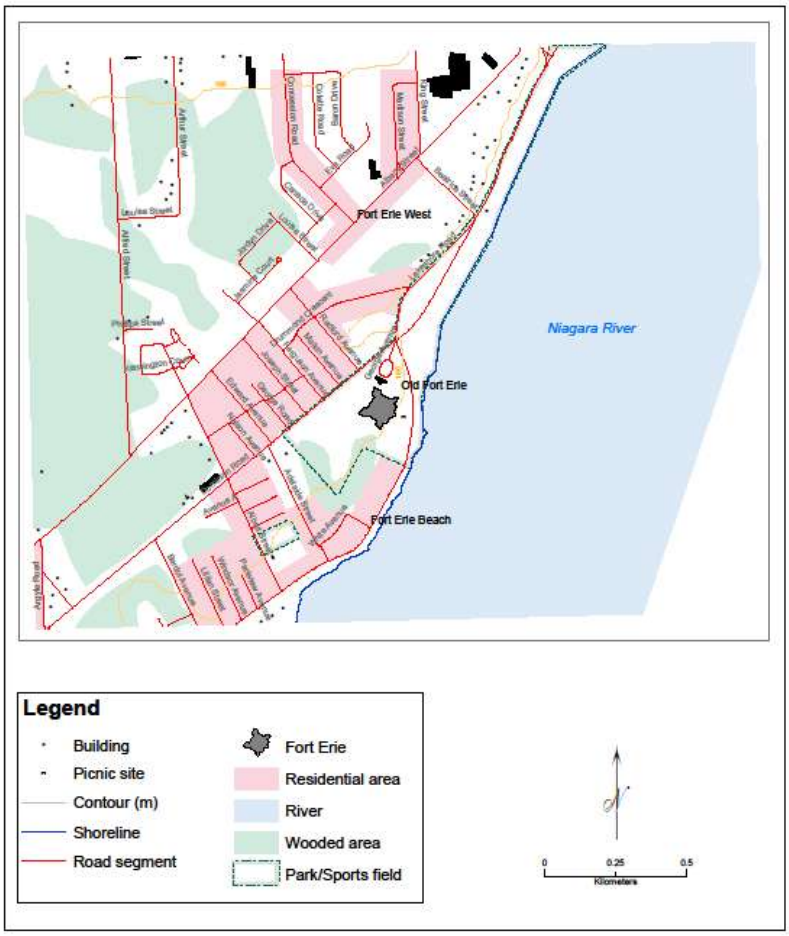
Figure 1a Aerial view of modern Fort Erie showing excavation areas from 2012 (Western Redoubt, Fanning's Battery); and 2013 (Douglass Battery).

In the spring of 2013 a Wilfrid Laurier University archaeological field school was conducted on the site of Old Fort Erie, N.H.S. under the direction of Dr. John Triggs, Department of Archaeology and Classical Studies. The field school ran for six weeks from May 7 - June 19 and was carried out with the assistance of 20 students, several volunteers, three teaching assistants and the project Director. The 2013 season marked the second such project on the site of Old Fort Erie in which research archaeology was conducted with the objective of addressing specific questions posed before the field work began. The overall purpose of the second season of excavation was to target a specific defensive feature; namely, Douglass Battery, a fortification element that played a significant role in the August/September 1814 siege. The feature is depicted on several 19th century maps (see Appendix C), and the objective was to determine if the small standing earthwork visible on the modern landscape to the south of the fort is in fact the actual Douglass Battery constructed almost two centuries ago.

As a preliminary study, beginning with the first season in 2012, it was important to determine the accuracy of specific maps given that all subsequent excavations on the site would be based on the most reliable maps in an attempt to locate historical features on the contemporary landscape. It was



anticipated that a detailed study of defensive features would provide a unique perspective on the site through the interplay of archaeological and historical documentation.



Much has been written of the siege by historians using the available documentary sources, but archaeology promised to provide a material aspect to the siege through an examination of the artifacts used and deposited there during the few weeks the site was occupied by the American army in the summer of 1814. The material culture of the soldiers and officers, for example, is virtually unknown from undisturbed archaeological contexts at Old Fort Erie, although local prospectors using metal detectors have been active in the area for perhaps decades. A research archaeology project, however, has the potential to study the artifacts in *context,* thereby providing a means of evaluating the artifacts recovered against the historical, or documentary, record. Recovering artifacts from carefully documented layers in precisely located excavation units is the basis of modern archaeological technique, in which stratigraphic excavation methods are employed. Artifacts found in undisturbed contexts are the unique purview of archaeology. They provide tangible evidence

of the daily activities of the people stationed at the encampment, in addition to shedding light on the tactics employed during the siege. These objects are the facts, which when found in context, provide the basis for reconstructing an archaeologically-informed narrative of the siege quite distinct from narrative formed using only historical records.

The following report documents the results of the project from the initial planning stages. Presented are the analysis and interpretation of artifacts and stratigraphic layers within an archaeological chronology represented by Periods I to V. As with the 2012 season's work, the interpretation of all the evidence gathered during the 2013 season both substantiates the historical records, and also shines a new light on the activities of the British and American armies during this important event in the larger War of 1812 conflict. Additionally, archaeological evidence was recovered from features dating to the period prior to the war, when Fort Erie served as the sentinel fort guarding the approach to the Niagara River, between 1764 and 1812. Discussed in detail below are the garden and domestic structure dating to the decades before the war of 1812; Douglass Battery from both the British and American perspectives and the plethora of material culture of the men, soldiers, officers, and First Nations allies, stationed at Fort Erie during the siege.

Map Analysis and Procedure:

Six maps contemporary with the 1814 siege were examined. Three of the maps date to 1814, and the remainder are dated 1815, 1818, and 1819 (See Appendix C). The orientation of the maps in the following discussion is with reference to the bastions of the modern fort (Figure 1a):

North Bastion - the bastion at the top of the image closest to the visitor centre
South Demi-Bastion - the one to the left of the entrance gate as you enter
East Demi-Bastion - the one closest to the Douglass Battery located on the right side of the fort gate
West - the bastion closet to the parking lot on the outside of the rampart on this side of the fort

The procedure for establishing the accuracy of the maps was first done in 2012 and is described in detail in that report (Triggs 2015). Briefly, map scaling was done by calculating absolute distances to features depicted on several early 19th century maps, using a scale based on features present today that were also depicted on the early maps. The two reference points used were the two salient angles of the south demi- bastion and the east demi-bastion of the fort. As with most of the modern fort, the demi-bastions are reconstructions of the original, but they are presumed to be situated upon the original foundations of the fort constructed and completed by 1805; in other words, the fort depicted on all maps contemporary with the siege. By directly measuring the distance between the salient angles of the demi-bastions and using this as a 'unit' of measure, it was possible to precisely locate all features of interest depicted on the early maps on the modern landscape. This procedure was instrumental in determining the location of a structure identified as an Officers' Quarters in what is referred to as the Western Redoubt in the 2012 report (Triggs 2015), known historically as Biddle's Battery, and also Fanning's Battery. Two maps in particular, the 1814 Romilly plan and the 1815 Cranfield/Nesfield plan,

were found to be the most accurate depictions of structures and features made during and shortly after the siege.

Subsequent GIS (Geographic Information Systems) analysis of digital spatial data by Duncan Williams (Appendix I) confirmed the plotting of historic features on the modern landscape. Digitally overlaying historic maps on the modern landscape was carried out using the same procedure described above; i.e., using the demi-bastions as 'anchors' – a procedure done manually in 2012. The advantage of digitizing the spatial data is that in addition to plotting historic features on the modern landscape, the spatial analysis of artifacts is also made possible. Additionally, a feature known as *Viewshed* analysis allows for the landscape to be seen from any chosen point, providing a viewer's perspective on what could and could not be seen when in any given position. The analytical power of the technique is extraordinary and is being increasingly employed by archaeologists who study past landscapes.

Establishing the Excavation Grid

On May 9, 2012, the east-west excavation grid baseline was established which, according to the calculations derived from three contemporary maps described above, theoretically would run parallel to, and overly, the main, 800 yard long, American earthwork. The main east-west excavation baseline, extending to a tree-line about 260 metres southwest of the fort, was established by setting up the total station on the middle of the south demi-bastion face[1], running a line that was parallel to the face of the bastion, and then turning angle of 10°. The position of the total station at this point, marked by an 8" spike, represents the grid point 1000N/1000E. On the new excavation grid, the main east-west excavation baseline is oriented at a bearing of 260°. Sighting along this line, from the vantage point on top of the south demi-bastion, the existing earthwork, visible for a short distance from the south demi-bastion, can be seen to run in a relatively straight line, parallel to, and a few metres north of, the baseline. The correspondence between the existing earthwork, and the entrenchments shown on the historic maps, suggests that the scaling of the three maps used for this purpose was at least nominally correct. The excavations in 2012 supported this observation.

[1] This position was 9.5 metres along the total length of the face of 19 metres. The transit was set up 60 centimetres from the face of the masonry wall marking the inside edge of the bastion, just inside one of the corners of the existing embrasure.

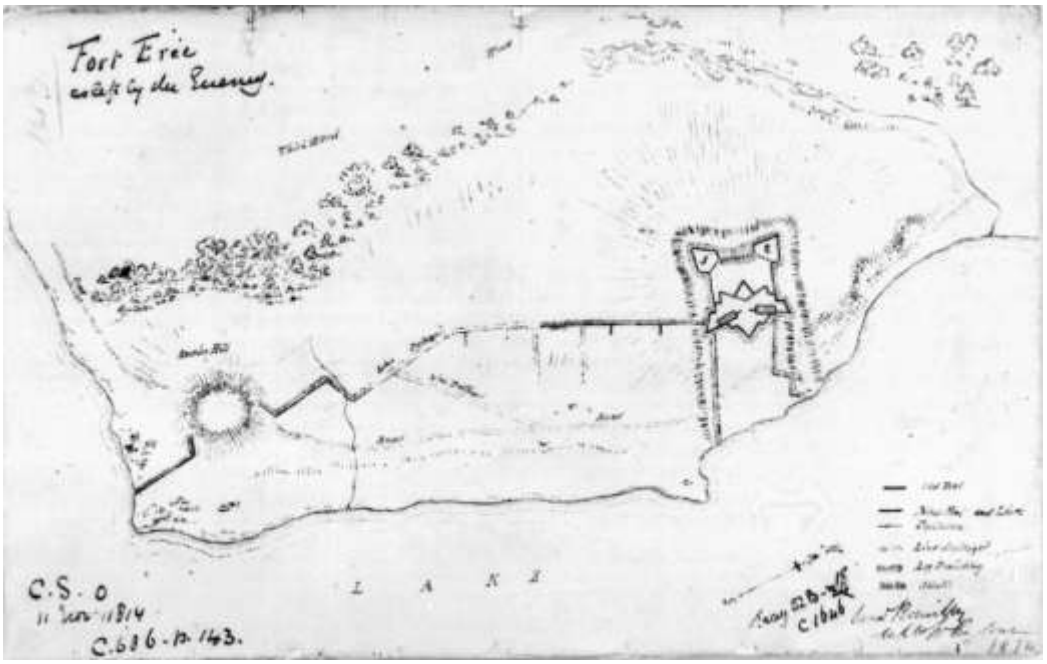


Figure 1 [1814] [Endorsed title]: 'Fort Erie as left by the Enemy.' [Sgd] Sam Romilly Lieut R1 Engineers. Library and Archives Canada, NMC 70956.

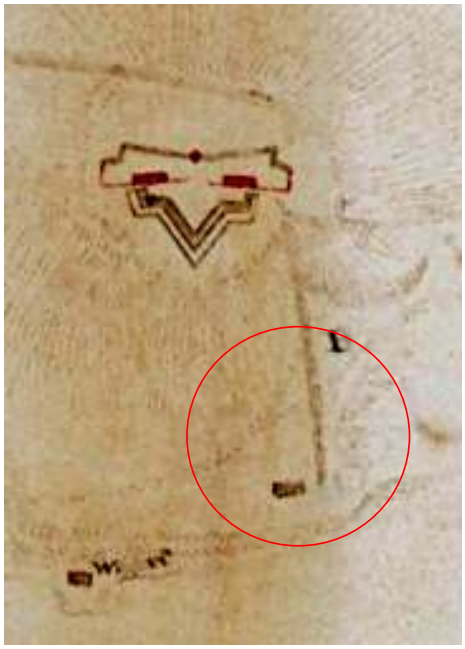
Figure 2 [1815] Plan of the Attack made upon Fort Erie (Upper Canada) by the Right Division of the British Army, under the Command of Lt Genl Drummond in August and Septr 1814 [Sgd] George Philpotts Lieut Royl Engineers, Capt Romilly Comg Rl Engineers Niagara Frontier. G. Nicolls Lt. Col. Cg R1 Engineers in Canada Quebec 27th July 1815, Library and Archives Canada, NMC 22340.

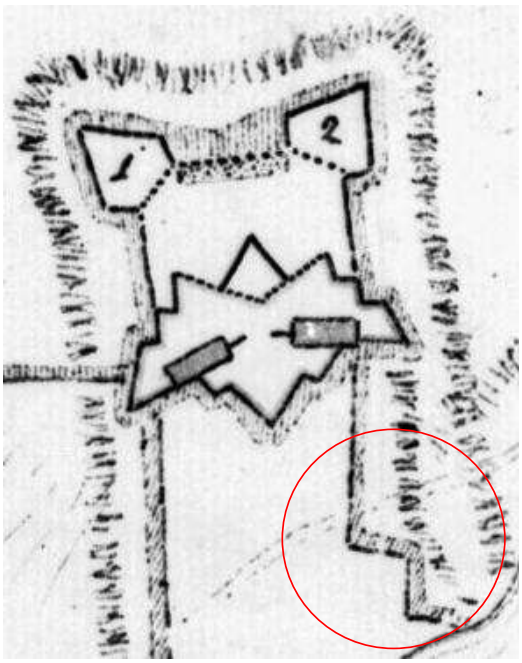
Map Analysis

Viewing the eight maps shown in Figures 3 to 10, it is clear that the area to the south of the fort, where Douglass Battery is situated, was depicted various ways over a 5 year period from 1814 to 1819. The earliest depiction of the area in August, 1814, shows the beginnings of a defensive earthwork (determined to be about 70 metres long), constructed in the early days of the siege, between July 28 and 31 (Whitehorne 1991: 36-37). This later became known as Douglass Battery, after David B. Douglass, the commanding officer for this position. This Battery along with the three other batteries: Fanning's, Biddle's (described as the Western Redoubt in the 2012 report), and Snake Hill, or Towson's Battery, formed the main defensive batteries outside the fort proper. On the earliest 1814 plan two structures are shown, one on the lakeshore on the inside of the defenses, and the other on the exterior of the defenses about midway between the lakeshore and the fort in an unfinished state with only two demi-bastions and a curtain wall on the north side. The next plan was drawn by Lieut. Romilly a few days after the American withdrawal in November 1814. Analysis in 2012 determined the accuracy of this plan in terms of the location of the Officers' Quarters, and it is reasonable to suppose that the depiction of Douglass Battery is also accurate. The plan indicates that no buildings were present in the area on either side of the Battery, and that a salient angle had been constructed in the 3 months since the beginning of the siege in August.

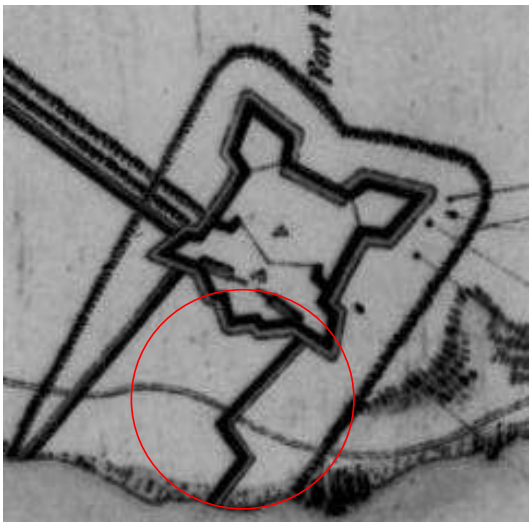
The next map in chronological order is copy of a plan by Nesfield/Cranfield, dated May 1815. As with the Romilly 1814 plan, the Nesfield/Cranfield plan was determined in 2012 to be the most accurate depiction of the landscape at the time of the siege. The Officers' Quarters mentioned above was located in the same position as on the Romilly plan. Thus, it can be assumed that the salient angle shown on the Romilly plan is an accurate depiction of the position and configuration of the Douglass Battery as it appeared at the end of the siege. This does not agree with the July 1815, Philpotts plan, however, which shows the same defensive line without a distinct Battery. The discrepancy may be due to the multiple authors apparently involved in the creation of this map since all subsequent maps up to 1819 do in fact indicate the salient or Battery or the Douglass Battery.

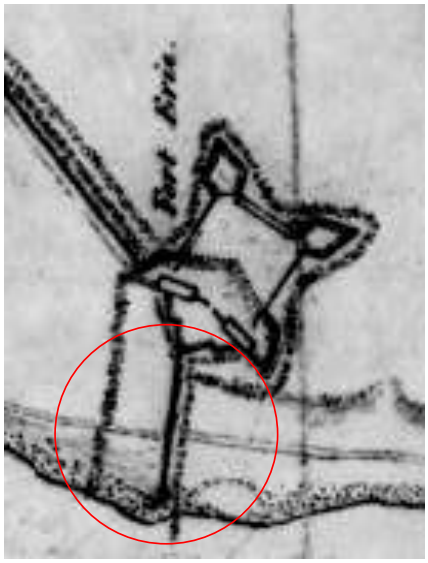
The 1816 D.B. Douglass and Vallance plan does show Douglass Battery as a separate salient and, significantly, with a structure located within the salient itself. There is some historical evidence discussed below to suggest that this was the small 'bombproof' built under the direction of Lieutenant David B. Douglass and which is described by him at the time of the siege as being constructed out of the ruins of a lime kiln (Barbuto 2000: 234-235). Three other structures are depicted also running in a north-south line towards the fort on the defensive side of the earthwork. The 1818 'Chart Illustrative of the Siege and Defense of Fort Erie', appears to be a copy of the 1816 plan as the same structures are shown along with other defensive features to the north and west. The 1818 Durnford plan, and the 1819 Walpole/Vavasour plan, drawn about 15 months apart, show similar features, most notably the presence of one structure in proximity to the Douglass Battery, although not within the Battery itself. The long axis of the building is on an east-west axis, labelled '9' on the Durnford plan. Importantly, it is this structure that is common to all plans produced between 1816 and 1819, and which is absent from all plans dating to the time of the siege.





Figures 3-6 Top row: August 8, 1814 plan by Ph (Philip) Hughes; November 11, 1814, Fort Erie as left by the Enemy.' Sam Romilly, Lieut Rl Engineers; Bottom row: Plan copied from the Original of Lieut [W.A.] Nesfield by Geo. D. Cranfield D.A.Q.M. Genl. Kingston. Upper Canada. 3d May 1815; George Philpotts Lieut Royl Engineers, Capt Romilly Comg Rl Engineers Niagara Frontier. G. Nicolls Lt. Col. Cg R1 Engineers in Canada Quebec 27th July 1815,





Figures 7- 10 Top row: D.B. Douglass and John Vallance, in Dennie, Joseph 1816 *Attack on Fort Erie*. Portfolio Magazine, Philadelphia; Royal Engineers plan of Fort Erie by A. Walpole and E.W. Durnford, 31 January 1818; Bottom row: 1818 Chart Illustrative of the Siege and Defense of Fort Erie; April 19, 1819 plan of Fort Erie and Military Reserve, by A. Walpole and Captn. Henry Vavasour, Royal Engineers.

Douglass Battery Area – East and West

The area targeted for excavation in the spring of 2013 was Douglass Battery. This battery, constructed in late July, 1814 (Whitehorne 1991: 36-37) is defined today by a linear mound running in a southeast-northwest direction for a distance of about 30 metres from Lakeshore Road in the southeast towards the fort to the north and west. The location of the mound corresponds to the depictions of Douglass Battery on eight contemporary plans as discussed above. The strategy for the 2013 season was to investigate the area of the battery by placing units on both sides – labelled Douglass Battery East and West. Douglass Battery West is located within the fortified American encampment and Douglass Battery East is located on the landward side of the defensive earthwork, or outside the American camp. A total of 29 units were excavation totalling 62 square metres: twelve 1 x 2 metre units in Douglass Battery West, and 17 units in Douglass Battery East (fifteen 1 x 2 metre units, one 1 x 4 metre, and one 2 x 2 metre unit). The landscape on either side on the mound is relatively flat with a slight slope down to the lakeshore on the east. Today the area is grassed over and maintained on a regular basis by the NPC grounds crew. Drainage is good and the overall landscape is relatively dry. The mound presumed to represent the remains of the original Douglass Battery rises some 2 metres above the ground on either side and is overgrown with long grass, and a single tree towards the east end where it abruptly ends before intersecting Lakeshore Road. At the northwest end of the mount towards the fort, the mound ends less abruptly than at the south-eastern end where the height above the surrounding landscape is about 1 metre. Some disturbance to the feature has occurred in the form of a footpath/bicycle path

that runs over the mound resulting in some erosion, but this is limited to the 40-50 centimetre-wide pathway.

Excavation units were labelled alphabetically for Douglass Battery East and West (see chart below). On the east side of the mound, along the base, there is a shallow ditch visible that may be an original feature associated with the defensive battery. Units were placed in Douglass Battery East to intersect the possible ditch, and also to investigate the area parallel and perpendicular to the mound for a distance of about 10 x 11 metres in a series of connected but alternating units. One unit was placed on the slope of the mound and another on the summit of the mound. In Douglass Battery West, the strategy was to investigate the area with a series of connecting and alternating units in lines that were parallel, and perpendicular, to the mound for distances of about 10 x 12 metres. One unit was placed adjacent to the base of the mound.

All Units Excavated in 2013 Douglass Battery			
Area	Unit	Unit Excavator	NW coordinate (site grid)
Douglass Battery West			
1 x 2 metres	A	Veronika Sriubiskis	937N 1070E
1 x 2 metres	B	Ana Ferreira	936N 1072E
1 x 2 metres	C	Cosimo Defrancesco	937N 1074E
1 x 2 metres	D	Lauren Stewart	936N 1076E
1 x 2 metres	E	Carolyn Hallett	937N 1078E
1 x 2 metres	F	Amanda Reay	940N 1076E
1 x 2 metres	G	Liam Bowman	942N 1077E
1 x 2 metres	H	Chelsey Hyde	944N 1076E
1 x 2 metres	J	Rachel Cogswell	945N 1074E
1 x 2 metres	K	Wendy Chennette	944N 1072E
1 x 2 metres	L	Don Patrick	938N 1080E
1 x 2 metres	M	Chelsey Hyde/Cosimo Defrancesco	937N 1071E
Douglass Battery East			
1 x 2 metres	A	Jessalyn Miller	943N 1088E
1 x 2 metres	B	Allanah MacDonald	944N 1090E
1 x 2 metres	C	Katie Best	945N 1088E
1 x 2 metres	D	Kyle Main	946N 1090E
1 x 2 metres	E	Rachel Voisin	948N 1090E
1 x 2 metres	F	Margaret Janse Van Rensburg	950N 1089E
1 x 2 metres	G	Jesslyn Jarvis	948N 1092E
1 x 2 metres	H	Nick McDaniel	949N 1094E
1 x 2 metres	J	Lily Godawa	948N 1096E
1 x 2 metres	K	Kaitlin Chamberlain	949N 1098E
1 x 2 metres	L	Adam Shoalts	950N 1091E
1 x 4 metres	M	Adam Shoalts	942N 1090E
1 x 2 metres	N	Kyle Main	944N 1086E

1 x 2 metres	P	Jesslyn Jarvis	944N 1083E
1 x 2 metres	Q	Rachel Voisin	950N 1093E
2 x 2 metres	R	Margaret Janse Van Rensburg	950N 1096E
1 x 2 metres	S	Lisabeth Robinson/John Triggs	948N 1099E

2.0 Environmental Context

Fort Erie is situated in the Haldimand Clay Plain physiographic region, specifically in the sub-region referred to as the Niagara River Valley, a flood plain about 400 metres wide (Chapman and Putnum 1984). Overlying the sedimentary upper Silurian and lower Devonian age bedrock geology, the clay plain in the region of the fort is characterized by a very compact, glacio-lacustrine clay deposit varying in thickness from a few centimetres closer to the lakeshore to at least 40 centimetres in the area of the 2012 excavations based on test pit excavations in two units (Fanning's Battery unit E and Western Redoubt unit A). The most significant outcrops of the bedrock geology are the Onondaga Formation and the Bois Blanc Formation, both sources of cherty limestone. Onondaga chert, the most abundant natural material from which chert was quarried by aboriginal peoples, is available in outcrops on the north shore of Lake Erie in the vicinity of the fort and for about 100 kilometres west to Nanticoke.

Situated only a few metres from the shoreline of Lake Erie, the land now comprising Fort Erie National historic Site has been subject to periodic episodes of inundation due to rising lake levels. Historically, lake levels vary as much as a metre annually although rises of as much as 2.4 metres (roughly 8 feet) have been recorded (MacDonald and Cooper 2006: 11). In fact, the destruction of the first fort built in 1764 is directly attributable to damage from ice and fluctuating lake levels in the last third of the 18th century (see Adam Shoalts, Historical Background section). The site of the 2012 excavation ranges from approximately 177 to 180 metres elevation, compared to the lake level of about 174 metres ASL. This area would never have been inundated even with a rise in lake levels of as much as 2.4 metres. Underlying sediments in the vicinity of the 2012 excavation are therefore all glacio-lacustrine clay deposits. Soils in the region of the fort are referred to as Luvisolic, characterized by slightly acidic A and B horizons formed over calcareous parent materials. Natural sediment formation (the clay-loam A-horizon) over the clay subsoil (the B-horizon) varies in thickness, depending on the situation of the units, from 0 to 5 centimetres. However, this may not be representative of the actual A-horizon thickness in an undisturbed state. The thinness of the A-horizon in the excavation areas is due to heavy foot traffic during the siege which acted to compress the natural ground surface. Also, the absence of the A-horizon in some areas is due to the excavation and subsequent re-deposition of the original A-horizon for the creation of the defensive earthwork. This may have taken place over a buffer area running parallel to and adjacent to the earthwork for several metres yet to be determined. The scraping of the A-horizon in this fashion - in order to build a sufficiently high earthwork – was due to the extremely difficult task of excavating the very densely compact natural glacio-lacustrine clay subsoil, which necessitated 'borrowing' surface soil from a zone adjacent to the mound.

The topography of the 2012 excavations is characterized by a relatively flat field to the grid-north of the excavation area – the landward side of the earthwork. This stretches from the north side of the earthwork for a distance of as much as 50-80 metres to the parking lot and Lakeshore. The land gently slopes down as much as 5 metres in elevation to the lakeshore in the south. Here a bluff about 1 metre high on average borders a relatively flat limestone shelf a few centimetres above the current lake level. To the west of the excavation area is a tree line and wooded area about 40 metres wide, beyond

which are several houses and yards. The fort itself is located on the east side of the excavation area. Overall the area is poorly drained and in early spring groundwater can be heard flowing over the impermeable clay subsoil down slope towards the lake shore.

Vegetation in the area during the period of the siege in the early 19th century was likely mostly deciduous, although timber descriptions in Robert Gourlay's Statistical Account for Upper Canada in 1817 does indicate that local variations were common and a mixed conifer-hardwood forest may have also been present. Fort Erie National Historic Site is located in the most northern extent of the Carolinian biotic province, a zone more characteristic of areas south of Lake Erie. Clues as to the natural forest cover and botanical species present are available in historical sources such as diaries, travel journals, surveyor's notebooks, and maps compiled during the late 18th and 19th centuries (MacDonald and Cooper 2006: 19). Wood charcoal recovered during excavations at the Peace Bridge site by Archaeological Services Inc. from various contexts indicate that the area was dominated by ash, elm and oak, with lesser quantities of maple, beech, ironwood, white pine and larch (MacDonald and Cooper 2006: 22). Food species in the southeastern Niagara Region, available to aboriginal populations and also during early settlement, included nuts (black walnut, butternut, hickory, oak, beech, and chestnut), berries (raspberries, blackberries, elderberry, strawberry, blueberry and cranberry), fruits (cherry, plum, crab apple, and currant) and cultivated vegetables. A wide variety of medicinal plants were also available (MacDonald and Cooper 2006: 25).

Fauna available to aboriginal populations, and early settlers, would have included a wide array of forest-dwelling animals. Among these were large mammals such as moose, white-tailed deer, wapiti

Figure 11 Old Fort Erie With the Migration of Wild Pigeons, dated 1804; by Edward Walsh, Sigmund Samuel Collection, 952.218, ROM2006_7733_1.

(elk), black bear, and also small mammals such as raccoon, beaver, muskrat, snowshoe hare, cottontail, marten, fisher, river otters, weasels, foxes, wolf, cougar, bobcat, lynx, woodchuck, chipmunk and grey squirrel (MacDonald and Cooper 2006: 27-28). Waterfowl would also have been available and included the passenger pigeon in profusion. A watercolour from 1804 by Edward Walsh shows hunters shooting into the overhead flocks of these birds which were ultimately hunted to extinction by the close of the 19th century (Figure 11). Also available were wild turkey, various species of ducks and geese. A wide variety of fish would also have been available to aboriginal populations and settlers. An analysis of the faunal remains from the Fort Erie 2012 excavations has yet to be carried out but it is clear that mammal, bird and fish remains are present in the sample, although the degree to which domesticated and wild species were relied upon during the siege remains to be determined.

3.0 Historical Context

by Adam Shoalts, Ph.D. student, McMaster University[2]

Fort Erie is the oldest British military fort in what is now Ontario.[3] For a quarter of a millennium, under different guises, first as a modest depot, then as a stone fortress, later as ruins, and finally as a reconstructed tourist attraction, it has stood sentinel over the Niagara River. Established in 1764 after the Treaty of Paris formally ceded New France to the British Crown, the early Fort Erie was a remote outpost of the British Empire deep in the North American wilderness. Naturally the British had found it necessary to construct a series of forts in the newly acquired Great Lakes territory to control the area and the lucrative fur trade. This became a matter of urgency with Pontiac's uprising against British rule in 1763.

John Montressor, a captain in the Royal Engineers, was tasked with selecting a suitable location for a fort somewhere near the headwaters of the Niagara River at Lake Erie, and overseeing its construction. Work commenced in the summer of 1764, with five hundred men labouring on the fort. Significantly, this work force consisted of a mix of British regular troops and colonial volunteer units, including two battalions of Connecticut and New Jersey Provincial forces. Such a mix of units offers the possibility of testing Andrew Farry's spatial model of British regular and colonial irregular army relations that assumes "significant distinctions will characterize small-scale provincial and British contexts," including differences in ceramics, lead shot, and other distinguishable patterns, which Farry found on Seven Years' War military sites in New York state where both British and colonial forces served.[4] If Farry's pattern holds, it may also prove possible to test it against the later Fort Erie, where there was a mix of militia and regular troops, including during the 1814 siege.

While a historical plaque on display at Fort Erie today states that there were two early forts in addition to the 1805 stone fort, this is unlikely. Certainly, the written evidence makes clear that this original fort was in an almost constant state of disrepair owing to lake storms and ice flows, but as David Owen demonstrated in his history of the site there is no reason to think the fort was ever entirely abandoned or completely rebuilt before 1805.[5] Descriptions of this early fort are limited to sparse military records, a few paintings, and the occasional traveler's terse description (including ones penned by Robert Rogers and Lady Simcoe). Thus, little is known of this original fort, and it is hoped that archaeology will be able to shed more light on it. The almost constant repair work throughout the fort's troubled existence from 1764 to circa 1805 ought to have left behind a rich archaeological record. GIS

[2] This paper was prepared as a requirement of a Graduate Directed Study course under the supervision of Dr. John Triggs, Wilfrid Laurier University, Dept. of Archaeology and Classical Studies, in fall 2012.
[3] Older British forts were established on Hudson Bay and James Bay, but these were built by the Hudson's Bay Company, a private corporation, rather than the British military.
[4] Andrew Farry, "Regulars and "Irregulars": British and Provincial Variability among Eighteenth-Century Military Frontiers," *Historical Archaeology* 2005, 39(2):16.
[5] David A. Owen, *Historic Fort Erie 1764-1823: An Historic Guide* (Niagara Parks Commission: 1986), 18-19.

mapping technology has allowed for period maps of the original fort to be superimposed on contemporary aerial photographs, using the barracks and demi-bastions of the reconstructed second fort as location markers. This gives an approximate idea of where the bastions and walls of the original fort were located in relation to the modern landscape. Some of the major unresolved questions about this first fort are to what extent it functioned as a fur trade depot; how it was laid out and what buildings and barracks it contained, what it contained in the way of gun batteries and powder magazines, and if there is any evidence of ship-building activity at the site. Another major unresolved question about this original fort involves its somewhat mysterious depiction on three maps as apparently missing one half. Maps dating to 1794, 1798, and 1803 all display Fort Erie as consisting of only two landward facing bastions, with the waterside of the fort nonexistent. A letter dated May 20, 1781 stated that the fort "…is in general in a bad state of defense. *The face next the Lake is laid clear open by the late storms*, and the whole Fort must be picketed. The Artificers are now repairing the works…"[6] It would seem extraordinary that a storm could have "laid clear open" the fort's walls, but this is apparently the case. In spring when the ice breaks up on Lake Erie, large ice flows drift down the Niagara River that in a storm can inflict considerable damage to any structures fronting the river. A June 24, 1781 report noted that, "Fort Erie (has been) new(ly) picketted, and the Stonewall, next the Lake repair'd…"[7] While repaired, the fact that this wall and lakeside bastions are missing from the 1794, 1798, and 1803 maps indicate that the fort was regularly damaged by ice and storms. This is also clear from the documentary record. Accounts written throughout the 1780s describe the fort as in "ruins."[8] A report dated December 6, 1788 provides more detail: "The whole of Fort Erie is in so wretched a state and altogether so much in ruins that it is not easy to say which is the worst part of it…*the front next the water which has a stone wall has been washed away by the encroachment of the Lake*."[9] In the summer of 1790 one Major Robert Matthews reported of the fort that, "The work consists of four small Bastions, two of bad mason work washed by the lake, and two on the land side stockaded, it is quite in ruin and was originally very improperly placed."[10] If storms and ice really did wash away on multiple occasions the fort's waterside stone wall, perhaps some of the stone may still be found lying in the shallow waters of the river. At any rate, given that a 1792 report informs us that the fort contained a blockhouse that was, "54 feet long 30 feet wide…the upper floor projects two feet from the lower part which is built of stone" some archaeological evidence of these structures must presumably remain.[11] Furthermore, a civilian visitor to the fort in 1796 noted in his journal that adjoining the fort were, "extensive stores as at Chippeway, and about half a dozen miserable little dwellings."[12] Two paintings of the fort also depict these buildings adjacent to the fort as well as gardens.

The maps also indicate that two wharfs existed below the fort. The cribbing of one these wharfs, labeled as "Grant's & Kirby's wharf" on an 1818 map, is still visible today in the waters of the Niagara

[6] Owen, *Historic Fort Erie*, 31.
[7] Ibid.
[8] Owens, 31-32.
[9] Owens, 32.
[10] Owens, 33.
[11] Owens, 34.
[12] Owens, 39.

River. An 1803 map also displays a "merchant's store" adjacent to this wharf, and this building appears on various subsequent maps. The other wharf is depicted as almost directly below the site of the second Fort Erie, and is labeled on an 1818 map as the government wharf. Given the extensive damage from ice to buildings and to the original fort, one wonders if archaeology might reveal that considerable local ship and boat maintenance took place near these wharfs.

By 1805 the British army began construction of a new stone fort in a location above the old ruined fort, a safe distance from the ravages of the Niagara River and Lake Erie. While we know much more about the construction, design and internal layout of this second Fort Erie, there are still major gaps in our knowledge of it. For example, archaeology could possibly reveal the location and extent of the fort's stables, which must have existed but are not mentioned in any of the written sources. It is also not known from the documentary record whether or not Fort Erie had a blacksmith shop. Based on other British forts in Canada, such as Fort St. Joseph, it seems likely that Fort Erie did.[13] In the absence of documentary sources, only archaeology will be able to yield any knowledge about the fort's blacksmith shop and stables. Such findings, in addition to what we may discover about any ship repairs and local gardens, ought to allow for a much better understanding of the extent to which Fort Erie functioned as a self-sufficient entity.[14] The 1794 and 1798 maps of Fort Erie reveal plans for merchant shops clustered along the riverfront. Most of these shops did not come to fruition, yet some buildings, such as the King's Store, we know from later maps did exist. It is hoped that future archaeology will shed light on these neglected aspects of the site's history. Ground-penetrating radar and magnetometer surveys conducted at the site, in conjunction with the period maps superimposed over contemporary satellite images, may offer the best means of detecting the remains of such structures. Conversely, whereas other archaeological investigations of nineteenth century battlefields have relied on metal dictator surveys (Sivilich), this would likely prove of less utility at Fort Erie due to the unfortunately pervasive practice of metal detector assisted pot-hunting over the years.[15]

Despite this unfortunate tendency, archaeological fieldwork in 2012 uncovered considerable numbers of musket and rifle balls, buck shot and birdshot. While most, if not all, of this ordnance is associated with the Siege of Fort Erie that occurred in the summer of 1814, the birdshot is a reminder that troops in peacetime at Fort Erie engaged in hunting. An 1804 painting by Edward Walsh, a surgeon in the 49th regiment of foot, depicts a man hunting passenger pigeons outside Fort Erie. The extent to which local game supplemented military rations at Fort Erie might be determined if the fort's refuse pits were to be excavated. It is also interesting to speculate to what extent soldiers at Fort Erie supplemented their diets by fishing in the rich waters of the Niagara River and Lake Erie. That such

[13] John D. Light and Henry Unglik, *A Frontier Fur Trade Blacksmith Shop 1796 -1812*. (National Historic Parks and Sites, Environment Canada, 1987).
[14] Steven L. De Vore demonstrates that nineteenth century wilderness forts in the American mid-west functioned as largely self-sufficient entities, with gunsmiths, blacksmiths, carpenters, and other craftsmen fulfilling the fort's needs. See Steven L. De Vore, "Fur Trade Era Blacksmith Shops at Fort Union Trading North Dakota Post National Historic Site," *Historical Archaeology* Vol. 24, No. 3, 1990. Given Fort Erie's strategic location on the Great Lakes trade route, it was presumably less self-sufficient and more dependent on trade routes.
[15] Daniel M. Sivilich," Analyzing Musket Balls to interpret a Revolutionary War Site" *Historical Archaeology* Vol. 30, No. 2, 1996.

activity took place, particularly in the fort's early history, seems likely. It is also known that the Fort's garrison kept gardens outside the fort's walls, but detailed written evidence for this is scant.[16] Archaeology could possibly shed more light on what the living conditions were (in both peace and war) at the fort. For example, is it possible that soldiers, with their military rations supplemented by wild game, fish and vegetable gardens, actually enjoyed distinctly better diets than their civilian counterparts in Britain? Such a finding might also have implications for our understanding of troop morale and desertion rates among soldiers at Fort Erie.

It is also believed that in peacetime a separate officer's quarters existed outside the Fort. However, the documentary record offers scant clues about such an establishment. If the quarters could be located through a magnetometer or ground-penetrating radar survey, we would learn not only more about the fort's layout, but if an adjacent refuse pit were to be discovered, useful information about differences in diet between officers and enlisted men stationed at Fort Erie might be gleaned from it. As well, we could possibly confirm (or tenuously deny) the accuracy of the reconstructed officer's quarters at the fort today, which are decorated with white-tail deer hides and antlers on the assumption that British officers stationed at the fort hunted deer in their leisure time.

The War of 1812 and the Siege of Fort Erie:

Fort Erie was the scene of considerable action in the War of 1812. Its garrison fought in November 1812 at the battle of Frenchman's Creek and its cannons and nearby batteries occasionally exchanged fire with the American side of the river. In 1813, the British evacuated the fort, leaving it temporarily in American hands as British forces abandoned the Niagara Frontier. It was apparently partially dismantled and the outbuildings burned at this time but by the end of 1813 it was back in British hands. These early incidents in the war, however, pale in comparison to the role the fort played in the bloody Niagara Campaign of 1814. That year witnessed the United States mount its third and final invasion of the Niagara Peninsula. The Siege of Fort Erie became the climax of this last full-scale invasion. It also proved to be the war's bloodiest engagement. Though exact casualties are impossible to determine, an estimated 3,000 soldiers were killed, wounded, or captured during the six weeks of fighting. The vast majority of these soldiers remained buried on the battlefield today.[17]

[16] Excavations in 2013 on the south side of the fort opposite the main gate did indeed reveal evidence of the gardens dating to the pre-war of 1812 period. Another map in Richard Feltoe, *The Ashes of War: The Fight for Upper Canada, August 1814-March 1815,* (2014) also shows extensive gardens in the area surrounding the fort. Comment by J. Triggs, December 19, 2014.

[17] The only known exception are the remains of the twenty-eight soldiers excavated at Snake Hill in 1987 and returned to the United States with all due ceremony. According to Ronald Way, who oversaw the reconstruction of Fort Erie from 1937-1939, the remains of 153 men lie beneath the monument outside the fort's walls. Documents written in 1814 by various American soldiers describe digging a mass grave for the British troops killed in the explosion of the northeast demi-bastion during the August 15 night assault, and put the number of dead at around 150. Way stated that three American graves were uncovered during the restoration inside the fort, and that these soldiers were added to the mass grave, making a total tally of 153 beneath the monument.

Prior to its final invasion in 1814 the Niagara Frontier was aptly described by one American officer as already "desolated with fire and sword" from two years of warfare.[18] On July 3, a well-trained and equipped army of 5,000 Americans rowed across the Niagara River from Buffalo under the cover of darkness, landing on the Canadian shore below Fort Erie. The capture of Fort Erie was to be the first step in their conquest of Canada. The U.S. Army, under the command of the capable General Jacob Brown, planned to march north to the shores of Lake Ontario, where they would rendezvous with the American fleet and from there subdue the remainder of Upper Canada. Alas for the Americans, only the capture of Fort Erie went according to plan. The fort's outnumbered garrison consisted of a mere 137 men under the command of Major Thomas Buck. Perhaps thinking that discretion is the better part of valour, Buck promptly surrendered after the exchange of only a few shots. (He was subsequently court-martialed for the surrender). On July 5, 1814, the Americans, heading north, encountered the British at Chippawa. The resulting battle proved a decisive U.S. victory. However, twenty days later the two armies clashed again at Lundy's Lane, resulting in heavy casualties for both sides and a strategic defeat for the U.S. army, as this action forced their withdrawal south to Fort Erie and scuttled any plans for further offensive operations.

Indeed, the American Army had been reduced to approximately 3,500 effective troops by August 1, 1814. With General Brown wounded, command divulged to the cautious General Ripley. Ripley initially contemplated a retreat across the Niagara to the American shore, but was persuaded to dig in at Fort Erie. American engineers had already undertaken some work to strengthen the site in July after its capture. It would now be transformed into a sprawling fortified encampment, covering some fifteen acres and stretching approximately 800 metres from the old British stone fort to Snake Hill near the Lake Erie shoreline. Eroded portions of the defensive earthwork built by the Americans linking the fort to Snake Hill are still visible on the grounds of Fort Erie today. While Benson Lossing, who visited the site in the summer of 1860, reported that the Americans had dug a double ditch and thrown the earth up into "parapet breastworks," thus far excavations have revealed the existence of only one ditch outside the earthwork.[19] Part of this ditch is still clearly visible in the woods south of the Niagara Parks Commission's property. On the other hand, Ronald Way's speculation that the Americans constructed a "firing-step" has been confirmed as accurate. Such a step, made of earth, was uncovered along the earthwork during fieldwork in 2012, which would have enabled defenders to fire over the wall[20]. Interestingly, an 1816 account of the Siege written by an American officer recalled how as an "additional precaution" the troops stationed along this earthwork were armed with pikes fashioned from captured bayonets, "designed to be used in case of a charge." The officer related that:

[18] David B. Douglass, "Reminiscences of the Campaign of 1814, on the Niagara Frontier," *The Historical Magazine*, vol. II no. 1 July, 1873, 7.
[19] Benson J. Lossing, *The Pictorial Field-Book of the War of 1812* (New York: 1869, reprinted New York: Benchmark Publishing, 1970), 830. Excavations by Triggs in spring 2012 revealed the ditch in two areas: Fanning's Battery and the Western Redoubt. Comment by John Triggs, December 19, 2014.
[20] The firing step found in Fanning's Battery East, unit Q, is described in this report by Triggs. Comment by John Triggs, December 19, 2014.

> "At twilight, every evening; a great number of pikes, constructed of the British bayonets which were taken on the 15th, were laid at two feet distance from each other, along the whole extent of our line. These being of a length equal to thickness of the parapet, would have been used with great effect in the event of an escalade."[21]

Indeed, one can easily imagine the utility of such a weapon for close-quarter combat in the event the British attempted to storm the works a second time. (The British officer William Drummond also preferred a naval pike for hand-to-hand combat, and carried one in lieu of his sword during the ill-fated August 15 night assault.) To date, no bayonets have been uncovered along the American earthwork but unspent musket and rifle balls, buckshot, and buttons were uncovered along this defensive line[22]. Also uncovered was plenty of charcoal, suggesting that soldiers may have cooked their meals within the shelter offered by the earthwork and perpendicular traverses[23]. As an outer defense, the Americans constructed a line of abatis. Finally, for additional firepower and support, three U.S. warships, the Ohio, Porcupine, and Somers were anchored in the waters of Lake Erie just south of the American position. Overall, the small original Fort Erie had been transformed into a formidable fortress, succinctly described by British Lieutenant John Le Couteur as an "ugly customer." The British, under Canadian-born Lieutenant General Gordon Drummond, had only approximately 3,500 men with which to attack the fort.

Near the waters of Lake Erie was a natural sand mound, called Snake Hill, which the Americans transformed into a fortified redoubt. Placed under the command of Captain Towson, this well-defended redoubt formed the left of the American position. The extreme right of the American position extended from Fort Erie's ravelin to the river. Here an earthen wall was thrown up to link the fort to a gun Battery under the command of Captain David Douglass, a twenty-four year old Yale-educated American artillery officer. Portions of this earthwork, said by Lossing to have originally been seven feet high, are still visible today.[24] Douglass described the site of his Battery as "a hillock, partly natural and partly formed by the ruins of an old lime-kiln, between the fort and the lake, nearest the later, eight or ten feet above the water-level, and about as much below the site of the fort."[25] The lime-kiln may explain the ruins of Douglass' Battery as depicted by Lossing in the summer of 1860. Lossing shows a considerable structure consisting of crumbling stone. Fortuitously for our purposes, Lossing's illustration shows these ruins east

[21] "Attack on Fort Erie," *Naval and Military Chronicle of the United States,* (Philadelphia: Vol. 1 no. II February 1816), 109.
[22] In the Western Redoubt excavation area a line of 'posts' were found in the ditch parallel to the earthwork in unit M. The context of these suggests that they may in fact by the line of pikes mentioned in the 1816 account by the American officer. Comment added by John Triggs, December 19, 2014.
[23] As discussed in the current report, the charcoal is very likely the product of the destruction of the building by a direct mortar bomb hit on September 16 or 17. Comments added by John Triggs, December 19, 2014.
[24] Benson J. Lossing, *The Pictorial Field-Book of the War of 1812* (New York: 1869, reprinted New York: Benchmark Publishing, 1970), 829.
[25] David B. Douglass, "Reminiscences of the Campaign of 1814, on the Niagara Frontier," *The Historical Magazine*, vol. II no. 1 July, 1873, 128.

of the river road, which, provided the road is in the same place today, would mean Douglass' Battery is an area that can be excavated.[26]

In a letter dated September 12, 1814, Douglass gives more detail about his Battery. He described the site of his Battery as: "…originally a sort of arched vault or magazine, raised above ground, and opening toward the water. In the course of one night, I dug away one side into a loose sort of platform, and placed my gun there..."[27] There is no mention of it as originally a lime-kiln in this letter. Instead Douglass seems to suggest that it was a powder magazine. Possibly it had once been a lime-kiln that was subsequently converted to a powder magazine, and then converted a third-time by Douglass into a Battery. These tantalizing questions, however, will only be resolved by an archaeological investigation of the site.[28] Fortunately, from Douglass' written account of his Battery, coupled with historic maps, GIS, and the eroded earthwork still visible today, it ought to be possible with a fair degree of confidence to determine the location of the Battery.

Even more interestingly, Douglass provides detail about what he and his men did by September to protect themselves from the deadly British bombardment:

> On the right of the platform, the ground had a considerable descent; and here I set all hands to work, as near the gun as possible. In a few days, they had made a sort of cellar, ten feet broad and twenty feet long, neatly and firmly walled up with sods. Adjoining this, they dug another similar one, walled in the same way. I caused the whole to be covered with a layer of logs; the cracks filled up with good mortar; and a second layer of logs to be placed over this. The men live in the large part and I in the smaller. I can enjoy the occasional privilege of a candle, in the evening; while those who live in tents are obliged to put their lights out, soon after dark. We are perfectly secure from any kind of annoyance the enemy can send against us; and, on the whole, they are considered about the most comfortable quarters in camp.[29]

Such a structure would be ideal for archaeological investigation. Indeed, while Douglass notes the "cellar" dimensions as "ten feet broad and twenty feet wide" he curiously neglects to write how deep it was. Stratigraphy will have to answer this question. It will also be of considerable interest to see if there is any evidence that the British gunners targeted this location.[30] We now know from the archaeological record that the British guns hit a building located along the earthwork connecting the stone fort to Snake Hill.[31] Almost certainly, given the prominence Douglass' Battery had in firing on the British lines

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[27] Douglass, 129.
[28] The area of Douglass Battery was investigated by the Wilfrid Laurier Field School in spring 2013 and forms the subject of that report. Comment added by John Triggs, December 19, 2014.
[29] Douglas, 130.
[30] GIS analysis of lead shot indeed did provide evidence of British gunners targeting this position. Mortar shell fragments, a solid shot cannon ball and several British musket balls were found on the escarp side of the Battery. Comment added by Triggs, December 19, 2014.
[31] This is the structure referred to in the current report as the Officers' Quarters in the Western Redoubt excavation area. Comment added by Triggs, December 19, 2014.

(something Douglass boasted about in his account of the siege), the British gunners would have targeted his location. We may then hope to learn just how effective Douglass' cellars really were in protecting his men. It may also be wondered why, if this design proved the most secure and comfortable in the camp, the rest of the American army continued to reside above ground in tents or buildings protected by traverses. Perhaps, given Douglass' engineering expertise, archaeology will reveal that this was a complex "bomb-proof" shelter that Douglass' counterparts in the infantry lacked the skill to create. That Douglass was a capable engineer held in high esteem by General Gaines, the American commander, is clear from Gaines' correspondence. Gaines wrote of Douglass that:

> Among the many brilliant scenes which combined to disperse the clouds and darkness, and light up the dawn of that memorable morning (August 15), the defense of Douglass Battery stands rivaled by a few, and according to the relative number of the guns, surpassed by none. The youthful commander of that Battery excited my admiration. His constancy and courage, during a brisk cannonade and bombardment for several weeks…his gallantry and good conduct in defense, against a vigorous assault, by a vast superiority of numbers, are incidents which can never cease to be cherished in my memory, as among the most heroic and pleasing I have ever witnessed.[32]

While there are many unresolved questions concerning the siege, a major one concerns a blockhouse apparently constructed by the Americans inside Fort Erie proper. The existence of this work is known from only one written source, a reconnaissance report by Captain Romilly of the Royal Engineers, who scouted the American works after they had been abandoned and blown up on November 5, 1814. In his report dated November 10, 1814, Romilly noted that: "It appears that they constructed a work beyond the old fort, consisting of the bastions (1 and 2 in the sketch) the curtain was formed of high palisades and a log building behind them, loopholed."[33] From this description, the blockhouse would have been within what is now styled the fort's terreplein. However, the 1930s reconstruction of the fort may have destroyed all trace of this structure.

Archaeology has in fact already revealed the existence of one building used by the Americans during the siege that was not previously known about, aside from an indication of its existence on a single map.[34] This building was situated along the defensive earthwork linking Fort Erie to Snake Hill, near the vicinity of Biddle's Battery. Glass, nails, and a wrought iron door handle excavated at the site all indicate the existence of a building. Pearlware and creamware uncovered at the site reveals that it served as an officer's quarters (as common soldiers would not have had such items), and is suggestive of the fact that even in the American republic, class differences remained between officers and enlisted men. Also uncovered here was a mangled sword hilt, apparently destroyed by an explosion from a mortar round, adding further evidence that this building served as an officer's quarters. The mortar round was excavated *in situ*, and reveals a direct hit by the British gunners. This has raised the question why General Drummond lifted the siege in September, given the evident effectiveness of his

[32] "Attack on Fort Erie," *Naval and Military Chronicle of the United States* 117-20.
[33] Owen, 53.
[34] The structure is depicted on two maps: the November 1814 Romilly plan, and the Cranfield 1815 plan. Comment added by Triggs, December 19, 2014.

bombardment.[35] In addition, large quantities of unspent musket rounds were recovered at this location, suggesting that an ammunition chest was stored inside the building.[36]

One of the more curious finds in the proximity of this building along the earthwork was the discovery of 47 drawn glass trade beads. These beads are either evidence of aboriginal allies attached to the American force, or perhaps war loot that American soldiers took from enemy warriors they fought during the September 17 sortie or even earlier at Chippawa on July 5[37]. The American forces that crossed the Niagara River into Upper Canada on July 3 included some 500 Native warriors recruited by Congressman and militia General Peter B. Porter. However, desertions began almost immediately, with approximately 150 of the 500 warriors returning to the U.S. following the capture of Fort Erie on July 3.[38] After the battle of Chippawa (July 5, 1814) most of the remaining Native warriors deserted the U.S. Army and returned to New York State. By the time the Siege of Fort Erie began at the start of August, Native warriors still attached to the American army numbered no more than fifty, and it is not known for how long these men remained with the army.[39] These warriors were under Porter's command, and would have been stationed with the militia during the siege. As such, they were stationed along the earthwork connecting Snake Hill to Fort Erie, but to the left of where the beads were uncovered. That location, near Biddle's Battery, would have been occupied by U.S. artillery, U.S. regular infantry (possibly the 11th and 21st regiments), and in the nearby building itself, U.S. army officers. Could the beads have come from one of these soldiers?

In the War of 1812 it was common practice to loot the bodies of dead soldiers on the field of battle. Soldiers looted both for necessities as well as war trophies and for items to sell to local merchants or even their own officers. At the Battle of Chippawa American troops had ample opportunity to loot the bodies of Native warriors and are believed to have taken souvenirs from the British dead as well. Donald Graves notes that when the American soldiers were burying the British dead after the fighting, they likely helped themselves to mementoes.[40] The American soldiers may also have claimed as

[35] This interpretation was advanced by Triggs and is discussed at length in the archaeological section of this report. Comment added by Triggs, December 19, 2014.

[36] This and other archaeological evidence is discussed in the current report. Comment added by Triggs, December 19, 2014.

[37] The found in the Western Redoubt area in unit H are in the same context as the location of the 11th and the 22nd U.S. regiments along the entrenchment. The 11th and 22nd fought on the American left at the Battle of Chippawa on July 5 under General Ripley. In fact, the British right on this engagement was taken by the native allies.

[38] Carl Benn states that most American-allied warriors deserted the campaign after the Battle of Chippawa, returning to their homes in New York State. Carl Benn, *Iroquois in the War of 1812*, (Toronto: University of Toronto Press, 1998), 153 and 159. This is confirmed by Peter B. Porter's account.

[39] The various Nations present at the siege are listed in the Appendix of Joseph Whitehorne, *While Washington Burned: the Battle for Fort Erie, 1814*, pp. 143-144. Triggs attributes the unusual assemblage of beads to the first Nations of New York State for which there no archaeological examples in Ontario. The presence of large numbers of bird shot, suggests that these may be direct evidence of the location of the native allies, rather than booty. Comment added by Triggs, December 19, 2014

[40] Donald F. Graves, *Red Coats and Grey Jackets: The Battle of Chippawa, July 5, 1814 (*Toronto: Dundurn Press, 1994), 136.

trophies whatever accoutrements of the dead Native warriors that took their fancy, including jewelry made of trade beads. There is other evidence of looting bodies during the bloody 1814 Niagara campaign. Lieutenant Colonel William Drummond's body was stripped and looted after he was killed in the August 15, 1814 night assault. Jarvis Hanks, a drummer boy in the American army, recalled that:

> Drummond was laid under a cart. When I first saw him he was naked except his shirt. All the remainder of his clothing, his gold watch, sword, epaulettes, and money, had been plundered by some of our men. We even picked the pockets of those who were dead and dying in the ditch. In the course of the day, the soldier who got Drummond's watch, sold it to one of our officers, for a small sum compared with its real value.[41]

As this example makes clear, looting was as much about claiming "trophies" as it was about necessity. The same night Drummond was killed at Fort Erie, despite the appalling carnage and confusion, his subordinate Lieutenant John Le Couteur retained the presence of mind to help himself to a dead officer's scabbard in the ditch outside the fort.[42] Le Couteur had earlier claimed as the spoils of war, "a capital black horse for a charger…(and) saddle & Bridle & Pistols and all."[43] Captain Douglass claimed as a trophy what he believed was the sword of Colonel Hercules Scott, apparently killed while charging his Battery. Such conduct was by no means exceptional. It was reported that after the Battle of Fort George, the Canadian and British dead were literally stripped naked by victorious Americans eager for plunder. Likewise, the Americans received similar treatment following their defeat at Beaver Dams. John Norton reportedly quipped about this affair that, "the Caughnawaga Indians fought the battle, the Mohawks or Six Nations got the plunder, and FitzGibbon got the credit."[44]

One of the most notorious cases of looting in the War of 1812 involved American soldiers stripping trophies from what they believed was the body of Tecumseh after his death at the Battle of the Thames. American soldiers not only stripped Tecumseh's body naked for war trophies, but according to first-hand accounts, actually cut pieces of skin from his body as souvenirs. It is thus not hard to imagine a U.S. soldier's haversack crammed with loot and trophies at Fort Erie, and that sometime during the four month occupation (which terminated on November 5, 1814) the beads were dropped and forgotten. On the other hand, perhaps one of the Native warriors still attached to the American force simply wandered by the location and dropped the beads there. Applying Farry's spatial model to the artifacts recovered in the vicinity of the beads might possibly provide confirmation or denial that American regular troops (as opposed to Native warriors or militia) were stationed at this location.

Fort Erie's story is a significant chapter in Canadian history. It was the site of one the country's bloodiest battles, the meeting ground for Robert Rogers and Pontiac, a strategic link in the Great Lakes

[41] Jarvis Hanks, "The Siege of Fort Erie, August to September 1814" in *Soldiers of 1814: American Enlisted Men's Memoirs of the Niagara Campaign*. Jarvis Hanks, Amasiah Ford and Alexander McMullen; edited, with an introduction and notes by Donald E. Graves. (Youngstown, NY : Old Fort Niagara Association, Inc., 1995), 40.
[42] Lt. John Le Couteur, *Merry Hearts Make Light Days: The War of 1812 Journal of Lieutenant John Le Couteur, 104th Foot*. Edited by Donald Graves. (Ottawa: Carleton University Press, 1993),190-191.
[43] Le Couteur, 127.
[44] John Norton, *The Journal of John Norton*, edited by Carl F. Klinck, (Toronto: Champlain Society, 1970), cxx.

chain, and a military post garrisoned from the 1764 until as late as the early 1820s. Investigating Fort Erie's long and rich history is a task that requires the tools of both the archaeologist and the historian. By skillfully employing these methods, we can hope to arrive at a more complete understanding of this important site's history.

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4.0 Excavation – Douglass Battery East

4.1 Douglass Battery: Stratigraphic Periodization

Figure 12 Excavation units at Douglass Battery - 2013

The following sections describe the stratigraphic sequence for the entire Douglass Battery area comprised of Douglass Battery East (circled on image) and West (bottom) (Figure 12). In the discussion below the reader is referred to the Stratigraphic Correlation Chart (Table 1 – Douglass Battery East and Table 2 – Douglass Battery West). The stratigraphic sequence is divided into five Periods discussed below in connection with archaeological and historical information wherever available. The artifact assemblage found in each Period is also discussed within the context of each Period. Detailed artifact descriptions can be found in the Artifact Catalogue (Appendix J), sorted by Unit, Group, Class, Object, and Datable Attribute. Summary Tables of artifact assemblages for each unit, in addition to ceramics and the Arms and Military group artifacts are found in Appendix F. Images of significant features/layers discussed in this section can also be found in Appendix G.

Douglass Battery (East): Periodization of the Stratigraphic Sequence

The stratigraphic sequence for Douglass Battery East has been organized into 5 Periods comprised of 44 separate Phases. For the unit discussions below, refer to the correlation Chart and the Stratigraphic & Period matrix diagrams.

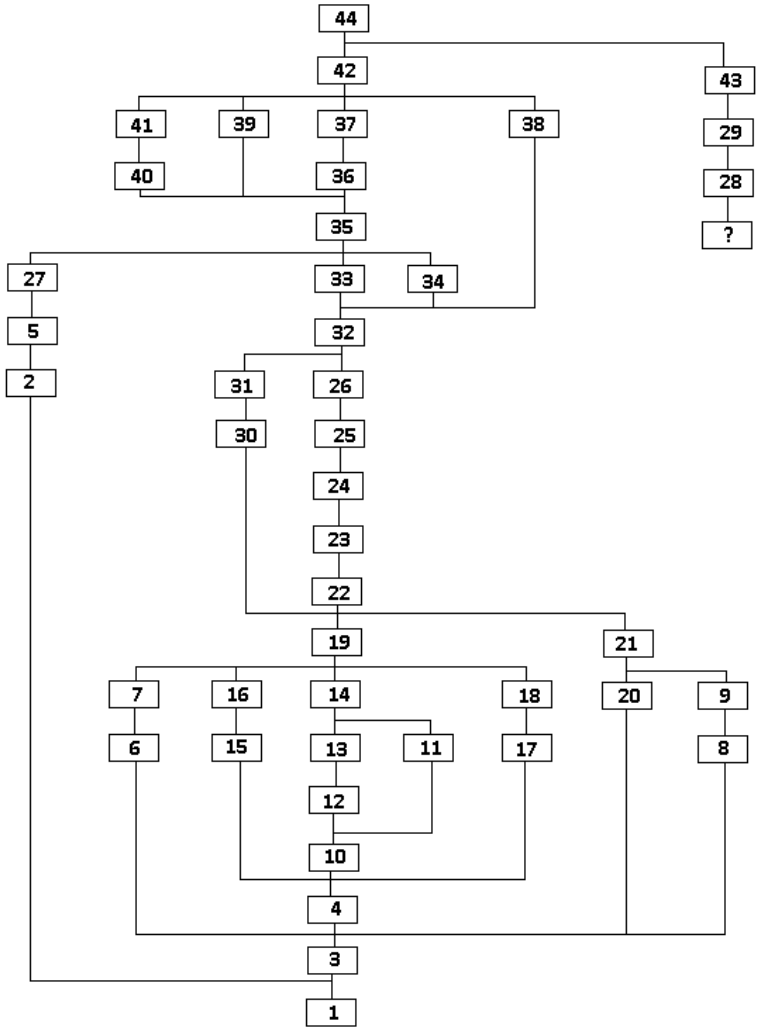

Figure 13 Douglass Battery East Stratigraphic Matrix

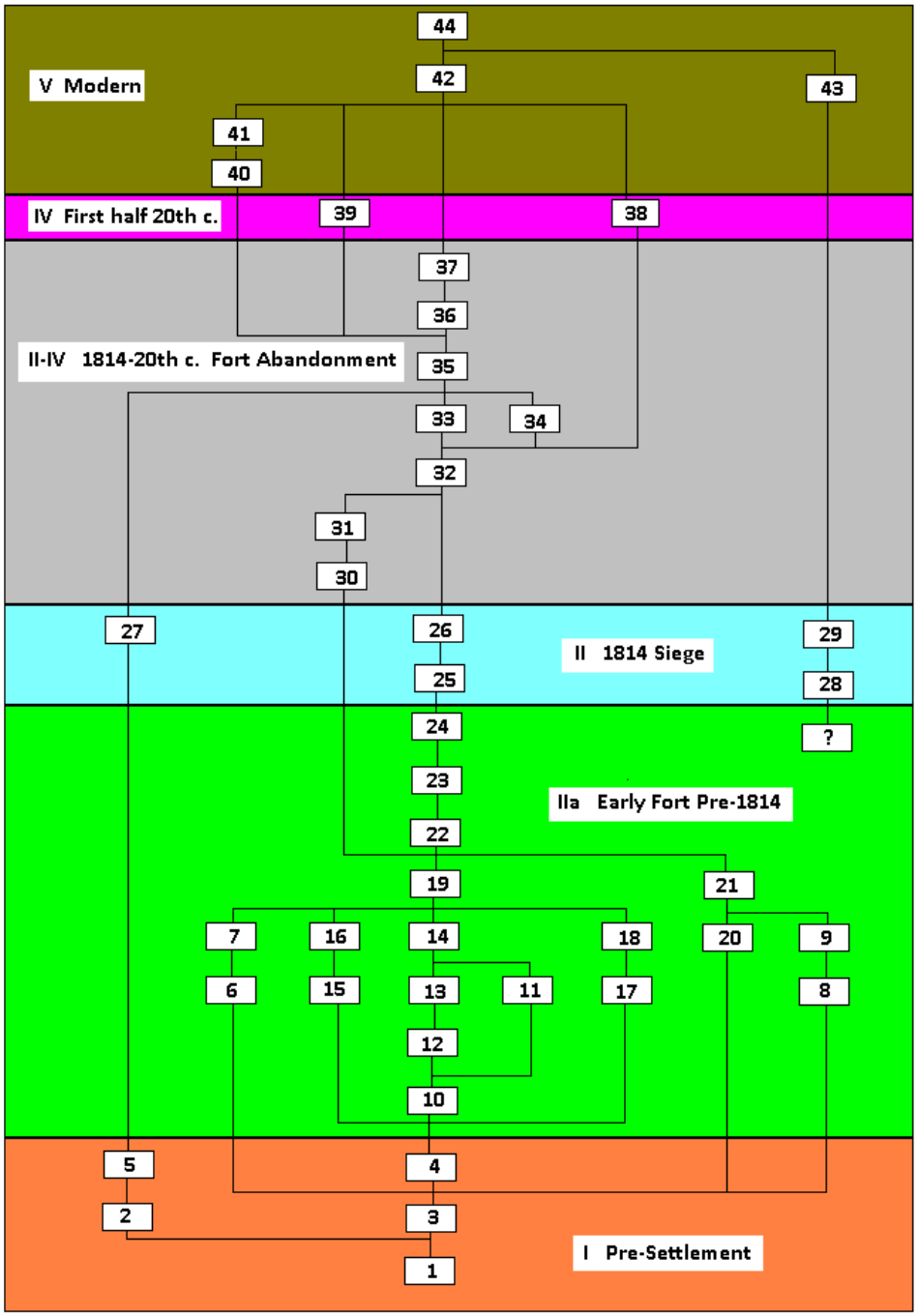

Figure 14 Douglass Battery East Period Matrix

Table 1 Correlation Chart: Douglass Battery East

DOUGLASS BATTERY EAST																			
LOT	**Phase**	**Period**	A	B	C	D	E	F	G	H	J	K	L	M	N	P	Q	R	S
Sod	44	V	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1
Topsoil on top of earthwork with reddish clay inclusions	43	V														2			
Topsoil	42	V	2	2	2	2	2	2	2	2	2	2	2	2	2		2	2	2
Pit filled with dark brown loam in west side of unit L and sand fill shallow pit in M - pothunter`s pit?	41	V											4	4					
Interface for above	40	V											5	5					
Clay loam with pebbles and larger cobbles - and few pieces of angular limestone - 1930s restoration?	39	IV		3		3													
Sandy loam with some brick, charcoal, pebbles and cobbles, medium compaction	38	IV																	3
Burned upright post in ditch fill	37	II-IV	5																
Interface for post	36	II-IV	6																
Eroded sediment from earthwork - dark brown sandy loam in ditch and on side of earthwork	35	II-IV	3,4	4	3,4, 5									3	3				
Interface for entrenchment ditch	34	II-IV		4a	6a														
Cobble and boulder concentration in ditch	33	II-IV												8					
A-horizon - ground surface - brown clay loam with lots of	32	II-IV		5		4	3	3	3	3	3	3	3	7			3	3	4

pebbles, brick and charcoal inclusions, few clay mottles																			
Deep pit in west side of Unit H	31	II-IV								5									
Interface for pit - unknown but perhaps associated with 1930s restoration	30	II-IV								6									
Dark loam and sand - mixed fill layers on top of earthwork	29	II														3a,b,c			
Sand and loam fill layers in East P fill in earthwork	28	II														4,5,6,7,8			
Earthwork fill layers - pebbly brown loamy sand - small medium sized pebbles and cobbles	27	II	7												4				
Rubble in East K - east side - chimney collapse	26	II										4						4	5
Mottled orange and brown clay loam under rubble in East K - contains shattered limestone rubble - smaller size than lot K4 - pre-chimney collapse	25	II										5						6	7
This may be a displaced deposit associated with gardening activity - lots of chert - displaced native feature	24	IIa																	6

Light brown pure sand -pathway on garden edge?	23	IIa										7							8
Dark brown clay loam - no pebbles - may be same as lot L6 - upper garden layer possibly	22	IIa										6,8						5	9
Second Garden edge interface	21	IIa										9							
Pebbly layer - sub-garden	20	IIa										10							10
Post Building destruction deposit- Brown clay loam with patches of reddish brown clay mottles, char, br. and fewer pebbles than overlying layer - more compact also - window glass abundant from building destruction	19	IIa				5	4	4	4	4	4		6	9				10	
Post features in A-horizon -fill different in East F - trench in East J	18	IIa		8a-e		7c,d,e	6a,b	6a,b,c,d,k	6c,d,g,i,k,l		8a,b		8a-d		7a-d			11d	
Post Interfaces	17	IIa		9a-e		8c,d,e	7a,b	7a,b,c,d,k	7c,d,g,i,k,l		9a,b		9a-d		8a-d			12d	
Sleeper trench for building?	16	IIa				7a,b					6							8	
Sleeper trench interface	15	IIa				8a,b					7							9	
Cellar pit? - contains window glass - lots	14	IIa							6e	8							4		
Square shaped feature at base of cellar fill	13	IIa								12									

Interface for square-shaped feature	12	IIa								13									
Cellar floor level - brown sand	11	IIa															7		
Cellar interface	10	IIa							6e[1]	9							5		
First Garden? - displaced A-horizon/subsoil - a light brown sandy clay loam with some pebbles and plough/shovel scars	9	IIa										12a-d							12a,b,c
First Garden? - interface for plough scars	8	IIa										13a-d							13a,b,c
Root or rodent burrow	7	IIa					6c	6e-j,l-p	6a,b,e,f,h,j								8	11a-c	
Interface for natural features	6	IIa					7c	7e-j,l-p	7a,b,e,f,h,j								9	12a-c	
Disturbed orange-red subsoil overlying bedrock	5	I	9																
Disturbed A-horizon and clay subsoil interface -	4	I		6	6	6	5	5	5	7	5		7	6	5		6		
Reddish brown clay subsoil	3	I		10	8	9	8	8	8	11	10	11	10		6		10	7	11
Rectilinear cuts in bedrock - structural	2	I	8a																
Bedrock	1	I	8	7	7				9	10	11			10	9		11		

4.2 Douglass Battery East Phase Descriptions

Period I – Pre-Settlement and Disturbance

Bedrock, Phase [1], was revealed in found in 9 of 17 units. The limestone bedrock is pitted and irregular in appearance and in one unit, several features [2] were discovered excavated into the bedrock (unit A). The features consist of two narrow linear trenches (about 10-15 cm wide) running parallel to and almost perpendicular to the earthwork. What appear to be post holes – oblong-shaped pits about 10–30 centimetres maximum length and 15-20 centimetres deep – are found in each of the two trenches. The orientation of the trenches does not exactly match the orientation of the earthwork and is may be that the trenches and posts date to an earlier period when evidence discussed below indicates

Figure 15 Old Fort Erie With the Migration of Wild Pigeons, dated 1804; by Edward Walsh, Sigmund Samuel Collection, 952.218, ROM2006_7733_1.

that there was a garden in this area. Interestingly, a depiction of the old fort on the lakeshore, in a watercolour by Edward Walsh in 1804, does show a fence line bounding a garden situated alongside a road. The location of the garden in the watercolour is in the approximate position of the later earthwork and it seems likely that the posts and trenches found in unit A are associated with this pre-war garden.

Remaining natural subsoil, Phase [3], is not found in units A and M and only traces of the red clay subsoil remain in the other unit adjacent to the mound in the ditch area; i.e., unit C. The 'missing',

or minimal traces of, *in situ* subsoil in these units is presumably due to activities associated with the construction of the Battery in late July 1814. The 2 metre high battery constructed at this time would have meant that a considerable amount of soil had to be 'borrowed' from the area closest to where the mound was situated. The same activity was seen to characterize the construction of the mound in Fanning's Battery in 2012, in which soil was borrowed from the areas in immediate proximity to the mound in order to have sufficient soil to create the defensive earthwork (Triggs 2015). In the Douglass Battery East area, such borrowing activity would have resulted in disturbance to the garden, where the natural soil was excavated to create the defensive mound. Disturbance to the natural subsoil is in evidence in Phases [4] and [5] consisting of displaced layers of the original A-horizon humus and the natural clay subsoil itself.

Period IIa – Pre-1814 Siege Garden(s) and Domestic Structure

Phases [6] to [24] are associated with the pre-war occupation of the fort. Evidence for a building and an associated garden are found in this period. Phases [6] and [7] are the first events associated with the period consisting of natural features and associated interfaces excavated into the clay subsoil and the displaced subsoil. Several small (10 cm. diameter maximum dimension), irregularly-shaped intrusions into existing layers below may represent rodent or tree root activity. About 20 of these features were found in units E, F, G, P and Q. Overlying these natural features is a layer of displaced A-horizon humus and light brown sandy clay loam [8], slightly pebbly, with six linear plough or shovel-trench planting scars and a shovel divot evident [9]. The soil matrix itself is likely the lowest layer of garden soil proper. The features are found in the surface of [8] are found in two units, K and S. In unit K the features consist of four parallel trenches running in a southwest-northeast direction. These are about 15-20 centimetres in width and about 10-15 centimetres in depth on average, running for the length of the unit. The width and depth of the scars are more consistent with a shovel-excavated garden trench rather than a plough. Interestingly, the scars are perpendicular and parallel to the post and trench features excavated into bedrock found in unit A, and which are thought to represent the fence bordering the garden. In the adjacent unit S, two shovel-trench scars are in evidence running perpendicular to the same features found in unit K to the north. In this unit the scars are shallower, ranging in depth from 5-8 centimetres, but of the same width as those in unit K. A single rounded scar may represent a single shovel divot.

Garden trenching, as opposed to plowing, is an activity commonly associated with 19th century techniques of planting in an area designated for this purpose. Similar features were found during the excavation of the mid-19th century kitchen garden at Dundurn Castle in 1993 (Triggs 1993). At Dundurn the trenches were parallel, about 20-30 centimetres in width and about 30 centimetres in depth. The regularity of the trenching, and the conformity to contemporary proscriptions for this type of gardening where the depth of the trench was measured in 'spits'[45], is very similar to that seen at Fort Erie in this Period. Indeed, on the Edward Walsh watercolour, probably painted in early spring 1804 as the passenger pigeons were migrating north, the orientation of the planting rows is visible as raised mounds

[45] A spit is the length of a spade and gardens could be trenched in either one, or less typically, in two spits' depth; i.e., 20-40 centimetres. See John Claudius Loudon, An Encyclopaedia of Gardening, 1822.

of earth, in the same orientation as the trenches found in unit K. The rows in unit S may be parallel to a fence line as they are oriented at 90 degrees to the other trenches.

Situated adjacent to the garden, and contemporary with it, structural evidence for a building was found in units G, H and Q, in the form of a cellar. The earliest feature associated with the structure is a cellar pit represented by Phases [10] to [14]. The cellar pit intersects walls of the three units above, and measures 1.6 metres by greater than 2.5 metres, the overall length not able to be determined because it extends beyond the unit boundaries. The pit has near vertical sides and the interface [10] cuts through the natural A-horizon into the subsoil for a depth of 45 centimetres. The floor is relatively flat and the natural clay subsoil is covered by a 5-10 centimetre thick layer of brown sand, Phase [11]. The sand may have accumulated in the cellar as a result of floor sweeping with sand during periodic cleaning. A square-shaped feature, or depression, was found in the bottom of the cellar floor in unit H, in the approximate centre of the larger cellar pit. The interface for the feature [13] measures at least 55 centimetres square, less than a centimetre in depth, but was not recorded for the adjacent unit G even though it likely extended into that unit. The thin sand fill in the feature [14] may be post-depositional or possibly the result of sweeping activity mentioned above. It seems likely that the depression was caused by an object of considerable weight being pressed into the cellar floor, possibly a structural support for the floor above. Considerable amounts of window glass and nails were found in the cellar fill, Phase [14], presumably when the building was destroyed and the cellar in-filled. Fill in units H and Q, comprising most of the cellar, and also the two units positioned in the presumed centre of the building, contained a total of 498 window glass shards and 142 nails.

The footprint of the building may be indicated by features found in units D, J, and R. On the east side of the structure in units J and R, a 30-35 centimetre wide trench [15], about 25-30 centimetres in depth, marks the location of the 'sleeper', or log sill, trench foundations for the east side of the building. On the west side, in unit D, the sleeper trench is not as deep as on the west side, measuring only a few centimetres in depth. The difference in trench depth, from east to west, may be due to leveling in which the rise of the ground to the east necessitated a deeper foundation trench to compensate for the difference in absolute elevation. Based on the evidence of the log sill trenches, the structure would have measured 6.25 metres (east-west). It is not possible to determine the north-south dimensions as no north or south walls were found and these are presumably outside of the area investigated. Based on the sleeper foundation trench locations, the cellar was situated off-centre in the building about 3 metres from the west wall and 1.5 metres from the west wall. The sleepers, or timber/log foundation sills, were removed after the destruction of the building and filled in with a loose-medium compacted loam with brick, charcoal and many burnt artifacts including glass, ceramic and bone, Phase [16]. Further evidence of fire was found in the form of a burnt plank remnant found at the base of the sleeper trench in unit R and in charcoal associated with several posts described below.

Several posts were found in 9 units, Phase [17]. These are in no definable pattern and some occur within the footprint of the building and others outside the structure. It is quite likely that some posts are related to the structure and others are associated with the garden located in the vicinity of the structure, perhaps as fence-posts. Most measure 10-20 centimetres in diameter and vary in depth from a few centimetres to as much as 25 centimetres. Charcoal is frequently found in the fill within the posts,

Phase [18], suggesting that they may have been burnt when the building was destroyed by fire. Phase [19] is a dark brown clay loam deposit about 10 centimetres in thickness found in several units in the Douglass Battery East area. The layer overlies the cellar fill and in-filled timber sill trenches and as such post-dates the destruction of the building. There is a clear association with the layer and the destroyed building and it appears that the deposit accumulated naturally or was intentionally spread over the burned remains of the structure, the latter being the more likely scenario considering the location of the structure in relation to the fort and the garden. The deposit is not found in units R and S which suggests that the garden itself was still under cultivation after the fire.

