

2012 ARCHAEOLOGICAL INVESTIGATIONS AT OLD FORT ERIE N.H.S. (AfGr-3)



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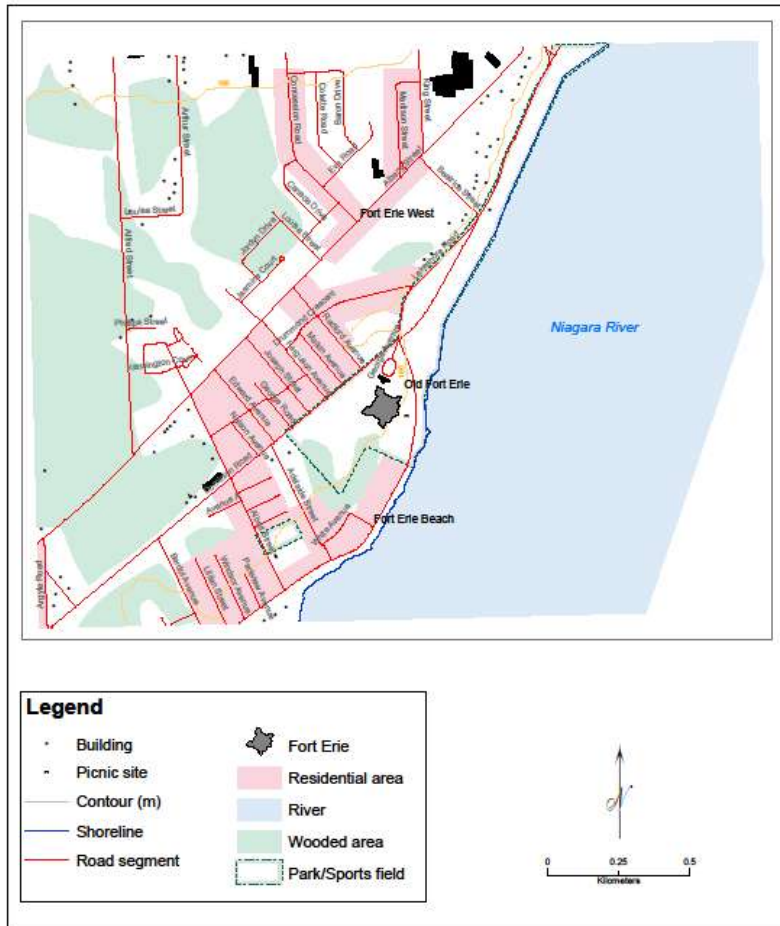
I offer my sincere apologies to any whom I have inadvertently omitted from these acknowledgments.

1.0 Introduction

EXCAVATION AREAS, FORT ERIE
2012 and 2013



In the spring of 2012 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 14-June 20 and was carried out with the assistance of 20 students, one volunteer, three teaching assistants and the project Director. The 2012 season marked the first project of its kind on the site of Old Fort Erie, where research archaeology was conducted with the objective of addressing specific questions posed before the field work began. The overall purpose of the first season of excavation was to target specific defensive features related to the August/September 1814 siege, as depicted on 19th century maps, and to determine if traces of these features remained on the present landscape, which has been much altered in the two centuries since the siege. As a preliminary study, determining the accuracy of specific maps was given high priority since planning for 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. Discussed in detail below are a mortar bomb, which in its archaeological context is particularly important as regards the final days of the siege, the American Sortie of September 17, and the withdrawal of British troops at this time; details of the 800 metre-long defensive earthwork and associated ditch on the southwest side of the fort, revealed in the form of construction techniques, a gun platform, banquette (firing step), and a traverse ditch; evidence of two structures, one a formerly undocumented Officers' Quarters, and the other a substantial structure situated nearby; and the array 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, 1816, 1818, and 1819 (Appendix C). The orientation of the maps in the following discussion is with reference to the bastions of the modern fort (Figure 1):

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 closest to the parking lot on the outside of the rampart on this side of the fort

A common element on all maps is the American defensive earthwork, frequently described as the 800 yard entrenchment constructed between July 28 and 31, 1814 (Whitehorne 1991: 36-37), which extends from the south bastion of the fort in a near straight line to Snake Hill situated on the lakeshore. This was to be one of the features targeted for the 2012 excavation. To begin with the task of referencing historical maps to the modern landscape, and assessing the relative correspondence between maps, a line of sight was established running on top of, or parallel to, the main earthwork extending from the approximate centre of the west face of the south demi-bastion (Figure 1 below).

The angle between a line drawn perpendicular to the south demi-bastion face, and one drawn along the defensive earthwork, varies from map to map: 10° on the 1814 Romilly plan, 15° on the Glegg 1814 map, 10° on the Nesfield 1815 map, and 10.5° on the 1819 plan. The earthwork is not shown on one 1814

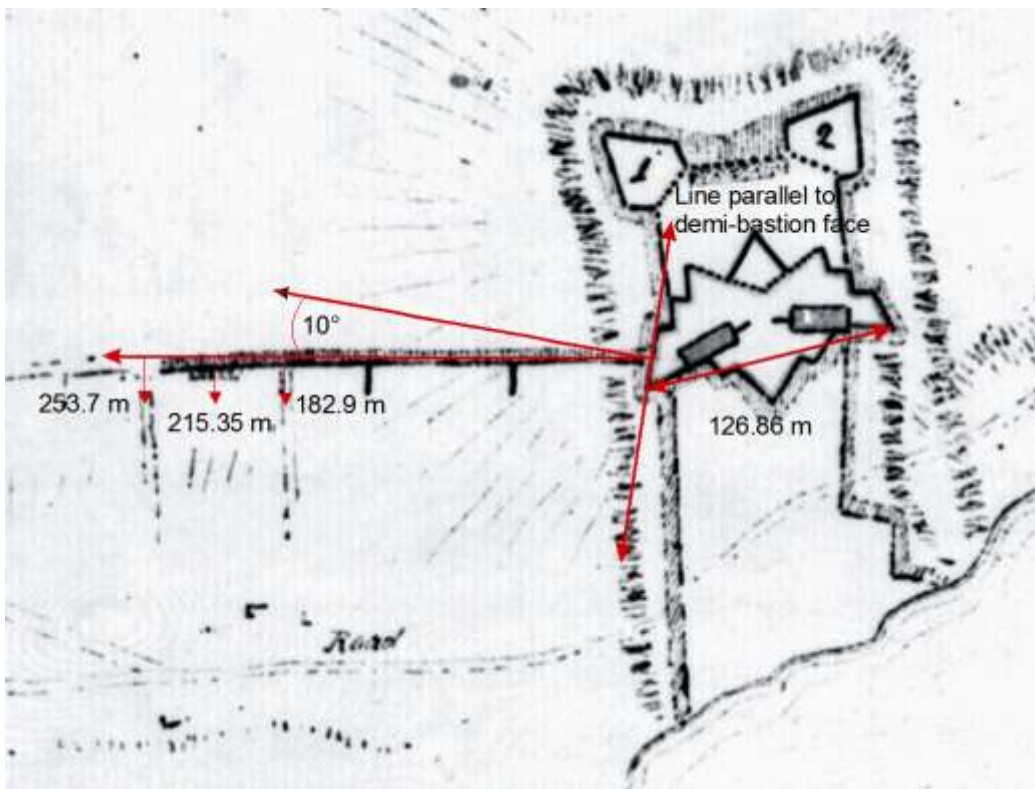


Figure 1 Fort Erie as left by the Enemy Nov. 10, 1814

plan and on the 1818 Walpole/Durnford plan the map is more of a sketch (of which the 1819 Walpole/Vavasour plan appears to be a copy) and the earthwork has a small projection at the extreme eastern end where it does not actually intersect the fort as on the other plans noted above. The correspondence between three maps, with the common angle of approximately 10°, suggested that these plans were likely the most accurate depictions of siege-related landscape features and could therefore serve as the key for targeting these features for further study.

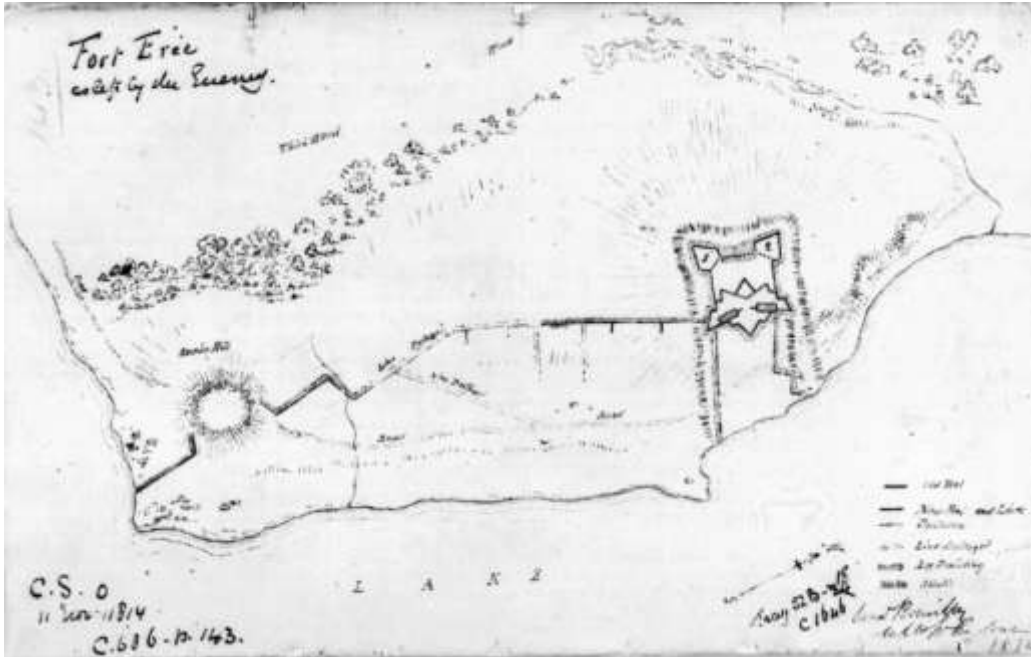
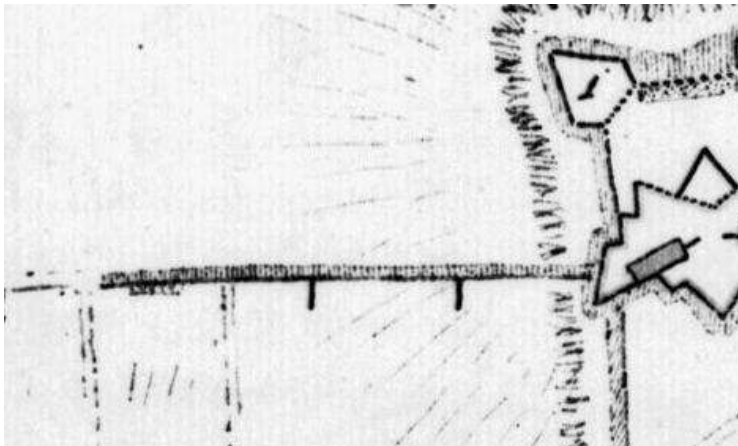


Figure 2 Romilly Map, 1814, see Appendix C for details.

Figure 3 Detail of Romilly map showing unidentified structure located between two long traverses in the Western Redoubt Area.



drawn with a dashed line on the other.

Another feature deemed to be of archaeological interest is shown on the 1814 Romilly plan and the 1815 Cranfield/Nesfield plan (Figs. 2 & 3). This is located in an area to the southwest of the fort where two parallel traverses, two smaller earthworks, run perpendicular to the main earthwork. This feature, referred to in the report as the Western Redoubt, but known historically as Biddle's Battery, is clearly delineated on one plan and

In order to check the accuracy of both maps - the congruence between them – and as a way to scale the maps to a common dimension, a relative positioning of the traverses was calculated as follows: Features common to all maps are the south and east demi-bastions, and the Officers' Quarters and kitchen within the front fort wall, the reconstructions of which are visible in the fort today, presumably on the original foundations¹. Assuming that features seen today are in the same location as those depicted on maps contemporary with the siege, a relative scale was calculated by determining the distance between the apex of each bastion and using this as a 'unit' of measurement. This 'unit' was used to calculate the ratio of the distance along the earthwork where the Western Redoubt is indicated on the 1814 maps. In both cases the ratio of the distance (using the demi-bastion to demi-bastion unit) was approximately the same: i.e., 1.39 to the first traverse and 1.94 to the second, on one map, compared to 1.44 and 2.00 on the other. Calculation of the actual distance of the traverses along the earthwork, as measured from the fort itself, was done by taking the actual distance from apex to apex of the demi-bastions (measured on the ground to be 126.86 metres)(Figure 1), and converting this to a distance in metres based on the ratio measures.

Establishing the Excavation Grid

On May 9, 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 overlie, the American main 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 face², running a line that was parallel to the face of the bastion, and then turning angle of 10° (see Figure 1). 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 subsequent excavations support this observation.

¹ Several other features are depicted on the various historical maps, for example, 13 structures, are shown on the 1814 and 1815 plans alone. These have been plotted on the modern landscape using GIS and will be further investigated in future excavations.

² 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.

Grid points were established along the east-west excavation baseline at the following locations:

1000N 980E	1000N 900E	1000N 780E	1000N 750E
1000N 960E	1000N 840E	1005N 780E	1005N 750E
1000N 940E	1000N 820E	995N 780E	995N 750E
1000N 910E	1000N 800E	1000N 760E	1000N 740E

The landscape in this part of the historic site is relatively flat, with the exception of the earthwork mentioned above, which rises about 1.2 metres above the surrounding ground. There is a slight slope to the south and west although the difference in elevation is between 1 and 2 metres over a distance of 260 metres. At the western end of the baseline, far from the fort between grid points 1000N 900E and 1000N 750E, the landscape is wet and mucky and in fact running ground water could be heard at the time of the survey. The remnants of the defensive ditch on the scarp side of the entrenchment, the side facing the country or the enemy, is visible as a slight linear depression parallel to the entrenchment where it stands above the surrounding landscape. The trench is less visible as a depression as one proceeds south and west along the line of the earthwork, such that at the Western Redoubt area there is almost no trace of the feature. Aerial photographs and satellite images do, however, show a crop mark corresponding to the line of the ditch running the entire length of the former earthwork. For the 2012 investigation, two excavation areas were labeled as Fanning's Battery, near the fort, and the Western Redoubt about 200 metres distant. Individual excavation units measuring 1 x 2 metres were laid in each area to accommodate 21 excavators.

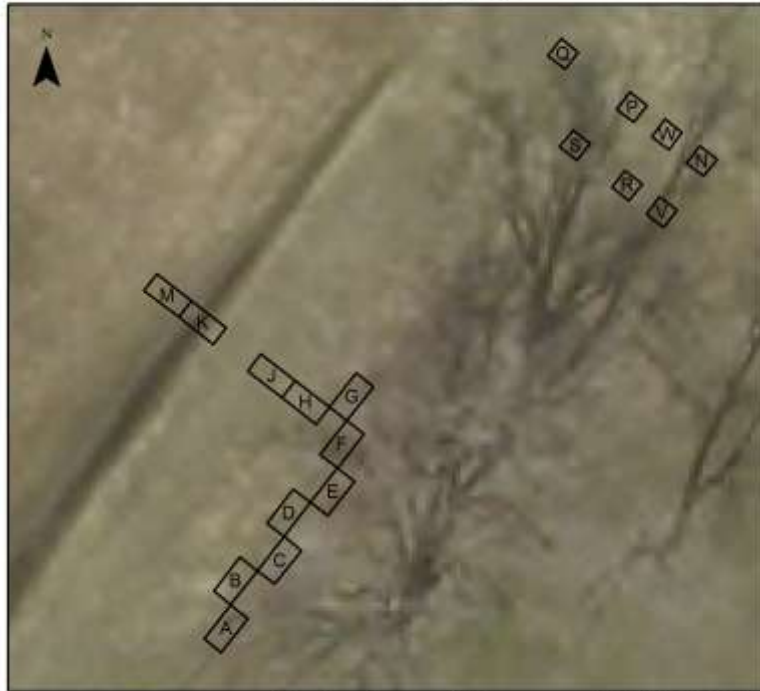
Fanning Battery Area

This excavation area is located to the grid-west of the south demi-bastion between grid points 938 and 950E, and 1007 and 1020N. The excavation strategy in this area was to cross-section the main east-west entrenchment and also run a line of staggered units across a traverse located to the west of the main cross-section. The entrenchment itself, and the traverse, are visible as linear mounds rising about 1.2 metres above the surrounding landscape. This part of the siege camp is known historically as Fontaine's Battery, initially, and later as Fanning's Battery. The position is described in accounts of the siege which list even the artillery that was deployed here.

Units laid in initially in the main Fanning's Battery area were labeled A-M - excluding letters I and L. Eleven units in total were laid in for ten students and one volunteer (Figure 4). Following the

completion of these units, several other units were laid in to an area just to the east of the Fanning's Battery main area, labeled as Fanning's Battery East (units N, P, Q, R, S, V, W) (Figure 5), and also three units to the west of the main Fanning's Battery Area, labeled Fanning's Battery West (units T, U AND X) (Figure 6). In all, 21 units were excavated in the Fanning's Battery area.

FANNING BATTERY UNITS
Main Area and East



Duncan Williams, 2014

0 2 4 8 m

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

Figure 4 Main Fanning's Battery and Fanning's Battery East excavation areas showing units described in text.

FANNING BATTERY UNITS



Figure 5 Units X, T and U are located in the Fanning's Battery West Area, west of the main Fanning's Battery area.

FANNING BATTERY UNITS (WEST)



Figure 6 showing units T, U and W located to the west of the main Fanning's Battery area.

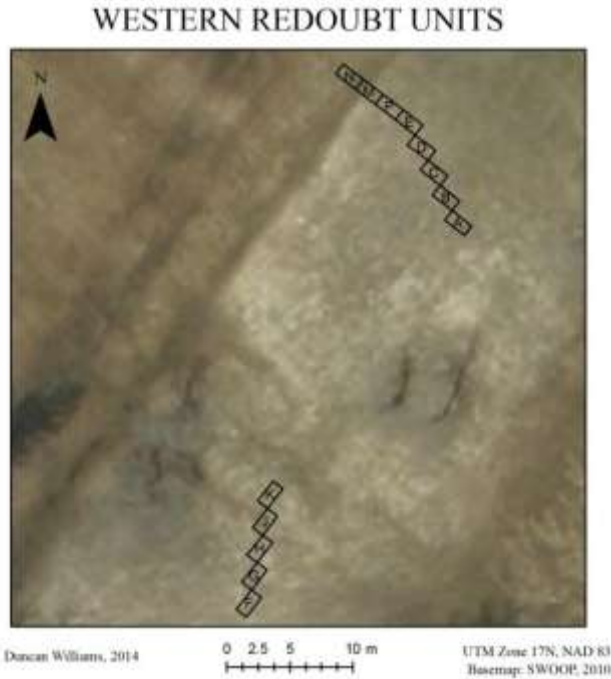


Figure 7 Detail of the Western Redoubt excavation area showing units referred to in the text.

which is visible the entire length of the line from the fort to the tree line a few metres to the west of this excavation area.

Western Redoubt Area

The other excavation area, referred to in the text as the Western Redoubt, was investigated by cross-sectioning the structure adjacent to the earthwork, depicted on the November 1814 Romilly plan, with a series of staggered 1 x 2 metre units. Several other units were laid in to the west of these in the area of a large traverse shown on the same map (Figure 7). The size of the traverses, and the structure situated in the centre of the two traverses, suggests that a more substantial interior encampment may have been situated in this location, as compared to a single battery. (I note that this is in fact referred to as a redoubt but have to get the reference.) This location is close to Biddle’s Battery, a battery referred to in the documentary record (see Section 3.0 Historical Background).

A crop mark near the intersection of units N and M represents the associated ditch for the earthwork,

All Units Excavated in 2012				
Area	Unit	Unit Excavator	NW coordinate (site grid)³	
Fanning's Battery	A	Ian Leece	1008N 938E	
	B	Victoria Lem	1009N 940E	
	C	Danielle Bella	1008N 942E	
	D	Ann-Marie Oliver	1009N 944E	
	E	Marissa Homosits	1008N 946E	
	F	Samantha Patterson	1009N 948E	
	G	Kelsey Graham	1010N 950E	
	H	Sara-Lyn Forman	1012N 949E	
	J	Adam Shoalts	1014N 949E	
	K	Liam McGeer	1018N 949E	
	M	Rebecca Gilmore	1020N 949E	
	Fanning's Battery East	N	Lisabeth Robinson/John Triggs	1004N 959E
		P	Duncan Williams	1008N 959E
Q		Marissa Homosits	1012N 959E	
R		Jessica Hendry	1006N 956E	
S		Sabrina Yorke	1009N 956E	
T		Shannon Millar	1020N 849E	
U		Alyssa Bissonnette et al.	1008N 902E	
V		Rebecca Gilmore	1004N 956E	
W		Lisabeth Robinson	1006N 959E	
X		Alexis/Lynna Nguyen	1015N 828E	
Western Redoubt	A	Duncan Williams	1002N 780E	
	B	Mary Willett	1004N 781E	
	C	Katie Anderson	1006N 782E	
	D	Sarah Timmins	1008N 783E	
	E	Kia Ohora	1010N 784E	
	F	Sabrina Yorke	996N 745E	
	G	Jessica Hendry	997N 747E	
	H	Alexis Gough	998N 749E	
	J	Lynna Nguyen	999N 751E	
	K	Shannon Millar	1000N 753E	
	M	Andrew O'Shaughnessy/Bonnie Glencross	1014N 784E	
	N	Don Patrick	1016N 784E	
	P	Kia Ohora/Sarah Bolstridge	1012N 784E	

³ The horizontal datum for the site grid (a 10" spike) is located at grid point 1000N/1000E located in the SW bastion of the fort, adjacent to and on the exterior of the masonry embrasure. The vertical datum for the site (a 2" square wooden stake, 24" long, driven into the ground to a depth of 22"), is located at grid point 1005.9N/849.6E.

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 8 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 8). 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 University⁴

Fort Erie is the oldest British military fort in what is now Ontario.⁵ 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 Montessor, 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.⁶ 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 1805.⁷ 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

⁴ 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.

⁵ 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.

⁶ Andrew Farry, "Regulars and "Irregulars": British and Provincial Variability among Eighteenth-Century Military Frontiers," *Historical Archaeology* 2005, 39(2):16.

⁷ 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..."⁸ 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) picketed, and the Stonewall, next the Lake repair'd..."⁹ 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."¹⁰ 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.*"¹¹ 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."¹² 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.¹³ 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."¹⁴ 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

⁸ Owen, *Historic Fort Erie*, 31.

⁹ *Ibid.*

¹⁰ Owens, 31-32.

¹¹ Owens, 32.

¹² Owens, 33.

¹³ Owens, 34.

¹⁴ 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.¹⁵ 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.¹⁶ 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 detector 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.¹⁷

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

¹⁵ John D. Light and Henry Unglik, *A Frontier Fur Trade Blacksmith Shop 1796 -1812*. (National Historic Parks and Sites, Environment Canada, 1987).

¹⁶ 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.

¹⁷ 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.¹⁸ 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 Officers' 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 Officers' 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.¹⁹

¹⁸ 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.

¹⁹ 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.²⁰ 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-martialled 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.²¹ 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 wall²². 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:

²⁰ David B. Douglass, “Reminiscences of the Campaign of 1814, on the Niagara Frontier,” *The Historical Magazine*, vol. II no. 1 July, 1873, 7.

²¹ 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.

²² 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.”²³

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 line²⁴. Also uncovered was plenty of charcoal, suggesting that soldiers may have cooked their meals within the shelter offered by the earthwork and perpendicular traverses²⁵. 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.²⁶ 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.”²⁷ 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

²³ “Attack on Fort Erie,” *Naval and Military Chronicle of the United States*, (Philadelphia: Vol. 1 no. II February 1816), 109.

²⁴ 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 be the line of pikes mentioned in the 1816 account by the American officer. Comment added by John Triggs, December 19, 2014.

²⁵ 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.

²⁶ Benson J. Lossing, *The Pictorial Field-Book of the War of 1812* (New York: 1869, reprinted New York: Benchmark Publishing, 1970), 829.

²⁷ 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.²⁸

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..."²⁹ 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.³⁰ 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.³¹

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.³² 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.³³ Almost certainly, given the prominence Douglass' battery had in firing on the British lines

²⁹ Douglass, 129.

³⁰ 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.

³¹ Douglas, 130.

³² 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.

³³ 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.³⁴

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."³⁵ 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.³⁶ 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 Officers' 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 Officers' 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

³⁴ "Attack on Fort Erie," *Naval and Military Chronicle of the United States* 117-20.

³⁵ Owen, 53.

³⁶ The structure is depicted on two maps: the November 1814 plan, and an 1815 plan. Comment added by Triggs, December 19, 2014.

bombardment.³⁷ In addition, large quantities of unspent musket rounds were recovered at this location, suggesting that an ammunition chest was stored inside the building.³⁸

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 5³⁹. 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 3.⁴⁰ 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.⁴¹ 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.⁴² The American soldiers may also have claimed as

³⁷ 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.

³⁸ This and other archaeological evidence is discussed in the current report. Comment added by Triggs, December 19, 2014.

³⁹ 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.

⁴⁰ 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.

⁴¹ 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

⁴² Donald F. Graves, *Red Coats and Grey Jackets: The Battle of Chippawa, July 5, 1814* (Toronto:

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.⁴³

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.⁴⁴ Le Couteur had earlier claimed as the spoils of war, "a capital black horse for a charger...(and) saddle & Bridle & Pistols and all."⁴⁵ 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."⁴⁶

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.

Dundurn Press, 1994), 136.

⁴³ 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.

⁴⁴ 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.

⁴⁵ Le Couteur, 127.

⁴⁶ John Norton, *The Journal of John Norton*, edited by Carl F. Klinck, (Toronto: Champlain Society, 1970), cxx.

Fort Erie's story is a significant chapter in Canadian history. It was the site of one of the country's bloodiest battles, the meeting ground for Robert Rogers and Pontiac, a strategic link in the Great Lakes 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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Fanning's Battery Groups and Classes	5133	100%
Activities	8	0.2%
Hand/Maintenance Tools	2	
Samples	3	
Writing	3	
Architectural	1875	36.5%
Construction Materials	828	
Door and Window	5	
Hardware		
Electrical	1	
Nails	695	
Other Fasteners	2	
Other Hardware	1	
Window Glass	343	
Arms and Military	170	3.3%
Ammunition / Artillery	153	
Edge Weaponry	1	
Fasteners	1	
Gunflints	5	
Gunflints	3	
Military Button	1	
Musket/ Rifle	1	
Uniform Insignia	5	
Clothing Group	31	0.6%
Fasteners	31	
Faunal/Floral	363	7.1%
Bone	346	
Mammal Bone	6	
Shell	7	
Unsorted Bone	4	
Food	978	19.1%
Preparation/Consumption		
Ceramic Cooking/Storage	33	
Glass Beverage Container	751	
Glass Storage Container	38	
Glass Tableware	4	
Metal Containers	1	
Samples	3	
Tableware	147	
Utensils	1	
Furniture	6	
Decorative Furnishings	1	

4.0 Excavation

4.1 Fanning's Battery: Artifacts and Temporal Context

A total of 5133 artifacts were recovered from the Fanning's Battery excavation area. Before considering these in their Period context, a general overview provides some insight into the overall assemblage. By far the largest number of items is found in the Architectural Group. These include brick fragments, the number of which is misleading as these are often very small pieces. Although weight would be a more meaningful measure, this was not done in the field lab. However, the ubiquity of brick in almost every unit, and in every Period, suggests periods of demolition throughout the history of the fort not to mention the obvious use of this material from the earliest to latest phases of occupation. Together with the brick, the presence of nails and window glass is further evidence of construction, refurbishment and destruction throughout the fort's history.