Phases [21] to [24] are all associated with the second phase of the garden, the earlier garden Phases described below in Phases [8] and [9]. Evidence for the second phase of the garden is found both in Douglass Battery East and West. In units K and S, a pebbly loam layer about 20 centimetres thick, Phase [20], covers the earlier shovel trenching 'spits' visible in the surface of subsoil. However, it is possible that these earlier divot and trench features are merely the base of the spits for the garden described here, the trenching just not visible in the Phase [20] fill. What is clear from the stratigraphy is that the garden was contemporary with the structure, as it is only found in units situated on the east side of the building in Douglass Battery East where the evidence indicates it in close proximity. That being said, evidence for the garden on the west side of the structure is present in Douglass Battery West, at least 10 metres to the south west. This suggests that there was an uncultivated space, perhaps a fenced yard, immediately adjacent to the west side of the building, although the structure was situated within a larger cultivated area surrounding the *house*. (The presumed function of the building as a domestic dwelling is based on the types of artifacts found associated with it and described below in the artifact descriptions by Period.)

The Phase [20] fill layer consists of a dark loam, distinguished from other layers by the high percentage of pebbles found in the soil matrix. As the lowest garden layer, actually a sub-garden layer, the pebbles would have provided adequate drainage and as such the 'construction' of the garden appears to have been a well-planned endeavour employing the best practices of English gardening (Loudon 1822). The addition of another 20 centimetre thick layer of dark, fertile loam with charcoal inclusions, Phase [22], perhaps intentionally added, or added accidentally as a result of the burning of the adjacent structure, is typical of an English style raised planting bed. Even in its compressed state today, under subsequent soil layers, the two layers (Phases [20] and [22] represent a raised garden bed approximately 30 centimetres above the natural subsoil. An interface, Phase [21], marks a depression in the surface of the garden loam and may indicate the edge of a garden trench for one of the raised beds. Phase [23] is a layer of pure sand overlying the dark garden loam of Phase [22]. The sand is about 5-6 centimetres thick and is found in units S to unit K in a shallow depression about 1.5 metres wide. The thinness and the level contours of the sand suggest that this may be a border pathway in the garden, a common feature for English-style kitchen gardens of the period. Finally, a deposit of loamy fill and sand with a high percentage of native chert debitage [24] was found adjacent to the pathway in a small area in the northeast corner of unit S. The presence of abundant chert suggests that this feature represents a displaced pre-contact period feature, disturbed as a result of gardening activity.

Period II – Construction of Douglass Battery – July/August 1814

The first event in this Period is marked by the collapse and the intentional destruction/removal of the chimney from the east side of the building. In units K, R, and S two Phases, [25] and [26] are defined by significant quantities of limestone rubble, some with mortar attached, 10-25 centimetres longest dimension, found within a layer of brown clay loam. That the deposit is confined to this location provides good evidence for the former location of the chimney, although the chimney foundation itself was not found. The fact that there are two deposits containing rubble suggests that the chimney may have suffered gradual collapse after the fire which destroyed the building, and then was actually pulled down in preparation for the defense of the fort in late July 1814; i.e., the construction of Douglass Battery. Further investigation in the unexcavated areas in this vicinity may reveal the actual foundation and hearth.

Figure 16 1816 Douglass plan of the fort and adjacent batteries. Shown at bottom right are the 2013 excavation units, geo-referenced, in relation to the earthwork. The creation of the Battery required that soil be borrowed from the area on either side of the earthwork.

On the west side of this excavation area, in units A and N a layer of mixed dark loam and clay fill, Phase [27] marks the lowest layer of the adjacent earthwork, Douglass Battery. This layer overlies the displaced/disturbed subsoil layer (Phase [5]) and, in unit D, rises to a height of 95 centimetres above the natural subsoil and bedrock surface at the toe of the mound in unit A. Unit D was positioned to provide details of the earthwork construction. The earthwork representing Douglass Battery is about 10 metres wide from toe to toe in an east-west cross-section, and unit D is situated at the eastern edge. Unit P, placed on the

summit of the mound was excavated to a depth of 1.30 metres. Several layers of mixed dark brown sandy loam and clay loam, Phases [28] and [29], were identified indicating the separate episodes of fill that were added to create the earthwork, which would have stood approximately 2.5 metres above the adjacent ground. The creation of a mound of this height required considerable quantities of soil which the stratigraphic evidence suggests was borrowed from the area adjacent to the mound. The absence of a defined A-horizon in the immediate area suggests that the natural soil was 'mined' or scraped to be used for the construction of the earthwork as was done in the Fanning's Battery area (Triggs 2015). The shallow defensive ditch associated with the earthwork is described below.

Period II-IV – Siege to Early 20th Century

There are several Phases that date to the period of the siege and the many decades following the siege. The earliest Phase is marked by a pit found in unit H. Here a 25 centimetre-deep pit , about 1.0 metres in diameter, Phases [30] and [31], was found cut into the earlier cellar fill from the burned building in Period IIa. The pit may be related to the siege although its purpose is unknown. In the area adjacent to the earthwork, in units B and C, an interface marking the edge of the ditch on the east side of the Douglass Battery, Phase [34], was found curtting through the subsoil and thin traces of what may be the original A-horizon. The ditch formed by the cut was shallow, only about 30-35 centimetres in depth, where bedrock was exposed at the bottom. As an original defensive feature associated with the earthwork, the ditch is signficant although its depth is not as great as would be expected in a traditional fortification feature of this type (Figure 17). The reason for the shallow depth is of course the presence of bedrock so close to the surface at the time of construction which prevented the excavation of a

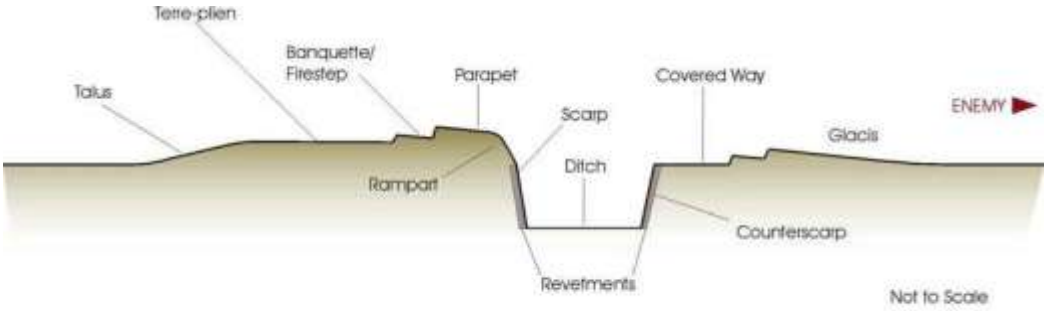

Figure 17 Terminology for a military entrenchment as discussed in text.

deeper ditch. Instead, as with Douglass Battery, the depth of the ditch is enhanced by the significant height of the adjacent earthwork standing almost 2.5 metres above the surrounding landscape. As such the construction of the battery in its totality was done by modifying traditional field fortification procedure to suit local conditions.

A subsequent layer of fill, Phase [32], formed after the siege, is found over most of the Douglass Battery East area. The deposit represents a ground surface or A-horizon, that probably was exposed to human and animal activity for more than a century, from 1814 to the 1930s. During this period there are several events that occurred including the deposition of cobbles and large stones in the ditch at the foot of the earthwork, Phase [33], and the erosion of layers from the battery into the ditch at the foot of the mound, Phase [35]. A burned post (Phase [36/37]) found in situ within a 15 centimetre hole excavated a few centimetres into bedrock was revealed in unit A. The purpose of the post is unclear but it does date to a time after the ditch had been gradually infilled due to erosion, and the presence of a nail in the wood suggests that it may have been part of a fence around the base of the mound, possibly during the early part of the 20th century when the entrance to the fort grounds were situated only a few metres away on the west side of the Battery (Figure 18). A photograph dated 1930, does in fact show a fence bordering the base of the Battery on the *west* side of the Battery.

Figure 18 Fort Erie Park - Old Fort Erie Francis J. Petrie Collection, September 5, 1930. Niagara Falls Public Library Digital Collections, Record ID 94893. Arrow points to fence at base of battery and tree growth since 1910 – see photo next page.

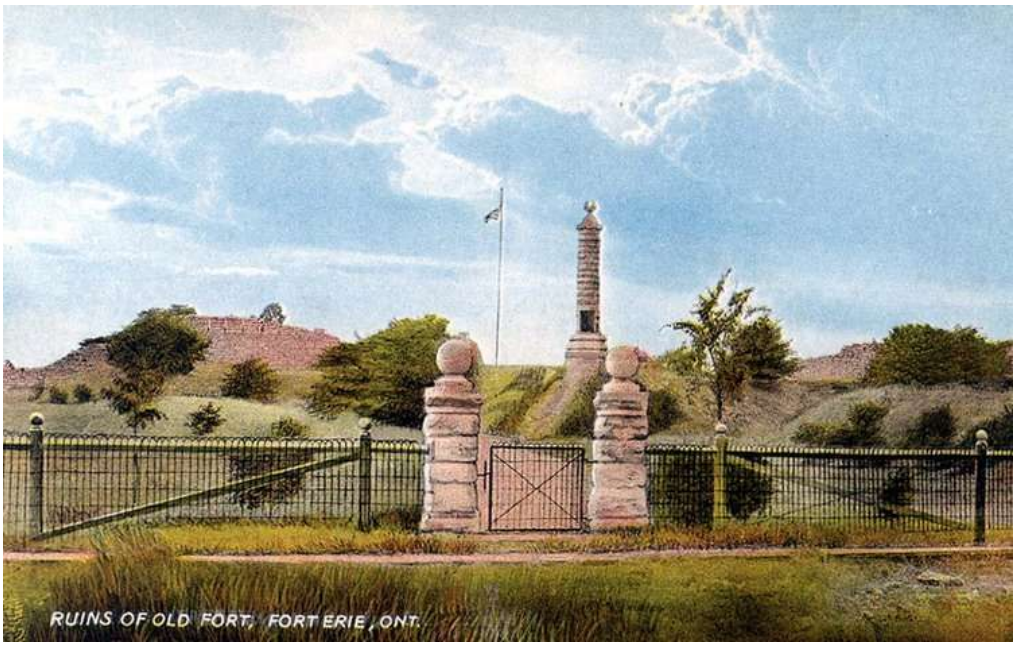

Figure 19 Ruins of Old Fort Erie, Fort Erie, Ont., Postcard, Niagara Falls (Ont.) Public Library, Record ID 369909. Probable date – ca. 1910. Douglass Battery visible on right. Note, no fence is present at the base of the mound and tree growth on mound is not extensive as compared to 1930 photograph above.

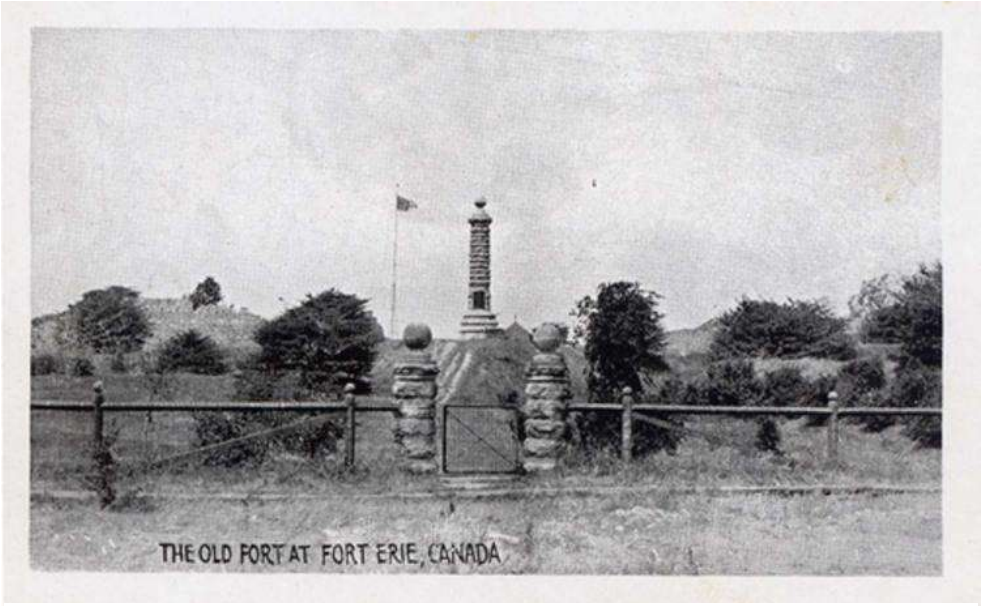

Figure 20 The Old Fort at Fort Erie, Canada, Photographer Unknown, General Photograph Collection, postcard. The Petrie Collection, Niagara Falls (Ont.) Public Library, Record ID 362530. Probable date – ca. 1910. Shrubbery visible along base of mound on right.

Period IV – 1930s Restoration

Phases [38] and [39] are likey associated with the 1930s restoration period of the fort based on the amounts of cobbles and limestone rubble recovered with the thin soil matrix found in isolated deposits in units B, D and S. The rubble is presumed to be from the various construction and reconstruction activities that were taking place during this time.

Figure 21 The Old Fort Erie – 1939, Francis J. Petrie Collection, July 30, 1939, after restoration. Niagara Falls Public Library Digital Collections, Record ID 94943. Photo probably taken from atop Douglass Battery. (2013 excavation area to right of photo.)

Period V – Modern Fort

Two pits were found in units L and M, Phases [40] and [41]. These pits measure about 1.20 metres in longest dimension and extend beyond the boundaries of the units so it is not possible to determine the other dimension. The depth of each is about 25-30 centimetres. The location of these in close proximity to the historically documented Douglass Battery earthwork, and the fact that no artifacts were recovered from the features, suggests that they may be pits from pothunters, or looters. This type of activity is not unexpected on historic period sites where 'relics' are likely to be found by enthusiastics unconcerned with archaeological procedure. These likely date after the 1930s – post restoration –

although it is not unreasonable to expect that they are more recent in age. Media coverage and promotion of this type of activity by those using metal detectors, such as those seen on the show 'Diggers' produced by none other than National Geographic Television, are culpable for normalizing this type of activity. The archaeological evidence of this activity, at Fort Erie, is thus not surprising, and should be taken as vindication for site protection which is now in place for the entire historic park. Disturbance and removal of archaeological materials from all historic sites is a serious threat to our colletive heritage and it is only through education that this type of activity can be stopped or at the very least curtailed.

The final Phases represented in Douglass Battery East are the sod and topsoil, Phases [42], [43] and [44]. These layers form the modern ground surface, sod and topsoil, on the earthwork itself, Douglass Battery, and the ground on either side of this historic feature.

5.0 Douglass Battery East Artifacts

Douglass Battery East	6761	100.0%
Activities	22	0.3%
Fishing	1	
Writing	21	
Architectural	2764	40.9%
Construction Materials	325	
N/A	1	
Nails	447	
Other Fasteners	1	
Window Glass	1990	
Arms and Military	40	0.6%
Ammunition / Artillery	18	
Gunflints	4	
N/A	1	
Uniform Insignia	17	
Clothing Group	17	0.3%
Apparel	1	
Fasteners	14	
Jewelry/Ornamentation	2	
Domestic Group	6	0.1%
N/A	1	
Sewing	4	
Writing	1	
Faunal/Floral	1111	16.4%
Bone	1043	
Mammal Bone	65	
Shell	3	
Food Preparation/Consumption	929	13.7%
Ceramic Cooking/Storage	31	
Glass Beverage Container	406	
Glass Tableware	3	
Metal Containers	10	
Tableware	478	

5.1 Douglass Battery East: Artifacts and Temporal Context

In its entirety, exclusive of Periods, a total of 6761 artifacts were recovered from Douglass Battery East. The largest group is the Architectural category, comprising almost 41% of the entire assemblage, and consisting of window glass predominantly with almost 450 nails. Several hundred brick fragments were also collected and listed under the 'construction materials' category. The large number of architectural items is associated with the domestic structure described above and which will be clearer in the Period by Period discussion that follows. Faunal bone is also quite abundant, the 1100 fragments making up more than 16% of the entire area assemblage. The predominance of domestic items is also evident in the Food Preparation/Consumption group represented by the hundreds of sherds of ceramic tableware and glassware.

Lithic debitage is also quite abundant, indicating the prevalence of this type of material in the entire excavation area. Only a single sherd of undecorated pre-contact period ceramic was recovered and also a single clay smoking pipe fragment. Four identifiable projectile points were also found from various cultural periods.

Utensils	**1**	
Furniture	3	0.0%
Lighting Devices	3	
Glass	4	0.1%
Architectural	4	
Medical/Hygiene	3	0.0%
Pharmaceutical Containers	3	
N/A	660	9.8%
N/A	660	
Native	737	10.9%
Ceramic	1	
Lithic	736	
Personal	23	0.3%
Currency	16	
N/A	3	
Personal Items	1	
Toys and Leisure	3	
Smoking	37	0.5%
Pipes	37	
Unassigned Material	405	6.0%
Miscellaneous Hardware	9	
Miscellaneous Material	396	

Charcoal fragments in the N/A category make up a considerable number of the sample items collected for further analysis.

Other items of interest include buttons, beads, and buckle parts in the Clothing group; as well as scissors, oil lamp glass, pharmaceutical bottles, several doll parts, a few coins, smoking pipes, and various pieces of hardware, in other Groups.

Military and Arms artifacts include several siege period military buttons, shako hat fragments, lead shot of various sizes, gunflints and mortar bomb fragments. Details of the lead shot and the GIS analysis of this category is found in Appendix I (Williams 2013), but some of the more pertinent observations are summarized here. Douglass Battery East contained the smallest number of shot of all areas investigated in 2012 and 2013. Only 16 shot were found consisting of 2 buck shot, 7 American musket balls, 3 rifle balls, and 3 British musket balls. The small number of buck shot compared to American musket balls is unusual considering the standard of three buck to one ball employed by the Americans during the war of 1812 (Cornelison and Lowe 2014: 304). Most balls were found in contexts in proximity to the earthwork and ditch.

Other items are described in more detail in the Period by Period discussion below.

Period I – Pre-Settlement and Disturbance

Douglass Battery East	6761	100.0%	
I	65	1.0%	100.0%
Architectural	15		23.1%
Construction Materials	5		
Window Glass	10		
Arms and Military	1		1.5%
Ammunition / Artillery	1		
Faunal/Floral	12		18.5%
Bone	12		
Food Preparation/Consumption	9		13.8%
Glass Beverage Container	3		
Tableware	6		
N/A	12		18.5%
N/A	12		
Native	16		24.6%
Lithic	16		

Relatively few artifacts were found in Period I contexts, comprising only 1% of the entire Douglass Battery East assemblage. With the exception of the items in the Native lithic category, these objects can be considered to be intrusive into the clay subsoil due to human or natural agency. Of the 16 Native Group artifacts all items except a scraper are debitage. The 15 Architectural Group objects consist of 10 pieces of window glass and 5 wrought nails/nail fragments. A few pieces of faunal bone were also recovered, mostly mammal, but still to be analysed. A single lead rile ball was also found in this Period.

Period IIa – Pre-1814 Siege Garden(s) and Domestic Structure

IIa	**1443**	**21.3%**	
Architectural	762		52.8%
Construction Materials	53		
Nails	55		
Other Fasteners	1		
Window Glass	653		
Arms and Military	2		0.1%
Ammunition / Artillery	1		
Gunflints	1		
Clothing Group	2		0.1%
Fasteners	2		
Faunal/Floral	124		8.6%
Bone	123		
Shell	1		

The number of artifacts found in Period IIa is substantially higher than Period I reflecting the fact that this is the first period of cultural activity resulting in artifact deposition. This Period is defined by the construction of the building described above, and also the associated garden.

The Native Group is the largest category in Period IIa, comprised of lithic debitage and a single projectile point,

Food Preparation/Consumption	**72**		**5.0%**
Glass Beverage Container	18		
Tableware	54		
Samples	216		15.0%
Native	233		16.1%
Lithic	233		
Smoking	4		0.3%
Pipes	4		
Unassigned Material	28		1.9%
Miscellaneous Material	28		

a Lamoka point, dating to the Middle-Late Archaic period, 3500-2500 B.C. (Ritchie 1961)[46]. The Architectural Group is the next most numerous category comprised of more than 650 pieces of window glass and more than 50 nails. The large quantity of window glass is linked to the destruction of the building, by fire, prior to the siege in the summer of 1814. Nails are mostly wrought but several machine-made nails have also been tentatively identified. If correct, this suggests a source of supply other than Great Britain. Mass-produced machine made nails were commonly available after the 1790s in the United States, but English-made nails tended to be hand-made wrought nails until after the War of 1812. That being said, the nail sample from 2013 was heavily corroded and it is possible that some nails have been misidentified. Confirmation of identification remains to be done in the research lab at Wilfrid Laurier University. Faunal Bone is also quite frequent as would be expected in a context defined by a domestic occupation.

Tableware	**54**
Black Basalt	1
Bone China	1
Bone China, Painted	2
Bone China, Plain	1
Course Stoneware	2
Course Stoneware, Salt Glaze	1
CRE, Tin Glaze	3
Creamware	1
Creamware Plain	28
N/A	1
Pearlware, Plain	9
White EW, Unidentifiable	4

The Food Preparation /Consumption Group artifact assemblage provides the best evidence that this was indeed a domestic structure. A wide variety of ceramics were found including several mid-18th century types such as a single sherd of a black basalt tea pot and 3 sherds of tin-glazed ware. Late 18th/early 19th century wares include creamware, pearlware and bone china. A few utilitarian stoneware and earthenware vessels, along with a few pieces of container glass were also found. Two buttons and 2 smoking pipe fragments, as well as a gunflint fragment and a single piece of lead shot (buck shot). The mid-18th century ceramics suggests that the assemblage is contemporaneous with the early fort; i.e., 1764-1805.

[46] A Typology and Nomenclature for New York State Projectile Points, William A. Ritchie, New York State Museum and Science Service bulletin Number 384. The University of the State of New York Education Department, Albany, New York. http//www.nysm.nysed.gov/publications/

Period II – Construction of Douglass Battery – July/August 1814

II	956	14.1%	100.0%
Architectural	249		26.0%
Construction Materials	51		
Nails	46		
Window Glass	152		
Arms and Military	9		0.9%
Ammunition / Artillery	6		
Gunflints	1		
Uniform Insignia	2		
Faunal/Floral	269		28.1%
Bone	267		
Shell	2		
Food Preparation/Consumption	78		8.2%
Ceramic Cooking/Storage	5		
Glass Beverage Container	15		
Tableware	58		
Furniture	2		0.2%
Lighting Devices	2		
Samples	105		11.0%
Native	177		18.5%
Ceramic	1		
Lithic	176		
Smoking	3		0.3%
Pipes	3		
Unassigned Material	64		6.7%
Miscellaneous Hardware	2		
Miscellaneous Material	62		

This Period is defined by the construction of Douglass Battery in July 1814. The assemblage associated with the Period is relatively large making up more than 14% of the entire Douglass Battery artifact collection. Mixing of materials from Period II and IIa is in evidence in the types of specific artifacts that are found in both Periods. This is not surprising considering the context of the finds, where soil from the earlier garden was displaced for the construction of the earthwork in July 1814. However, other items clearly date to the summer 1814 siege and serve to define this as a distinct Period in the occupational history.

The most abundant Group is the Faunal Bone category most of which consists of unsorted/unanalyzed bone, but clearly the bone assemblage is dominated by mammal bone. The Food Preparation Group makes up a great proportion of the entire assemblage but, the approximate same absolute quantity of these items was recovered. The ceramic tableware types represented by 56 sherds is similar to the earlier Period IIa assemblage, with pearlware, creamware, and bone china all present. Although the mid-18th century types – black basalt and tin-glazed are not present, another 18th century type, rosso antico, is found in the assemblage. The presence of these earlier varieties in the Period IIa context provides

Tableware	**56**
Bone China	4
Bone China, Painted	2
Rosso antico stoneware	2
Course Stoneware, Salt Glaze	1
Creamware Plain	26
Fine Stoneware	2
Pearlware, Painted	2
Pearlware, Plain	13
Pearlware, Transfer	6

additional evidence for the pre-1814 date of the structure; probably the period associated with the early fort – 1764-1805. The Arms and Military Group is also of interest in that some items can be directly attributed to the time of the siege. Two American uniform buttons were found; i.e., an 11th regiment and the other a pewter button with a generic eagle motif, along with 2 mortar bomb fragments, lead shot of various sizes (musket and rifle), and a fragment of a blonde flint gunflint. Other items found were a few clay smoking pipe fragments, lamp glass and unidentifiable metal pieces. The Native Group includes one projectile point (Lamoka point), an unmarked fragment of a clay smoking pipe, and a considerable quantity of lithic debitage.

Period II-IV – Siege to Early 20th Century

II-IV	**3574**	**52.9%**	**100.0%**
Activities	22		0.6%
Fishing	1		
Writing	21		
Architectural	1485		41.6%
Construction Materials	189		
Nails	232		
Window Glass	1064		
Arms and Military	24		0.7%
Ammunition / Artillery	7		
Gunflints	2		
N/A	1		
Uniform Insignia	14		
Clothing Group	10		0.3%
Apparel	1		
Fasteners	8		
Jewelry/Ornamentation	1		
Domestic Group	3		0.1%
N/A	1		
Sewing	1		
Writing	1		
Faunal/Floral	650		18.2%
Bone	612		
Mammal Bone	38		
Food Preparation/Consumption	498		13.9%
Ceramic Cooking/Storage	21		
Glass Beverage Container	166		
Glass Tableware	2		
Tableware	309		
Furniture	1		0.0%
Lighting Devices	1		

More than half of the Douglass Battery East assemblage is represented in the Period II-IV assemblage. Deposits in this Period date to the long time when various layers covered the former siege ground surface and lay exposed to human, animal and botanical activity for almost two centuries.

The greatest quantity of artifacts is from the Architectural Group and most of these are window glass. By far the greatest frequency of nails is found in units H and R, situated in the centre of the domestic structure, built before the 1814 siege. Nails are found in these units but are also dispersed across the site. The appearance of nails and window glass from a much earlier period here in a later context indicates disturbance to earlier deposits in the decades following the siege, and the abandonment of the fort. Depictions of the fort in ruins are common in early 20th century photographs (Appendix C), and the area on the west side of the fort in particular has undergone extensive landscape alteration since that time. Mixing of deposits is not unexpected considering the much altered landscape in and around the fort.

Glass	**4**		**0.1%**
Architectural	4		
Medical/Hygiene	3		0.1%
Pharmaceutical Containers	3		
Samples	288		8.1%
Native	264		7.4%
Lithic	264		
Personal	8		0.2%
Currency	3		
N/A	3		
Toys and Leisure	2		
Smoking	28		0.8%
Pipes	28		
Unassigned Material	286		8.0%
Miscellaneous Hardware	1		
Miscellaneous Material	285		

Of special interest are the Military and Arms Group artifacts which include 8 buttons and 6 shako plate fragments from a British shako hat. The buttons include one U.S. 10th regimental button, and four British regimental uniform buttons: two 41st and King's 8th pewter buttons, and two Kings 8th regimental buttons, both of which are two-piece bone and metal buttons with a thin gilded foil front from an officer's coat. The presence of British buttons in this context, on the east side of the Battery, is significant as they probably date directly to the siege period, and more particularly to the August 15th night attack[47]. In an unpublished letter from Commander Dobbs, Royal Navy, to Sir James Yeo, on August 17, 1814, Dobbs describes the attack that night in which he participated. Dobbs mentions the 41st regiment in his letter (Appendix D). The King's 8th regiment is known to have taken part in the attack on Towson's Battery (Snake Hill) on August 15/16, 1814, but is not associated with the attack on Douglass Battery, the 41st, 104th and Royal Navy, being reserved for that prong of the attack. The presence of 3 buttons from the King's 8th regiment, officer's and soldier's buttons, suggests that they may have been involved in this specific location also. Three

Figure 22 Portion of a British shako hat plate placed on reproduction shako.

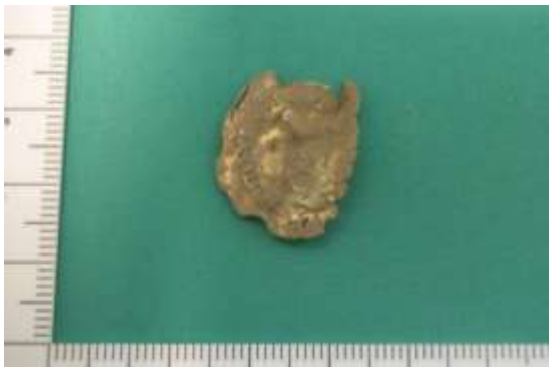

Figure 23 King's 8th regimental officer's jacket button.

[47] Four unpublished letters have recently come to light courtesy of Richard Gerrard, Historican, Heritage Toronto. One letter describes the August 15/16 night assault. See Appendix H.

other buckles may be from uniforms and a shoe buckle.

Other Arms Group artifacts include musket balls, bird shot, gunflints and fragments of flints, and a frizzen from an unidentified musket.

Tableware ceramics are also well represented in this Period and include mostly creamware and pearlware, but also earlier 18th century types such as white salt glaze stoneware, and tin-glazed wares. Bone china was also recovered as in earlier periods. The few pieces of refined white earthenware and ironstone date to the middle decades of the 19th century. Container glass and a couple of pieces of glass tableware were also recovered. The presence of bone china and glass tableware is not unexpected as these types of items, indicating higher status associated with officers, were found in the Western Redoubt, or Biddle's Battery, in 2012, in what was interpreted as an Officers' Quarters.

Tableware	**309**
Bone China, Painted	5
Bone China, Plain	1
Ceramic	1
CEW, Tin Glaze	2
Course Stoneware, Salt Glaze	3
CRE, Tin Glaze	10
Creamware Plain	173
Creamware, moulded (no colour)	3
Creamware, other Décor	1
Creamware, Painted	12
Fine Stoneware	1
FSW, Salt Glazed	1
FSW, White Salt Glaze	2
Ironstone, plain	2
Pearlware, Edged	1
Pearlware, Painted	20
Pearlware, Plain	49
Pearlware, Transfer	5
White EW, Unident	14
Whiteware, Plain	1

Food bone is also quite abundant in this Period, further pointing to a domestic-type occupation, whether associated with the earlier structure, or the Douglass Battery itself. Food bone was found to be more frequent in units located in our near the defensive ditch in Fanning's and Biddle's Battery in 2012, where disposal of this kind of odoriferous food waste was discarded.

Other items recovered include scissors, lamp chimney glass, three coins (Canadian pennies 1939, 1941, and a 1944 Canadian dime), pharmaceutical bottles, smoking pipes, doll parts. Some of this material dates after the restoration of the fort, and in that sense is intrusive into the earlier layers, but the great majority of finds date prior to the 1930s for reconstruction period.

Native Group artifacts include almost entirely debitage together with two projectile points, one late archaic probably and the other a Lamoka point (Ritchie 1961).

Finally, a single lead fishing sinker points is interesting in that it indicates the type of leisure activity seemingly carried out in the area around the fort in the early 20th century when fishing was a favorite pastime apparently (Figure 24).

Figure 24 Park scene showing the Old Fort at Fort Erie, Canada, Postcard, date Unknown, General Photograph Collection, Fort Erie (Ont.), Niagara Falls (Ont.) Public Library, Record ID 362528.

Period IV – 1930s Restoration

IV	**123**	**1.8%**	**100.0%**
Architectural	41		33.3%
Construction Materials	5		
N/A	1		
Nails	16		
Window Glass	19		
Arms and Military	1		0.8%
Ammunition / Artillery	1		
Faunal/Floral	22		17.9%
Bone	10		
Mammal Bone	12		
Food Preparation/Consumption	42		34.1%
Ceramic Cooking/Storage	5		
Glass Beverage Container	15		
Tableware	22		
N/A	10		8.1%
Native	**1**		**0.8%**
Lithic	1		
Smoking	1		0.8%
Pipes	1		
Unassigned Material	5		4.1%
Miscellaneous Material	5		

A relatively small number of items were found associated with this Period, defined by the reconstruction of the fort in the 1930s. The most abundant class is that of Food Prep/Consumption of which ceramic tableware and container glass make up most of the items. Even in this late period creamware (1764-1820) is predominant in the assemblage with lesser amounts of pearlware and a single sherd of ironstone.

Architectural Group items include machine cut nails mostly -mass-produced in the 19th century but replaced by modern wire nails in the early 20th century – and window glass. These are much less frequent than in earlier periods and they are likely associated with the restoration of the fort at this time rather than being related to the earlier pre-siege building. A single musket ball was also found, pointing to disturbance to earlier deposits even in this late period. A single smoking pipe fragment, and various unidentifiable metal objects round out the assemblage.

Period V – Modern Fort

V	**588**	**8.7%**	**100.0%**
Architectural	207		35.2%
Construction Materials	21		
Nails	98		
Window Glass	88		
Arms and Military	3		0.5%
Ammunition / Artillery	2		
Uniform Insignia	1		
Clothing Group	5		0.9%
Fasteners	4		
Jewelry/Ornamentation	1		
Domestic Group	3		0.5%
Sewing	3		
Faunal/Floral	33		5.6%
Bone	18		
Mammal Bone	15		
Food Preparation/Consumption	228		38.8%
Glass Beverage Container	188		
Glass Tableware	1		
Metal Containers	10		
Tableware	28		
Utensils	1		
N/A	28		4.8%
N/A	28		
Native	43		7.3%
Lithic	43		
Personal	**15**		**2.6%**
Currency	13		
Personal Items	1		
Toys and Leisure	1		
Smoking	1		0.2%
Pipes	1		
Unassigned Material	22		3.7%
Miscellaneous Hardware	6		
Miscellaneous Material	16		

Period V is defined by the post-1939 restoration of the fort and the opening of the park as a historic site. The assemblage represents a diverse array of objects dating from the several decades between 1940 to the present. The use of the space as a public park, where picnicking was probably a favorite pastime, is indicated by the several 'lost' items such as 13 coins dating from 1917 to 1983, almost equally split between American and Canadian examples. A bracelet, buttons, bead, safety pin, and toy anchor also suggest lost items of the type that might occur with a visit to the park. Container glass is found in abundance in this period and provides further evidence of the public use of the park. A musket ball was also found in this period indicating the ubiquity of 1812 period items in all periods of the site, in this case due to disturbance to earlier layers. An interesting find was the top plate of a 2-piece military button, gilt-plated, and engraved with the initials "P...". This had a hole punched out on the top of the piece suggesting that it may have been used as a jewelry item. A fragment of a smoking pipe made into a bead also suggests re-working of a much earlier artifact as a jewelry keepsake item.

6.0 Excavation – Douglass Battery West

6.1 Douglass Battery (West): Periodization of the Stratigraphic Sequence

The stratigraphic sequence for Douglass Battery West has been organized into 5 Periods comprised of 37 separate Phases. For the unit discussions below, refer to the correlation chart (Table 2) and the Stratigraphic & Period matrix diagrams (Figures 25 and 26).

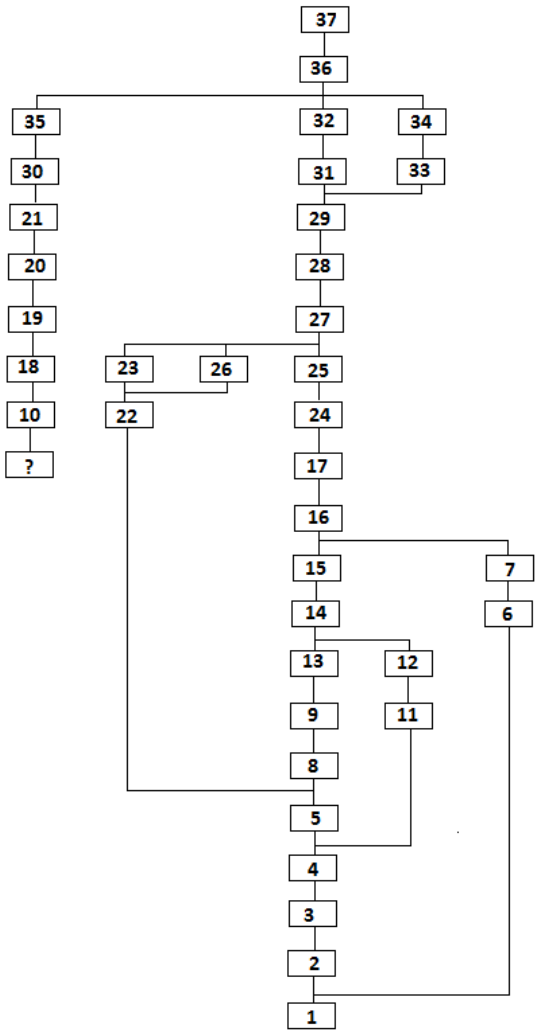

Figure 25 Douglass Battery West Stratigraphic Matrix

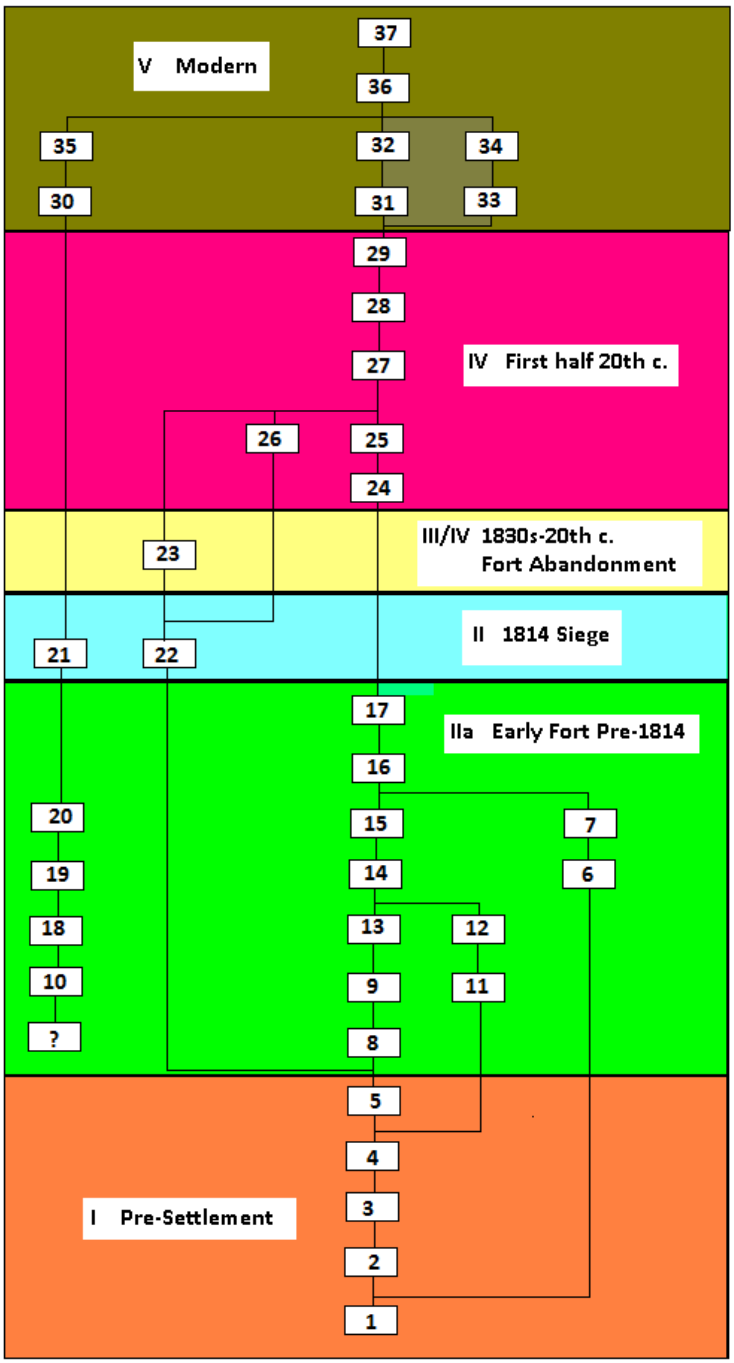

Figure 26 Douglass Battery West Period Matrix

Table 2 Correlation Chart: Douglass Battery West

Student			Veronika	Ana	Cosimo	Lauren	Carolyn	Amanda	Liam	Chelsey	Rachel	Wendy	Don Patrick	Chelsey/Cosimo
LOT	**Phase**	Period	A	B	C	D	E	F	G	H	J	K	L	M
Sod	37	V	1	1	1	1	1	1	1	1	1	1	1	1
Topsoil	36	V	2	2	2	2	2	2	2	2	2	2	2	2
Dark brown sandy loam on side of earthwork	35	V											3	
Sandy/charcoal/mortar patch	34	V						4		4				
interface	33	V						5		5				
Modern pit feature in unit E - planting pit?	32	V					4							
Interface for pit feature	31	V					5							
Pebbly brown loamy sand in earthwork - small medium sized pebbles and cobbles	30	V											4	
1930s ground surface - compact landscaping fill - pebbly/stony layer in clay loam with reddish clay patches (clay tile in West D, G, and K)	29	IV	3	3	3	3	3	3	3	3	3	3		3
Limestone rubble in West C, D, E - associated with 1930s landscaping – early building debris	28	IV			4	4	6							
Reddish clay below stony layer - fill layer associated with drainage trench	27	IV	4,5	4	5,6	5	7	6	4	7	4	4		

Possible drainage tile trench - dark loam intrusive into reddish clay (lot 4 in West K) and interface	26	IV										5,6,7,8		
Drainage trench for 1930s drain	25	IV		6										
Interface for 1930s drain	24	IV		7										
Ground surface - accumulated humus 19th century - dark brown clay loam with some rubble - not garden loam layer - outside garden	23	III/IV									5			
Mottled reddish brown red clay with pebbles and lots of artifacts - lead shot and gunflint	22	II									6	9		
Fill from earthwork/breastwork	21	II											5	
Rubble-filled in trench in lot 6 garden layer - possible fence line?	20	IIa											6a	
Interface for rubble-filled trench	19	IIa											7	
Similar to garden soil but with building debris - mortar, brick, charcoal, cobbles - possibly from destruction of building seen in East Battery and pre-earthwork construction	18	IIa											6	

Sandy clay loam horizon across West Battery - buried A-Horizon - possible garden layer? see 1805 Walsh watercolour	17	IIa	6	5	7	6	8	7	5	6				4
Pebbly clay loam below buried A-horizon - possible garden layer for drainage?	16	IIa	7	8	8	7	9	8	6	8				5
Dark loam - an early garden layer?	15	IIa						10						
Displaced A-horizon/subsoil - a light brown sandy clay loam with some pebbles and shovel scars - early garden bed trenching	14	IIa	8		9	8	10	9	7	10, 12, 13				
Interface for garden beds	13	IIa								10a				
Possible feature in West C - post? - fence line pre-garden?	12	IIa	11		10									
Interface for above	11		12		11									
Feature fill in trench - not excavated - building foundation trench? Building rubble	10	IIa											10/11	
Feature fill in south end of West H	9	IIa								13			9	
Interface	8									12				

Dark clay loam over and around pathway feature	7	IIa		11										6
Possible building foundation or brick walkway? Building rubble	6	IIa	9	10										
Reddish brown clay subsoil - displaced subsoil likely	5	I	10					11	8	9	7	10,11		7
Light greyish-brown mottled clay with some sand and large stones - subsoil	4	I			12	9			9	11			8	
Grey sandy clay subsoil	3	I					11		10	14				8
Silty grey subsoil	2	I							11					
Bedrock	1	I		9,12	13	10	12		12					

6.2 Douglass Battery West Phase Descriptions

Figure 27 Location of Douglass Battery West

Twelve excavation units were laid in on the west side of the earthwork (indicated by a circle on Figure 27) and are discussed here under Douglass Battery West. The units are oriented on a grid north-south excavation grid which is at about a 45 degree angle to magnetic north. Magnetic north is to the top of the page on Figure 27, and grid north is represented by the line running parallel to the long axis of units F, G, and H. The shadow of the earthwork, the former Douglass Battery, is indicated by the arrows on the above Figure.

Period I – Pre-Settlement and Disturbance

Bedrock Phase [1] was revealed in found in six units in this excavation area. As in Douglass Battery East, the bedrock has a broken appearance with many crevasses and fissures visible in the surface below the clay subsoil. Several layers of clay subsoil overlay the bedrock, Phases [2] to [5], consisting of silty grey subsoil [2], compact grey clay [3], and grayish [4] to reddish brown clay [5]. The upper layers of subsoil have evidence of disturbance and possible re-deposition. Several large pieces of limestone building rubble from the destruction of a building (see Period IIa) were found in the surface of the uppermost layer of subsoil in units B, C, D, F, G, H, J, L and M.

Period IIa – Pre-1814 Siege Garden(s) and Structure

Several Phases in this Period contain evidence of a structure built before the 1814 siege and which was demolished prior to the siege, and thus associated with the early fort period, ca. 1764-1805.

Additionally, further evidence of the pre-siege garden discussed above for Douglass Battery East was also found in Douglass Battery West.

Figure 28 View looking south, showing west end of unit B pavé surface associated with pre-siege period building. The large cement drain and associated trench visible to left of trowel was installed ca. 1930.

In units A, B and M, a feature composed of flat-lying stones and large brick fragments (1/2 brick size) was found running in a roughly north-south direction, Phase [6]. The width of the feature ranges from about 80 cm to 1.00 metres based on the evidence found in units A and M, on the west side of unit B. The approximate width of 3 feet, and the almost level surface, suggests that these flat-lying stones and bricks, may have functioned as a walkway, or a pavé of closely set 'stones', that may have been associated with a nearby structure. Alternatively, this may have functioned as a walkway between the lakeshore and the structure. A subsequent layer of sediment, Phase [7], overlies the feature to a depth of a few centimetres.

Phases [8] and [9] may also be related to the former structure. In unit L, a deposit of re-deposited clay/loam subsoil was found but was only exposed and not excavated due to time constraints. The Phase [9] deposit was truncated by a trench defined by Phases [10], [18], [19] and [20]. The trench, Phases [10] and [19], is about 60-70 centimetres in width and filled with dark brown loam, with a high percentage of brick rubble, mortar, charcoal and limestone rubble such as that seen on the surface of subsoil, Phase [5]. The presence of building debris within the trench is indicative of building demolition, and the alignment of the trench is parallel to the pavé described above in Phase [6]; i.e., at about a 10-15 degree angle to the west of grid north and running in a northwest to southeast direction.

There are no maps of the area from the pre-siege fort era, ca. 1764-1805, but the presence of a building in this location is not unexpected. As discussed in connection with Douglass Battery East, there was a domestic structure associated with a garden (Figure 29; Edward Walsh 1804 watercolour), during the pre-siege period, which the artifacts suggest dates to the latter decades of the 18th century and the period of the first fort. In this case, the structure found here, below the garden layers in Douglass Battery West, pre-dates even the garden and the Douglass Battery East structure, and as such it is the earliest structure found to date. The evidence suggests that this was a substantial building of stone and brick, and as such it is likely not a domestic dwelling. Instead, the building is quite possibly an outbuilding associated with the first fort constructed in the last third of the 18th century. Interestingly,

Feltoe (2014: 28) indicates that there was a lime kiln, as well as a small warehouse building in the Douglass Battery area when Douglass and his men began construction of their Battery.

Phases [11] to [17] are all associated with the garden described above in connection with Douglass Battery East. Posts, trenches, and various garden layers are found throughout the excavation area. Phase [11] represents the interface for a 15 cm. diameter post hole found in units A and C. These were the only such features found at this lower stratigraphic position in the Douglass Battery West excavation area and consequently it is not possible to determine whether they are associated with the early structure described above or whether they are isolated post holes from a fence-line associated with the garden. Fill within the post. Phase [12] consisted of a dark brown clay loam.

The earliest evidence of gardening is indicated by a trench cut into subsoil that appears in unit H (west wall profile), Phase [13]. The trench has a near-vertical interface and cuts into the clay subsoil for a depth of about 20-25 centimetres. The trench fill (Phase [14] is a displaced A-horizon and subsoil, light brown sandy clay loam with some pebbles and possible shovel scars at the bottom of the trench (lots 12 and 13 in unit H). There was some difficulty in defining the layer during excavation as it was composed of subsoil, but in a disturbed or re-deposited context, although the stratigraphy is clearly visible in the wall profile. The feature may represent the type of trenching described in connection with the garden in Douglass Battery East, where 'spits' (20-35 centimetres in depth) were common features in raised gardens. A layer of dark loam found in unit F (Phase [15] is the only evidence of the actual planting beds found in association with the early garden. This layer is composed of dark brown loam about 15 centimetres in thickness.

Evidence for a second garden is found in Phases [16] and [17]. Phase [16] is a pebbly clay-loam deposit that underlies a deposit of dark brown loam. The same sequence of pebbly clay-loam overlain by dark brown loam was found in Douglass Battery East. The two layers almost certainly represent a raised garden in which the pebbly sub-garden layer functioned as drainage for the raised planting bed above. Due to subsequent deposition and human activity the beds have become compressed are visible today as a 15-20 cm thick deposit in the units where the beds are found. The garden is in evidence in all units with the exception of J, K and L, located to the extreme north and east of the Douglass Battery West excavation area. It is assumed that the garden is actually the same as that found in Douglass Battery East, based on the stratigraphy and the orientation of shovel trenches, which are at a slight angle to the excavation grid, (see units K Douglass Battery East and unit G, Douglass Battery West). The stratigraphic evidence indicates that the garden pre-dates the construction of the Douglass Battery. The

Figure 29 Old Fort Erie with the Migration of Wild Pigeons, dated 1804; by Edward Walsh.

Edward Walsh watercolour, dated spring 1804, provides some approximation of the appearance of the garden and even the orientation of the planting beds.

In Unit L, Phases [18], [19] and [20] may be associated with the garden described above, but the presence of building debris – stone, brick, and mortar – distinguishes these Phases from other units where evidence of the garden was found. A trench found in this unit, running in a roughly north-south direction, contains dark loam as found in the garden, but also destruction debris within the matrix of the soil. The trench overlies another feature described above in connection with the early building that pre-dates the garden (Phase [10]), and it is unclear whether the trench in Phases [18-20] is associated with the building or whether it may represent a fence-line in the garden. In either case, the excavation of the trench clearly disturbed earlier layers associated with the destruction of the pre-garden building.

Period II – Siege Period Earthwork Construction and Ground Surface

Only two Phases, [21] and [22] can be dated to the period of the siege. Phase [21] is a deposit of compacted mixed loam, sand and loamy clay that represents a lower layer of fill associated with the construction of the earthwork, Douglass Battery. The same deposit was found in Douglass Battery East in unit N, lot 4 (Phase [27]). Mortar, brick and charcoal are also found in this unit, presumably from the destruction of the earlier building, and the displacement of soils during the construction of the earthwork. The ground surface in proximity to the earthwork was likely scraped down to the natural clay layer in order to provide the quantity of material needed to build up a defensive structure of sufficient height. This newly created ground surface, contemporary with the siege, is found in units J and K, Phase [22]. Here a compacted layer of clay with pebbles is found containing a higher frequency of artifacts dating to the period of the siege than in other Phases.

Period III/IV – Post-Siege 19th Century Ground Surface

Figure 30 Ruins of Old Fort Erie, Postcard, Niagara Falls, Public Library, Record ID 369909, ca. 1910. Circle indicates 2013 excavation area. Arrow indicates Douglass Battery.

Phase [23] is the only layer assigned to this period. This is found in unit J, lot 5, as a dark brown clay loam deposit with some building rubble on the surface. The isolated nature of the deposit at the extreme northeast corner of the larger Douglass Battery West excavation area suggests that it may be a portion of a larger deposit, representing a ground surface that in fact extends farther to the north towards the fort. This may have been the ground surface for several decades until activities associated with the 1930s restoration and reconstruction of the fort resulted in deposition on top of the layer. The

Douglass Battery West excavation area is shown as a grassed-over area on several post-cards and photographs taken in the early 20th century.

Period IV – 1930s Restoration/Reconstruction

Figure 31 Fort Erie Park - Old Fort Erie Francis J. Petrie Collection, September 5, 1930. Niagara Falls Public Library Digital Collections, Record ID 94893.

Figure 32 The Old Fort Erie – 1939, Francis J. Petrie Collection, July 30, 1939. Niagara Falls Public Library Digital Collections, Record ID 94943.

All events assigned to this Period are associated with the restoration and reconstruction of the Fort in the 1930s. Various activities took place that resulted in the deposition of new layers over former ground surfaces, impacting buried archaeological features dating to the siege and before. Phases [24] and [25] mark the installation of a large cement drain (80 cm diameter) that ran through the excavation area in a northwest to southeast direction, the purpose of which was to drain the ravelin ditch as shown on a 1939 photograph (Appendix C). The drainage trench, Phase [24] is found in unit B where it truncates layers associated with the garden and the building attributed to the first fort, ca. 1764 to 1805. A continuation of this drain in the north end of the excavation area in unit K is represented by a trench in Phase [26]. The trench intersects the western edge of the unit and truncates several earlier layers. The presence of clay tile drain fragments in this

Figures 33 and 34 Left: D.B. Douglass and John Vallance, in Dennie, Joseph 1816 *Attack on Fort Erie*. Portfolio Magazine, Philadelphia; Right: 1818 Chart Illustrative of the Siege and Defense of Fort Erie. Both plans show the structure found during excavations in 2013.

Figure 35 1816 Douglass plan of the fort and adjacent batteries. Shown at bottom right are the 2013 excavation units, geo-referenced, in relation to the earthwork.

trench, and in the trench in unit B (Phase [25]), suggests that an earlier and smaller 8" diameter drain was replaced by the later and larger cement drain. The earlier drain is a bell and hub type, a hub section of which is visible in the north wall of unit K. Drainage tile fragments occur within a layer of stony reddish clay, Phase [27], that is widespread across the excavation area. Termed a horizon, this layer was created at the time the larger drain was installed resulting in the destruction of the earlier clay drain. A considerable quantity of building rubble was found on top of the Phase [27] deposit in three units, C, D and E. The localized nature of the rubble (Phase [28]) suggests that a masonry wall was impacted during the drain installation. An overlay of the excavation units on the 1816 plan provides some indication of the identity of this building. Units in Douglass Battery West clearly intersect the northernmost of three buildings

shown on the west side of the Battery itself. In fact, a detailed view of the same area shows units B, C, D, and E, situated on the interior of the building forming an east-west cross-section, while units F, G, H, and J provide a north-south section through the structure's interior.

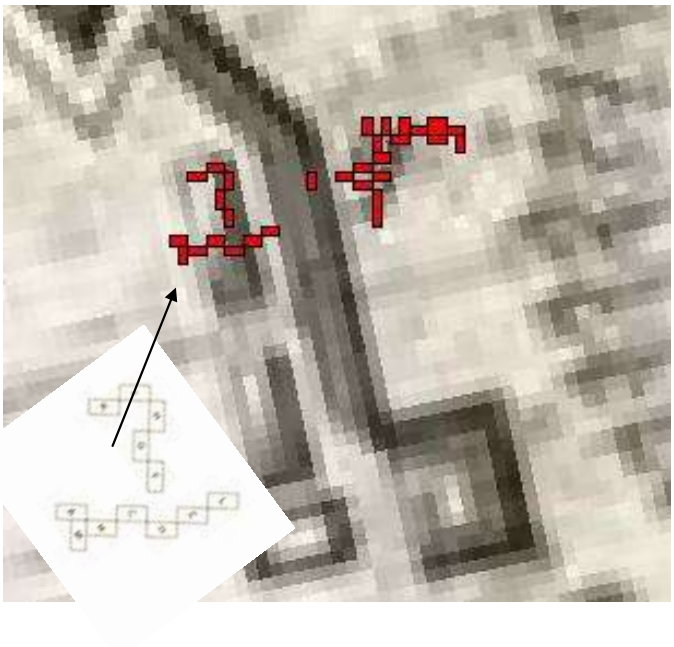

Figure 36 Detail of excavation units in Douglass Battery West and building depicted on 1816 plan of Fort Erie.

The structures depicted in this location are not visible on earlier plans of the area and appear only on the 1816 plan by D.B. Douglass and John Vallance, and the 1818, Chart Illustrative of the Siege and Defense of Fort Erie, plan. The dates of the plans and the fact that the large pieces of masonry stone indicate that the structure was substantial and permanent, argue strongly for the structures having been built after the siege. If this is indeed the case, the structures are British rather than American-built. It is unlikely that any masonry construction occurred during the time of the siege considering that any construction at this time was driven by expediency and in response to other events. For example, the construction of walls linking the two redoubts on the north side of the fort to the bastions on the south side, was done over a two or four week period, either between the beginning of August Feltoe (2014: 42), or after the night assault of August 15 (Barbuto 2000: 263) and the end of August (Owen 1986: 7). Today these walls are reconstructed masonry curtains but, considering the short time frame of construction in August 2014, they were likely constructed of earth, possibly with palisades on top as an added defensive feature.

Additional excavation is required to confirm the hypothesis and to determine the precise location of the intact foundations. However, if the overlay above is accurate, the west wall of the structure would have intersected unit B, and the east wall units E/L. It will be recalled that unit B was impacted by the large 1930s cement drain trench running almost precisely through the middle of the unit, and that a rubble-filled trench in unit L (Phases 19 and 20) was encountered in unit L. All other units are either on the interior of the building or the exterior.

The final Phase in Period IV is a layer of compacted stony/pebbly, clay loam, Phase [29]. This deposit is a horizon, or widespread layer that is found in all units except unit L, adjacent to the earthwork. The layer probably formed the ground surface for the park for decades, from the 1930s to the modern era.

Period V – Modern Park

A layer of pebbly dark brown loam with brick flecks marks the first modern Phase in Period V (Phase 30]. Evidence of burning is found among the artifacts, several of which are fire-blackened, along with pieces of charcoal and burnt wood. The deposit is only found in unit L, at the foot of the earthwork, and it is possible that the fire is related to the possible burning of a fence line which was also found on the east side of the earthwork, Douglass Battery East, Phase [36/37]. The fence itself can be seen on the west side of the earthwork, Douglass Battery West, in the postcard dated Sept. 5, 1930. Phase [31] and [32] represent a pit located in the northeastern corner of unit E. The pit may have been as large as a metre in diameter, and about 30 centimetres in depth. Fill within the pit consists of a dark brown loam with inclusions of brick and charcoal. Artifacts are a mixture of modern and 19th century materials as would be expected with a late feature that was intrusive into earlier layers. The function of the pit is unknown although it is possible that it represents the same type of pot-hunting/looting activity in evidence in Douglass Battery East, Phases [40] and [41]. Two shallow pits, possibly campfire pits, were found in units F and H. These occur below the modern sod and topsoil layers [36] and [37], the fill of which contains sand, charcoal and ash. Phase [35] represents an erosional deposit found on the side of the earthwork in unit L. The layer contained artifacts dating to the time of the siege as well as some modern material.

7.0 Douglass Battery West Artifacts

Douglass Battery West	3491	100.0%
Activities	1	0.0%
Hand/Maintenance Tools	1	
Architectural	1012	29.0%
Construction Materials	812	
N/A	9	
Nails	120	
Other Fasteners	2	
Window Glass	69	
Arms and Military	89	2.5%
Ammunition / Artillery	59	
Gunflints	9	
Musket/Rifle	3	
N/A	1	
Uniform Insignia	17	
Clothing Group	7	0.2%
Fasteners	7	
Faunal/Floral	537	15.4%
Bone	530	
Floral	1	
Other Organic, Non-Man Made	2	
Shell	4	
Food Preparation/Consumption	463	13.3%
Ceramic Cooking/Storage	9	
Glass Beverage Container	200	
Metal Containers	1	
Tableware	251	
Utensils	2	
Medical/Hygiene	2	0.1%
Grooming and Hygiene	1	
Pharmaceutical Containers	1	
Samples	356	10.2%
Various materials	356	
Native	899	25.8%
Ceramic	1	
Lithic	898	

7.1 Douglass Battery West: Artifacts and Temporal Context

Almost 3500 artifacts were recovered from Douglass Battery West contexts. Most of these are Architectural artifacts, with more than 812 brick and drainage tile fragments together with smaller numbers of nails and window glass. The high frequency of these items is evidence of the building activities mentioned above in almost all Periods of occupation. Lithic debitage in the Native Group makes up more than 25% of all artifacts recovered. Chert detritus is ubiquitous on the site in all Periods and in all locations. Two projectile points were also found: a Lamoka point and Brewerton side-notched point, both dating to the Archaic period.

Faunal bone is also well represented, although most of this is unsorted and yet to be analysed. Related to food-ways is the Food Preparation/Consumption category in which tableware ceramics and container glass predominate. Ceramics will be discussed below in more detail but it is significant that almost all types recovered date from the 19th century and earlier, many of which are contemporary with the siege and the early fort.

Also of interest is the various lead shot categories in the Arms and Military Group. A detailed analysis of the

Personal	**11**	**0.3%**
Currency	9	
Personal Items	1	
Toys and Leisure	1	
Smoking	18	0.5%
Cigarettes/ Cigars	2	
Pipes	16	
Unassigned Material	96	2.8%
Miscellaneous Hardware	6	
Miscellaneous Material	90	

musket balls is found in Appendix I (Williams 2013). The following represents a summary of some of the more significant observations. Compared to Douglass Battery East, more shot were found in Douglass Battery West contexts. This is perhaps to be expected as the location of this excavation area is behind the lines, in the American encampment, while Douglass Battery East is located on the landward side of the earthwork. A considerable quantity of buckshot was found at Douglass Battery West (22 pieces), comparable to other excavation areas in 2012. Only a single rifle ball was recovered here and not one piece of bird shot. American musket balls (.69 calibre) on the other hand are relatively abundant and make up more than half the number of shot found (33 pieces). Of all excavation areas investigated in 2012 and 2013, the density of American musket balls is highest at Douglass Battery West with some areas identified in the GIS analysis as 'hot spots' containing more than the average. Only 3 British musket balls were found in Douglass Battery West. Only 1 mortar bomb fragment was found in Douglass Battery West (2 were recovered from Douglass Battery East). The paucity of mortar bomb fragments in the entire Douglass Battery area stands in contrast to the greater numbers of these finds in 2012 contexts suggesting that the Douglass Battery was a significant target for the British gunners.

Additional Arms and Military items include a piece of grapeshot, a gun worm and musket tool, a frizzen, gunflints, and military accoutrement such as buttons and shako hat plate fragments. Two British buttons were recovered, a King's 8th and a Royal Regiment of Artillery button, along with American buttons, a 'U.S.' and an 'I' infantry button. Four shako plate fragments are from a British shako hat.

Clothing items found include buckles and several buttons. Coins dating from the 1920s to the 1980s, mostly American, were also found in various units. A relatively small number of clay smoking pipes were also recovered. Two pipe bowls are marked but unidentifiable as to maker. Other objects are listed in the artifact catalogue (Appendix J).

Period I – Pre-Settlement and Disturbance

Period I	13	0.4%	100.0%
Architectural	8		61.5%
Construction Materials	8		
Food Preparation/Consumption	2		15.4%
Tableware	2		
Native	3		23.1%
Lithic	3		

Artifacts found in this period are those that have been introduced into the natural clay subsoil deposits through natural or cultural means; e.g., rodents, tree roots, freeze-thaw action, and trampling. Two sherds of tableware ceramic include single pieces of creamware and pearlware. Architectural objects consist entirely of brick fragments. Debitage comprises the Native group artifacts.

Period IIa – Pre-1814 Siege Garden(s) and Structure

IIa	1092	31.3%	100.0%
Activities	1		0.1%
Hand/Maintenance Tools	1		
Architectural	184		16.8%
Construction Materials	93		
N/A	4		
Nails	45		
Window Glass	42		
Arms and Military	61		5.6%
Ammunition / Artillery	45		
Gunflints	7		
Musket/Rifle	1		
Uniform Insignia	8		
Clothing Group	4		0.4%
Fasteners	4		
Faunal/Floral	375		34.3%
Bone	371		
Other Organic, Non-Man Made	2		
Shell	2		
Food Preparation/Consumption	192		17.6%
Ceramic Cooking/Storage	6		
Glass Beverage Container	92		
Tableware	94		
N/A	86		7.9%
N/A	86		
Native	131		12.0%

Almost a third of all artifacts recovered from Douglass Battery West are found in Period IIa. Bone is the most abundant category making up more than a third of the material. These are mostly unsorted but cursory inspection suggests that the majority of the bone is mammal. Together with the Food Preparation/Consumption group, food-ways artifacts make up more than half of the assemblage. The presence of tableware ceramics and bottles suggests a domestic occupation, dating to the early period of the fort, although there is architectural evidence for a substantial brick and stone building also as discussed earlier. The domestic nature of the material is similar to that found in Douglass Battery East and it is likely that artifacts are associated with the structure

Lithic	**131**		
Personal	1		0.1%
Personal Items	1		
Smoking	13		1.2%
Pipes	13		
Unassigned Material	44		4.0%
Miscellaneous Material	44		

Period IIa	
Tableware	94
Bone China, Painted	1
Bone China, Plain	1
Ceramic	1
Course Stoneware, Salt Glaze	1
Creamware edged	1
Creamware Plain	50
Fine Stoneware, Basalts	1
FSW, White Salt Glaze	1
Hand Painted, Unknown Palette	1
Hard Paste Porcelain, Painted	1
Pearlware or RWE, Plain	1
Pearlware, Edged	2
Pearlware, Painted	1
Pearlware, Painted Unknown Palette	1
Pearlware, Plain	22
Pearlware, Transfer	1
Porcelain	1
RWE Banded	1
RWE Other Décor/ Canary ware	2
RWE Other Transfer	1
White EW, Unident	2

found only a few metres away, or possibly another of the many small domestic structures shown in the vicinity of the fort as depicted on the Edward Walsh watercolour of 1804. Tableware ceramics provide support for the dating of the assemblage to the early period of the fort. Creamware (1764-1820) is the most abundant type found followed by pearlware (1780-1830). Although few in number the presence of other mid-late 18th century types such as white salt-glazed stoneware and black basalt (teapot lid) argue for an early date. Refined white earthenware (post-1820) is also rare and may be intrusive to the Period IIa deposits. The presence of porcelain, an expensive waretype, suggests a relatively high socio-economic status, as would be consistent with an officer.

Other artifacts found in this Period include a clasp knife, shovel blade, smoking pipes, several shako hat fragments, a British King's 8th and a Royal Regiment of Artillery button, along with pewter 'US' and 'I' American buttons. The British buttons date to the early fort.

Period II – Siege Period Earthwork Construction and Ground Surface

II	112	3.2%	100.0%
Architectural	27		24.1%
Construction Materials	23		
Nails	3		
Window Glass	1		
Arms and Military	5		4.5%
Ammunition / Artillery	4		
Gunflints	1		
Faunal/Floral	36		32.1%
Bone	36		
Food Preparation/Consumption	1		0.9%
Tableware	1		
Samples	26		23.2%
Samples	26		
Native	13		11.6%
Lithic	13		
Unassigned Material	4		3.6%
Miscellaneous Material	4		

Only a small number of artifacts can be dated to the siege in 1814. These are mostly faunal bone, which make up almost a third of the assemblage. Pending analysis, these are tentatively identified as mostly mammal. Architectural items consist of brick fragments with a few nails and a single piece of window glass. A single sherd of creamware was found in this Period. The Arms and Military group includes a single gunflint and 4 buck shot. Native lithic debitage is ubiquitous as in all Periods. Material found in this period is limited to two Phases associated with the construction of the earthwork itself, and a hard-packed deposit that likely was the ground surface at the time of the siege.

Period III/IV – Post-Siege 19th Century Ground Surface

III/IV	16	0.5%	100.0%
Architectural	4		25.0%
Construction Materials	3		
Nails	1		
Arms and Military	2		12.5%
Ammunition / Artillery	2		
Faunal/Floral	1		6.3%
Bone	1		
Food Preparation/Consumption	2		12.5%
Tableware	2		
Samples	3		18.8%
Samples	3		
Native	4		25.0%
Lithic	4		

The isolated and limited nature of this deposit accounts for the fact that only 16 artifacts were recovered. Chert debitage and detritus is the largest category followed by brick fragments in the Architectural group. One musket ball and buckshot were also recovered. Two pearlware sherds were also found.

Period IV – 1930s Restoration/Reconstruction

IV	1495	42.8%	100.0%
Architectural	601		40.2%
Construction Materials	548		
N/A	2		
Nails	40		
Other Fasteners	2		
Window Glass	9		
Arms and Military	17		1.1%
Ammunition / Artillery	5		
Gunflints	1		
Musket/Rifle	2		
N/A	1		
Uniform Insignia	8		
Faunal/Floral	64		4.3%
Bone	63		
Shell	1		
Food Preparation/Consumption	135		9.0%
Ceramic Cooking/Storage	2		
Glass Beverage Container	48		
Metal Containers	1		
Tableware	82		
Utensils	2		
Medical/Hygiene	1		0.1%
Grooming and Hygiene	1		
N/A	157		10.5%
N/A	157		
Native	480		32.1%
Lithic	480		
Personal	1		0.1%
Currency	1		
Smoking	2		0.1%
Cigarettes/ Cigars	2		
Unassigned Material	36		2.4%
Miscellaneous Hardware	1		
Miscellaneous Material	35		

Most artifacts recovered from Douglass Battery West are in contexts associated with the 1930s restoration/reconstruction of the fort. Many of the objects recovered are in secondary context, dating to the earliest occupation of the site in the 18th century up to the early 20th century. The largest proportion of objects is found in the Architectural group, and this consists largely of clay bell and hub drainage tile fragments from an earlier drain that was impacted by the larger cement drain at this time. Brick fragments, nails and window glass were also found.

Lithic debitage is the second most abundant category, comprised of almost entirely of chert detritus. A projectile point and three cores were found in addition to greater than 100 primary and secondary flakes.

The faunal bone category is relatively small and consists mostly of mammal bones. Related food-ways artifacts include ceramic tableware and container glass. The ceramic types found clearly indicate that the artifacts attributed to this period are in secondary context. Creamware and pearlware predominate, but 18th century types such as white-salt glazed stoneware and tin-glazed wares are also found. Porcelain and bone china also occur in this Period as in earlier periods.

IV	82
Tableware	82
Bone China, Plain	3
Course Stoneware, Salt Glaze	3
CRE, Tin Glaze	2
Creamware Plain	30
Creamware, other Décor	4
FSW, White Salt Glaze	1
N/A	3
Pearlware, Other Décor	1
Pearlware, Painted	3
Pearlware, Plain	15
Soft Paste Porcelain, Plain	4
White EW, Unident	13

Additional items found in Period IV include buck and musket balls, gunflints, a frizzen, a gun-worm, 3 plain uniform buttons and several shako hat plate fragments. The presence of these Arms and Military group artifacts, all of which date to the 18th and 19th century occupation of the site, but which are found in a late context, is evidence of the significant impact that site disturbance can have on buried objects. Archaeological materials are of the greatest scientific value when found in context, and it is for this reason that all such activities that may result in the disturbance to buried objects be minimized or monitored by a licensed archaeologist when such work is carried out.

Period V – Modern Park

V	**717**	**20.5%**	**100.0%**
Architectural	175		24.4%
Construction Materials	124		
N/A	3		
Nails	31		
Window Glass	17		
Arms and Military	3		0.4%
Ammunition / Artillery	2		
Uniform Insignia	1		
Clothing Group	2		0.3%
Fasteners	2		
Faunal/Floral	42		5.9%
Bone	40		
Floral	1		
Shell	1		
Food Preparation/Consumption	130		18.1%
Ceramic Cooking/Storage	1		
Glass Beverage Container	60		
Tableware	69		
Medical/Hygiene	1		0.1%
Pharmaceutical Containers	1		
Samples	81		11.3%
Samples	81		

The latest period in the history of the site is represented by Period V, which includes 20% of all artifacts found in Douglass Battery West. Architectural objects make up almost ¼ of the assemblage with brick, mortar and cement samples comprising most of the group. Window glass and nails are also found in smaller numbers.

Faunal bone occurs in a similar proportion as that found with Period IV. Food Preparation and Consumption group artifacts are found in about double the proportion as in Period IV, and most of these consist of ceramic tableware and beverage containers. The tableware is once again dominated by late18th/early 19th century types such as creamware and pearlware, but porcelain and refined white earthenware are also

Native	**261**		**36.4%**
Ceramic	1		
Lithic	260		
Personal	9		1.3%
Currency	8		
Toys and Leisure	1		
Smoking	3		0.4%
Pipes	3		
Unassigned Material	10		1.4%
Miscellaneous Hardware	3		
Miscellaneous Material	7		

present. A single sherd of fine red stoneware termed 'Rosso antico' was also found. This distinctive type has a Greek meander design often associated with tea pots or coffee pots, and dates to the period 1700-1772.

Within the Arms and Military group a musket and rifle ball were found along with a shako hat plate fragment.

By far the greatest number of objects was found in the Native group, lithic debitage accounting for almost all the items except a single sherd of undecorated native ceramic.

V	69
Tableware	69
CRE Glazed	1
Creamware Plain	28
Creamware, other Décor	2
Fine Stoneware	1
N/A	1
Pearlware, Edged	1
Pearlware, Painted	6
Pearlware, Plain	15
Porcelain	1
Soft Paste Porcelain, Plain	1
White EW, Unident	11
Whiteware, Plain	1

As with Period IV, the presence of so many artifacts that date to the earliest period of the fort's occupation is a reminder that the entire park is an archaeological site with significant cultural resources. For this reason it is imperative that the site be protected against any activities that that have the potential to disturb these resources. In the event that maintenance activities must be carried out at the site, an archaeological assessment of the area to be impacted should be carried out prior to any excavation that might disturb archaeological deposits. The Ministry of Culture, Tourism and Sport specifies the Standards and Guidelines for licensed archaeologists carrying out such assessments.

8.0 Summary and Conclusions

The 2013 season at old Fort Erie was successful in achieving the goals initially laid out prior to field work. The focus of the investigation was the Douglass Battery constructed during the siege of 1814. Excavation was conducted on both sides of the extant feature, visible on the landscape today as a raised linear mound running in an approximate north-south direction located to the south of the main fort gate and ravelin. Two excavation areas, Douglass Battery East and Douglass Battery West, were investigated by Wilfrid Laurier students over a six week field school directed by Dr. John Triggs, Associate Professor, Department of Archaeology and Classical Studies, Wilfrid Laurier University.

The report detailed the findings in a Period by Period discussion based on an analysis of the stratigraphy using the Harris matrix. In all, five major periods of occupation were presented dating from the pre-settlement Phase of the fort to the modern park and National Historic Site. Periods are related to historic events and significant archaeological features documented during the excavation. Contemporary maps, primary documents and secondary sources were used to provide

historical context for each period. Analysis of artifacts for each period was carried out using a classification scheme that categorizes artifacts into functional groups.

Briefly, the significant findings were a pre-war of 1812 landscape characterized by military structures associated with the early fort (1764-1803); a pre-war garden and associated domestic building; fortification features associated with the battery itself (posts, ditches and the earthwork), and subsequent construction and landscaping activities associated with the restoration and reconstruction of the fort in the early 20th century. The importance of detailed stratigraphic excavation and the necessity of recovering artifacts in context are paramount to the interpretation of archaeological features discussed in the report.

Appendices in the report provide supplementary information on various aspects of the excavation including an artifact catalogue, summary artifact tables, stratigraphic information, GIS analysis of spatial data, a gunflint analysis, artifact photographs and historical images.

The archaeological resources at Old Fort Erie National Historic Site are abundant, ubiquitous and fragile. Investigations in 2012 and 2013 by Wilfrid Laurier University make it clear that that the value of the site lay in the potential to derive information from artifacts and features found in context. For this reason it is of paramount importance that any threat to buried resources, through mechanical or manual excavation, must be assessed as to the potential impact of such activity. Excepting research driven projects such as archaeological field schools, which employ methods that are not usually constrained by time and funding, all other archaeological work on the site should follow the Ontario Provincial Standards and Guidelines for licensed archaeologists as published by the Ministry of Culture, Tourism and Sport. Application of these professional standards will ensure that the site remain protected for generations to come. In its role as steward of Old Fort Erie, the Niagara Parks Commission is to be commended for the continuing support provided for the Wilfrid Laurier University field school, and the recognition that the cultural resources are held in trust for the edification of the general public.