Chert is also ubiquitous, found in every unit and in every Period as shown below. Chert debitage from stone tool manufacture, maintenance, and procurement is to be expected considering the proximity and abundance of chert sources in the Niagara region.

The Food Preparation/Consumption Group also makes up a significant proportion of the Fanning's Battery assemblage. Most of this is comprised of container glass, and as shown below, a large portion of which is from a mid-20th century midden. Ceramic tableware is found throughout the excavation area and consists of types dating from the mid-18th century to the early 20th century. The very presence of tableware on a military site is

interesting, and indicates an important domestic component to a site that is typically overshadowed by the activities of the 1814 siege. Ceramics would have been more commonly associated with officers rather than soldiers, and in this sense the ceramics provide some insight into the experience of an officer, British and American on a frontier site, during one of the most significant engagements during the war of 1812, under the unique conditions of a siege.

The Arms and Military group makes up a small proportion of the entire assemblage, although the actual number of lead shot of all types, bird, buck, rifle, and musket, is quite atypical of military contexts, whether for forts or battlefields. The number of pieces of lead shot recovered is anomalously high at Fort Erie (see Appendix E). This is attributable to the size of the opposing forces, more than 5000 men in total, and also to the nature of the site as the location of a siege where the main focus in the American camp was defensive. In fact, with a few exceptions, lead shot can be attributed

to U.S. firearms, rifles, and muskets - most of these unfired. The recovery of only U.S. pewter and brass uniform buttons at Fanning’s Battery also points to the assemblage being an American, rather than a British, archaeological site. The picture that emerges is that of a well-provisioned U.S. army, in terms of ammunition. By contrast the amount of faunal bone recovered from the Fanning’s Battery area does not seem very high compared with other military contexts. Considering the more than 2000 men stationed behind the defensive lines, a much larger sample of faunal bones would be expected. This

may also be a function of context, and until further investigation is done in other areas of the encampment the suggestion that the American forces may not have been well-provisioned in terms of food is in part speculative. Nevertheless there is some historical evidence to support the suggestion that food supplies may have been low.

Other insights into life in a camp under siege for several weeks is provided by the absence of such items as smoking pipes which are normally pervasive in military contexts. The presence of only 2

Lighting Devices	5	
Medical/Hygiene	2	0.0%
Grooming and Hygiene	1	
Pharmaceutical	1	
Containers		
Samples	464	9.0%
Samples	464	
Native	954	18.6%
Lithic	940	
Lithic	14	
Personal	32	0.6%
Currency	3	
Samples	1	
Personal Items	2	
Toys and Leisure	26	
Smoking	2	0.0%
Pipes	2	
Unassigned Material	248	4.8%
Miscellaneous Hardware	13	
Miscellaneous Items	3	
Miscellaneous Material	231	
Scrap metal	1	
Grand Total	5133	

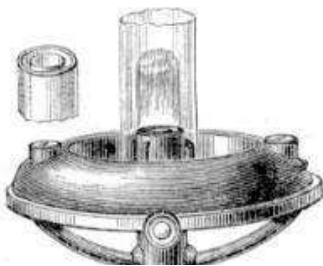


Figure 9 Argand lamp with base similar to that found in Western Redoubt.

Fanning's Battery Ceramics	
Unit and Type	Freq.
B	1
Yellowware, Plain	1
C	1
Creamware	1
D	3
Pearlware, Other Décor	1
Pearlware, Plain	1
Yellowware, Plain	1
E	1
Creamware, Plain	1
F	1
Pearlware, Plain	1
G	63
Creamware	1
Samples	2
Pearlware, Plain	60
H	1
Creamware, Plain	1
J	4
Creamware	1
Pearlware, Plain	3
K	1
Pearlware, Plain	1
M	7
Samples	1
Pearlware, Late Palette	3
Pearlware, Plain	3
N	1
Pearlware, Plain	1
P	1
Creamware	1
R	4
Pearlware, Early Palette	3
Pearlware, Plain	1
S	3
Creamware, Plain	1
Pearlware, Plain	2
U	51
Bone China	1

smoking pipe stem fragments speaks volumes in terms of the living conditions experienced by those American troops, officers and soldiers, stationed at Fort Erie: luxury items were scarce or non-existent, seemingly. In the Western Redoubt area discussed below,

Bone China, Plain	3
Ceramic	1
Course Stoneware, Salt Glaze	1
Creamware	2
FEW Tin Glaze	6
Samples	4
Pearlware, Plain	6
Porcelaineous	6
Refined White EW	1
Refined White EW, Plain	9
Refined White EW, Polychrome	1
Transfer	
Soft Paste Porcelain	1
Vitrified White EW, Plain	7
Yellowware, Plain	2
V	1
Creamware, Plain	1
Grand Total	144

however, there is some evidence that the officers may not have been as deprived as the soldiers, as the presence of a 18th century Chinese porcelain and a copper alloy base from an argand lamp would suggest (Figure 9).

A more detailed discussion of the items in their Period context is provided in the following pages.

4.2 Fanning's Battery: Stratigraphic Periodization

The following section describes the significant finds in each of the excavation units in the entire Fanning's Battery area comprised of Fanning's Battery Main, Fanning's Battery East and Fanning's Battery West (Figure 10). The stratigraphic matrix for each unit is included in the discussion showing the actual lot numbers assigned when in the field. The relative stratigraphic position of each lot within each unit can be found on the Stratigraphic Correlation Chart (Table 1). The stratigraphic sequence is divided into Periods which have been discussed above. The artifact assemblage found in each unit is discussed briefly in connection with the unit description. Detailed artifact descriptions can be found in the Artifact Catalogue (Appendix F), sorted by Unit, Group, Class, Object, and Datable Attribute. The significance of the Arms and Military group to the Fort Erie site is such that a summary table of these artifacts is included for each unit description. Images of significant features/layers are also included below for each unit.

FANNING BATTERY UNITS



Figure 10 Units X, T and U (as read from bottom to top) are located at the bottom mid-section of the image, at some distance to other Fanning's Battery units.

FANNING BATTERY UNITS Main Area and East



Figures 11 and 12 Fanning’s Battery main excavation area showing units described in text. Units X, T and U are located to the west of the main Fanning’s Battery area.

FANNING BATTERY UNITS (WEST)



Fanning's Battery (Main/East/West): Periodization of the Stratigraphic Sequence

The stratigraphic sequence for all areas of Fanning's Battery has been organized into 5 Periods comprised of 23 separate phases. For the unit discussions, Section 4.3, refer to the correlation chart, and the stratigraphic & Period matrix diagrams.

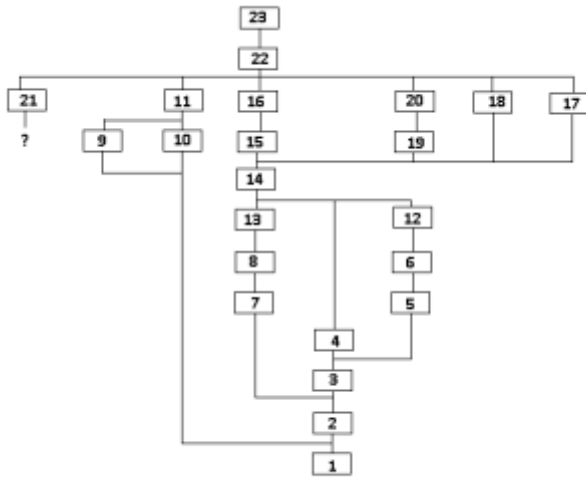


Figure 13 Stratigraphic Matrix for All Units – Fanning's Battery

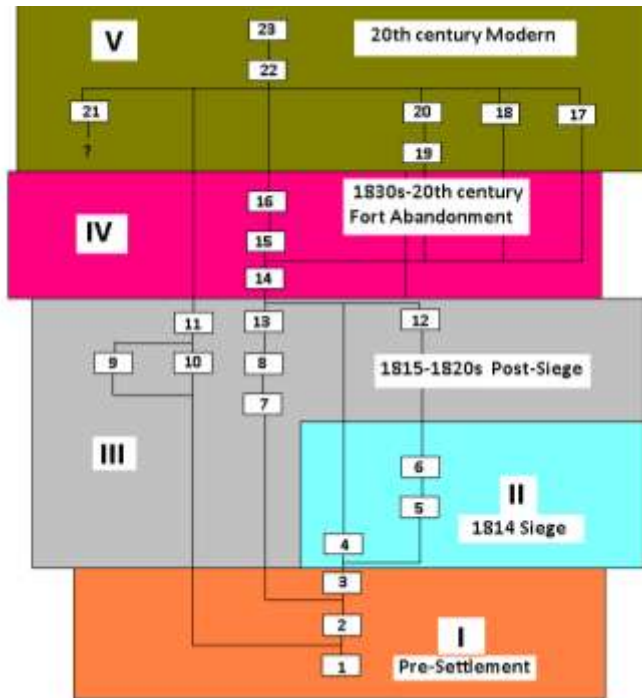


Figure 14 Period Matrix for All Units – Fanning's Battery

Table 1 Correlation Chart: Main Fanning's Battery Area

		Student		Ian	Victoria	Danielle	Anne Marie	Marissa	Samantha	Kelsey	Sara-Lyn	Adam	Liam	Rebecca
Period Description	Period	Description	Phase	A	B	C	D	E	F	G	H	J	K	M
Modern fill layer on mound - slumped	V	Sod	23	1	1	1	1	1	1	1	1	1	1	1
	V	Topsoil	22	2	2	2	2	2	2,3	2	2	2	2	2
	V	Early to mid-20th century midden	21											
	V	Modern ditch/pit at foot of breastwork - sand filled	20									3		
	V	Interface for ditch/pit	19									14		
	V	Shallow feature filled with yellow sand - modern	18				3,4							
	V	Clay loam with char flecks	17								3			
1830s-early 20th century - Post-Siege - Fort Abandonment	IV	Irregular features cut into and filling surface of clay-loam layer below	16											
	IV	Interface for above features in Battery east	15											
	IV	Mixed original layers from breastwork construction	14	3,4	3	3	5	3	4	3	4,5,6	4,5,6,7,8,10	3,4,5,6,7,8,9,10	
1815-1820s Post-siege	III	Dark brown loam - medium/loose compaction - post-abandonment ditch fill	13	5										

Old Fort Erie

WLU Excavations

Spring 2012

Period Description	Period	Description	Phase	A	B	C	D	E	F	G	H	J	K	M
	III	Former ground surface - Fill covering post in Battery East	12											
	III	Ditch fill for main breastwork	11											3
	III	Interface for defensive ditch on land-side of main breastwork	10											5
	III	Interface for banquettes in Battery East	9											
	III	Ditch fill for traverse	8	7	3b, 4									
	III	Interface	7	9	6									
1814 Siege and Breastwork Construction	II	Post fill with charcoal inclusions - gun platform post in Battery East?	6			7	6		7					
	II	Post interface	5			6	7		6					
	II	Original cut for earthwork into subsoil	4										14	
Pre-Siege British and American Fort	I	Dark brown clay loam - A-horizon - charcoal flecks throughout layer and on surface	3									9	11	
	I	Weathered A/B-horizon interface - light greyish brown mottled clay	2	6	3a	4					7	11	12	
Pre-Settlement	I	Subsoil	1	8	5,7	5,8	8	4	5	4,5	8,9	12,13	13	4

Period I Phases 1-3 in Period I are all natural deposits of subsoil and an A-horizon. The subsoil [1] throughout the site is characterized by light brown clay, hard-packed, overlain by a weathered A-B horizon [2] which is transitional between the clay subsoil and the brown loam that marks the A-horizon proper [3].

The latter deposit represents the original ground surface upon which evidence of past activity is found in the form of charcoal flecks, and artifacts that were found lying flat on the surface or those that had been trampled or otherwise entered into the matrix of the sediment through natural means (e.g., earthworms, roots, freeze-thaw, etc.). Artifactual evidence of pre-contact occupation as well as the early historic period occupation is found in this layer.

Artifacts from Period I make up only slightly more than 6% (n=320) of the entire assemblage from Fanning's Battery. Most of these are assigned to the Native Group and include only chert debitage. However, a significant number of Military and Arms artifacts were also recovered including 29 pieces of lead shot, 10 mortar bomb fragments, three gunflints and a musket strap buckle. The Architectural group is comprised of mostly brick fragments and 4 wrought nails. Samples include slate, quartz, charcoal and wood. Faunal bones have not been assigned to Class but most bones are food bone remains from mammals. The Food Preparation/Consumption Group includes beverage bottle fragments but also tableware varieties such as creamware, blue-painted and plain pearlware. Together the assemblage is consistent with a pre-contact phase of occupation, although no temporally or culturally diagnostic tools were recovered, and in addition, material related to a military and domestic occupation that dates to the last decades of the 18th century and the early decades of the 19th century based on the ceramics alone.

Period II Period II represents those deposits and features that are associated with the siege of 1814. Phase [4] is the earliest of these and is represented by the interface marking the cut into subsoil for the construction of the entrenchment in Unit K (Figure 15). The near-vertical cut truncates the clay subsoil in this location and represents the best evidence for the construction of the earthwork, probably during the earliest days of the siege in early August, 1814. Additionally, 3 posts [5 post-fill, 6 interface] were found in Fanning's Battery that are clearly intended to support a substantial structure, possibly a gun

Fanning's Battery	5133	100.0%
I	320	6.2% 100.0%
Architectural	27	8.4%
Construction Materials	23	
Nails	4	
Arms and Military	44	13.8%
Ammunition / Artillery	39	
Fasteners	1	
Gunflints	3	
Musket/ Rifle	1	
Faunal/Floral	30	9.4%
Bone	24	
Mammal Bone	6	
Food Prep./Consumption	9	2.8%
Glass Bev. Container	3	
Glass Storage Container	1	
Tableware	5	
Samples	21	6.6%
Native	170	53.1%
Lithic	170	
Unassigned Material	19	5.9%
Miscellaneous Material	19	

II	1	0.0%
Arms and Military	1	100.0%

platform. Similarly, in the eastern section of Fanning's Battery, several more post holes were found. One of these, in unit N

is at least 80 centimetres in depth and is thought to be a support for a gun platform. Other small diameter holes were found that may also be related to such structures.

The only artifact recovered from Period II was a single musket ball found in unit V.

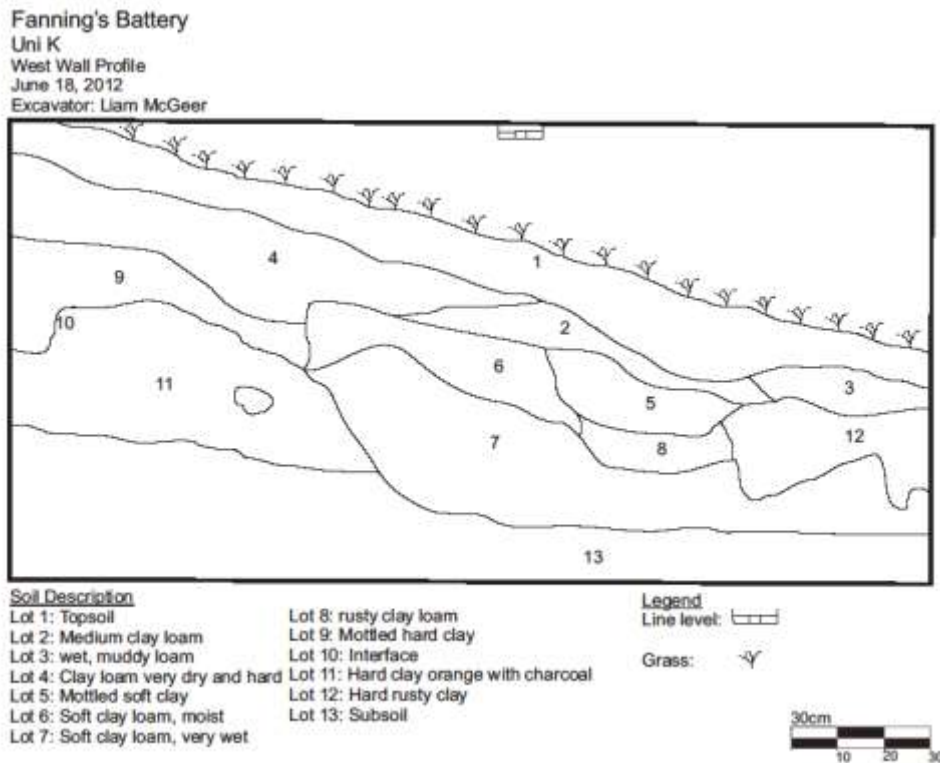


Figure 15

Period III This Period is associated with the time directly after the siege up until the fort was abandoned in the 1820s. Some features are related to the defensive entrenchment after it fell into disuse and began to be filled in through natural agencies, most probably erosion. Phases [7, 8] represent the cut for the ditch associated with the traverse in this area and the ditch fill that accumulated

III	217	4.2%	100.0%
Activities	3	1.4%	
Samples	3		
Architectural	17	7.8%	
Construction Materials	10		
Nails	4		
Other Fasteners	2		
Window Glass	1		
Arms and Military	23	11.6%	
Ammunition / Artillery	19		
Edge Weaponry	1		
Gunflints	2		
Uniform Insignia	3		
Faunal/Floral	64	29.5%	
Bone	64		
Food Preparation/Consumption	20	9.2%	
Ceramic Cooking/Storage	1		
Glass Storage Container	6		
Tableware	13		
Medical/Hygiene	1	0.5%	
Grooming and Hygiene	1		
Samples	2	0.9%	
Native	78	35.9%	
Lithic	78		
Unassigned Material	7	3.2%	
Miscellaneous Material	7		

in the cut after abandonment. The cut itself is near vertical and clearly truncates the clay subsoil to a depth of about 30 centimetres below the ground surface at that time. The fill is a dark brown clay loam and is found in two adjacent units, A and B. In unit Q, Phases [9] and [11] are the interface for a banquette, or small firing step (Figure 16), on the defensive side of the earthwork, and the later fill that covered this, respectively. The firing step is a near vertical cut that has been made into the clay subsoil to create a raised level about 25-30 centimetres above the bottom of the ditch. Phase [10] is the interface for the landward side of the ditch, technically the counterscarp found in unit M (Figure 16). This was later covered by the fill within the ditch that presumably was from the erosion of the entrenchment immediately to the south. Similarly, Phase [12] is an erosional deposit which in-fills and

covers the post features associated with the gun platforms discussed in connection with Period II. The same erosional deposition in-filled the traverse ditch found in unit A, in Phase [13].

Artifacts found in Period III include mostly Faunal bones (29.5%), and most of these are mammal, although the analysis has yet to be done. Chert debitage under the Native group is the most abundant category making up more than a third of the entire Period III assemblage. Of interest are the relatively large number of Arms and Military items which include 19 pieces of lead shot representing all types of shot: bird, buck, rifle ball, and musket ball. A more in-depth analysis of the lead shot is presented in Appendix B. A ramrod finial was also found as were three uniform buttons (two pewter, and one brass). Architectural items are mostly brick fragments with a few wrought nails and a piece of window glass.

The tableware varieties found under the Food Preparation/ Consumption Group are all Pearlware (plain and painted) and creamware. A few shards of container glass were also found.

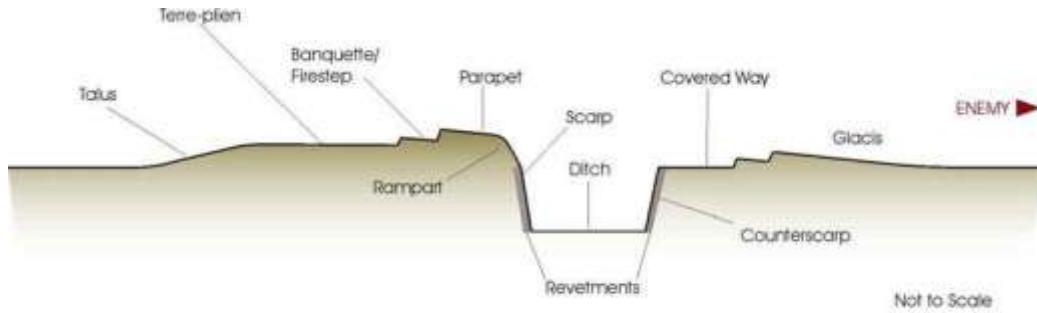


Figure 16 Terminology for a military entrenchment as discussed in text.

Period IV This Period is comprised of 3 separate phases, all of which represent the long period of fort abandonment during the 19th century and into the 20th century. With the exception of only a couple of units, a deposit of mixed loam, clay, and sandy loam is found adjacent to the earthwork on the south and north sides [14]. The layer represents the erosion of the entrenchment itself over the decades through natural processes and also very likely, disturbance due to agricultural activities and the restoration of the fort and grounds in the early 20th century. The original height of the earthwork was presumably much higher than seen today - perhaps as high as 7 feet above the surrounding landscape.⁴⁷ Over time the soil making up the entrenchment slumped on both sides creating a layer about 15-20 centimetres deep over the entire Fanning Battery area. Undated photographs, possibly late 19th or early 20th century photos, show the entrenchments standing at considerable height above the landscape. In light of this it seems that other activities, perhaps agricultural, together with possible grading of the landscape in association with the fort restoration, were responsible for altering the defensive earthwork substantially. This is especially in evidence in the area to the west of Fanning's Battery where the only trace of the former line is a crop-mark indicating the ditch on the escarp side of the entrenchment. Phases [15] and [16] interface and feature fill, represent irregular depressions in the surface of Phase [14]. The origin the depressions is unknown although they do appear to be limited in scope and may be natural features – perhaps tree

IV	1391	27.1%	100.0%
Activities	2		0.1%
Hand/Maintenance Tools	2		
Architectural	381		27.4%
Construction Materials	335		
Door and Window Hardware	1		
Electrical/Telecommunication	1		
Nails	13		
Window Glass	31		
Arms and Military	78		5.6%
Ammunition / Artillery	70		
Gunflints	3		
Military Button	1		
Uniform Insignia	4		
Clothing Group	1		0.1%
Fasteners	1		
Faunal/Floral Bone	139		10.0%
Food Preparation/Consumption	293		21.1%
Ceramic Cooking/Storage	3		
Glass Beverage Container	232		
Glass Storage Container	19		
Glass Tableware	2		
Tableware	37		
Furniture	1		0.1%
Lighting Devices	1		
Samples	29		2.1%
Native	409		29.4%
Lithic	409		
Personal	25		1.8%
Currency	2		
Toys and Leisure	23		
Unassigned Material	33		2.4%
Miscellaneous Hardware	3		
Miscellaneous Material	30		

⁴⁷ Lossing, 829. Describes the earthwork associated with Douglass battery as being 7 feet in height.

root or animal burrowing.

Artifacts found in this Period are more numerous than all previous periods, n=1391. The greatest number of items is found in the Native group, all of which are chert flakes and debitage and a single core. Next to this the Architectural Group makes up 27% of the Period IV assemblage. Included in this group are brick fragments, along with smaller numbers of window glass and nails, and a piece of modern copper wire. All nails found are wrought and clearly early 19th century in date. In the Food Preparation/Consumption group, most of the material is container glass, and most of this is 19th century in origin but some 20th century clear bottle glass shards are also among the assemblage. Ceramic tableware includes 37 sherds of undecorated creamware and pearlware, which is indicative of an early 19th century date for the assemblage. The Faunal Bone category makes up 10% of the assemblage and consists mostly of mammal bone, although a thorough analysis has yet to be conducted. The Arms Group is high in number, if not proportion, and the 78 items include all types of lead shot (bird, buck, rifle and musket) along with a few fragments of an iron mortar bomb, gunflints and a quill priming tube for a large piece of ordnance. Six pewter buttons were also recovered: four marked U.S., one plain, and one with the 'I' or Infantry insignia. Various other objects were found that can be dated to the 19th century such as scrap lead and unidentified ferrous objects, but 20th century materials such as toy jacks, a toy pistol, 1941 and 1945 U.S. pennies, and a modern light bulb fragment, point to the long period of time that the deposit was exposed and subject to artifacts being introduced into the deposits that make up Period IV.

Period V This Period represents the latest phases in the depositional history of the site and includes modern layers dated to the 20th century. Phases [17] and [18] are isolated sandy loam and sand deposits of unknown origin that occur below the sod and topsoil layers [22] and [23] in two units. Phases [19] and [20] are a sand-filled shallow ditch and associated interface found at the base of the earthwork. This is similar to the shallow feature found in phase [18] in terms of the sand fill, but is of unknown origin. Lastly, phase [21] is a modern midden that may date to the middle of the 20th century based on the artifacts recovered. The pit midden was found to the west of the main Fanning's Battery excavation area and was identifiable as a shallow depression in the modern ground surface. Excavation revealed a midden at least 40 centimetres in depth, at which point excavation was terminated. See unit U for a more detailed description.

The greatest number of artifacts is found in this Period including items dating from the siege and throughout the 19th century, as well as modern items. Almost half of the assemblage is found in the Architectural Group and the majority of these items are nails. Nails are mostly wrought, but large numbers of 19th century machine cut nails (1830s-1890) and modern wire nails (post-1890) point to the mixed nature of the assemblage. Brick fragments are also abundant as is window glass. The vast majority of the items are found in unit U, the mid-20th century midden. Modern container glass is also abundant in the Food Preparation/Consumption Group and most of this was also found in the unit U midden. Ceramics are found in four units only (B, D, G, and U) and several units and the tableware varieties present date from the early 19th century. Pearlware was found in all units, but only pearlware was found in units B, D, and G). In unit U the assemblage is varied and includes later 19th century varieties such as ironstone, refined white earthenware, porcelain, yellowware and porcelaineous

V	3181	100.0%
Activities	3	0.1%
Writing	3	
Architectural	1450	45.6%
Construction Materials	460	
Door and Window Hardware	4	
Nails	674	
Other Hardware	1	
Window Glass	311	
Arms and Military	20	0.6%
Ammunition / Artillery	20	
Clothing Group	28	0.9%
Fasteners	28	
Faunal/Floral	123	3.9%
Bone	116	
Shell	7	
Food Preparation/Consumption	651	20.5%
Ceramic Cooking/Storage	29	
Glass Beverage Container	512	
Glass Storage Container	12	
Glass Tableware	2	
Metal Containers	1	
Samples	3	
Tableware	91	
Utensils	1	
Furniture	5	0.2%
Decorative Furnishings	1	
Lighting Devices	4	
Medical/Hygiene	1	0.0%
Pharmaceutical Containers	1	
Samples	410	12.9%
Native lithics	292	9.2%
Personal	7	0.2%
Currency	1	
Samples	1	
Personal Items	2	
Toys and Leisure	3	
Smoking	2	0.1%
Pipes	2	
Unassigned Material	189	5.9%
Miscellaneous Hardware	10	
Miscellaneous Material	179	

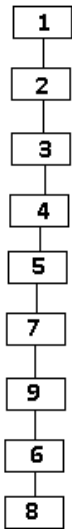
stoneware. Interestingly, mid-late 18th century types such as 2 sherds of tin-glazed ware, Jackfield, black basalt and creamware (1760-1820) were found in unit U also. The Arms and Military group includes all varieties of lead shot (bird, buck, rifle and musket balls) but also cartridge casings from a .22 caliber rifle and a 12 gauge shotgun shell base. Four percussion caps from mid-19th century and later, breech-loading rifles were also found in this period. Other items found are indicative of a wide range of activities and include slate pencils, 2 clay smoking pipe stems, several non-military buttons made of a variety of materials (bone, mother-of-pearl, porcelain, brass, and plastic), oil lamp glass fragments, clay and glass marbles, various pieces of unidentifiable ferrous hardware, the ubiquitous chert debitage, and in unit U, structural/hardware/engine parts from a mid-century or earlier car. Based on the artifacts dating from the 18th to the 20th century, it is clear that some type of disturbance has resulted in the mixing of materials from all periods of occupation. What this means in terms of site conservation, is that artifacts dating from the siege, and possibly earlier, are found in the uppermost layers of soil, and although out of context, they should be considered heritage resources capable of providing valuable information on the occupation of Fort Erie.