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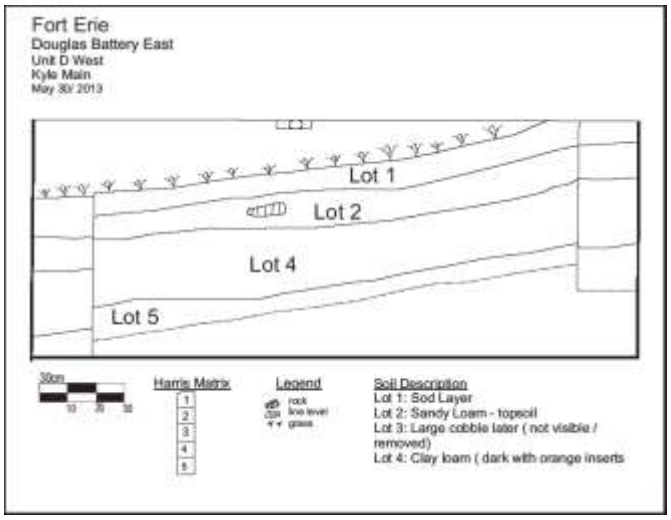
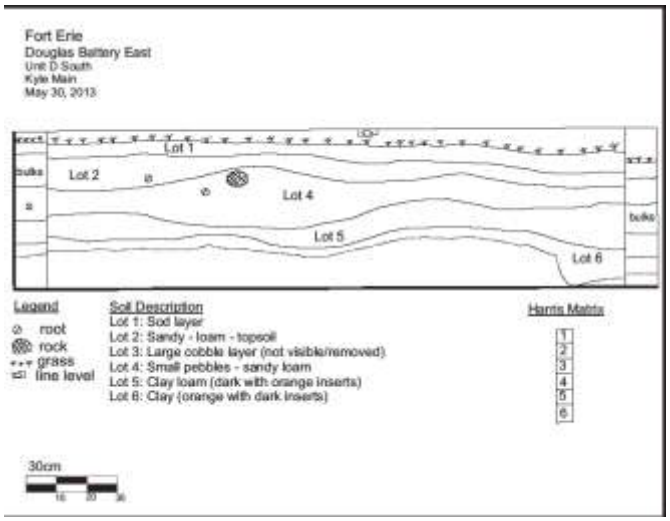
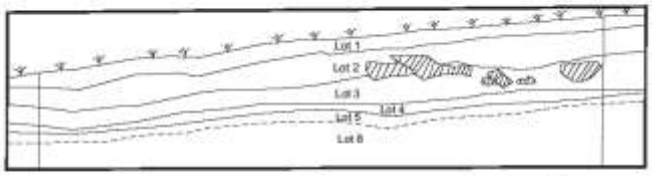
Appendix A
Technical Drawings – Stratigraphic Profiles

Douglass Battery East Profiles





Fort Erie
Douglas Battery East
Unit E
West Wall
Rachel Voisin

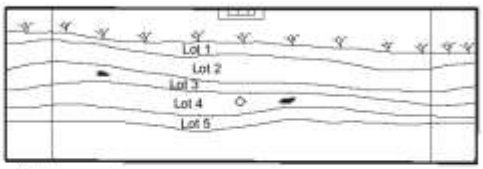


30cm
10 20 30

Soil Description
Lot 1: Sod
Lot 2: Top soil, dark brown
Lot 3: Pebbly layer, some orange
Lot 4: more orange flecks
Lot 5: Bright orange, subsoil mix
Lot 8: Subsoil, unexcavated

Legend
Stone
Grass

Fort Erie
Douglass Battery East
Unit F
South Wall
Margaret Janeavan Renesburg
June 7th,2013

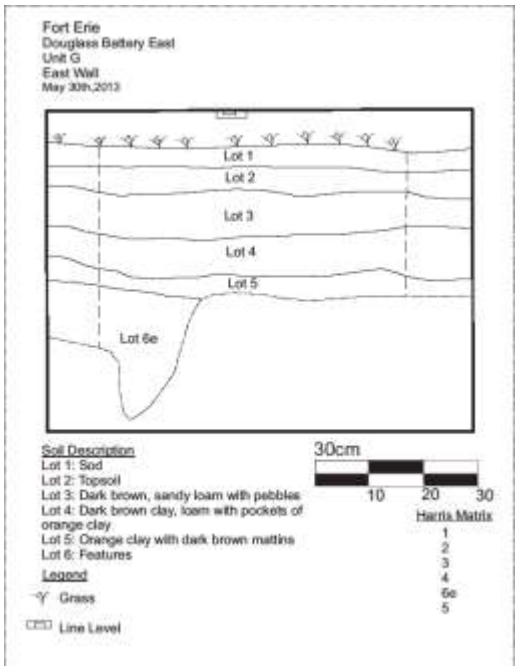


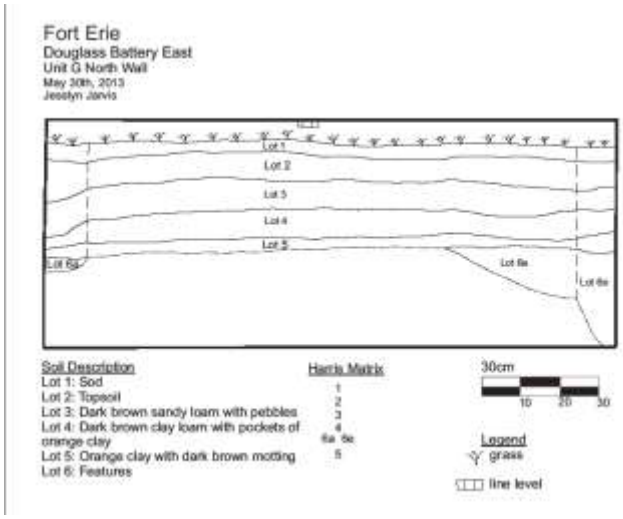
30cm
10 20 30

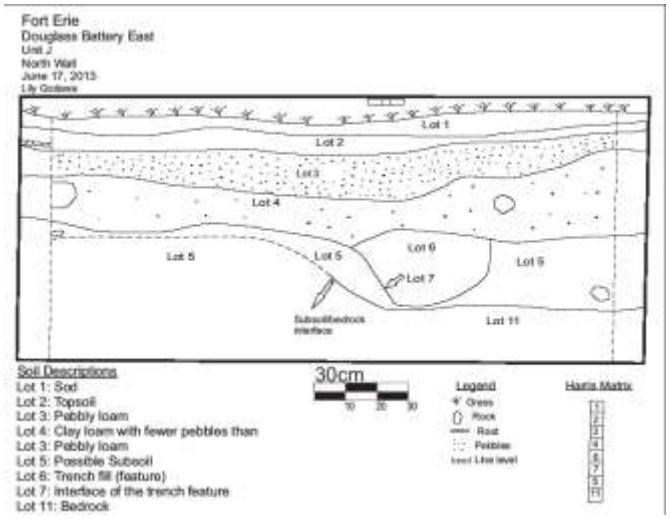
Soil Description
Lot 1: Sod
Lot 2: Top Soil: Sandy Loam
Lot 3: Rocky Loam
Lot 4: Rocky clay loam
Lot 5: Rocky clay, A-horizon
Lot 8: Close of unit, subsoil

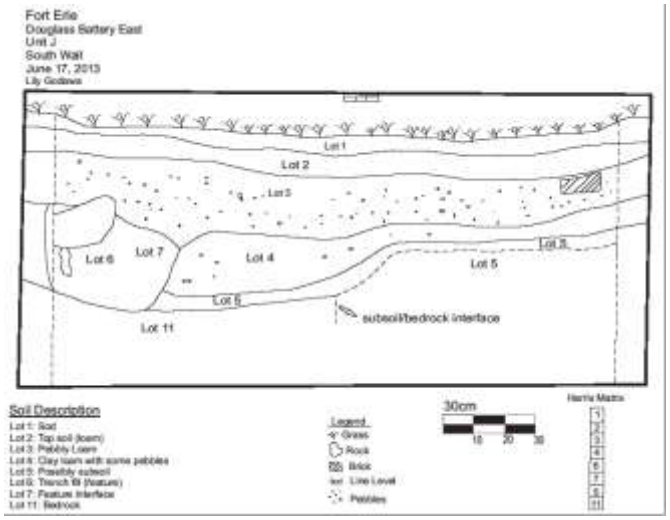
Legend
Grass
Line Level
Rock
Charcoal

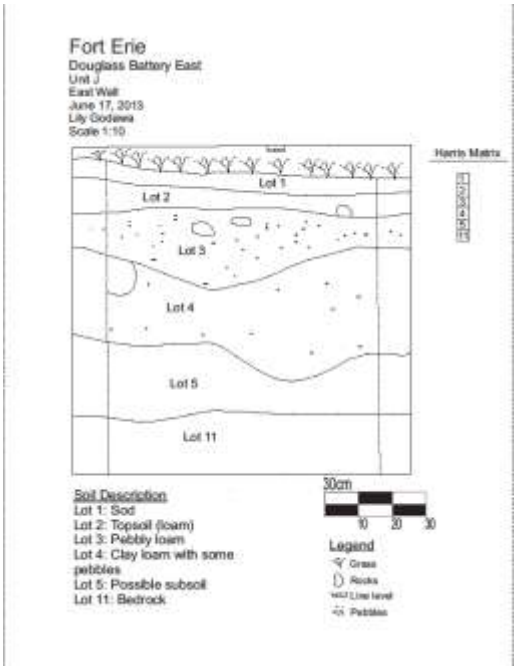
Harris Matrix

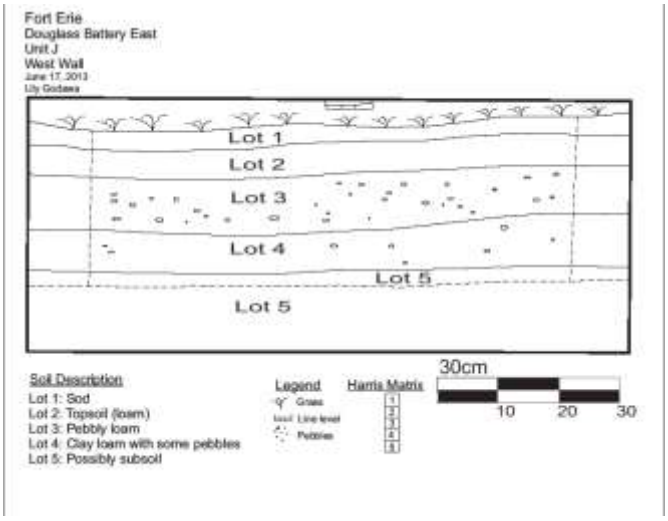

Fort Erie
Douglass Battery East
Unit G
East Wall
May 30th,2013
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6e
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Dark brown, sandy loam with pebbles
Lot 4: Dark brown clay, loam with pockets of orange clay
Lot 5: Orange clay with dark brown mattins
Lot 6: Features
Legend
Grass
Line Level
30cm
10 20 30
Harris Matrix
1
2
3
4
6e
5

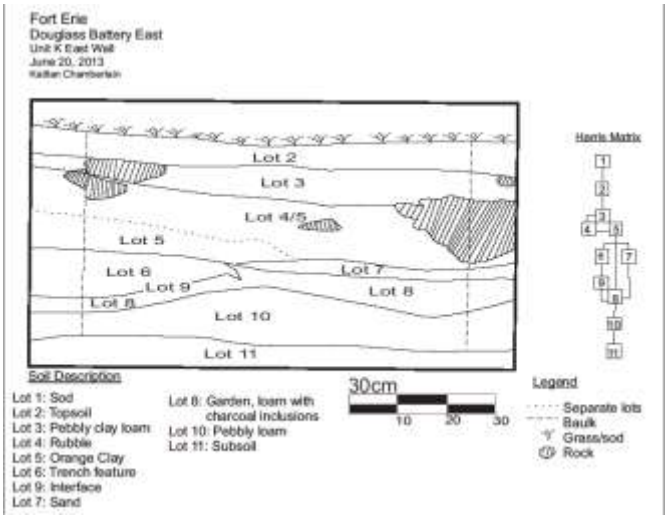

Fort Erie
Douglass Battery East
Unit G North Wall
May 30th, 2013
Jessilyn Jarvis
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 6a
Lot 6e
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Dark brown sandy loam with pebbles
Lot 4: Dark brown clay loam with pockets of orange clay
Lot 5: Orange clay with dark brown motting
Lot 6: Features
Harris Matrix
1
2
3
4
6a 6e
5
30cm
10 20 30
Legend
grass
line level

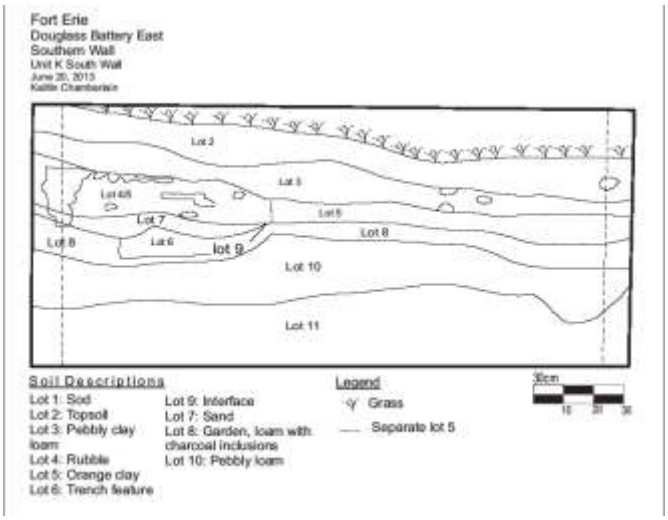

Fort Erie
Douglass Battery East
Unit J
North Wall
June 17, 2013
Lily Godawa
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 5
Lot 6
Lot 7
Lot 5
Subsoil/bedrock interface
Lot 11
Soil Descriptions
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Pebbly loam
Lot 4: Clay loam with fewer pebbles than
Lot 3: Pebbly loam
Lot 5: Possible Subsoil
Lot 6: Trench fill (feature)
Lot 7: Interface of the trench feature
Lot 11: Bedrock
30cm
Legend
Grass
Rock
Root
Pebbles
Line level
Harris Matrix

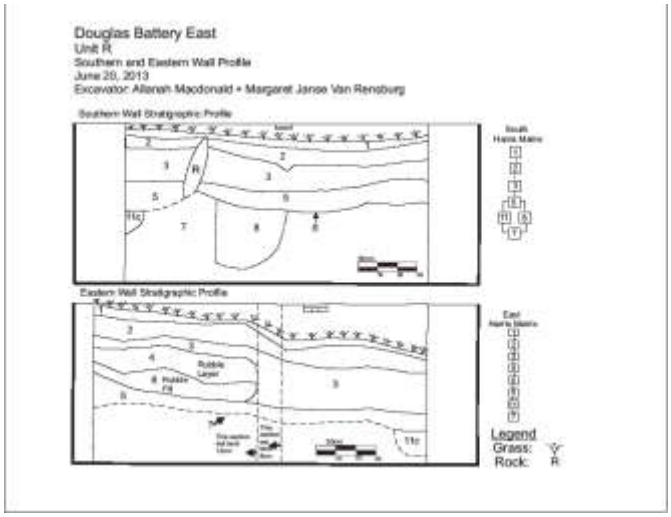

Fort Erie
Douglass Battery East
Unit J
South Wall
June 17, 2013
Lily Godawa
Lot 1
Lot 2
Lot 3
Lot 6
Lot 7
Lot 4
Lot 5
Lot 5
Lot 5
Lot 11
subsoil/bedrock interface
Soil Description
Lot 1: Sod
Lot 2: Top soil (loam)
Lot 3: Pebbly Loam
Lot 4: Clay loam with some pebbles
Lot 5: Possibly subsoil
Lot 6: Trench fill (feature)
Lot 7: Feature Interface
Lot 11: Bedrock
Legend
Grass
Rock
Brick
Line Level
Pebbles
30cm
Harris Matrix

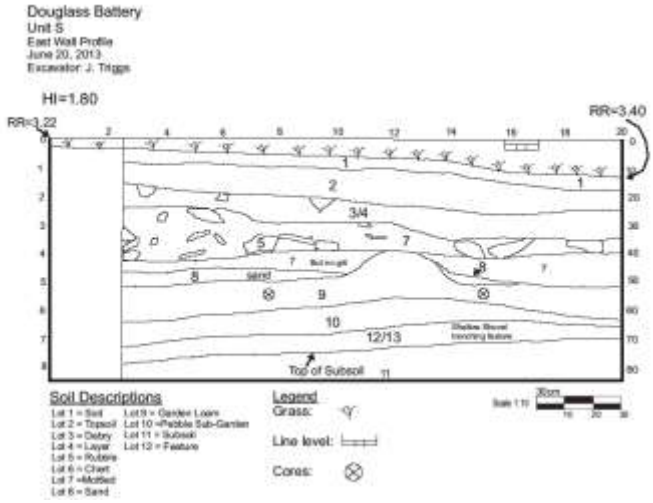

Fort Erie
Douglass Battery East
Unit J
East Wall
June 17, 2013
Lily Godawa
Scale 1:10
Harris Matrix
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 11
30cm
10 20 30
Soil Description
Lot 1: Sod
Lot 2: Topsoil (loam)
Lot 3: Pebbly loam
Lot 4: Clay loam with some pebbles
Lot 5: Possible subsoil
Lot 11: Bedrock
Legend
Grass
Rocks
Pebbles


Fort Erie
Douglass Battery East
Unit J
West Wall
June 17, 2013
Lily Godawa
Lot 1
Lot 2
Lot 3
Lot 4
Lot 5
Lot 5
30cm
10 20 30
Soil Description
Lot 1: Sod
Lot 2: Topsoil (loam)
Lot 3: Pebbly loam
Lot 4: Clay loam with some pebbles
Lot 5: Possibly subsoil
Legend
Grass
Pebbles
Harris Matrix

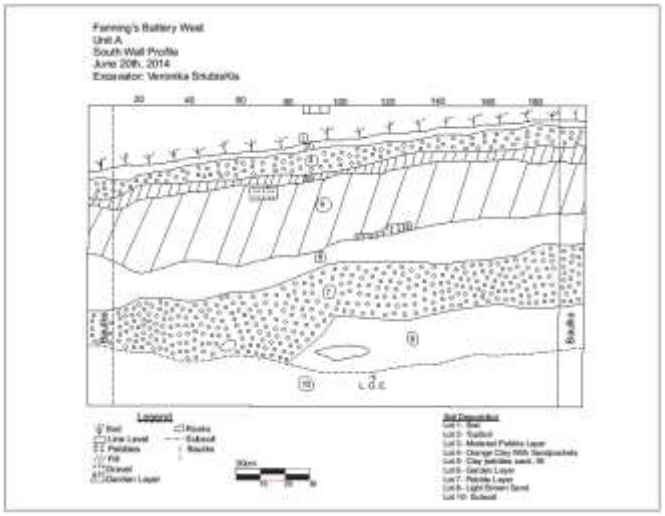

Fort Erie
Douglass Battery East
Unit K East Wall
June 20, 2013
Kaitlin Chamberlain
Lot 2
Lot 3
Lot 4/5
Lot 5
Lot 6
Lot 9
Lot 8
Lot 7
Lot 8
Lot 10
Lot 11
Harris Matrix
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Pebbly clay loam
Lot 4: Rubble
Lot 5: Orange Clay
Lot 6: Trench feature
Lot 9: Interface
Lot 7: Sand
Lot 8: Garden, loam with charcoal inclusions
Lot 10: Pebbly loam
Lot 11: Subsoil
30cm
10
20
30
Legend
Separate lots
Baulk
Grass/sod
Rock

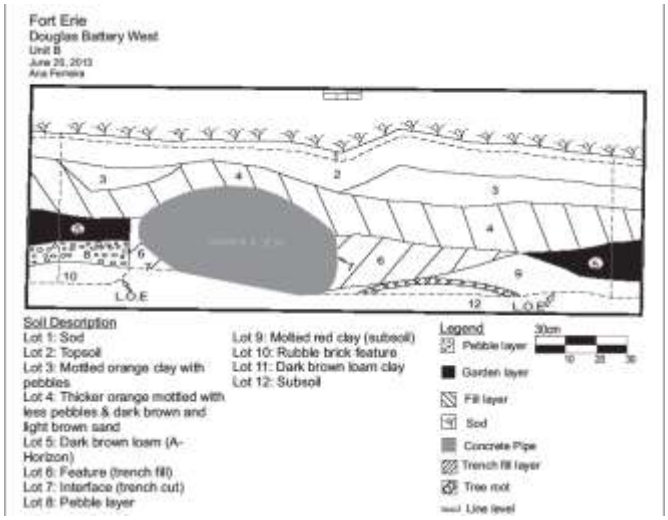

Fort Erie
Douglass Battery East
Southern Wall
Unit K South Wall
June 20, 2013
Kaitlin Chamberlain
Lot 2
Lot 3
Lot 4/5
Lot 7
Lot 5
Lot 8
Lot 8
Lot 6
lot 9
Lot 10
Lot 11
Soil Descriptions
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Pebbly clay loam
Lot 4: Rubble
Lot 5: Orange clay
Lot 6: Trench feature
Lot 9: Interface
Lot 7: Sand
Lot 8: Garden, loam with charcoal inclusions
Lot 10: Pebbly loam
Legend
Grass
Separate lot 5
30cm

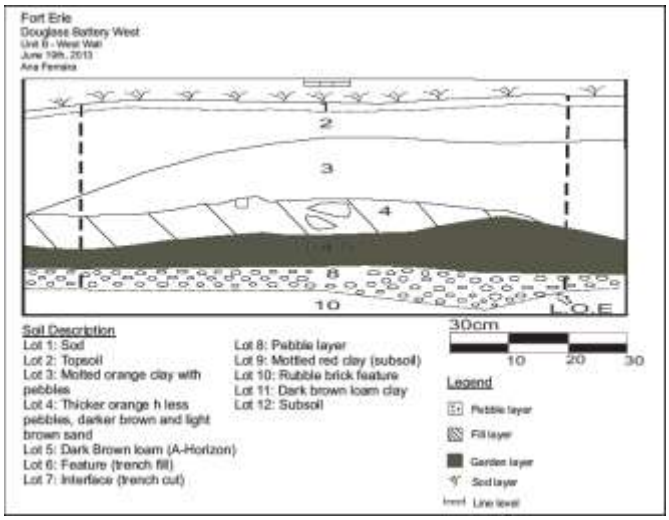

Douglas Battery East
Unit R
Southern and Eastern Wall Profile
June 20, 2013
Excavator: Allanah Macdonald + Margaret Janse Van Rensburg
Southern Wall Stratigraphic Profile
Eastern Wall Stratigraphic Profile
Legend
Grass:
Rock: R

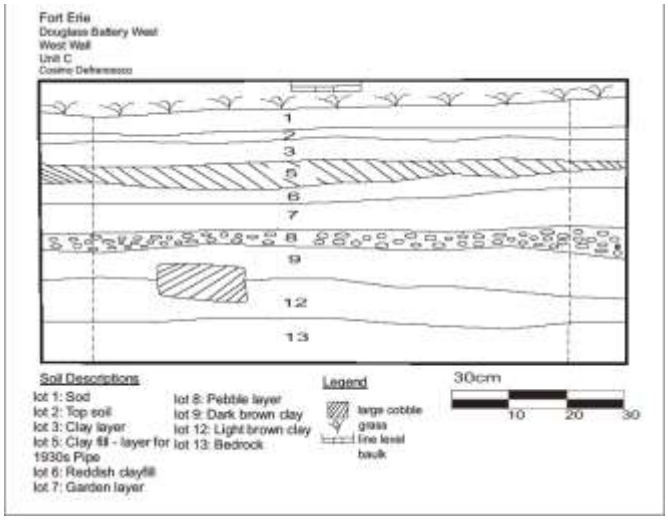

Douglass Battery
Unit S
East Wall Profile
June 20, 2013
Excavator: J. Triggs
HI=1.80
RR=3.22
RR=3.40
sand
Top of Subsoil
Soil Descriptions
Legend
Grass:
Line level:
Cores:

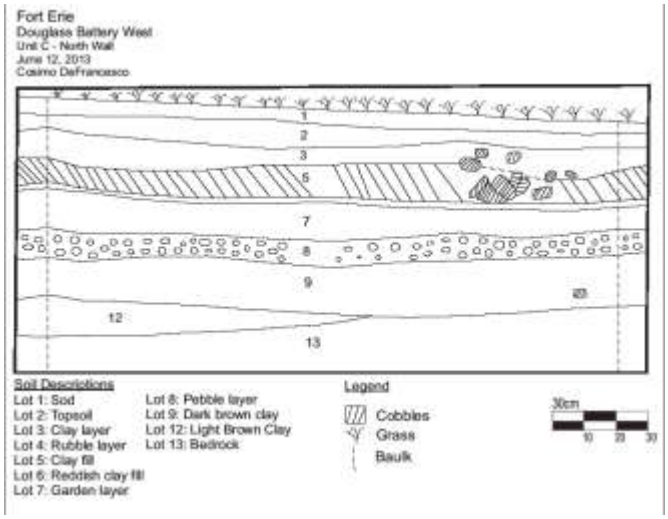
Douglass Battery West Profiles

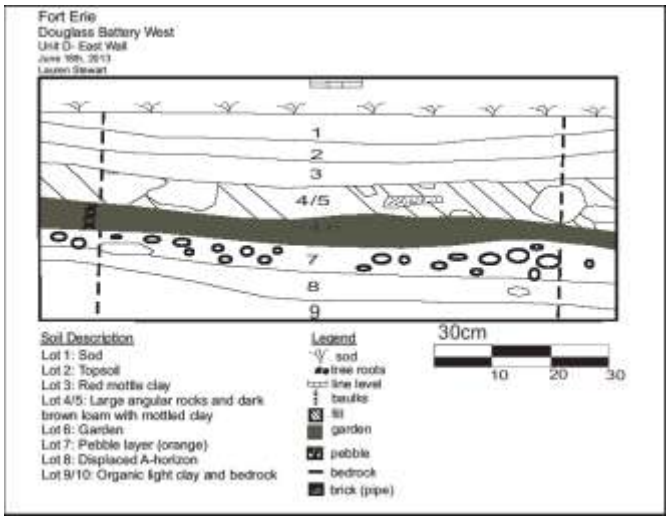


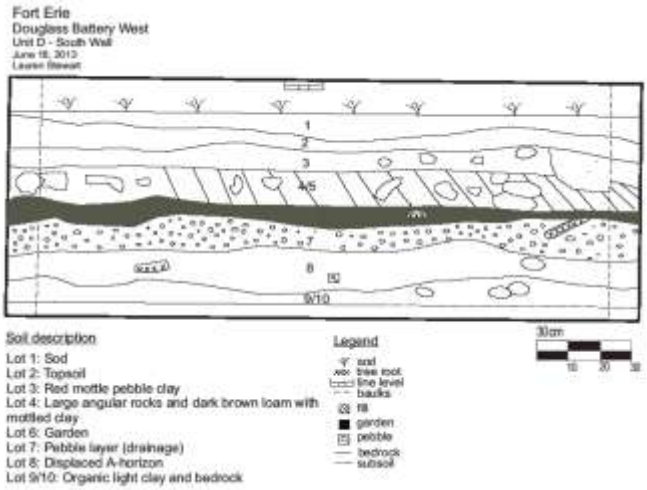

Fort Erie
Douglas Battery West
Unit B
June 20, 2013
Ana Ferreira
LOE
LOE
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Mottled orange clay with pebbles
Lot 4: Thicker orange mottled with less pebbles & dark brown and light brown sand
Lot 5: Dark brown loam (A-Horizon)
Lot 6: Feature (trench fill)
Lot 7: Interface (trench cut)
Lot 8: Pebble layer
Lot 9: Mottled red clay (subsoil)
Lot 10: Rubble brick feature
Lot 11: Dark brown loam clay
Lot 12: Subsoil
Legend
30cm
Pebble layer
Garden layer
Fill layer
Sod
Concrete Pipe
Trench fill layer
Tree root
Line level


Fort Erie
Douglass Battery West
Unit B - West Wall
June 19th, 2013
Ana Ferreira
LOE
30cm
10
20
30
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Mottled orange clay with pebbles
Lot 4: Thicker orange h less pebbles, darker brown and light brown sand
Lot 5: Dark Brown loam (A-Horizon)
Lot 6: Feature (trench fill)
Lot 7: Interface (trench cut)
Lot 8: Pebble layer
Lot 9: Mottled red clay (subsoil)
Lot 10: Rubble brick feature
Lot 11: Dark brown loam clay
Lot 12: Subsoil
Legend
Pebble layer
Fill layer
Garden layer
Sod layer
Line level

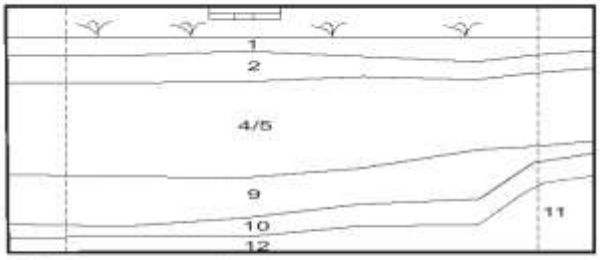

Fort Erie
Douglass Battery West
West Wall
Unit C
Cosimo Defrancesco
1
2
3
5
6
7
8
9
12
13
Soil Descriptions
lot 1: Sod
lot 2: Top soil
lot 3: Clay layer
lot 5: Clay fill - layer for 1930s Pipe
lot 6: Reddish clayfill
lot 7: Garden layer
lot 8: Pebble layer
lot 9: Dark brown clay
lot 12: Light brown clay
lot 13: Bedrock
Legend
large cobble
grass
line level
baulk
30cm
10
20
30


Fort Erie
Douglass Battery West
Unit C - North Wall
June 12, 2013
Cosimo DeFrancesco
1
2
3
5
7
8
9
12
13
Soil Descriptions
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Clay layer
Lot 4: Rubble layer
Lot 5: Clay fill
Lot 6: Reddish clay fill
Lot 7: Garden layer
Lot 8: Pebble layer
Lot 9: Dark brown clay
Lot 12: Light Brown Clay
Lot 13: Bedrock
Legend
Cobbles
Grass
Baulk
30cm


Fort Erie
Douglass Battery West
Unit D- East Wall
1
2
3
4/5
7
8
9
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Red mottle clay
Lot 4/5: Large angular rocks and dark brown loam with mottled clay
Lot 6: Garden
Lot 7: Pebble layer (orange)
Lot 8: Displaced A-horizon
Lot 9/10: Organic light clay and bedrock
Legend
sod
tree roots
line level
baulks
fill
garden
pebble
bedrock
brick (pipe)
30cm
10
20
30


Fort Erie
Douglass Battery West
Unit D - South Wall
1
3
4/5
7
8
9/10
Soil description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Red mottle pebble clay
Lot 4: Large angular rocks and dark brown loam with mottled clay
Lot 6: Garden
Lot 7: Pebble layer (drainage)
Lot 8: Displaced A-horizon
Lot 9/10: Organic light clay and bedrock
Legend
sod
tree root
line level
baulks
fill
garden
pebble
bedrock
subsoil
30cm

Fort Erie
Douglass Battery West
Unit E- East Wall
June 18, 2013
Carolyn Pellet



Soil Description

Lot 1: Sod
Lot 2: Topsoil
Lot 4/5: Feature (dark sandy loam)
Lot 9: Pebble layer(drainage)
Lot 10: Displaced A-horizon
Lot 11: Organic clay subsoil
Lot 12: Bedrock

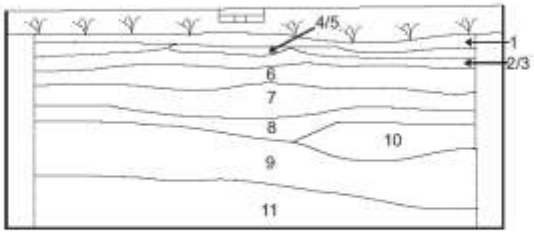
Legend

Grass:

Line level:

10 20 30

Douglass Battery West
Unit F
East Wall Profile
June 20, 2013
Excavator: Amanda Reay



Legend:
Line level:
Grass:
Potential
Lot 2/3 divide:
30cm

Soil Description:
Lot 1: Sod
Lot 2/3: Topsoil
Lot 4/5: Fire feature
Lot 6: Fill layer with building rubble
Lot 7: Garden
Lot 8: Pebbles
Lot 9: Disturbed subsoil
Lot 10: Dark loam
Lot 11: Organic clay subsoil

Appendix B
Artifact Images


Figure Left, frizzen, side view, unit C, lot 3, Douglass Battery East; right, frizzen, unit C, lot 3, DBE, top.

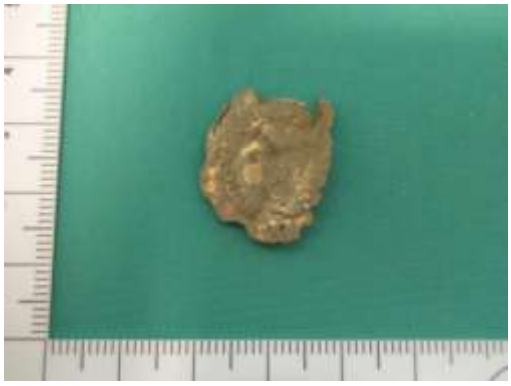



Figure Left, gilded foil facing, King's 8th regiment, unit H, lot 3, DBE; right, buckle fragment, unit Q, lot 3, DBE.


Figure Left, scissor handle and blade, unit F, lot 2, DBE; right, wine bottle base and body fragments, unit L, lot 3, DBE.


Figure Left, mortar bomb fragment showing fuse opening, unit J, lot 3, DBE; right, interior of same mortar bomb fragment, unit J, lot 3, DBE.

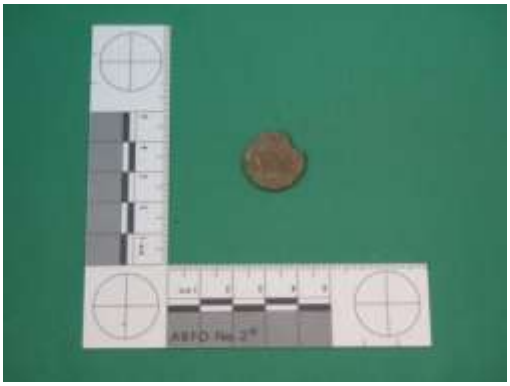



Figure Left, pewter U.S. infantry button, unit P, lot 5, DBE; right, British shako hat plate fragments, unit H, lot 5, DBE.

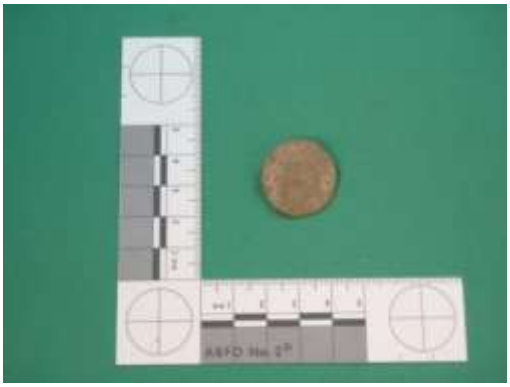



Figure Left, British pewter 41st regimental button, unit K, lot 3, DBE; right, small buckle, unit F, lot 3, DBE.


Figure Left, Lamoka point (3500-2500 B.C.), unit P, lot 5, DBE; right, copper nail, unit B, lot 5, DBE.


Figure Left, scissors, unit H, lot 3, DBE; right, Lamoka point, unit G, lot 3, DBE.

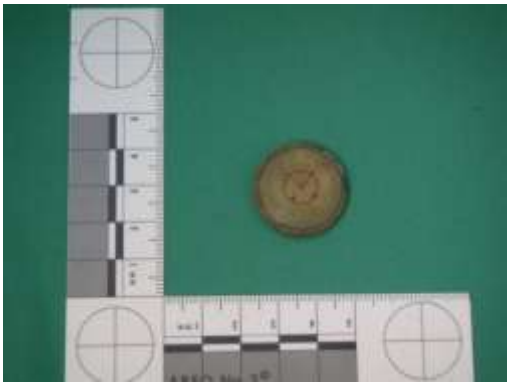



Figure Left, 2-piece regimental officer's button, (indecipherable), unit Q, lot 3, DBE; right, bone back for 2-piece regimental officer's button, (indecipherable), unit Q, lot 3, DBE

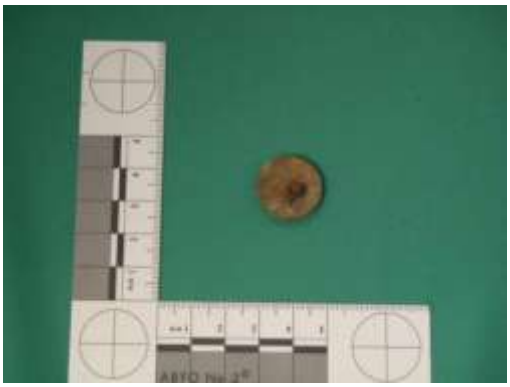



Figure Left, pewter uniform button, U.S. 11th regiment with eagle, unit A, lot 7, DBE; right, back of pewter button, Unit A, lot 7, DBE


Figure Left, facing for officer's uniform button, gilt, 'L I', (has been perforated), Unit B, lot 2, DBE; right, straight razor blade(?) , Unit K, lot 2, DBE.


Figure Left, distal end of butchered femur, cow?, Unit J, lot 4, DBE; right, silver earbob, Unit H, lot 5, DBE.


Figure Left, wrought nails, Unit H, lot 3, DBE; right, iron hook, unknown function, Unit K, lot 3, DBE.


Figure Left, native clay smoking pipe interior, Unit N, lot 4, DBE; right, native clay smoking pipe exterior, Unit N, lot 4, DBE.


Figure Left, brass belt clip, Unit N, lot 4, DBE; right, brass belt clip, Unit N, lot 4, DBE.


Figure Left, British Royal Regiment of Artillery button, brass, Unit E, lot 10, Douglass Battery West; right, musket tool, Unit K, lot 8, DBW.


Figure Left, Levanna point (ca. 900 – 1350 AD), Unit L, lot 5, Douglass Battery West; right, American shako hat fragment, Unit D, lot 5, DBW.

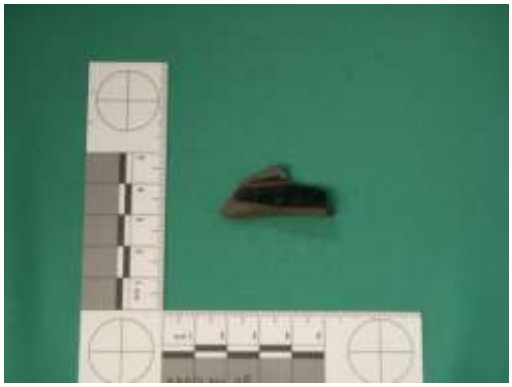



Figure Left, black basalt ceramic teapot footring, (interior), Unit B, lot 10, Douglass Battery West; right, black basalt ceramic teapot footring, (exterior), Unit B, lot 10, DBW.

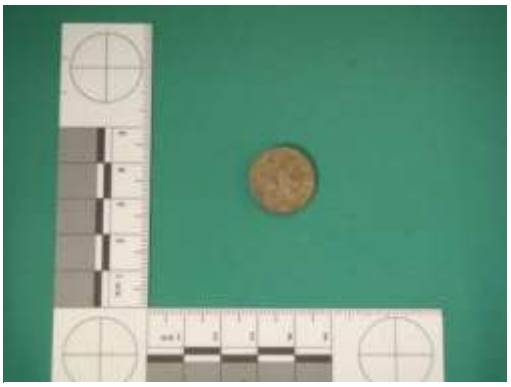



Figure Left, brass U.S. uniform button, Unit K, lot 8, Douglass Battery West; right, projectile point, Archaic period, Brewerton side-notched, (5000 – 3500 B.P.),or Meadowood (4000-2000 B.P), Unit K, lot 4, DBW.


Figure Left, iron grapeshot, 2.2 lb., Unit H, lot 6, Douglass Battery West; right, iron clasp knife, Unit E, lot 9, DBW.


Figure Left, chert core, Unit A, lot 5, Douglass Battery West; right, Brewerton corner-notched projectile point, (5000 – 3500 B.P.), Unit G, lot 5, DBW.

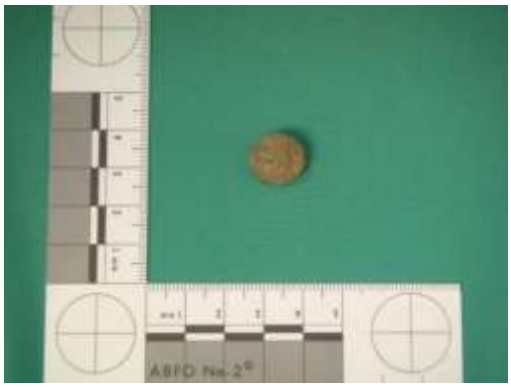



Figure Left, U.S. shako hat plate fragments, Unit C, lot 6, Douglass Battery West; right, American 'I' infantry button, Unit G, lot 3, DBW.

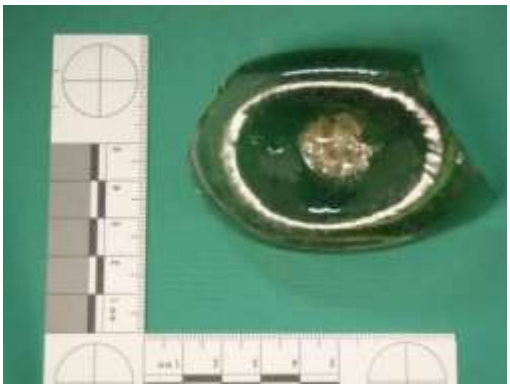
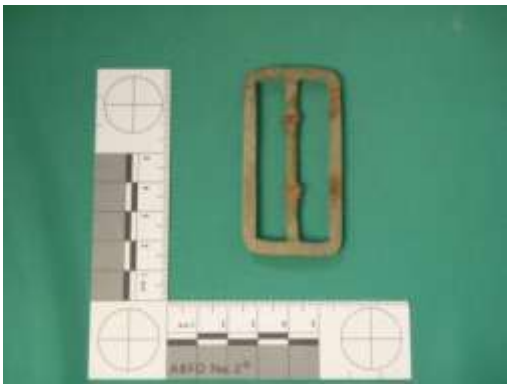



Figure Left, bottle base with pontil scar, Unit A, lot 7a, Douglass Battery West; right, brass strap buckle, Unit D, baulk, DBW.

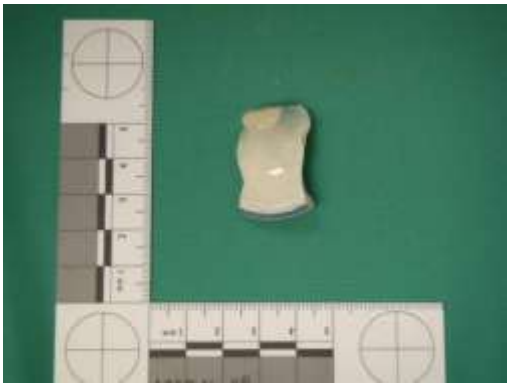
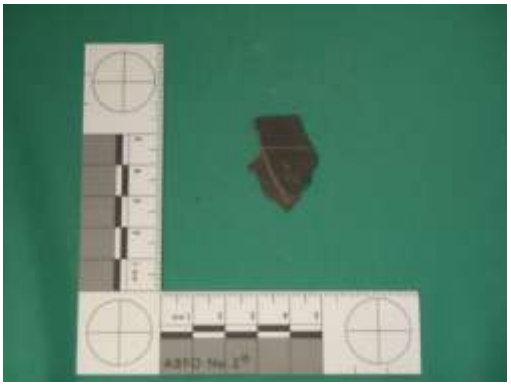



Figure Left, Pearlware egg cup base, Unit J, lot 4/5, Douglass Battery West; right, writing slate fragment, Unit J, lot 5, DBW.


Figure Left, Solid shot, Unit P, lot 7, Douglass Battery East; right, buck shot, Unit B, lot 3, DBE.

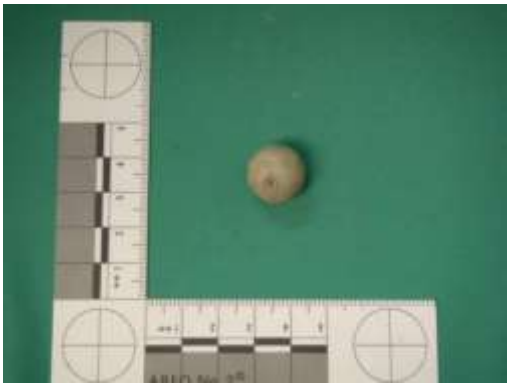



Figure Left, musket ball, Unit C, lot 2, Douglass Battery East; right, musket ball with possible teeth marks, Unit N, lot 4, DBE.

Appendix C
Maps and Images of Old Fort Erie

1814 Glegg Plan

1814 Hughes Plan

1814 Romilly Plan

c. 1814 Map from David Hobden who states that he received it from William Reese and that it is on file in the Clements Library, University of Michigan.

1815 Philpotts and Romilly Plan

1815 Nesfield/Cranfield Plan

1816 Douglass/Vallance Plan

1818 Walpole/Durnford Plan

1818 Unknown author. 'Chart Illustrative of the Siege and Defense of Fort Erie'.

1819 Walpole/Vavasour Plan

1851 Vavasour Plan

1869 Lossing Plan

1905 Cruickshank Plan

1934 Aerial photograph

2010 Aerial photograph

Undated Photographs (2)

1920 Photograph of ruins

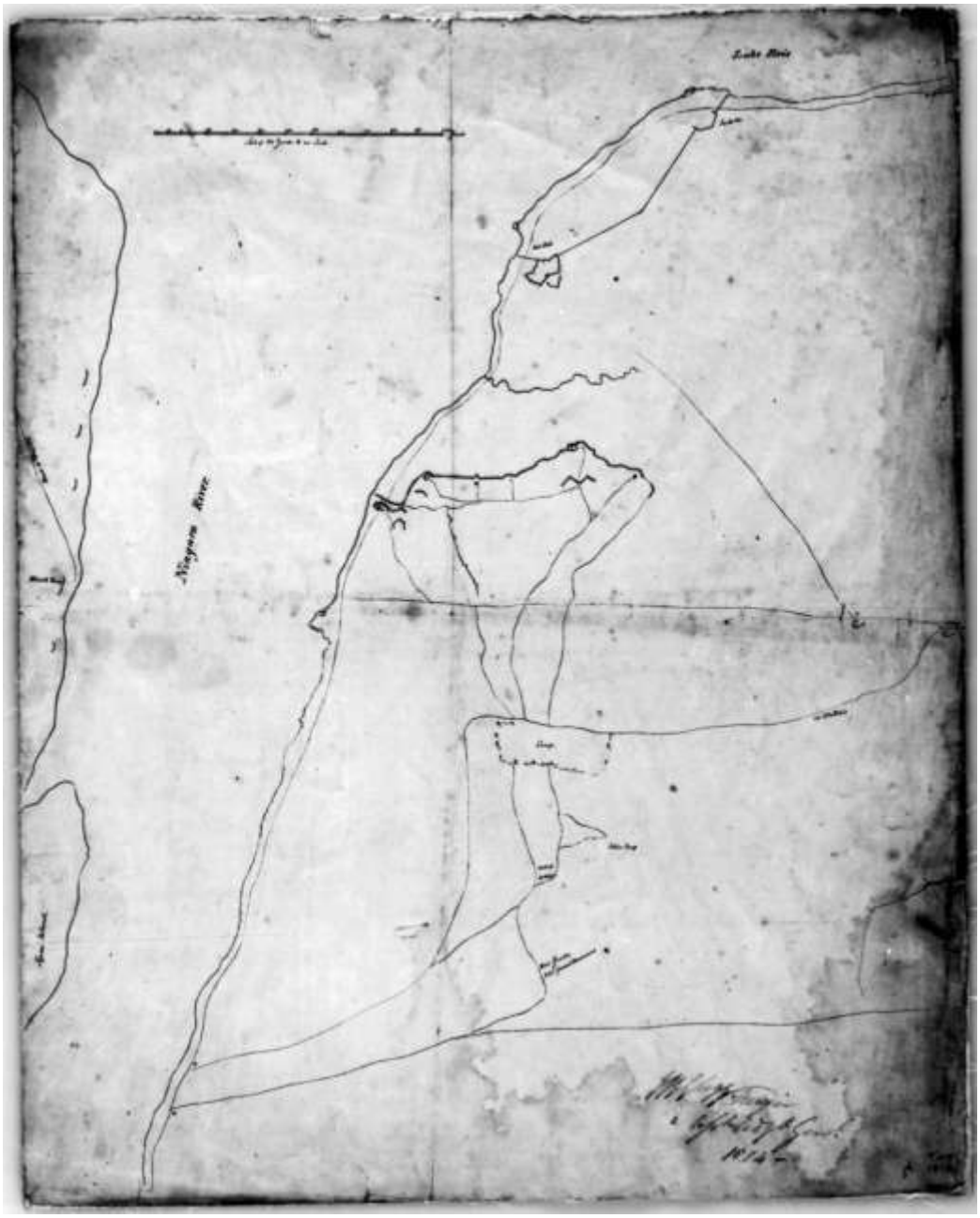


Figure 1 [1814] Sketch showing the situation of Fort Erie and position of forces for the attack by the British [Sgd] J.B. Glegg Major & Asst Adjt Genl 1814 Library and Archives Canada, NMC 4857.

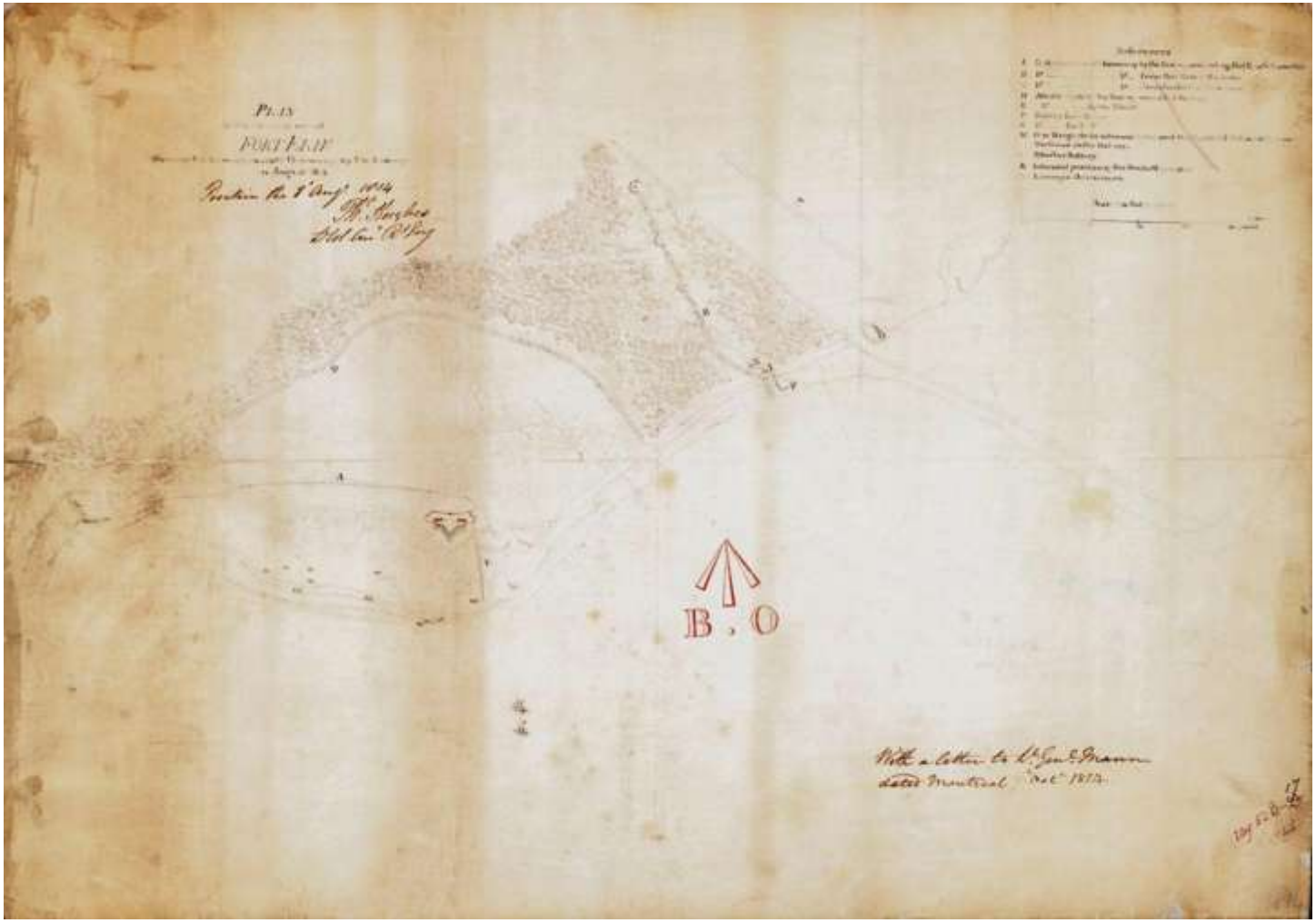


Figure 2 August 8, 1814 plan by Ph (Philip) Hughes, Library and Archives Canada NMC 3803.

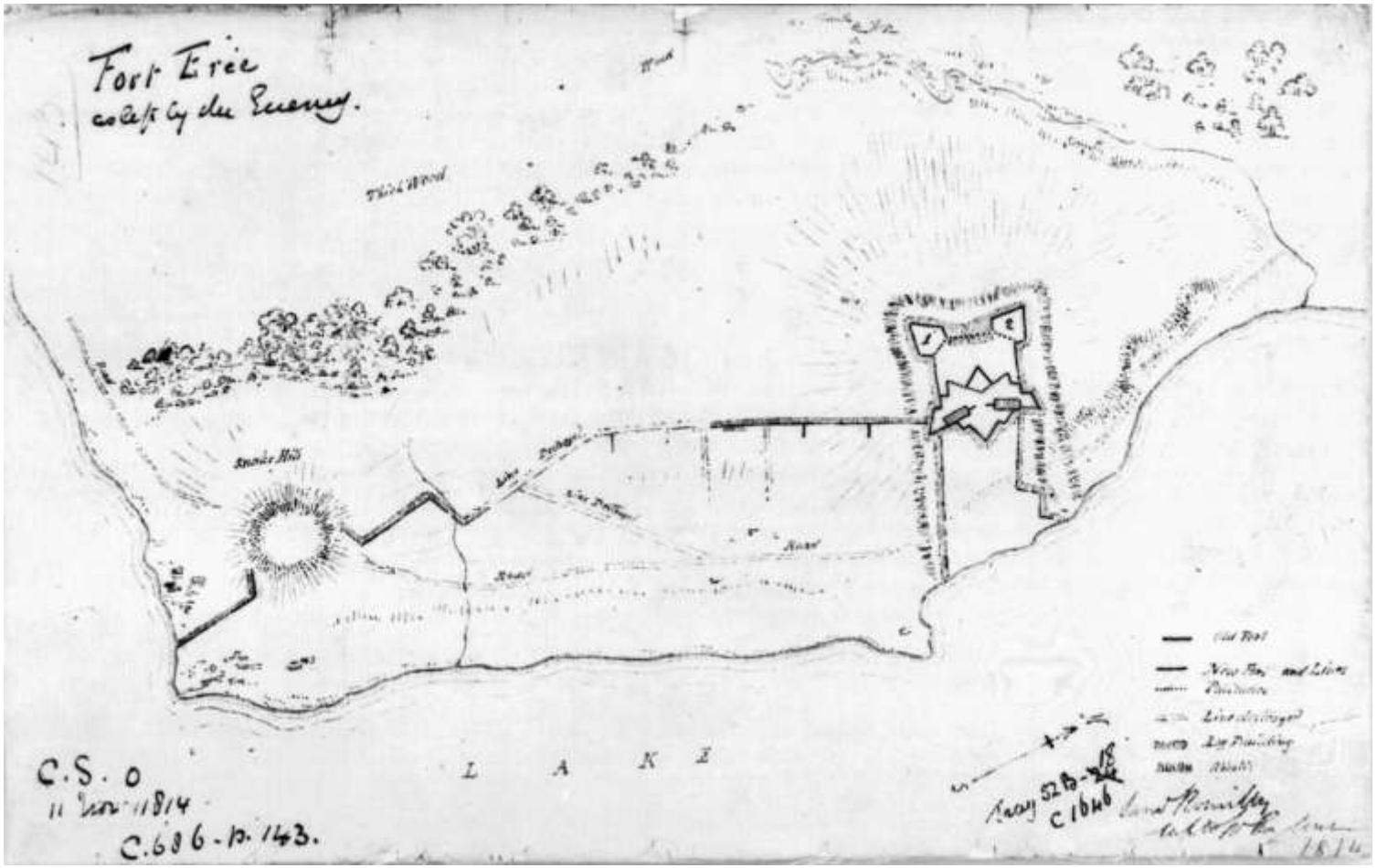


Figure 3 [1814] [Endorsed title]: 'Fort Erie as left by the Enemy.' [Sgd] Sam Romilly Lieut R1 Engineers. Library and Archives Canada, NMC 70956.

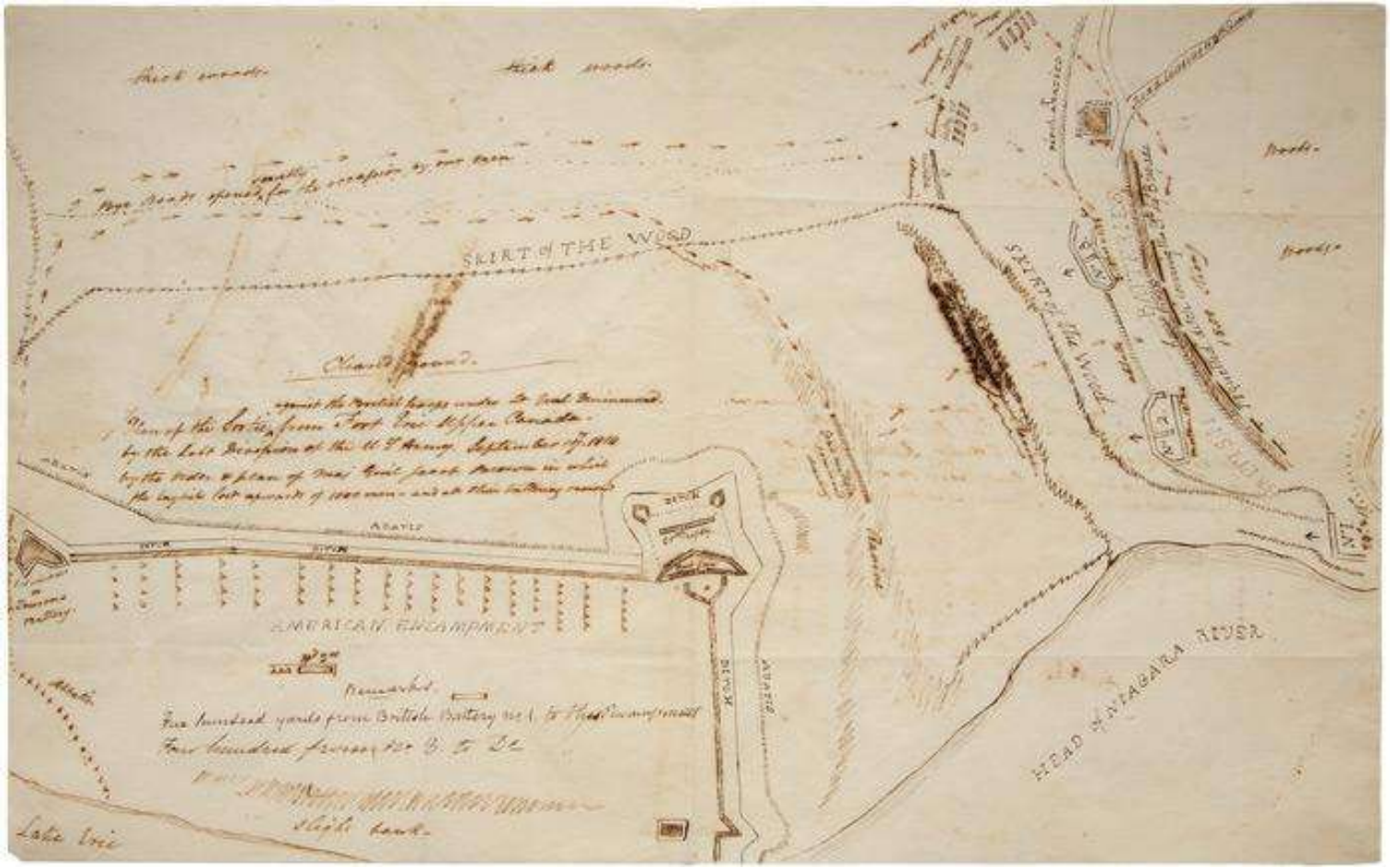


Figure 4 Map from David Hobden from William Reese and on file in the Clements Library, University of Michigan.

Figure 5 [1815] Plan of the Attack made upon Fort Erie (Upper Canada) by the Right Division of the British Army, under the Command of Lt Genl Drummond in August and Septr 1814 [Sgd] George Philpotts Lieut Royl Engineers, Capt Romilly Comg Rl Engineers Niagara Frontier. G. Nicolls Lt. Col. Cg R1 Engineers in Canada Quebec 27th July 1815, Library and Archives Canada, NMC 22340.

Figure 6 [1815] Plan of the Operations of the British Army, in front of Fort Erie, in the Months of August & September 1814 under the Command of Lieutenant General Sir Gordon Drummond, Knight Commander of the Bath &c. &c. Copied from the Original of Lieut [W.A.] Nesfield by Geo. D. Cranfield D.A.Q.M. Genl. Kingston. Upper Canada. 3d May 1815, NMC 22341.

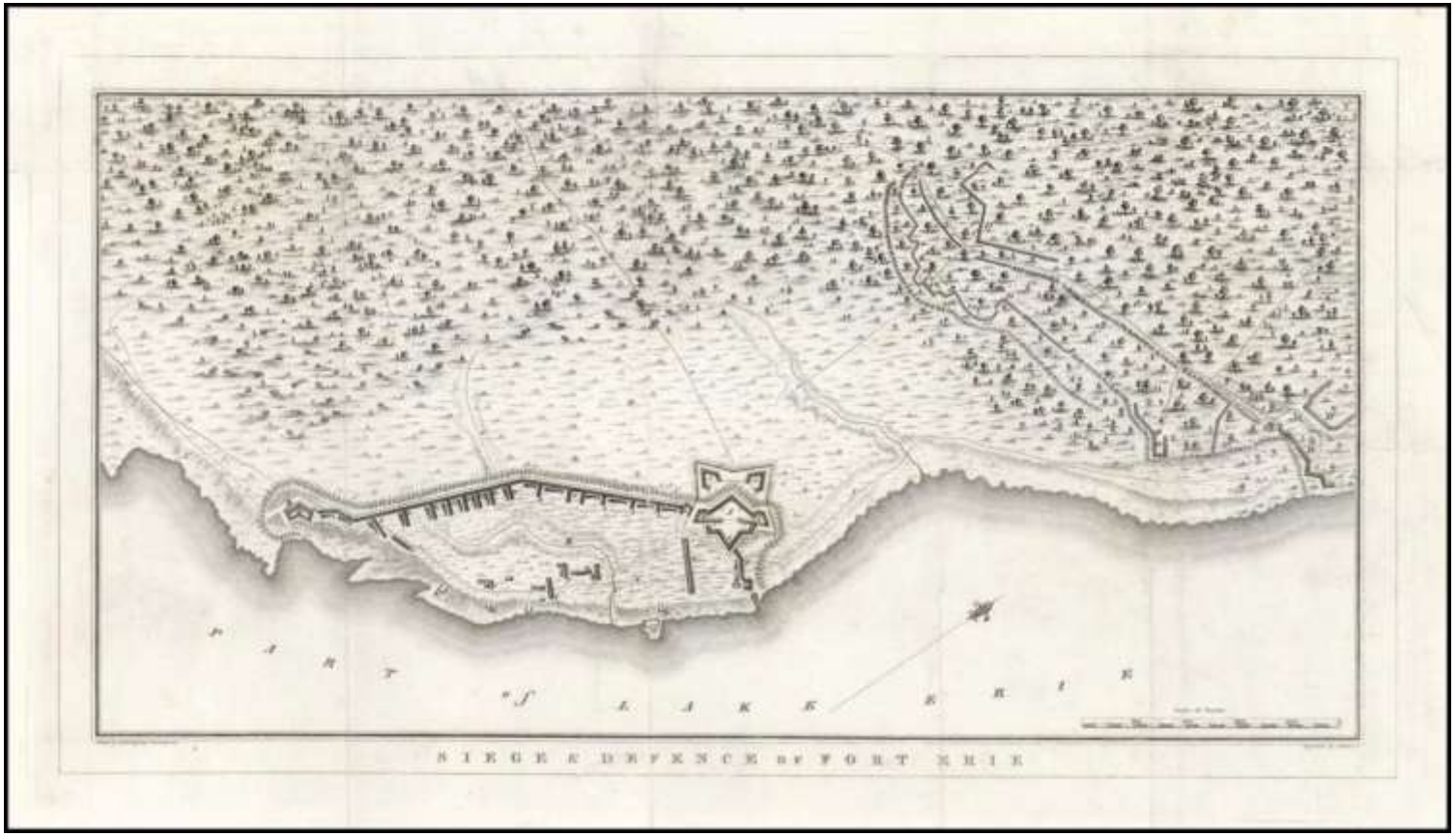


Figure 7 1816 Siege and Defense of Fort Erie, by D.B. Douglass and John Vallance, in Dennie, Joseph 1816 *Attack on Fort Erie*. Portfolio Magazine, Philadelphia.

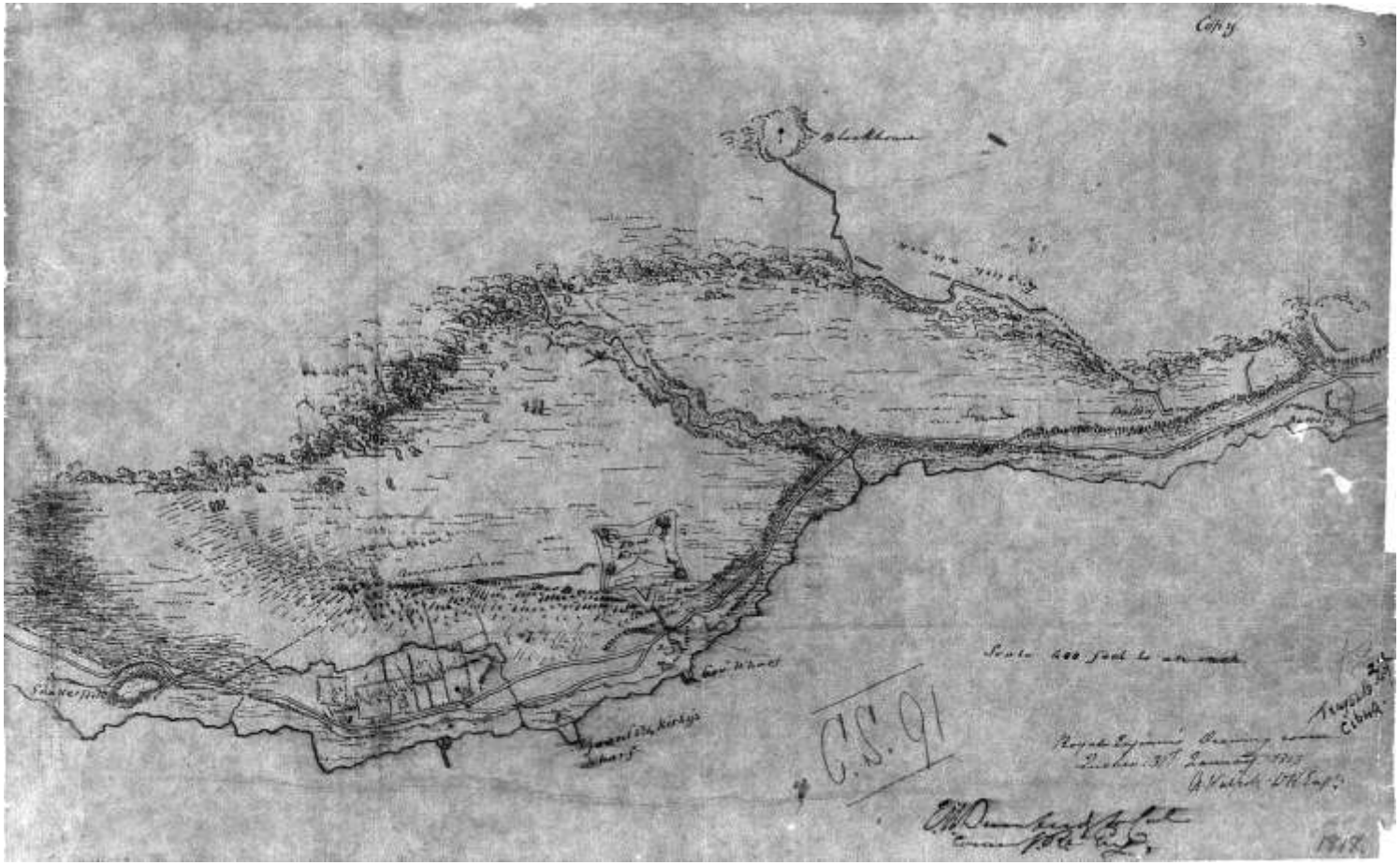


Figure 8 1818 Royal Engineers plan of Fort Erie by A. Walpole and E.W. Durnford. Library and Archives Canada, NMC 3804.

Figure 9 1818 Chart Illustrative of the Siege and Defense of Fort Erie.

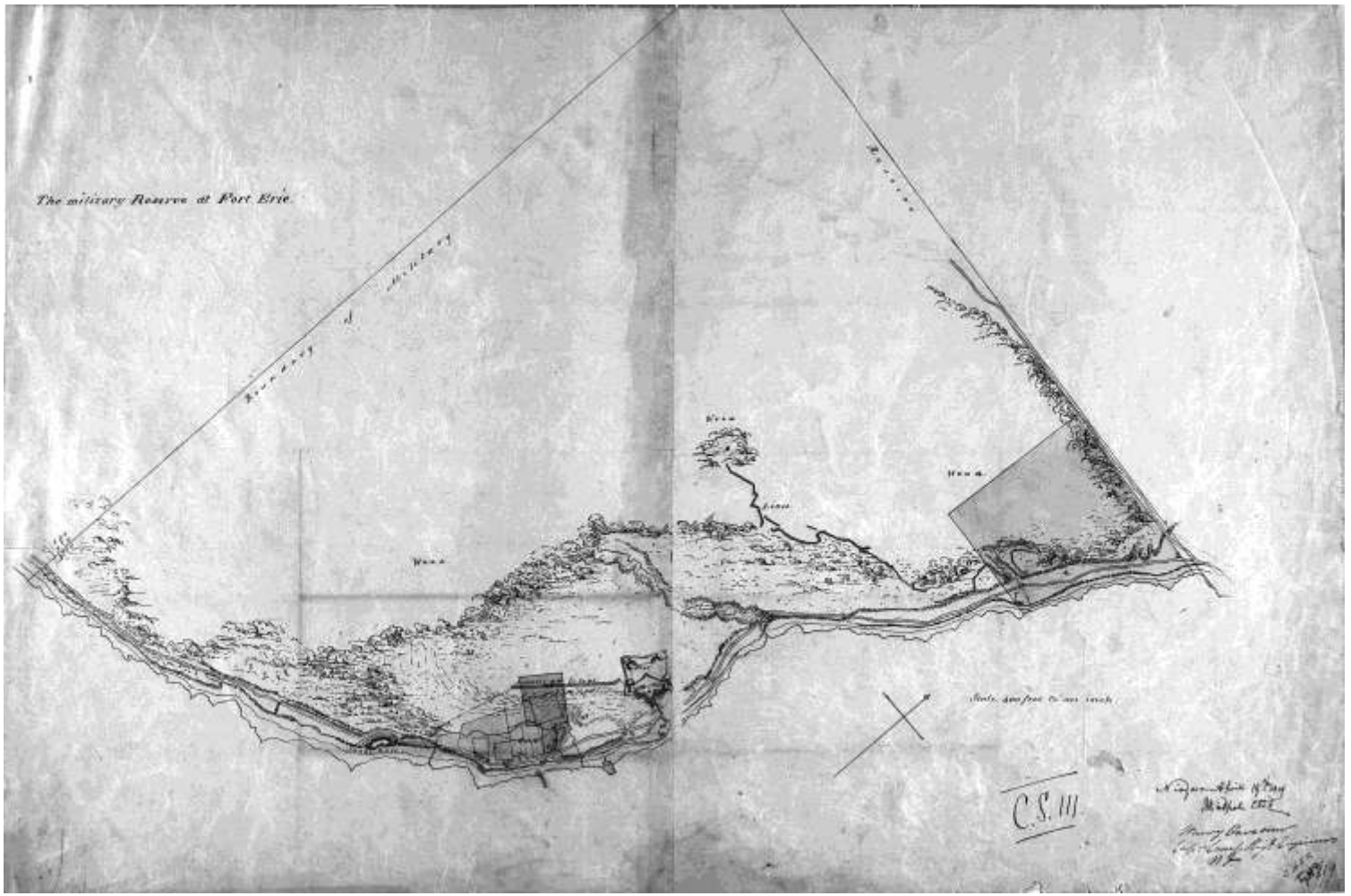


Figure 10 1819 plan of Fort Erie and Military Reserve, by A. Walpole and Captn. Henry Vavasour, Royal Engineers Library and Archives Canada, NMC 22342.

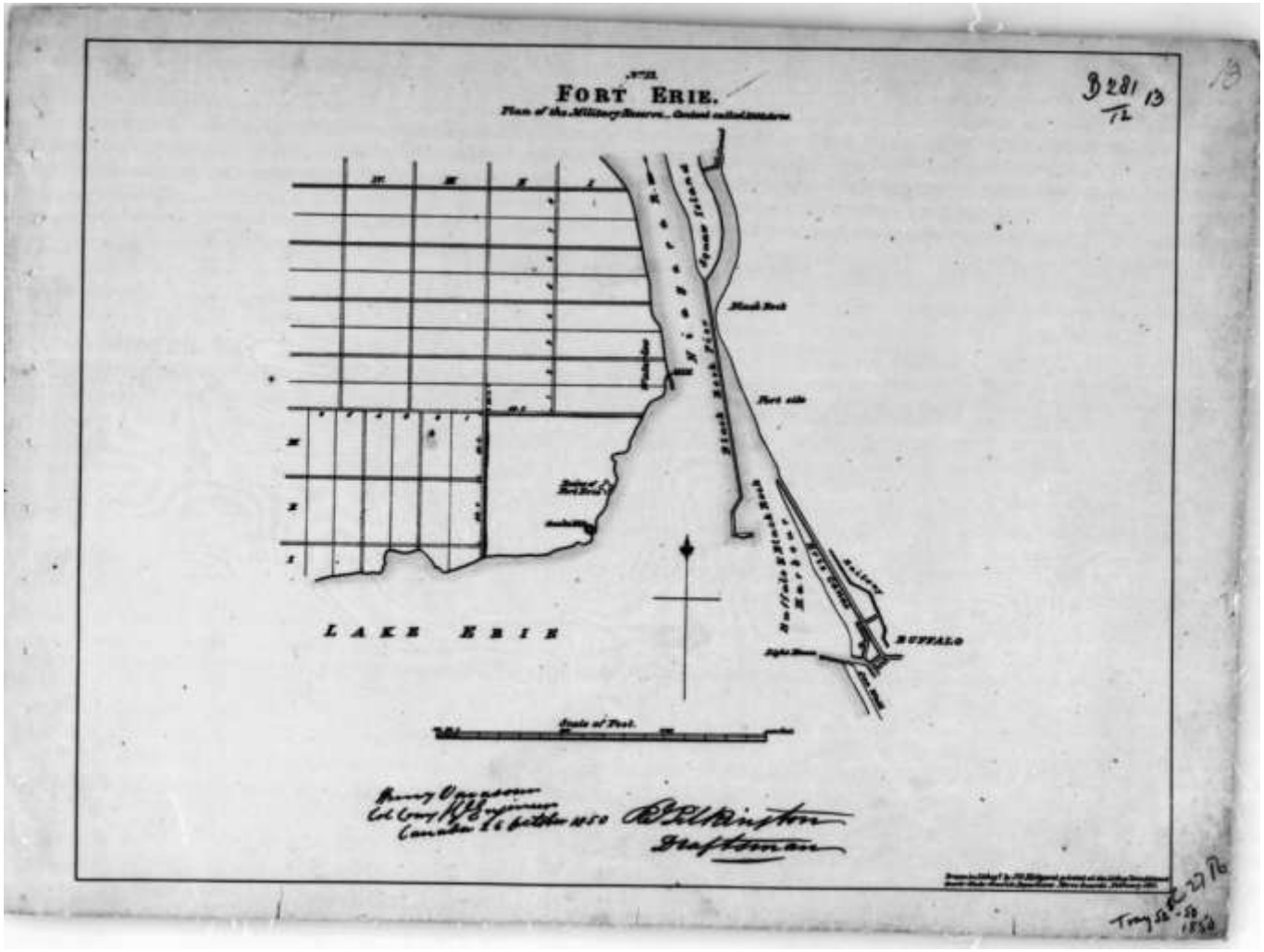


Figure 11 [1851] No. 13 Fort Erie, Plan of the Military Reserveby Henry Vavasour, Royal Engineer showing 'Ruins of Fort Erie'. Library and Archives Canada, NMC 3811.

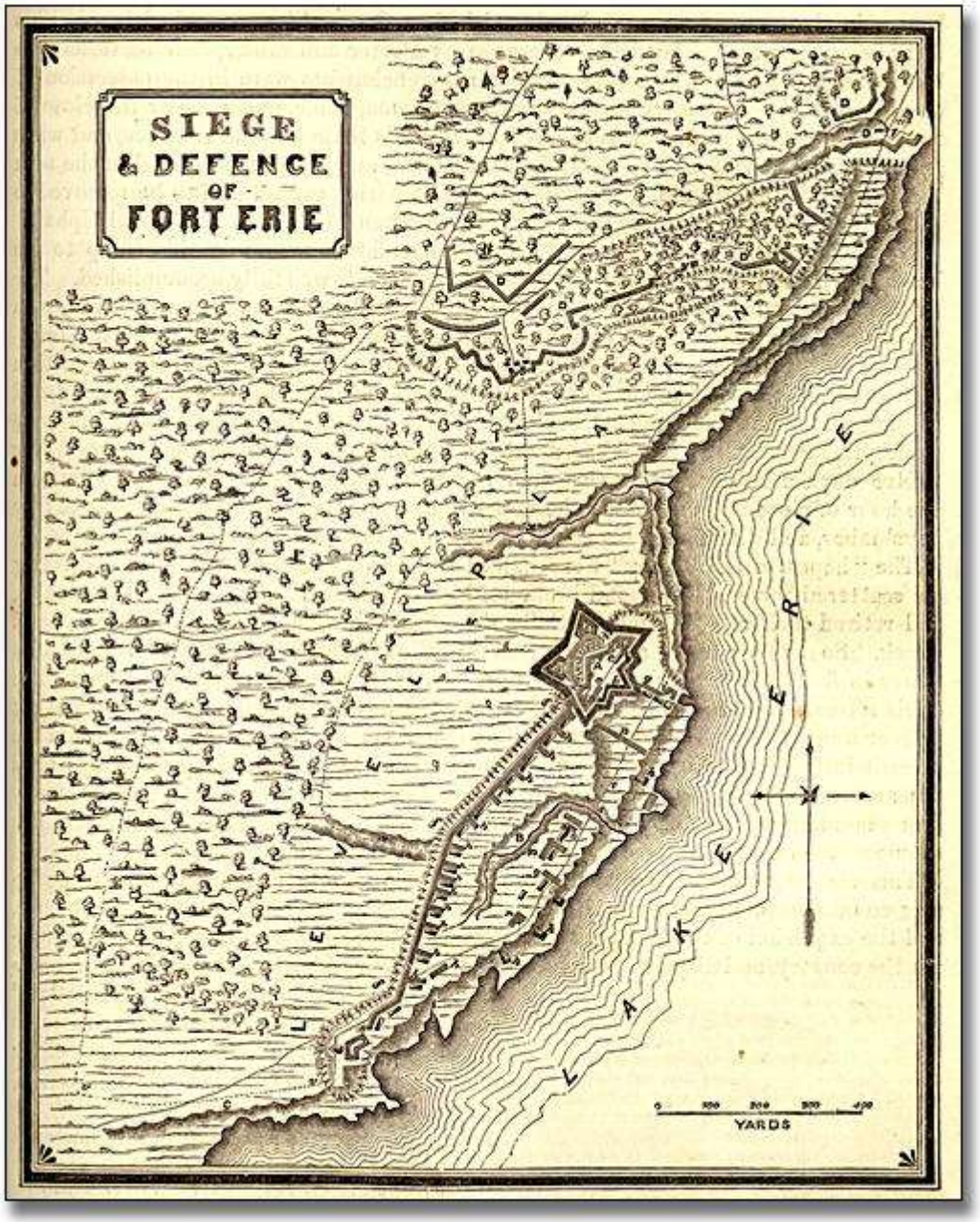


Figure 12 Plan of Fort Erie from *Pictorial Field-book of the War of 1812,* by Benson J. Lossing, 1869. Illustration. Reference Code: 971 .034 LOS, page 839 Archives of Ontario Library.