Period XXX – A few artifacts were found out of context, either in back dirt, or in baulks and/or during wall cleaning when preparing to record the stratigraphic profiles. In most cases lots were tentatively assigned to the contexts but when provenience was in doubt these were grouped into Period XXX. Artifacts found are distributed throughout the various Groups and include musket balls in Arms and Military, mammal bone, container glass, chert debitage and brick samples.

XXX	23	0.4%	100.0%
Arms and Military	4		17.4%
Ammunition / Artillery	4		
Faunal/Floral	7		30.4%
Bone	7		
Food	5		21.7%
Preparation/Consumption			
Glass Beverage	4		
Container			
Tableware	1		
Samples	2		8.7%
Samples	2		
Native	5		21.7%
Lithic	5		
Grand Total	5133		

4.3 Unit Descriptions: Fanning’s Battery Unit A

This unit was situated in the westernmost



section of the main Fanning’s battery excavation area. The unit was placed so as to provide a cross-section of the traverse in this area as shown on the 1814 and 1815 plans. Evidence of the traverse was found in the form of a ditch

on the eastern side of the unit (Lot 7). The ditch truncated the A-horizon and weathered subsoil in a near-vertical interface (lot 9) for a depth of about 30 centimetres. The shallow cut likely represents the borrow- ditch created during the construction of the traverse, the excavated soil

Unit A

having been used to create the adjacent defensive mound. The presence of lead shot of various types points to the activities associated with the battery as a whole, as does the more definitive and indirect evidence of artillery in the form of an artillery priming tube. A large mammal bone, recovered from the base of the ditch, suggests that it may have served as a location for primary refuse disposal. The ditch at the 1812 Burlington Heights encampment served a similar purpose (Triggs 1995a, 1995b).

Table Group and Class			
Unit	Freq.	Class %	Group %
A	202	100.0%	100%
Architectural	61	30.2%	
Construction Materials	48		23.8%
Nails	11		5.4%
Window Glass	2		1.0%
Arms and Military	22	10.9%	
Ammunition / Artillery	22		10.9%
Faunal/Floral	6	3.0%	
Bone	6		3.0%
Food	8	4.0%	
Preparation/Consumption			
Glass Beverage	5		2.5%
Container			
Glass Storage Container	3		1.5%
Samples	3	1.5%	
Samples	3		1.5%
Native	101	50.0%	
Lithic	99		49.0%
Lithic	2		1.0%
Personal	1		0.5%
Toys and Leisure	1		0.5%

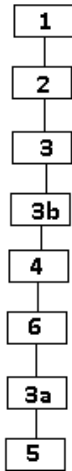
A	22
Arms and Military	22
Ammunition / Artillery	22
Bird Shot	8
Buck and Ball shot	8
Musket ball	5
Priming Tube	1



Figures 17 and 18 Borrow ditch associated with traverser – view looking south (left); looking north (right). Excavation in progress. The ditch fill is visible as the dark brown layer on the north profile (right).

Fanning's Battery Unit B

Unit B was located to the east and north of unit A in the area of the traverse



mentioned above. Evidence for the traverse was found in the form of a borrow-ditch (lot 4) and the associated interface, lot 6. The eastern edge of the ditch is shown in the image below. The ditch fill itself is visible as the dark sediment on the left side of the unit. As measured from the adjacent unit A, the ditch is about 1.30 metres wide and 30-35 centimetres in depth. In contrast to Unit A,

the only Military group find was a King's 8th pewter regimental button, one of the few British buttons recovered during the 2012 excavation season.

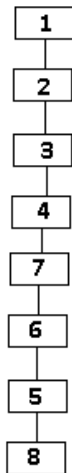
Table Group and Class			
Unit	Freq.	Class %	Group %
B	166	100.0%	100.0%
Architectural	22	13.3%	
Construction Materials	21		12.7%
Nails	1		0.6%
Arms and Military	2	1.2%	
Ammunition / Artillery	1		0.6%
Uniform Insignia	1		0.6%
Faunal/Floral	19	11.4%	
Bone	19		11.4%
Food	4	2.4%	
Preparation/Consumption			
Glass Beverage Container	3		1.8%
Tableware	1		0.6%
Medical/Hygiene	1	0.6%	
Pharmaceutical Containers	1		0.6%
Samples	6	3.6%	
Samples	6		3.6%
Native	111	66.9%	
Lithic	111		66.9%
Unassigned Material	1	0.6%	
Miscellaneous Material	1		0.6%



Figure 19 The eastern edge of the borrow ditch for the traverse is shown on the left side of the image. View facing north.

B	1
Arms and Military	1
Uniform Insignia	1
Military Button	1

Fanning’s Battery Unit C A large, flat-bottomed posthole measuring about 25-30 centimetres in diameter (lot 7), excavated into the subsoil (interface lot 6), represents the only structural feature found



in unit C. It is clear that the size of the post indicates a relatively large structural feature, possibly a gun platform erected in the battery. However, the fact that two other posts were found in the same approximate east-west line, in units D and F, parallel to the earthwork, suggests that the post may be from a palisade composed of large supports posts with the open spaces between taken up by smaller posts, as might be constructed in haste for defensive purposes. A palisade on both sides of the main entrenchment would provide added cover for the troops stationed along the line, and may in fact be the inspiration for the ‘double ditch’ described by Benson Lossing in 1860, if the ditch were shallow such as that found in association with the traverse ditch in units A and B. It will be recalled that clear archaeological evidence of a deeper ditch on the offensive or landward side of the main entrenchment was found in Fanning’s Battery (unit M) and in the Western Redoubt area. A total of 9 mortar bomb pieces were found in this unit, suggesting that this battery may have suffered a direct hit during the British bombardment of late August-early September. 1814.

Unit C

C	13
Arms and Military	13
Ammunition / Artillery	12
Buck and Ball shot	2
Mortar Bomb Part	9
Musket ball	1
Gunflints	1
Flake	1



Figure 20 The possible palisade post found adjacent to the north wall and intrusive into subsoil.

Table Group and Class			
Unit	Freq.	Class %	Group %
C	126	100.0%	100.0%
Architectural	27	21.4%	
Construction Materials	27		21.4%
Arms and Military	14	11.1%	
Ammunition / Artillery	13		10.3%
Gunflints	1		0.8%
Clothing Group	1	0.8%	
Fasteners	1		0.8%
Faunal/Floral	23	18.3%	
Bone	17		13.5%
Mammal Bone	6		4.8%
Food	7	5.6%	
Preparation/Consumption			
Ceramic Cooking/Storage	1		0.8%
Glass Beverage Container	1		0.8%
Glass Storage Container	4		3.2%
Tableware	1		0.8%
Samples	3	2.4%	
Samples	3		2.4%
Native	30	23.8%	
Lithic	21		16.7%
Lithic	9		7.1%
Unassigned Material	21	16.7%	
Miscellaneous Material	21		16.7%

Fanning’s Battery Unit D

Another post (lot 6), similar to that described in Unit C, was found intersecting the west wall of this unit. The post is slightly larger than that found in unit C, with a diameter of about 30 -35 centimetres. Both posts are in an approximate east-west line, running parallel to the foot of the earthwork. As with the post in unit C, the size and position of the feature at the foot of the main entrenchment, suggests that this may be related to a palisade. A horizontal distance of about 1.20 meters, or roughly 4 feet, suggests that the open spaces between these main structural supports was filled with smaller, less substantial posts that did not require excavation into the clay subsoil for support. The construction suggests expediency as might be expected under the conditions of a siege, and as mentioned by Feltoe (2014) in his documentation of the specific construction.

Table Group and Class			
Unit	Freq.	Class %	Group %
D	282	100.0%	100.0%
Architectural	198	70.2%	
Construction Materials	197		69.9%
Electrical/Telecommunication	1		0.4%
Arms and Military	17	6.0%	
Ammunition / Artillery	14		5.0%
Gunflints	1		0.4%
Gunflints	2		0.7%
Faunal/Floral	7	2.5%	
Bone	7		2.5%
Food	6	2.1%	
Preparation/Consumption			
Glass Beverage Container	3		1.1%
Tableware	3		1.1%
Samples	4	1.4%	
Samples	4		1.4%
Native	45	16.0%	
Lithic	45		16.0%
Unassigned Material	5	1.8%	
Miscellaneous Hardware	2		0.7%
Miscellaneous Material	3		1.1%

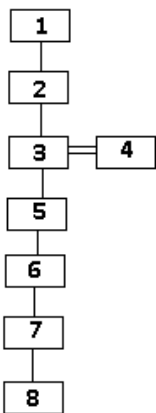


Figure 21 Post hole from possible palisade found in western edge of unit. This feature is in an approximate east-west line with the post holes in units C and F.

D	17
Arms and Military	17
Ammunition / Artillery	14
Bird Shot	2
Buck and Ball shot	7
Buck Shot	1
Musket ball	2
Rifle Ball	2
Gunflints	1
Gunflint	1
Gunflints	2
Gunflint	2

Unit D

Fanning’s Battery Unit E

No features were recorded in this unit. Only four lots were excavated from sod to



subsoil. This unit was the first completed in the Fanning’s battery area. In order to confirm that subsoil had been reached, and that the clay soil exposed in lot 4 was not displaced subsoil, a narrow exploratory trench was

excavated in the eastern end of the unit to a depth of 10 centimetres from the presumed surface of subsoil. No artifacts were in this trench and examination of the wall profile indicated that subsoil had in fact been reached. A

relatively large number of rifle balls were recovered from the unit, compared to the buck and bird shot recovered. Three American pewter uniform buttons were also recovered from lot 3, the layer above subsoil: 2 of these were marked with the generic ‘US’ and the other with the script ‘I’ indicating an infantry unit.

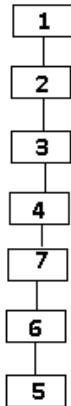
Table Group and Class			
Unit	Freq.	Class %	Group %
E	109	100.0%	100.0%
Architectural	56	51.4%	
Construction Materials	56		51.4%
Arms and Military	17	15.6%	
Ammunition / Artillery	14		12.8%
Military Button	1		0.9%
Uniform Insignia	2		1.8%
Faunal/Floral	10	9.2%	
Bone	10		9.2%
Food Preparation/Consumption	1	0.9%	
Tableware	1		0.9%
Native	25	22.9%	
Lithic	25		22.9%



Figure 22 View of western end of unit showing sondage, test trench, into clay subsoil.

E	17
Arms and Military	17
Ammunition / Artillery	14
Bird Shot	1
Buck and Ball shot	5
Rifle Ball	8
Uniform Insignia	3
Military Button	3

Fanning’s Battery Unit F



Another post feature was found in this unit in the same approximate east-west line as the posts in units C and D. Although smaller in size, with a diameter of 15 centimetres, the post is nevertheless intrusive into the clay subsoil and therefore contemporaneous with the other posts. If the features together mark the location of a palisade on the

defensive side of the earthwork, this post may in fact be one of the smaller intervening posts between the larger support posts. Compared to the other units located farther to the west, towards the traverse, the amount of lead shot recovered was low with only 2 buckshot and a single bird shot having been recovered.

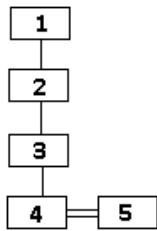
Table Group and Class			
Unit	Freq.	Class %	Group %
F	97	100.0%	100.0%
Architectural	9	9.3%	
Construction Materials	7		7.2%
Nails	2		2.1%
Arms and Military	3	3.1%	
Ammunition / Artillery	3		3.1%
Faunal/Floral	5	5.2%	
Bone	2		2.1%
Shell	3		3.1%
Food	3	3.1%	
Preparation/Consumption			
Glass Storage Container	2		2.1%
Tableware	1		1.0%
Samples	8	8.2%	
Samples	8		8.2%
Native	69	71.1%	
Lithic	69		71.1%

F	3
Arms and Military	3
Ammunition / Artillery	3
Bird Shot	1
Buck and Ball shot	2



Figure 23 A small post found in same alignment as larger posts in units to the west may be part of a palisade located on the defensive side of the entrenchment.

Fanning's Battery Unit G



This unit was located at the end of the line of staggered units placed parallel to the base of the main entrenchment. Although no definitive posts were identified in the unit, a possible post

Unit G was found in the west end where it intersected the east profile. Dry soil conditions made excavation difficult and prohibited a clear delineation of the feature in the profile, but the feature is in approximately the same east-west line as the other posts found in units C, D and F and may be part of the presumed palisade described above. A relatively high number of lead shot (buck, musket and rifle) was recovered.

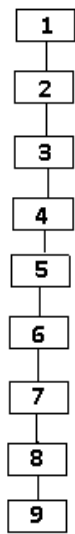
G	17
Arms and Military	17
Ammunition / Artillery	17
Buck and Ball shot	8
Buck Shot	1
Musket ball	6
Rifle Ball	2

Table Group and Class			
Unit	Freq.	Class %	Group %
G	190	100.0%	100.0%
Architectural	20	10.5%	
Construction Materials	17		8.9%
Door and Window	1		0.5%
Hardware			
Nails	1		0.5%
Window Glass	1		0.5%
Arms and Military	18	9.5%	
Ammunition / Artillery	18		9.5%
Clothing Group	1	0.5%	
Fasteners	1		0.5%
Faunal/Floral	9	4.7%	
Bone	9		4.7%
Food	70	36.8%	
Preparation/Consumption			
Glass Beverage	1		0.5%
Container			
Glass Storage Container	4		2.1%
Glass Tableware	2		1.1%
Tableware	63		33.2%
Samples	3	1.6%	
Samples	3		1.6%
Native	61	32.1%	
Lithic	61		32.1%
Unassigned Material	8	4.2%	
Miscellaneous Material	8		4.2%

Figure 24 View facing south showing possible post feature in the west side of the unit. Roots shown running on top of the well compacted clay subsoil.



Fanning's Battery Unit H



Unit H was located at the foot of the earthwork, on the defensive side, positioned so as to provide a cross-section of the entrenchment with the other units J, K and M. The stratigraphy in this unit is more complex compared to all previous units described above. Layers here are associated with the actual construction of the entrenchment, although soil slumping has resulted in these being displaced farther down slope from the top of the earthwork 2-3 metres north. Although

Unit H



Figure 25 Completed unit H showing depression in southwest corner which may be related to a borrow ditch. Fill layers in the earthwork can be seen in the north profile at the top of the image.

Unit	Freq.	Class %	Group %
H	152	100.0%	100.0%
Architectural	19	12.5%	
Construction Materials	18		11.8%
Nails	1		0.7%
Arms and Military	15	9.9%	
Ammunition / Artillery	12		7.9%
Gunflints	2		1.3%
Musket/ Rifle	1		0.7%
Faunal/Floral	2	1.3%	
Bone	2		1.3%
Food	2	1.3%	
Preparation/Consumption			
Glass Beverage Container	1		0.7%
Tableware	1		0.7%
Samples	10	6.6%	
Samples	10		6.6%
Native	99	65.1%	
Lithic	99		65.1%
Personal	2	1.3%	
Toys and Leisure	2		1.3%
Unassigned Material	3	2.0%	
Miscellaneous Material	3		2.0%

definitive evidence of a borrow trench was not recorded during excavation, a shallow depression was visible in the south end of the unit adjacent to the west wall. Evidence of the borrow trench for the

H	14
Arms and Military	14
Ammunition / Artillery	12
Buck and Ball shot	7
Mortar Bomb Part	2
Musket ball	2
Rifle Ball	1
Gunflints	2
Gunflint	2

main entrenchment was not found in other units in the main Fanning's Battery area, although all other units were located

1-2 metres south of the southern extent of unit H. Further excavation along a line running parallel to the foot of the earthwork, in the same east-west grid line as the southern extent of unit H, may reveal the borrow ditch similar to that found associated with the traverse in units A and B. Military



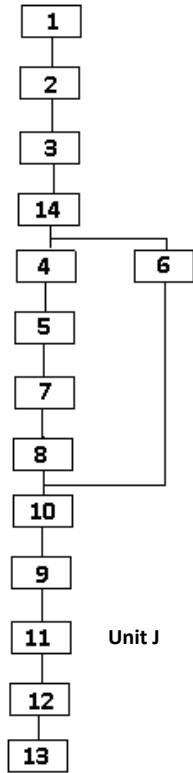
Figure 26 View looking northeast, showing the completed units H and J to the north. These units provided a cross-section of the defensive side of the main entrenchment, still visible on the landscape today.

group artifacts recovered from this unit include a range of lead shot and 2 gunflints. Also recovered were mortar bomb fragments, as in unit C a few metres to the west, which suggests that the battery was targeted, and in fact hit, by British guns.



Figure 27 View showing the completed unit H and the freshly excavated baulk separating units H and J (left side). The shallow depression in the southwest corner of the unit (lower right) may mark the location of the borrow ditch at the foot of the earthwork.

Fanning's Battery Unit J



Unit J was situated near the crest of the main entrenchment on the down-slope, defensive side. The unit was placed in line with unit H, to the south, and unit K, to the north, so as to provide a cross-section of the earthwork to view details of construction.

The stratigraphic complexity of the mound is visible in the many layers of which the earthwork is composed (lots 4, 5, 6, 7, 8, and 10 on the matrix). These layers are mixed deposits of loam and clay representing natural A-horizon and B-horizon subsoil which have been displaced to create the mound. Evidence of a borrow ditch

may have been found in the south end of unit H, discussed above, but clearer evidence of a borrow-ditch on the north, or offensive, side of the earthwork is present in units K and M (discussed below).

The stratigraphic profiles of unit J show the original pre-construction ground surface upon which the layers of displaced soil were heaped. Soil slumping in the decades after the construction has resulted in all layers becoming spread thinner. Benson Lossing describes the earthwork as having been 7 feet in height in mid-19th century. Undated photographs, possibly late 19th century, also show the earthworks standing to a considerably higher elevation than

Table Group and Class			
Unit	Freq.	Class %	Group %
J	50	100.0%	100.0%
Architectural	1	2.0%	
Nails	1		2.0%
Arms and Military	4	8.0%	
Ammunition / Artillery	3		6.0%
Uniform Insignia	1		2.0%
Faunal/Floral	3	6.0%	
Bone	3		6.0%
Food	4	8.0%	
Preparation/Consumption			
Tableware	4		8.0%
Furniture	1	2.0%	
Lighting Devices	1		2.0%
Samples	14	28.0%	
Samples	14		28.0%
Native	23	46.0%	
Lithic	23		46.0%



Figure 28 Completed units H and J. View looking north.

J	4
Arms and Military	4
Ammunition / Artillery	3
Buck and Ball shot	1
Musket ball	2
Uniform Insignia	1
Military Button	1



Figure 29 Unit J, completed, showing original ground surface – dark band above subsoil – on the north profile. All layers above this are construction fill layers dated to August 1814.

today. Only two musket balls and one uniform button, a generic pewter 'US' button, were recovered from the unit, perhaps not surprising as most artifacts would have been displaced down-slope after deposition.

Fanning’s Battery Unit K

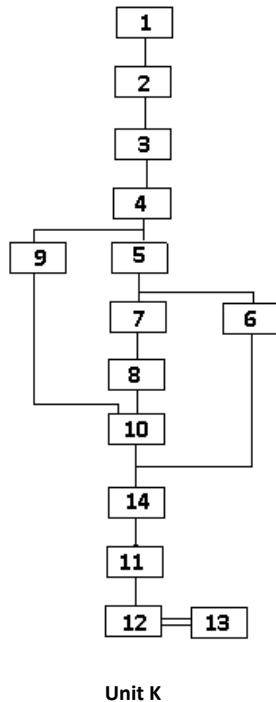


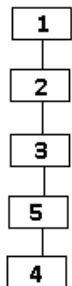
Table Group and Class			
Unit	Freq.	Class %	Group %
K	326	100.0%	100.0%
Architectural	31	9.5%	
Construction Materials	1		0.3%
Nails	1		0.3%
Window Glass	29		8.9%
Faunal/Floral	2	0.6%	
Bone	2		0.6%
Food Preparation/Consumption	244	74.8%	
Glass Beverage Container	225		69.0%
Glass Storage Container	18		5.5%
Tableware	1		0.3%
Samples	8	2.5%	
Samples	8		2.5%
Native	15	4.6%	
Lithic	15		4.6%
Personal	23	7.1%	
Currency	2		0.6%
Toys and Leisure	21		6.4%
Unassigned Material	3	0.9%	
Miscellaneous Material	3		0.9%

This unit was situated on the north, or offensive, side of the main entrenchment, in line with units H and J to the south, and unit M, to the north. As with unit J on the other side of the earthwork summit, the stratigraphy in this unit was also complex. Most layers represent displaced original A-horizon topsoil and B-horizon subsoil, which have been used to construct the mound. An interface marked by lot 14, marks the original cut which created the face of the earthwork by truncating the original ground surface and underlying clay subsoil. The slope of the cut, which is nearly vertical, provides one of two examples of the primary archaeological evidence for the configuration of the original entrenchment. (The other example is in unit M in the Western Redoubt area.) Slumping of the earthwork in the decades since construction is represented by lots 2-10 in the accompanying stratigraphic matrix. No Military group artifacts were recovered from this unit.



Figure 30 The completed unit showing the nearly vertical interface of the original earthwork construction where it has truncated the original ground surface and clay subsoil below (top of image).

Fanning's Battery Unit M



Unit M is the northernmost unit in the line that cross-sections the earthwork (units H, J, and K). This unit actually cuts across the borrow ditch for the earthwork located at the foot of the entrenchment on the offensive side. As with the earthwork construction, the interface for the original borrow ditch (lot 5) is also a nearly vertical

cut which truncates the clay subsoil to a depth of about 35 centimetres below the original ground level. The relatively shallow depth of the ditch into the clay subsoil is most probably due to the almost impenetrable clay subsoil. As any excavator on the field school will attest, the weathered B-horizon clay is almost impossible to excavate without the aid of a pick, especially in the hot summer months when the clay is dry. Consequently, to compensate for the inability to excavate a sufficiently deep trench, it likely would have been necessary to remove the roughly 10-15 centimetres of overlying A-horizon topsoil for a considerable distance on either side of the earthwork in order to attain sufficient material with which to

Unit	Freq.	Class %	Group %
M	49	100.0%	100.0%
Activities	3	6.1%	
Samples	3		6.1%
Arms and Military	10	20.4%	
Ammunition / Artillery	10		20.4%
Faunal/Floral	8	16.3%	
Bone	8		16.3%
Food	15	30.6%	
Preparation/Consumption			
Glass Beverage Container	4		8.2%
Glass Storage Container	4		8.2%
Tableware	7		14.3%
Medical/Hygiene	1	2.0%	
Grooming and Hygiene	1		2.0%
Samples	5	10.2%	
Samples	5		10.2%
Native	7	14.3%	
Lithic	7		14.3%

M	10
Arms and Military	10
Ammunition / Artillery	10
Bird Shot	3
Buck and Ball shot	2
Percussion Cap	5

create a mound some 7 feet in height. This supposition is given some credence by the fact that the only traces of the original A-horizon topsoil are visible on the north profile of unit J. In this location it would have been unnecessary to remove the topsoil situated as it is below the displaced layers used to create the mound itself. Military artifacts found in this unit, in the ditch, are bird shot, 2 buck shot and 5 percussion caps. Percussion caps are an innovation associated with breech-loading rifles and are common in mid-19th century contexts. Unavailable during the period of the siege, their presence in this context suggests that the area may have been used by the military during the 1840s onwards as a training ground when the land surrounding the fort was a military reserve (see 1850 plan Appendix C).



Figure 31 The near vertical interface for the borrow ditch is visible at the bottom of the image.

Table 2 Correlation Chart: Fanning's Battery East and West

				Fanning's Battery East							Fanning's Battery West			
		Student		John Lisabeth	Duncan	Marissa	Jessica	Sabrina	Rebecca	Lisabeth	Shannon	Alyssa Bissonnette	Alexis/Lynna	
Period Description	Period	Description	Phase	N	P	Q	R	S	V	W	T	U	X	
Modern fill layer on mound - slumped	V	Sod	23	1	1	1	1	1	1	1	1	1	1	
	V	Topsoil	22	2	2	2	2	2	2	2	2	2	2	
	V	Early to mid-20th century midden	21									3,4,5,6,7,8,9		
	V	Modern ditch/pit at foot of breastwork - sand filled	20											
	V	Interface for ditch/pit	19											
	V	Shallow feature filled with yellow sand - modern	18											
	V	Clay loam with char flecks	17											
1830s-early 20th century - Post-Siege - Fort Abandonment	IV	Irregular features cut into and filling surface of clay-loam layer below	16		4			5						
	IV	Interface for above features in Battery east	15		6			6						
	IV	Mixed original layers from breastwork construction	14	3	3,5	3	3	3,4			3,4		3,4	

Old Fort Erie

WLU Excavations

Spring 2012

1815-1820s Post-siege	III	Dark brown loam - medium/loose compaction - post-abandonment ditch fill	13										
	III	Former ground surface - Fill covering post in Battery East	11			4	4	7					
	III	Ditch fill for main breastwork	10										
	III	Interface for defensive ditch on land-side of main breastwork	9										
	III	Interface for banquette in Battery East	8			5							
	III	Ditch fill for traverse	7										
	III	Interface	6				6a-k						
1814 Siege and Breastwork Construction	II	Post fill with charcoal inclusions - gun platform post in Battery E?	5	6			7						
	II	Post interface	4	6a									
	II	Early ground surface with some unidentified intrusive features	3				5	9	4a-d	4	5		5
Pre-Siege British and American Fort	I	Dark brown clay loam - A-horizon - charcoal flecks throughout layer and on surface	2	5	7,8			8					
	I	Weathered A/B-horizon - light greyish brown clay	1	7	9	6	8	10	5	5	6		6

Fanning's Battery Unit N



Unit N

As with all units in Fanning's Battery East, this 1 x 1 metre unit was placed to investigate the area shown on contemporary maps (Appendix C ; 1816, 1818 and 1819 plans) as the location of an actual battery enclosed within a small redoubt. Initially named Fontaine's

Battery and later Fanning's Battery, the area is depicted as a small redan attached to the main earthwork, and located just to the west of the main fort's southeast bastion. A deep post hole, 30 centimetres square, and excavated into the clay subsoil may in fact be evidence of a gun platform in this battery. Lots 6 and 6a (post fill and interface) are excavated to a depth of 35 centimetres in a neat vertical cut depicted on the east and north profiles of the unit (Appendix

A). Compared to the round palisade posts described above in connection with the main entrenchment, the relatively great depth of this post suggests a weight-bearing capacity for what appears to have been a squared timber. Sinking a timber into the naturally compact clay subsoil, lot 6, apparently required the pre-excitation of a larger depression. This pre-excitation pit is visible in the profile of the unit on the west side. Based on the stratigraphy the post was placed into the deeper hole and then the larger sloping depression was subsequently backfilled (lot 5). In addition to the small number of musket balls and buck shot, 3 uniform buttons were recovered. Two are plan pewter and brass, while the third is a pewter button with a star motif with a number '1'.