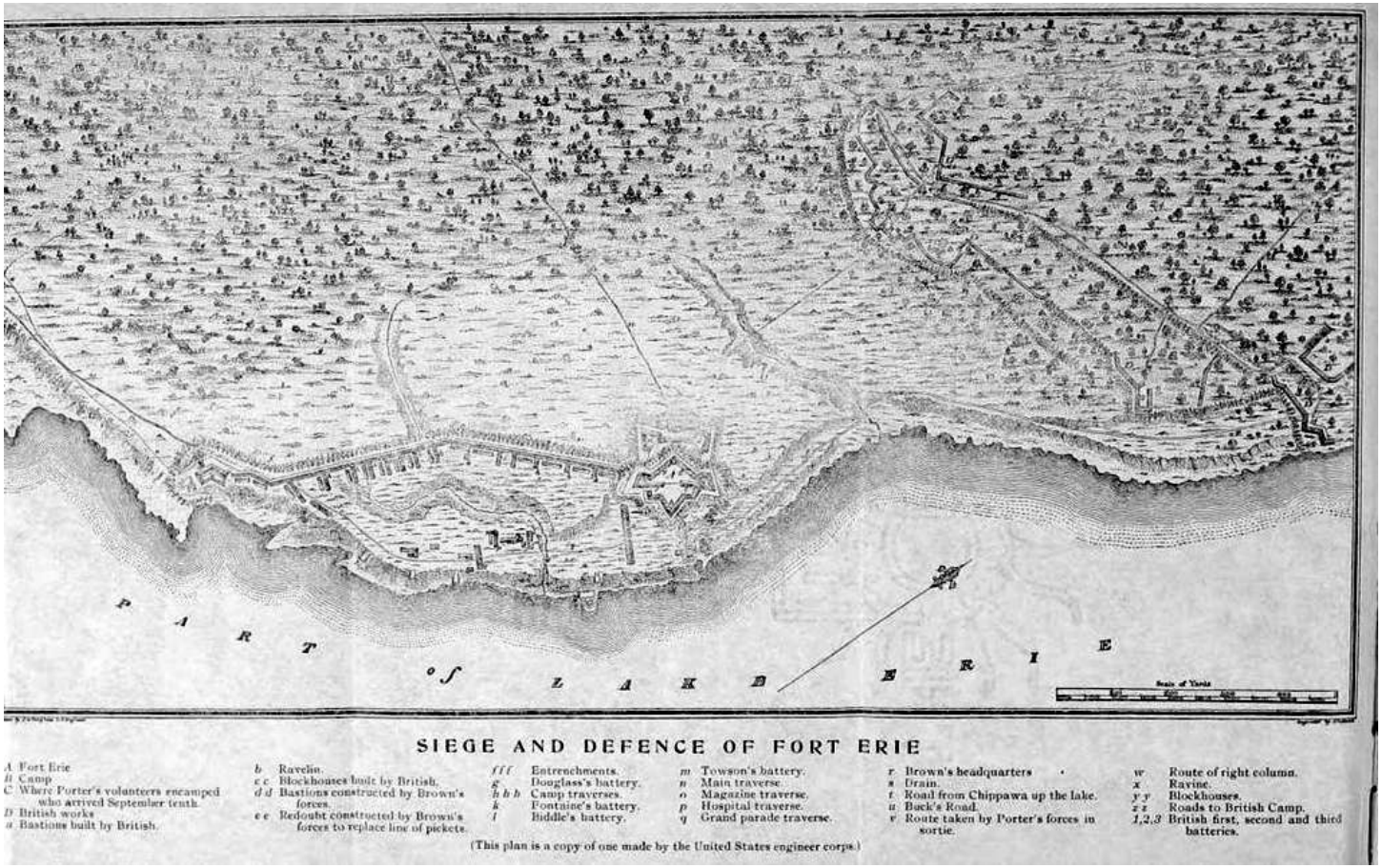


Figure 13 1905 Cruickshank (copy of Douglass 1816 plan).

Figure 14 1934 Aerial photograph showing Fort Erie grounds with detail below.

Figure 15 2010 Satellite image of Old Fort Erie National Historic Site.

Figure 16 View of entrenchments at Old Fort Erie, undated photograph on file at Old Fort Erie, NHS.

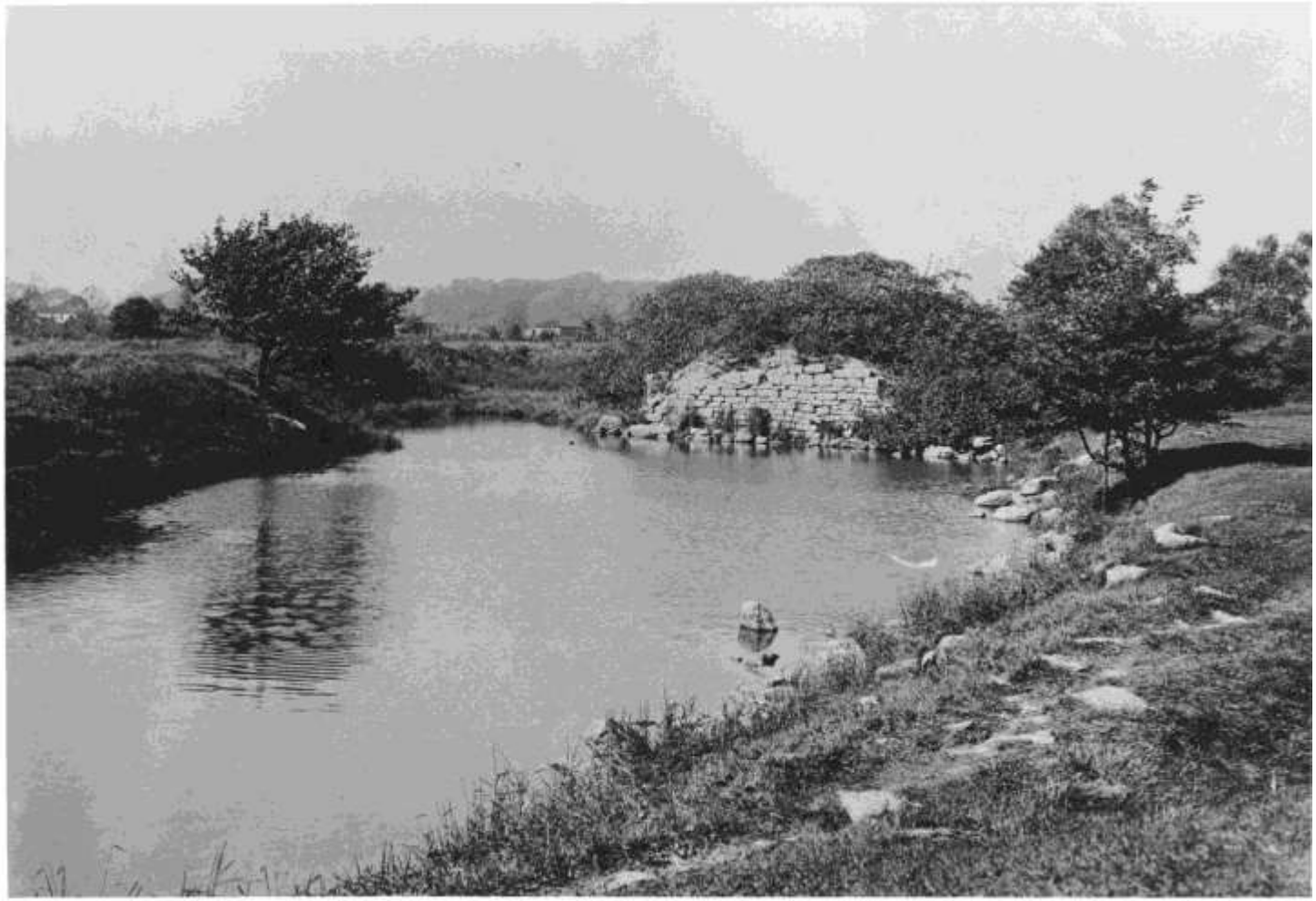


Figure 17 View of ruins of bastion at Old Fort Erie showing inundated defensive ditch. Undated photograph on file at Old Fort Erie, NHS.

Figure 18 Ruins of Fort Erie, 1920, M. O. Hammond, M. O. Hammond fonds, Black and white photograph, Reference Code: F 1075-9-0-22, Archives of Ontario.

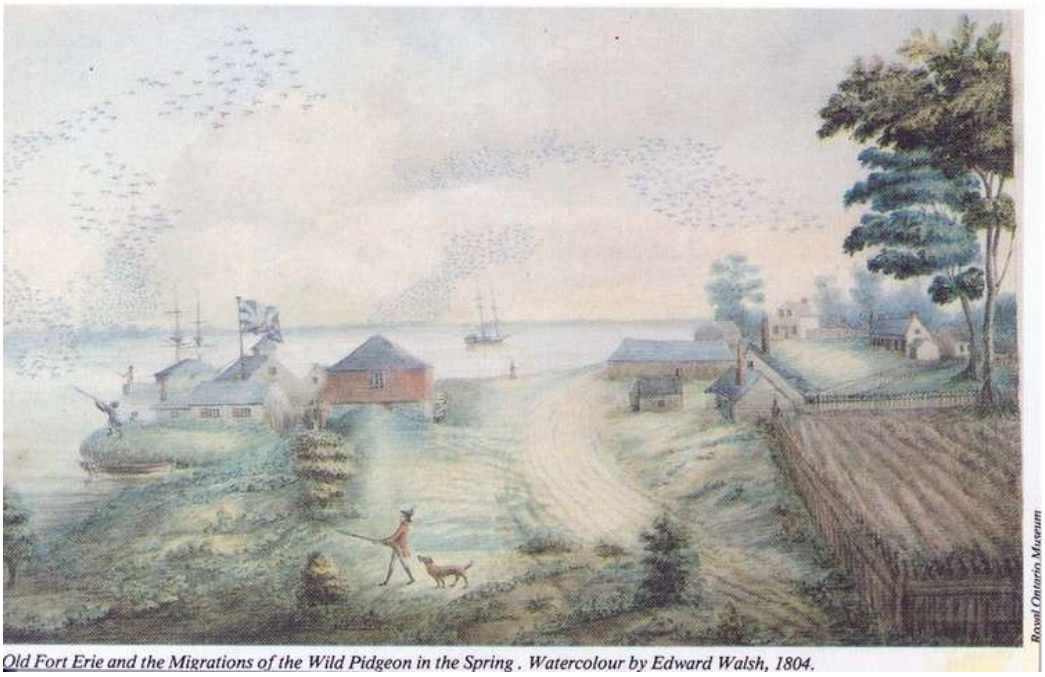


Figure 19 Old Fort Erie With the Migration of Wild Pigeons, dated 1804; by Edward Walsh, Sigmund Samuel Collection, 952.218, ROM2006_7733_1.

Figure20 Fort Erie Park - Old Fort Erie Francis J. Petrie Collection, September 5, 1930. Niagara Falls Public Library Digital Collections, Record ID 94893.

Figure 21 Official guide to Niagara - The ruins of old Fort Erie, Scan from the book *Official Guide Niagara Falls, River. Electric, Historic, Geologic, Hydraulic by Peter A. Porter with illustrations by Charles D Arnold published 1901,* Niagara Falls Public Library Local History Collection, Record ID 91253.

Figure 22 Title The Old Fort Erie – 1939, Francis J. Petrie Collection, July 30, 1939. Niagara Falls Public Library Digital Collections, Record ID 94943.

Figure 23 Old Fort Erie during its reconstruction (1937-1939), Francis J. Petrie Collection. Niagara Falls Public Library Digital Collections, Record ID 94886.

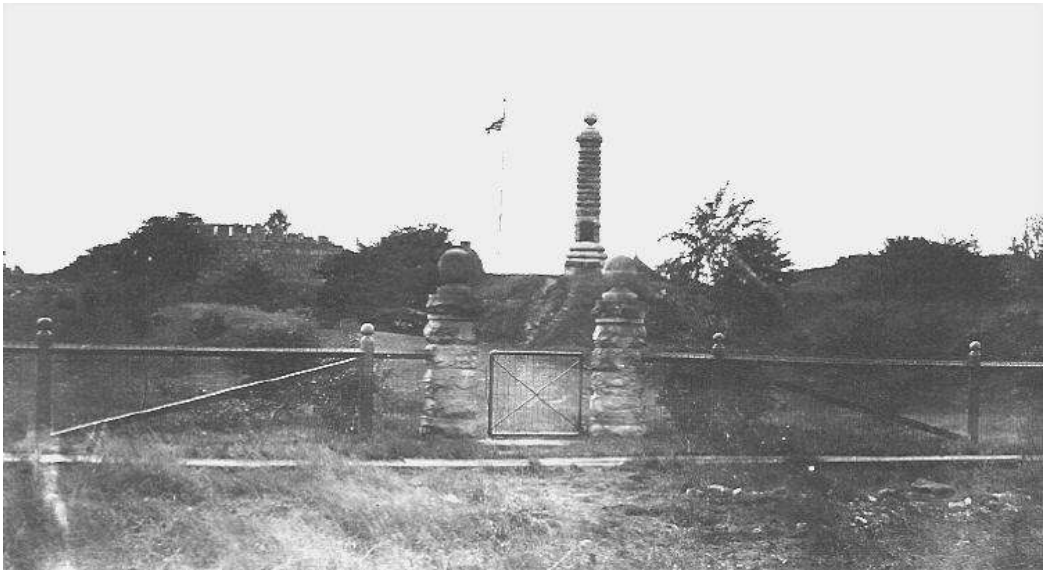


Figure 24 Old Fort Erie Park Ruins, Francis J. Petrie Collection, Date 1910. General Photograph Collection, Niagara Falls Public Library, Record ID 94822.

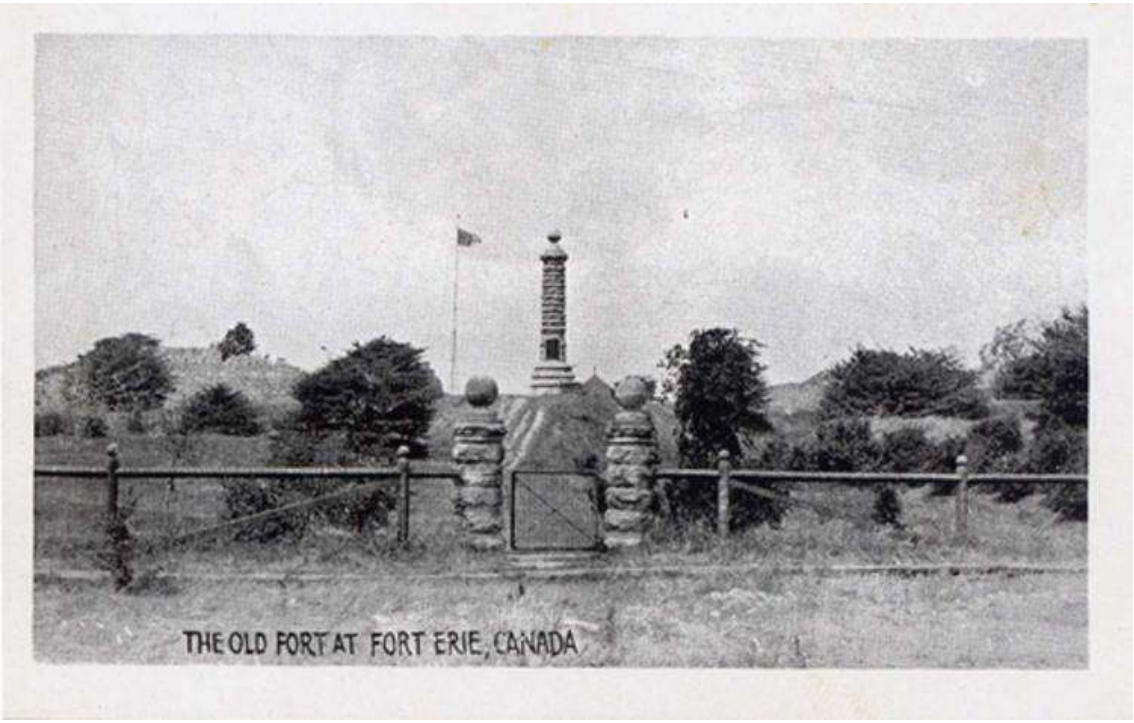


Figure 25 The Old Fort at Fort Erie, Canada, Photographer Unknown, General Photograph Collection, postcard. The Petrie Collection, Niagara Falls (Ont.) Public Library, Record ID 362530. Probable date – ca. 1910.

Figure 26 Park scene showing the Old Fort at Fort Erie, Canada, Postcard, date Unknown, General Photograph Collection, Fort Erie (Ont.), Niagara Falls (Ont.) Public Library, Record ID 362528.

Figure 27 Ruins of Fort Erie Canada, Postcard Collection, Also available as a black and white postcard which was mailed in Fort Erie on July 23 1906. Niagara Falls (Ont.) Public Library, Record ID 294583.

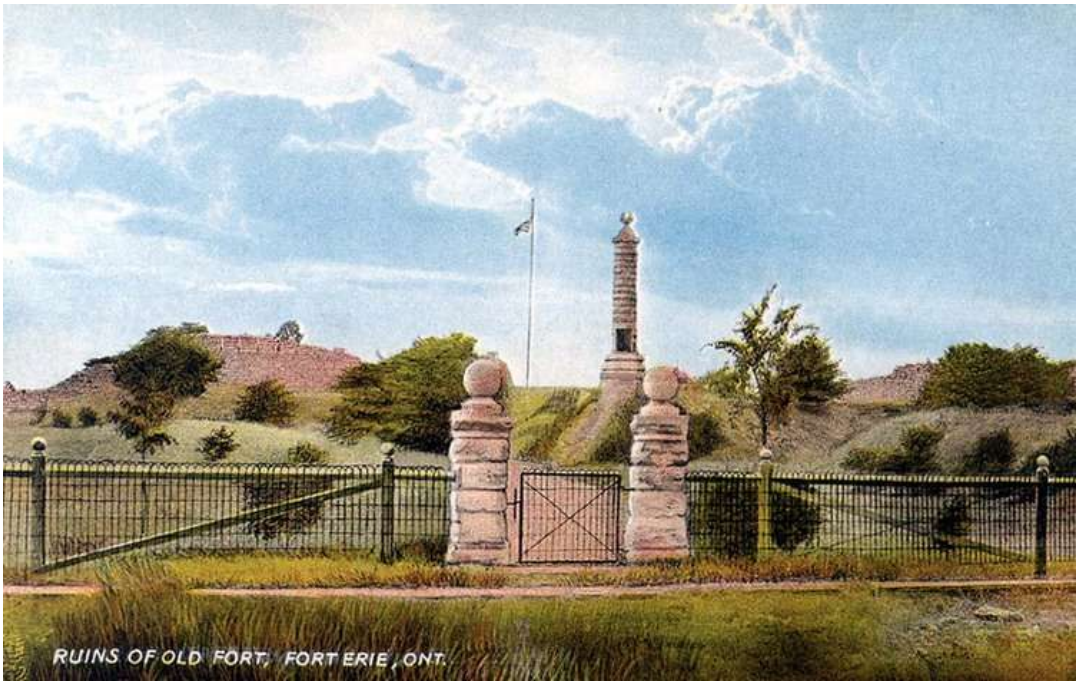


Figure 28 Ruins of Old Fort Erie, Fort Erie, Ont., Postcard, Niagara Falls (Ont.) Public Library, Record ID 369909. Probable date – ca. 1910.

Figure The Entrance to the Old Fort Erie, Francis J. Petrie Collection, Niagara Falls Public Library Digital Collections, Record ID 94932, probable date, post-1939.

Figure 30 Photograph dated 1939 showing lakeside entrance to fort. The drain found in unit B can be seen in the mid-foreground draining the ditch surrounding the ravelin.

Appendix D
Letters from Commander Dobbs to Sir James Yeo, Commodore – August 1814

Dobbs to Yeo, York Harbour, 27 July 1814
His Majestys Sloop Star
York Harbour 27th July 1814
Sir/
I have the honor to inform you, that
understanding the 89th were expected at York
and that Lieut General Drummond was anxious
to cross the Niagara with them, I sent away a Boat
across the Lake to Fort George with orders to Lieut
Radcliffe to bring the Netly and Magnet over as
fast as possible, that we might take a good
effective force at one trip - The Charwell
arrived on the 22nd and the Netly & Magnet on the 23rd, on
the 24th we embarked Colonel Morrison and the 89th
and on the same day landed them at Fort George
At day light the next morning Lt Gen Drummond
arrived and soon after arrangements were made
for moving up both banks of the River, the
Marines being landed on the left bank moved
up with a party under Colⁿ. Tucker to drive
the enemy our of Lewiston, where a good deal
of Camp Equipage, Baggage, as well as Sutlers
Stores fell into our hands. Having myself
gone up with Lieutenant Radcliffe and Rovoley
and
Commodore Sir James L Yeo
Commander in Chief
and all the seamen of the Squadron Armed in
Batteaux to cooperate in any way that might be
useful, We in the afternoon crossed over the troops
and guns from Lewiston to Queenstown and
then returned to our vessels, in the mean time a
more desperate action had taken place between
the two Armies, and the next morning I received
a message requesting me to wait and take the
wounded over to York, however as the wind was fair
and as the wounded men had not reached Fort George
I thought a reinforcement of troops after so severe
a loss as we had met with would be a more acceptable
piece of service, I therefore sailed with all the
Squadron for this place and am now buissiley employ
-ed in embarking six hundred of De Wattevilles Regiment
as well as the recovered soldiers, These brave fellows
came out of the Hospitals, and requested me to carry
them over to join their Gallant Comrades, We shall
Sail immediately and I shall lose no time in
returning for the remainder of De Wattevilles
and bringing over the wounded.
I have the honor to be
Sir
your most obedt humble servant, Commander

Dobbs to Yeo, Niagara River, 7 August 1814
His Majesties Sloop Star Niagara River,
7th August 1814

Sir/
I have the honor to inform you that
the American Squadron made their appearance off this place Yesterday
The Charwell,Netly and Magnet
Sailed form York on the 5th with Troops and Stores the two former got safe in here on the morning of the 6th, but the Magnet being by some unfortunate circumstance to leeward was obliged to run on shore and on the approach of the American Squadron, she was blown up by Lieutenant Hawksworth, who reports to me that all the Stores were saved, I hope Sir you will not think that I have run this Squadron too long, the situation of General Drummonds
Army required some risque to be run for their support

I have the honor to be
Sir
you most obedt humble servant

Commander,

To Commodore Sir Jas L Yeo
Commander in Chief

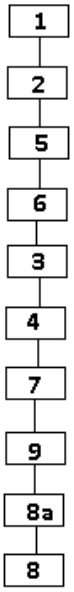
Dobbs to Yeo, Fort Erie, 17 August 1814
Head Quarters before Fort Erie
17th August 1814
Sir
I have the honor to inform you that
Acting Lieutenants Stevenson and Noble with
Mr Harris Master, and the forty seamen I had
left to defend the Sea batteries at York,
arrived at Head Quarters on the 14th and so anxious
were these men to join us, that they actually
Marched from Fort George, to this place in one
day, a distance of 32 Miles, requesting the officers
not to Stop them on the Road I have now Sir to inform you
that General Drummond having determined
to attack Fort Erie, and having expressed a wish
for the assistance of the Marines and Seamen
I instantly offered to lead them on to the assault
We were attached to, and led on the column
commanded by Colonel Drummond, Mr Arthur,
Midshipman with six Seamen carrying short
ladders leading the advance Lieutenant Noble
with Mr Hinde Mate and twenty Seamen
To Commodore Sir Jas L Yeo Carrying
Commander in Chief
(p. 2)
carrying longer ladders, Lieutenant Stevenson
with Mr Harris Master and Mr Grindred Mate
following with the rest of the Seamen and
Marines (the former armed with pikes) the 104th
and the 41st followed. In this order we left our Batteaux
at 2 o'clock, and having halted for some time, till
the attack on the right had been made, we then
moved on and were soon in the thick of it, I was
knocked down close to the Fort, and never got into it
but the brave Officers and men under my Command
most nobly did, and never left it till an explosion
took place which drove all out, and an Order was
given to Retreat, Our loss has been very severe
ten Seamen and eleven Marines Killed, fifteen
Seamen and eighteen Marines Wounded and Missing
I fear a number of the latter were blown up Lieut
Stevenson, Mr Harris Master and myself were Wounded
Mr Hinde Masters Mate had his thigh broke and was
left in the Ditch, where I fear he must have
perished, If there is any inaccuracy in this I trust
you will excuse it, as my head aches so intol
erably I can scarce hold it up
I have the honor to be
Sir
your most obedt humble servant
Commander O

Yeo to Dobbs, Kingston 22 August 1814
H.M. S Prince Regent
Kingston 22 August
Sir
The Commodore desires me
inform you that he is very busy
this day but will write you a private letter
tomorrow. In the mean time
I am to acquaint you from him that
he highly approves of all the steps
you have taken. but does not wish
the Seamen and Marines under
your command to be employed in
any general attack of the
army

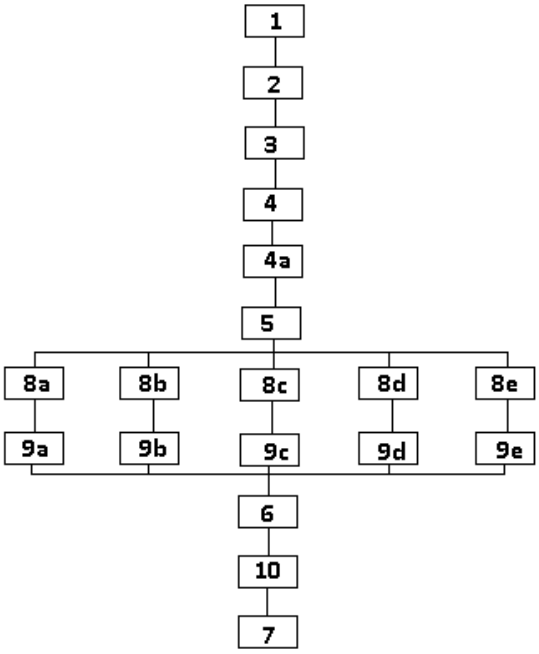
To Alex^{r} Dobbs Esq^{r}
unless under very particular
circumstances.
I have the honor to be
Sir
Your most obedient
humble servant
J H Mallard Sec^{y}

Appendix E
Stratigraphic Matrix Diagrams

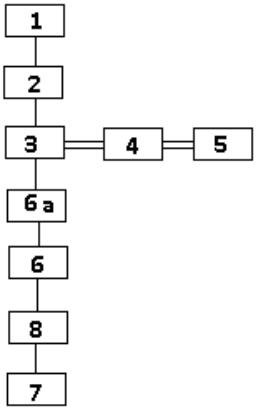
Douglass Battery East



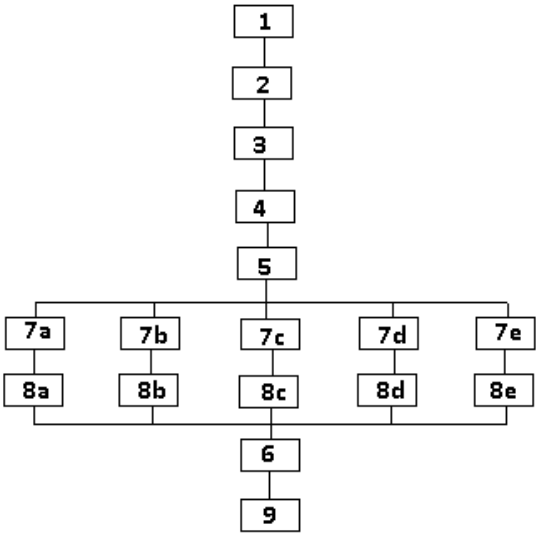
DBE Unit A



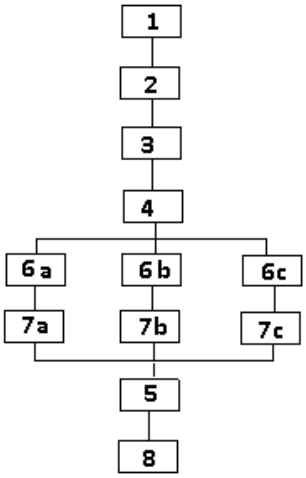
DBE Unit B



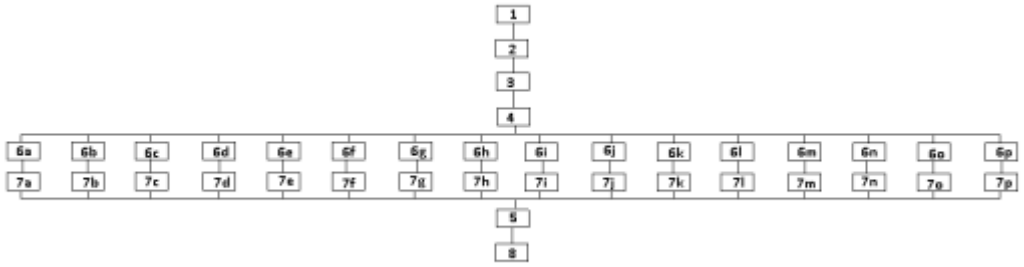
DBE Unit C



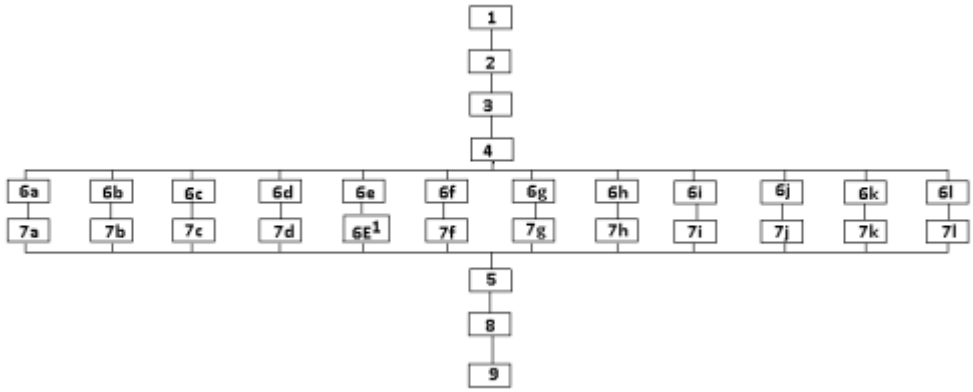
DBE Unit D



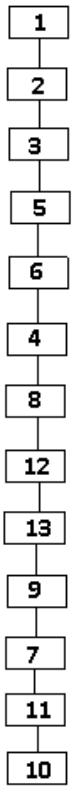
DBE Unit E



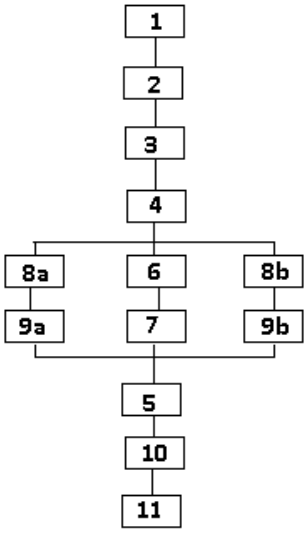
DBE Unit F



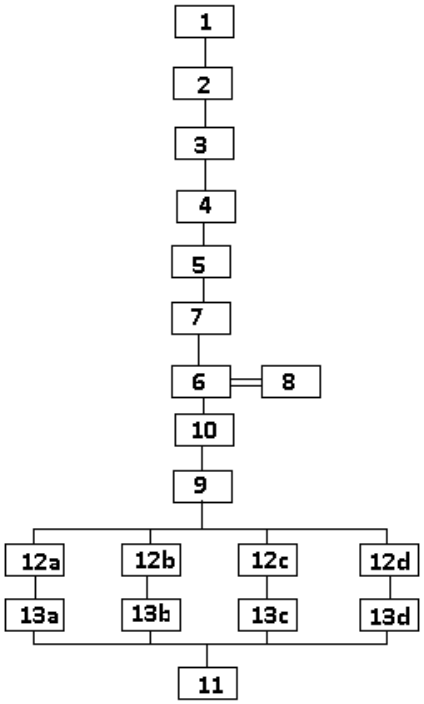
DBE Unit G



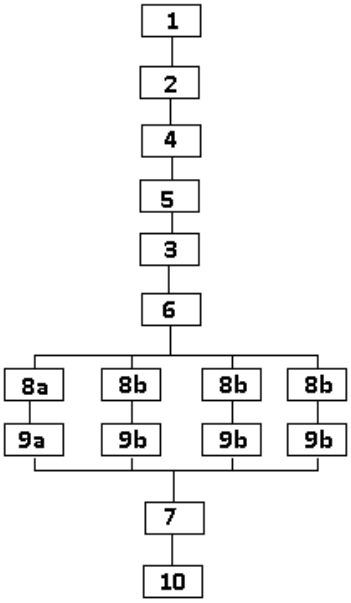
DBE Unit H



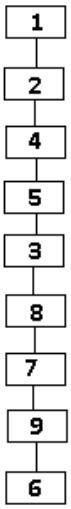
DBE Unit J



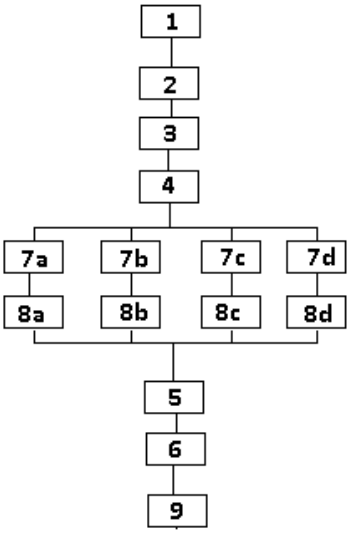
DBE Unit K



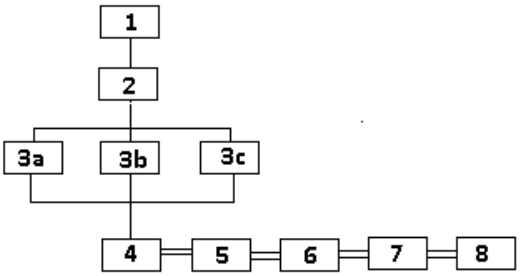
DBE Unit L



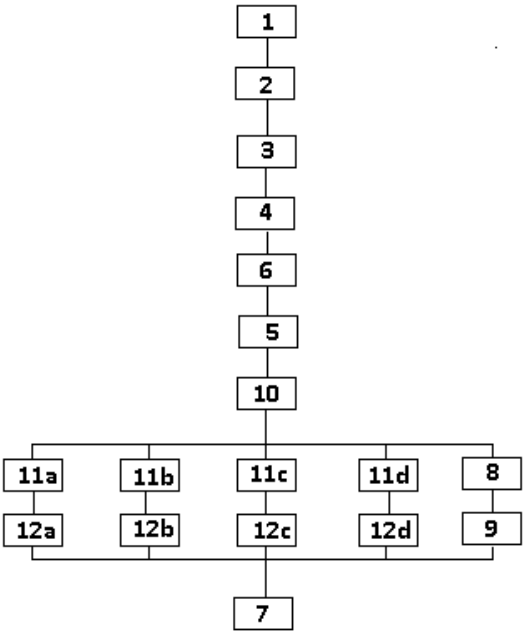
DBE Unit M



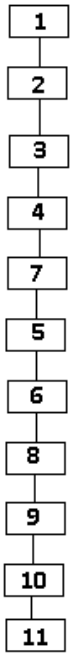
DBE Unit N



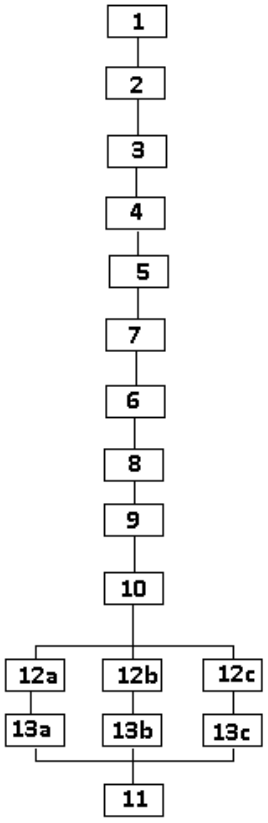
DBE Unit P



DBE Unit Q

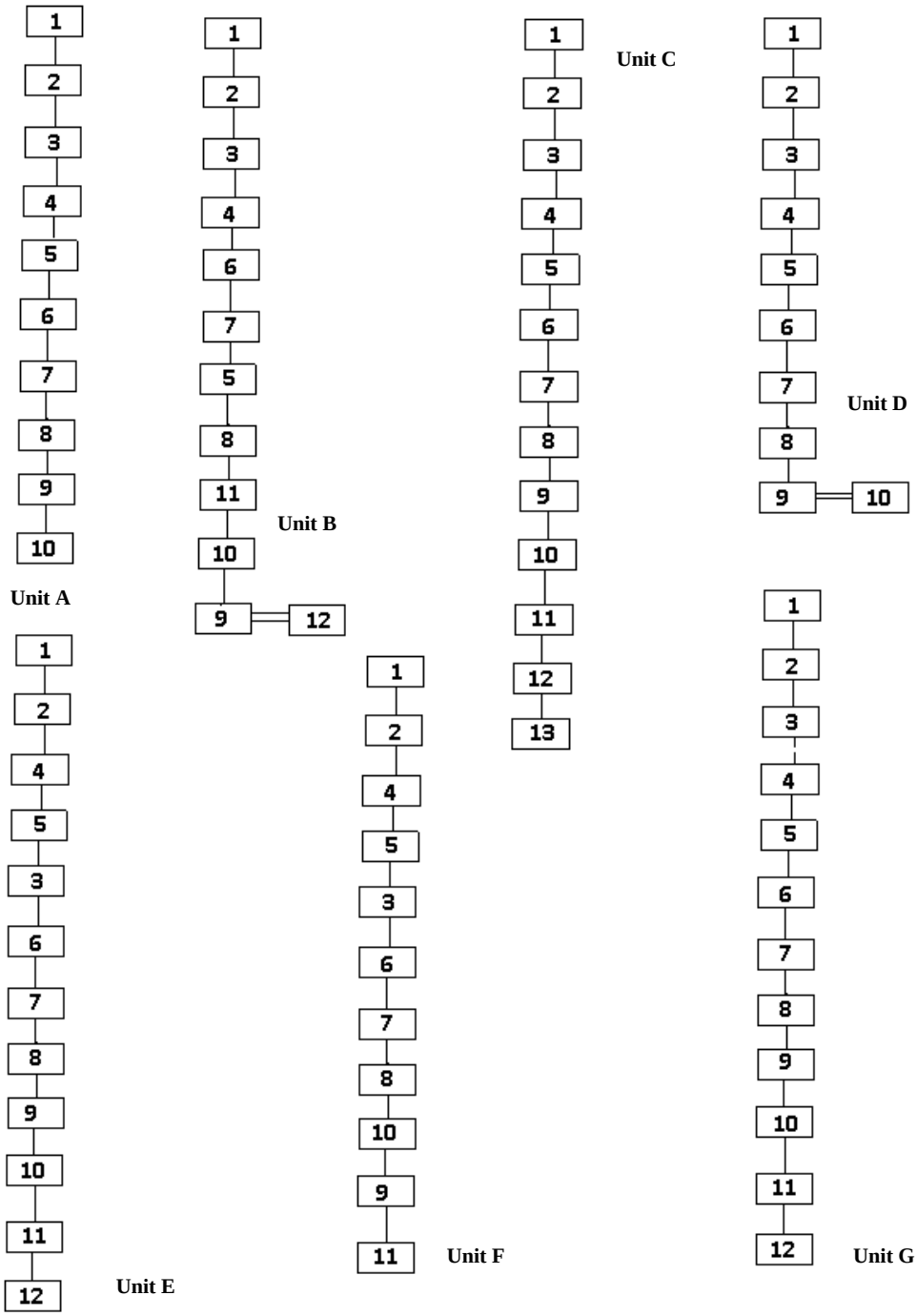


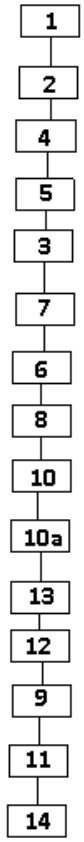
DBE Unit Q



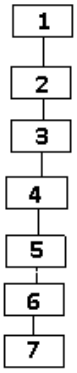
DBE Unit R

Douglass Battery West

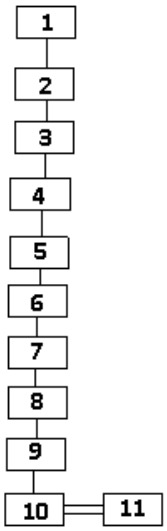




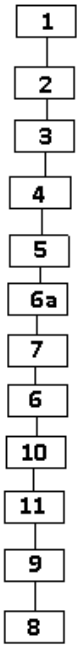
Unit H



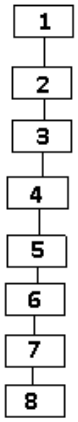
Unit J



Unit K



Unit L



Unit M

Appendix F
Unit Artifact Tables

Douglass Battery East

A	639	100.0%
Architectural	66	10.3%
Arms and Military	2	0.3%
Domestic Group	2	0.3%
Faunal/Floral	88	13.8%
Food Preparation/Consumption	49	7.7%
Furniture	2	0.3%
N/A	97	15.2%
Native	81	12.7%
Personal	3	0.5%
Unassigned Material	249	39.0%

B	289	100.0%
Architectural	44	15.2%
Arms and Military	5	1.7%
Clothing Group	1	0.3%
Faunal/Floral	71	24.6%
Food Preparation/Consumption	40	13.8%
N/A	104	36.0%
Native	17	5.9%
Smoking	1	0.3%
Unassigned Material	6	2.1%

Back Dirt	1	100.0%
Architectural	1	100.0%

C	256	100.0%
Architectural	25	9.8%
Arms and Military	2	0.8%
Clothing Group	1	0.4%
Faunal/Floral	156	60.9%
Food Preparation/Consumption	35	13.7%
Glass	4	1.6%
N/A	14	5.5%
Native	1	0.4%
Personal	3	1.2%
Unassigned Material	15	5.9%

D	129	100.0%
Architectural	65	50.4%
Clothing Group	1	0.8%
Domestic Group	1	0.8%
Faunal/Floral	19	14.7%
Food Preparation/Consumption	30	23.3%
N/A	8	6.2%
Native	1	0.8%
Personal	1	0.8%
Smoking	1	0.8%
Unassigned Material	2	1.6%

E	341	100.0%
Architectural	176	51.6%
Arms and Military	4	1.2%
Clothing Group	1	0.3%
Faunal/Floral	39	11.4%
Food Preparation/Consumption	27	7.9%
N/A	46	13.5%
Native	38	11.1%
Personal	3	0.9%
Unassigned Material	7	2.1%

F	87	100.0%
Architectural	18	20.7%
Arms and Military	1	1.1%
Clothing Group	1	1.1%
Domestic Group	2	2.3%
Faunal/Floral	14	16.1%
Food Preparation/Consumption	17	19.5%
N/A	14	16.1%
Native	16	18.4%
Personal	1	1.1%
Smoking	3	3.4%

G	423	100.0%
Architectural	64	15.1%
Arms and Military	2	0.5%
Faunal/Floral	70	16.5%
Food Preparation/Consumption	148	35.0%
N/A	36	8.5%
Native	90	21.3%
Personal	2	0.5%
Smoking	6	1.4%
Unassigned Material	5	1.2%

H	971	100.0%
Architectural	507	52.2%
Arms and Military	9	0.9%
Clothing Group	5	0.5%
Domestic Group	1	0.1%
Faunal/Floral	140	14.4%
Food Preparation/Consumption	178	18.3%
Furniture	1	0.1%
Medical/Hygiene	3	0.3%
N/A	17	1.8%
Native	53	5.5%
Personal	2	0.2%
Smoking	10	1.0%
Unassigned Material	45	4.6%

J	350	100.0%
Architectural	189	54.0%
Arms and Military	2	0.6%
Clothing Group	1	0.3%
Faunal/Floral	28	8.0%
Food Preparation/Consumption	34	9.7%
N/A	30	8.6%
Native	64	18.3%
Smoking	1	0.3%
Unassigned Material	1	0.3%

K	160	100.0%
Activities	21	13.1%
Architectural	29	18.1%
Arms and Military	1	0.6%
Faunal/Floral	39	24.4%
Food Preparation/Consumption	33	20.6%
N/A	26	16.3%
Native	9	5.6%
Smoking	1	0.6%
Unassigned Material	1	0.6%

L	155	100.0%
Architectural	69	44.5%
Arms and Military	1	0.6%
Clothing Group	1	0.6%
Faunal/Floral	6	3.9%
Food Preparation/Consumption	48	31.0%
N/A	15	9.7%
Native	7	4.5%
Personal	2	1.3%
Smoking	1	0.6%
Unassigned Material	5	3.2%

M	142	100.0%
Architectural	20	14.1%
Arms and Military	2	1.4%
Clothing Group	1	0.7%
Faunal/Floral	52	36.6%
Food Preparation/Consumption	40	28.2%
N/A	4	2.8%
Native	4	2.8%
Personal	5	3.5%
Smoking	1	0.7%
Unassigned Material	13	9.2%

Q	624	100.0%
Activities	1	0.2%
Architectural	201	32.2%
Arms and Military	1	0.2%
Clothing Group	2	0.3%
Faunal/Floral	99	15.9%
Food Preparation/Consumption	125	20.0%
N/A	116	18.6%
Native	40	6.4%
Smoking	4	0.6%
Unassigned Material	35	5.6%

N	150	100.0%
Architectural	38	25.3%
Arms and Military	6	4.0%
Clothing Group	1	0.7%
Faunal/Floral	33	22.0%
Food Preparation/Consumption	44	29.3%
N/A	17	11.3%
Native	8	5.3%
Smoking	2	1.3%
Unassigned Material	1	0.7%

R	1247	100.0%
Architectural	1145	91.8%
Clothing Group	1	0.1%
Faunal/Floral	24	1.9%
Food Preparation/Consumption	15	1.2%
N/A	15	1.2%
Native	39	3.1%
Personal	1	0.1%
Smoking	4	0.3%
Unassigned Material	3	0.2%

P	570	100.0%
Architectural	81	14.2%
Arms and Military	2	0.4%
Faunal/Floral	211	37.0%
Food Preparation/Consumption	42	7.4%
N/A	90	15.8%
Native	128	22.5%
Smoking	1	0.2%
Unassigned Material	15	2.6%

S	227	100.0%
Architectural	26	11.5%
Faunal/Floral	22	9.7%
Food Preparation/Consumption	24	10.6%
N/A	11	4.8%
Native	141	62.1%
Smoking	1	0.4%
Unassigned Material	2	0.9%

Douglass Battery East - Ceramics

Douglass Battery East Ceramics		100.0%
A	7	1.3%
Creamware Plain	3	
Pearlware, Plain	3	
Pearlware, Transfer	1	

B	26	5.0%
CRE, Tin Glaze	1	
Creamware Plain	19	
Creamware, Painted	3	
Ironstone, plain	1	
Pearlware, Painted	2	

C	27	5.2%
CRE, Tin Glaze	1	
Creamware Plain	13	
Creamware, Painted	8	
Pearlware, Plain	3	
White EW, Unident	1	
Whiteware, Plain	1	

D	14	2.7%
Creamware Plain	8	
Pearlware, Painted	2	
Pearlware, Plain	4	

E	21	4.0%
Course Stoneware, Salt Glaze	1	
Creamware Plain	12	
Pearlware, Painted	5	
Pearlware, Plain	3	

F	11	2.1%
CRE, Tin Glaze	1	
Creamware Plain	9	
FSW, White Salt Glaze	1	

G	**55**	**10.5%**
Bone China, Plain	1	
Course Stoneware	1	
CRE, Tin Glaze	7	
Creamware Plain	28	
Creamware, moulded (no colour)	1	
Creamware, Painted	1	
Pearlware, Painted	3	
Pearlware, Plain	8	
Pearlware, Transfer	3	
White EW, Unident	2	

H	**93**	**17.7%**
Bone China, Painted	5	
Course Stoneware, Salt Glaze	2	
CRE Glazed	1	
CRE, Tin Glaze	3	
Creamware Plain	35	
Creamware, moulded (no colour)	2	
Creamware, Painted	1	
Ironstone, plain	1	
Pearlware, Edged	1	
Pearlware, Painted	10	
Pearlware, Plain	25	
White EW, Unident	7	

J	**14**	**2.7%**
Bone China, Plain	1	
Creamware Plain	11	
White EW, Unident	2	

K	50	9.5%
Bone China, Plain	1	
CRE Glazed	30	
CRE Unglazed	7	
Creamware Plain	8	
Pearlware, Painted	1	
Pearlware, Plain	3	

L	9	1.7%
Creamware Plain	5	
Pearlware, Painted	1	
Pearlware, Plain	3	

M	12	2.3%
CEW, Tin Glaze	1	
CRE, Tin Glaze	3	
Creamware Plain	5	
Creamware, other Décor	1	
Pearlware, Plain	1	
Pearlware, Transfer	1	

N	33	6.3%
Bone China	2	
Bone China, Painted	1	
Ceramic	1	
CEW, Tin Glaze	1	
Course Stoneware, Salt Glaze	1	
CRE Unglazed	1	
Creamware Plain	1	
	4	
Pearlware, Painted	4	
Pearlware, Plain	7	
Pearlware, Transfer	1	

P	35	6.7%
Bone China, Painted	1	
Bone China, Plain	2	
Creamware Plain	18	
Fine Stoneware	2	
Pearlware, Plain	7	
Pearlware, Transfer	5	

Q	89	17.0%
Black Basalt	1	
Bone China	1	
Bone China, Painted	2	
CEW, Tin Glaze	1	
Course Stoneware, Salt Glaze	1	
Creamware	1	
Creamware Plain	61	
Creamware, Painted	1	
Fine Stoneware	1	
FSW, White Salt Glaze	4	
Pearlware, Plain	9	
White EW, Unident	6	

R	7	1.3%
CRE Glazed	2	
CRE Unglazed	1	
Creamware Plain	3	
FSW, Salt Glazed	1	

S	21	4.0%
Course Stoneware	2	
CRE Glazed	8	
Creamware Plain	5	
Ironstone, plain	3	
Pearlware, Plain	3	

Douglass Battery East – Arms and Military

Douglass Battery East		100.0%
A	2	5.0%
Arms and Military	2	
Ammunition / Artillery	1	
Mortar Bomb Part	1	
Uniform Insignia	1	
Military Button	1	

B	**5**	**12.5%**
Arms and Military	5	
Ammunition / Artillery	4	
Bullet	1	
Musket Ball	3	
Uniform Insignia	1	
N/A	1	

C	**2**	**5.0%**
Arms and Military	2	
Ammunition / Artillery	2	
Bird Shot	1	
Buck and Ball Shot	1	

E	**4**	**10.0%**
Arms and Military	4	
Ammunition / Artillery	1	
Musket Ball	1	
Gunflints	2	
Flake	1	
Gunflint	1	
Uniform Insignia	1	
Military Button	1	

F	**1**	**2.5%**
Arms and Military	1	
Ammunition / Artillery	1	
Cartridge Case	1	

G	**2**	**5.0%**
Arms and Military	2	
Gunflints	1	
Gunflint	1	
Uniform Insignia	1	
Military Button	1	

H	**9**	**22.5%**
Arms and Military	9	
Uniform Insignia	9	
Military Button	3	
Shako Plate	6	

J	**2**	**5.0%**
Arms and Military	2	
Ammunition / Artillery	1	
Mortar Bomb Part	1	
Uniform Insignia	1	
Military Button	1	

K	**1**	**2.5%**
Arms and Military	1	
Uniform Insignia	1	
Military Button	1	

L	**1**	**2.5%**
Arms and Military	1	
N/A	1	
N/A	1	

M	2	5.0%
Arms and Military	2	
Ammunition / Artillery	2	
Buck and Ball Shot	1	
N/A	1	

N	6	15.0%
Arms and Military	6	
Ammunition / Artillery	5	
Buck and Ball Shot	1	
Musket Ball	3	
N/A	1	
Gunflints	1	
Gunflint	1	

P	2	5.0%
Arms and Military	2	
Ammunition / Artillery	1	
N/A	1	
Uniform Insignia	1	
Military Button	1	

Q	1	2.5%
Arms and Military	1	
Uniform Insignia	1	
Military Button	1	

Douglass Battery West

A	392	100.0%
Architectural	80	20.4%
Arms and Military	9	2.3%
Faunal/Floral	110	28.1%
Food Preparation/Consumption	76	19.4%
N/A	6	1.5%
Native	94	24.0%
Smoking	1	0.3%
Unassigned Material	16	4.1%

B	241	100.0%
Architectural	63	26.1%
Arms and Military	13	5.4%
Clothing Group	2	0.8%
Faunal/Floral	22	9.1%
Food Preparation/Consumption	30	12.4%
N/A	37	15.4%
Native	59	24.5%
Smoking	1	0.4%
Unassigned Material	14	5.8%

C	135	100.0%
Architectural	48	35.6%
Arms and Military	15	11.1%
Faunal/Floral	12	8.9%
Food Preparation/Consumption	9	6.7%
N/A	14	10.4%
Native	22	16.3%
Smoking	1	0.7%
Unassigned Material	14	10.4%

D	226	100.0%
Architectural	89	39.4%
Arms and Military	5	2.2%
Clothing Group	1	0.4%
Faunal/Floral	27	11.9%
Food Preparation/Consumption	32	14.2%
N/A	51	22.6%
Native	15	6.6%
Personal	1	0.4%
Unassigned Material	5	2.2%

E	178	100.0%
Architectural	32	18.0%
Arms and Military	6	3.4%
Faunal/Floral	25	14.0%
Food Preparation/Consumption	75	42.1%
N/A	19	10.7%
Native	10	5.6%
Personal	2	1.1%
Smoking	1	0.6%
Unassigned Material	8	4.5%

F	191	100.0%
Architectural	78	40.8%
Arms and Military	3	1.6%
Faunal/Floral	16	8.4%
Food Preparation/Consumption	36	18.8%
N/A	21	11.0%
Native	28	14.7%
Personal	1	0.5%
Smoking	1	0.5%
Unassigned Material	7	3.7%

G	202	100.0%
Architectural	95	47.0%
Arms and Military	7	3.5%
Clothing Group	1	0.5%
Faunal/Floral	10	5.0%
Food Preparation/Consumption	9	4.5%
N/A	12	5.9%
Native	67	33.2%
Personal	1	0.5%

H	194	100.0%
Architectural	86	44.3%
Arms and Military	4	2.1%
Faunal/Floral	31	16.0%
Food Preparation/Consumption	23	11.9%
N/A	20	10.3%
Native	26	13.4%
Personal	1	0.5%
Unassigned Material	2	1.0%
(blank)	1	0.5%

J	292	100.0%
Architectural	90	30.8%
Arms and Military	7	2.4%
Faunal/Floral	45	15.4%
Food Preparation/Consumption	35	12.0%
Medical/Hygiene	1	0.3%
N/A	50	17.1%
Native	58	19.9%
Unassigned Material	5	1.7%
(blank)	1	0.3%

K	290	100.0%
Architectural	136	46.9%
Arms and Military	3	1.0%
Faunal/Floral	13	4.5%
Food Preparation/Consumption	20	6.9%
N/A	10	3.4%
Native	102	35.2%
Unassigned Material	6	2.1%

L	760	100.0%
Activities	1	0.1%
Architectural	171	22.5%
Arms and Military	12	1.6%
Clothing Group	2	0.3%
Faunal/Floral	163	21.4%
Food Preparation/Consumption	91	12.0%
Medical/Hygiene	1	0.1%
N/A	78	10.3%
Native	220	28.9%
Personal	1	0.1%
Smoking	10	1.3%
Unassigned Material	10	1.3%

M	390	100.0%
Architectural	44	11.3%
Arms and Military	5	1.3%
Clothing Group	1	0.3%
Faunal/Floral	63	16.2%
Food Preparation/Consumption	27	6.9%
N/A	38	9.7%
Native	198	50.8%
Personal	4	1.0%
Smoking	3	0.8%
Unassigned Material	7	1.8%

Douglass Battery West - Ceramics

Douglass Battery West Ceramics		100.0 %
A	34	13.3%
Bone China, Plain	1	
CRE Glazed	1	
CRE, Tin Glaze	1	
Creamware Plain	9	
Creamware, other Décor	4	
Pearlware, Painted	1	
Pearlware, Plain	16	
Pearlware, Transfer	1	

B	**23**	**9.0%**
CRE Glazed	2	
Creamware Plain	12	
Fine Stoneware, Basalts	1	
Hard Paste Porcelain, Painted	1	
Pearlware, Painted	1	
Pearlware, Plain	3	
Porcelain	1	
Soft Paste Porcelain, Plain	2	

C	**2**	**0.8%**
Creamware Plain	1	
Pearlware, Plain	1	

D	**9**	**3.5%**
Course Stoneware, Salt Glaze	1	
Creamware Plain	3	
Pearlware, Painted	2	
Pearlware, Plain	3	

E	**28**	**10.9%**
Creamware Plain	19	
Pearlware, Painted	2	
Pearlware, Plain	4	
Pearlware, Transfer	1	
White EW, Unident	2	

F	**30**	**11.7%**
Bone China, Plain	2	
CRE Glazed	1	
Creamware Plain	4	
Pearlware, Painted	1	
Pearlware, Plain	3	
Soft Paste Porcelain, Plain	2	
White EW, Unident	17	

G	**6**	**2.3%**
Bone China, Painted	1	
Creamware Plain	3	
Pearlware, Plain	1	
Soft Paste Porcelain, Plain	1	

H	**1**	**0.4%**
Creamware Plain	1	

J	**14**	**5.5%**
Course Stoneware, Salt Glaze	3	
Creamware Plain	7	
Pearlware, Painted	2	
Pearlware, Plain	1	
White EW, Unident	1	

K	17	6.6%
Bone China, Plain	1	
CRE, Tin Glaze	1	
Creamware Plain	8	
Pearlware, Other Décor	1	
Pearlware, Plain	4	
White EW, Unident	2	

L	70	27.3%
Ceramic	1	
CRE Glazed	3	
Creamware edged	1	
Creamware Plain	35	
Creamware, other Décor	2	
Fine Stoneware	1	
Pearlware or RWE, Plain	1	
Pearlware, Edged	3	
Pearlware, Painted	3	
Pearlware, Painted Unknown Palette	1	
Pearlware, Plain	14	
RWE Other Transfer	1	
White EW, Unident	4	

M	22	8.6%
CRE Glazed	2	
Creamware Plain	8	
CSW Derbyshire	1	
FSW, White Salt Glaze	2	
Hand Painted, Unknown Palette	1	
Pearlware, Plain	3	
Porcelain	1	
RWE Banded	1	
RWE Other Décor/ Canary ware	2	
Whiteware, Plain	1	

Douglass Battery West – Arms and Military

Douglass Battery West		100.0%
A	9	10.1%
Arms and Military	9	
Ammunition / Artillery	9	
Buck and Ball Shot	2	
Musket Ball	7	

B	13	14.6%
Arms and Military	13	
Ammunition / Artillery	12	
Buck and Ball Shot	7	
Musket	4	
Musket Ball	1	
Uniform Insignia	1	
Shako Plate	1	

C	15	16.9%
Arms and Military	15	
Ammunition / Artillery	11	
Buck and Ball Shot	5	
Musket Ball	6	
Uniform Insignia	4	
Shako Plate	4	

D	5	5.6%
Arms and Military	5	
Ammunition / Artillery	3	
Musket Ball	3	
Musket/Rifle	1	
N/A	1	
Uniform Insignia	1	
Shako Plate	1	

E	6	6.7%
Arms and Military	6	
Ammunition / Artillery	3	
Mortar Bomb Part	1	
Musket Ball	2	
Gunflints	1	
Gunflint	1	
N/A	1	
N/A	1	
Uniform Insignia	1	
Military Button	1	

F	3	3.4%
Arms and Military	3	
Ammunition / Artillery	1	
Buck and Ball Shot	1	
Uniform Insignia	2	
Military Button	2	

G	7	7.9%
Arms and Military	7	
Ammunition / Artillery	4	
Musket Ball	4	
Gunflints	1	
Flake	1	
Uniform Insignia	2	
Military Button	2	

H	4	4.5%
Arms and Military	4	
Ammunition / Artillery	3	
Buck and Ball Shot	1	
Musket Ball	1	
N/A	1	
Uniform Insignia	1	
Military Button	1	

J	7	7.9%
Arms and Military	7	
Ammunition / Artillery	6	
Buck and Ball Shot	5	
Musket Ball	1	
Gunflints	1	
Gunflint	1	

K	3	3.4%
Arms and Military	3	
Musket/Rifle	2	
N/A	2	
Uniform Insignia	1	
Military Button	1	

L	12	13.5%
Arms and Military	12	
Ammunition / Artillery	4	
N/A	2	
Rifle Ball	2	
Gunflints	5	
Flake	1	
Gunflint	4	
Uniform Insignia	3	
Military Button	2	
Shako Plate	1	

M	5	5.6%
Arms and Military	5	
Ammunition / Artillery	3	
Cartridge Case	1	
Rifle Ball	2	
Gunflints	1	
Gunflint	1	
Uniform Insignia	1	
Military Button	1	

Appendix G
Field Images

Douglass Battery East – Units A and B

Figure Unit A Lot 5/6 post hole with burnt wood, Period II-IV, left; close of unit showing features cut into bedrock, right.

Figure Unit B, lots 8a-e, post holes and defensive ditch at top, Period II and IIa, left; Unit B, lots 9a-e, showing interfaces of excavated lot 8 features, Period II and IIa, right.

Douglass Battery East – Units C and D

Figure Unit C Lot 4, defensive ditch fill, Period II-IV, left; Unit C, close of unit showing broken and irregular bedrock, surface right.

Figure Unit D Lot 6, surface and lots 7-a-e trench and postholes, Period IIa, left; Unit D, showing lot 7 features excavated, lot 8 interfaces, Period IIa.

Douglass Battery East – Units E and F

Figure Unit E Lot 5, disturbed A-horizon, Period I, left; Unit E, lot 8 subsoil with lot 6 features, Period II a, showing in bottom left corner, right.

Figure Unit F Lot 6, post features in subsoil, Period IIa, left; Unit F, lot 7 interfaces for lot 6 excavated features, Period IIa, right.

Douglass Battery East – Units G and H

Figure Unit G Lot 6, post features in subsoil, Period IIa, left; Unit G, lot 7 interfaces for lot 6 excavated features, Period IIa, right.

Figure Unit H Lot 8, cellar features in subsoil, Period IIa, left; Unit G, lot 12 in upper right corner, square feature within larger cellar pit, excavated in photo, Period IIa, right.

Douglass Battery East – Units J and K


Figure Unit J Lot 6, timber sill trench for building, Period IIa, left; Unit F, lot 7/8a, b posts, excavated, Period IIa, right.


Figure Unit K Lot 12,shovel trenches as stains in A-horizon/subsoil interface, Period IIa, left; Unit K, lot 12 shovel trenches as excavated into subsoil, Period IIa, right.

Douglass Battery East – Units L and M

Figure Unit L, lot 4 'pothunters pit' in lot 5 background soil, Period V, left; Unit L, close of unit showing lot 8/9 post and trench features, Period IIa, in subsoil, right.

Figure Unit M Lot 8 cobble feature in buried A-horizon, Period II-IV, left; Unit M, lot 8 cobble feature in surrounding lot 9 defensive ditch fill, Period IIa, right.

Douglass Battery East – Units N and P


Figure Unit N, lot 4, earthwork fill layer, Period II, left; Unit N, close of unit showing subsoil overlying bedrock, Period I, right.


Figure Unit P Lot 7 earthwork fill layer with solid shot cannon ball in situ, Period II, left; Unit P, lot 8, earthwork fill layer, Period IIa, excavation terminated at this depth, right.

Douglass Battery East – Units Q and S

Figure Unit Q, showing lot 7 sand floor of cellar pit, Period IIa, left; Unit Q, showing bedrock in excavated cellar, Period IIa, right.

Figure Unit S, Lot 5, chimney collapse, Period II, left; Unit S, showing shovel trenches in garden, lots 12 a,b,c, Period IIa, right.

Douglass Battery East – Unit R

Figure Unit R, Lot 9, timber sill sleeper trench in subsoil, Period IIa, top; Unit R, showing post features (arrows) and natural features/possible garden trenching, Period IIa, botom.

Douglass Battery West – Units A and B

Figure Unit A, Lots 8, garden soil top, 9, paved surface bottom, and lot 10, subsoil, middle of unit , Period IIa, left; Unit A, showing pits and post holes, lots 11/12 in subsoil, Period IIa, right.

Figure Unit B, Lot 10 , pavement feature on west side of 1930s cement drain, Period IIa, left; Unit B, showing rubble from lot 11 on bedrock, east side of cement drain, Period IIa, right.

Douglass Battery West – Unit C

Figure Unit C, Lot 4, rubble from 1930s landscaping/construction, Period IV, left; Unit C, showing lot 6, disturbed A horizon and clay overlying bedrock, lot 7, Period I, right.

Figure Unit C, Lot 7, garden layer, Period IIa, left; Unit C, showing lots 7, upper garden layer, and lot 8, pebbly sub-garden layer, as indicated by arrows, Period IIa, right.

Douglass Battery West – Unit D

Figure Unit D, Lot 4, rubble deposit from earlier building impacted during 1930s restoration and cement drain installation, Period IV, left; Unit D, showing rubble removed from lot 4, upper right; Unit D, lot 8, garden bed, Period IIa and subsoil showing in upper right corner, lower left.

Douglass Battery West – Units E and F


Figure Unit E, Lot 9, pebbly sub-garden layer, Period IIa, left; Unit E, showing lot 11, subsoil, Period I, right.

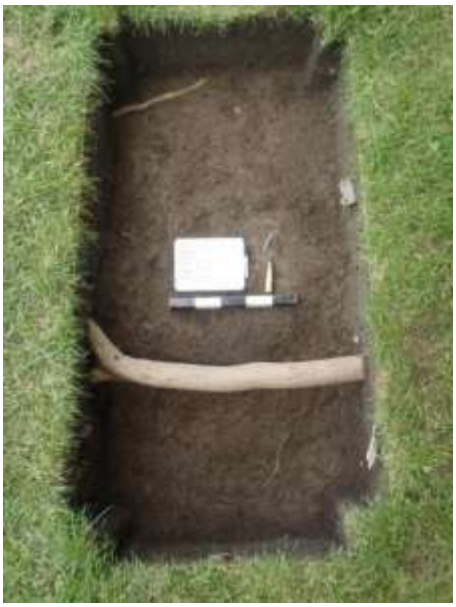



Figure Unit F, Lot 9, displaced A-horizon sub-garden layer, Period IIa, left; Unit F, lot 11, subsoil, Period I, right.

Douglass Battery West – Units G and H

Figure Unit G, Lot 7, garden layer showing plough scars, Period IIa, left; Unit G, lot 8, disturbed subsoil and displaced A-horizon, Period I, right.

Figure Unit H, close of lots 12 and 13, shovel trenching marks in subsoil associated with the earliest garden, Period IIa, left; Unit H, close of unit showing subsoil lots 9, 11, and 14, Period I, right.

Douglass Battery West – Units J and K

Figure Unit J, surface of lot 6, siege period ground surface, Period II, left; Unit J, close of unit showing subsoil lot 7, Period I, right.

Figure Unit K, lot 4, top of image, trench for 1930s drain, Period IV, left; Unit K, close of unit showing disturbed/displaced subsoil lots 10 and 11, Period I, right.

Douglass Battery West – Units L and M

Figure Unit L, showing lot 6/7, possible garden fenceline trench (centre) truncating lots 8 (foreground) and 9 (top of image), Period IIa, left; Unit L, showing close of lot 6/7 trench and lot 10 trench/feature below (top of trowel), Period IIa, right.

Figure Unit M, close of unit showing clay subsoil with rubble-filled feature, before baulk removed, Period IIa, left; Unit M, lot 7, rubble-pavé feature in baulk between units M and B to the east (top), Period IIa, right.

Appendix G
Gunflint Analysis – 2012 and 2013

By John Triggs

	Musket	Rifle	Pistol	Undetermined	
Blade	7	4	4	2	17
Spall	1	2	0	0	3
Flake	0	0	0	6	6
	8	6	4	8	26

Three types of gunflints were identified in the 2012 assemblage. Based on the size of the flint, pistol, rifle and musket flints are all present in the assemblage. A fourth category, undetermined, was also created for those flints for which type attribution was not possible.[48] In order of size musket flints generally conform to the metrics presented in the 1849 Ordnance Manual of the U.S. Army, although there are differences in the ranges for length, width and thickness in the actual 2012/2013 sample. Using weight as a measure of size it is clear that musket flints are the largest, followed by rifle and pistol flints. Measurements provided by Skertchly also indicate variations in gunflints dimensions.[49] Compared to the 1849 U.S. Ordnance measurements, British-made musket and pistol flints were thicker, although about the same length and width.

2012 and 2013 Gunflints								
	Musket		Rifle		Pistol		Undetermined	
	min	max	min	max	min	max	min	max
Length (mm)	26.8	33.1	22.1	29.3	18.7	20.7	20.4	n/a
Width (mm)	26.1	34.9	17.5	31.7	19.3	22.4	n/a	n/a
Thickness (mm)	6.9	12.5	6.1	11.6	5.9	7.1	5.7	7.0
Weight (g)	6	13	4	11	3	5	<1	1
L/W Index	0.77	1.07	0.90	1.27	0.92	1.06	n/a	n/a

TABLE 2. GUNFLINT MEASUREMENTS FROM THE ORDNANCE MANUAL OF THE U. S. ARMY (1849)

	Inches min	Inches max	Millimeters min	Millimeters max
MUSKET				
Length	1.20	1.50	30.5	38.1
Width	1.08	1.13	27.4	28.7
Thickness (back)	0.26	0.33	6.5	8.4
Thickness (bevel)	0.39	0.55	9.9	14.0
RIFLE				
Length	0.97	1.20	24.6	30.5
Width	0.79	0.88	20.1	22.4
Thickness (back)	0.20	0.29	5.1	7.4
Thickness (bevel)	0.41	0.71	10.4	18.0
PISTOL				
Length	0.93	1.10	23.6	27.9
Width	0.83	0.92	21.1	23.4
Thickness (back)	0.21	0.27	5.3	6.9
Thickness (bevel)	0.30	0.42	7.6	10.7

Figure Table from 'Some Early Historic Gunflints Found in Kentucky', Jack M. Shock and Michael Dowell, Western Kentucky University, Bowling Green, Kentucky. n.d.

[48] Gunflint types are taken from S. de Lotbiniere, *Gunflint Recognition*, the International Journal of Nautical Archaeology and Underwater Exploration (1984), 13.3: 206-209, p.26.

[49] Table from Skertchly, S.J.B., 1879, On the manufacture of gunflints etc., Memoirs of the Geological survey of England and Wales. London.

Table 1. *Sizes of gunflints (after Skertchly)*

	Length (in)*	Width (in)	Thickness (in)
Wall Piece	2·0	1·5	0·5
Musket†	1·3	1·1	0·4
Carbine†	1·2	1·0	0·25
Horse pistol	1·1	0·9	0·3
'Single'‡	1·0	0·85	0·2
'Double'‡	1·0	0·7	0·25
Pocket pistol	0·75	0·65	0·2

Manufacturing technique identified in the 2012 and 2013 collection includes three types identified as blade, spall and flake. De Lotbiniere provides good examples of these in his brief examination of gunflints from shipwreck sites. In the Fort Erie collection the blade type is characterized by a platform defined by two parallel ridges that are in the same alignment as the firing edge and the heel. The other two types; i.e., spall, and flake, are made on a flake rather than a blade. Both of these types retain evidence of the bulb of percussion – vestiges of the initial force used to remove the flake from a larger block. As with the blade, once the flake was removed from the larger piece of flint, later modification of the heel, sides and striking platform transformed the piece into a useable gunflint

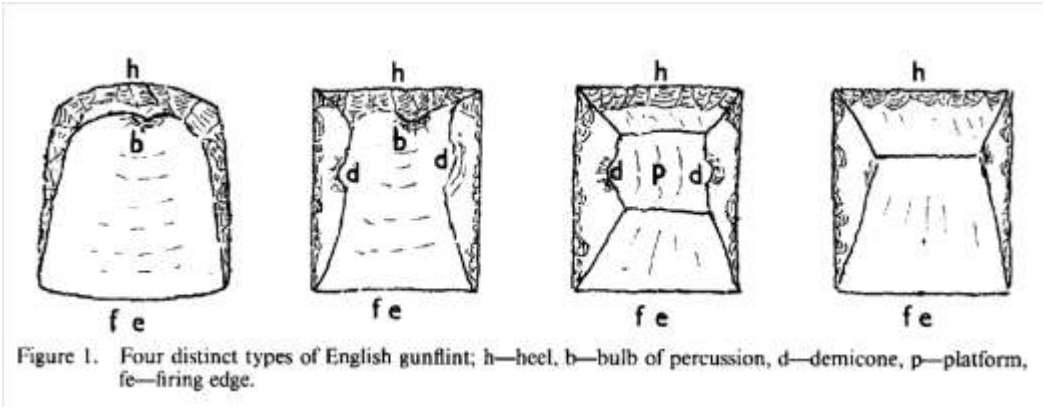


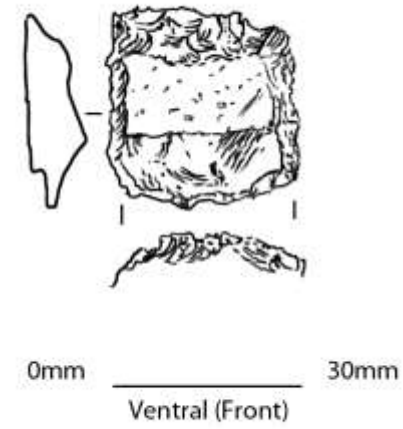
Figure 1. Four distinct types of English gunflint; h—heel, b—bulb of percussion, d—demicone, p—platform, fe—firing edge.

Figure Figure from S. de Lotbiniere, *Gunflint Recognition*, the International Journal of Nautical Archaeology and Underwater Exploration (1984), 13.3: 206-209, p.206. From left to right, **flake-type**; the **spall-type** made on a flake; the **platform blade** or prismatic; and common prismatic.

2012 Fanning's Battery									
	Musket		Pistol		Rifle		Undetermined		Total
Blade	1		3		1		2		7
Spall									0
Flake							1		1
	1		3		1		3		8
2012 Western Redoubt									
	Musket		Pistol		Rifle		Undetermined		Total
Blade	1								1
Spall									0
Flake							3		3
	1		0		0		3		4

2013 Douglass Battery West									
	Musket		Pistol		Rifle		Undetermined		Total
Blade	3		1		2				6
Spall					2				2
Flake							1		1
	3		1		4		1		9
2013 Douglass Battery East									
	Musket		Pistol		Rifle		Undetermined		Total
Blade	2				1				3
Spall	1								1
Flake							1		1
	3		0		1		1		5

In the Fort Erie assemblage the most common type is the blade, which makes up 17 of 26 gunflints recovered in 2012 and 2013. The flake type characterizes 6 gunflints and only 3 spall-types were found. Past studies have identified blade flints with British-manufacture, while spall types have been identified as French. An interesting observation that can be made on the 2012 and 2013 assemblage is that spall types (defined by a bulb of percussion and rectangular shape) are absent from all 2012 contexts; i.e., those associated with the 800 metre-long defensive earthwork, and to date spall types have only been found in the Douglass Battery excavation from 2013. However, when examining flake as opposed to blade manufacture, spall and flake types together make up 4 of 12 or 33% of the 2012 assemblage, and 5 of 14 flints (35.7%) of all flints recovered from 2013 in Douglass Battery. Hamilton (1960:74) notes that during the War of 1812 half of the flints used were British (blade) and half were French (presumably both spall and flake types). In this context, the findings at Fort Erie suggest that the predominance of blade types over flakes may be an anomaly. Further work will have to be carried out in the 2015 season to determine if this potential pattern may be attributable to different regimental preferences or some other factor.



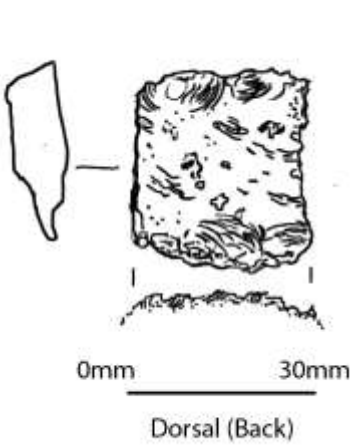


Figure Drawings by Olivia Robinson, age 13.

2012 and 2013		Musket	Pistol	Rifle	Undetermined	
blonde		4	3	2	7	16
dark blonde		2			1	3
dark blonde with black mottles		1				1
brown mottled		1				1
light grey				1		1
grey speckled white			1	1		2
dark grey				1		1
black				1		1
		8	4	6	8	26

One other attribute observed on the 2012 and 2013 Fort Erie gunflint assemblage is colour. Flints classified according to colour show an interesting pattern. Musket, and with one exception, pistol flints, are made from brown/blonde shades of flint exclusively, and rifle flints are almost entirely made on grey/black shades flint. Colour may be related to spatial distribution also. For example, Douglass Battery West and Fanning's Battery are characterized by examples of brown and grey shades, while Douglass Battery East and Western Redoubt include only blonde/brown shades. Recovery of additional gunflints during the planned 2015 season will provide a larger sample with which to make comparisons with potential patterns noted here.

Douglass Battery East	5
Blonde	3
Dark blonde	1
Dark blonde with black mottles	1
Douglass Battery West	9
Blonde	5
Dark grey	1
Grey speckled with white	1
Light grey	1
Mottled brown flint	1
Fanning's Battery	8
Black	1
Blonde	4
Dark blonde	2
Grey speckled with white	1
Western Redoubt	4
Blonde	4
Grand Total	26

Figure Western Redoubt K4, flake-type

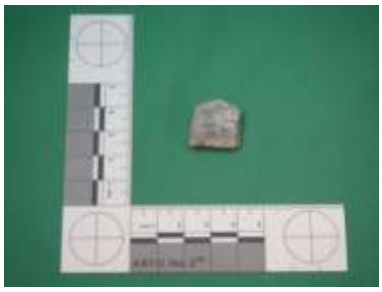


Figure Fanning's Battery D5, Onondaga chert – Flake type

Figure Fanning's Battery D5, Grey flint, platform blade or prismatic

Appendix I
GIS Analysis

By Duncan Williams

GIS AND ARCHAEOLOGY: A MULTI-FACETED ANALYSIS OF FORT ERIE, NHS

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ABSTRACT

This report will provide an overview of some of the possible applications of Geographic Information Systems (GIS) in historical archaeology. GIS has recently become more widely available and user-friendly. This has led to an increase in GIS-related applications in almost every social science, including archaeology. It is argued herein that GIS, when used effectively, brings with it a body of theory and methodology that can aid in organizing and understanding archaeological data, as well as developing hypotheses about that data and generating further research questions. As a case study, GIS-based analysis is applied to the eighteenth and nineteenth century military occupation at Fort Erie, Ontario. Military archaeology, as a sub-discipline of historical archaeology, is particularly well suited to GIS-oriented investigation. A broad approach will be taken to demonstrate how this can be done across multiple different spatial scales to increase our understanding of past cultural landscapes.

Table of Contents

1.0 INTRODUCTION

Space and spatial relationships are fundamental concepts in archaeology. Space is one of the two basic dimensions that archaeologists investigate (the other being time). This spatial emphasis transcends all levels of archaeological investigation; it has been stated that “archaeology can be viewed as a discipline

involved in sampling space in order to understand human behaviour" (Green 1990: 3). The cultural landscapes that archaeologists study are made up of cultural and natural features that are linked by space (Green 1990: 5). The study of spatial relationships is thus an all-encompassing and underlying phenomenon in archaeology.

Since the earliest formal archaeological investigations, archaeologists have studied spatial interactions at various different scales. Geographic information systems are thus extremely well suited to archaeological use, as a GIS is essentially a spatial database. GIS provides a framework within which archaeologists can conduct their analysis and organize their data (much of which is spatial in nature). Chapman (2006: 9) correctly states that GIS is both a methodology and a technique in archaeology, and that it "has both influenced, and been influenced by, all areas of archaeological research and practice". Clearly then, the advantages of employing a GIS approach in archaeology are well established. This trend will continue to grow as more and more archaeologists become familiar with the intricacies of GIS.

Archaeologists have long been aware of the benefits of using GIS in archaeological analysis. Recent advances in GIS desktop software and the increased mainstream availability of such software has resulted in increased research into the application of GIS in archaeology. Publications dealing with GIS begin appearing in the 1980s, but at this early stage GIS was poorly defined (even in geography) and its application in archaeology was sporadic, poorly understood and not well synthesized (Savage 1990: 22). Kvamme (1999) provides a good overview of this early period of GIS use, McCoy and Laderfoged (2009) present an updated overview of spatial technology and its use in archaeology. Archaeological use of GIS is a difficult topic to outline because of the incredible variety of GIS-based tools in use and their varied application across many sub-fields of archaeology. It is sufficient to say that GIS has been a useful tool in archaeology for a long time, and that it is a continuously growing and changing field. The publication of recent general overviews of GIS aimed broadly at the entire field of archaeology is evidence of the impact that GIS has had and continues to have on the discipline (Wheatley and Gillings 2002; Chapman 2006; Conolly and Lake 2006) This paper will seek to demonstrate some of the uses of GIS in historical and military archaeology in particular (as a theory, method and technique).

Prior to the widespread use of GIS in the discipline, archaeologists expressed an interest in quantitative analysis of spatial relationships (see Clarke 1968, 1977; Hodder and Orton 1976; Upham 1979; Kintigh and Ammerman 1982; Hietala 1984). This sub-field, termed spatial archaeology, has borrowed many techniques from related geographical disciplines such as ecology. The use of GIS is a natural extension of spatial archaeology, and has helped to grow other related sub-disciplines such as landscape archaeology (see Chapman 2006).

The use of GIS in archaeology can be broadly classified into four main realms: data management, visualization, spatial analysis and predictive modelling. Ebert (2004) and McCoy and Ladefoged (2009) cite only the first three categories, placing modelling under the realm of analysis. In the framework presented here, predictive modelling is separated due to the amount of work that has been done with this aspect of archaeological GIS (Ebert 2004: 334) and the specific approaches taken and issues relevant to predictive modeling. Spatial analysis is used here to refer to a broad set of (often quantitative)

techniques that focus on the interpretation of collected data, with predictive modelling being a separate application altogether. Predictive modelling is probably the area of archaeological GIS that has seen the most attention, due to the increased importance placed on cultural resource management (CRM). In a CRM context, GIS is mainly used as a policy and planning tool and thus the location modelling aspect is exploited (Green 1990: 5-6; Savage 1990: 22). This is partly due to the large savings that can be accrued by using site prediction models to plan projects (see Madry 2006: 50). This report will deal with aspects of the first three uses (data management, visualization and spatial analysis). Data management refers to the structuring of data within a GIS framework (see Tennant 2007, 2009), while visualization is a broad term that refers to a set of techniques for exploring spatial data (many of which are cartographic techniques).

Canadian archaeology has been comparatively slower in the uptake of GIS, lagging behind European and American research (Ebert 2004: 332). Historical archaeology has also seen less research than other archaeological fields in the application of GIS. Predictive modelling, the area of archaeological GIS that has seen the most application (particularly in North America), tends to focus more attention on modelling prehistoric site locations (Madry 2006: 50). Military archaeology, however, has seen greater use of GIS. This appears to be partly due to the fact that most contemporary military archaeology investigations are broader in spatial scale (discussed further below).

This report is broken down into three main sections detailing the application of GIS techniques to the site of Fort Erie. The first section will examine some of the contemporary cartographic evidence available for the site, and describe approaches taken to georeference historic maps and incorporate them into the GIS. The successful georeferencing of historic maps is crucial for later analysis. The second section will take an intra-site approach to examining artifact distributions. Various functional scales will be examined and visualization techniques employed, in addition to spatial, graphical, and numerical analytical techniques. In the third section, a broader landscape approach is taken to examine viewsheds and lines of sight from the British siege batteries to the fort. A secondary goal throughout the analysis is the generation of digital records and a workable GIS for the site that can be used for subsequent analysis. This follows the 'living document' approach suggested by Tennant (2007, 2009). The summaries of each facet of the analysis will be presented following an overview of the history of Fort Erie.

2.0 SITE HISTORY

The following section will detail the history of Old Fort Erie from earliest occupation to present day.

2.1 PRE-MILITARY HISTORY

The region around Fort Erie was intensively occupied by Indigenous peoples prior to European contact (see Williamson and MacDonald 1998). Human presence in the area dates back as far as the Paleo-Indian period, as evidenced by the recovery of fluted points (Williamson and Cooper 1996: 1). The outcrops of Onondaga chert that are found along the shores of Lake Erie around Fort Erie would have been an attractive resource for people in the area, beginning as early as the Archaic period (Williamson and Cooper 1996: 3). Incidentally, the British later used the very same Onondaga chert in the construction of portions of their nineteenth century fort (Latimer 2009: 31). Settlement intensified

during the Woodland period, and at the end of this period the area was occupied by the Neutral Iroquois Confederacy until their dispersal by the Five Nations Iroquois in the seventeenth century (Williamson and Cooper 1996: 4-5).

Soon after contact, there was supposedly a battle between the French and local Native people, fought in the waters just offshore of Fort Erie. Seneca oral tradition recalls this battle and names its location as Gai-gwaah-geh (or 'The Place of the Hats'), after the French hats that floated ashore following their defeat (Marshall, as cited in Babcock 1899: 10).

2.2 EARLY BRITISH MILITARY ACTIVITY

The British Crown acquired the land on which the fort now stands from the Seneca in 1764 (Whitehorne 1992: 3). Fort Erie's military history began that same year with the construction of a small timber fort by the British Army, under the direction of Captain John Montresor (Saunders 1996: 266-267). The fort was intended to protect the British position on the Lower Great Lakes. More specifically, the fort held a commanding strategic position over both important land (by road along the Lake Erie shore to Detroit, as well as the portage trail along the Niagara River) and waterborne travel routes (by ferry to Black Rock near modern day Buffalo, as well as acting as a starting point for travel on Lake Erie) (Whitehorne 1992: 3). The fragility of the British defense and supply line along the Niagara frontier was exposed during Pontiac's Rebellion, and as a result Fort Erie was built to complement existing forts such as Fort Niagara (Saunders 1996: 266).

Despite its military character, the fort did not see significant military action for the first five decades of its existence. The southern Niagara was not as highly contested as the north in the eighteenth century conflicts, and thus the fort served only as a supply depot and transit hub for soldiers during Pontiac's War and the American Revolution (Whitehorne 1992: 3). The terms of the 1794 Jay Treaty forced the British to cede all forts that they had previously held in American territory (such as Fort Niagara at the northern end of the Niagara River). As a result, the frontier forts in British territory (such as those on the western side of the Niagara River) took on a heightened strategic importance. As Fort Erie was the only British fort on the western side of the Niagara River (Fort George was not constructed until 1799), it became a particularly important outpost (Saunders 1996). With the construction of Fort George at the northern end of the peninsula, Fort Erie took on a subordinate role but remained a valuable post due to its strategic position.

2.3 THE WAR OF 1812

Poor choice of location for the first fort (in an exposed area susceptible to flooding and ice damage) resulted in it being severely damaged and reconstructed on several occasions over the years (Saunders 1996). Consequently, a more substantial stone structure at a higher elevation (about 12-15 feet above the level of the lake) (Lossing 1860: 829) was recommended and commenced in the early nineteenth century[50]. The fort was not built with particular urgency (largely due to the economic situation in Britain

[50] There is a lack of consistency in reported dates for the construction of the fort. Latimer (2009: 31) states that construction began in 1803, while Whitehorne reports different dates of 1803 (1992: 3) and1805 (1991: 270; Litt et

demanding funds be distributed elsewhere), and in fact remained incomplete by the time war was declared in 1812. The modern day reconstruction of the fort boasts imposing stone structures at each of its four corners: two demi-bastions on the lakeshore side and two redoubts on the landward side. This is not how the fort would have looked at the onset of the War of 1812 though. The two demi-bastions closest to the lakeshore, as well as the earthen ravelin protecting the main gate were completed by the start of the war, but the landward side remained incomplete (Chartrand 2012: 51-53). A palisade, more earthworks (a chevron-shaped wall) and a ditch were apparently added to reinforce the landward (west) side (Whitehorne 1991: 27; Whitehorne 1992: 5; Feltoe 2014: 28-29).

2.3.1 1812 CAMPAIGN

The events taking place on the Niagara frontier in 1812 were compressed into a few months in the late summer and fall of 1812. American forces had been slowly building up for a few months, while action was centred on the Detroit area. As before, the fort's strategic position allowed it to play a key role in managing communications among the extended British forces. Initially the fort played an important naval role, blockading American ships near Buffalo and being involved in engagements on Lake Erie. Fort Erie was actually suggested as one of the possible crossing points for the main American body in 1812, but eventually it was determined that Queenston was a better crossing point (Whitehorne 1992: 5-7). Disaccord within the senior ranks of the American army severely hampered their efforts in 1812 (General Alexander Smyth is described as being particularly inept). Smyth set up his army in Buffalo and clashed with Lieutenant Colonel Solomon van Renssaeler who was stationed at Lewiston. This fundamental division resulted in there being essentially separate armies on the Niagara frontier (Taylor 2010: 187). After being pushed back at Queenston, the Americans made two unsuccessful attempts to take Fort Erie in late November and early December. This would conclude the events of 1812.

2.3.2 1813 CAMPAIGN

Rumoured attacks in February and March of 1813 resulted in the mobilization of troops around the fort, but the only actual engagement was a mostly ineffective six hour artillery strike on March 17 (Whitehorne 1992: 8-9). A critical event took place in May of 1813 when the Americans successfully captured Fort George at the northern end of the Niagara Peninsula. This would influence the actions and movements of the British troops on the Niagara frontier for the remainder of 1813. The immediate effect was the withdrawal of all British troops towards Burlington Heights, resulting in the abandoning of posts at Queenston, Chippawa and Fort Erie. At Fort Erie, the British hastily destroyed the fort and surrounding buildings. The Americans at Black Rock moved across to occupy the ruins of the fort, but they too abandoned it shortly after (on June 9) and further destroyed it (Whitehorne 1992: 9). The fort remained unoccupied for another six months. During this time, the British were successful in pushing back the American advance, eventually forcing the Americans to withdraw to the eastern side of the river on December 10.

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al. 1993: 41). Chartrand (2012: 51) and Owen (1986: 42) also point to an 1805 start date. Saunders (1996: 268) indicates that the plans for the fort were approved in 1804, and instructions were given to begin construction. A map dating to 1803 shows plans for the construction of the fort. Thus it is clear that plans for the fort were in motion by at least 1803 (although probably earlier as shown by a purported 1794 plan), although actual construction may have been delayed a couple years and seems to have been intermittent.

During this withdrawal, the order was given for the razing of Newark (now Niagara-on-the-Lake). Around this time, a new military commander had arrived for the British (Taylor 2010: 253-254). This was Lieutenant General Gordon Drummond, a military veteran with a penchant for strict discipline. In immediate retaliation for the events that transpired at Newark, Drummond developed a plan to capture Fort Niagara (opposite Fort George) and to similarly burn the town of Lewiston. The burning of Newark was avenged later that month with the conflagration of the entire eastern shoreline of the Niagara River from Lewiston to Buffalo (Whitehorne 1992: 10-11). Amid this destruction, the British reoccupied Fort Erie and began to strengthen it in preparation for renewed conflict in 1814.

2.3.3 1814 CAMPAIGN

It was during the 1814 campaign that Fort Erie played its most significant role. Whitehorne (1991: 26) writes that, despite the lack of a coherent strategy and explicit direction form the War Department throughout the entire war, the American forces were most effective in 1814. In March of 1814, Major General Jacob Brown moved his troops to the Niagara frontier, intending to dislodge the British from Fort Niagara (captured in 1813) and neutralize the entire frontier (Whitehorne 1991: 27-28).

On the morning of July 3 1814, approximately 4000 Americans commanded by Brown crossed the Niagara River at Fort Erie in two main waves (under the direction of Brigadier Generals Winfield Scott and Eleazer Wheelock Ripley) (Latimer 2009: 31). Fort Erie, on the other hand, was garrisoned by 137 men under the command of Major Thomas Buck. Soon after, Buck made the unpopular yet inevitable decision to surrender (Barbuto 2000: 166). Fort Erie was to be the staging ground for the ambitious American invasion. It has been said that the American force that captured Fort Erie in 1814 was the most disciplined and effective force deployed by the American side throughout the war (Whitehorne 1991: 29). This can be largely attributed to the work of Scott, who implemented a rigorous standardized training routine in the months leading up to the American invasion. After establishing this foothold, the Americans hurriedly began to strengthen their position by ferrying men and supplies across the river. A naval presence was also established off of Fort Erie. A garrison was left at the fort under the direction of Lieutenant Patrick McDonough, and they were tasked with upgrading the defences of the fort. It is clear from these efforts that the Americans saw the fort as having significant strategic value.

Shortly after the successful crossing, the American forces moved north towards Chippawa where they engaged the British on July 5. While the details of the battle must be spared here (see Graves 1994 for a detailed account), it was a significant battle for a number of reasons. After intense drilling for several months prior, the American troops were able to demonstrate their ability in battle. To the dismay of the British command, it soon became clear that the American army was not the same disorganized mass from years prior. Although evenly matched in terms of numbers, the British were eventually overpowered by the rigorously systematic Americans. With close to 500 casualties for the British and approximately 300 for the Americans, it was a devastating battle for both sides and the bloodiest engagement of the war to that point (Latimer 2009: 37). The Americans emerged as victors, which marked the first time in the war that the Americans had defeated the British in an evenly matched battle.

In the days that followed, the Americans pushed the British back to the vicinity of Fort George. Frequent skirmishing took place, and the Americans heavily burned the surrounding countryside in an effort to drive out the local population who were constantly harassing them (Latimer 2009: 40-43). Lacking sufficient artillery, Brown decided that an attack on Forts Mississauga and George would not be feasible. Instead, the Americans opted for a risky move towards Burlington to attack the Heights. Before they were able to make this move, however, they were cut off by the British, resulting in a standoff on July 25 at Lundy's Lane just north of Niagara Falls. This fierce battle took place mostly under the cover of darkness, and resulted in devastating casualties for both sides. The battle was marred by confusion due to lack of daylight, and plenty of friendly fire occurred as a result. After six hours of intense fighting centred around a low lying hill, the British abandoned their position and the Americans withdrew (Taylor 2010: 393-395). Both sides suffered immense casualties (a reported 853 for the Americans and 812 for the British), the most suffered at any battlefield yet in the war (although the battlefield at Fort Erie would later eclipse these numbers).

The British gained a tactical advantage with their victory at Lundy's Lane. They prevented the planned assault on Burlington Heights and inflicted terrible casualties on the American forces (while also suffering immense casualties themselves). The American army that had crossed at Fort Erie earlier in July had now been reduced by a third (Taylor 2010: 395). The American army was forced to retreat to the south towards Fort Erie, leaving the British to claim possession of the battlefield at Lundy's Lane, much to Brown's disgust (Taylor 2010: 294).

2.3.3.1 THE SIEGE

The Americans returned to Fort Erie on July 27. The state of the defenses was quite tenuous, following the destruction of the fortifications late in 1813. The garrison left behind to guard the fort had been working on improving the defenses of the fort proper while the bulk of the American force had been engaged at Chippewa and Lundy's Lane, but they were not adequate for the protection of the large force (Litt et al.1993: 82). The garrison had managed to ameliorate the defenses of the fort, but as it existed the fort could only hold a small garrison of around 200 (Barbuto 2000: 234).

Ripley suggested that the Americans abandon Fort Erie and return to Buffalo, but Brown refused to give up this final piece of land where the unsuccessful campaign had started (Taylor 2010: 396). Brown and Scott had been severely wounded at Lundy's Lane and were unable to command the army at Fort Erie, but Brown did not want Ripley to have command after the latter had yielded the battlefield at Lundy's Lane to the British. General Edmund Pendleton Gaines was summoned from Sackets Harbour to assume command, thus rendering Ripley subordinate. Gaines was part of a group of young colonels (along with Scott and Ripley) who had earlier been promoted to brigadier-generals (Latimer 2009: 14). An ambitious plan was put into place to create an extensive defensive network centred on the fort and covering a large 30 acre (12ha) area running along the lakeshore and backed by the water (Litt et al. 1993: 82; Whitehorne 1991: 36).

On July 28, the American engineers had established a perimeter for the fortified complex that would be large enough to enclose the entire army (Barbuto 2000: 234-235). An imposing earthwork with a ditch facing it was to stretch the entire perimeter of the camp, which backed on to Lake Erie. Lossing (1860: 829-830) notes that the earthwork rampart was seven feet in height for its entire length and that it was fronted by a double ditch. Excavation has thus far only revealed the presence of one ditch, but it is possible that another ditch exists as no excavation was conducted on the other (north) side of the ditch. Barbuto (2000: 235) also notes that the earthwork was six to seven feet high and varied between five and sixteen feet in width, while the ditch varied from six to ten feet wide and three to four feet deep. Abatis were placed along the defensive work and interspersed with thorns to make them even deadlier. Traverses inside the camp protected against enfilading fire. Furthermore, in addition to the 27 guns positioned along the earthwork (Whitehorne 1991: 37), external support was provided by a battery across the river at Black Rock and schooners in Lake Erie (Barbuto 2000: 235-237). From these descriptions, it is clear that an imposing and extensive defensive network was created in a very short time period. Such construction required an immense amount of labour; work crews operated in continuous eight hour shifts and orders were constantly being made for more construction equipment, as well as animals such as oxen to aid in the work (Whitehorne 1991: 36-37). Such an operation must have required an incredible amount of logistical control. This construction continued throughout the siege. The supply of equipment was facilitated by the presence of the American shore just across the river, thus forming a direct supply line to Buffalo. Whitehorne (1991: 37) credits the ability of the Americans to sustain such a large force at Fort Erie for a prolonged period of time to their control of the river route to Buffalo. The British, on the other hand, were 64km removed from their supply line at Fort George (Latimer 2009: 61).

The defenses of the fort proper were also improved. Chartrand (2012: 53) indicates that a chevron-style wall connecting the demi-bastions was built through the middle of the fort (presumably replacing the earlier palisade built by the British). Abatis were placed in front of this interior wall, which was shielded by a ditch and the exterior redoubts (built by the Americans on the unfinished bastion foundations [Owen 1986]). The chevron wall running through the fort between the (east of the redoubts and west of the demi-bastions) appears to have been linked to the rest of the earthwork rampart that ran the length (approximately 800m) of the American camp.

In addition to guns mounted in the fort itself, various batteries (four in total) were established along the defensive perimeter between July 28-31 (Whitehorne 1991: 36-37). This work was supervised by Lieutenant David B. Douglass. Douglass himself commanded a battery (built out of the ruins of a lime kiln) (Barbuto 2000: 234-235) just immediately to the east of the fort between the fort's ravelin and the river. As was the case with the rest of the defensive line, an approximately 2m rampart connected this battery to the fort and extended right to the water's edge. Douglass Battery thus acted as the extreme northeast anchor of the perimeter.

Another battery was established on the other side of the fort, just southwest of the lower (southeast) demi-bastion. This battery was known as Fanning Battery, after its commander Captain John J. Fontaine (later referred to as Fanning) (Babock 1899: 34; Whitehorne 1991: 43). Another battery was located

230m further along the earthwork, under the command of Captain Thomas Biddle. Finally, a battery under the command of Nathan Towson anchored the American lines at a distance of about 750m southwest of the fort at a point approximately where the Niagara River meets Lake Erie. This point was known as Snake Hill, and was a natural knoll that the American forces had built up by approximately 7.5m to form an imposing redoubt. A line of abatis filled the gap between Snake Hill and the water's edge (Barbuto 2000: 234). Whitehorne (1991: 37) has demonstrated that Snake Hill is located about where Lakeshore Road intersects with Albert Road; georeferencing of historic maps confirms this position.

The trajectory of the earthwork perimeter differs slightly between maps but the general impression is an approximately 750m extension from the southwest corner of fort that angles southwest for about half its distance, before angling to the south and terminating at Snake Hill; on the east side of the fort an approximately 70m extension links the fort with Douglass Battery. These four batteries, paired with the fort, provided artillery support along the entire perimeter of the camp. These defences are depicted admirably on Douglass' 1816 map (discussed further below). In addition to the four batteries, the map shows regiments posted between traverses the entire length of the earthwork. Whitehorne (1991: 42-43) provides a detailed description of the distribution of regiments along the defensive periemeter.

Drummond opted not to immediately attack the vulnerable Americans after their retreat to Fort Erie. It has been often stated that if Drummond had decided to launch an assault against the Americans before they had a chance to further ensconce themselves at Fort Erie, he would have been able to quickly force them across the river (Latimer 2009: 60; Feltoe 2014: 29). Instead, Drummond waited at Queenston for reinforcements, and, in doing so, was unaware of the Americans' position and strategy (Barbuto 2000: 238). After learning of the Americans' position, the British began to move towards Fort Erie on August 1st. Drummond had decided to engage the Americans despite their numerical advantage. He sent out a portion of his army (580 men) under Lieutenant Colonel John G.P. Tucker on August 2nd to attempt to cut off the American supplies at Buffalo, but they were turned back by the accurate and effective fire of the 1st US Rifle Regiment under Ludowick Morgan at Conjocta Creek (Barbuto 2000: 239-240). Had this attempted raid been successful, the Americans might not have been able to build up their defensive position, which relied on a secure supply line to Buffalo. For this reason, it has been called "perhaps the most decisive skirmish of the campaign" (Barbuto 2009: 241). Drummond's hesitance and his unsuccessful probe to attempt to distract the army gave the Americans an opportunity to strengthen their defenses at Fort Erie as described above.

Upon seeing the imposing American defenses, Drummond realized that a frontal assault was not possible. He thus decided to commence a siege to weaken the American position and sent word to Fort George for artillery (Latimer 2009: 62). The large risk in this was that the British supply line was very extended and extremely tenuous, especially with the American naval presence (Barbuto 2000: 241). Thus began a siege that would last almost two months in what turned out to be the only true siege of the War of 1812 (Owen 1986).

The British had built several earthwork batteries north of the fort in the vicinity of the lakeshore at the start of the war to lend peripheral support to the fort (Whitehorne 1991: 5-9). These positions may have been reused in their later efforts to retake the fort. Feltoe (2014: 32) shows the positions of these batteries and notes that they were partially reused. Three new batteries were constructed by the British over the course of the siege; the positions of the batteries was crucial to British success in the bombardment of the fort. Very little hand to hand combat or infantry engagements took place (aside from constant skirmishes, the night assault and the sortie). In fact, the skirmishes were intended to prevent the building of the batteries, and the night attack only took place after the failed first battery assault. Thus, the primary action was in the form of sustained artillery bombardments from the battery positions. These positions and their differing effectiveness will be demonstrated in the third section of this report. It is clear though that the final British siege position (Battery 3) represented the greatest threat to the American forces, and eventually caused the Americans to launch their sortie.

The American rifle regiments present at Fort Erie played an extremely important role throughout the course of the siege. As mentioned above, the initial British probe was unsuccessful due to the skill of the riflemen. Skirmishing took place very often as the Americans attempted to distract the British from their siege efforts (Latimer 2009: 63). This skirmishing began on August 6th and continued almost daily until the end of the siege. While the casualties resulting from individual skirmishes seem small, the numbers began to add up over the course of the siege (Barbuto 2000: 264). The rifle regiments frequently made forays into the forest to attempt to harass the British in a form of guerilla warfare while they built their siege positions (Whitehorne 1992: 57). The hope was that the British would be drawn out and forced into a decisive engagement, but they continued in their siegework construction (Whitehorne 1991: 41).

Barbuto (2000: 243) provides a succinct description of nineteenth century British siege protocol, which was quite standardized and well developed. Unfortunately for the British, there was a decided lack of experienced military engineers in North America (Latimer 2009: 62). Lieutenant George Philpotts directed the construction of the siege batteries at Fort Erie, but was very young and unexperienced. A forest separated by a field to the north and west of the American camp provided cover in which the British were able to build their siege batteries. The strategy was then to fell the trees once the battery was ready and begin to fire (Barbuto 2000: 244). Philpotts decided to align the first battery parallel with the long axis of the American camp, so as to take full advantage of enfilading fire. The battery was located about 1000 yards from the fort, right on the shore of the river (Whitehorne 1992: 57). This allowed for enfilading fire and also for interference with the ferrying of supplies from Buffalo to Fort Erie (Whitehorne 1992: 38) However, the open location (on the river) and proximity of this battery to the batteries on the American shore (Black Rock) also resulted in some British casualties (Feltoe 2014: 40). This interference was alleviated somewhat, however, by the capture of the American schooners *Ohio* and *Somers* (Latimer 2009: 63). On August 12, the British cleared the trees from in front of Battery 1, and began to fire on August 13 (Whitehorne 1992: 57). Unfortunately for Philpotts, the range proved to be too great and scarcely any targets were hit. Even those successful hits proved very ineffective because of the lack of velocity behind the shots (Latimer 2009: 63).

The failure of Battery 1 forced Philpotts to have to reconsider his battery placement. This unsuccessful bombardment appears to have incited Drummond to launch a more direct assault on the American position on August 15. The weakness of the British supply line coupled with the strength of the American supply line and a severe underestimation of the American numbers also pushed Drummond to reconsider his drawn-out siege strategy (Whitehorne 1992: 57). Thus, plans were made for a three pronged direct assault under the cover of darkness.

Drummond hoped that the artillery assault had weakened the Americans somewhat (despite warnings from his advisors that a more sustained artillery strike was needed) and would ensure a successful infantry attack (Feltoe 2014: 46). When the artillery strikes stopped on the night of the 14th, the Americans began to ready themselves for a more direct assault. Timing was a critical component of Drummond's assault, which should have seen three columns converge on their targets at the same time (2:00am), but confusion (due to darkness) caused this to go awry (Whitehorne 1991: 44-45). The three locations targeted were Snake Hill (under Lieutenant Victor Fischer), Douglass Battery (under Colonel Hercules Scott), and the northeast bastion of the fort itself (under Lieutenant Colonel William Drummond). These three probes were to be complemented by an attack by Native warriors on the central portion of the lines under John Norton, intended to distract the American defenders. The mistimed attacks ended in disaster. Drummond's assault of the northeast bastion was initially successful, but reinforcements soon arrived and a disastrous explosion of the magazine under the bastion (the cause of which is still debated) proved to be the turning point of the assault (Latimer 2009: 67-69). The poorly executed assault, combined with the devastating explosion of the northeast bastion, resulted in a very one-sided American victory. Estimated casualties from the night of action cite 1000 British against fewer than 90 American casualties (Whitehorne 1991: 45).

After their definitive victory in the night assault, the Americans worked to rebuild the damaged fort. In particular, the northeast bastion had to be rebuilt. To provide additional security for the fort proper, the two redoubts were added to the west side of the fort and a timber blockhouse built between them (Barbuto 2000: 263). Repairs were made to the wider defensive perimeter as well and additional traverses erected. Morale was raised after the British had been turned back, which must have made this labour easier to endure.

Shortly after the night assault, the British began work on a new battery position, this time closer to the fort (750 yards) and 450 yards from Battery 1 (Whitehorne 1992: 67; Barbuto 2000: 264). This 450 yard distance seems to be overestimated, as this would bring the battery much closer to the fort than the reported 750 yards. Whitehorne (1991: 42) also notes that this battery was located slightly further away from the water (185m). Additional guns were also placed at Battery 1, and attempts were made to distract the American rebuilding efforts by firing into the camp. To combat this, the Americans constructed traverses inside the camp (Feltoe 2014: 82). Around this time, the British began to realize that their stocks of food would only last another month, thus underlining the need for a rapid victory (Barbuto 2000: 265). Skirmishing continued to distract the British efforts, but they eventually completed the battery (Battery 2) on August 30 (Feltoe 2014: 84-88). Unfortunately, when the trees were cut down to begin firing, a low rise appeared that had previously gone unnoticed. As a result, the British were not

able to see the fort and had to fire blind. Nevertheless, this inaccurate fire still had devastating consequences as the British commenced a heavy bombardment (hundreds of rounds per day) (Barbuto 2000: 264). One of the casualties of this bombardment was Gaines himself, who was severely wounded by a mortar shell passing through the roof of his headquarters (Barbuto 2000: 267). After this development, Brown returned to command the American fores on September 2 (Barbuto 2000: 271).

Soon after realizing that Battery 2 was also not in a very effective location, work began on a new battery (Battery 3). This battery was located about 500 yards southwest of Battery 2, and only 400-500 yards away from the fort itself (Whitehorne 1992: 67; Barbuto 2000: 272; Feltoe 2014: 95). Again, persistent skirmishing inflicted casualties on both sides, but the British succeeded in completing the battery by September 6 and guns were transferred from the earlier batteries (Feltoe 2014: 95;Whitehorne 1992: 76). This time, the battery appears to have been constructed in an effective location, but lack of ammunition soon became a problem (Whitehorne 1991: 50-51; 1992: 78; Latimer 2009: 71, 81). Feltoe (2014: 97) suggests that, because of ammunition shortage, Baterry 3 was never effectively used, despite its optimal location. A period of several days of decreased artillery strikes ensued, allowing the Americans time to regroup and reinforce their positions.

The Americans received large numbers of reinforcements (several thousand) in the form of New York Militia and the impending arrival of Major General George Izard's Right Division from Sacketts Harbour. This would give Brown the opportunity to crush Drummond's force (Barbuto 2000: 272-275). Meanwhile, conditions in the British siege camp were very poor; lack of equipment and supplies combined with poor weather and mounting casualties created a serious strain and began to put the siege in doubt (Barbuto 2000: 272-273; Latimer 2009: 81). As mentioned above, Battery 3 proved to be in an effective location, but the siege could not be sustained for much longer with a lack of resources. Brown was aware of the dangerous position of Battery 3; this threat appears to have motivated his next actions (Whitehorne 1992: 77-78; Latimer 2009: 71). Taking all this into account, Brown devised a plan to launch a sortie to capture the British guns and abate the British artillery assault before regrouping with reinforcements and driving the British out. Meanwhile, Drummond began to lose faith in the siege and began to lessen his fire and seemingly prepare for an evacuation (Latimer 2009: 81).

The British decision to abandon the siege coincided with the American decision to launch a sortie. By September 15, Drummond had slowed the pace of artillery strikes to one round per hour (per gun) and on September 16, Major General Louis de Watteville (Drummond's second in command) recommended a withdrawal (Latimer 2009: 61). On September 16, the Americans began to cut their way through the forest to establish a path with which to take the batteries. An undetected trail was cut from Snake Hill to within 150 yards of Battery 3 (Barbuto 2000: 275). The plan was for a two-pronged attack against Batteries 2 and 3, followed by a withdrawal back to the fort after the destruction of the guns (Whitehorne 1992: 79). Artillery fire was to cover this advance, and the plan was put into action on the morning of Septermber 17. Battery Two and Three were quickly overrun and the fight shifted to Battery One, but British reinforcements from the camp further north soon came forward, and recaptured Battery Two (Whitehorne 1992: 80-81). The sortie became chaotic amidst the forest cover and poor light, with many men getting lost and ending up accidental prisoners in enemy ranks. After about an

hour, the Americans withdrew. Both sides suffered immense casualties in the sortie (the Americans over 500, the British over 700) (Barbuto 2000: 278-279). This brought an end to the siege, although Whitehorne (1992: 81) points out the bitter irony surrounding the sortie in stating that the British would have withdrawn in another two days anyway. Thus, the sortie gave the appearance of an American victory, but in reality Drummond had already decided to withdraw, and so it was really more of a moral victory (Barbuto 2000: 281).

2.3.3.2 THE END OF THE CAMPAIGN

The British fully withdrew on September 21, heading towards Chippawa (Latimer 2009: 84). Meanwhile, Brown's forces joined up with Izard's. A skirmish occurred at Cook's Mills on October 19 (the last battle in the Niagara region), but Drummond's forces remained entrenched at Chippawa (Latimer 2009: 85). On November 5, the Americans destroyed what remained of Fort Erie before retreating across the river. Raiding occurred in the southwestern Ontario region over the next month or so under Brigadier General Duncan McArthur, with action at Malcolm's Mills on November 6 (the last battle of the war on Canadian territory) (Latimer 2009: 86). This party returned to Detroit on November 17. The British returned to the ruins of Fort Erie, but did not opt to rebuild it.

In all, the siege of Fort Erie resulted in approximately 3000 casualties, thus making it the bloodiest battlefield of the war, as well as the bloodiest engagement ever fought on Canadian soil (Shoalts 2013: 8). David Owen (1996: 273-274) has stated that the siege cannot be justified strategically, and that its real purpose was to provide an advantage in bargaining as politicians debated a treaty to end the war (possession being the most critical part of negotiation). Perhaps the siege could have been avoided if Drummond had immediately pressured the Americans after their defeat at Lundy's Lane. Barbuto (2000: 280) hypothesizes that he was more cautious given the Americans' recently demonstrated capability in battle. The siege was a risky proposition, but if successful would have resulted in a significant gain of momentum for the British. It eventually brought an end to the Niagara Campaign, the most successful American incursion into Canada. The significance of Fort Erie in the wider campaign cannot be overstated, as it was the site of the beginning of the siege, and eventually brought about the end of the siege as well. In the end, the British succeeded in ousting the Americans and did not lose any territory. This certainly came at a cost, as the Americans proved during the 1814 campaign that they were significantly more capable than either the 1812 or 1813 campaign.

The site played an incredibly important role in the Niagara Campaign and the War of 1812 as a whole, as well as the broader narrative of both nations going forward. The site has often received less attention (then and now) due to it being overshadowed by contemporary conflicts in the Atlantic Theatre at Plattsburg and Baltimore (Barbuto 2000: 267), as well as at Bladensburg and the resulting destruction of Washington, as Whitehorne (1992) points out in his aptly titled book.

2.4 POST-WAR HISTORY

The more recent activity taking place on the site is important to consider in determining the archaeological integrity of the site. The site continued to act as a military post for some time after the completion of the War of 1812. It was never rebuilt to its former state due to financial constraints.

Nevertheless, the fort was occupied by the British Army intermittently until 1823 (Saunders 1996: 269). The construction of canals lessened the importance of the portage route that the fort oversaw, and peaceful relations with the United States decreased the need for a fortified post. The fort was, therefore, abandoned in 1823. The site does not appear to have been subject to any large scale development since it was abandoned. Activity at the site appears to have been sporadic and mostly minimal. In June of 1866, the fort was involved in a Fenian raid that was part of a larger attempt to invade Canada and overthrow British sovereignty by the Irish American rebels (Davies 1996). The invading force used the ruins of the fort as a camp and a kind of staging ground (in a similar function yet on a smaller scale then the American invading force some five decades prior).

The fort and surrounding parkland was acquired by the Niagara Parks Commission (NPC) in 1901 (Saunders 1996: 269). A reconstruction was initiated in the 1930s that aimed to recreate the fort to the period just immediately prior to the beginning of the siege. The reconstructed fort opened on Canada Day 1939, and has been a popular tourist attraction since. The fort and battlefield, therefore, appear to have suffered minimal disturbance since it was abandoned. Historic maps that pre-date the acquisition of the fort by the NPC show the area labelled as a government (military) reserve. More work needs to be done to investigate the use of the land during this period, but it does not appear to have left a large impact on the archaeological record. While there must have been some degree of post-war looting and illicit metal detecting on the battlefield, archaeology has shown that the site remains relatively intact; such activity must then have been sporadic. The greatest post-war disturbance probably occurred with the reconstruction of the fort itself.

3.0 ARCHAEOLOGICAL BACKGROUND

Two six week field seasons (in 2012 and 2013) were conducted at the site. The field schools were directed by Dr. John Triggs, Associate Professor of Historical Archaeology at Wilfrid Laurier University. Field crews were composed of approximately 20 students and two teaching assistants. Figure 1 shows the location of all excavated areas.

In 2012, excavations focussed on two sub-areas: Fanning Battery (hereafter FB) (see Figures 2 and 3) and Western Redoubt (hereafter WR) (see Figure 4). FB is composed of three separate sub-operations: Fanning Battery West (FBW) is composed of three units (two 1x1m and one 1x2m) at large intervals along the earthwork between the historical location of Fanning's Battery and Biddle's Battery, FB main contains 11 excavation units (all 1x2m) mostly behind the earthwork close to the south side of the fort, and Fanning Battery East (FBE) contains seven excavation units (all 1x1m) in the vicinity of FB main but slightly closer to the fort. The historical location of Fanning Battery shows up on historical maps as actually being slightly closer to the southeast bastion (just north of FBE). FBW is largely ignored in the following analysis, because the units are isolated and thus not particularly useful in the analysis of artifact distributions and activity areas. The presence of period artifacts in these units, however, does show that occupation along the earthwork was spatially continuous.

The second sub-area, Western Redoubt, is located further away from the fort (approximately 220 m), and is situated on the main American earthwork that radiates out from the fort. Western Redoubt is

itself composed of two sub-operations, henceforth referred to as Western Redoubt West (WRW) containing five units (all 1x2m), and Western Redoubt East (WRE) containing seven units (all 1x2m). The Western Redoubt area is located in close proximity to the historically known position of Biddle's Battery. One of the objectives of the 2012 season was to test the accuracy of existing historical maps of the fort and siege. To this end, units at WRW were placed in the location of a traverse shown on two historical maps of the siege (see Figures X), while WRE units were centred over a building shown on the same maps.

One main area was investigated in 2013 (see Figure 5). This area is the historically known position of another American battery under the direction of Lieutenant David B. Douglass. Douglass Battery was split into two sub-areas – Douglass Battery West (behind the American lines, hereafter DBW), and Douglass Battery East (on the other side, hereafter DBE). DBW contains 12 excavation units (all 1x2m), while DBE contains 17 excavation units (15 1x2m units, one 1x4m and one 2x2m). Thus, three of the four American batteries have been explored over the course of the two field seasons. The fourth battery, Snake Hill, was the subject of archaeological investigations when a cemetery containing the remains of American soldiers was discovered in 1987 (see Pfeiffer and Williamson 1991; Litt et al. 1993). In total, 63 excavation units covering 121 m^2 were excavated over the course of two field schools.

4.0 CARTOGRAPHIC EVIDENCE AND GEOREFERENCING

This section of the report will discuss the use of historical maps of Fort Erie in archaeological analysis. An overview of some[51] the maps available and their differences will be presented. The methodology used to georeference the maps and integrate them in a GIS analysis will be examined. It is important to discuss the use of historical maps in this investigation before moving on to other analytical procedures because, in many ways, the historical maps form the basis of the investigation.

4.1 HISTORICAL MAPS IN ARCHAEOLOGY AND THE ADVANTAGES OF GIS

Historical maps, as manifestations of human spatial behaviour, are a valuable source of data that can help to inform investigations (see for example Seasholes 1988). Indeed in some cases, historical maps are the main data source and focal point of the analysis (see Heidenreich 1966, 1968). Historical cartography and historical geography are well established fields, but recent GIS advances have made the use of historical maps even more powerful by allowing researchers to manipulate historical maps in a digital environment and incorporate other types of data in a common framework. As such, historical GIS has become a sub-discipline of its own with a growing literature base (e.g. Gregory 2003; Bonnell and Fortin 2014).

Archaeologists have also realized the power of integrating historical maps in a GIS environment to inform their analysis in similar ways (Madry 2006). Historical maps can be used by archaeologists in a number of different ways. Their fundamental purpose is to assist the archaeologist in analyzing past landscapes, and thereby informing assessments of the archaeological signature on the modern

[51] Note that only a sample of the available cartographic evidence is examined. These represent mostly British examples that could be easily obtained through Brock University's digitized map library. Many other maps depicting the fort exist (including those produced by Americans) but fall outside the scope of this project.

landscape. Historical maps can help guide investigation by locating targets on the modern landscape (a more deductive approach) (e.g. Venovcevs et al. 2012), and can aid in the interpretation of archaeological findings (a more inductive approach).

Military sites are particularly well suited to the study of historic maps. Military bodies produce a substantial amount of documentation, and tend to maintain this documentation. Maps play an important wartime role in planning of strategy and tactics. As such, there is a large body of cartographic evidence potentially available for study at Fort Erie. An overview of these maps reveals some inconsistencies in their content. In studying historical maps, archaeologists must be aware of their biases and shortcomings (similar to the study of any other form of historical document) (Seasholes 1988: 92). Although maps represent an enticing source of information that may often seem to be explicitly objective, they must not be taken at face value. As is the case with all maps throughout history (including up to the present day), historical maps were made with a purpose in mind and reflect the biases of the map maker and their culture (Madry 2006: 35).

4.2 HISTORICAL MAPS OF FORT ERIE

As mentioned above, there are many different maps that depict the fort and surrounding environment. These maps date to different periods of the fort's occupation. They fall into the following categories: early fort, proposed later fort, later fort, siege period, post-siege. The siege period maps will be examined in detail here. The quality of the cartographic products varies, with some maps obvious professionally surveyed and drafted, while others are more hurriedly done. Those that date to the siege period or depict the siege period are the most useful in this investigation, as they tend to depict more of the surrounding landscape. The earlier maps are useful in examining the pre-war landscape, especially the remains of the original fort, but were less useful in this investigation. These maps tend to be more abstract blueprint-like plans but are useful for comparison with the later maps in terms of their depiction of the nineteenth century fort. Several maps that depict the later nineteenth century landscape are also useful in assessing post-war use of the land. Table 1 summarizes the maps described below.

4.3 GEOREFERENCING

Early in the project, attempts were made to georeference the various maps to the modern landscape. A traditional georeferencing approach was at first undertaken, with the establishment of control points, and subsequent transformation and warping of the maps. This is the standard georeferencing methodology used to register modern spatial data such as aerial photographs and remote sensing images. While the applicability of this method has been demonstrated elsewhere (see Madry 2006), it requires the existence of reliable control features present both on the modern landscape and in the historical map. Street networks or building footprints (such as those found on insurance maps) are commonly used as control points (e.g. Ball State University 2011; Berry 2003). Such features are not present at Fort Erie, where often the only extant feature is the fort (which itself is a reconstruction of the original structure). Later aerial photos and maps do show road networks and allow for a georeferencing technique using control points. This technique was used effectively to georeferenced a 1934 aerial image of the fort. In this image, road networks and building footprints can be successfully

used as control points. The lack of control points (and their proximity to one another) in early nineteenth century maps of the fort precludes the application of this technique.

The fort's bastions and barrack buildings are the features that potentially can be used as control points. Because of a lack of consistency in the placement of these features from map to map, however, relying on them solely is an ineffective strategy. The differences in the placement of the bastions on different maps (and in the current restoration) stems from the fact that the two redoubts[52] were not actually completed as initially planned. They were left partially constructed by the British, then later hastily incorporated into the fort by the Americans. Thus the maps may not actually depict the redoubts as they were built. It is crucial to take into account the building phases of the fort, the dates of the maps, and how this may impact the fort's depiction. Feltoe (2014) provides an excellent summary of these building phases and the changing appearance of the fort.

Rather than georeferencing the maps using control points resulting in transformations, a technique involving the spatial adjustment of the maps to fit the modern landscape was found to be effective. In this technique, the scale of the map is first adjusted to match the ground scale. The easiest way to do this is to use the distance between demi-bastions as a benchmark. This parallels the methodology employed by Triggs (1995b: 160), who used known dimensions of buildings in his analysis of plans depicting the defenses of Burlington Heights. A ground distance of approximately 126.5 m separates the demi-bastions at Fort Erie. This distance was applied to each map to ensure correct scale. Next, the map was simply moved into place using rotation and translation. The demi-bastions and the barrack buildings were used to situate the map, because they were built as planned and are the most accurate features. The map is oriented using these features, and others such as the ravelin and curtain walls.

It is difficult to obtain a very accurate georeferencing with the lack of potential control points. Thus, it must be noted that the georeferenced maps have some locational error associated with them. This said, they are still very useful for visualization and approximate location of historic features. Scale is held consistent across the maps using the demi-bastions as a benchmark; thus any differences in positioning of features must be a result of error or differing interpretations on the part of the original cartographers. In most cases, the maps are in general agreement with regard to the positioning of particular features. At times, however, there are some noticeable discrepancies. In these cases, it is possible to examine multiple maps as independent lines of evidence and determine if the majority of them show feature in the same or a similar location. In addition, other lines of evidence such as the documentary record can be used. Specifically, this applies when examining the locations of the British siege batteries. The documentary record provides range measurements in the form of distances from the fort to the battery which can be used to assess the locations of batteries as shown on maps. When location varies significantly between maps, there are several options. As Triggs (1995b: 160) states, the maps can be discarded and others used instead if researchers have a sizeable cartographic database to work with. This is appropriate in some cases at Fort Erie, where several maps depict features (such as

[52] In order to differentiate the four bastion of the forts, the two closest to the river (i.e. on the eastern side – the northeast and southeast bastions) will be referred to as demi-bastions. The other fortifications structures on the west side (diamond-shaped fortifications) will be referred to as redoubts.

the siege batteries). In other cases, however, features show up on only a couple maps and this is not feasible. When the maps cannot be discarded, Triggs (1995b: 160) recommends labelling the conflicting positions of features as “high potential zones”, which must then be subjected to subsequent reconnaissance and testing. Another option is to balance the maps against one another and determine a compromise positon between multiple maps if a specific location is required (as is the case for computing battery viewsheds).

Prior to excavation beginning in 2012, several maps were analyzed by Dr. John Triggs to assess their consistency in terms of scale. Two maps in particular (Romilly 1814 and Cranfield 1815) were used to guide investigations in the 2012 field season. One of the main objectives for this field season was in fact to test the validity of contemporary maps. The confirmed accuracy of the maps would then allow for their further use in the investigations, and their application as an interpretive tool for the rest of the site. The two maps were found to exhibit consistent scale, as determined by measuring distances between common features. The numerical scale was derived by measuring the ground distance between the demi-bastions of the reconstructed fort and comparing this to the map distance. Then, this scale was used to extrapolate distance measurements for prominent features showing up on both maps (particularly a building sheltered by two traverses that shows up on both maps about 200m from the fort). Because distances were relatively consistent on both maps, units were placed over the traverse and the building area to determine if the maps were accurate. Archaeological evidence suggests that there is a building in this area, which supports the accuracy of the maps. As described above, a similar approach was taken to scale maps for georeferencing.

When georeferencing was undertaken with these two maps (Romilly 1814 and Cranfield 1815), it was found that a good fit could be obtained for the two demi-bastions and the barrack buildings, but that the two redoubts as shown on the maps were further removed from their current reconstruction (by a distance of about 30m). As mentioned above, the two redoubts were not completed as originally planned. Owen (1986: 7, 42) indicates that the demi-bastions were completed by the fall of 1807, but that lack of funds prevented the other two bastions from being completed. Thus, it fell to the Americans to ameliorate the weak western defenses of the fort when they captured it in 1814. The Americans built redoubts (likely earthen) on top of the foundations of the partially constructed bastion foundations. The position of these redoubts varies across different maps. Table 2 displays the ratio of the distance between demi-bastions to the distance between the southeast demi-bastion and the southwest redoubt. At times, these distances are shown to be almost approximate (on maps produced in 1814), whereas at other times the distance between demi-bastions greatly exceeds that of the distance between the demi-bastion and the redoubt, resulting in a somewhat compressed design (on the proposed building plan, on maps in 1815, 1816, 1818, and 1819, as well as in the fort reconstruction). The original plans for the fort in 1803 indicate that this slightly compressed shape was how the fort was originally supposed to be designed. This is reflected in the reconstruction of the fort.

Perhaps the approximately equidistant representations simply reflect a desire for closer symmetry on the part of the cartographers, but it is odd to see this error on three different maps if it is indeed false. Given that the bastions were not constructed as originally planned, it is entirely possible that the American manifestation of the exterior redoubts resulted in an approximate equidistance between

bastions. The appearance of the restored fort may be an attempt to reconstruct it as it appears in the original blueprints with four large stone bastions. The main fortification as completed by the British before construction halted in 1807 consisted of the demi-bastions connected by a curtain wall and barrack buildings (Owen 1986: 42). This odd-shaped structure was then made more defensible with the addition of a ravelin protecting the entrance in 1810 (Whitehorne 1992: 3) and a ditch and palisade on the western side in 1812 (Whitehorne 1991: 27). These defenses were improved by the addition of a chevron style wall on the western side (Chartrand 2012: 52) and, later, the construction of redoubts to shield it. These features were probably much more temporary and less substantial than they are depicted in period maps, which tend to depict the fort as a seemingly coherent whole with four substantial bastions as it was originally designed in Mann's 1803 plan. These depictions are difficult to interpret, however, because of the lack of a detailed legend for a very complex system of fortifications with many different phases of construction and reconstruction. Such maps that show the fort as a coherent whole, despite the unfinished western side, likely show the fort at the end of American modification; this is a depiction that can be compared and reconciled with that shown by Feltoe (2014: 108-109).

The modern reconstruction of the fort shows these redoubts as being constructed out of stone, but this was almost certainly not the case during the siege. The exterior redoubts must have been less substantial and were probably not linked to the fort with sizeable walls as is sometimes shown, given that they were apparently only constructed after the night assault on August 15 (Barbuto 2000: 263) but were apparently finished by the end of August (Owen 1986: 7). Feltoe (2014: 42) does indicate that the initial construction of the redoubts began in early August, but in any case, they were built in a short period of time. When the Americans took Fort Erie in 1814, the southwest redoubt had a foundation that was level with the ground surface, while the northwest redoubt had only been partially excavated and traced out Feltoe (2014: 28-29). Thus, a substantial stone construction by the time of the siege seems impossible. Instead, it is more likely that they served as external buttresses (made out of earth and perhaps formed by the excavation of another exterior ditch west of the fort to complement the one flanking the chevron wall) that fronted a larger temporary curtain wall joining the completed demi-bastions on the western side (as shown in Douglass map). This curtain wall was likely a part of the larger American defensive line (consisting of earthworks and abatis) that extended southwest to Snake Hill and east to the river. This interpretation is consistent with the excellent narrative provided by Feltoe (2014: 28-50), who describes in great detail the state of the fortifications upon the British surrender and the ensuing American programme of improving the fortifications. In a series of schematics, Feltoe (2014) compares the original planned configuration of the fort (as seen in Mann 1803) with the actual configuration during the siege, effectively demonstrating the differences. That an emphasis on reinforcing the western side of the fort is clear though; perhaps this was motivated by its demonstrated weakness during the night assault. Unfortunately, the restoration of the fort has likely destroyed what archaeological evidence exists for the puzzling western fortifications. In any case, it is clear that the redoubts cannot be used as reliable control points due to the uncertainty surrounding their construction and position. This appears to be because of the quickly changing nature of the American fortifications, as demonstrated by Feltoe (2014), and the maps being produced at different times. The features on the

west side of the fort are thus very temporally sensitive, whereas those on the east side (i.e. the bastions, barracks, and ravelin) are more robust and reliable.

4.4 MAP DESCRIPTIONS AND ANALYSIS

As mentioned above, the early maps are useful in analyzing the eighteenth century Fort Erie and the plans for the construction of the nineteenth century Fort Erie. The dimensions shown on the map dated 1794 are especially useful for comparison against depictions of the fort on later maps. The later maps depicting the siege (produced between 1814 and 1816) are particularly useful for this investigation though. A fairly accurate georeferencing and comparison of these maps was required for the analysis detailed in the third section of this report (the viewsheds observed from the British siege positions).

The first map depicting plans for the nineteenth century fort dates to 1794, according to the Brock University Map, Data and GIS Library. Winearls (1991: 303) notes that this map is undated but is included in a letter dated 1798, which also contains a 1798 plan described below. Thus, the map must date to at least 1798. The date 1794 appears to be lightly scrawled across the upper right corner. No cartographer is listed, but the stamp of the Inspector General of Fortifications is present. The map depicts a detailed section drawing of the proposed fort, as well as a blueprint-type plan of the proposed fort complete with dimensions. Evidently, the map was professionally drafted by an engineer or someone of equivalent experience. Merchant lots and the old fort are also depicted. The dimensions shown on the new fort are useful in making comparisons with later maps.

A similar map, dated 1798, depicts the same riverfront merchant lots with more detailed notations. The layout of the original Fort Erie is also shown. The plan for the proposed new fort is not shown on the 1798 version. This map was produced by Gother Mann, a military engineer.

The 1803 plan was also produced by Gother Mann. Much of this map appears to have been transposed from the previous 1794 map, with stylistic similarities perhaps suggesting that Mann was also responsible for the drafting of the latter.

An 1814 plan shows the fort at the beginning of the siege. Notably, it does not show the two redoubts that are shown on many other plans. The map was included with an October 1814 letter, but is dated August 8, 1814 under the title. This provides additional proof that the redoubts did not exist prior to the night assault of August 15, as stated by Barbuto (2000: 263), although their construction was begun earlier in August according to Feltoe (2014: 42). That the cartographer did not include any sort of structure on the west side of the fort (despite relatively high detail elsewhere) is indicative of a lack of defensive features in this area. Although crude, the earthwork is depicted as passing through the west side of the fort, before turning to the east in the direction of Douglass Battery. The British camp is depicted in somewhat greater detail (drawn by a British engineer), although it is difficult to interpret the legend and thus the function of the features.

Another map drawn in 1814 (see Figure 6) shows the fort and American entrenchments destroyed after the siege. This map was produced by Sam Romilly (British engineer) and was part of a letter sent to Drummond dated Nov 10 1814. Apparently, the map was drawn on Nov 5 (Winearls 1991: 303), and thus shows the fort immediately after the siege. The structure investigated in 2012 shows up on this

map between two traverses, with the legend indicating that it is a log building. The British siege positions are not shown, as the map focusses only on the fortifications. Interestingly, the earthwork is not shown as passing through the western side of the fort as on previous maps. The redoubts are shown as prominent features and the abatis is shown as passing around their exterior (west) side. The fort is shown as a coherent whole with curtain walls connecting the redoubts and the semi-bastions and a ditch or earthwork surrounding the entire structure. It is unlikely that such a construction could have been realized in the short time that the redoubts appear to have been built. This map also shows the distance between demi-bastions as being approximately equivalent to the distance between demi-bastion and redoubt. While the appearance of the redoubts may be exaggerated, sufficient traces of them must have existed to provide a reliable indicator of their location and distance from the rest of the fort. This distance differs from that of the bastions shown on the original fort plans upon whose foundations the redoubts are said to be built (Owen 1986: 7). The map also shows significant deterioration of the earthworks in a very short time.

A third map produced in 1814 is a sketch showing the overall fortifications of both sides. The map was produced by J.B. Glegg, a British captain. Although the map is seemingly a field sketch, it contains considerable detail of the British siege positions and camp. Features such as the camp area, Drummond's headquarters and the 'Indian Camp' are shown. The three separate siege batteries are also shown. The American fortifications are hurriedly drawn, but the original (almost wing-shaped or bat-shaped) fort is clear. No date is given on the map, but since all British batteries are drawn, it likely dates to the end of the siege. The prominent redoubts seen on the Romilly map are not present, instead being replaced by a singular, simplistic V-shaped redoubt. This is not to dispute the presence of substantial redoubts, as the purpose of this sketch is clearly not to depict the American fortifications in great detail. Rather, it is suggested that the redoubts were perhaps less prominent than shown in Romilly's map (which was also produced subsequent to the destruction of the fortifications). While the map is scaled and the British position is shown in detail, the map cannot be used in locating the siege batteries, because the position of the shoreline north of the fort is very crude, and thus the positions of the batteries is very inaccurate.

It has been suggested that the 1814 sketch map may have been a field sketch that served as the basis for a more formal map produced in 1815 (see Figure 7) (Winearls 1991: 182). This map was produced by George Cranfield. Certainly, there are similarities and many parallels between the two maps in terms of the detail shown around the British camp. This map differs from the sketch in that it shows considerably more detail around the fort. It is suggested here that some of these details are based off the 1814 Romilly map. As seen in the Romilly map, the redoubts west of the fort are depicted as substantial elements that seemingly fit in with the rest of the fort. Again, it is suggested that this may be an exaggeration. Other parallels include the building shown partway along the earthwork protected by two large traverses. The only other map to depict this feature is the Romilly map. Also, the large oblique traverse that is shown towards the southern end of the earthwork is only shown on the Romilly map. Furthermore, the distance between demi-bastions is about equivalent to that between demi-bastions and redoubt, another characteristic that is shown only on the Romilly map and one other map (the other 1815 map produced by Nicolls).

As mentioned above, another map was produced in 1815 (see Figure 8). Winearls (1991: 182) notes that the map producers include Philpotts, Romilly, and G. Nicolls (all engineers), although only Nicolls' name is indicated on the map. Great detail is shown in the British siege network, with the batteries labelled 1, 2, and 3 respectively. Considerable detail is also shown for the American fortifications. Again, the bastions and redoubts are placed at approximately equal distances from one another, contradicting early plans for the fort and some other maps (such as Douglass' 1816 map). A line of abatis surrounds the entire fort structure, but there is a clear difference between the original fort and the redoubts that were later added which appear to be joined to the fort with thin walls (perhaps a palisade or small earthwork). The blockhouse structure that was said to be built between the redoubts (Barbuto 2000: 263) also appears on the map. The chevron shaped wall protecting the western side of the fort is also present. Curiously, the structure between the traverses further southwest along the earthwork seen on Romilly's 1814 map is not present. This is somewhat puzzling because of the presence of numerous other structures inside the encampment.

A map produced in 1816 by Lieutenant David Douglass provides the most detail as to the function of different elements of the encampment (see Figure 9). While this map was produced two years after the events at Fort Erie, it is based on an earlier 1814 map produced by Douglass (Winearls 1991: 181-182). Douglass shows the two exterior bastions as clearly separated features in front of a mound and a line of abates. They are not connected to the fort in any manner, as is shown in some other maps. Surprisingly, the building at Western Redoubt is not shown in this map, despite numerous other buildings in the encampment being depicted. The map also shows considerable detail for the British siege camp and batteries, thus allowing for its use in determining the positions of the siege batteries.

Two other maps produced in 1818 (A. Walpole and E.W. Durnford) and 1819 (A. Walpole and Henry Vavasour) depict the fort after it was abandoned, but these do not show sufficient detail to be of use in determining the positions of the siege batteries. The maps show the military reserve containing the fortifications and are contained in letters concerned with the development of infrastructure around the reserve (wharves and other structures). Interestingly, a building is shown in the vicinity of Douglass Battery.

Many other maps were produced over the course of the nineteenth century, which show the development of the government (military) reserve around Fort Erie. These include such products as the 1862 Tremaine map and the 1876 County Atlas maps. These maps are useful in conjunction with land records for assessing post-war community development and phenomena such as the rise of the railroad in the vicinity of the fort. This post-war history warrants further research but will not be addressed in the current investigation.

From this summary, it is clear that a rich cartographic record exists for Fort Erie. It should also be noted that maps examined are almost exclusively only British maps found at LAC. A similar corpus of American maps presumably exists and has yet to be examined. From the cartographic evidence, numerous questions arise (particularly pertaining to the structure and layout of the fortifications on the western side of the fort during the siege). The evolving schematics of the western defences presented by Feltoe (2014) provide parallels for most of these depictions. The maps paint different pictures of Fort Erie's

landscape, which often seem contradictory. One way to understand these differences is to examine the maps in a GIS context, which allows for overlays and composite images to be produced to enable comparison. It seems that the differences in the maps are due to the quickly changing nature of the American encampment, effectively demonstrated by Feltoe (2014). Ultimately, archaeological verification (ground trothing) is the solution to the conflicting features on the maps.

In Triggs' (1995) analysis of cartographic evidence at Burlington Heights, a composite basemap showing the positions of historical features derived from several historic maps was created. This approach would be very useful at Fort Erie as well. The complexity of maps and the ranges in dates of maps at Fort Erie would likely necessitate multiple basemaps for different periods (e.g. pre War of 1812, different stages of the siege, post War of 1812). A separate layer could be created and symbolized by colour for each map to show differences and similarities between maps for each period.

5.0 INTRA-SITE ARTIFACT DISTRIBUTIONS

This section will analyze the spatial distributions of artifacts across different scales at the site (within areas and between areas). Different functional categories will be examined in an attempt to establish patterns and identify specific activity areas at the site. Visualization in the form of proportional circles for artifact frequencies will be the main approach, but spatial analysis using techniques such as Hotspot Analysis, and Cluster and Outlier Analysis will also be demonstrated. In addition to spatial statistics, numerical statistics and graphical analysis can be used to make comparisons between areas. The main artifact examined will be lead shot, for reasons explained below. Other artifacts and classes of artifacts will also be examined, and the methodology can be extended to any artifact category.

5.1 CLASSIFICATION AND CATEGORIZATION

Lead shot are usually the most common type of artifact recovered from battlefield sites (see Pratt 2007). Their abundance and wide distribution at Fort Erie make them an ideal artifact for intra-site distribution analysis. Furthermore, they can be distinguished by calibre and type (i.e. function), as well as cultural affiliation (see below). Thus, sub-groupings can be established for detailed analysis. Sivilich (2007: 94) lists several reasons why lead shot can be used as useful diagnostic tools. These include: the ability to determine what type of weapon fired the ball, the ability to determine troop positions based on ball characteristics (impacted balls indicate firing and target areas, whereas round balls indicate unfired balls and thus probably dropped), the ability to determine the type of target that a ball hit based on impact scars, as well as the ability to identify other aspects based on chew patterns (molar-chewed indicates possible field hospitals, lightly chewed may indicate hot weather and the promotion of salivation, animal-chewed may indicate post-battle activities). The analysis below will focus heavily on lead shot. An overview of several other artifact categories will also be presented. These other classes can be examined in more detail, but this project chose to focus mostly on the lead shot (partly because additional metrics already existed for the shot). The methodology applied to the lead shot can be applied to other categories of artifacts.

Lead shot recovered from eighteenth and nineteenth century sites in North America fall into a well-defined set of categories (see Table 3). The smallest category in terms of diameter is bird shot, which are

comparable to modern lead shot used for hunting purposes. Bird shot recovered at Fort Erie range in calibre from 0.06" to 0.21".

The next category of lead shot is buck shot. Historical buckshot is quite similar to modern buckshot, which has a standardized diameter of 0.33" (for 00 type) or 0.36" (for 000 type) (Sivilich 2007: 88). Unfired buckshot recovered at Chalmette battlefield was defined by the investigators as falling between 0.27" and 0.33"(Cornelison and Lowe 2014: 304), while Schablitsky (2014: 192) identified buck shot at the Battle of Caulk's Field as being 0.25"-0.36". Sivilich (2007: 88) indicates that buckshot excavated at Monmouth Battlefield battlefield fall within the range of 0.27-0.38". At Fort Johnson, Nolan et al. (2012: 267) cite recovery of buckshot ranging from 0.24" – 0.32". Those recovered from Fort Erie fall within these ranges, but have a much smaller spread (found between 0.29" and 0.31"). The degree of variation present at other sites is not seen in the Fort Erie assemblage (see Figure 10). The calibre of buck shot recovered have a much smaller range, but even more notable is the fact that 233 balls (96.2%) measure 0.30". This degree of standardization is astounding, especially compared to other sites. It suggests a rigorously centralized production and distribution of buck shot. As Cornelison and Lowe (2014: 309) point out, all buck shot would have been used by the American forces; the British did not make use of buck shot and apparently considered it barbaric to do so (Whitehorne 1991: 189). Buck shot were paired with musket balls to produce a more devastating volley of fire, similar to the wide spray of a modern shotgun. This practice begun in the eighteenth century, and had become standard by the time of the War of 1812 (Cornelison and Lowe 2014). Part of the reasoning behind this was to compensate for the slow loading of muskets – adding buckshot was more efficient at getting shot into the air (Peterson 1968: 60).

Comment [D1]: Peterson (1968: 60-61) talks about buck shot amount variation, also mentions that the British sometimes used buck shot in Rev War

Whitacre (2013: 5-6) describes rifle balls as varying widely in calibre from 0.30" to 0.60" (although clustering in the range of 0.50" to 0.55"). Peterson (1968: 60) also notes that most rifles were in the 0.50-0.60 range. This wide range is a result of the lack of standardization that existed in eighteenth and nineteenth century rifles. This is in contrast to the standardized sizes seen in contemporary muskets. The lack of standardization in rifles is a result of their manufacture and intended use. As originally designed, the rifle was a hunting weapon, whereas the musket was developed for combat (Whitacre 2008: 35). Rifle balls had to be cast to suit specific models of rifles. Originally designed in Germany, the rifling technology spread to North America through immigration in the early eighteenth century (Whitacre 2008: 36; Dillon 1995: 14). By mid-century, it became the favoured civilian gun in North America; early American rifles were designed by Pennsylvania Dutch immigrants (Dillon 1995: 14). By 1775, the technology had spread throughout the United States and had been adapted into an American model with a longer barrel and smaller calibre (termed the Pensylvannia rifle) (Whitacre 2008: 37). The rifle was essentially a civilian weapon (Peterson 1968: 40), and as such was handmade by many different gunsmiths. While noting the large variety of rifles used by militiamen in the War of 1812, Eaton (2012: 623) states that the Pennsylvania Long Rifle was the most common. Whitacre cites calibres for the Pennsylvania rifle ranging from 0.35 – 0.60, and notes that the German predecessor (termed a Jaeger) had a calibre ranging from 0.60 – 0.70.

Comment [D2]: eterson (1968: 60) also says most rifles were 0-60

Comment [D3]: Whitachre (2013: 35) reviews the history of rifles – originally a hunting weapon

Despite its excellent accuracy over long distances (up to 400 yards) (Whitacre 2008: 38), the rifle came with some significant weaknesses which would prevent it from becoming the infantry weapon of choice in the War of 1812. Most notable was the time it took to load and fire the rifle – up to two minutes to complete the whole process (Whitacre 2008: 38). Another important weakness was the inability of the rifle to carry a bayonet attachment (Peterson 1968: 42; Nolan et al. 2012: 265). Furthermore, the rifle required more skill and practice to achieve competence, and thus there were fewer men who were equipped to use it effectively (although this appears to have been less of an issue in North America) (Whitacre 2008: 35-38). For these reasons, rifles were only used by smaller specialized detachments or civilian militiamen (Eaton 2012: 623). The 1803 Harper's Ferry model rifle (produced at the Harper's Ferry arsenal in Virginia) was the standard military-issue rifle distributed to rifle regiments in the War of 1812 (Nolan et al. 2012: 265; Eaton 2012: 623; Dillon 1995: 70). It had a calibre of 0.54 (and thus a slightly smaller ball calibre, of which there is evidence in the Fort Erie data set). It appears that the British did not make use of the rifle for inland combat, because they did not believe it would be effective in the densely forested interior. Thus, all rifle balls present at the site can be assumed to be American (either civilian or military based on the calibre). The wide range of calibres present in civilian rifles precludes the identification of specific weapons, but allows for differentiation from the standardized military rifle.

The lead shot at Fort Erie have a clear peak in the smaller range mentioned above (0.50" to 0.55"), specifically 0.51" to 0.53" (see Figures 10 and 11). Additionally, two balls fall outside the range for buck shot and outside the typical 0.50 – 0.55 rifle ball range. These two balls (0.41" and 0.44") were assigned to the rifle category, albeit as outliers. This follows Sivilich's (2007) typology in which shot with diameters as low as 0.39" are categorized as rifle balls. Given the large variety inherent in the rifle class, it is not surprising to see these outliers. The relative standardization present in the rest of the rifle assemblage suggests that a few specific weapons were being used. This suggests the presence of a more coordinated force with supplied standardized weapons (a rifle regiment), in addition to militiamen with more diverse weapons (which likely accounts for the outliers). Nolan et al (2012: 265-266) note that militiamen had to procure their own weapons, which resulted in significant variety in arms (although civilian rifles tend to cluster in the 0.45- 0.50 calibre range). With the ball calibre being slightly less than the muzzle calibre, the two balls mentioned above fit quite well in this range. In the case of Fort Erie, we can be fairly certain that only the American troops were using rifles. There is evidence in the documentary record for the presence of rifle regiments at Fort Erie. Shosenberg (2014) notes that 240 men from the 1st U.S. rifle regiment were instrumental in turning back the first British probe against the American position on August 2nd 2014. Whitehorne (1991: 43) notes that two rifle regiments (the 1st and 4th) were positioned along the earthwork at Fanning's Battery and further south. Whitehorne (1992: 116) provides unit strentghs derived from ration abstracts which show 338 riflemen in August and 454 in September. Thus, there appears to have been between 300 and 400 riflement present throughout the siege.

The final category of shot is musket balls. The musket was the most popular and important weapon during the War of 1812, and the vast majority of soldiers would have used a musket (Eaton 2012: 623). This was not because it was better made or more deadly than the rifle (the opposite is true in fact).

Rather, it held a tactical advantage over the rifle in that it was much easier and quicker to reload and fire. Both American and British muskets at the time of the War of 1812 could fire at a rate of approximately 3 rounds per minute and were most effective at a range of 50-75 yards (Graves 1994: 168). In linear tactics employed in the nineteenth century, the rate of fire was the most important characteristic; accuracy was of lesser importance for this strategy (Peterson 1968: 26; Whitacre 2008: 32). Due to its poor accuracy, a single musket was not an effective weapon. As Graves (1994: 168) aptly puts it "the regiment became the weapon, not the individual musket, and the commander directed his fire as he saw fit". The most effective way to carry out this strategy was in a linear fashion.

As mentioned above, muskets in this period were of a consistent and uniform size, and those used by the different sides can be distinguished from one another. Beginning in the eighteenth century, various European nations began to develop standardized musket models (Whitacre 2008: 33). This standardization allowed for mass production and distribution of firearms and ammunition. The standard musket used by the British infantry was the British Short Land Musket (India Pattern). The weapon is more commonly known as the Brown Bess (after the colour of the stock) (Peterson 1968: 29), although this term is not contemporary and is actually a modern misnomer (Whitacre 2008: 5). Although its long pattern derivatives were in use for decades prior, the shorter India Pattern musket was officially adopted by the British Army in the early 1790s. The weapon has a 0.75 inch calibre, with balls commonly measuring about 0.69" (Peterson 1968: 60). This was the weapon of choice by the British Army at Chippawa (Graves 1994: 168), and consequently Fort Erie.

Initially, the Brown Bess would also have been the weapon of choice in the American colonies. Over time, however, more and more guns were imported and Americans began to develop their own prototype. By the time of the Revolutionary War, many Americans still used British muskets (Peterson 1968: 27). It is highly unlikely that this was the case during the War of 1812 though. Firearms imported to the United States during the eighteenth century were overwhelmingly from France (Peterson 1968: 36-37). As with the British, the French army had a standardized musket that was distributed to its troops; the standardized calibre was 0.69", with a ball measuring about 0.63". These muskets were termed Charlevilles, after one of the armories where they were produced (Whitacre 2008: 34). At first (starting in 1775), guns made in America followed the British pattern, but over time as Americans acquired more and more French guns they began to prefer this style. Thus, all guns produced after 1777 followed the French pattern (Peterson 1968: 30-38). The Springfield model (0.63") would become the dominant American weapon used in the War of 1812 (Graves 1994: 47). The 1795 model was the standard military-issue musket in the War of 1812, and included a bayonet (Nolan et al. 2012: 265). At Chippawa, the Americans used the 1795 Springfield Model, as well as its later derivatives (Graves 1994: 168).

All lead shot recovered at Fort Erie were measured, weighed and described.[53] For those shot that were too deformed to allow for an accurate measurement of diameter, a linear regression formula based on

[53] This analysis was carried out by Sarah Timmins.

the density of lead was used to determine their unfired diameter. This formula was developed by Dan Sivilich (Sivilich 1996: 104), and is as follows: Diameter = 0.223204 x (weight in g)$^{1/3}$.

Lead shot was grouped into these defined categories and analyzed in the context of spatial location. The excavation unit in which the shot was recovered represents the most detailed spatial location available. This is a rather coarse scale that will naturally influence the conclusions that can be drawn. Working with raw data under this conceptualization, artifacts are assumed to be distributed uniformly across the excavation unit (which is of course not the case). This can be remedied with the use of additional sources (i.e. excavation notes) to support and enhance detected patterns. It is important to avoid ecological fallacy, however, in the analysis of the raw data. As such, primary conclusions can only apply to the excavation unit(s). This said, it must also be remembered that the excavation unit boundaries are artificial, arbitrary delineations; the modifiable areal unit problem must thus also be noted. Unfortunately, this is a necessary evil of sampling requirements, and the aggregation of data to the excavation unit is needed for generalization and subsequent pattern detection.

A 0.22" calibre copper alloy rifle casing was also uncovered, along with a 0.36" Minié bullet. Although belonging to the small ammunition category, these two artifacts were excluded from the present analysis due to the fact that they do not date to the War of 1812 period.

The rest of the artifact assemblage was catalogued following the Parks Canada classification system. This hierarchical system classifies artifacts into the following sub-categories: Material, Group (function – e.g. Food Preperation and Consumption), Class (sub-function – e.g. Glass Storage Container), Object (the artifact itself), and Datable Attribute. This classification provides a useful framework within which artifact distribution can be analyzed at different functional scales. The collection of data from four distinct areas allows for analysis on multiple different spatial scales. Separate layers were created in the GIS for group, class and function. Definition queries can be used to display specific variables.

5.2 SPATIAL ANALYSIS AND VISUALIZATION

The placement of the units makes it difficult to perform certain spatial analytical and visualization techniques on the data set. Units were positioned in a non-random targeted manner aimed at the exploration of specific features (as outlined above). In most cases, units were positioned in an offset linear manner, such that lengthy profiles could be left intact for the interpretation of the site's stratigraphy. Other units were placed randomly between areas (such as those in Fanning's Battery West). Thus, while the placement of units was very effective in investigating specific features such as the building depicted on the 1814 Romilly and 1815 Cranfield map and investigating soil profiles (these being the intended objectives), the conceptualization of spatial relationships between units can be difficult. In order to conceptualize spatial relationships for certain quantitative spatial analysis, units would have to cover a continuous area (i.e. all adjacent), or be placed at continuous intervals from one another (e.g. in a systematic test pit survey) (Banning 2002: 34). This would allow for techniques such as computing density surfaces and frequency contours. Coe (2006) uses these techniques effectively in his analysis of frontier forts in Massachusetts dating to the Seven Years War; he is able to do so because of the adjacency of the units. In his analysis, Coe is able to identify activity areas and functional spaces

through artifact density and specific artifact markers (an approach that will be followed with other artifact classes in this analysis). Similarly, Mabeltini and McBride (2007) use density contours derived from a systematic shovel testing programme to identify activity areas and locate/characterize structures using functional artifact groups. They apply the same contour technique with irregularly placed excavation units, but it is difficult to interpret and probably not appropriate with the sampling design employed (i.e. not enough of the site is covered).

It is still possible with the Fort Erie unit placement, however, to perform powerful techniques such as Hotspot or Cluster/Outlier Analysis (once outlier or spatially removed units are excluded) with appropriate conceptualization of spatial relationships (fixed distance band is the best option). These techniques use spatial autocorrelation, an important phenonmenon derived from Tobler's (1970) first law of geography that examines the relationship between geographic proximity and similarity in kind. Spatial autocorrelation assesses the degree to which similar values are either clustered (positive), dispersed (negative) or randomly dispersed (absence of spatial autocorrelation) in space (ESRI 2013). Cluster/Outlier and Hotspot Analysis examine local measures of spatial autocorrelation and compares them to global measures (ESRI 2013). Associated z-scores and p-values are computed for each unit which allows for the assessment of the statistical significance of each unit. Cluster/Outlier Analysis is particularly useful because it characterizes individual units well. Every unit is assigned to one of the following categories by the algorithm: not significant, HH (statistically significant high value surrounded by high values), HL (statistically significant high value surrounded by low values), LL (statistically significant low value surrounded by low values), LH (statistically significant low value surrounded by high values). Hotspot Analysis is useful for characterizing groups of units or areas – it identifies areas of high clustering, but sometimes this will include units that don't have high values themselves, simply due to their proximity to high values.

In terms of pure visualization, the most effective way to symbolize the data is with proportional symbols (in the form of circles). There is enough variation in the data set for proportional symbols to be appropriate, and using this technique over graduated symbols preserves the numerical properties of the data and allows them to be displayed accurately. In her study of social space in Roman military bases in Germany, Penelope Alison (2013) makes frequent use of the graduated symbol technique. While the technique simplifies the interpretation of the data in some ways, the variation inherent in the data can be masked by the creation of broad categories.
This type of visualization is an effective exploratory tool for the analysis of intra site archaeological data. Patterns noticed in visualization can then be examined statistically using method such as Hotspot or Cluster Analysis to examine the statistical significance of the relationships. Kvamme (1997) notes that visualization and spatial quantitative methods complement each other and should thus be combined in archaeological analysis.

5.3 STATISTICAL ANALYSIS

In addition to the spatial statistical techniques mentioned above, more traditional numerical statistics can be employed to examine relationships between samples. As the application of such statistics is not the main focus of this project, only a brief survey of some of the statistical applications that can be

undertaken in conjunction with spatial analytical techniques will follow. The Chi-square statistic is a useful statistic for examining relationships between categorical data. It can be used to assess the distribution of the categories of lead shot across the different sub-areas. The low expected totals for some of the rows in the contingency table violate traditional rules of thumb such as assuming that fewer than 20% of the rows should have expected totals of 5. Conover (1999) suggests that these rules of thumb are outdated and too strict however. This should be paired with Cramer's V to assess strength of the test statistic. An exact test for contingency tables such as the Fisher's exact test can also be used in place of the Chi-square test, which is heavily influenced by sample size. McDonald (2014: 90-93) suggests the use of an exact test (such as Fisher's exact test) rather than Chi-squared when sample size is less than 1000, because of the inaccuracy of Chi-squared with smaller numbers. The z-test can also be used to compare proportions of artifacts between areas; this will be demonstrated below by comparing buck shot and musket ball proportions.