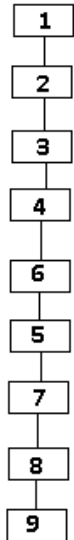
Table Group and Class			
Unit	Freq.	Class %	Group %
N	137	100.0%	100.0%
Activities	2	1.5%	
Hand/Maintenance Tools	2		1.5%
Architectural	15	10.9%	
Construction Materials	12		8.8%
Nails	3		2.2%
Arms and Military	7	5.1%	
Ammunition / Artillery	5		3.6%
Edge Weaponry	1		0.7%
Uniform Insignia	1		0.7%
Clothing Group	2	1.5%	
Fasteners	2		1.5%
Faunal/Floral	33	24.1%	
Bone	29		21.2%
Unsorted Bone	4		2.9%
Food	4	2.9%	
Preparation/Consumption			
Ceramic Cooking/Storage	2		1.5%
Glass Storage Container	1		0.7%
Tableware	1		0.7%
Samples	4	2.9%	
Samples	4		2.9%
Native	56	40.9%	
Lithic	56		40.9%
Unassigned Material	14	10.2%	
Miscellaneous Hardware	1		0.7%
Miscellaneous Material	12		8.8%
Scrap metal	1		0.7%

N	6
Arms and Military	6
Ammunition / Artillery	5
Buck and Ball shot	2
Musket ball	2
Rifle Ball	1
Uniform Insignia	3
Military Button	3



Figures 32 and 33 The gun platform timber is visible in the upper left corner of the images. Evidence of a more extensive excavation, presumably in order to achieve the 35 centimetre depth of the post itself, is visible in the wall profile where a layer of displaced reddish-brown clay is visible overlying and cut into the natural clay subsoil. The difficulty of excavating the naturally compact clay (today and in the past) has already been mentioned and noted in connection with unit M and the borrow-ditch on the land-side of the main entrenchment.

Fanning's Battery Unit P



Located 3 metres to the north of unit N, unit P was excavated to further investigate the Fanning's Battery area. Although no evidence of a gun platform was found, an irregularly-shaped feature was revealed impressed into an early, although not the original, ground surface. Lots 4 and 6 (fill and interface) mark the location of a 15 centimetre-deep depression in the

Table Group and Class			
Unit	Freq.	Class %	Group %
P	161	100.0%	100.0%
Architectural	2	1.2%	
Nails	1		0.6%
Window Glass	1		0.6%
Arms and Military	15	9.3%	
Ammunition / Artillery	14		8.7%
Fasteners	1		0.6%
Faunal/Floral	86	53.4%	
Bone	86		53.4%
Food	1	0.6%	
Preparation/Consumption			
Tableware	1		0.6%
Native	56	34.8%	
Lithic	56		34.8%
Unassigned Material	1	0.6%	
Miscellaneous Material	1		0.6%

Unit P depression is stratigraphically later than the gun platform timber found in unit N, although this may indicate subsequent activity in the battery in the vicinity of the gun platform(s) where much disturbance to the newly formed ground surface (i.e., after the gun platform had been erected) may have occurred. The recovery of 14 pieces of lead shot of various sizes (buck, rifle, and musket) certainly suggests considerable activity contemporary with the siege in this area.

P	14
Arms and Military	14
Ammunition / Artillery	14
Buck and Ball shot	7
Buck Shot	2
Musket ball	4
Rifle Ball	1



Figure 34 Depressions found in the surface of a layer contemporary with the 1814 siege.



Figure 35 Trowel is pointing to one of several pieces of lead shot found impressed into a layer contemporary with the siege.

Fanning's Battery Unit Q



A firing step, or banquette, was exposed in this 1 x 1 metre unit situated at the foot of the earthwork. The feature is marked by a 20 centimetre deep, nearly vertical, cut into the natural clay subsoil (lot 5). This

formed a small step rising about 8" above the bottom of the cut running parallel to the base of the entrenchment. The actual width of the platform is at least 40 centimetres, although

the northern edge is found beyond the unit boundaries. No evidence of a banquette was found

in the Fanning's Battery Main area, and the feature is therefore unique to the East Battery excavation area; i.e., the small redan-shaped redoubt. Six lead shot pieces were recovered from the small 1 x 1 metre unit, which in relative terms represents a considerable quantity of such material.

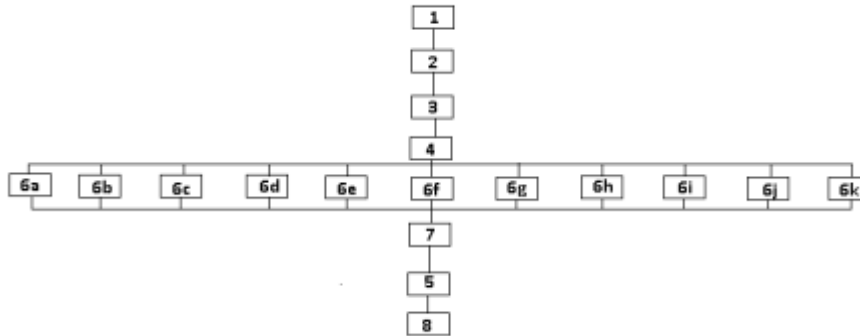
Table Group and Class			
Unit	Freq.	Class %	Group %
Q	18	100.0%	100.0%
Arms and Military	6	33.3%	
Ammunition / Artillery	6		33.3%
Native	12	66.7%	
Lithic	12		66.7%

Q	6
Arms and Military	6
Ammunition / Artillery	6
Buck Shot	4
Musket ball	1
Rifle Ball	1



Figure 36 The small banquette was formed by excavating into the natural clay subsoil for a depth of about 20 centimetres in a near-vertical cut.

Fanning’s Battery Unit R



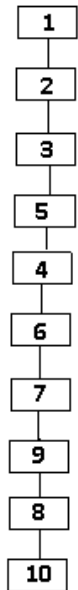
Several features were found excavated into the clay subsoil in this unit. At least 6 of the 11 features are rounded posts, as opposed to the square timber found in unit N. These are on average about 15 centimetres in depth, and range in diameter from 10-15 centimetres. At least 4 of the posts are set within a larger, rectangular-shaped depression in the northwest corner of the unit. The larger depression was excavated prior to the placement of the posts, and appears to have been a pre-excavation trench such as was seen in unit N in connection with the gun platform timber. As mentioned earlier, the difficulty of excavating the compact clay subsoil appears to have necessitated the excavation of a larger hole into which the smaller posts were then set, and backfilled around. Owing to the small area covered by the unit, no discernible pattern of posts is evident, although it would seem that there is a great likelihood of finding more posts through a larger 'area-type' excavation in which more of the battery area is cleared. No Military group artifacts were recovered from this unit.

Table Group and Class			
Unit	Freq.	Class %	Group %
R	47	100.0%	100.0%
Architectural	6	12.8%	
Construction	3		6.4%
Materials			
Nails	1		2.1%
Other Fasteners	2		4.3%
Faunal/Floral	3	6.4%	
Bone	3		6.4%
Food	7	14.9%	
Preparation/Consumption			
Glass Beverage	1		2.1%
Container			
Glass Storage	2		4.3%
Container			
Tableware	4		8.5%
Native	30	63.8%	
Lithic	27		57.4%
Lithic	3		6.4%
Unassigned Material	1	2.1%	
Miscellaneous	1		2.1%
Material			



Figure 37 Shown are several post features excavated into the compact clay subsoil. The posts on the upper right corner (northwest corner) of the unit have been set into a larger rectilinear pit which was backfilled.

Fanning's Battery Unit S



No significant features were identified in this unit. Several shallow depressions were noted in the surface of subsoil although the depth of these varied from 1-2 centimetres. A shallow depression was also noted at a stratigraphically higher position, where lots 4, 5 and 6, were intrusive into the lot 7 layer. The depth of the depression was no greater than 5 centimetres, however, and the features are almost certainly not structural. Considering the amount of activity that occurred in the battery, it seems likely that these surface irregularities were caused by the increased human activity in the area. Three pieces of lead shot (a single rifle ball and 2 buck shot), together with 1 gunflint and a gunflint flake were found in the unit.

Unit S

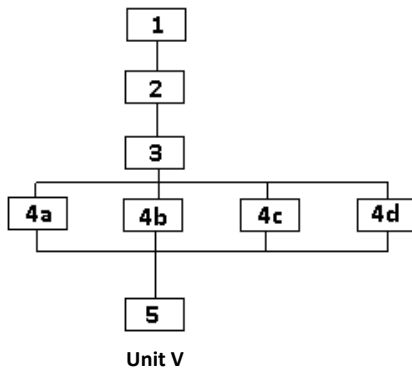
S	6
Arms and Military	6
Ammunition / Artillery	3
Buck and Ball shot	3
Rifle ball	1
Gunflints	2
Flake	1
Gunflint	1

Table Group and Class			
Unit	Freq.	Class %	Group %
S	105	100.0%	100.0%
Architectural	14	13.3%	
Construction Materials	11		10.5%
Nails	3		2.9%
Arms and Military	6	5.7%	
Ammunition / Artillery	4		3.8%
Gunflints	2		1.9%
Faunal/Floral	10	9.5%	
Bone	10		9.5%
Food	4	3.8%	
Preparation/Consumption			
Ceramic Cooking/Storage	1		1.0%
Tableware	3		2.9%
Samples	7	6.7%	
Samples	7		6.7%
Native	58	55.2%	
Lithic	58		55.2%
Unassigned Material	6	5.7%	
Miscellaneous Material	6		5.7%



Figure 38 Shown are four unidentified shallow depressions, lot 9, found in the surface of the clay subsoil, lot 10.

Fanning's Battery Unit V



Three small post holes (lot 4a-c), about 10 centimetres in diameter, were found cut into the clay subsoil. The posts were found in a row in the northwest corner of the unit and appear to be structural. The relatively small size of the posts precludes their use for any substantial construction such as a gun platform, although they may indicate the presence of a smaller, less substantial structure, perhaps a shelter. Further excavation of this general area is required to discern patterning of the many post features and depressions noted in other units in the Fanning's Battery East area. A single musket ball and buck shot were recovered from the unit in addition to the variety of other artifacts found.

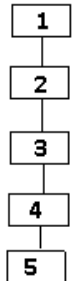
V	2
Arms and Military	2
Ammunition / Artillery	2
Buck and Ball shot	1
Musket ball	1

Table	Group and Class		
Unit	Freq.	Class %	Group %
V	51	100.0%	100.0%
Architectural	3	5.9%	
Construction	1		2.0%
Materials			
Window Glass	2		3.9%
Arms and Military	2	3.9%	
Ammunition / Artillery	2		3.9%
Faunal/Floral	15	29.4%	
Bone	15		29.4%
Food	4	7.8%	
Preparation/Consumption			
Glass Beverage	2		3.9%
Container			
Samples	1		2.0%
Tableware	1		2.0%
Native	27	52.9%	
Lithic	27		52.9%



Figure 39 Two of the three posts found in this unit visible in the northwest (upper right) corner of the unit. The trowel points to a musket ball found on the 1814 ground surface.

Fanning's Battery Unit W



No features were exposed during the excavation of this unit. The stratigraphic sequence revealed an original ground surface (lot 4), overlying the clay subsoil (lot 5). Overlying the original A-horizon, was lot 3. This 15-20 centimetre-thick deposit of pebbly brown clay represents soil accumulation and soil slump from the adjacent earthwork battery occurring during the 19th and into the 20th century. No Military group artifacts were among the small number of items found.

Unit W

Table Group and Class			
Unit	Freq.	Class %	Group %
W	11	100.0%	100.0%
Architectural	3	27.3%	
Construction	3		27.3%
Materials			
Faunal/Floral	1	9.1%	
Bone	1		9.1%
Native	7	63.6%	
Lithic	7		63.6%



Figure 40 Close of unit showing subsoil.

4.4 Fanning’s Battery West Units T, X

Two units were placed in the area between Fanning’s Battery Main area and the Western Redoubt Area, described below. For sake of convenience these units were grouped with the Fanning’s Battery units and referred to as Fanning’s Battery West. The purpose of the units was to do a preliminary investigation of the area along the main entrenchment, but distant from both of the main excavation areas. Units were placed so as to be close to the centre of the earthwork in order to details of construction, and also to determine if evidence of the main earthwork actually survived in this location. Although aerial photographs and satellite images do show the ditch clearly extending from Fanning’s Battery to the Western Redoubt area and beyond to the tree-line, the earthwork is not evident except in Fanning’s Battery Main area and Fanning’s Battery East.

Unit T



Unit T revealed a stratigraphic sequence of superimposed layers of clay, clay loam and loam. Five deposits were recorded overlying the subsoil. With the exception of lots 1 and 2, modern sod and topsoil, the other layers are in fact datable to the siege period based on the Military group artifacts found. The recovery of a musket ball and buck shot point to a 1814 occupation and indicates

Unit T

Table	Group and Class		
Unit	Freq.	Class %	Group %
T	8	100.0%	100.0%
Architectural	2	25.0%	
Window Glass	2		25.0%
Arms and Military	2	25.0%	
Ammunition / Artillery	2		25.0%
Food Preparation/Consumption	1	12.5%	
Samples	1		12.5%
Samples	1	12.5%	
Samples	1		12.5%
Native	2	25.0%	
Lithic	2		25.0%



that more such items may be found in the area. The lack of domestic refuse such as

T	2
Arms and Military	2
Ammunition / Artillery	2
Buck and Ball shot	1
Musket ball	1

ceramics, container glass and faunal bone, suggests that the area was not as ‘populated’ as either the Western Redoubt or Fanning’s Battery, although addition excavation would have to be conducted to confirm this hypothesis.

Figure 41 Unit T, close of unit and subsoil.

Fanning’s Battery West Unit X

1 This 1 x 1 metre unit is located at
 2 the western end of the area
 3 referred to as Fanning’s Battery
 4 West, in the area between
 5 Fanning’s Battery Main and the
 6 Western Redoubt. As described
 under unit T, the unit was placed in
 this location to determine if
 evidence of the original earthwork
 remained. This feature is not
 presently visible on the modern landscape and the

location is only discernible as the entrenchment by the
Unit X presence of the borrow ditch which shows as a dark
 crop-mark on the aerial and satellite images. Excavation
 revealed the same stratigraphic sequence of layers as found in
 unit T. The recovery of 2 pieces of buck shot within proper stratigraphic context is almost certain
 evidence that the area has promise for finding additional siege period artifacts. The recovery of faunal
 bone in this unit suggests that more evidence of ‘domestic’ activities may be found here also. This may
 be due to the much closer proximity of unit X to the Western Redoubt where domestic activities are very
 well represented by the large numbers of ceramics, container glass, faunal bone, and personal items.
 The recovery of faunal bone in unit X also stands in contrast to unit T, located many metres to the east,
 and distant from both Western Redoubt and Fanning’s Battery.