5.4 PHASING AND PERIODIZATION

Phasing and periodization of the stratigraphic units (i.e. lots) was undertaken by John Triggs. This process provides an independent framework within which the material record of a site can be assessed. A hierarchical system is developed in which each phase represents a stratigraphic unit or group of units (either from one excavation unit or correlated across multiple units), and phases are grouped together into larger categories (periods). This allows for artifacts to be mapped stratigraphically in time slices. The established periods are shown in Table 4.

Certainly, much of the material uncovered at the site dates to the War of 1812 period (and earlier), but some of this material has since been removed from its original context by post-war activity at the site. It is thus important to isolate those contexts that are more meaningful, while removing noise that can be attributed to later disturbances. It is certainly possible that period material might have ended up in more modern contexts; removed from its original context, however, this material is less meaningful.

Periodization is crucial for certain categories since some categories are likely to include many modern intrusions. For diagnostic artifacts such as lead shot or period ceramics, mapping by period is somewhat redundant because it is reasonable to assume that all these artifacts date to the period of interest. It is, however, useful to examine the distribution of diagnostic artifacts (such as lead shot) across different periods to assess the integrity of the site (discussed further below) from a taphonomic point of view. The periodized distribution of lead shot is presented in Table 5. It is encouraging to note that the lead shot assemblage is dominated by periods I-IV, thus suggesting a high degree of integrity for the site (i.e. period artifacts are found in early contexts). In Fanning Battery, however, a large number of shot are found in Period IV, thus suggesting greater levels of disturbance at Fanning Battery.

5.5 RESULTS, ANALYSIS, AND INTERPRETATION

5.5.1 Lead Shot

In total, 520 pieces of small ammunition were recovered. Tables 6 and 7 shows the total frequency of shot recovered by category and area. Figure 10 shows the frequency of all shot by calibre. The peaks correspond to the different categories of shot. Figure 11 shows the frequency of rifle and musket balls

by calibre – the peaks for rifles balls, American musket balls and British musket balls are clearly visible. Figures 12, 13 and 14 shows the distribution of all shot categories in each area. The shot were not evenly distributed across the different sub-areas. Tables 8-11 show the distribution of each type of shot by unit for the entire site.

As a whole, buck shot diameters cluster in quite a narrow range (0.29”-0.31”). This is a much smaller range than what has been reported at other sites (c.f. Sivilich 1996; Nolan et al. 2012; Cornelison and Lowe 2014; Schablitsky 2014). This is likely an indication of a greater degree of standardization in the production and supply of buck shot to the American Army at Fort Erie. Even if buck shot was produced by individual soldiers/units, it seems that there is a large amount of commonality in the use of moulds.

It is not surprising to see a large amount of shot distributed behind the American defensive line. Because the site was occupied for such a long period of time by a substantial force, one would expect to find a significant number of dropped shot amidst the confusion of camp life. The density of shot found at the site is particularly significant when compared to other military sites (see Table 12). The list is evidently not exhaustive, but serves to show that the amount of shot uncovered at Fort Erie is significant. Considered alone, the number of shot recovered (520) is substantial. This becomes even more apparent when it realized that only a very small portion of the site has been examined (121 m^2). It is estimated that the entire fortified area at Fort Erie during the siege covered about 30 acres (Latimer 2009: 61; Owen 1996: 273), which equates to approximately 121406 m^2. Certainly, the entire perimeter of the camp does not exhibit the same densities of shot as those seen in the excavation units, but it is undoubtedly true that there are thousands of shot still interred.

Looking at the assemblage *in toto*, it is clear that shot are not evenly distributed across the categories (see Tables 6 and 7 and Figures 12-14). The majority of the recovered shot belong to the two smallest categories (bird and buck shot); these categories make up 27.1% (n=141) and 46.5% (n=242) of the total assemblage respectively (see Figures 16 and 17). It is hypothesized that these categories are the most abundant in the archaeological record, because of their small size and consequent higher potential for being dropped and lost. Given the large number of bird shot, it is clear that the troops were engaged in considerable fowling to supplement their otherwise monotonous military diet. There is also variety present in the calibres of bird shot; Nolan et al. (2012: 267) suggest that this variety is related to the size of the prey being hunted. At other sites, however, bird shot were recovered in larger diameter ranges. For example, Table 13 compares the distribution of shot recovered at Forts Pelham and Shirley (two Seven Years War sites) to the distribution of shot at Fort Erie. The categories used by Coe (2006) are slightly different than the ones cited here because they are based purely on diameter: the first two categories correspond to different sizes of bird shot, the third category corresponds to buck shot, and the fourth one corresponds to rifle/musket balls. At Fort Erie, bird shot falls exclusively in the smaller category, suggesting that only smaller prey (i.e. small swift fowl as noted by Nelson et al. 2012). An 1804 painting produced by visiting surgeon Edward Walsh showing soldiers hunting passenger pigeons supports these findings (see Figure 15). By contrast, at Forts Pelham and Shirley the bird shot are split evenly across the two categories. The next two proportions are roughly equivalent at both sites.

The next highest proportion is American musket balls, represented by 18.3% (n=95) of the assemblage (see Figure 18), followed by rifle balls (4.6%, n=24) (see Figure 19) and British musket balls (3.5%, n=18) (see Figure 20). Due to the musket being the preferred weapon for infantrymen, it is expected that musket balls would be plentiful than rifle balls. The fact that there were still a fairly large number of rifle balls recovered attests to the presence of rifle regiments. It is known from the documentary record that the 1st and 4th rifle regiments were present at Fort Erie during the siege (Whitehorne 1992: 116). Ration abstracts examined by Whitehorne (1992: 116) show that there were 2040 infantry men compared to 338 riflemen in August, and 2301 infantry men compared to 454 riflemen in September. Thus, the observed ratio of musket to rifle balls seems appropriate. These counts do not include militiamen. Most of the rifle balls fall in the range of the Harper's Ferry model, the standard issue rifle. Two balls fall outside this range (0.41" and 0.44"), thus likely representing civilian guns. A substantial number of militia (over 2000) arrived late in the siege, many of them likely carrying civilian guns. The militiamen were apparently stationed southwest of Snake Hill (Barbuto 2000: 273). The relative paucity of civilian rifle balls appears to be due to this area not having been excavated (as well as the late arrival of the militiamen). Finally, the small total number of British musket balls present is consistent with the British never having a sustained position inside the fortification. As mentioned above, some of the British musket balls exhibit signs of being fired, while others appear to be simply dropped. The possibility of the American troops using captured British arms will be examined further below.

While some general conclusions can be drawn from the relative frequencies of the entire assemblage, a more detailed spatial analysis is required. Variation by area can be examined through two main ways: frequency of shot type can be examined in relation to the total assemblage for a given shot type, or in relation to the assemblage of all shot for a given sub-area (see Table 7). It is also useful to consider density measures, given that the areal coverage of each sub-area is not the same.

At Western Redoubt, there were 333 shot recovered; this amounts to 64% of the total assemblage (see Table 8). The density of shot in this area was 12.81 shot/m^2. This assemblage is dominated by bird shot and buck shot (87.3% of the total shot recovered in the area). The bird shot in WR account for 89.4% (n=126) of the total number of bird shot recovered at the site. When tested with Hotspot Analysis, almost every unit in WR is characterized as a hot spot, because of the lack of bird shot elsewhere. This high proportion cannot be attributed to methodological differences, as methodology was mostly unchanged across the different areas. Wet screening of some soil was attempted after large amounts of bird shot were recovered, but it was found that this did not significantly increase the yield, and was not worth the input of time required. Thus, there must be some sort of behavioural explanation for the high amount of bird shot. Most likely, the bird shot was used for fowling purposes rather than military purposes. While it is possible that the shot predates the siege, it seems likely that it is contemporary with siege activity given its association with other siege related artifacts and activity. There seems to have been a preference to hunt further away from the fort, as evidenced by the highly skewed distribution of bird shot. Bowyer (1992: 97) notes that, at Fort Hoskins in Oregon (built in the mid nineteenth century), all but a single bird shot were uncovered in the officers' area. It has been hypothesized that the area around WR served as officers' quarters, and thus if this holds true, the

observed pattern correlates well with that noted by Bowyer. Perhaps the officers, as a result of their higher rank, were accorded certain privileges in hunting practices and their resulting diet.

This distribution can be examined at an even finer level – the excavation units themselves. For the most part, the bird shot are spread relatively evenly across WR (see Figure 21). There is only one unit (Unit J) that did not yield any shot. Both WRW and WRE show high amounts of shot, with Unit A containing the most (35). There are also a fair number of shot in the ditch. Therefore, the distribution of bird shot appears to be mostly random across the units. Given the manner of deposition of fired bird shot (i.e. widely scattered over a large area), this distribution is expected.

As mentioned above, there was also a considerable amount of buckshot recovered. The buck shot at WR accounts for 68.2% of the buck shot recovered at the site. Unlike the bird shot, however, the inter-unit distribution of buck shot is not random (see Figure 22). Of the 165 pieces recovered, 109 were found in Unit E. The next highest total for a single unit in this area is 14 (in Unit D). Cluster Analysis with a 4m search radius (distance band) shows that Units D and E are statistically significant HL (high-low areas, i.e. areas that have high values surrounded by low values), while Unit P is a significant LH (low value surrounded by high value). It is significant that such a high total was found in one unit (and also that the next highest total was in the adjacent unit). It is, therefore, likely that some kind of depot or storage container for shot was located in the vicinity of Unit E. Given the suspected presence of a building in this spot, the finding of a repository for lead shot in a central location would make sense. At Rogers Island (site of a British outpost during the Seven Years War), investigators discovered a similar cache of clustered unfired shot (45 musket balls in all) on the floor of a domestic structure (Starbuck 2010: 40). This supports the interpretation of the shot in Unit E as a cache in a building. Another possibility is that the lead shot derives from sewn bundles; Douglass noted that bags of musket balls were sewn together in bunches and fired out of cannons (Feltoe 2014: 54). These bags were readied in advance to be fired when needed. Perhaps the mass of shot in Unit E is an example of this. The relatively uniform and thin scatter of buckshot in the other units is likely a manifestation of dropped shot. The mostly uniform distribution elsewhere attests to the presence of troops throughout the area.

There were only five rifle balls recovered in WR. This accounts for 20.8% of the category and thus does not represent an anomaly. It is, however, interesting to note that four of the five rifle balls were recovered from Unit E. This lends further support to the hypothesis of a centralized storage repository.

There were 30 American musket balls recovered at WR (see Figure 23). This number represents 31.6% of the overall AM site assemblage. Again, there is a clear clustering of balls in Unit E, where 22 were recovered. The rest of the balls were scattered relatively evenly across the units in WRE. There was only one recovered in WRW though. Given the relatively high number of buck shot recovered in WRW, it is surprising to only see one musket ball. One possible explanation might be that buck shot are smaller and thus easier to lose; however, other areas exhibit high totals of musket balls compared to buck shot (such as DBW). Musket balls and buck shot are intrinsically related because of the American practise of firing buck and ball rounds. This relationship and the different ratios seen across the site will be further

discussed below, but it is significant to note the high number of buck shot compared to musket balls at WRW.

Finally, there were seven British musket balls recovered, which accounts for 38.9% of the small site distribution for this category. Once again, a significant proportion (five of the six) were found in Unit E. A preliminary examination of the surface characteristics of the British musket balls shows that some of them are fired, while others were simply dropped. Given that the fired balls were found in the American encampment, it is reasonable to assume that they were fired by the British. This does not explain the presence of unfired British shot though. It is hypothesized that some of these unfired shot represent the seizure of British weapons by the Americans at previous engagements. It is also known that American arsenals routinely armed soldiers with British weapons, some of which had been previously captured (Whitehorne 1992: 70). Whitacre (2008: 5) notes that the capture and subsequent use of enemy weapons was a common practice and stresses the importance of context in assigning cultural affiliation. There would have been ample opportunity to obtain weapons from deceased troops at previous battles such as Lundy's Lane and Chippewa, not to mention at Fort Erie as well. In fact, Feltoe (2014: 97) indicates that the New York militia reinforcements who arrived towards the end of the siege were armed with captured British muskets. Whitehorne (1992: 69-70) notes that many state arsenals had been emptied, and all militia weaponry that had not previously been deployed was obtained from the surrounding communities, thus underscoring the lack of weaponry. Given the shortage of weapons (and poor quality of some of the existing ones) experienced by the Americans (Whitehorne 1991: 31; 1992: 69-70), it is undoubtedly true that they would seek to acquire additional weapons.

At Fanning Battery, a total of 112 shot (21.5% of the site assemblage) were recovered (see Table 9). FB yielded the second highest shot density at 3.39/m^2 (significantly fewer than WR). In the case of FB, bird shot were relatively scarce (see Figure 16). There were only 14 recovered (9.9% of the total category). As was the case in WR, they are relatively uniformly distributed (although none were recovered in FBE). As explained above, there is a clear decline in the presence of bird shot as one approaches the fort. The 1804 Walsh painting shows passenger pigeons on the lakeshore just in front of the fort (see Figure 15). It is, therefore, perhaps surprising to not see more shot in the immediate vicinity of the fort. This is perhaps due to the pragmatic concern of not wanting shot to be raining down on the people inside the fort.

There were 53 buck shot recovered at FB (see Figure 24), which represents the highest proportion of shot in the area at 47.3%. Unlike at WR, the buck shot at FB are distributed in a relatively uniform manner, thus suggesting that they were simply dropped by troops stationed throughout the area. Every unit in FB proper and FBE contains buck shot except for Units R, W and those in the ditch. The absence of buck shot in the ditch indicates that drops occurred behind the lines only. While the 53 shot recovered at FB are significantly less than the 165 recovered at WR, the number still indicates significant presence of soldiers in this area.

There were 15 rifle balls recovered at FB (see Figure 25), which is significant because this number accounts for 62.5% of the total rifle ball assemblage. Even more significant is the fact that the inter-unit

distribution shows clear clustering. There were 11 balls located in the southernmost units of FB proper (Units C,D,E,G,H), with five balls in E alone. Units C, D, and E are statistically significant HH clusters, while Unit F is a significant LH cluster. Four balls were also found in FBE (one each in Units N, P, Q and S). There were no rifle balls located in the FBW units (whereas these units did contain musket balls and buck shot). Whitehorne (1991: 43) notes that the 1st and 4th rifle regiments were present at the siege and stationed along the lines south of Fanning Battery. Assuming that Fanning's Battery was located closer to the fort's southwest bastion as outlined above, the cluster of rifle balls seems to be in a location that correlates well with the historic record. The presence of smaller numbers of rifle balls in other areas likely relates to the presence of militiamen bearing personal rifles. An examination of the actual calibres of the rifle balls demonstrates a high degree of regularity, which lends support to the hypothesis that the army rifle regiments were stationed in this area. Only one of the balls recovered at FB was not a 0.51" ball (the standard size for Harper's Ferry rifles). Incidentally, this ball was a 0.52" ball, and may have simply been incorrectly measured. Only three other 0.51" balls were recovered at other areas of the site (two with a large cluster of other shot in Unit E at WR, and another at DBE, perhaps associated with picket activity). A similarly high density of 0.51" rifle balls probably exists throughout the area between Fanning's and Biddle's Battery. A Fisher's exact test conducted on rifle and musket balls at FB and WR shows a statistically significant relationship (p=0.03), suggesting that there is a relationship between type of shot and area.

There were 25 American musket balls recovered at FB (see Figure 26). This is the lowest total for American musket balls in an area behind the American lines (i.e. excluding Douglass Battery East). The low total may be due to the presence of rifle regiments as explained above. The relatively uniform distribution of musket balls indicates that musket-bearing soldiers were spread out across the area, rather than being concentrated in a smaller area as appears to be the case with the riflemen. There does appear to be a greater concentration in FBE, however, where 11 balls were found compared to 12 in FB proper (despite the much greater surface area excavated in the latter). Also, there is a high concentration in Unit G, where six balls were recovered.

There were significantly fewer shot recovered at Douglass Battery compared to the other areas (see Tables 10 and 11). Even combining DBE and DBW, there were only 74 shot recovered. The majority of these (n=59, representing 11.3% of the total shot site assemblage) were recovered from DBW. It is worth noting, however, that fewer units were excavated at DBW compared to other areas. Thus, the total shot density of 2.46/m^2 is a bit more comparable to the 3.39/m^2 at FB. It is expected that there would be a higher proportion of shot behind the American lines, as this is where the troops would spend the majority of their time. Thus, the low total at DBE is not surprising.

There was not a single piece of bird shot recovered at DBW (and only one recovered at DBE). As mentioned above, the discrepancy between areas further away from the fort and those close to the fort cannot be attributed to methodology. While some soil from WR was wet screened, this method was only employed after a significant number of bird shot were recovered (and it was later abandoned after not proving to be significantly more effective). The almost complete lack of shot around in the

immediate vicinity of the fort is extremely significant, given the large size of the assemblage elsewhere on the site.

There were 22 buckshot recovered at DBW, representing 37.3% of the total area assemblage (see Figure 27). Although the total number is lower (as a result of the smaller sub-area assemblage), the relative percentage approximates that of buck shot in the other sub-areas. There appear to be a couple clusters of buck shot (Units B/C, and J).

Rifle balls are represented by only one example in the DBW sub-assemblage. There does not appear to be a significant rifle presence at DBW.

In contrast to other areas, American musket balls actually make up the majority of the DBW assemblage (n=33, 55.9%) (see Figure 28). While this total only represents 34.7% of the total American musket ball assemblage at the site, it is significant in relation to the rest of the DBW sub-assemblage. Despite DBW having the fewest number of units and containing the smallest assemblage behind the American lines, it yielded the most musket balls. Measured in terms of density this number becomes even more significant (1.38/m^2 at DBW vs. 0.76/m^2 at FB and 1.15/m^2 at WR). Musket balls are distributed in a relatively uniform manner across the units, with every unit except one (Unit J) yielding at least one musket ball. The southernmost units contained the most musket balls (18 in Units A, B, and C), perhaps suggesting a greater concentration of troops in positions further behind the lines. Units A, B, and C are shown to be statistically significant HH areas in Cluster Analysis. Using Hotspot Analysis, Units A, B, C, and M in this area are all identified as hot spots. The high concentration of musket balls in the area suggests a high density of troops at Douglass Battery during the siege.

Three British musket balls were recovered from DBW. These may relate to the earlier pre-war occupation of the fort by the British. There is substantial evidence for this eighteenth century occupation of the area, especially in the form of gardens maintained by the garrison in peacetime.

Only 16 total shot (a mere 3.1% of the total assemblage) were recovered at DBE. Due to the location of this area outside the American defensive perimeter, this low total is expected. It is difficult to draw strong conclusions about the area from such a low total. As noted above, the lack of bird shot corroborates the pattern seen elsewhere on the site (fewer bird shot in the vicinity of the fort). Only two buck shot were recovered, compared to seven American musket balls. As is the case in DBW, there are significantly fewer buck shot than musket balls in this area. This is an unexpected observation, considering the standard American musket charge of three buck shot and a single musket ball during the war of 1812 (Cornelison and Lowe 2014: 304).

Three rifle balls were also recovered at DBE, attesting to the presence (albeit scant) of troops armed with rifles in this area. The rifle calibres uncovered here differ from the more standardized 0.51” calibre encountered at FB. This may indicate use of personal weapons by militia troops. Alternatively, these may have belonged to weapons that were present at the site before the siege.

Of note is the fact that all lead shot (except for the British musket balls) recovered from this area were in units close to the earthwork and ditch extending to Douglass Battery. It is possible that these shot were lost in the process of constructing the earthwork and ditch. This would especially seem to be the case for shot recovered in the ditch itself. Feltoe (2014: 52-53) notes that a picket guard was stationed in this area during the siege, and thus this may be the source of the dropped ammunition on the face side of the earthwork.

A total of three British musket balls were recovered at DBE. These may relate to the pre-war occupation of the area by the British military, of which there is significant archaeological evidence in the form of building material, garden activity, clay tobacco pipes and 18th century ceramics. The fact that a British musket ball was found in the displaced earth of the rampart wall constructed by the Americans prior to the siege suggests that it was there prior to their occupation. A more detailed examination of its provenience and a determination of whether or not it was fired would help to conlude if it dates to the siege period or earlier.

As mentioned above, American musket balls and buck shot share an intrinsic relationship due to the standard practice of combining buck shot with a musket ball in a musket charge. By the time of the War of 1812, the standard musket round was a single musket ball and three buck shot (Cornelison and Lowe 2014: 309). It is thus informative to examine the buck shot/musket ball ratio at different areas of the site. As shown in Figure X, this ratio is not held constant across the different sub-areas. Cornelison and Lowe (2014: 309) note that the observed ratio at Chalmette battlefield is 1.45 buck shot per musket ball. They point out that the 3:1 ratio was not rigorously standardized, and that soldiers would often fire between one and five. At Fallen Timbers battlefield, Pratt (2003: 81) notes that ratios between 2.9 and 3.3 have been observed. Peterson (1968: 60) notes that the number used varied depending on the gun calibre; he notes that George Washington recommended between four and eight buck shot depending on the size of the gun. Since a standard-issue musket was being used at Fort Erie, the variation cannot be attributed to different gun calibres. Overall, the ratio of buck to ball at the site is 2.5:1. However, this ratio is not even across all areas (see Figure 29). Marked differences in buck shot to musket ball ratios indicate very different practices employed at different areas of the site. This suggests that the practice of combining buck shot and musket balls was perhaps less standardized than has been previously suggested. The degree of uniformity in the production of buck shot at the site has already been noted. It would seem that this uniformity does not extend to the actual use of the shot however. The discrepancy in ratios from area to area cannot simply be attributed to a dwindling supply of shot. While some areas exhibit a ratio that is less than the hypothetical 3:1, there are areas that vastly exceed it. Thus, a lack of shot may have been a causal factor to some degree (in three areas, the ratios are below 3), but it seems that the number of buckshot employed varied highly from regiment to regiment. This is probably due to the differing backgrounds of officers and different opinions over what was the most effective charge to use. Perhaps, as hinted by Cornelison and Lowe (2014: 309), this was a practice that varied from soldier to soldier. A z-test calculated on the proportion of buck shot in the buck shot + musket ball assemblage shows that Fanning Battery and Western Redoubt proportions are significantly different ($p=0.002$).

The interpretation of small ammunition at Fort Erie necessarily differs from that seen at other more typical battlefields, due to the way in which events took place at Fort Erie. Due to the fort and surrounding landscape being the site of a siege, and not a traditional open linear-style standoff, the resulting material culture is distributed in a different manner. In traditional nineteenth century warfare, the infantries of the respective sides played the most important role (Graves 1994: 51). These infantries would face off against one another in fluid linear formations, while rifle regiments and artillery fire would provide support. Such battles leave characteristic patterns in lead shot. These include both fired and unfired varieties. A cluster of fired shot would indicate that a group of soldiers was firing at a specific target, thus indicating the location of an enemy rank (Homann and Weise 2009: 38). By contrast, a line of unfired balls would indicate the position of a line of infantry men. These balls would have been accidentally dropped during the firing process or perhaps deposited upon the death or injury of their owner. Thus, a pattern of fired and unfired balls form, which archaeologists use to reconstruct battle movements.

Instead of open volleys, military activity at Fort Erie involved sustained bombardment from British siege positions, along with frequent skirmishes and surprise attacks. When the British launched their three pronged night attack on the American fortifications, a significant amount of close quarter combat (with bayonets) would have ensued. This would not result in a large amount of British small ammunition being fired. The attack was designed to catch the Americans off guard and was meant to be an assault, rather than a stationary musket volley (as would be seen in traditional battlefield combat). Artillery played a much greater role at Fort Erie than did infantry. One would, therefore, expect to see a significant amount of dropped (unspent) ammunition along the American lines, which is typical of linear troop positions in open field combat. Rather than being representative of formal and temporary lines of troops, however, the dropped shot in the American camp are the result of a sustained occupation.

This same pattern would not be expected of British ammunition, however, as any small ammunition would likely have entered the archaeological record as a result of smaller, mobile raid-type operations. A preliminary investigation shows that some of the British musket balls appear to have been fired at targets behind the lines. A more detailed analysis of the lead shot assemblage is needed to conclusively identify those shot that were fired and examine their distribution. Due to the American troops being mostly stationary and in a stronghold-type location, a fairly large amount of dropped ammunition is to be expected, whereas the same is not expected for the British, who did not have a sustained position in the fort during the siege. Although further testing will have to be done in other parts of the American encampment to compare densities further behind the lines, one can expect to find large amounts of dropped shot in the areas that are very close to the front of the lines. This is where troops would be positioned to fire over the embankment; such activity is manifested archaeologically in the form of a firing step discovered in Fanning Battery East. High densities of dropped shot should also be expected in areas further removed from the front lines, as the general commotion and bustle of the camp would have resulted in the dropping and trampling of a considerable amount of shot.

5.5.2 Other Artifacts

In addition to lead shot, several other categories are suitable for intra-site spatial analysis. Different functional scales (corresponding to the hierarchical cataloguing framework) were examined. From the group category, Faunal/Floral artifacts were analyzed. From the class category, Tableware, Window Glass and Nails were selected. Lastly, from the Object category, Bottle and Mortar Bomb Fragments were chosen. This list is evidently not exhaustive, and many more categories are available for spatial analysis, but the present study limited itself to these categories. The variety of categories examined from very general classes to specific objects demonstrates the utility of a space-based analysis across various functional scales. Combined with the documentary record and other archaeological evidence, these patterns can be explained and lead to hypotheses about functional differentiation and use of space at the site.

Periods IV and V were removed from all artifact classes (except Mortar Bomb Fragments which can be assumed to date to the period of interest). For some phases, the complexity of the stratigraphy did not allow for unequivocal periodization, and thus some phases are classified as belonging to several possible periods. Only phases that unequivocally fall in Periods IV and V were removed, since they are definitely post-siege. Thus, most of the noise should be removed. As mentioned, the removal of later periods will also remove early period artifacts in some cases (such as Fanning Battery, where many lead shot are found in Period IV). Removing later periods is a necessity in examining broad categories with many intrusive artifacts though. It is hoped that the broader patterns will still be preserved, however, even if some early artifacts are removed. Removing periods hinders comparisons between areas because different areas will have different levels of disturbance (e.g. Fanning Battery period distributions tend to be skewed towards the later periods, indicating greater disturbance). Using diagnostic artifacts such as lead shot as a control variable allows for the distribution of different periods across the different sub-areas to be examined.

Despite these drawbacks, some meaningful patterns have been detected and will be examined below. It must be stressed that these patterns reflect in situ data only though; in many cases this is representative, but in other cases where disturbance is high, early period artifacts are removed. Thus, the method of periodized spatial analysis presented must be augmented with a rigorous artifact analysis and examination of formation processes on a unit by unit basis.

5.5.2.1 Faunal Remains

The spatial analysis of the Faunal/Floral group can help to identify potential occupation areas. This category is composed almost exclusively of faunal material (mostly mammal, although more detailed faunal analysis remains to be done). The analysis is purely based on fragment frequency counts; this can be highly influenced by preservation and fragility of the samples. Naturally, a count based on MNI with assigned speciation would be more informative, but such data is not available at present. This would lead to more insight concerning the diet of the individuals stationed at Fort Erie during the siege. Some meaningful patterns and conclusions can nevertheless be drawn from the present data. Areas with high faunal material counts are interpreted as refuse dumps or midden type deposits. These refuse deposits are interpreted as being near areas of intensive occupation.

A total of 1188 fragments were recovered (after the removal of Period IV and V) (see Figure 30 and Table 14). Of this total, 277 fragments were unearthed at Western Redoubt (see Figure 31). Of these 277, only two fragments were recovered in WRW (despite there being only two fewer units than WRE). Thus, 275 fragments were uncovered in the seven units of WRE alone. Not surprisingly, the two highest unit totals were in the ditch units (Units M and P with 92 and 59 fragments respectively). The ditch would have been a convenient place to toss refuse, and thus it is expected that high totals would be observed. A similar phenomenon was observed at the contemporary British military post at nearby Burlington Heights (Triggs 1995a: 101; 1995b: 162). The fragments become scarcer as one moves towards the southeast (towards Unit A, where only one fragment was recovered). The presence of a large amount of faunal material supports the presence of a structure as shown on historical maps. The occupants of the structure must have produced domestic refuse, much of which would be in the form of faunal material. The lower frequencies in faunal materials in the direction of Unit A is also significant. Perhaps the entrance to the structure is in the vicinity of this unit, and thus it is relatively bare. A more detailed floor plan of the interior of the structure and its vicinity is needed to assess the distribution in more detail. It is clear, however, that a significant occupational presence existed here.

The absence of faunal material in WRW is perhaps suggestive of the existence of some sort of structure or domicile there. The occupants would have discarded most of the material elsewhere (i.e. not in the structure). Excavation in the ditch units in front of WRW would likely yield similarly high amounts of faunal material as observed in the ditch units at WRE. This structural interpretation was supported by the discovery of several postholes in this area. Alternatively, these postholes may relate to the superstructure of the batteries, which are known to have been covered overhead (Whitehorne 1992: 37). In any case, it is clear that any faunal material produced by occupants at WRW was discarded elsewhere.

In Fanning Battery, 94 fragments were recovered (see Figure 32). In FB main, the ditch units are surprisingly bereft of faunal material. A cumulative total of only one fragment was recovered from Units K and M. Evidently, the patterns of deposition are very different in this area. The units furthest removed from the ditch have the highest concentrations for FB proper. Unit C has the highest total in FB main, with 15. This is much higher than the other units in the area, but overall the totals are not high, suggesting only a minimal deposition and thin scatter of faunal material. A further investigation of the ditch in this area is needed to prove that the low frequency of faunal material is a trend in this area and not simply an anomaly. Perhaps if the density of soldiers in this area was less, there would be more open space to dispose of refuse within the encampment. This does not seem likely, however, as Feltoe (2014: 52-53) demonstrates the presence of hundreds of soldiers in this area.

In FBE, there is evidence for greater deposition of faunal material. The amount of faunal material in FBE outnumbers FB main, even though there are only seven 1x1m units in FBE compared to 11 1x2m units in FB main. In particular, Units P and N exhibit high totals with 24 and 20, respectively. Clearly, there was a propensity for dumping refuse in the area of FBE rather than FB main. This may be suggestive of a greater domestic (occupation) presence in FB main, with FBE reserved for refuse disposal.

At DBW, 412 fragments were recovered (see Figure 33). The highest totals are on the northern and southern periphery of the area. The northernmost unit, Unit L, yielded 129 fragments while the southernmost, Units A and M, yielded 88 and 51 respectively. The units in the middle are comparatively bare. Again, this may suggest that refuse was discarded on the periphery, with occupation being denser in the middle. It is known that the American soldiers were living in canvas tents (Barbuto 2000: 263-264), which may have been pitched in areas where the refuse is less dense. This pattern is far from conclusive, but there seems to be a trend for greater densities on the exterior portions of the area. Across the entire area, there is quite a dense spread though, suggesting intensive occupation in this area.

At DBE, a total of 405 fragments were recovered (see Figure 33). Of these, 210 came from the unit on the earthwork mound (Unit P). Some of this may material may date to the pre-war period and may have been interspersed within the earthwork after the digging of the ditch. Alternatively, it is possible that the soldiers were tossing their refuse in this direction and it ended up mixed in with the earthwork. Certainly, the soil matrix would have been soft enough for this to occur, especially with the persistent rain during the siege. Either way, this is a substantial amount of refuse. There are two noticeable areas on the other side of the mound in DBE where concentrated dumping of faunal material has occurred. The first of these 'refuse zones' is close to the mound in the area of the ditch. Five units that skirt the mound and contain ditch deposits (A, B, C, M and N) have totals of 88, 47, 156, 49 and 33 faunal fragments respectively. This pattern is consistent with what was observed at WR. The other high frequency zone contains three units with particularly high values: 69, 98, and 140 in Units G, Q, and H respectively. This particular area contains a number of interesting features which appear to pre-date the war. There is a rectangular pit feature (possible root cellar) contained within these three units. Most likely this cellar was filled with refuse after it went out of use. A similar pattern of faunal remains concentrated in abandoned cellars was observed at Camp Nelson Military Prison, a Civil War military prison in Kentucky (Mabeltini and McBride 2007: 19). This refuse may be associated with the pre-war occupation of the fort, or it may be associated with the Americans stationed there during the siege. A more detailed analysis and comparison of faunal remains from the different areas will help answer this. The rest of DBE contains a relatively thin scatter, with these two areas being the most concentrated. Together, DBE and DBW yielded a substantial amount of faunal material, reflecting intensive and prolonged occupation.

5.5.2.2 Bottle Fragments

The next category to be examined is Bottle, which refers to beverage (mostly alcohol) containers. Again, Period IV and V artifacts have been removed from the totals; it is extremely important to remove these specimens from the Bottle class because many modern intrusive examples were recovered. In a discussion of diet at Fort Erie during the siege, Whitehorne (1992: 70) notes that "spirits" were sometimes available. In total, 368 fragments were recovered (see Table 15 and Figure 34).

In Western Redoubt, 65 fragments were excavated (see Figure 35). Perhaps most notable is the fact that only a single fragment was recovered from the ditch units. This is surprising, given the distribution of faunal material as seen above. Whereas faunal remains were almost exclusively in WRW, the bottle fragments are spread approximately evenly across the two areas (29 in WRW vs. 36 in WRE). Unit B yielded 15 fragments, the highest total for this sub-area. The fragments are relatively spread out across the area, with no clear high concentration zone. The general trend is for higher totals in the southeastern units (opposite of the pattern for faunal). In WRW, Unit G yielded 16 fragments. This is by far the highest total for this area, with the next highest being four. Again, however, the spread is quite uniform with every unit producing at least one fragment.

At Fanning Battery, only nine fragments were recovered, indicating a very low incidence of early glass in this area. Although the sample size is small, five of these fragments were recovered in Unit K in the ditch. It is somewhat surprising to see a lack of glass in this area, because faunal remains were relatively dense (especially in FBE). It thus appears that soldiers in different areas had differential access to alcohol (or at least it in different vessel forms). Because the structure in WR is hypothesized to be an officers' quarters, they may have had more access to spirits such as wine.

At DBW, 92 fragments were recovered (see Figure 36). The pattern is very striking, with bottle fragments almost exclusively being uncovered on the eastern half of the area. As seen with the faunal remains, the highest total is in the southernmost Unit A (38 fragments). Only a single fragment was recovered from the western cluster of Units F, G, H, J, and K. Because a significant amount of early faunal material was recovered from these western units, the skew cannot simply be attributed to disturbance. There is a clear tendency for discarding bottle fragments on the eastern periphery. This likely relates to the pre-war occupation, given the very different distribution compared to faunal remains and the lack of bottle fragments in FB.

At DBE, a total of 202 fragments were recovered. Again, the largest cluster occurs around the probable building identified in the northern portion of this area. Units G, H, J, and Q have high totals of 23, 54, 19, and 26. Elsewhere, the distribution is mostly uniform and sparse. The high concentrations in the ditch and on top of the mound (observed in the faunal remains) are not seen with the bottle fragments. As suggested above, this may point to the bottle fragments relating to the pre-war occupation.

5.5.2.3 Tableware

Tableware is the next category to be examined. As above, the removal of Periods IV and V is needed to remove later intrusive ceramics. This is a useful category to examine, because it may indicate socioeconomic/status differences between soldiers posted in different areas. In military domestic contexts, investigators often cite ceramics as differentiating officers and enlisted men (Bowyer 1992: 52-56; Sussman 1978: 94-95). Sussman (1978: 95) notes that enlisted men would have been supplied with very cheap, durable (i.e. unbreakable) eating implements, while finer ceramics would have been reserved for officers. Thus, while a more detailed analysis with specific wares and forms would be more informative, an analysis of the frequency of tableware fragments should reveal differences between areas.

In total, 694 fragments were recovered over both field seasons (See Table 16 and Figure 37). At Western Redoubt, 150 fragments were excavated (see Figure 38). As with bottle fragments, there were no tableware fragments recovered in the ditch. The distribution is relatively uniform at WRE, with increasing totals towards the south. There are fewer overall fragments in WRE (43) compared to WRW (107). The distribution is mostly uniform in WRW as well, although Unit F has a high total of 49. As a whole, tableware fragments are common at WR, which lends support to the interpretation of the structure at WR as an officers quarters. For WR, bottle and tableware fragments have both been shown to be high in areas where faunal remains are relatively low. This seems to suggest that faunal material has been discarded in refuse areas, whereas the bottle and tableware fragments are in domestic areas.

At Fanning Battery, only 18 tableware fragments were recovered. Seven of these were found in the ditch, while nine fragments were recovered from FBE. The low total is likely skewed by the disturbance at Fanning Battery, but seems to indicate a very different domestic presence.

At DBW, a pattern similar to the distribution of bottle glass is observed, with tableware fragments concentrated on the east side (see Figure 39). Of the 99 fragments recovered, only eight are found in the western grouping of five units. There appear to be two clusters, with Units A, B, and M in the south yielding 16, 14, and 12 fragments, and Units E and L in the north yielding 23 and 17 fragments. Again, it is difficult to say whether these fragments date to the pre-war or war-time occupation, because of the other evidence for earlier occupation in this area. A more detailed analysis of the specific wares will help to explain this.

At DBE, 427 fragments were recovered. As opposed to the bottle fragments, there are quite a few fragments in the earthwork unit (34), which may have been displaced with the construction of the earthwork. As with faunal and bottle fragments, the largest cluster occurs in the area of the cellar and other structural features: 50, 86, and 90 fragments in Units G, Q, and H. Elsewhere, distributions are low and quite uniform, although two units in the ditch (C and N) have fairly high totals of 26 and 30, respectively.

The above analysis has examined domestic refuse to attempt to identify areas of occupation, and specific 'refuse zones'. The next two categories examined, window glass and nails, will help to determine areas where structures may have stood. Once again, Period IV and V artifacts were removed from both classes.

5.5.2.4 Nails

A total of 469 nails were recovered from all areas (see Table 17 and Figure 40). At Western Redoubt, 79 nails were found (26 at WRE and 53 at WRW) (see Figure 41). At WRE, the nails are all found in the southernmost units (furthest removed from the ditch), except for a single nail in the ditch. This is the expected distribution, given that the structure would have been located behind the earthwork. The spread is quite even and the totals are fairly high, which is an excellent indication for a structure in the area. The results in WRW are also quite uniform, and the frequencies are even higher. Units F, G, H, J,

and K contain 8, 15, 13, 14, and 3 nails respectively. These high totals strongly support the possibility of a structure in WRW as well (along with the structural post features uncovered in Unit J). A greater sample is needed in both areas to really find where the nails are concentrated and perhaps develop a floor plan for the possible structures.

The recovery of a mere eight nails at Fanning Battery supports the hypothesis of less permanent structures (i.e. tents) being used in this area. Five nails were recovered in FBE and may relate to the battery infrastructure (several postholes that may relate to the battery were also uncovered in this area).

A total of 49 nails were recovered at DBW (see Figure 42). The distribution is mostly uniform, although there are more nails in the eastern units. The two highest totals are in Units A and M (9 and 12), the two units furthest to the south. Otherwise, the distribution is quite uniform. Perhaps these relate to infrastructure associated with Douglass Battery. Alternatively, they may be associated with pre-war features, such as the gardens that may have existed in this area. Stratigraphic evidence exists in the form of a rich, buried loam horizon throughout much of this area. Gardens are shown in contemporary depictions of the fort, such as the 1804 Walsh painting (see Figure 15), and a sketch of the layout of the gardens in 1791 (Whitehorne 1992: 74). The Walsh portrait shows picket fences delineating the gardens, which likely would have required nails.

A total of 333 nails were uncovered at DBE. It is almost certain that most of these date to the pre-war period, given that it is unlikely that the Americans would have any substantial constructions on the face side of the earthwork during the siege. Thus, even though there are high totals in the earthwork itself (28 in Unit P) and the ditch (22 and 17 in Units A and N), these were probably displaced from earlier features. Once, again the highest totals cluster around units G, H, and Q (20, 84, and 54). The 38 nails from Unit E also represent an anomaly, with its neighbours exhibiting low totals. In all, there is evidence for substantial construction in DBE, likely predating the siege. This is consistent with Walsh's 1804 painting, which shows numerous structures along the waterfront (see Figure 15).

5.5.2.5 Window Glass

The window glass category contained 1989 fragments from all areas (Table 18 and Figure 43). At Western Redoubt, 47 fragments were uncovered (see Figure 44). Only 16 fragments were recovered from WRE, again in the southern units; Unit A with nine fragments had the highest density. At Camp Nelson, a Civil War U.S. army depot, the presence of window glass (in addition to bricks and nails) is interpreted as evidence of hut or cabin structures in addition to less permanent tents (McBride and McBride 2011: 11). This also appears to be the case at Fort Erie. At WRW, the mostly uniform distribution of 31 fragments also supports this interpretation.

At Fanning Battery, only a single piece of window glass was uncovered, thus supporting the argument for less permanent occupation here (tents).

At DBW, 43 fragments were recovered (see Figure 45). Of these, 23 were uncovered in Unit L (which intersects the earthwork). It seems that these fragments pre-date the siege and were displaced by activity during the war.

At DBE, there is unquestionable structural evidence in the form of 1898 window glass fragments. Units H, J, R and Q contained 1686 of these fragments (381, 149, 1047, and 113 respectively). Two units immediately north of this massive concentration yielded almost no window glass (two and three fragments respectively in Units K and S). This is clear evidence of the in situ shattering of a window, with almost all of the fragments clustering in a relatively small area, and the absence of glass nearby. In the earthwork unit (P) and the ditch units, there is a similar lack of window glass. A couple other units close to the main cluster have relatively high totals of 42 and 31 (Units G and L), clearly showing the direction in which the window broke and its likely original position. Unit E is again an anomaly, with 73 fragments, despite being surrounded by very low values (this was also the case with this unit and the distribution of nails). This suggests that another feature may have been located near Unit E (perhaps a smaller window or a doorway).

5.5.2.6 Mortar Bomb Fragments

The final category examined is mortar bomb fragments (see Figure 46). This leads into the third section of the report. Periods IV and V were not removed from this category, because it can be safely assumed that they all date to the siege period. In total, 35 fragments were recovered. The location of these will be briefly outlined here, and the significance interpreted further in Section Three.

Western Redoubt contained the most fragments of any area, with 21. Of these, 18 were uncovered in Unit C; they were discovered in situ in a bomb crater that had significantly penetrated the subsoil. In the adjacent Unit D, two more fragments were uncovered, while another fragment was in the ditch (Unit N). Clearly, the area was targeted; this is likely because of the presence of a building that would have made for a convenient target. Biddle's Battery, also in the vicinity, would likely have been specifically targeted too. No fragments were recovered at WRW.

At Fanning Battery, 11 fragments were recovered. Again, there is a clear concentration of fragments, with nine being recovered from Unit C. Another two were found in Unit H. Again, the area must have been targeted – perhaps because of the presence of the battery.

Together DBE and DBW only yielded three mortar bomb fragments. One of these was in DBW (i.e. behind the lines), while the other two were in DBE (i.e. they weren't fired far enough). Clearly, Douglass Battery was not targeted as much as the other two areas. The locations of the mortar bomb finds and their significance vis-à-vis the positions of the British siege batteries will be explored more closely in the next section.

To sum up the analysis of the spatial distribution of artifacts, it is clear that several patterns exist across the different classes. At Western Redoubt there is clear evidence for some sort of semi-permanent structure (as exhibited by nails and window glass). The soldiers stationed in this area had access to

ceramics and alcohol to some degree. There is quite a high concentration of faunal remains in the area as well, with a tendency for disposal in the defensive ditch. It tentatively seems that the occupants of the structures in this area were likely officers. There is also evidence that a central depot for small ammunition was located in the area, as evidenced by substantial quantities of lead shot (all varieties) in a single excavation unit. Hunting activity appears to have been heavy in this area as well, as shown by large quantities of bird shot. The area appears to have been intentionally targeted during the siege, and successfully struck by a mortar bomb.

At Fanning Battery, there is much less evidence for permanent structures; occupants of this area appear to have lived in tents. Ceramics and bottle glass are much less common here, likely indicating status differences. Patterns of deposition of refuse also differ, with faunal remains tending to be discarded in an area to the east of the main Fanning Battery excavation area. There is evidence for the presence of a large contingent of riflemen (moreso than elsewhere on the site) in this area.

At Douglass Battery West, there is evidence for activity pre-dating the siege, as well as siege period activity. There appear to have been gardens in the area pre-siege, as well as occupation and domestic activity during the siege (significant amount of lead shot, particularly musket balls).

At Douglass Battery East, there is clear evidence for a structure pre-dating the siege (as evidenced by extraordinary amounts of window glass and nails). Feltoe (2014: 28) indicates that there was a lime kiln, as well as a small warehouse building in the Douglass Battery area when Douglass and his men began construction of their battery. Contemporary images also show many structures in the area (several with brick chimneys and possible timber or stone construction). Archaeological evidence uncovered ample domestic refuse probably associated with the use of this structure. There is some evidence for siege activity in the area, but it is very limited because the area is on the north (face) side of the earthwork. Feltoe (2014: 52-53) indicates that pickets were stationed in this area; perhaps some of the siege period evidence (such as lead shot) relate to their presence.

6.0 VIEWSHED ANALYSIS OF BRITISH SIEGE BATTERIES

The viewshed technique is probably the most frequently used type of GIS analysis in archaeology. The concept of viewsheds (i.e. what can be seen from an observer location) is useful to archaeologists (especially those studying broad areas, such as landscape archaeologists) in many different time periods and geographic regions. Such analysis lends itself to a myriad of different archaeological streams and sub-disciplines, because of the pervasive importance of viewsheds and visibility in human history.

As such, the viewshed technique has long been recognized by archaeologists as a useful technique and its application is not new to the discipline (see Wheatley and Gillings 2000). Although more commonly applied in a phenomenology -oriented manner in prehistoric archaeology (often for analyzing monumental ritual landscapes, or settlement locations) (see for example Ruggles et al. 1993; Wheatley 1995; Mitcham 2002; Jones 2006, among many others), there have been applications of viewshed techniques in historical archaeology to address similar questions (e.g. Tennant 2009). More specifically, there have been many documented uses of viewshed analysis in military archaeology (see for example

Heckman 2007; Carlson-Drexler 2007; Scott 2011; Scott and McFeaters 2011: 16). Its analytical potential in military archaeology is evident: the placement of military structures and installations, as well as viewsheds calculated from known positions of troops in a battle can shed light on military strategy and aid in reconstructing past military landscapes. These studies fall into two broad categories: examination of viewsheds from established troop positions/military installations, and (less commonly) identification of probable past locations of military features based on other criteria (often findspots). The analysis below will focus on the former approach.

Viewshed analysis at Fort Erie as discussed in this section focusses broadly on the viewscapes encountered by the British at their siege positions to the north of the fort. The British siege positions are indicated on various maps, which after georeferencing, can be used to identify positions on the modern landscape. Viewsheds can then be constructed from these hypothesized locations.

Graves (2009) notes that the selection of a field battery position was the most important duty of an artillery commander. Positions were selected so that a sustained view of the enemy for as long as possible could be obtained. Elevation was also a key component of site selection. All artillery fire was in the form of direct fire (i.e. only fired at visible targets) and was "restricted in its range to the limits of human vision" (Graves 2009). Thus, the viewshed technique is very applicable to the study of battery positions.

The viewshed technique itself is quite easy to perform, and requires only two types of input data: 1) a terrain model to construct viewsheds; and 2) observer locations. A digital elevation model (DEM) of the region was obtained from the Niagara Peninsula Conservation Authority. This DEM has a 5m resolution, and was derived from a 2002 digital terrain model.

Initially, viewsheds for the Fort Erie landscape were computed using the unaltered DEM. However, the current landscape differs greatly from the landscape that existed at the time of the siege in 1814. An innovative technique employed in the Fort Erie viewshed analysis was the manipulation of the modern landscape (as seen in the 5m DEM) to form a model that greater resembles the historical landscape. Historical maps combined with documentary accounts were used to create a simple model of the historical landscape containing the fort and the American defensive works (see Figure 47). Further viewsheds were computed using this model to see how it would compare with the viewsheds created using the modern DEM. The following features were extracted to produce a simple composite map of historic landscape elements: the main earthwork (from Snake Hill in the southwest to Douglass Battery in the east, the structure and accompanying traverses at Western Redoubt, the main traverse near the southeast bastion and the mound at Snake Hill. The main earthworks were given a height of 2m to approximate the reported 6-7 ft estimate, the traverses were given heights of 1.5m, the building was given a height of 2.7m (9ft storey), and Snake Hill was given a height of 7.5m (as reported in the literature).

The program ArcScene, part of the ArcGIS suite, is an interesting tool for examining viewscapes in three dimensions. After establishing base heights with a DEM (the 5m one mentioned above was used), other rasters can be draped over top and viewed in three dimensions (with heights derived from the base

DEM). Although it is useful and interesting to be able to view DEMs in three dimensions, the visualization becomes even more powerful when additional rasters (such as aerial photography or historical maps) are placed over top of the terrain model.

Visualizing elevation models and other related data in ArcScene is an effective way to analyze landscapes. In this analysis, the derived elevation model was used as a set of base heights over which other images (such as historical maps and aerial photography) were overlaid. This results in a three dimensional model that can be manipulated to give the viewer an impression of the landscape. Such a technique is powerful because it allows for examination of the situation of both the attacking and defending forces, and helps to explain strategy and the tactics employed. Combined with viewshed analysis, this can reveal such elements as the psychology and mindset of the respective leaders in the siege. This produces physical evidence that corroborates with the documentary record outlining the movements of the armies and the actions of the commanders.

As mentioned earlier, there are several different maps depicting the positions of the British siege positions. The general configuration of the British siege lines and batteries is consistent across all maps (a detailed overview of the function of each element is presented in Feltoe 2014). The location of the batteries differs somewhat across the maps, however, when they are overlaid on top of one another. As such, a composite basemap was constructed from the three different maps depicting the batteries (1815 Cranfield, 1815 Nicolls, and1816 Douglass). Relative positions were compared to one another, and a single location selected for each battery. Distance measurements reported in the literature are slightly different, and can change depending on what reference location is used on the fort. As such, no points were eliminated based on distance alone; instead, points were balanced against each other to select a single location for each battery (see Figure 48). Approximate distance measurements were used to verify the hypothesized locations. As noted above, these locations should be treated as approximate (archaeological testing may be able to confirm the actual locations). In any case, the location should be close enough to serve the purpose of the viewshed analysis (i.e. there is minimal elevation change between candidate locations).

The viewshed calculated from the first battery (see Figure 49) shows that the riverside location does not provide sufficient elevation (approximately 176m) to allow for a line of sight to the heart of the American encampment. Portions of the fort itself are visible (the high points such as the bastions, curtain wall, etc), as well as the earthwork leading to Douglass Battery. However, positions south of the fort are not visible. The battery provides an almost continuous corridor of sight to the fort, and is in a good position for enfilading fire, as noted by Philpotts. The mortar fragments recovered at Douglass Battery are in or near visible areas and thus may have originated from Battery 1. As noted by Tiger Dunlop (a British surgeon present at Fort Erie), the range was too great and any shot that did reach the fort was ineffective (bouncing off like tennis balls, as Dunlop put it) (Feltoe 2014: . Perhaps the few mortar fragments at Douglass Battery are evidence of these ranging shots.

The viewshed from Battery 2 (see Figure 50) is similar to Battery 1 in that it still does not allow for a view past the fort and into the heart of the encampment (although the approximate elevation is higher at 179m). The field of view appears to be slightly wider, but the targets in the encampment are still not

visible. Again, it is in a good position to allow for enfilading fire, but the location of the battery still quite close to the river does not provide sufficient elevation. Again, Douglass Battery is clearly visible and thus the mortar fragments may have alternatively originated from Battery 2. It is known that many of the shot fired from Battery 2 were fired blind, and many may have reached into the encampment itself (perhaps to the location of the mortar fragments at Fanning Battery). Also, a shot fired from Battery 2 reached Gaines' headquarters (located closer to the water and in the centre of the encampment, as shown on Douglass' 1816 map), and thus could have reached Fanning Battery.

The final viewshed calculated from Battery 3 (see Figure 51) clearly shows the effectiveness of this battery. Contrary to the first two batteries, the main earthwork is mostly visible and the American encampment extending to Snake Hill. The proximity and wider field of view of Battery 3 compared to the others clearly shows why Brown was wary of its threat and subsequently decided to launch a sortie. Battery 3 is located up on a higher plateau (approximate elevation of 182m), which allows for its wider field of view into the encampment. The earthwork and building in Western Redoubt are shown to be visible targets. This proves that the mortar bomb found in Unit C at Western Redoubt almost certainly came from Battery 3. The other batteries were simply too far away and did not have the visibility to be able to target this feature. Portions of the earthwork are visible towards Snake Hill, thus providing at least a partial target. The earthwork on either side of Fanning Battery is visible (even though the units themselves are not), which probably explains the presence of mortar fragments in Fanning Battery (although they may have originated from a blind shot in Battery 2, as noted above). Of note also is the fact that Douglass Battery and the surrounding earthwork is not visible from Battery 3, thus suggesting that the mortar fragments there did not originate from Battery 3.

While the positions of the batteries used in this analysis are approximate, and the historic landscape model is fairly coarse due to approximate locations of historic features, the results are certainly encouraging. The viewsheds computed for the different batteries clearly show their differing effectiveness and demonstrate why the third battery was the one that partly motivated Brown to make his sortie. Feltoe (2014: 97) has suggested that "apart from a few ranging shots, Battery No. 3 was never used to fire effectively on the fort". While it certainly seems true that ammunition was running low (according to Drummond's account) and the artillery strikes were not sustained for as long as the British would have liked, the archaeological evidence suggests that Battery 3 was indeed effective. The presence of an situ mortar crater that almost certainly derived from Battery 3 is clear evidence of the success of this battery. If other similar successful strikes exist (and they almost certainly do), the damage inflicted must have been great and this is clear evidence supporting Brown's decision of a sortie.

The locations of the batteries could be refined by verifying their location archaeologically (if any traces still exist) and a more detailed review of the primary documents that mention them. This would generate a more accurate viewshed, but there would likely be little difference in the overall results and interpretation. Combining the viewshed with a historic landscape model (albeit a coarse one) has shown to be a very effective technique.

7.0 SITE INTEGRITY

Although the landscape of Fort Erie has been subject to various forms of disturbance since the events of the War of 1812 took place, excavation has shown that the battlefield has survived relatively intact. Archaeologists have noted the resiliency of battlefield footprints in the archaeological record, despite being quite ephemeral (although Fort Erie was subject to longer occupation than many traditional battlefields) and often subject to continued redevelopment (Selig et al. 2013: 36). Landscaping, reuse of the land and illicit metal detecting has not stripped the landscape at Fort Erie of its interpretive potential. The results from targeted excavation are certainly encouraging. This suggests that other portions of the battlefield and encampment remain complete enough for further study. Fortunately, the site was never subject to any intensive redevelopment (except for the reconstruction of the fort) after it was abandoned as a military site. There appears to be a tradition of illicit local metal detecting in the region (Shoalts 2013: 6); however, such activity does not appear to have damaged the site very much. There is also the potential for a survey of local collector finds, similar to the work conducted by Legg and Smith (2007).

Historical maps dating to the post-war nineteenth century show the area surrounding the fort as a government or military reserve. There does not appear to have been significant development at the site, but it can be difficult to assess military reserves based on historical maps because these areas were often surveyed in a different manner than civilian property (pers comm John Triggs, 2014). There would have undoubtedly been structures of some kind associated with the military/government occupation. Nevertheless, the site is relatively pristine and certainly more so than had been previously thought given the rumoured metal detecting activity. A more detailed historical study will shed light on the post-war use of the land and the way this may have impacted the archaeological record. By 1901, the land had been acquired by the Niagara Parks Commission, and the restoration of the fort was completed in 1939 (Saunders 1996: 269). A 1934 aerial photo shows the ruins of the fort; the surrounding area immediately adjacent looks to be mostly undeveloped. A number of trees are visible, and the area may have seen some agricultural use. The restoration of the fort in 1939 would have caused significant damage to the landscape.

8.0 A NOTE ON METHODOLOGY

There exists a large body of literature concerning the survey and analysis of battlefields. Once dismissed as not feasible for archaeological analysis, the study of battlefields has taken on a new definition in the past couple decades (Scott et al. 2007b: 431; Scott and McFeaters 2011). In the past couple decades, archaeologists have increasingly become interested in studying battlefields (perhaps due to increased development and the realization of the impending loss of irreplaceable resources), and the study of such sites has become a true sub-discipline with a developing body of theory and methodology (Scott et al. 2007a: 1). Particularly in the United States, there is a fairly long tradition of carrying out large controlled metal detector surveys on former battlefields (see Johnson 2007; Whitacre 2013; Broadbent and Ervin 2014, among many others). These studies commonly combine GIS-based analysis with metal detector survey methodology to interpret the remains of battlefields (in a similar manner to the analysis conducted here) (see for example Pratt 2007; Laumbach 2007; Cornelison and Lowe 2014; Schablitsky 2014 and many others). This type of large scale battlefield survey methodology, however, does not appear to have migrated north of the border to Canada, where battlefield and conflict archaeology is

less commonly practiced. Part of this can be attributed to there being fewer battlefields in Canada, and a shorter military history.

Douglas Scott's (2013) work at Little Bighorn battlefield is often cited as crucial to the birth of modern battlefield archaeology (although earlier work had also preceded it – see Scott and McFeaters 2011: 105-106). The methodology employed by Scott and others at Little Bighorn was the first instance of successful use of controlled metal detector survey to rigorously analyze spatial relationships of military artifacts and has now become commonplace in conflict archaeology (Scott and Fox 1987; Scott et al. 1989; Scott and McFeaters 2011: 109). Traditionally seen by archaeologists as a looter's tool, the metal detector has proven to be a very useful tool in battlefield archaeology (Conner and Scott 1998). A couple decades ago, the majority of archaeologists shunned metal detectors partly because of their commonly held association with looting, but this has changed dramatically due to the potential that has been shown for their use (Legg and Smith 2007: 226; Scott and McFeaters 2011: 106). Archaeologists and metal detector hobbyists have increasingly formed liaisons which have led to very productive projects (see for instance Daniel Sivilich's work with BRAVO). Indeed, surveys often rely on the assistance of local metal detector enthusiasts (see Dasovich and Busch 2007; Laumbach 2007). This type of collaboration is not only needed to accomplish large scale surveys, but also serves to educate local people as to the value of conducting controlled surveys with proper archaeological methodology and involve interested stakeholders in the archaeological process. This may help to deter potential looters in the local community, and alleviate the stigma that is often associated with metal detectors in the archaeological community (a process which is already well underway but should be continued).

Several archaeologists have tested different methods of excavation on battlefield sites in an effort to determine the most effective methodologies. Geier et al. (2011: ix) note that, in the United States, methodologies often cited as standard in heritage legislation are not appropriate for some types of military sites (they point specifically to battlefields). For example, Balicki (2011: 59) shows that shovel tests are not effective at locating military artifacts; metal detectors performed overwhelmingly better at a number of different sites in his study. Cornelison and Lowe (2014) and Kuttruff (2007) came to similar conclusions. Similar to the way in which metal detectors were not popular a couple decades ago, archaeologists were initially skeptical that traditional field methods were less effective on military sites (Legg and Smith 2007: 226). Due to the way that battlefields form in the archaeological record (i.e. often ephemeral and low density in nature), investigators have found that certain methods that are applied less often in traditional archaeology are very effective when applied to battlefields. Pratt (2007) emphasizes a multi-tiered survey approach centred on remote sensing techniques and metal detector surveys in conjunction with high accuracy GPS and post-excavation analysis using GIS. Traditional archaeological methods have thus far been applied across two field seasons at Fort Erie. These methods have been effective, partly because the fort and surrounding defensive area was the site of dense and fairly prolonged (and partly domestic) occupation. Archaeologists distinguish between fortification sites and conflict-related sites, where fortification sites tend to have great time depth (years), whereas conflict-related sites are usually more ephemeral with a more abrupt time sequence (days or months) (Scott and McFeaters 2011: 107). Thus, different questions may be asked of these different types of sites. Fort Erie has the luxury of fitting into both these categories: the site contains fortifications and

structures that evolved over many years, while also playing host to a much shorter term conflict. Thus, the site presents an opportunity to test traditional methods versus 'battlefield-oriented' methods (because it has a domestic component, along with a more ephemeral military component). Siege sites are much rarer in the archaeological record, and have consequently seen less study. Further work at the site plans to incorporate other techniques such as those mentioned above that have been shown to be more effective in the investigation of battlefield sites. GIS methodology will continue to be an effective way to analyze data gathered at Fort Erie; data collected in a survey format (typically gathered as spatial points) lends itself very well to GIS analysis. GIS has helped to fuel the rise of conflict archaeology (Scott and McFeaters 2011: 111; Schablitsky and Lucas 2014: 15), and it will continue to be useful in the expansion of this discipline going forward.

9.0 CONCLUSION

This report has demonstrated some preliminary applications of GIS to archaeological data recovered at Fort Erie. The goal has been to broadly demonstrate some of the ways that GIS can be incorporated into archaeological analysis. Three main components have been reviewed: the georeferencing and integration of historic maps into a GIS; the intra-site analysis of various artifact categories and identification of activity areas; and viewshed analysis from the positions of the British siege batteries. Throughout the project, the integration of data into a GIS has been a useful way to organize, integrate and interpret various forms of spatial data. There is great potential for further work to be done with this data and that gathered during future seasons at Fort Erie.

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APPENDIX A: TABLES

Table 1 – A summary of the maps described in the text.

Date	Cartographer	Comments	Source
1794*	Unkown (Gother Mann?)	Plans for construction of new fort, shows merchant lots	Library and Archives Canada NMC 5258
1803*	Gother Mann	Plans for construction of new fort, shows ruins of old fort	Library and Archives Canada NMC 3801
1814*	Ph (Philip?) Hughes	Shows only the demi-bastions (redoubts not yet built)	Library and Archives Canada NMC 3803
1814*	Sam Romilly	Redoubts shown as prominent features, building shown between traverses	NMC 70956
1814*	J.B. Glegg	Sketch map, inaccurate positions for siege batteries	NMC 4857
1815*	George D. Cranfield (copied from Nesfield)	Shows building between traverses, redoubts shown as prominent features	NMC 22341
1815	G. Nicolls	Top right corner (position of Snake Hill) is torn, shows siege batteries	
1816	David B. Douglass	Detailed legend showing features within American encampment, as well as British siege camp	Dennie 1816
1818	A. Walpole and E.W. Durnford	Shows ruins of the fort	NMC 3804
1819	A. Walpole and Henry Vavasour	Shows boundaries of military reserve, ruins of the fort	NMC 22342

Table 2 – Ratios of the distances between demi-bastions compared to that between redoubt and demi-bastion. Note that maps either tend to depict the fort as having equidistant corners (ratio approximating 1) or slightly compressed (ratio approximating 1.33).

Map	**Ratio (demi bastion distance: redoubt to demi-bastion distance)**
1794 (Mann?)	1.33
1803 (Mann)	1.33
1814 (Romilly)	1.00
1815 (Nicolls)	1.01
1815 (Cranfield)	1.09
1816 (Douglass)	1.38
1818 (Walpole and Durnford)	1.34
1819 (Walpole and Vavasour)	1.31
Reconstruction	1.36

Table 3 – Categories and calibres used to define lead shot at Fort Erie.

Category	**Calibre (inches)**	**Total Recovered**	**% of total shot**
Bird Shot	0.06 – 0.21	141	27.1%
Buck Shot	0.29 - 0.31	242	46.5%
Rifle (American)	0.41-0.53	24	4.6%
Musket (American)	0.59-0.65	95	18.3%
Musket (British)	0.67-0.69	18	3.5%

Table 4 – Description of periods used in the analysis.

Period	Description
V	Modern fill layer on mound
IV	1830s-early 20th century (post-siege, fort abandonment)
III	1815-1820s (post-siege)
II	1814 siege and breastwork construction
I	Pre-siege

Table 5 – Lead shot period distribution by area.

Area	Period Distribution	
Fanning Battery	I	29
	II	1
	III	18
	IV	68
	V	14
Western Redoubt	I	9
	II	72
	III	237
	III/IV	38
	V	15
Douglass Battery West	II	4
	IIa	44
	III/IV	2
	IV	4
	V	2
Douglass Battery East	I	1
	II	5
	IIa	1
	IV	1
	V	1

Note: these values are taken from the original artifact catalogue and not the one compiled for lead shot (the catalogue on which the rest of the lead shot analysis was based). This is because the catalogue compiled by Sarah Timmins does not contain period information. Thus, totals vary slightly between the two, but the overall interpretation remains the same.

Table 6 – Contingency table showing shot categories and excavation areas.

	Western Redoubt	Fanning Battery	Douglass Battery East	Douglass Battery West	TOTAL
Bird	126	14	1	0	141
Buck	165	53	2	22	242
Rifle	5	15	3	1	24
American Musket	30	25	7	33	95
British Musket	7	5	3	3	18
TOTAL	333	112	16	59	520

Table 7 – Distribution of shot by area and type. Includes density measures.

WESTREN REDOUBT				
Shot Type	**Frequency**	**% of total category**	**% of total area**	**Density (/m^2)**
Bird	126	89.4%	37.8%	4.85
Buck	165	68.2%	49.5%	6.35
Rifle (American)	5	20.8%	1.5%	0.19
American Musket	30	31.6%	9.0%	1.15
British Musket	7	38.9%	2.1%	0.27
TOTAL	333	64.0%	100%	**12.81**
FANNNING'S BATTERY				
Shot Type	**Frequency**	**% total of category**	**% of total area**	**Density**
Bird	14	9.9%	12.5%	0.42
Buck	53	21.9%	47.3%	1.61
Rifle (American)	15	62.5%	13.4%	0.45
American Musket	25	26.3%	22.3%	0.76
British Musket	5	27.8%	4.5%	0.15
TOTAL	112	21.5%	100%	**3.39**
DOUGLASS BATTERY WEST				
Shot Type	**Frequency**	**% total of category**	**% of total area**	**Density**
Bird	0	0.0%	0.0%	0.00
Buck	22	9.1%	37.3%	0.92
Rifle (American)	1	4.2%	1.7%	0.04
American Musket	33	34.7%	55.9%	1.38
British Musket	3	16.7%	5.1%	0.13
TOTAL	59	11.3%	100%	2.46
DOUGLASS BATTERY EAST				
Shot Type	**Frequency**	**% total of category**	**% of total area**	**Density**
Bird	1	0.7%	6.3%	0.03
Buck	2	0.8%	12.5%	0.05
Rifle (American)	3	12.5%	18.8%	0.08
American Musket	7	7.4%	43.8%	0.18
British Musket	3	16.7%	18.8%	0.08
TOTAL	16	3.1%	100%	0.42

Table 8 – Distributions of shot by unit at Western Redoubt.

Unit	Bird	Buck	AR	AM	BM	TOTAL
A	35	3	0	1	0	39
B	2	2	0	1	0	5
C	5	2	0	0	0	7
D	9	14	0	1	0	24
E	14	109	4	22	5	154
F	6	4	0	0	0	10
G	17	9	0	0	0	26
H	15	6	0	1	0	22
J	0	3	0	0	0	3
K	2	2	0	0	0	4
M	7.5	4.5	0	1	0.5	13.5
N	12.5	5.5	1	3	1.5	23.5
P	1	0	0	0	0	1
TOTAL	**126**	**165**[54]	**5**	**30**	**7**	**333**

Note: The baulk between Units M and N was excavated after the excavation of these units was completed. Artifacts recovered in the baulk are recorded as Baulk M-N, and were split evenly across the two units for quantitative analysis in this report (i.e. if 3 buck shot were found in the baulk, a value of 1.5 was added to the respective totals of each unit).

[54] A buck shot recovered from Western Redoubt West was recorded as being found in the back dirt. It was thus not included in the individual unit counts, but is included in the larger scale counts.

Table 9 – Distributions of shot by unit at Fanning Battery.

Unit	Bird	Buck	AR	AM	BM	TOTAL
A	1	5	0	2	2	**10**
B	0	1	0	0	0	**1**
C	0	2	1	0	1	**4**
D	2	3	2	1	0	**8**
E	1	3	5	0	0	**9**
F	1	2	0	0	0	**3**
G	0	9	2	6	1	**18**
H	0	6	1	2	0	**9**
J	0	3	0	1	1	**5**
K	1	0	0	0	0	**1**
M	5	0	0	0	0	**5**
N	0	1	1	3	0	**5**
P	0	9	1	4	0	**14**
Q	0	4	1	3	0	**8**
R	0	0	0	0	0	**0**
S	0	1	1	0	0	**2**
T	0	1	0	1	0	**2**
U	3	0	0	1	0	**4**
V	0	1	0	1	0	**2**
W	0	0	0	0	0	**0**
X	0	2	0	0	0	**2**
TOTAL	**14**	**53**	**15**	**25**	**5**	**112**

Table 10 – Distributions of shot by unit at Douglass Battery West.

Unit	Bird	Buck	AR	AM	BM	TOTAL
A	0	2	0	7	1	10
B	0	7	0	5	0	12
C	0	5	0	6	0	11
D	0	0	0	3	0	3
E	0	0	0	1	0	1
F	0	1	0	1	0	2
G	0	0	0	3	1	4
H	0	1	0	1	0	2
J	0	6	0	0	1	7
K	0	0	0	1	0	1
L	0	0	1	3	0	4
M	0	0	0	2	0	2
TOTAL	**0**	**22**	**1**	**33**	**3**	**59**

Table 11 – Distributions of shot by unit at Douglass Battery East.

Unit	Bird	Buck	AR	AM	BM	TOTAL
A	0	0	0	0	0	0
B	0	0	1	1	1	3
C	1	0	1	0	0	2
D	0	0	0	0	0	0
E	0	0	0	1	0	1
F	0	0	0	0	0	0
G	0	0	0	0	0	0
H	0	0	0	0	0	0
J	0	0	0	0	0	0
K	0	0	0	0	0	0
L	0	0	0	0	0	0
M	0	1	1	0	0	2
N	0	1	0	4	0	5
P	0	0	0	1	1	2
Q	0	0	0	0	0	0
R	0	0	0	0	1	1
S	0	0	0	0	0	0
TOTAL	**1**	**2**	**3**	**7**	**3**	**16**

Table 12 – Comparison of lead shot densities at various conflict sites.

Site	Conflict	Number Recovered	Area surveyed/excavated	Density (shot/acre)	Source
Fort Erie	War of 1812	520	121 m^2 (0.030 acres)	17333	
Kings Mountain Battlefield	American Revolutionary War	135	90 acres	1.5	Cornelison and Smith 2014
Battle of Chickamauga	American Civil War	174	17 acres	10.2	Cornelison 2000
Battle of Fallen Timbers	Northwest Indian War	535	9.22 ha (22.8 acres)	58	Pratt 2003
Battle of Antietam	American Civil War	1352	54 acres	25	Sterling 2000; Sterling and Slaughter 2000
Großbeeren	War of the Sixth Coalition (Germany)	10	8000 m^2 (1.98 acres)	5.1	Homann and Weise 2009
Lauenberg	War of the Sixth Coalition (Germany)	66	16876 m^2 (4.17 acres)	15.8	Homann and Weise 2009
Battle of Hembrillo Basin	Victorio War (Apache Wars)	849	900 acres	0.9	Laumbach 2007
Cantonment Saranac, Plattsburgh	War of 1812 (brigade encampment)	1	1 acre	1	Abel 2014
Battle of Caulk's Field	War of 1812	57	80 acres	0.7	Schablitsky 2014

Table 13 – Categories established by Coe (2006) and distribution across these categories compared to the Fort Erie assemblage.

Category (as established by Coe 2006, square brackets are functional equivalent)	Dimensions	Fort Pelham and Shirley (Coe 2006)	Fort Erie
Small shot [bird shot]	3.3-5mm	8%	27.1%
Large shot [larger bird shot]	6-7.1mm	12%	0%
Small bullets [buck]	7.8-10mm	49%	46.5%
Large bullets [rifle/musket]	13.2-17mm	31%	26.3%

Note: Although Coe (2006) uses the terms bullet and shot, he is referring exclusively to round ammunition. Shot smaller than 3.3 and larger than 17.7 were included in the largest and smallest categories, respectively. Also, buck shot smaller than 7.8 (at Fort Erie, they are as small as 7.4) were included in the third category. The two rifle ball outliers were also included in the final category.

Table 14– Faunal/floral distribution by area.

Area	Total Frequency (Periods IV and V removed)	Period Distribution	
Fanning Battery	94	I	30
		III	64
		IV	139
		V	123
Western Redoubt	277	I	17
		II	71
		III	187
		III/IV	2
		V	16
Douglass Battery West	412	II	36
		IIa	375
		III/IV	1
		IV	64
		V	42
Douglass Battery East	405	I	12
		II	269
		IIa	124
		IV	22
		V	33

Table 15 – Bottle fragment period distribution by area.

Area	Total Frequency (Periods IV and V removed)	Period Distribution	
Fanning Battery	9	I	3
		III	6
		IV	236
		V	522
Western Redoubt	65	II	11
		III	34
		III/IV	20
		V	523
Douglass Battery West	92	IIa	92
		IV	48
		V	60
Douglass Battery East	202	I	3
		II	15
		IIa	18
		IV	15
		V	188
		II-IV	166

Table 16 – Tableware fragment period distribution by area.

Area	Total Frequency (Period V removed)	Period Distribution	
Fanning Battery	18	I	5
		III	13
		IV	37
		V	91
Western Redoubt	150	I	2
		II	43
		III	36
		III/IV	69
		V	75
Douglass Battery West	99	I	2
		II	1
		IIa	94
		III/IV	2
		IV	82
		V	69
Douglass Battery East	427	I	6
		II	58
		IIa	54
		II-IV	309
		IV	22
		V	28

Table 17 – Nail period distribution by area.

Area	Total Frequency (Periods IV and V removed)	Period Distribution	
Fanning Battery	8	I	4
		III	4
		IV	13
		V	674
Western Redoubt	79	II	23
		III	21
		III/IV	35
		V	19
Douglass Battery West	49	II	3
		IIa	45
		III/IV	1
		IV	40
		V	31
Douglass Battery East	333	II	46
		IIa	55
		II-IV	232
		IV	16
		V	98

Table 18 – Window glass period distribution by area.

Area	**Total Frequency (Periods IV and V removed)**	**Period Distribution**	
Fanning Battery	1	III	1
		IV	31
		V	311
Western Redoubt	47	I	2
		II	18
		III	10
		III/IV	17
		V	5
Douglass Battery West	43	II	1
		IIa	42
		IV	9
		V	17
Douglass Battery East	1898	I	10
		II	152
		IIa	653
		IV	19
		II-IV	1064
		V	88

Table 19 – Mortar bomb fragment distribution by area.

Area	**Total Frequency**
Fanning Battery	11
Western Redoubt	21
Douglass Battery West	1
Douglass Battery East	2

APPENDIX B: FIGURES

Figure 1 – 2012 and 2013 excavation areas at Fort Erie.

Figure 2 – Units in Fanning Battery West.

Figure 3 – Units in Fanning Battery main (A, B, C, D, E, F, G, H, J, K, M) and Fanning Battery East (N, P, Q, R, S, V, W).

Figure 4 – Units in Western Redoubt East main (A, B, C, D, E, F, M, N, P) and Western Redoubt West (F, G, H, J, K).

Figure 5 – Units in Douglass Battery West (the smaller group to the south) and Douglass Battery East (the larger group to the north, including Unit P).

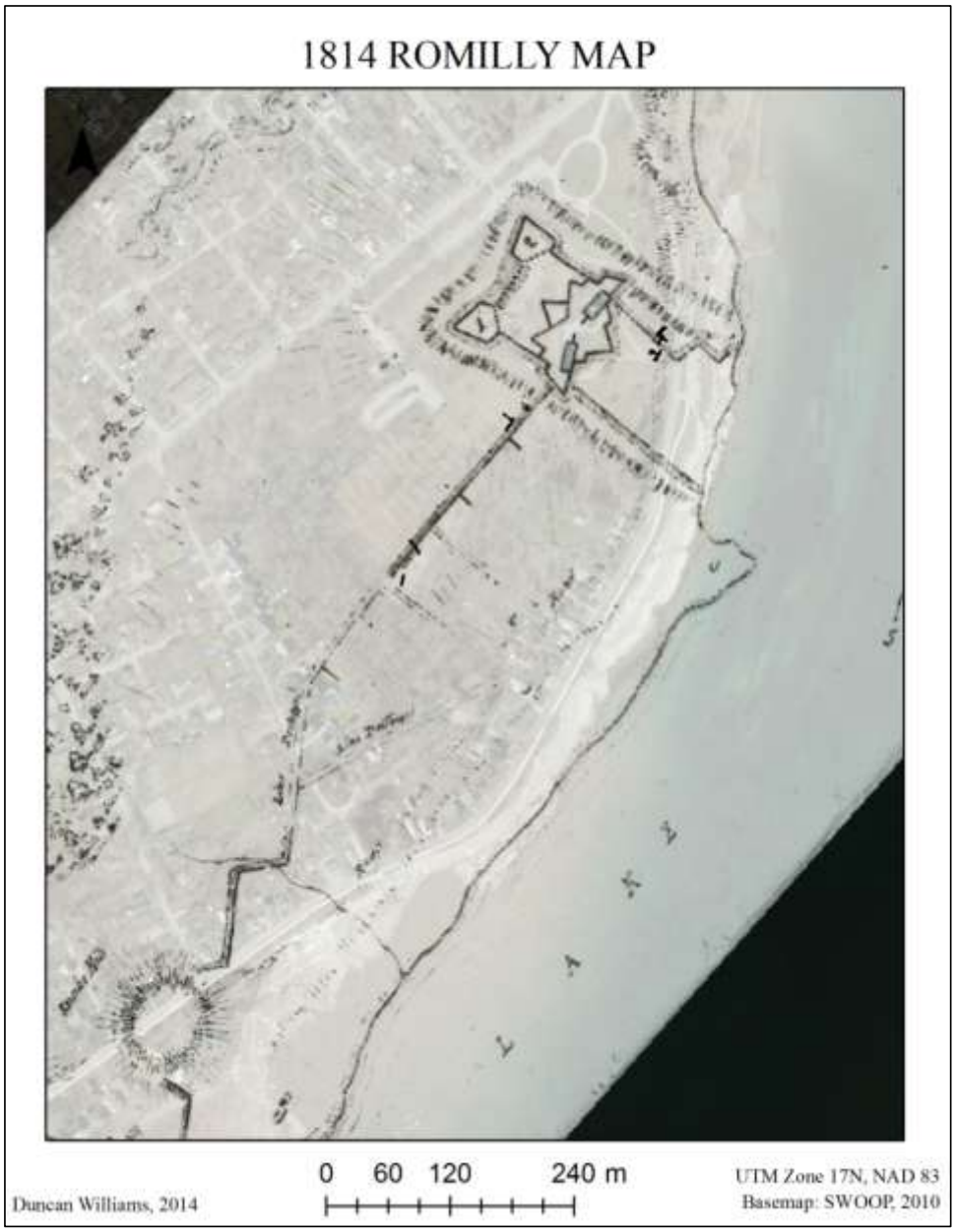


Figure 6 – 1814 Romilly map overlay on modern landscape.

Figure 7 – 1815 Cranfield map overlay on modern landscape.

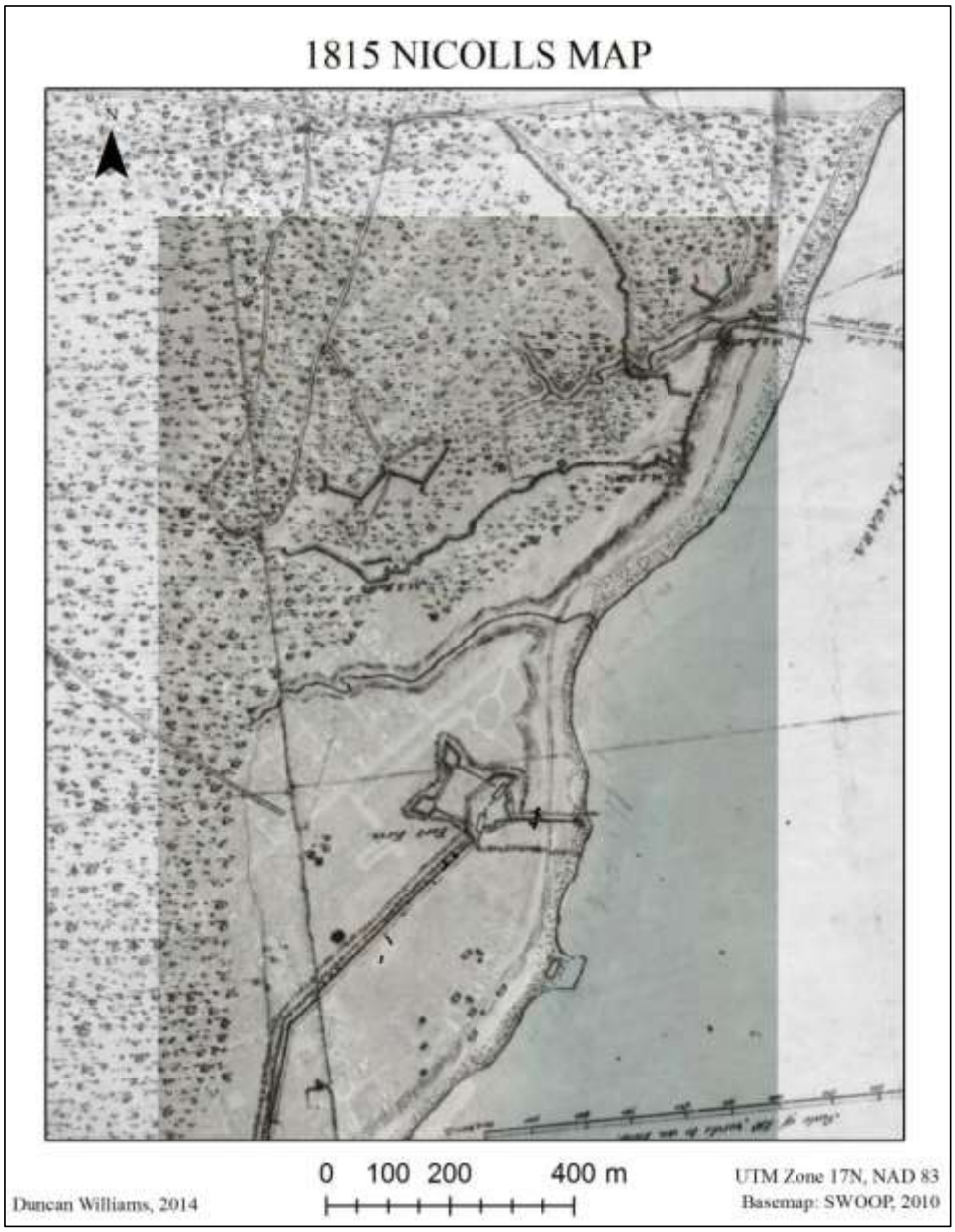


Figure 8 – 1815 Nicolls map overlay on modern landscape.

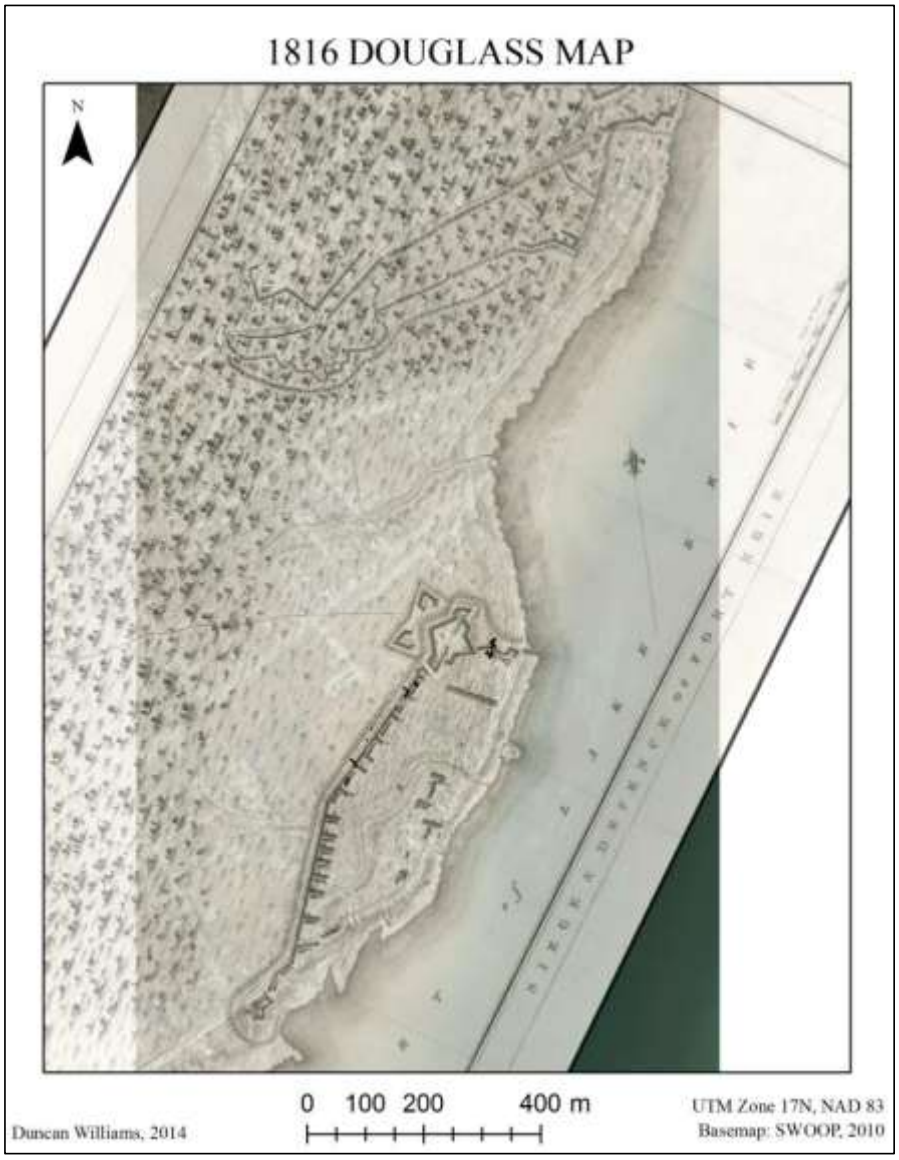


Figure 9 – 1816 Douglass map overlay on modern landscape.

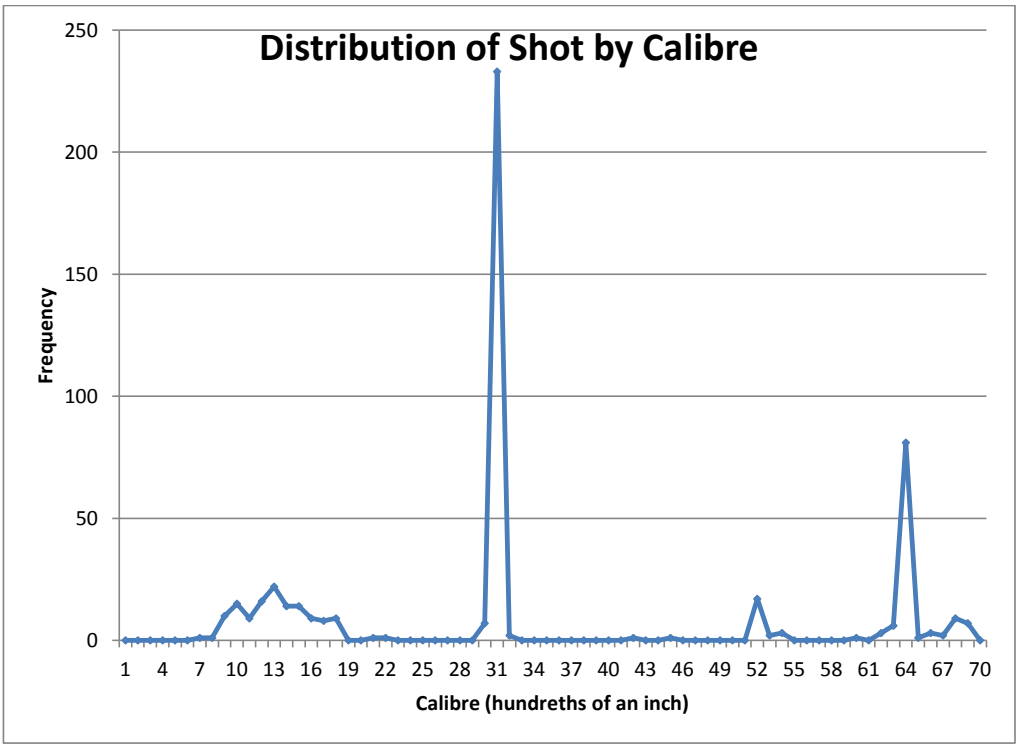


Figure 10 – Distribution of shot by calibre. Note the areas corresponding to the different shot types (bird, buck, rifle, American musket, British musket.

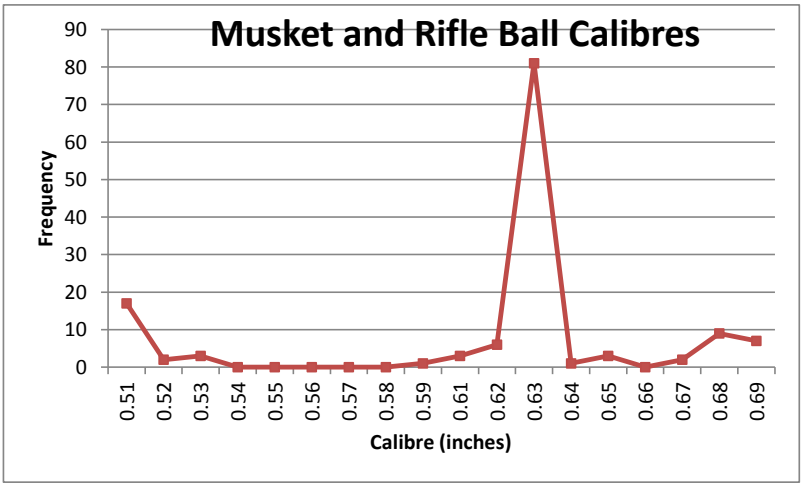


Figure 11 – Distribution of rifle and musket balls by calibre. Note the peaks for rifles, American musket balls, and British musket balls.

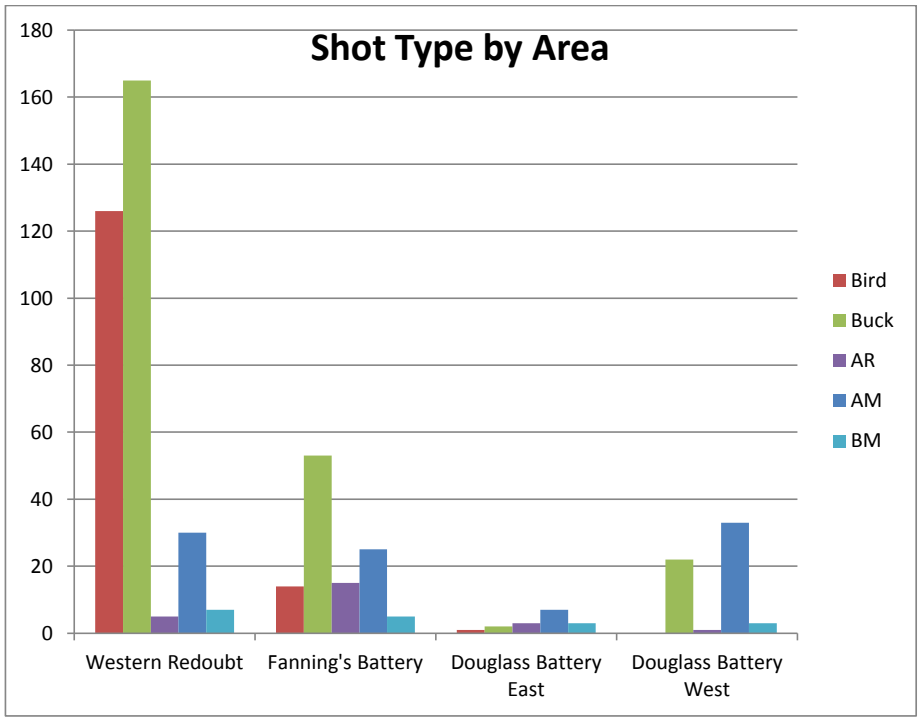


Figure 12 – Distribution of shot by area and category. AR is American rifle, AM is American musket, and BM is british musket.

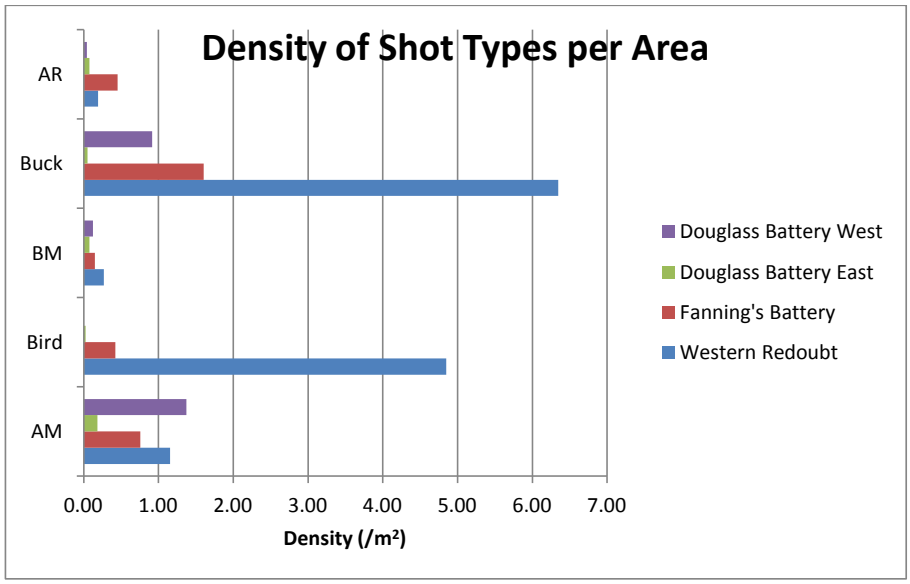


Figure 13 – Distribution of shot by area and category.

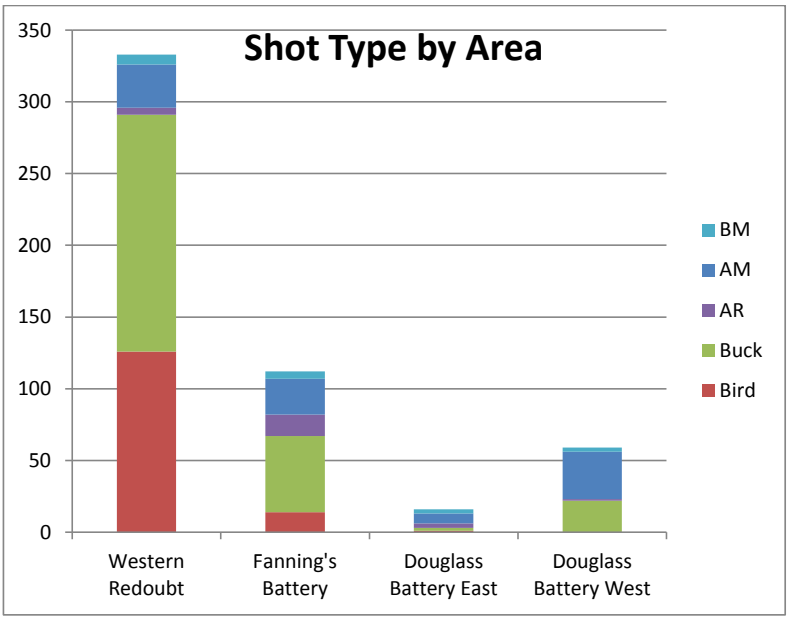


Figure 14 – Distribution of shot by area and category (shot stacked by area).

Figure 15 – 1804 painting by Edward Walsh showing soldiers hunting passenger pigeons. Note the fenced gardens and structures in the background. (Courtesy Royal Ontario Museum)

Figure 16 – Bird shot distribution, all areas.

Figure 17 – Buck shot distribution, all areas.

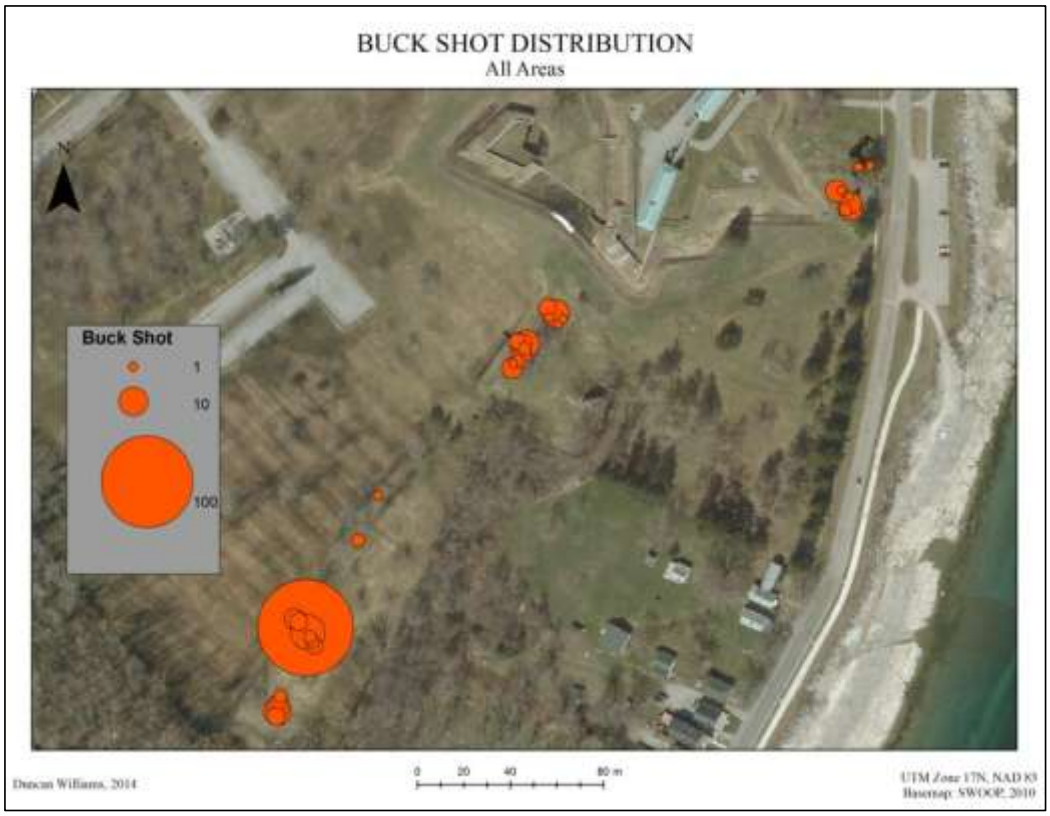


Figure 18 – American musket ball distribution, all areas.


AMERICAN MUSKET BALL DISTRIBUTION
All Areas
N
1
10
0 20 40 80 m
Duncan Williams, 2014
UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

Figure 19 – Rifle ball distribution, all areas.

Figure 20 – British musket ball distribution, all areas.

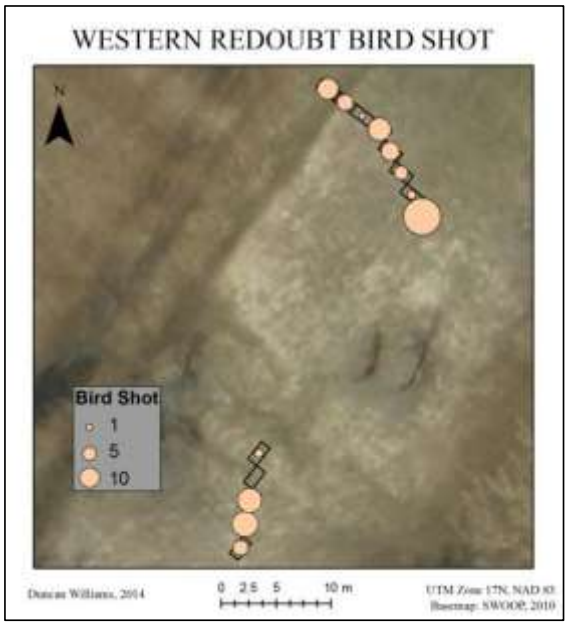


Figure 21 – Bird shot distribution at Western Redoubt.

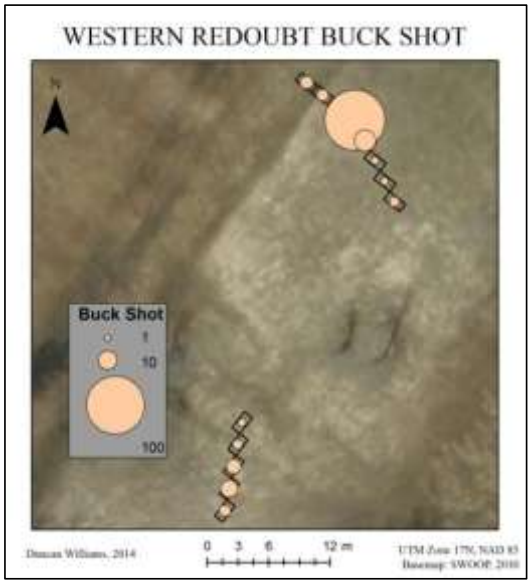


Figure 22 – Buck shot distribution at Western Redoubt.

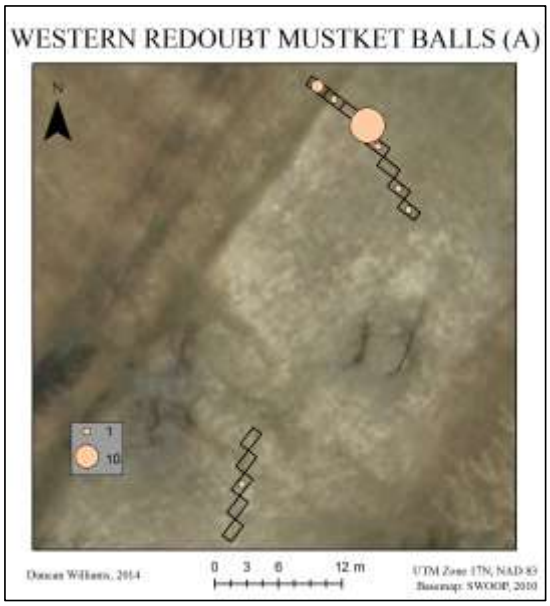


Figure 23 – American musket ball distribution at Western Redoubt.

Figure 24 – Buck shot at Fanning Battery.

Figure 25 – Rifle balls at Fanning Battery.

Figure 26 – American musket balls at Fanning Battery.

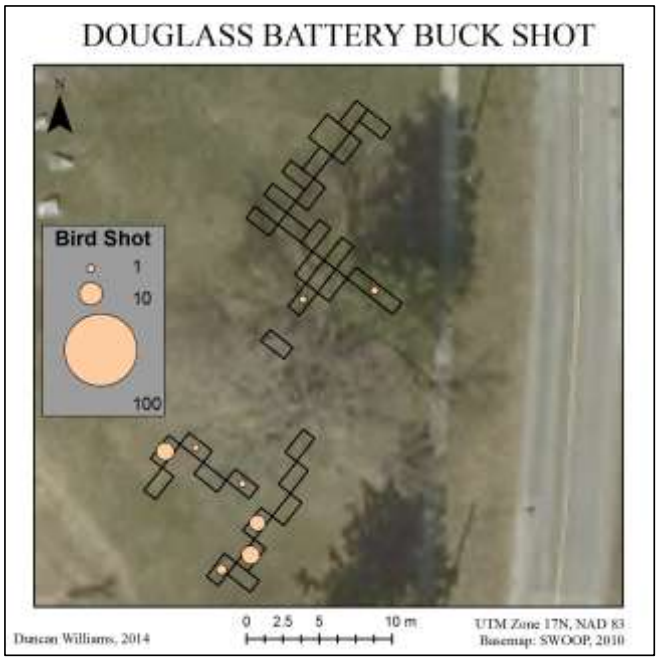


Figure 27 – Buck shot at Douglass Battery.

Figure 28 – American musket balls at Douglass Battery.

Figure 29 – Buck shot to musket ball ratios across the site.

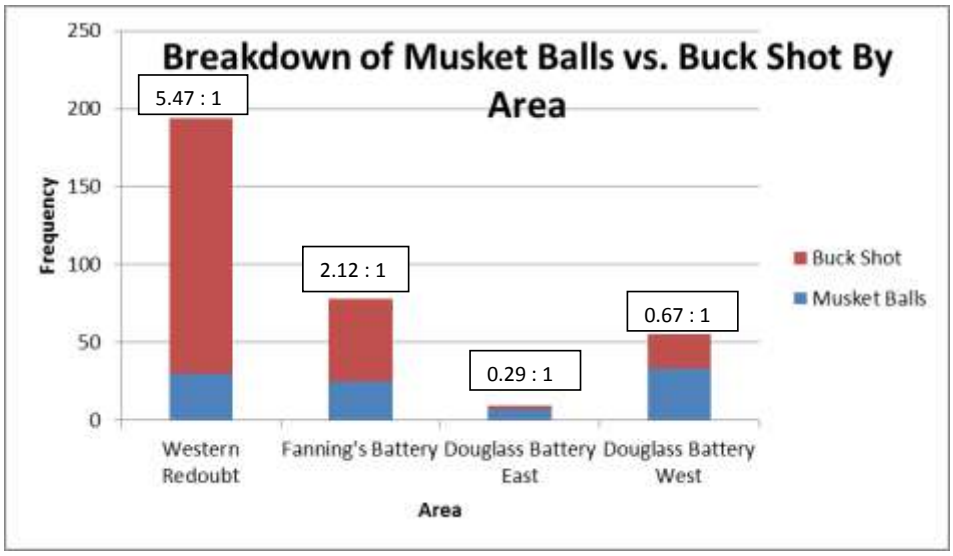
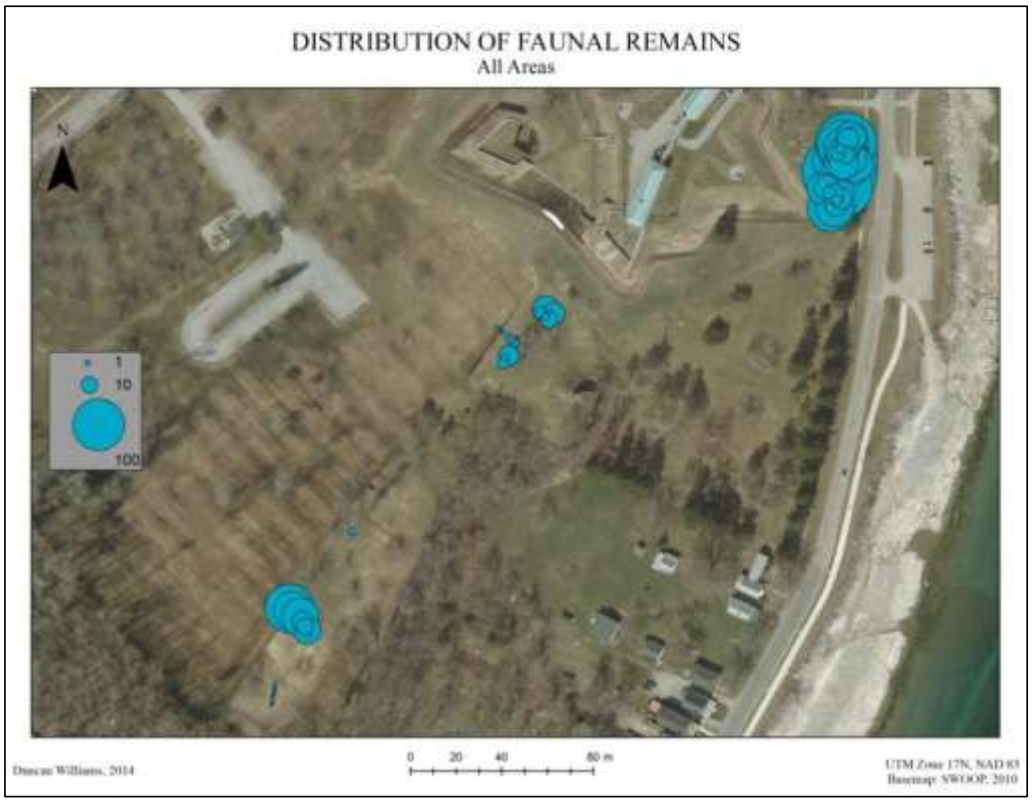


Figure 30 – Faunal remains, all areas.



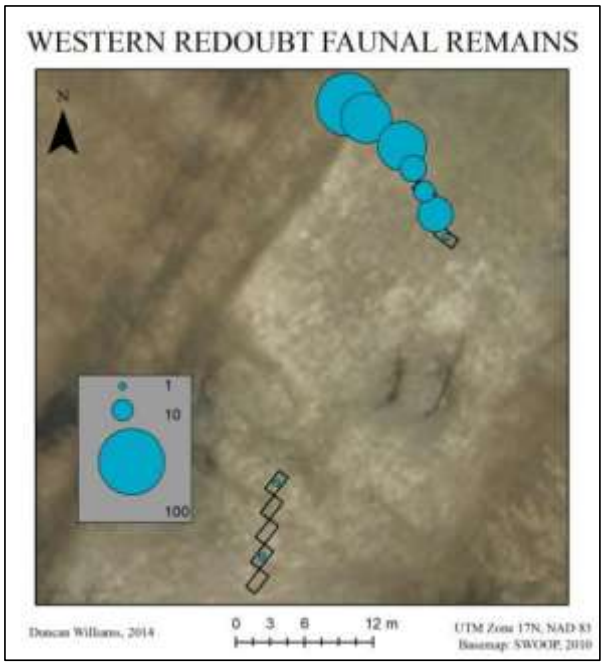


Figure 31 – Faunal remains at Western Redoubt.

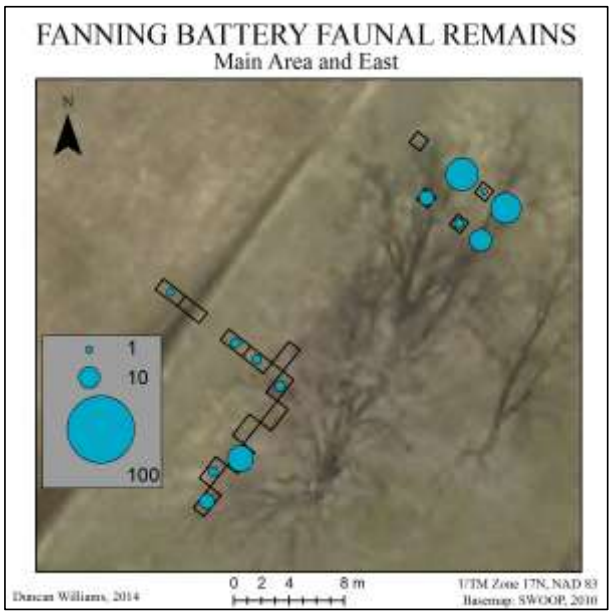


Figure 32 – Faunal remains at Fanning Battery.

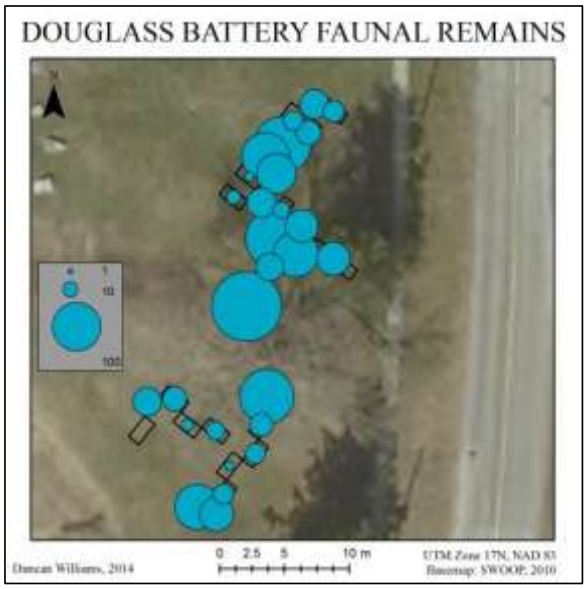


Figure 33 – Faunal remains at Douglass Battery.

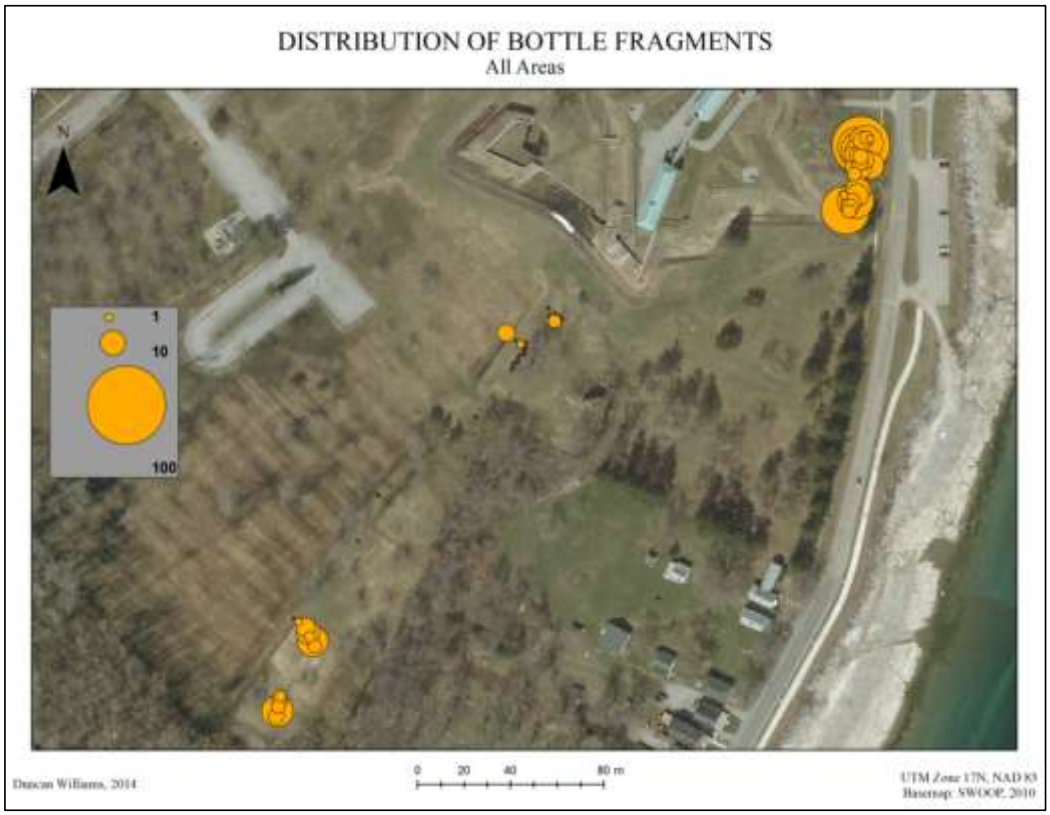


Figure 34 – Bottle fragments, all areas.

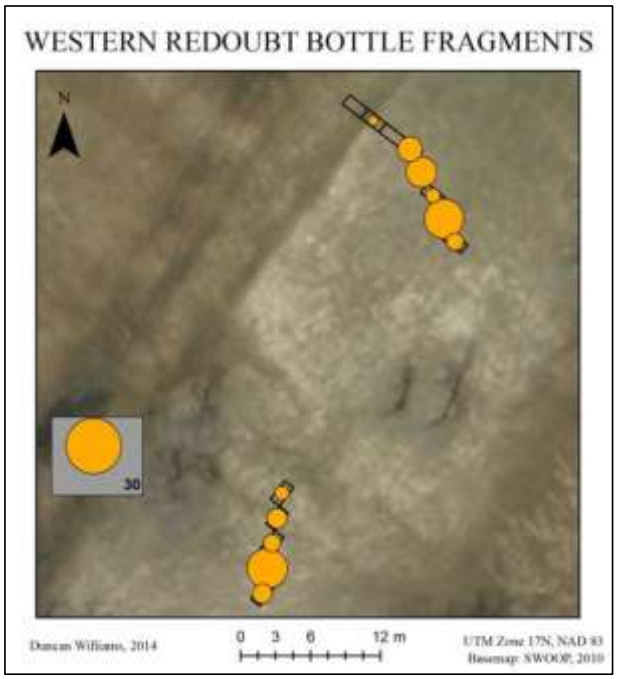


Figure 35 – Bottle fragments at Western Redoubt.

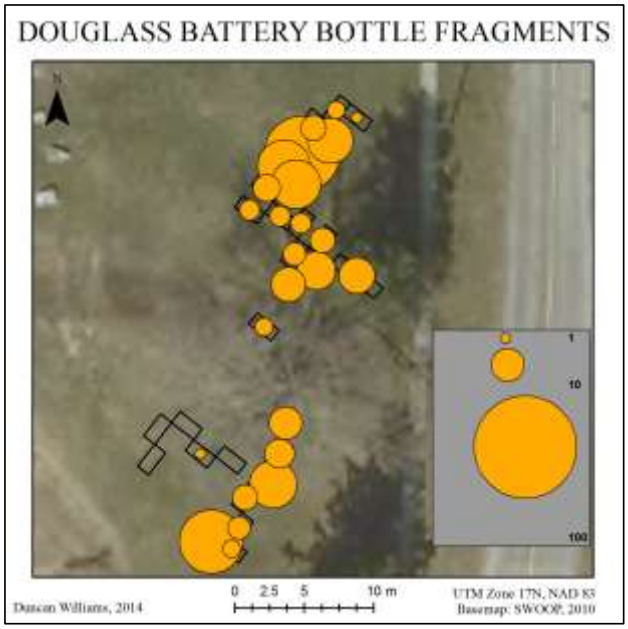


Figure 36 – Bottle fragments at Douglass Battery.

Figure 37 – Tableware fragments, all areas.

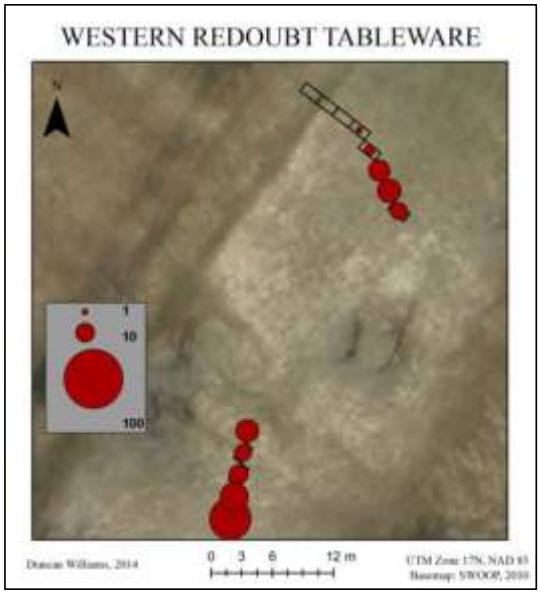


Figure 38 – Tableware fragments, Western Redoubt.

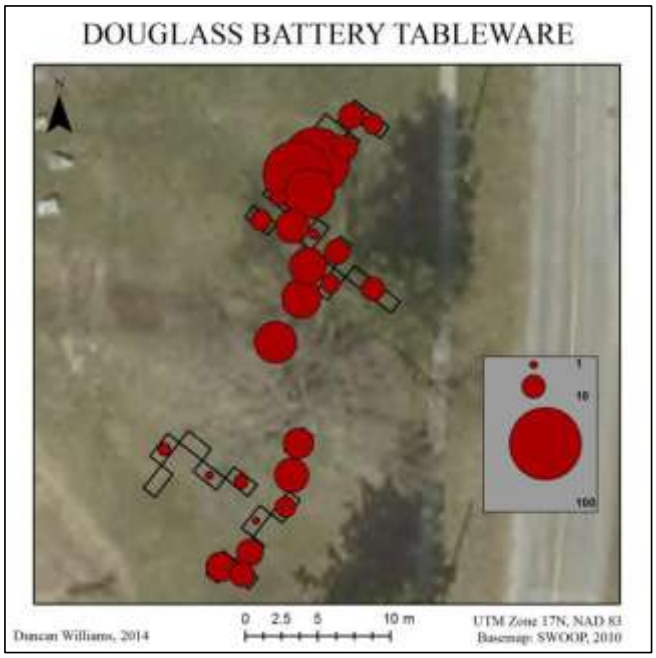


Figure 39 – Tableware fragments, Douglass Battery.

Figure 40 – Nails, all areas.

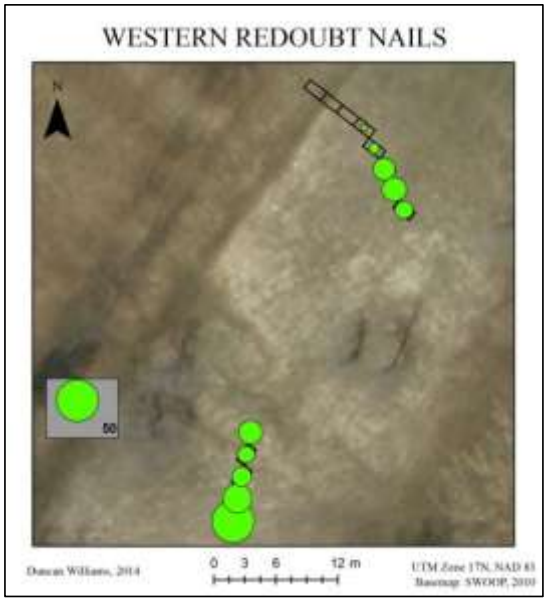


Figure 41 – Nails, Western Redoubt.

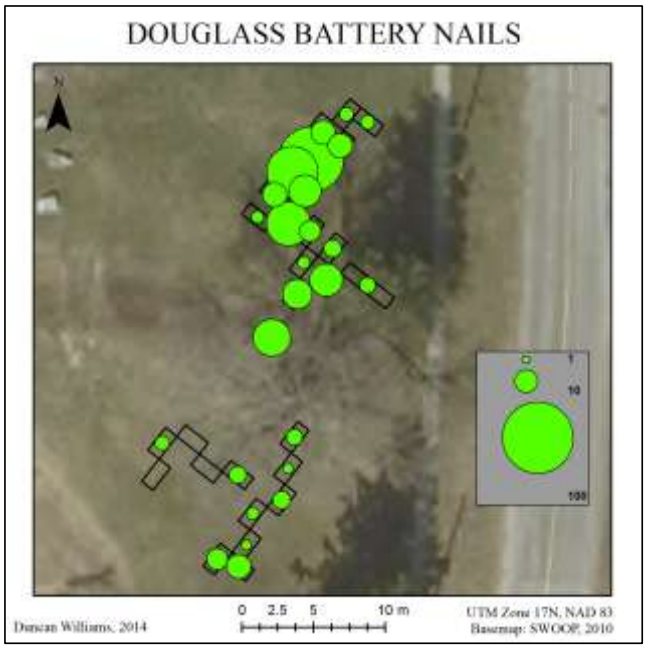


Figure 42 – Nails, Douglass Battery.

Figure 43 – Window glass, all areas.

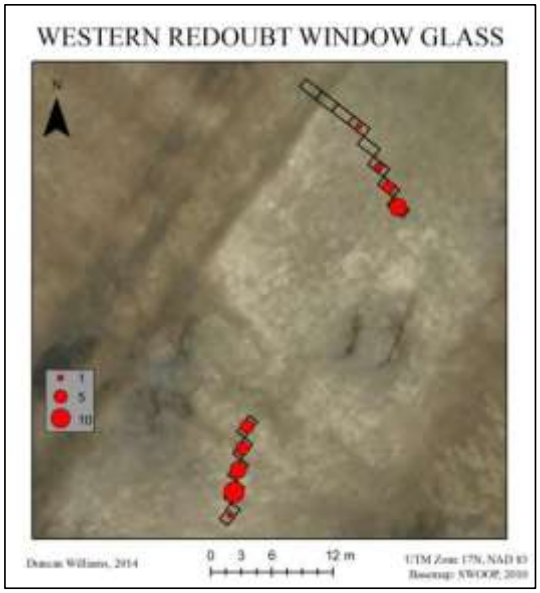


Figure 44 – Window glass, Western Redoubt.

Figure 45 – Window glass, Western Redoubt.

Figure 46 – Mortar bomb fragments, all areas.

Figure 47 – Historic landscape model.

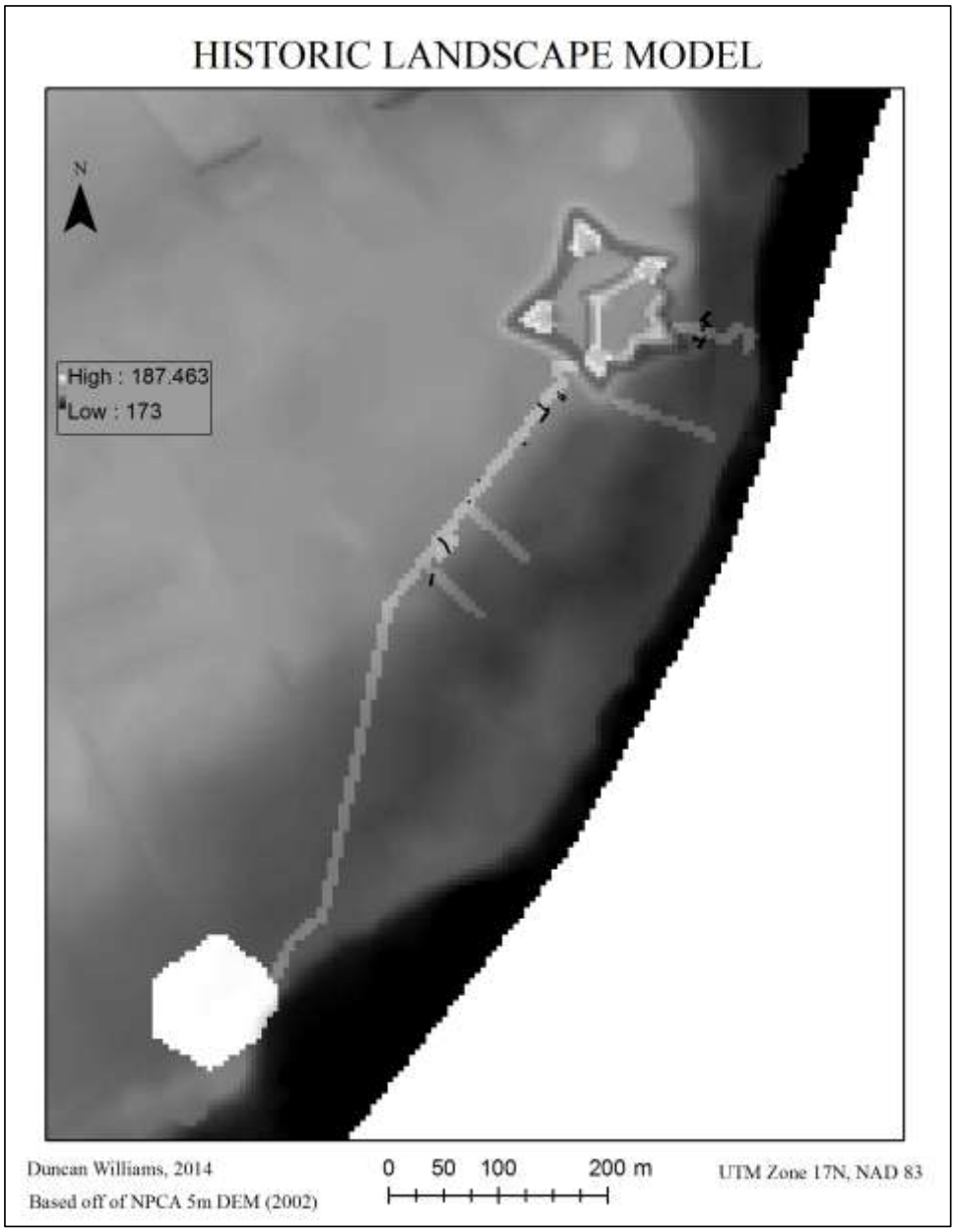


Figure 48 – Approximate positions of siege batteries.

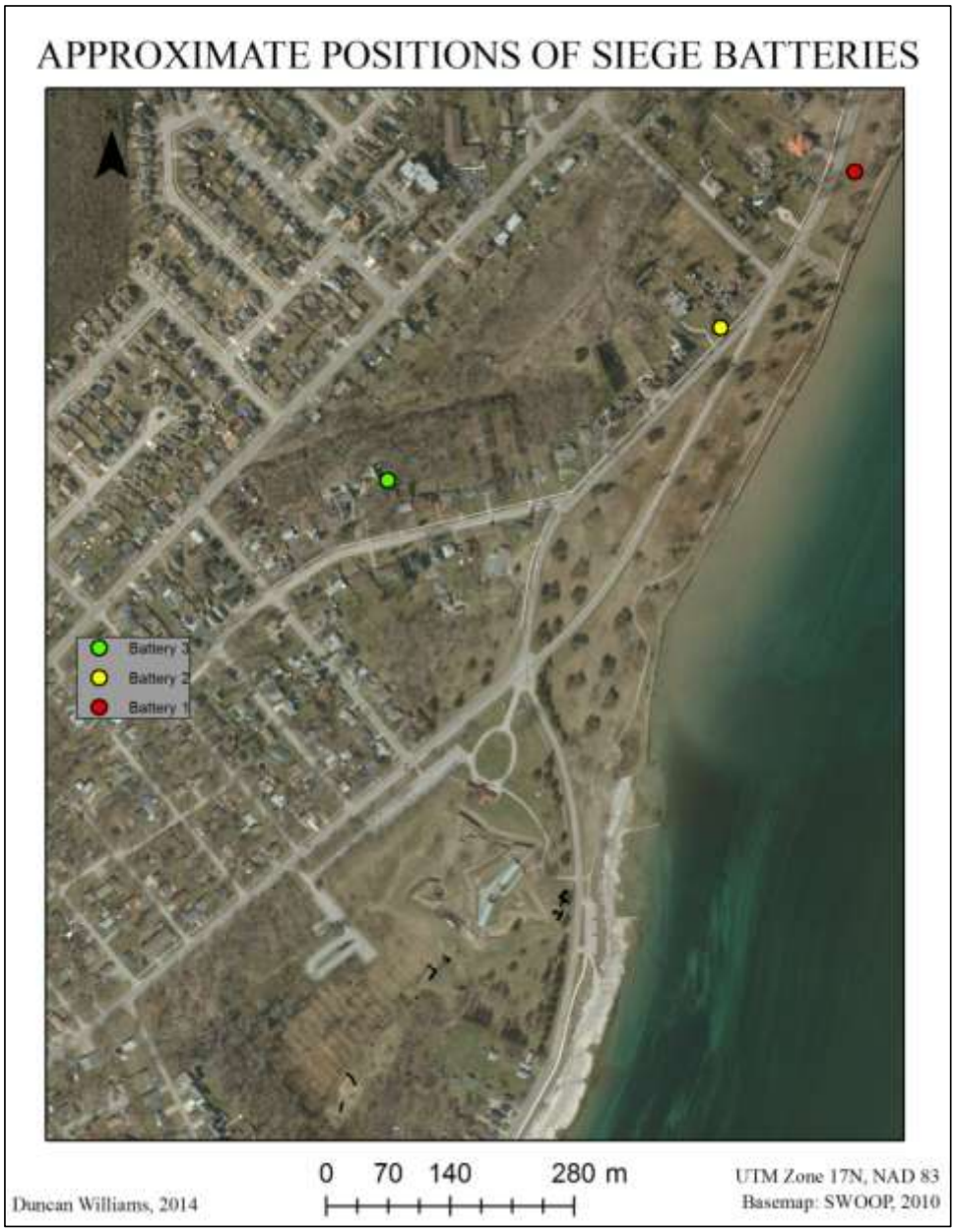


Figure 49 – Viewshed from Battery 1.

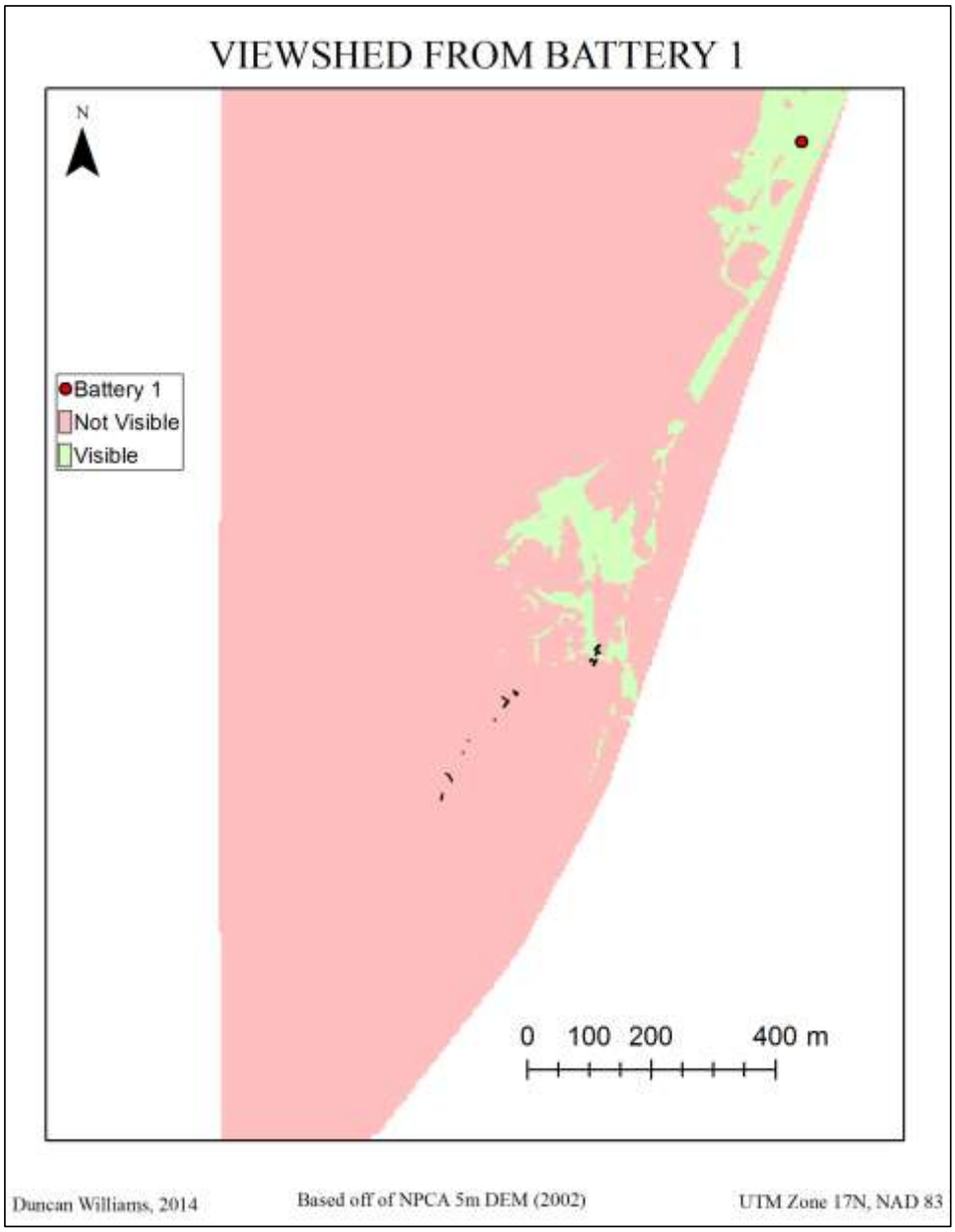


Figure 50 – Viewshed from Battery 2.

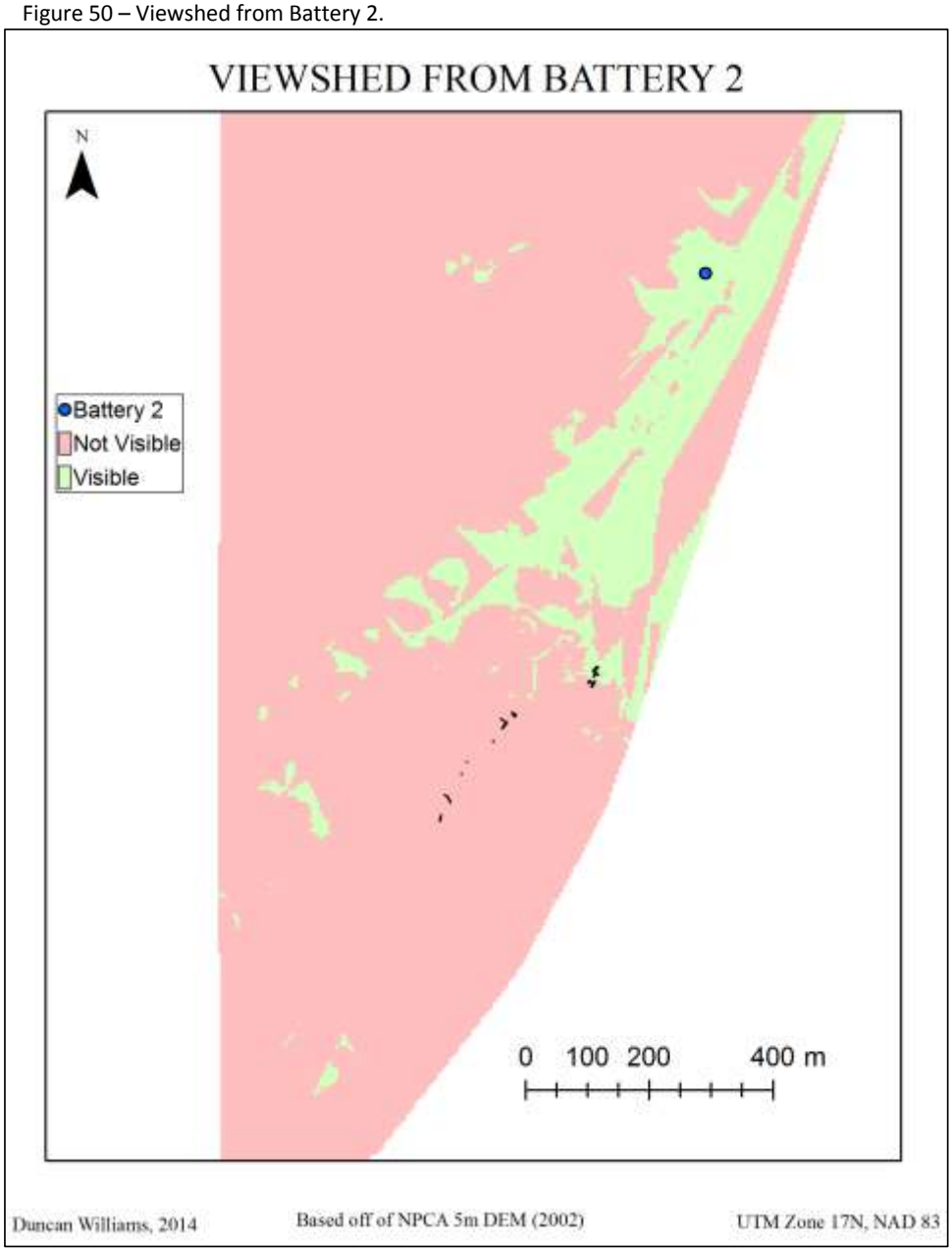
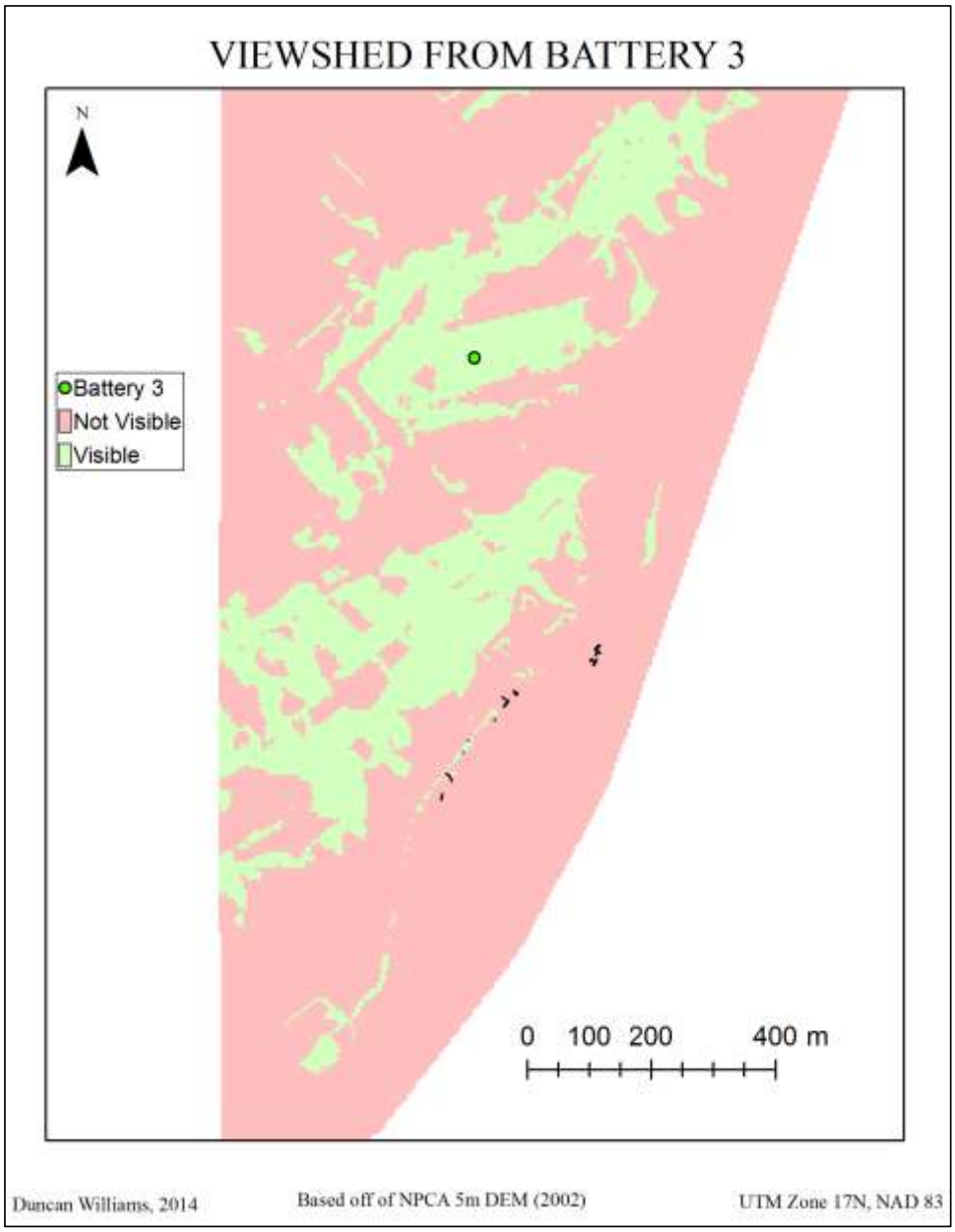


Figure 51 – Viewshed from Battery 3.



Appendix J
Artifact Catalogue

Area	Unit	Lot	Freq.	Material	Group	Class	Object	Datable Attribute	Comments
Battery East	A	2	1	Asphalt	Architectural	Construction Materials	Foundation Material	Asphalt	
Battery East	A	2	1	Charcoal	N/A	N/A	N/A	N/A	Only kept one piece - rest discarded but recorded as inclusions in field notes
Battery East	A	2	1	Charcoal	N/A	N/A	N/A	N/A	Only kept one piece - rest discarded but recorded as inclusions in field notes
Battery East	A	2	2	Chert	Native	Lithic	Flake	N/A	
Battery East	A	2	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	A	2	22	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown - modern
Battery East	A	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - modern - water worn
Battery East	A	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown - modern
Battery East	A	2	1	Metal	Personal	Currency	Coin	1940s	American coin from 1942
Battery East	A	2	1	Metal	Personal	Currency	Coin	1940s	American coin from 1941
Battery East	A	2	1	Metal	Personal	Personal Items	N/A	N/A	Bracelet - modern-chain
Battery East	A	2	1	Mortar	Architectural	Construction Materials	N/A	N/A	

Battery East	A	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	3	9	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	3	1	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	A	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	3	1	Ceramic	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	A	3	4	Charcoal	N/A	N/A	N/A	N/A	Kept Sample
Battery East	A	3	27	Charcoal	N/A	N/A	N/A	N/A	Kept Sample
Battery East	A	3	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	3	1	Chert	Native	Lithic	Flake	N/A	
Battery East	A	3	1	Chert	Native	Lithic	Flake	N/A	
Battery East	A	3	2	Chert	Native	Lithic	Flake	N/A	
Battery East	A	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	3	1	Coal	N/A	N/A	N/A	N/A	
Battery East	A	3	27	Coal	N/A	N/A	N/A	N/A	

Battery East	A	3	5	Coal	N/A	N/A	N/A	N/A	
Battery East	A	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	A	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green Bottle
Battery East	A	3	2	Lead	Unassigned Material	Miscellaneous Material	N/A	N/A	2 pieces of lead sheet metal
Battery East	A	3	9	Metal	Architectural	Nails	Nail	Machine Cut	very corroded - possibly cut or wrought nails
Battery East	A	3	5	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	A	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	A	3	1	Metal	Domestic Group	N/A	N/A	N/A	Part of a Key
Battery East	A	3	1	Metal	Domestic Group	Writing	N/A	N/A	Top of a pencil - to hold eraser - modern
Battery East	A	3	1	Metal	Unassigned Material	Miscellaneous Material	N/A	Wrought	Iron Strapping
Battery East	A	3	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	A	3	180	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	A	3	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	

Battery East	A	3	2	Slag	N/A	N/A	N/A	N/A	
Battery East	A	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	A	4	6	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	A	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	4	21	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	4	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	4	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	4	22	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	A	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	A	4	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	A	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	A	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	A	4	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	A	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	A	4	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	A	4	13	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	A	5	10	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	A	7	8	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	A	7	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	1 rib bone
Battery East	A	7	14	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	7	14	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	7	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	A	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	A	7	1	Ceramic	Food	Tableware	Tableware	Pearlware,	Blue Transfer ware

					Prep/Consumption			Transfer	
Battery East	A	7	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	7	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	7	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	7	11	Chert	Native	Lithic	Flake	N/A	
Battery East	A	7	15	Chert	Native	Lithic	Flake	N/A	
Battery East	A	7	8	Chert	Native	Lithic	Flake	N/A	
Battery East	A	7	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	7	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	7	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	7	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery East	A	7	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	A	7	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	A	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	A	7	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	A	7	2	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Battery East	A	7	3	Metal	Architectural	Nails	Nail	Wrought	
Battery East	A	7	2	Metal	Architectural	Nails	Nail	Wrought	

Battery East	A	7	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	A	7	1	Metal	Arms and Military	Ammunition / Artillery	Mortar Bomb Part	N/A	
Battery East	A	7	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	Eagle imprint - wing spread facing left - "11" at the bottom
Battery East	A	7	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	Square washer like thing
Battery East	A	7	46	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	A	7	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	A	9	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	A	9	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	A	9	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	A	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	A	9	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	A	9	2	Chert	Native	Lithic	Flake	N/A	
Battery East	A	9	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	A	9	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	A	9	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass

Battery East	A	Wall	1	Chert	Native	Lithic	Flake	N/A	
Battery East	A	Wall	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown (Beer Bottle?)
Battery East	B	2	9	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	B	2	1	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	B	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	B	2	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	B	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	B	2	1	Chert	Native	Lithic	Flake	N/A	
Battery East	B	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	B	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - modern
Battery East	B	2	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery East	B	2	3	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	B	2	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	B	2	3	Metal	Architectural	Nails	Nail	Wire	
Battery East	B	2	4	Metal	Architectural	Nails	Nail	Wire	
Battery East	B	2	1	Metal	Architectural	Nails	Nail	Wrought	

Battery East	B	2	1	Metal	Arms and Military	Ammunition / Artillery	Bullet	.22 short	
Battery East	B	2	1	Metal	Arms and Military	Uniform Insignia	N/A	N/A	possible top of a military button with initials "P.." engraved - whole popped out of top indicating that it may have been used as jewelry - gold plated
Battery East	B	2	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	
Battery East	B	2	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	B	2	1	Slag	N/A	N/A	N/A	N/A	
Battery East	B	3	9	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	B	3	5	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	B	3	2	Brass	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	B	3	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	B	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware , Painted	Early Palette
Battery East	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	B	3	10	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	3	1	Chert	Native	Lithic	Flake	N/A	

Battery East	B	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	B	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	B	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green Bottle
Battery East	B	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown Bottle
Battery East	B	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	B	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	B	3	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery East	B	3	7	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	B	3	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	B	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Calcined
Battery East	B	4	2	Brass	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	B	4	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	B	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ironstone, plain	

Battery East	B	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	4	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery East	B	5	4	Bone	Faunal/Floral	Bone	Bird Bone	N/A	
Battery East	B	5	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	B	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	B	5	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	B	5	14	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	B	5	22	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	B	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	B	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	B	5	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	B	5	1	ceramic	Food Prep/Consumption	tableware	Tableware	CRE, Tin Glaze	robins egg, hand panted
Battery East	B	5	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	B	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	B	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	B	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	black hand painted

Battery East	B	5	1	Ceramic	Smoking	Pipes	White Clay, Marked Bowl	N/A	marked
Battery East	B	5	22	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	5	47	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	5	7	Chert	Native	Lithic	Flake	N/A	
Battery East	B	5	3	Chert	Native	Lithic	Flake	N/A	
Battery East	B	5	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	B	5	1	Copper	Architectural	Nails	Nail	Cast	
Battery East	B	5	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	B	5	1	Glass	Clothing Group	Jewelry/Ornamentation	Bead	N/A	Blown glass tube trade bead
Battery East	B	5	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass (modern?)
Battery East	B	5	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	B	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	clear, burned
Battery East	B	5	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	B	5	3	Metal	Architectural	Nails	Nail	Machine Cut	Rose head

Battery East	B	6	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	6	2	Chert	Native	Lithic	Flake	N/A	
Battery East	B	8a	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	8a	11	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	8b	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	B	Wall	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Early Palette
Battery East	B	Wall	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Back Dirt	N/A	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	C	2	1	Bone	Clothing Group	Fasteners	Button	N/A	
Battery East	C	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	C	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	C	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	C	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	C	2	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	C	2	6	Metal	Architectural	Nails	Nail	Wire	

Battery East	C	2	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	C	2	1	Metal	Personal	Currency	Coin	1970s	Canadian 1973 dime
Battery East	C	2	1	Metal	Personal	Currency	Coin	1980s	Canadian 1980 nickel
Battery East	C	2	1	Metal	Personal	Currency	Coin	1980s	American 1983 penny
Battery East	C	2	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	C	3	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	C	3	82	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	C	3	1	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	cut mark
Battery East	C	3	3	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	C	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Whiteware, Plain	
Battery East	C	3	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	C	3	4	Coal	N/A	N/A	N/A	N/A	
Battery East	C	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	C	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	C	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/Green
Battery East	C	3	1	Lead	Arms and Military	Ammunition / Artillery	Bird Shot	N/A	
Battery East	C	3	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	C	3	11	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	C	3	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	C	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	C	4	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	C	4	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	C	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	Only the glaze
Battery East	C	4	8	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	C	4	8	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Dark brown blackish paint hand painted on creamware
Battery East	C	4	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	C	4	1	Ceramic	Food	Tableware	Tableware	White EW,	

					Prep/Consumption			Unident	
Battery East	C	4	6	Charcoal	N/A	N/A	N/A	N/A	
Battery East	C	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	C	4	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	C	4	4	Glass	Glass	Architectural	Window Glass	Pane Glass	
Battery East	C	4	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery East	C	4	3	Metal	Architectural	Nails	Nail	Wrought	
Battery East	C	5	52	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	originally one large mammal bone
Battery East	C	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	C	5	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	C	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	C	5	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	D	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	D	2	5	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	D	2	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head

Battery East	D	2	11	Metal	Architectural	Nails	Nail	Wire	
Battery East	D	2	3	Metal	Architectural	Nails	Nail	Wire	
Battery East	D	2	1	Metal	Clothing Group	Fasteners	Buckle/Buckle Part	N/A	Possible Boot Buckle
Battery East	D	2	1	Metal	Domestic Group	Sewing	N/A	N/A	Safety Pin - modern
Battery East	D	2	1	Metal	Personal	Currency	Coin	1940s	American Coin from 1941
Battery East	D	2	1	Metal	Unassigned Material	Miscellaneous Hardware	Bolt	N/A	
Battery East	D	2	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	Tack
Battery East	D	2	1	Stone	N/A	N/A	N/A	N/A	Stone with fossil imprint of a shell
Battery East	D	3	4	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	D	3	3	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	D	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	D	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	D	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	D	3	1	Chert	Architectural	N/A	N/A	N/A	Large piece of cut chert with some glaze on it
Battery East	D	3	13	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	D	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	D	3	6	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - modern
Battery East	D	3	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	D	3	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	D	3	4	Metal	Architectural	Nails	Nail	Wrought	
Battery East	D	4	8	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	D	4	1	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	D	4	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	D	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	D	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	D	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	D	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery East	D	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	D	4	3	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery East	D	4	11	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	D	4	2	Glass	Food	Glass Beverage	Bottle	N/A	Dark Brown/Green

					Prep/Consumption	Container			
Battery East	D	4	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	D	4	4	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	D	4	5	Metal	Architectural	Nails	Nail	Wrought	
Battery East	D	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	D	5	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	D	7B	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	D	7C	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	E	2	47	Metal	Architectural	Nails	Nail	Wire	
Battery East	E	2	1	Metal	Clothing Group	Fasteners	Button	N/A	
Battery East	E	2	1	Metal	Personal	Currency	Coin	1940s	American 1944 Penny
Battery East	E	2	1	Metal	Personal	Currency	Coin	1960s	American 1961 Penny
Battery East	E	2	1	Metal	Personal	Currency	Coin	1960s	Canadian 1963 Penny
Battery East	E	3	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	E	3	22	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	E	3	5	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	E	3	2	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	E	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery East	E	3	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	E	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Battery East	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	E	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	E	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Unidentifiable - Burnt off glaze
Battery East	E	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue with gilding
Battery East	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	E	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	E	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	E	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	E	3	5	Charcoal	N/A	N/A	N/A	N/A	

Battery East	E	3	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	E	3	9	Chert	Native	Lithic	Flake	N/A	
Battery East	E	3	9	Chert	Native	Lithic	Flake	N/A	
Battery East	E	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	E	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	E	3	2	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery East	E	3	1	Flint	Arms and Military	Gunflints	Flake	N/A	
Battery East	E	3	1	Flint	Arms and Military	Gunflints	Gunflint	Spall	French
Battery East	E	3	14	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	E	3	27	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	E	3	31	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	E	3	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery East	E	3	2	Metal	Architectural	Nails	Nail	Machine	hand-made head

								Cut	
Battery East	E	3	6	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	E	3	8	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	E	3	10	Metal	Architectural	Nails	Nail	Wrought	
Battery East	E	3	1	Metal	Architectural	Nails	Nail	Wrought	odd nail - possibly to hold up a lantern or something - has a strange head
Battery East	E	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	no design
Battery East	E	3	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	E	4	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	One burnt
Battery East	E	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	E	4	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	E	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	E	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Burnt -possibly Blue Painted
Battery East	E	4	25	Charcoal	N/A	N/A	N/A	N/A	
Battery East	E	4	6	Chert	Native	Lithic	Flake	N/A	
Battery East	E	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	E	4	5	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery East	E	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	E	4	11	Metal	Architectural	Nails	Nail	Wrought	
Battery East	E	4	7	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	E	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	118g
Battery East	E	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	E	5	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	E	5	1	Ceramic	Food Prep/Consumption	tableware	Tableware	Pearlware, Painted	Blue Painted
Battery East	E	5	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	E	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	F	2	5	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	F	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	F	2	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	F	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	F	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Refined White Earthenware - Missing Glaze - Chipped off
Battery East	F	2	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	Possibly been turned into a bead
Battery East	F	2	1	Charcoal	N/A	N/A	N/A	N/A	sample from field

Battery East	F	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	F	2	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	F	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - modern
Battery East	F	2	2	Metal	Domestic Group	Sewing	Scissors	N/A	Found both a blade and a handle - look old
Battery East	F	3	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	F	3	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Calcined
Battery East	F	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	F	3	3	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	F	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	F	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	F	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	F	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE, Tin Glaze	
Battery East	F	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	FSW, White Salt Glaze	
Battery East	F	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	F	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	F	3	1	Ceramic	Smoking	Pipes	White Clay, Plain	N/A	

							Bowl		
Battery East	F	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	F	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	F	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	F	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	F	3	4	Chert	Native	Lithic	Flake	N/A	
Battery East	F	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	F	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	F	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	F	3	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	F	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	F	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Free Blown; Green
Battery East	F	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	F	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	F	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	F	3	1	Metal	Arms and Military	Ammunition / Artillery	Cartridge Case	N/A	Shell casing modern

Battery East	F	3	1	Metal	Clothing Group	Fasteners	Buckle/Buckle Part	N/A	
Battery East	F	3	1	Plastic	Personal	Toys and Leisure	N/A	N/A	Small red plastic piece of something - moulded
Battery East	F	3	3	Slag	N/A	N/A	N/A	N/A	
Battery East	F	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	F	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	F	4	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	G	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware	Unglazed
Battery East	G	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	
Battery East	G	2	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	G	2	5	Charcoal	N/A	N/A	N/A	N/A	sample from field
Battery East	G	2	11	Chert	Native	Lithic	Flake	N/A	
Battery East	G	2	7	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	G	2	58	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	G	2	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - modern
Battery East	G	2	3	Glass	Food	Glass Beverage	Bottle	N/A	Brown - modern

					Prep/Consumption	Container			
Battery East	G	2	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	G	2	1	Metal	Personal	Currency	Coin	1960s	Canadian 1966 Penny
Battery East	G	2	1	Metal	Unassigned Material	Miscellaneous Hardware	Rivet	Machine Cut	
Battery East	G	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	G	3	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	Calcined
Battery East	G	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	G	3	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	G	3	23	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	G	3	30	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	G	3	2	Brass	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	G	3	1	Brass	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	G	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	G	3	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	G	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	G	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	

Battery East	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	Hand painted Blue
Battery East	G	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	1 plain; 1 blue hand painted
Battery East	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	G	3	12	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	G	3	9	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, moulded (no colour)	
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Early Palette
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue - slightly burnt

Battery East	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	G	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Transfer	Blue Transfer ware
Battery East	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Unglazed refine white earthenware
Battery East	G	3	3	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	G	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	G	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	G	3	12	Charcoal	N/A	N/A	N/A	N/A	sample from field
Battery East	G	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	G	3	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	G	3	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	G	3	1	Chert	Native	Lithic	Core	N/A	
Battery East	G	3	27	Chert	Native	Lithic	Flake	N/A	
Battery East	G	3	4	Chert	Native	Lithic	Flake	N/A	
Battery East	G	3	6	Chert	Native	Lithic	Flake	N/A	

Battery East	G	3	3	Chert	Native	Lithic	Flake	N/A	
Battery East	G	3	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	G	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	G	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	G	3	1	Chert	Native	Lithic	Projectile Point	Archaic, Unspecified	Lamoka Projectile Point
Battery East	G	3	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery East	G	3	15	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	G	3	9	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	G	3	6	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	G	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	G	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	G	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Dark Green
Battery East	G	3	5	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	G	3	5	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	G	3	7	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	G	3	2	Glass	Food	Glass Beverage	Bottle	N/A	Free Blown; Green

					Prep/Consumption	Container			
Battery East	G	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	G	3	1	Glass	Personal	N/A	N/A	N/A	Brown Painted Clear Glass
Battery East	G	3	7	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	G	3	3	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	G	3	1	Metal	Architectural	Nails	Nail	Wire?	small piece of the end of a nail - hard to identify - looks like wire
Battery East	G	3	3	Metal	Architectural	Nails	Nail	Wrought	
Battery East	G	3	4	Metal	Architectural	Nails	Nail	Wrought	
Battery East	G	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	G	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	"C"
Battery East	G	3	1	Metal	Unassigned Material	Miscellaneous Material	N/A	N/A	Possible horse bit
Battery East	G	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	G	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	G	3	13	Native	Lithic	Flake	N/A	N/A	
Battery East	G	3	7	Native	Lithic	Misc. Debitage	N/A	N/A	
Battery East	G	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	

Battery East	G	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	G	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	
Battery East	G	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	G	4	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	G	4	2	Chert	Native	Lithic	Flake	N/A	
Battery East	G	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	G	4	1	Flint	Arms and Military	Gunflints	Gunflint	Spall	British
Battery East	G	4	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	G	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	G	6	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	G	6	1	Chert	Native	Lithic	Flake	N/A	
Battery East	G	Wall	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	2	1	Coal	N/A	N/A	N/A	N/A	
Battery East	H	2	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White - modern?
Battery East	H	2	27	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White - modern?
Battery East	H	2	1	Glass	Food	Glass Beverage	Bottle	N/A	Green

					Prep/Consumption	Container			
Battery East	H	2	1	Plastic	Clothing Group	Fasteners	Button	N/A	
Battery East	H	3	2	Bone	Clothing Group	Fasteners	Button	N/A	
Battery East	H	3	1	Bone	Faunal/Floral	Bone	Bird Bone	N/A	
Battery East	H	3	1	Bone	Faunal/Floral	Bone	Bird Bone	N/A	
Battery East	H	3	2	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	H	3	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	3	8	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	3	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	3	9	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	3	37	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	15 calcined
Battery East	H	3	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	3	18	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	3	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	3	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	3	22	Bone	Faunal/Floral	Mammal Bone	N/A	N/A	
Battery East	H	3	9	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery East	H	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	3	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Red Glaze
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	Overglazed
Battery East	H	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	Blue Painted
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	blue hand painted
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	Burnt
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	
Battery East	H	3	9	Ceramic	Food	Tableware	Tableware	Creamware	

					Prep/Consumption			Plain	
Battery East	H	3	15	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	H	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, moulded (no colour)	basket weave pattern possibly on clouded ware
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, moulded (no colour)	Shell Edge
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Hand painted Blue
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ironstone, plain	
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Burnt -possibly Blue Painted
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Edged	
Battery East	H	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	H	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted blue, gilded on paint

Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Blue Painted
Battery East	H	3	16	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	H	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Green glaze with Green Banded edge - modern?
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Dark Green Glaze
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	no glaze
Battery East	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Unglazed refine white earthenware
Battery East	H	3	1	Ceramic	Food Prep/Consumption	tableware	Tableware	White EW, Unident	
Battery East	H	3	1	Ceramic	Smoking	Pipes	White Clay, Marked Bowl	N/A	"… D"
Battery East	H	3	2	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery East	H	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	

Battery East	H	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	H	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	Burnt
Battery East	H	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	H	3	2	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	H	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	H	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	H	3	1	Chert	Native	Lithic	Core	N/A	
Battery East	H	3	9	Chert	Native	Lithic	Flake	N/A	
Battery East	H	3	4	Chert	Native	Lithic	Flake	N/A	
Battery East	H	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	H	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	H	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	H	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	White chert
Battery East	H	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	H	3	3	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery East	H	3	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth

Battery East	H	3	5	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	3	116	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	3	20	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	3	72	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	3	9	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	3	39	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	H	3	20	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	H	3	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	H	3	9	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	H	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	melted bluish glass
Battery East	H	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass (modern?)
Battery East	H	3	10	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	H	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	H	3	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	

Battery East	H	3	1	Glass	Medical/Hygiene	Pharmaceutical Containers	Pharmaceutical bottle	N/A	Part of a rim
Battery East	H	3	1	Glass	Personal	N/A	N/A	N/A	clear glass with white paint
Battery East	H	3	1	Glass	Personal	N/A	N/A	N/A	bluish
Battery East	H	3	15	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	H	3	12	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	H	3	34	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	H	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	H	3	9	Metal	Architectural	Nails	Nail	Wrought	
Battery East	H	3	5	Metal	Architectural	Nails	Nail	Wrought	
Battery East	H	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	H	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	Gold Plated (gilded) button cover from King's 8th Regiment
Battery East	H	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	no design
Battery East	H	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	
Battery East	H	3	1	Metal	Domestic Group	Sewing	Scissors	N/A	2 blades joined together - missing handle
Battery East	H	3	32	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	

Battery East	H	3	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	H	3	8	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	H	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	H	3	4	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	H	3	5	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	H	3	1	Slag	N/A	N/A	N/A	N/A	
Battery East	H	3	2	Slag	N/A	N/A	N/A	N/A	
Battery East	H	3	1	Wrought Iron	Unassigned Material	Miscellaneous Material	N/A	Wrought	Iron Strapping
Battery East	H	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	4	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	H	4	1	Ceramic	Food Prep/Consumption	tableware	Tableware	White EW, Unident	Burnt, blue painted
Battery East	H	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	H	4	3	Chert	Native	Lithic	Flake	N/A	
Battery East	H	4	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	H	4	30	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	H	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	H	5	3	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	H	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	5	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	H	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	H	5	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	H	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	H	5	1	Ceramic	Food Prep/Consumption	tableware	Tableware	White EW, Unident	burnt
Battery East	H	5	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	H	5	5	Chert	Native	Lithic	Flake	N/A	
Battery East	H	5	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	5	11	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green

Battery East	H	5	2	Glass	Medical/Hygiene	Pharmaceutical Containers	Pharmaceutical bottle	N/A	
Battery East	H	5	1	Leather	Clothing Group	Apparel	N/A	N/A	
Battery East	H	5	4	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	H	5	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	H	5	5	Metal	Arms and Military	Uniform Insignia	Shako Plate	N/A	
Battery East	H	5	1	Metal	Arms and Military	Uniform Insignia	Shako Plate	N/A	
Battery East	H	5	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	H	5	1	Plastic	Clothing Group	Fasteners	Button	N/A	Spherical blouse button
Battery East	H	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	Robin Egg coloured
Battery East	H	7	2	Chert	Native	Lithic	Flake	N/A	
Battery East	H	7	9	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	8	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	H	8	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	H	8	6	Charcoal	N/A	N/A	N/A	N/A	
Battery East	H	8	1	Chert	Native	Lithic	Flake	N/A	
Battery East	H	8	3	Chert	Native	Lithic	Flake	N/A	

Battery East	H	8	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	H	8	67	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	H	8	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	H	8	1	Metal	Architectural	Other Fasteners	Spike	Wrought	
Battery East	H	8	2	Wood	N/A	N/A	N/A	N/A	
Battery East	J	2	1	Chert	Native	Lithic	Flake	N/A	
Battery East	J	2	1	Coal	N/A	N/A	N/A	N/A	
Battery East	J	2	1	Coal	N/A	N/A	N/A	N/A	
Battery East	J	2	6	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	J	2	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	J	2	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	J	2	1	Slag	N/A	N/A	N/A	N/A	
Battery East	J	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	J	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	J	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	J	3	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	

Battery East	J	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	J	3	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	J	3	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	J	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	J	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	J	3	1	Ceramic	Food Prep/Consumption	tableware	Tableware	White EW, Unident	
Battery East	J	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	J	3	1	Charcoal	N/A	N/A	N/A	N/A	

Battery East	J	3	5	Charcoal	N/A	N/A	N/A	N/A
Battery East	J	3	5	Charcoal	N/A	N/A	N/A	N/A
Battery East	J	3	3	Charcoal	N/A	N/A	N/A	N/A
Battery East	J	3	2	Charcoal	N/A	N/A	N/A	N/A
Battery East	J	3	2	Chert	Native	Lithic	Flake	N/A
Battery East	J	3	13	Chert	Native	Lithic	Flake	N/A
Battery East	J	3	2	Chert	Native	Lithic	Flake	N/A
Battery East	J	3	2	Chert	Native	Lithic	Flake	N/A
Battery East	J	3	5	Chert	Native	Lithic	Flake	N/A
Battery East	J	3	2	Chert	Native	Lithic	Misc. Debitage	N/A
Battery East	J	3	6	Chert	Native	Lithic	Misc. Debitage	N/A
Battery East	J	3	1	Chert	Native	Lithic	Misc. Debitage	N/A
Battery East	J	3	3	Chert	Native	Lithic	Misc. Debitage	N/A
Battery East	J	3	3	Chert	Native	Lithic	Misc. Debitage	N/A
Battery East	J	3	1	Coal	N/A	N/A	N/A	N/A
Battery East	J	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete
Battery East	J	3	24	Glass	Architectural	Window Glass	Pane Glass	N/A
Battery East	J	3	53	Glass	Architectural	Window Glass	Pane Glass	N/A
Battery East	J	3	39	Glass	Architectural	Window Glass	Pane Glass	N/A

Battery East	J	3	18	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	3	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	3	7	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	J	3	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	J	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	J	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	J	3	1	Lead	Unassigned Material	Miscellaneous Material	N/A	N/A	2 inch long lead tubular piece - very thin - has 2 notches out of it on one side
Battery East	J	3	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	J	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	J	3	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	J	3	4	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	J	3	2	Metal	Architectural	Nails	Nail	Wrought	
Battery East	J	3	1	Metal	Arms and Military	Ammunition / Artillery	Mortar Bomb	N/A	

							Part		
Battery East	J	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	8th Regiment
Battery East	J	3	1	Metal	Clothing Group	Fasteners	Button	N/A	four whole
Battery East	J	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	J	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	4g
Battery East	J	3	1	Slag	N/A	N/A	N/A	N/A	
Battery East	J	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	J	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	J	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	4	6	Charcoal	N/A	N/A	N/A	N/A	
Battery East	J	4	3	Chert	Native	Lithic	Flake	N/A	
Battery East	J	4	4	Chert	Native	Lithic	Flake	N/A	
Battery East	J	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	J	4	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	J	4	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery East	J	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	hand blown neck with hand blown finish

Battery East	J	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	J	5	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	J	5	1	Chert	Native	Lithic	Flake	N/A	
Battery East	J	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	J	6	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	J	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	Burnt
Battery East	J	6	1	Ceramic	Food Prep/Consumption	tableware	Tableware	White EW, Unident	Feather Edge
Battery East	J	6	5	Chert	Native	Lithic	Flake	N/A	
Battery East	J	6	6	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	6	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	J	6	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	J	6	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	J	Wall	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	J	Wall	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	J	Wall	3	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	K	2	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	K	2	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	K	2	1	Coal	N/A	N/A	N/A	N/A	
Battery East	K	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	K	2	1	Metal	Food Prep/Consumption	Utensils	Knife/Knife Part	N/A	
Battery East	K	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	K	3	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	K	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	K	3	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	25g
Battery East	K	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	both calcined
Battery East	K	3	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	K	3	13	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	K	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	K	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	K	3	15	Ceramic	Activities	Writing	Ink Well	CRE Glazed	Lead glazed interior
Battery East	K	3	6	Ceramic	Activities	Writing	Ink Well	CRE Glazed	Lead glazed interior, salt glazed exterior
Battery East	K	3	6	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Black Glaze
Battery East	K	3	6	Ceramic	Food	Ceramic	Hollowware	CRE	

					Prep/Consumption	Cooking/Storage		Unglazed	
Battery East	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	K	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	K	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	K	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	K	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green, burnt
Battery East	K	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	clear base
Battery East	K	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	K	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	K	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	10th Regiment
Battery East	K	3	1	Metal	unassigned Material	Miscellaneous Hardware	N/A	N/A	Candy cane shaped metal
Battery East	K	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	K	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery East	K	5	3	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	black Glaze
Battery East	K	5	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Unglazed	
Battery East	K	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	
Battery East	K	5	1	Ceramic	Food Prep/Consumption	tableware	Tableware	Pearlware, Painted	Blue Painted
Battery East	K	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	K	5	1	Chert	Native	Lithic	Flake	N/A	
Battery East	K	5	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	K	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	K	6	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	K	6	14	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	K	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	K	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	K	6	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	K	8	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	K	8	6	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	K	8	1	Brick	Architectural	Construction Materials	N/A	N/A	

Battery East	K	8	15	Charcoal	N/A	N/A	N/A	N/A	
Battery East	K	8	6	Charred Wood	N/A	N/A	N/A	N/A	
Battery East	K	8	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	K	8	1	Ferrous	Architectural	Nails	Nail	Machine Cut	
Battery East	K	8	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	K	9	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	K	9	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	K	12d	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	L	2	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	L	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	L	2	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	L	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	L	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	L	2	14	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass (modern?)
Battery East	L	2	6	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown (beer bottle), modern
Battery East	L	2	10	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass (modern)

Battery East	L	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green
Battery East	L	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	L	2	1	Metal	Personal	Currency	Coin	1940s	1943 Canadian Penny
Battery East	L	2	1	Metal	Personal	Currency	Coin	1950s	Canadian Dime 1953
Battery East	L	2	5	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	Possible modern bottle cap fragments
Battery East	L	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	L	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	L	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	L	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	L	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	L	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	L	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	L	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue with gilding
Battery East	L	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	L	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	

Battery East	L	3	9	Charcoal	N/A	N/A	N/A	N/A	
Battery East	L	3	19	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	L	3	23	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	L	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	L	3	5	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Free Blown; Green
Battery East	L	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	L	3	4	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	L	3	6	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	L	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	L	3	1	Metal	Arms and Military	N/A	N/A	N/A	Frizzon
Battery East	L	3	1	Metal	Clothing Group	Fasteners	Buckle/Buckle Part	N/A	Possible Boot Buckle
Battery East	L	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	L	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	L	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	L	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	

Battery East	L	4	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	L	4	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	L	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	L	4	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	L	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	L	6	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	L	6	1	Chert	Native	Lithic	Flake	N/A	
Battery East	L	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	L	6	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	L	7	1	Chert	Native	Lithic	Flake	N/A	Primary
Battery East	M	2	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	2	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	M	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CEW, Tin Glaze	
Battery East	M	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	M	2	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Modern bottle glass
Battery East	M	2	1	Glass	Food Prep/Consumption	Glass Tableware	Tumbler	Solarized	Side is moulded

Battery East	M	2	1	Metal	Food Prep/Consumption	Metal Containers	Closure	Twentieth Century	Metal bottle cap, A&W root beer
Battery East	M	2	9	Metal	Food Prep/Consumption	Metal Containers	Closure	Twentieth Century	
Battery East	M	2	1	Metal	Unassigned Material	Miscellaneous Material	Wire	N/A	
Battery East	M	2	1	Plastic	Clothing Group	Jewelry/Ornamentation	Bead	Plastic	
Battery East	M	2	1	Plastic	Personal	Toys and Leisure	Toy	Twentieth Century	May be part of an anchor
Battery East	M	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	3	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	3	9	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	M	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	M	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	M	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	M	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	M	3	1	Ceramic	Food	Tableware	Tableware	Pearlware,	

					Prep/Consumption			Plain	
Battery East	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Transfer	Blue Transfer ware
Battery East	M	3	1	Coal	N/A	N/A	N/A	N/A	sample from field
Battery East	M	3	1	Coal	N/A	N/A	N/A	N/A	sample from field
Battery East	M	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	M	3	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	clear
Battery East	M	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	M	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - blown?
Battery East	M	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - blown?
Battery East	M	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - blown
Battery East	M	3	1	Metal	Personal	Currency	Coin	1930s	Canadian 1939 penny
Battery East	M	3	2	Metal	Personal	Currency	Coin	1940s	1 Canadian 1944 dime; 1 Canadian 1941 penny
Battery East	M	3	1	Metal	Unassigned Material	Miscellaneous Material	N/A	N/A	screw like thing - kind of looks like the top of a pencil
Battery East	M	3	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	

Battery East	M	3	8	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	M	3	1	Plastic	Personal	Toys and Leisure	doll	Plastic	says made in Canada. Naked back portion of a doll
Battery East	M	6	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	6	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Riffle Ball
Battery East	M	7	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	7	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	7	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	7	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	M	7	2	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	M	7	3	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	M	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	M	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, other Décor	Annular ware, banded
Battery East	M	7	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	M	7	1	Charred Wood	N/A	N/A	N/A	N/A	
Battery East	M	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery East	M	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	M	7	2	Ferrous	Architectural	Nails	Nail	Wrought	
Battery East	M	7	2	Ferrous	Architectural	Nails	Nail	Wrought	
Battery East	M	7	1	Glass	Architectural	Window Glass	Pane glass	N/A	Light green
Battery East	M	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	M	7	2	Glass	Food Prep/Consumption	Glass Tableware	Unidentifiable	N/A	Clear
Battery East	M	9	11	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	9	10	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	M	9	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	Butchered
Battery East	M	9	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	M	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	
Battery East	M	9	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	Blue Painted
Battery East	M	9	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	M	9	1	Charred Wood	N/A	N/A	N/A	N/A	
Battery East	M	9	2	Chert	Native	Lithic	Flake	N/A	Secondary Flakes
Battery East	M	9	1	Ferrous	Architectural	Nails	Nail	N/A	To Fragmented to Identify

Battery East	M	9	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	M	9	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball shot	N/A	
Battery East	M	9	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	N	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	N	2	1	Ceramic	Food Prep/Consumption	tableware	Tableware	Pearlware, Painted	Blue Painted
Battery East	N	2	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	N	2	2	Chert	Native	Lithic	Flake	N/A	
Battery East	N	2	1	Metal	unassigned Material	Miscellaneous Hardware	Washer	N/A	
Battery East	N	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	N	3	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	N	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	N	3	14	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	N	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	N	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	N	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	N	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery East	N	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ceramic	glaze has worn off so ware type is unidentifiable
Battery East	N	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CEW, Tin Glaze	
Battery East	N	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	N	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	N	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand Painted Blue
Battery East	N	3	1	Ceramic	Food Prep/Consumption	tableware	Tableware	Pearlware, Painted	Blue Painted
Battery East	N	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	N	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Transfer	Blue Transfer ware
Battery East	N	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	N	3	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	N	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	N	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	N	3	1	Chert	Native	Lithic	Flake	N/A	
Battery East	N	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	N	3	1	Copper-	clothing Group	Fasteners	Button	N/A	Plain brass coat button, silver plating

				alloy					
Battery East	N	3	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	N	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	N	3	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	N	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	N	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	N	3	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery East	N	3	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	N	3	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	N	3	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	N	3	2	Metal	Architectural	Nails	Nail	Wire	
Battery East	N	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	N	4	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	N	4	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	One piece calcined with iron corrosion
Battery East	N	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	N	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery East	N	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Unglazed	
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China	Blue Transfer ware
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China	Blue Transfer ware
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	Blue painted
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Battery East	N	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	N	4	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue - design indiscernible
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	

Battery East	N	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	N	4	1	Ceramic	Native	Ceramic	Native Smoking Pipe?	N/A	
Battery East	N	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery East	N	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	N	4	6	Charcoal	N/A	N/A	N/A	N/A	
Battery East	N	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	N	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	N	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	N	4	3	Ferrous	Architectural	Nails	Nail	Wrought	
Battery East	N	4	1	Flint	Arms and Military	Gunflints	Gunflint	Blade	French
Battery East	N	4	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	N	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White Glass
Battery East	N	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	N	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	N	4	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass

Battery East	N	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	N	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light blue
Battery East	N	4	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery East	N	4	2	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery East	N	4	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Rifle ball
Battery East	N	4	2	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	N	4	3	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	N	4	1	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	N	4	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	N	4	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	N	4	4	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	N	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	N	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	1	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	1	4	Chert	Native	Lithic	Flake	N/A	

Battery East	P	1	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	1	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	P	2	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	
Battery East	P	2	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	P	2	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	2	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	2	2	Chert	Native	Lithic	Flake	N/A	
Battery East	P	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	2	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Modern Coke bottle
Battery East	P	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern?
Battery East	P	2	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	P	2	1	Metal	Architectural	Nails	Nail	Machine	hand-made head

								Cut	
Battery East	P	2	2	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	P	2	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	P	2	1	Metal	unassigned Material	Miscellaneous Hardware	Washer	N/A	Modern
Battery East	P	4	2	Bone	Faunal/Floral	Bone	Fish Bone	N/A	Vertebrae
Battery East	P	4	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	4	24	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	4	14	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Burnt/Small hole in centre
Battery East	P	4	85	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	Blue
Battery East	P	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	
Battery East	P	4	10	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	P	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	P	4	2	Ceramic	Food	Tableware	Tableware	Pearlware,	

					Prep/Consumption			Plain	
Battery East	P	4	2	Ceramic	Food Prep/Consumption	Tableware	Unidentifiable	N/A	Burnt
Battery East	P	4	1	Ceramic	Smoking	Pipes	Spur Marked	N/A	"D; I" / Spur attached to stem / White clay
Battery East	P	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	4	53	Charred Wood	N/A	N/A	N/A	N/A	
Battery East	P	4	8	Chert	Native	Lithic	Flake	N/A	
Battery East	P	4	23	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	4	7	Ferrous	Architectural	Nails	Nail	Wrought	
Battery East	P	4	10	Ferrous	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	P	4	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	P	4	12	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	P	5	2	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	P	5	4	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	5	20	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	5	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Burnt
Battery East	P	5	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	5	2	Brick	Architectural	Construction Materials	N/A	N/A	

Battery East	P	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	moulded along rim
Battery East	P	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	Rim shard, Impression around the rim
Battery East	P	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	Burnt
Battery East	P	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Fine Stoneware	Rosso antico - antique red - Fine Red stoneware
Battery East	P	5	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	5	6	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	5	20	Chert	Native	Lithic	Flake	N/A	
Battery East	P	5	3	Chert	Native	Lithic	Flake	N/A	
Battery East	P	5	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	5	1	Chert	Native	Lithic	Projectile Point	N/A	about 3 inches long
Battery East	P	5	4	Glass	Architectural	Window Glass	Pane Glass	N/A	Lamoka Speak point?
Battery East	P	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	P	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	melted
Battery East	P	5	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Rifle ball
Battery East	P	5	14	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads

Battery East	P	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	P	5	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	"US"
Battery East	P	5	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	P	5	10	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	P	5	2	Shell	Faunal/Floral	Shell	Shell	N/A	
Battery East	P	6	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	6	2	Brick	Architectural	Construction Materials	N/A	N/A	No Weight
Battery East	P	6	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	Burnt
Battery East	P	6	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	6	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	6	2	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	P	3a	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	3a	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	2 Calcined
Battery East	P	3a	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	3a	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	3a	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	3a	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	

Battery East	P	3a	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	P	3a	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	3a	2	Chert	Native	Lithic	Flake	N/A	
Battery East	P	3a	7	Chert	Native	Lithic	Flake	N/A	
Battery East	P	3a	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	3a	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	3a	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White Glass
Battery East	P	3a	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	P	3a	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	P	3a	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	P	3a	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	2 inch circular metal ring
Battery East	P	3b	7	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	3b	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	3b	23	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	P	3b	15	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	3b	4	Chert	Native	Lithic	Flake	N/A	
Battery East	P	3b	1	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery East	P	3c	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	P	3c	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	1 calcined
Battery East	P	3c	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	P	3c	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Transfer	Blue Transfer ware
Battery East	P	3c	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	P	3c	8	Chert	Native	Lithic	Flake	N/A	
Battery East	P	3c	9	Chert	Native	Lithic	Flake	N/A	
Battery East	P	3c	2	Chert	Native	Lithic	Flake	N/A	
Battery East	P	3c	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	P	3c	1	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	P	3c	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	Q	1	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	Q	2	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	2	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	2	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	FSW, White Salt Glaze	

Battery East	Q	2	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	2	8	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Modern Pepsi Cola bottle
Battery East	Q	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	Q	2	1	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	Q	2	2	Metal	Architectural	Nails	Nail	Wire	
Battery East	Q	2	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	Q	2	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	Q	2	7	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	Q	3	13	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	3	15	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	Q	3	9	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	Q	3	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	3 calcined
Battery East	Q	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Calcined
Battery East	Q	3	2	Brass	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	possible brass plate

Battery East	Q	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	3	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CEW, Tin Glaze	
Battery East	Q	3	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	3	13	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	3	18	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware , Painted	Black bands painted
Battery East	Q	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	FSW, White Salt Glaze	
Battery East	Q	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	Q	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	Q	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	no glaze
Battery East	Q	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	burnt

Battery East	Q	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	burnt
Battery East	Q	3	2	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	Q	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	Q	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	3	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	3	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	3	8	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	3	4	Chert	Native	Lithic	Flake	N/A	
Battery East	Q	3	1	Chert	Native	Lithic	Flake	N/A	
Battery East	Q	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	3	1	Composite	Arms and Military	Uniform Insignia	Military Button	N/A	Kings eight regiment, two piece button bone backing with metal cover gilded jacket button
Battery East	Q	3	3	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery East	Q	3	5	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	Q	3	14	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	3	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery East	Q	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear
Battery East	Q	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	Q	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear
Battery East	Q	3	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	Q	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White Glass
Battery East	Q	3	5	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	Q	3	9	Metal	Architectural	Nails	Nail	Machine Cut	hand-made head
Battery East	Q	3	2	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	Q	3	7	Metal	Architectural	Nails	Nail	Wrought	
Battery East	Q	3	1	Metal	Clothing Group	Fasteners	Buckle/Buckle Part	N/A	half of a buckle

Battery East	Q	3	5	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	Q	3	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	Q	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	Q	3	1	Slag	N/A	N/A	N/A	N/A	
Battery East	Q	3	1	Stone	Activities	Fishing	Sinker	N/A	Net weight
Battery East	Q	4	5	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	Q	4	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	4	10	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	4	4	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	Q	4	8	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	1 calcined
Battery East	Q	4	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	Q	4	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	Q	4	1	Brass	Clothing Group	Fasteners	Button	N/A	Corroded
Battery East	Q	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	4	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	4	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	4	1	Brick	Architectural	Construction Materials	N/A	N/A	

Battery East	Q	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Some mortal attached to one side
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Black Basalt	rim, most likely a lid
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China	Blue Transfer ware
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	Painted Blue
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	printed
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware	Plain
Battery East	Q	4	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	4	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	4	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	Q	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	

Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	blue painted, burnt
Battery East	Q	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	no Glaze
Battery East	Q	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery East	Q	4	16	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	4	5	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	4	14	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	4	16	Charcoal	N/A	N/A	N/A	N/A	
Battery East	Q	4	8	Charcoal	N/A	N/A	Sample	N/A	
Battery East	Q	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	Q	4	3	Chert	Native	Lithic	Flake	N/A	
Battery East	Q	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	Q	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	4	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	4	1	Clinker	N/A	N/A	N/A	N/A	
Battery East	Q	4	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	4	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	4	7	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	Q	4	61	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	4	13	Glass	Architectural	Window Glass	Pane glass	N/A	
Battery East	Q	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	Patinated
Battery East	Q	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery East	Q	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - blown
Battery East	Q	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery East	Q	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	Q	4	5	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	dark Green
Battery East	Q	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	clear
Battery East	Q	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear, possible bottom piece
Battery East	Q	4	1	Glass	N/A	N/A	N/A	N/A	Patinated, possibly melted, clear glass.
Battery East	Q	4	9	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	Q	4	4	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	Q	4	2	Metal	Architectural	Nails	Nail	Machine	

								Cut	
Battery East	Q	4	4	Metal	Architectural	Nails	Nail	N/A	Unable to tell type to of corrosion
Battery East	Q	4	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	Q	4	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	Q	4	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	Q	4	18	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	Q	4	1	Shell	Faunal/Floral	Shell	Shell	N/A	
Battery East	Q	4	32	Wood	N/A	N/A	N/A	N/A	possible part of a door - found in the cellar
Battery East	Q	4	4	Wood	N/A	N/A	Sample	N/A	
Battery East	Q	4	4	Wrought Iron	Architectural	Nails	Nail	Wrought	Badly corroded
Battery East	Q	6	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	Q	6	1	Chert	Native	Lithic	Scraper	N/A	
Battery East	Q	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	Wall (3?)	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	Q	Wall (3?)	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	Q	Wall (3?)	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	

Battery East	Q	Wall (3?)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Fine Stoneware	Rosso antico - antique red (1700-1772) - Fine Red stoneware - often for tea pots or coffee pots - Greek meander design
Battery East	Q	Wall (3?)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	Q	Wall (3?)	1	Chert	Native	Lithic	Flake	N/A	
Battery East	Q	Wall (3?)	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	Q	Wall (3?)	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	Q	Wall (3?)	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	Q	Wall (3?)	2	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	Q	Wall (3?)	3	Metal	Architectural	Nails	Nail	Wrought	
Battery East	R	2	4	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	R	2	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	R	2	2	Chert	Native	Lithic	Flake	N/A	
Battery East	R	2	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	R	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	R	2	33	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery East	R	2	35	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	R	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	R	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery East	R	2	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	R	2	1	Metal	Personal	Currency	Coin	1910's	Canadian 1917 one cent piece
Battery East	R	2	1	Metal	Unassigned Material	Miscellaneous Material	Wire	N/A	
Battery East	R	3	4	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	R	3	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	R	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	R	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	R	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Green
Battery East	R	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Black
Battery East	R	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Unglazed	
Battery East	R	3	1	Ceramic	Food Prep/Consumption	tableware	Tableware	Creamware Plain	Feather Edge
Battery East	R	3	1	Ceramic	Food	tableware	Tableware	Creamware	

					Prep/Consumption			Plain	
Battery East	R	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	FSW, Salt Glazed	White Salt Glaze
Battery East	R	3	2	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	R	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery East	R	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	R	3	1	Chert	Native	Lithic	Core	N/A	
Battery East	R	3	6	Chert	Native	Lithic	Flake	N/A	
Battery East	R	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	R	3	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	R	3	165	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	R	3	288	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	R	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	light Green
Battery East	R	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery East	R	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	R	3	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	R	3	1	Metal	Architectural	Nails	Nail	Wrought	bent - door frame nail

Battery East	R	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	R	5	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	R	5	2	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	R	5	3	Brick	Architectural	Construction Materials	N/A	N/A	4g
Battery East	R	5	1	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery East	R	5	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	7/64’
Battery East	R	5	2	Charcoal	N/A	N/A	N/A	N/A	
Battery East	R	5	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	R	5	1	Chert	Native	Lithic	Flake	N/A	
Battery East	R	5	1	Chert	Native	Lithic	Projectile Point	N/A	
Battery East	R	5	1	Copper-alloy	clothing Group	Fasteners	Button	N/A	
Battery East	R	5	321	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	R	5	19	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	R	5	2	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	R	5	1	Metal	Architectural	Nails	Nail	Wire	
Battery East	R	5	2	Metal	Architectural	Nails	Nail	Wrought	
Battery East	R	5	1	Metal	Unassigned	Miscellaneous Material	Scrap Metal	N/A	

					Material				
Battery East	R	6	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	R	6	2	Brick	Architectural	Construction Materials	N/A	N/A	14g
Battery East	R	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	burn mark
Battery East	R	6	3	Charcoal	N/A	N/A	N/A	N/A	
Battery East	R	6	1	Chert	Native	Lithic	Flake	N/A	
Battery East	R	6	140	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	R	6	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	R	8	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	Rib
Battery East	R	8	3	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	R	8	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	R	8	1	Chert	N/A	N/A	N/A	N/A	Glazed chert
Battery East	R	8	3	Chert	Native	Lithic	Flake	N/A	
Battery East	R	8	5	Ferrous	Architectural	Nails	Nail	Wrought	
Battery East	R	8	57	Glass	Architectural	Window Glass	Pane Glass	N/A	Light green
Battery East	R	8	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery East	R	8B	3	Brick	Architectural	Construction Materials	N/A	N/A	
Battery East	R	8B	3	Chert	Native	Lithic	Flake	N/A	

Battery East	R	8B	57	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	S	2	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	S	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	S	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	S	3	5	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Black Glaze
Battery East	S	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	S	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ironstone, plain	
Battery East	S	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery East	S	3	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	S	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	S	3	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery East	S	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	S	3	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery East	S	4	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery East	S	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	

Battery East	S	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	S	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	S	4	3	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Lead glazed interior
Battery East	S	4	4	Chert	Native	Lithic	Flake	N/A	
Battery East	S	4	1	Chert	Native	Lithic	Flake	N/A	
Battery East	S	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	S	4	1	Chert	Native	Lithic	Projectile Point	N/A	
Battery East	S	4	1	Metal	Architectural	Nails	Nail	Machine Cut	
Battery East	S	6	7	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	S	6	1	Brick	Architectural	Construction Materials	N/A	N/A	34g
Battery East	S	6	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware	Burnt
Battery East	S	6	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery East	S	6	93	Chert	Native	Lithic	Flake	N/A	
Battery East	S	6	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	S	6	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	S	7	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	S	7	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	

Battery East	S	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	S	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	S	7	1	Chert	Native	Lithic	Flake	N/A	
Battery East	S	7	1	Metal	Architectural	Nails	Nail	Wrought	
Battery East	S	8	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	S	8	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	S	8	1	Charcoal	N/A	N/A	N/A	N/A	
Battery East	S	8	2	Chert	Native	Lithic	Flake	N/A	
Battery East	S	8	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	S	8	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	green
Battery East	S	9	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery East	S	9	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery East	S	9	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery East	S	9	10	Charcoal	N/A	N/A	N/A	N/A	
Battery East	S	9	25	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery East	S	9	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery East	S	10	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery East	S	10	1	Ceramic	Food	Tableware	Tableware	Creamware	

					Prep/Consumption			Plain	
Battery East	S	10	3	Chert	Native	Lithic	Flake	N/A	
Battery East	S	10	2	Metal	Architectural	Nails	Nail	Machine Cut	
Battery West	A	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery West	A	2	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	2	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	2	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	A	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery West	A	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	3	6	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	A	3	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	A	3	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	3	5	Chert	Native	Lithic	Flake	N/A	

Battery West	A	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	A	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	A	3	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	A	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	A	4	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	4	7	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	A	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Brown Red Glaze
Battery West	A	4	1	Chert	Native	Lithic	Flake	N/A	
Battery West	A	4	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	4	8	Chert	Native	Lithic	Flake	N/A	
Battery West	A	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	4	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	A	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	brown

Battery West	A	4	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	A	4	2	Metal	Food Prep/Consumption	Utensils	Knife/Knife Part	N/A	2 pieces of a knife blade
Battery West	A	4	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	A	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	A	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	5	3	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	A	5	7	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	A	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	
Battery West	A	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	A	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	A	5	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Other Décor	floral hand painted design - early palette

Battery West	A	5	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	A	5	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	A	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	A	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	A	5	1	Chert	Native	Lithic	Core	N/A	
Battery West	A	5	3	Chert	Native	Lithic	Flake	N/A	
Battery West	A	5	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	5	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	5	1	Chert	Native	Lithic	Flake	N/A	
Battery West	A	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	5	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	5	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	5	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	A	5	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	A	5	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	A	5	3	Metal	Architectural	Nails	Nail	Machine	Hand-made heads

								Cut	
Battery West	A	5	7	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	A	5	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	A	5	2	Plaster	Architectural	Construction Materials	N/A	N/A	
Battery West	A	6	8	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	All Calcined
Battery West	A	6	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	
Battery West	A	6	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	A	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	A	6	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	A	6	3	Charcoal	N/A	N/A	N/A	N/A	
Battery West	A	6	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	6	1	Chert	Native	Lithic	Flake	N/A	
Battery West	A	6	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	6	1	Copper-Alloy	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	

Battery West	A	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	A	6	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - molded
Battery West	A	6	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	A	6	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	A	6	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	A	6	3	Metal	Architectural	Nails	Nail	Wrought	
Battery West	A	6	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	6	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	7	7	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	A	7	6	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	A	7	19	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	A	7	32	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	A	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	7	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	A	7	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	A	7	1	Chert	Native	Lithic	Flake	N/A	

Battery West	A	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	7	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - moulded - rolled
Battery West	A	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - moulded - rolled
Battery West	A	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	A	7	2	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	A	7	2	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	A	7	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	8	1	Chert	Native	Lithic	Flake	N/A	
Battery West	A	8	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	A	9	12	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	A	7a	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	7a	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	A	7a	2	Chert	Native	Lithic	Flake	N/A	
Battery West	A	7a	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	A	7a	26	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - moulded - rolled - with pontil mark

Battery West	A	7a	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	A	7a	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	A	7a	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	7b	4	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	A	7b	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	A	7b	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	A	7b	1	Chert	Native	Lithic	Flake	N/A	
Battery West	A	7b	7	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - moulded - rolled
Battery West	A	7b	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	A	7b	4	Lead	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	7b	4	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	A	7b	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	A	G	19	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	likely all from the same bone - just fell apart
Battery West	A	G	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	A	Wall	1	Ceramic	Food	Tableware	Tableware	Pearlware,	Blue Transfer ware

					Prep/Consumption			Transfer	
Battery West	A	Wall	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	B	2	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	B	2	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	B	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	B	2	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Soft Paste Porcelain, Plain	
Battery West	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Soft Paste Porcelain, Plain	
Battery West	B	3	3	Chert	Native	Lithic	Flake	N/A	
Battery West	B	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	3	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	3	2	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	B	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	B	3	7	Mortar	Architectural	Construction Materials	N/A	N/A	

Battery West	B	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	3	1	Stone	N/A	N/A	N/A	N/A	Burnt
Battery West	B	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	B	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	B	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Brown Red Glaze
Battery West	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	B	4	10	Charcoal	N/A	N/A	N/A	N/A	

Battery West	B	4	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	B	4	3	Charcoal	N/A	N/A	N/A	N/A	
Battery West	B	4	1	Chert	Native	Lithic	Core	N/A	
Battery West	B	4	2	Chert	Native	Lithic	Flake	N/A	
Battery West	B	4	3	Chert	Native	Lithic	Flake	N/A	
Battery West	B	4	3	Chert	Native	Lithic	Flake	N/A	
Battery West	B	4	6	Chert	Native	Lithic	Flake	N/A	
Battery West	B	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	4	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	B	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	B	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	B	4	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	B	4	2	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	B	4	2	Metal	Unassigned	Miscellaneous Material	Scrap Metal	N/A	

					Material				
Battery West	B	4	6	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	B	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	B	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	5	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	B	8	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	B	8	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	B	8	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	B	8	3	Charcoal	N/A	N/A	N/A	N/A	
Battery West	B	8	3	Chert	Native	Lithic	N/A	N/A	
Battery West	B	8	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green Patinated
Battery West	B	8	7	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	B	8	4	Lead	Arms and Military	Ammunition / Artillery	Musket	N/A	
Battery West	B	8	3	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	

Battery West	B	8	2	Mortar	Architectural	N/A	N/A	N/A	
Battery West	B	9	2	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	B	9	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	B	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	B	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Rim of a bowl or cup. Blue painted design around rim, double banding with cross hatching between bands
Battery West	B	9	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	9	4	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	9	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	11	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	B	11	4	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	B	11	11	Charcoal	N/A	N/A	N/A	N/A	
Battery West	B	11	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	10 (Rubble fill)	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	B	10 (Rubble fill)	4	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	B	10 (Rubbl	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Black lead glaze

		e fill)							
Battery West	B	10 (Rubble fill)	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	B	10 (Rubble fill)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Fine Stoneware, Basalts	Rim sherd, probably from a teapot (portion of lid seat, molded design visible on the outside but unintelligible)
Battery West	B	10 (Rubble fill)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Hard Paste Porcelain, Painted	Small rim sherd (possible teacup or saucer), unintelligible blue design around rim
Battery West	B	10 (Rubble fill)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	B	10 (Rubble fill)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Porcelain	
Battery West	B	10 (Rubble fill)	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	B	10 (Rubble fill)	5	Charcoal	N/A	N/A	N/A	N/A	
Battery West	B	10 (Rubble fill)	1	Copper-Alloy	Arms and Military	Uniform Insignia	Shako Plate	N/A	

Battery West	B	10 (Rubble fill)	2	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	Oval shaped, broken in half
Battery West	B	10 (Rubble fill)	2	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	B	10 (Rubble fill)	1	Ferrous	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	small piece (~inch square) of strapping, folded over
Battery West	B	10 (Rubble fill)	2	Ferrous	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	Large iron strapping fragments, heavily corroded
Battery West	B	10 (Rubble fill)	2	Glass	Architectural	Window Glass	Pane Glass	N/A	Aqua
Battery West	B	10 (Rubble fill)	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green, moulded lines relating to manufacturing process
Battery West	B	10 (Rubble fill)	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive green
Battery West	B	10 (Rubble fill)	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	6 and 7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	6 and 7	1	Charcoal	N/A	N/A	N/A	N/A	

Battery West	B	6 and 7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	6 and 7	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	B	Wall	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	B	Wall	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	B	Wall	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	Back Dirt	N/A	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	C	2	8	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	C	2	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	C	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	C	2	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	C	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	C	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	C	3	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	C	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	C	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	C	3	1	Coal	N/A	N/A	N/A	N/A	
Battery West	C	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	

Battery West	C	3	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	C	5	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	C	5	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	C	5	15	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	C	5	5	Charcoal	N/A	N/A	N/A	N/A	
Battery West	C	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green (moulded)
Battery West	C	5	3	Slag	N/A	N/A	N/A	N/A	
Battery West	C	5	1	Slate	Architectural	Construction Materials	Foundation Material	N/A	
Battery West	C	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	C	6	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	C	6	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	C	6	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	C	6	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	C	6	4	Metal	Arms and Military	Uniform Insignia	Shako Plate	N/A	Shako Plate
Battery West	C	6	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	C	6	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	C	6	1	Slag	N/A	N/A	N/A	N/A	
Battery West	C	6	1	Slate	Architectural	Construction Materials	Foundation	N/A	

							Material		
Battery West	C	7	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	C	7	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	C	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	C	7	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	C	7	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	C	7	1	Chert	Native	Lithic	Flake	N/A	
Battery West	C	7	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	C	7	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	C	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery West	C	7	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	C	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery West	C	7	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	C	7	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	C	7	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	C	7	3	Metal	Architectural	Nails	Nail	Machine	Hand-made heads

								Cut	
Battery West	C	7	5	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	C	7	7	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	C	8	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	C	8	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	C	8	1	Chert	Native	Lithic	Flake	N/A	
Battery West	C	8	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	C	8	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	C	8	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	C	8	2	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	C	8	2	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	C	8	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	C	8	2	Lead	N/A	N/A	N/A	N/A	Melted Lead
Battery West	D	2	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Burnt
Battery West	D	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery West	D	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery West	D	2	1	Metal	Personal	Currency	Coin	1930s	1937 American Nickel
Battery West	D	3	1	Asphalt	N/A	N/A	N/A	N/A	
Battery West	D	3	5	Asphalt	N/A	N/A	N/A	N/A	
Battery West	D	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	3	10	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	D	3	6	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	D	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	D	3	2	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	D	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery West	D	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	D	3	3	Slag	N/A	N/A	N/A	N/A	
Battery West	D	5	1	Asphalt	N/A	N/A	N/A	N/A	
Battery West	D	5	8	Bone	Faunal/Floral	Bone	Bird Bone	N/A	
Battery West	D	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	D	5	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery West	D	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	5	6	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	D	5	4	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	D	5	12	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	D	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery West	D	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	D	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	D	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	D	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	White Chert
Battery West	D	5	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	D	5	1	Coal	N/A	N/A	N/A	N/A	
Battery West	D	5	7	Coal	N/A	N/A	N/A	N/A	
Battery West	D	5	2	Coal	N/A	N/A	N/A	N/A	
Battery West	D	5	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	D	5	2	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	D	5	1	Concrete	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	D	5	2	Metal	Architectural	Nails	Nail	Machine	Hand-made heads

								Cut	
Battery West	D	5	2	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	D	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	D	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	D	5	1	Metal	Arms and Military	Uniform Insignia	Shako Plate	N/A	
Battery West	D	5	3	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	D	5	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	D	5	17	Slag	N/A	N/A	N/A	N/A	
Battery West	D	5	3	Slag	N/A	N/A	N/A	N/A	
Battery West	D	6	1	Asphalt	N/A	N/A	N/A	N/A	
Battery West	D	6	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	D	6	5	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	D	6	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Burnt
Battery West	D	6	8	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	D	6	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	6	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	6	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	D	6	1	Ceramic	Food	Tableware	Tableware	Creamware	

					Prep/Consumption			Plain	
Battery West	D	6	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	D	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue Bands
Battery West	D	6	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	D	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	D	6	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	D	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	D	6	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery West	D	6	14	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern (possible coke bottle)
Battery West	D	6	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern (possible coke bottle)
Battery West	D	6	3	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	D	6	3	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	D	6	1	Metal	Arms and Military	Musket/Rifle	N/A	N/A	Musket Tool
Battery West	D	7	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	D	7	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery West	D	7	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	D	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Battery West	D	7	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	D	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	D	7	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	D	7	2	Chert	Native	Lithic	Flake	N/A	
Battery West	D	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	D	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	D	7	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	
Battery West	D	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	D	7	3	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	D	7	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	D	Wall	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery West	D	Wall	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	D	Wall	3	Charcoal	N/A	N/A	N/A	N/A	
Battery West	D	Wall	1	Metal	Clothing Group	Fasteners	Buckle/Buckle Part	N/A	Possibly Belt Buckle
Battery West	D	Wall	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	E	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	2	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	E	2	1	Coal	N/A	N/A	N/A	N/A	
Battery West	E	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	E	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	E	2	12	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - Modern
Battery West	E	2	8	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery West	E	2	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - Modern
Battery West	E	2	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery West	E	2	1	Metal	Personal	Currency	Coin	1970s	Canadian 1971 dime
Battery West	E	2	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	
Battery West	E	2	1	Shell	Faunal/Floral	Shell	Shell	N/A	

Battery West	E	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	E	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	3	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	E	3	4	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	E	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Unidentifiable - Burnt off glaze
Battery West	E	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	E	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	E	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	E	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - Modern
Battery West	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern
Battery West	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green - Modern
Battery West	E	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown Glass - modern (moulded)
Battery West	E	3	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads

Battery West	E	3	8	Slag	N/A	N/A	N/A	N/A	
Battery West	E	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery West	E	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	7	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	E	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	7	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	E	7	2	Coal	N/A	N/A	N/A	N/A	
Battery West	E	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass
Battery West	E	7	1	Metal	Arms and Military	N/A	N/A	N/A	Frizzon
Battery West	E	7	5	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	E	7	2	Slag	N/A	N/A	N/A	N/A	
Battery West	E	8	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	8	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	8	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	8	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	8	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	

Battery West	E	8	2	Coal	N/A	N/A	N/A	N/A	
Battery West	E	8	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	E	8	1	Metal	Arms and Military	Ammunition / Artillery	Mortar Bomb Part	N/A	
Battery West	E	8	1	Slag	N/A	N/A	N/A	N/A	
Battery West	E	9	14	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	9	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	9	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	9	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	9	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	9	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	9	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	9	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	

Battery West	E	9	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	E	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	E	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	E	9	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Transfer	Blue Transfer ware
Battery West	E	9	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	No glaze
Battery West	E	9	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	E	9	1	Chert	Native	Lithic	Flake	N/A	
Battery West	E	9	2	Chert	Native	Lithic	Flake	N/A	
Battery West	E	9	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	E	9	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	E	9	1	Flint	Arms and Military	Gunflints	Gunflint	Blade	French
Battery West	E	9	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	E	9	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	E	9	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery West	E	9	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green

Battery West	E	9	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - Blown
Battery West	E	9	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	E	9	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - Blown?
Battery West	E	9	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green
Battery West	E	9	1	Ivory/Horn	Faunal/Floral	Other Organic, Non-Man Made	N/A	N/A	Part of a tusk
Battery West	E	9	1	Ivory/Horn	Faunal/Floral	Other Organic, Non-Man Made	N/A	N/A	
Battery West	E	9	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	E	9	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	E	9	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	E	9	1	Metal	Personal	Personal Items	Pocket Knife	N/A	
Battery West	E	9	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	E	10	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	E	10	1	Copper-Alloy	Arms and Military	Uniform Insignia	Military Button	Royal Regiment of Artillery	
Battery West	E	10	1	Metal	Unassigned	Miscellaneous Material	Scrap Metal	N/A	

					Material				
Battery West	E	4 and 5	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	4 and 5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	E	4 and 5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	4 and 5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	E	4 and 5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Unidentifiable - Burnt off glaze
Battery West	E	4 and 5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery West	E	4 and 5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	E	4 and 5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	E	4 and 5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	E	4 and 5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - Modern
Battery West	E	4 and 5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green (not modern)
Battery West	E	4 and 5	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	F	2	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	2	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Green glaze with Green Banded edge - modern?

Battery West	F	2	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	F	2	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	Modern Tack
Battery West	F	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	3	5	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Soft Paste Porcelain, Plain	
Battery West	F	3	11	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Green glaze with Green Banded edge - modern?
Battery West	F	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	F	3	6	Chert	Native	Lithic	Flake	N/A	
Battery West	F	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	F	3	1	Coal	N/A	N/A	N/A	N/A	
Battery West	F	3	14	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	F	3	3	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	F	3	1	Metal	Unassigned Material	Miscellaneous Material	Strapping	N/A	
Battery West	F	3	1	Slag	N/A	N/A	N/A	N/A	
Battery West	F	6	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Calcined

Battery West	F	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	6	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	6	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	6	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	6	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	
Battery West	F	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	F	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	F	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	F	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Unidentifiable - Burnt off glaze
Battery West	F	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery West	F	6	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	F	6	1	Chert	Native	Lithic	Flake	N/A	
Battery West	F	6	2	Chert	Native	Lithic	Flake	N/A	
Battery West	F	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	F	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery West	F	6	1	Coal	N/A	N/A	N/A	N/A	
Battery West	F	6	2	Coal	N/A	N/A	N/A	N/A	
Battery West	F	6	3	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	F	6	2	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	F	6	3	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	F	6	1	Concrete	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	6	1	Concrete	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	6	19	Concrete	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	F	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	F	6	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Brown Glass - modern
Battery West	F	6	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Light Green - Modern
Battery West	F	6	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	F	6	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	F	6	1	Metal	Architectural	Other Fasteners	Spike	Wrought	
Battery West	F	6	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	no design

Battery West	F	6	1	Metal	Personal	Currency	Coin	1920s	1920 American Dime
Battery West	F	6	1	Metal	Unassigned Material	Miscellaneous Hardware	N/A	N/A	Possible lantern hanger for outside?
Battery West	F	6	4	Slag	N/A	N/A	N/A	N/A	
Battery West	F	6	3	Slag	N/A	N/A	N/A	N/A	
Battery West	F	7	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	F	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	F	7	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	F	7	1	Chert	Native	Lithic	Flake	N/A	
Battery West	F	7	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	F	7	1	Slate	Architectural	Construction Materials	Foundation Material	N/A	
Battery West	F	8	2	Bone	Faunal/Floral	Bone	Mammal Bone	Burnt	
Battery West	F	8	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	F	8	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	F	8	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	

Battery West	F	8	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	8	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	F	8	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	F	8	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Brown Red Glaze
Battery West	F	8	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	F	8	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	F	8	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	F	8	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	F	8	3	Ferrous	Architectural	Nails	Nail	N/A	Badly corroded
Battery West	F	8	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	F	8	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	F	8	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	F	8	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	no design
Battery West	F	9	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	F	4 and 5	3	Charcoal	N/A	N/A	N/A	N/A	
Battery West	F	4 and 5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	White/Clear glass - modern

Battery West	F	4 and 5	1	Metal	Unassigned Material	Miscellaneous Hardware	Staple	N/A	
Battery West	G	2	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	G	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Soft Paste Porcelain, Plain	
Battery West	G	2	1	Chert	Native	Lithic	Flake	N/A	
Battery West	G	2	1	Metal	Personal	Currency	Coin	1980s	
Battery West	G	3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	G	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	G	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	G	3	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	3	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	3	6	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	G	3	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	G	3	4	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	

Battery West	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	G	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	G	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	G	3	8	Chert	Native	Lithic	Flake	N/A	
Battery West	G	3	5	Chert	Native	Lithic	Flake	N/A	
Battery West	G	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	3	1	Flint	Arms and Military	Gunflints	Flake	N/A	
Battery West	G	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	G	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White with purple tint
Battery West	G	3	3	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	G	3	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	G	3	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	
Battery West	G	3	22	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	G	3	7	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	G	3	18	Mortar	Architectural	Construction Materials	N/A	N/A	

Battery West	G	4	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	G	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	G	4	4	Chert	Native	Lithic	Flake	N/A	
Battery West	G	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	4	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	G	4	1	Metal	Architectural	Other Fasteners	Spike	Wrought	
Battery West	G	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	G	5	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	5	2	Chert	Native	Lithic	Flake	N/A	
Battery West	G	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	5	1	Chert	Native	Lithic	Projectile Point	N/A	Brewerton Corner Notched Projectile Point
Battery West	G	6	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	G	6	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	G	6	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	6	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	G	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample

Battery West	G	6	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	G	6	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	G	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Painted	Blue Painted
Battery West	G	6	2	Chert	Native	Lithic	Flake	N/A	
Battery West	G	6	11	Chert	Native	Lithic	Flake	N/A	
Battery West	G	6	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	6	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	6	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	G	6	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	G	6	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	G	6	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	G	6	3	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	G	6	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	no design
Battery West	G	6	1	Metal	Clothing Group	Fasteners	Buckle/Buckle Part	N/A	Possible Boot Buckle or belt buckle
Battery West	G	6	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	G	6	1	Mortar	Architectural	Construction Materials	N/A	N/A	

Battery West	G	6	2	Slag	N/A	N/A	N/A	N/A	
Battery West	G	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	G	10	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	H	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	2	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	H	2	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	H	2	9	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	H	2	1	Metal	Unassigned Material	Miscellaneous Material	Rod	N/A	Bent thin metal rod - modern (about 2.5 inches)
Battery West	H	2	1	Plastic	Personal	Toys and Leisure	Marble	Plastic	Plastic Marble, Modern
Battery West	H	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	3	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	3	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	H	3	3	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	H	3	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	H	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	H	3	3	Chert	Native	Lithic	Flake	N/A	
Battery West	H	3	2	Chert	Native	Lithic	Flake	N/A	
Battery West	H	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery West	H	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	H	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	H	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	H	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Bluish Green - Wine bottle? - blown
Battery West	H	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	H	3	3	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	H	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery West	H	3	1	Metal	Unassigned Material	Miscellaneous Material	Rod	N/A	Modern metal rod about 1 foot long - 2mm wide, - round
Battery West	H	3	13	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	H	3	7	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	H	3	29	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	H	3	1	Slag	N/A	N/A	N/A	N/A	
Battery West	H	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	6	2	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	H	6	3	Charcoal	N/A	N/A	N/A	N/A	

Battery West	H	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	H	6	3	Coal	N/A	N/A	N/A	N/A	
Battery West	H	6	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	H	6	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Grape Shot - 1.090kg
Battery West	H	6	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	H	6	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	H	6	3	Slag	N/A	N/A	N/A	N/A	
Battery West	H	6	1						claw or circle
Battery West	H	7	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	H	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	7	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	H	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	H	7	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	H	7	5	Chert	Native	Lithic	Flake	N/A	
Battery West	H	7	2	Chert	Native	Lithic	Flake	N/A	
Battery West	H	7	1	Coal	N/A	N/A	N/A	N/A	
Battery West	H	7	1	Composite	N/A	N/A	N/A	N/A	Ball of metal, glass, stone - possibly slag

Battery West	H	7	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	H	7	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	H	7	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	H	7	4	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	H	8	12	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	H	8	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Calcined
Battery West	H	8	10	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	H	8	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	H	8	3	Chert	Native	Lithic	Flake	N/A	
Battery West	H	8	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	H	8	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	H	8	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	8th regiment
Battery West	H	8	2	Shell	Faunal/Floral	Shell	Shell	N/A	
Battery West	H	4 and 5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	H	4 and 5	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	J	2	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	J	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	2	1	Flora	Faunal/Floral	Floral	Seed/Pit	N/A	Peach Pit

Battery West	J	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern
Battery West	J	2	1	Metal	Unassigned Material	Miscellaneous Material	N/A	N/A	half of a Thin metal ring -probably modern
Battery West	J	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	J	3	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	3	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	J	3	3	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Unglazed refine white earthenware
Battery West	J	3	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	3	1	Chert	Native	Lithic	Flake	N/A	
Battery West	J	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	3	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	J	3	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	J	3	16	Glass	Food	Glass Beverage	Bottle	N/A	Clear/White glass - modern

					Prep/Consumption	Container			
Battery West	J	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	J	3	2	Metal	Architectural	Nails	Nail	Wire	Wire Nails?
Battery West	J	3	1	Metal	Medical/Hygiene	Grooming and Hygiene	Hairpin	N/A	Bobby-Pin
Battery West	J	3	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	3	5	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	J	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	J	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	J	4	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	4	5	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	4	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	J	4	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	J	4	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	J	4	3	Ceramic	Food	Tableware	Tableware	Course Stoneware,	Cream coloured glaze

					Prep/Consumption			Salt Glaze	
Battery West	J	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	J	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	J	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	J	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue Bands - possible egg holder
Battery West	J	4	3	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	4	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	4	5	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	4	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	4	3	Chert	Native	Lithic	Flake	N/A	
Battery West	J	4	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	4	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	4	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	4	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	4	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery West	J	4	1	Glass	Food	Glass Beverage	Bottle	N/A	Green

					Prep/Consumption	Container			
Battery West	J	4	3	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	J	4	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	J	4	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	J	4	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	4	6	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	4	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	4	6	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	4	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	4	1	Shell	Faunal/Floral	Shell	Shell	N/A	
Battery West	J	4	1	Slate	Architectural	Construction Materials	Foundation Material	N/A	
Battery West	J	4	1	Stone	N/A	N/A	N/A	N/A	Cut Stone
Battery West	J	4	2	Stone	N/A	N/A	N/A	N/A	Burnt Stone with gaze
Battery West	J	4	1						ceramic / rock?
Battery West	J	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	J	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	5	1	Ceramic	Food	Tableware	Tableware	Pearlware,	

					Prep/Consumption			Plain	
Battery West	J	5	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	5	2	Chert	Native	Lithic	Flake	N/A	
Battery West	J	5	1	Chert	Native	Lithic	Flake	N/A	
Battery West	J	5	1	Chert	Native	Lithic	Flake	N/A	
Battery West	J	5	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	J	5	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Musket Ball
Battery West	J	5	1	Lead	N/A	N/A	N/A	N/A	Melted Lead
Battery West	J	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	J	5	1	Slate	Architectural	Construction Materials	Foundation Material	N/A	Possibly from a writing slate board
Battery West	J	6	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	Burnt
Battery West	J	6	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	J	6	27	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	J	6	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	J	6	10	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	6	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	J	6	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	J	6	4	Brick	Architectural	Construction Materials	N/A	N/A	

Battery West	J	6	2	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	J	6	15	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	6	8	Charcoal	N/A	N/A	N/A	N/A	
Battery West	J	6	2	Chert	Native	Lithic	Flake	N/A	
Battery West	J	6	4	Chert	Native	Lithic	Flake	N/A	
Battery West	J	6	1	Chert	Native	Lithic	Flake	N/A	Secondary Flakes
Battery West	J	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	J	6	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	J	6	1	Flint	Arms and Military	Gunflints	Gunflint	Blade	French
Battery West	J	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	J	6	1	Gypsum	N/A	N/A	N/A	N/A	Large Cut piece of Gypsum
Battery West	J	6	3	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	J	6	1	Lead	Arms and Military	Ammunition / Artillery	Buck and Ball Shot	N/A	
Battery West	J	6	2	Lead	N/A	N/A	N/A	N/A	Melted Lead
Battery West	J	6	2	Metal	Architectural	Nails	Nail	Machine Cut	

Battery West	J	6	1	Metal	Architectural	Nails	Nail		
Battery West	J	6	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	J	6	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	J	6	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	J	6	2	Slate	Architectural	Construction Materials	Foundation Material	N/A	
Battery West	J	6	1	Slate	Architectural	Construction Materials	Foundation Material	N/A	Possible slate writing board?
Battery West	J	4 and 5 (Wall)	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue Bands - possible egg holder
Battery West	K	2	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	2	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Burnt - hand painted blue
Battery West	K	2	1	Chert	Native	Lithic	Core	N/A	
Battery West	K	2	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	3	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	3	3	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	

Battery West	K	3	23	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	3	12	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	K	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	K	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	K	3	1	Chert	Native	Lithic	Flake	N/A	
Battery West	K	3	4	Chert	Native	Lithic	Flake	N/A	
Battery West	K	3	5	Chert	Native	Lithic	Flake	N/A	
Battery West	K	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	3	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	3	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	K	3	1	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	K	3	3	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	3	4	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	K	4	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	

Battery West	K	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	K	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	4	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	4	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE, Tin Glaze	
Battery West	K	4	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	K	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	K	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Other Décor	Mocha
Battery West	K	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	K	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	K	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	no gaze - removed
Battery West	K	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	K	4	4	Charcoal	N/A	N/A	N/A	N/A	

Battery West	K	4	2	Chert	Native	Lithic	Flake	N/A	
Battery West	K	4	1	Chert	Native	Lithic	Flake	N/A	
Battery West	K	4	2	Chert	Native	Lithic	Flake	N/A	
Battery West	K	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	4	15	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	4	1	Chert	Native	Lithic	Projectile Point	Archaic, Unspecified	Lamoka Projectile Point?
Battery West	K	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	K	4	1	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	K	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	4	7	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	4	12	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	5	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	K	5	6	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	5	7	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	5	2	Chert	Native	Lithic	Flake	N/A	
Battery West	K	5	4	Chert	Native	Lithic	Misc. Debitage	N/A	

Battery West	K	5	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	K	7	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	1 vertebrae
Battery West	K	7	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	7	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	7	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	7	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	Modern Drain Pipe Tile
Battery West	K	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	
Battery West	K	7	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	K	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	K	7	1	Chert	Native	Lithic	Flake	N/A	
Battery West	K	7	1	Chert	Native	Lithic	Flake	N/A	
Battery West	K	7	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	7	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass - modern? - Molded
Battery West	K	7	1	Metal	Arms and Military	Musket/Rifle	N/A	N/A	Gun Worm
Battery West	K	7	1	Metal	Food Prep/Consumption	Metal Containers	Closure	Twentieth Century	Bottle Cap

Battery West	K	7	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	7	5	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	7	1	Stone	N/A	N/A	N/A	N/A	glazed
Battery West	K	8	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	K	8	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	K	8	1	Brass	Arms and Military	Uniform Insignia	Military Button	N/A	
Battery West	K	8	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	K	8	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	K	8	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	8	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	8	1	Composite	N/A	N/A	N/A	N/A	Part of an iron nail corroded to a piece of chert debitage
Battery West	K	8	3	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	K	8	1	Lead	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	Melted Lead
Battery West	K	8	1	Metal	Arms and Military	Musket/Rifle	N/A	N/A	
Battery West	K	8	4	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	K	5 and 6	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	5 and 6	6	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	K	5 and 6	1	Ceramic	Food	Tableware	Tableware	Creamware	

					Prep/Consumption			Plain	
Battery West	K	5 and 6	1	Chert	Native	Lithic	Core	N/A	
Battery West	K	5 and 6	2	Chert	Native	Lithic	Flake	N/A	
Battery West	K	5 and 6	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	K	5 and 6	2	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	K	5 and 6	6	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	K	Wall	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	K	Wall	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	K	Wall	2	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	K	Wall	1	Chert	Native	Lithic	Flake	N/A	
Battery West	K	Wall	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	2	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	2	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	2	3	Chert	Native	Lithic	Flake	N/A	
Battery West	L	2	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	2	2	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	L	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green

Battery West	L	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green
Battery West	L	2	1	Metal	Unassigned Material	Miscellaneous Material	Strapping	N/A	bent
Battery West	L	2	1	Plastic	Clothing Group	Fasteners	Button	N/A	
Battery West	L	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	L	3	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	2 Calcined
Battery West	L	3	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	L	3	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	L	3	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	3	7	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	3	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	3	3	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	3	1	Ceramic	Architectural	Construction Materials	Drain Pipe	N/A	
Battery West	L	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	3	8	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware , Other	Spongeware (Dark Grey)

								Décor	
Battery West	L	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Edged	Shell Edge
Battery West	L	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery West	L	3	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	L	3	12	Chert	Native	Lithic	Flake	N/A	
Battery West	L	3	5	Chert	Native	Lithic	Flake	N/A	
Battery West	L	3	9	Chert	Native	Lithic	Flake	N/A	
Battery West	L	3	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	3	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	3	1	Concrete	Architectural	Construction Materials	Construction Block	Concrete	
Battery West	L	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	L	3	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	L	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - Wine bottle? - blown
Battery West	L	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive Green - Salt Glaze?
Battery West	L	3	1	Glass	Food	Glass Beverage	Bottle	N/A	Green

					Prep/Consumption	Container			
Battery West	L	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	L	3	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Riffle Ball
Battery West	L	3	6	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	L	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	L	3	3	Metal	Architectural	Nails	Nail	Wrought	
Battery West	L	3	1	Metal	Arms and Military	Uniform Insignia	Shako Plate	N/A	
Battery West	L	3	1	Metal	Personal	Currency	Coin	1940s	American Coin from 1940
Battery West	L	3	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	3	1	Rubber	N/A	N/A	N/A	N/A	
Battery West	L	3	1	Slag	N/A	N/A	N/A	N/A	
Battery West	L	3	2	Stone	N/A	N/A	N/A	N/A	Burnt stone
Battery West	L	4	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery West	L	4	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	L	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	L	4	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	L	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	L	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	burnt

Battery West	L	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	L	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	L	4	8	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	4	2	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	4	4	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Kept Sample
Battery West	L	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	L	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Brown Red Glaze
Battery West	L	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	CRE Glazed	Blackish
Battery West	L	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	4	8	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Other Décor	Spongeware (Dark Grey)
Battery West	L	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Fine Stoneware	Rosso antico - antique red (1700-1772) - Fine Red stoneware - often for tea pots or coffee pots - Greek meander design

Battery West	L	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted	Hand painted Blue
Battery West	L	4	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	L	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	L	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	L	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	No glaze
Battery West	L	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	White EW, Unident	Burnt
Battery West	L	4	1	Ceramic	Native	Ceramic	Native Ceramic	N/A	
Battery West	L	4	1	Ceramic	Smoking	Pipes	White Clay, Marked Bowl	N/A	Partial circle with unidentifiable symbol within
Battery West	L	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery West	L	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	L	4	13	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	4	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	4	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	4	5	Charcoal	N/A	N/A	N/A	N/A	

Battery West	L	4	44	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	4	2	Chert	Native	Lithic	Flake	N/A	
Battery West	L	4	10	Chert	Native	Lithic	Flake	N/A	
Battery West	L	4	58	Chert	Native	Lithic	Flake	N/A	
Battery West	L	4	4	Chert	Native	Lithic	Flake	N/A	
Battery West	L	4	2	Chert	Native	Lithic	Flake	N/A	
Battery West	L	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	4	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	4	38	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	4	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	4	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Battery West	L	4	2	Ferrous	Architectural	Nails	Nail	Machine Cut	
Battery West	L	4	8	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	L	4	2	Ferrous	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	L	4	5	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	L	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	

Battery West	L	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	L	4	3	Glass	Architectural	Window Glass	Pane Glass	N/A	Aqua
Battery West	L	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear/White glass
Battery West	L	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Green
Battery West	L	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear
Battery West	L	4	5	Metal	Architectural	Nails	Nail	Machine Cut	Hand-made heads
Battery West	L	4	3	Metal	Architectural	Nails	Nail	Wrought	
Battery West	L	4	2	Metal	Unassigned Material	Miscellaneous Material	Strapping	N/A	
Battery West	L	4	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	4	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	4	2	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	4	10	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	4	44	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	5	6	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery West	L	5	30	Bone	Faunal/Floral	Bone	Mammal Bone	Burnt	
Battery West	L	5	43	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	

Battery West	L	5	42	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	L	5	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Calcined
Battery West	L	5	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	L	5	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Brown Red Glaze
Battery West	L	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ceramic	Burnt / Too Burnt to Identify
Battery West	L	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	5	9	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	L	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware or RWE, Plain	Transitional
Battery West	L	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Edged	Blue shell edge
Battery West	L	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted Unknown Palette	Painted Blue
Battery West	L	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	RWE Other Transfer	Black Transfer, very fragmented, likely whiteware
Battery West	L	5	1	Ceramic	Smoking	Pipes	White Clay, Marked Bowl	N/A	"D.." / Likely "D.T."

Battery West	L	5	6	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A	
Battery West	L	5	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	5	7	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	5	2	Chert	Native	Lithic	Flake	N/A	
Battery West	L	5	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	5	1	Chert	Native	Lithic	Projectile Point	N/A	
Battery West	L	5	1	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	Plain
Battery West	L	5	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Rodent
Battery West	L	5	2	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	L	5	1	Ferrous	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	Square Piece of Metal
Battery West	L	5	1	Ferrous	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	Possible Wrought Nail / Too Corroded to Identify
Battery West	L	5	1	Flint	Arms and Military	Gunflints	Flake	N/A	French Chert
Battery West	L	5	2	Flint	Arms and Military	Gunflints	Gunflint	Blade	One broken gunflint(2 pieces), French chert
Battery West	L	5	1	Flint	Arms and Military	Gunflints	Gunflint	Blade	Musket Gunflint / Honey Coloured / French
Battery West	L	5	15	Glass	Architectural	Window Glass	Pane Glass	N/A	Aqua
Battery West	L	5	1	Glass	Architectural	Window Glass	Pane Glass	N/A	Decorative

Battery West	L	5	7	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	L	5	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive green
Battery West	L	5	4	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive green
Battery West	L	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear
Battery West	L	5	1	Lead	Arms and Military	Ammunition / Artillery	N/A	N/A	Riffle Ball
Battery West	L	5	1	Lead	Arms and Military	Ammunition / Artillery	Rifle Ball	N/A	
Battery West	L	5	1	Lead	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	L	5	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	L	5	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Battery West	L	5	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	Infantry Button large "I"
Battery West	L	6 and 7	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery West	L	6 and 7	3	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	L	6 and 7	1	Brick	Architectural	Construction Materials	N/A	N/A	Likely poorly fired, possibly burnt, maybe chimney brick
Battery West	L	6 and 7	2	Brick	Architectural	Construction Materials	N/A	N/A	

Battery West	L	6 and 7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware edged	Scalloped
Battery West	L	6 and 7	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	6 and 7	3	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	L	6 and 7	1	Flint	Arms and Military	Gunflints	Gunflint	Blade	French Chert
Battery West	L	6 and 7	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Heavily Patinated, dark green
Battery West	L	6 and 7	1	Lead	Arms and Military	Ammunition / Artillery	Rifle Ball	N/A	
Battery West	L	6 and 7	1	Metal	Arms and Military	Uniform Insignia	Military Button	N/A	Plain flat, possibly gaiter
Battery West	L	2 and 3	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	L	2 and 3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	L	2 and 3	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	L	2 and 3	1	Glass	Medical/Hygiene	Pharmaceutical Containers	Pharmaceutical Bottle	N/A	Clear/White glass
Battery West	L	6 and 7 Trench Fill	1	Metal	Activities	Hand/Maintenance Tools	Shovel	N/A	
Battery West	M	2	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	M	2	1	Ceramic	Food	Tableware	Tableware	Porcelain	Decal Transfer Over-Glaze,

					Prep/Consumption				Deteriorating likely image of a leaf
Battery West	M	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Whiteware, Plain	
Battery West	M	2	2	Charcoal	N/A	N/A	N/A	N/A	
Battery West	M	2	5	Chert	Native	Lithic	Flake	N/A	
Battery West	M	2	1	Chert	Native	Lithic	Flake	N/A	
Battery West	M	2	30	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	M	2	1	Copper-Alloy	Personal	Currency	Coin	1930's	Canadian Penny 1936
Battery West	M	2	1	Copper-Alloy	Personal	Currency	Coin	1930's	American Penny 1930
Battery West	M	2	2	Copper-Alloy	Personal	Currency	Coin	1940's	American Pennies 1940, 1941
Battery West	M	2	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Rectangular Base, Clear
Battery West	M	2	1	Metal	Architectural	Nails	Nail	Machine Cut	
Battery West	M	2	2	Metal	Architectural	Nails	Nail	Wrought	
Battery West	M	2	3	Mortar	Architectural	N/A	N/A	N/A	
Battery West	M	3	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	Vertebra
Battery West	M	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	Burnt	
Battery West	M	3	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	

Battery West	M	3	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Battery West	M	3	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	M	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	FSW, White Salt Glaze	
Battery West	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	M	3	4	Charcoal	N/A	N/A	N/A	N/A	
Battery West	M	3	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	M	3	19	Chert	Native	Lithic	Flake	N/A	
Battery West	M	3	97	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	M	3	3	Chert	Native	Lithic	Flake	N/A	
Battery West	M	3	17	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	M	3	1	Copper-Alloy	Arms and Military	Ammunition / Artillery	Cartridge Case	N/A	"u" Stamped on the bottom
Battery West	M	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	M	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Battery West	M	3	1	Glass	Architectural	Window Glass	Plain Glass	N/A	Mild Patination
Battery West	M	3	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear, some patination

Battery West	M	3	1	Metal	Architectural	Nails	Nail	Machine Cut	
Battery West	M	3	1	Metal	Architectural	Nails	Nail	Wrought	
Battery West	M	3	2	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	Possible embedded nail head (Hinge?)
Battery West	M	3	2	Mortar	Architectural	N/A	N/A	N/A	
Battery West	M	3	2	Tin	Smoking	Cigarettes/ Cigars	Cigarette Paper Foil	N/A	
Battery West	M	4	2	Bone	Faunal/Floral	Bone	Mammal Bone	Burnt	
Battery West	M	4	16	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	M	4	3	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	M	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CSW Derbyshire	
Battery West	M	4	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	M	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	FSW, White Salt Glaze	
Battery West	M	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Hand Painted, Unknown Palette	Blue and White
Battery West	M	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	Slightly burnt
Battery West	M	4	1	Ceramic	Food	Tableware	Tableware	RWE	

					Prep/Consumption			Banded	
Battery West	M	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	RWE Other Décor/ Canary ware	
Battery West	M	4	1	Ceramic	Smoking	Pipes	White Clay, Plain Stem	N/A	
Battery West	M	4	16	Charcoal	N/A	N/A	N/A	N/A	
Battery West	M	4	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	M	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	Glazed
Battery West	M	4	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Tooth
Battery West	M	4	2	Ferrous	Architectural	Nails	Nail	Machine Cut	Possible window nails or furniture nails
Battery West	M	4	1	Ferrous	Architectural	Nails	Nail	Machine Cut	
Battery West	M	4	1	Ferrous	Architectural	Nails	Nail	N/A	Heavily corroded
Battery West	M	4	4	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	M	4	3	Glass	Architectural	Window Glass	Pane Glass	N/A	Clear, one piece Patinated
Battery West	M	4	3	Glass	Architectural	Window Glass	Pane Glass	N/A	Aqua
Battery West	M	4	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Olive green, moulded lines
Battery West	M	4	1	Lead	Arms and Military	Ammunition / Artillery	Rifle Ball	N/A	

Battery West	M	4	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	U.S'
Battery West	M	5	1	Bone	Faunal/Floral	Bone	Fish Bone	N/A	
Battery West	M	5	2	Bone	Faunal/Floral	Bone	Mammal Bone	Burnt	
Battery West	M	5	29	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	M	5	4	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	M	5	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Storage	Hollowware	CRE Glazed	Brown Glaze
Battery West	M	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware Plain	
Battery West	M	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Battery West	M	5	14	Charcoal	N/A	N/A	N/A	N/A	
Battery West	M	5	1	Chert	Native	Lithic	Flake	N/A	
Battery West	M	5	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	M	5	4	Ferrous	Architectural	Nails	Nail	Wrought	
Battery West	M	5	1	Flint	Arms and Military	Gunflints	Gunflint	Blade	English Chert
Battery West	M	5	1	Glass	Architectural	Window Glass	Pane Glass	N/A	Aqua
Battery West	M	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Clear
Battery West	M	5	1	Glass	Food Prep/Consumption	Glass Beverage Container	Bottle	N/A	Patinated, Olive Green

Battery West	M	5	1	Lead	Arms and Military	Ammunition / Artillery	Rifle Ball	N/A	
Battery West	M	5	2	Lead	Unassigned Material	Miscellaneous Material	N/A	N/A	Leftover lead from mould of lead shot manufacture
Battery West	M	5	3	Metal	Unassigned Material	Miscellaneous Material	Scrap Metal	N/A	
Battery West	M	5	2	Mortar	Architectural	N/A	N/A	N/A	
Battery West	M	2 Baulk	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Battery West	M	2 Baulk	1	Shell	Clothing Group	Fasteners	Button	N/A	
Battery West	M	3 Baulk	1	Brick	Architectural	Construction Materials	N/A	N/A	
Battery West	M	3 Baulk	1	Charcoal	N/A	N/A	N/A	N/A	
Battery West	M	3 Baulk	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Battery West	M	3 Baulk	1	Mortar	Architectural	Construction Materials	N/A	N/A	
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