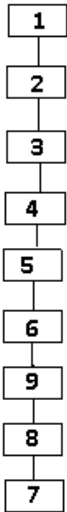
Table Group and Class			
Unit	Freq.	Class %	Group %
X	15	100.0%	100.0%
Arms and Military	2	13.3%	
Ammunition / Artillery	2		13.3%
Faunal/Floral	10	66.7%	
Bone	10		66.7%
Native	3	20.0%	
Lithic	3		20.0%

X	2
Arms and Military	2
Ammunition / Artillery	2
Buck and Ball shot	2



Figure 42 Unit X, close of unit showing subsoil.

Fanning's Battery Unit U



A 1 x 2 metre unit was placed a few metres to the west of the Fanning's Battery Main area to investigate a large depression near the tree line and on the other side of the traverse investigated with unit A. A magnetometer reading of the depression was done prior to excavation and this also indicated a highly magnetic anomaly. Excavation revealed a series of 9 superimposed layers.

Unit U
Unfortunately, the recovery of modern 20th century materials such as hardware and car parts clearly identified the feature as a midden dating to the middle decades of the 20th century rather than a siege feature. Excavation was terminated at a depth of 50-60 centimetres.



Figure 43 Lot 9 showing large limestone rocks and modern car parts on right.

Table	Group and Class		
Unit	Freq.	Group %	Class %
U	2828	100.0%	100.0%
Activities	3	0.1%	
Writing	3		0.1%
Architectural	1386	49.0%	
Construction Materials	406		14.4%
Door and Window	4		0.1%
Hardware			
Nails	669		23.6%
Other Hardware	1		0.0%
Window Glass	306		10.8%
Arms and Military	8	0.3%	
Ammunition / Artillery	8		0.3%
Clothing Group	27	1.0%	
Fasteners	27		1.0%
Faunal/Floral	111	3.9%	
Bone	107		3.8%
Shell	4		0.1%
Food	590	20.9%	
Preparation/Consumption			
Ceramic Cooking/Storage	29		1.0%
Glass Beverage Container	504		17.8%
Glass Tableware	2		0.1%
Metal Containers	1		0.0%
Tableware	53		1.9%
Utensils	1		0.0%
Furniture	5	0.2%	
Decorative Furnishings	1		0.0%
Lighting Devices	4		0.1%
Samples	388	13.7%	
Native Lithics	117	4.1%	
Personal	6	0.2%	
Currency	1		0.0%
Samples	1		0.0%
Personal Items	2		0.1%
Toys and Leisure	2		0.1%
Smoking	2	0.1%	
Pipes	2		0.1%
Unassigned Material	185	6.5%	
Miscellaneous Hardware	10		0.4%
Miscellaneous Material	175		6.2%

4.5 Western Redoubt: Artifacts and Temporal Context

Table Group and Class		
Western Redoubt	5878	100.0%
Architectural	1100	18.7%
Construction Materials	944	
Door and Window Hardware	2	
Nails	99	
Other Fasteners	3	
Window Glass	52	
Arms and Military	407	6.9%
Ammunition/Artillery	396	
Edge Weaponry	2	
Gunflint	6	
Uniform Insignia	3	
Clothing Group	2	
Fasteners	2	
Faunal/Floral	293	5.0%
Bone	288	
Floral	1	
Unsorted Bone	4	
Ferrous	2	0.0%
Unassigned Material	2	
Food Preparation and Consumption	933	15.9%
Ceramic Cooking/Storage	67	
Glass Beverage Container	109	
Glass Storage Container	520	
Glass Tableware	3	
Metal Containers	7	
Samples	1	
Pharmaceutical Containers	1	
Tableware	225	
Furniture	68	1.2%
Lighting Devices	68	
Medical/Hygiene	22	0.4%
Pharmaceutical Containers	22	
Samples	338	5.8%
Samples	338	
Native	2588	44.0%

Fanning's Battery Groups	5133	100.0%
Activities	8	0.2%
Architectural	1875	36.5%
Arms and Military	170	3.3%
Clothing Group	31	0.6%
Faunal/Floral	363	7.1%
Food	978	19.1%
Preparation/Consumption		
Furniture	6	0.1%
Medical/Hygiene	2	0.0%
Samples	464	9.0%
Native	954	18.6%
Personal	32	0.6%
Smoking	2	0.0%
Unassigned Material	248	4.8%
Grand Total	5133	

The Western Redoubt assemblage (n=5878) is slightly larger than the Fanning's Battery assemblage (n=5133). The Native group in Western Redoubt makes up 44% of compared to almost 19% in Fanning's Battery and this is comprised almost entirely of lithic debitage and detritus from stone tool manufacture, maintenance and procurement. The Architectural Group also makes up a large proportion of the assemblage (18.7%) but the proportion and actual number of items is about half of that found in Fanning's Battery. Brick fragments are the most abundant item followed by nails and window glass. The latter items are not as numerous here as in Fanning's Battery, although a considerable number of these were found in the mid-20th century midden in Unit U. Importantly, all nails found in the Western Redoubt area are wrought and therefore pre-date c.1830. Other structural items such as

window glass, and features described below, point to the presence of at least one structure dating to

Jewelry/Ornamentation	16	
Lithic	2572	
Organic	2	0.0%
Samples	2	
Personal	2	0.0%
Toys and Leisure	2	
Smoking	4	0.1%
Pipes	4	
Unassigned Material	117	2.0%
Misc. Material	117	
Grand Total	5878	

the time of the siege in 1814.

Food Preparation and Consumption artifacts are also quite numerous and make up almost 16% of the assemblage. Of interest are the ceramic tableware varieties, the great majority of which also date to the time of the siege. Tableware ceramics are found in every unit in the Western Redoubt area. Varieties such as Pearlware (plain, banded, painted, edged and transfer printed) and Creamware (plain, banded, painted) all date from the late 18th century to the early

decades of the 19th century and are contemporary with the siege. Earlier mid-late 18th century varieties such as tin-glazed earthenware, white salt glazed stoneware, and painted bone china are rare, but their presence does suggest that heirloom pieces or what were at the time, old types of ceramics, were being used.

As with the Fanning’s Battery assemblage it is very likely that the tableware represents items associated with officers and not soldiers. Their very presence in this location, in a structure situated adjacent to the entrenchments, provides some indication of the arrangement of ranks within the encampment. It would seem that the safest and most sheltered location would be as close to the entrenchment as possible rather than the open space in the area between the entrenchment and the lakeshore. It is recorded historically that the officers were quartered in some of the structures that were commandeered by U.S. forces (see the 1850s map with the legend showing the buildings in this area). In at least one instance a bomb was alleged to have dropped through the roof or chimney of General Gaines’ quarters (one of those structures shown). Gaines was wounded in this event and had to be moved to Buffalo,

Western Redoubt Ceramics	302	100.0%
A	9	3.0%
Creamware, Banded	1	
Creamware, Painted	1	
Creamware, Plain	1	
Pearlware, Blue Transfer	1	
Pearlware, Early Palette	2	
Pearlware, Painted, Unknown Palette	2	
Yellowware, Plain	1	
B	20	6.6%
C Red EW Glazed	2	
Coarse Red Earthenware	1	
Creamware, Painted	1	
Creamware, Plain	2	
Pearlware Blue Transfer	1	
Pearlware Plain	10	
Pearlware, Banded	2	
Pearlware, Plain	1	
C	14	4.6%
Creamware, Painted	2	
Creamware, Plain	6	
Pearlware, Banded	2	
Pearlware, Early Palette	2	
Pearlware, Plain	2	
D	4	1.3%
CEW Tin Glaze	1	
Creamware, Plain	2	
Pearlware, Banded	1	
Pearlware Blue Transfer	1	

and indeed this is when General Brown was placed in charge of the Fort Erie forces. Based on the archaeological information it is possible that there may have been some re-organization of ranks where officers were moved closer to the lines for safety. Until further investigation is done in the area farther away from the entrenchments, this remains a hypothesis to be tested, but further archaeological evidence discussed below does suggest that the building in the Western Redoubt area was, in fact, an Officers' Quarters.

The Arms and Military group is quite well represented in this area. Absolute numbers of lead shot are very high and include bird shot, buck, musket and only a couple of rifle balls. Analysis of this category using GIS points to differences between Western Redoubt and Fanning's Battery in terms of not only frequency but also type of shot present (see Appendix E). Other items in this group include 6 gunflints, mortar bomb fragments, sword parts (hilt guard and scabbard clips/eyelets), a lead artillery quill primer, and several uniform buttons. The gunflints are made on flakes and blades, manufactured from honey or blonde coloured flint. One gunflint may be native manufactured, as it appears to have been made from Onondaga chert on a retouched prismatic blade. Uniform buttons include plain pewter buttons, an 11th Infantry button (11th Infantry, American, Eagle motif above 11 with head turned to the left,⁴⁸ and a possible British King's 8 button.

Other items of interest are two red clay smoking pipe pieces, and two white clay smoking pipe fragments. The paucity of smoking pipes was remarked up earlier in connection with Fanning's Battery, and the virtual absence of these in a military context is unusual and may be related to shortages in

E	1	0.3%
Pearlware, Blue Transfer	1	
F	90	29.8%
C Red EW Glazed	41	
Creamware, Plain	18	
Pearlware, Blue Transfer	3	
Pearlware, Early Palette	1	
Pearlware, Edged	1	
Pearlware, Plain	22	
Vitrified White EW, Plain	4	
G	28	9.3%
C Red EW Glazed	4	
Creamware, Plain	4	
Pearlware, Late Palette	1	
Pearlware, Painted, Unknown Palette	7	
Pearlware, Plain	12	
H	15	5.0%
Banded ware	1	
C Red EW Glazed	3	
Ceramic	1	
Creamware, Banded	1	
Creamware, Plain	3	
Creamware, Transfer Print	1	
Pearlware, Plain	2	
Vitrified White EW, Plain	1	
Yellowware, Plain	2	
J	13	4.3%
C Red EW Glazed	5	
Creamware, Plain	1	
Pearlware with green shell decoration (scalloped Edge)	1	
Pearlware, Early Palette	1	
Pearlware, Edged	1	
Pearlware, Plain	3	
Vitrified White EW, Plain	1	

⁴⁸ A similar button is pictured in Snake Hill: An Investigation of a Military Cemetery from the War of 1812 on page 322, Plate 13, Burial 6, Button 30

general provisioning for the U.S. troops. The red clay pipe fragments are rare on British military sites but have been found in American contexts (Triggs 2010).

Another interesting find was a localized collection of glass trade beads found in unit H. A total of 47 beads were found here lying on what would have been the ground surface contemporary with the siege. Many of the beads are dark blue/black and clear in colour (Figures 44 and 45), drawn and polyhedral⁴⁹ in manufacture technique; some are donut-shaped. Together the bead assemblage is unlike others associated with the war of 1812 period. For example, black and white tube and seed beads predominated in the 1812 assemblage at Dundurn Castle (Triggs 2004: 164). These were attributed to the Mississauga and the Iroquois encamped at Burlington Heights (today Dundurn Castle National Historic Site) during the late fur trade period in the late 18th century and also during the War of 1812. Clear beads are very rare in archaeological assemblages dating to the late 18th century/early 19th century and in fact none were recovered from the Burlington Heights context out of an assemblage numbering almost 4000 individual beads (Triggs 2004). In an 18th century assemblage from Fort Niagara only 2 of 445 beads were clear glass (Shugar and O'Connor 2008:60).⁵⁰ Cut glass beads are mentioned in American Fur Trade Company inventories in the last half of the 1840s but the quantities ordered are in at least 2 of 3 cases, minimal compared to white and black seed and tube beads of various types (Spector 1976: 19). The context of the beads in the area of the Western Redoubt, behind the American entrenchment, is significant. It is known that the New York State Iroquois entered hostilities in 1814 for the first time, when a force of 500 crossed the Niagara River on July 3, 1814, and fought as allies on the American side.⁵¹ Although, the British allied Iroquois,

K	17	5.6%
Creamware, Plain	3	
FSW, White Salt Glaze	1	
Pearlware, Blue Transfer	1	
Pearlware, Early Palette	4	
Pearlware, Late Palette	1	
Pearlware, Plain	5	
Porcelain	1	
Vitrified White EW, Plain	1	
M	3	1.0%
Creamware, Plain	3	
N	88	29.1%
Bone China Painted	1	
C Red EW Glazed	1	
CEW Tin Glaze	1	
Creamware, Plain	11	
Ironstone Plain	4	
Patterned Mould	11	
Pearlware Plain	3	
Pearlware, Early Palette	2	
Pearlware, Plain	42	
Porcelaineous	4	
Vitrified White EW	5	
Vitrified White EW, Plain	1	
Vitrified White EW,	2	
Transfer		
Grand Total	302	

⁴⁹ The Interpretive Potential of Glass Trade Beads in Historic Archaeology, Janet D. Spector, Historical Archaeology, Vol. 10 (1976), pp. 17-27. Published by: Society for Historical Archaeology.

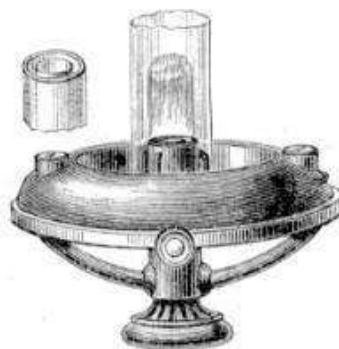
⁵⁰ Shugar, Aaron and O'Connor, Ariel (2008) "The Analysis of 18th Century Glass Trade Beads from Fort Niagara: Insight into Compositional Variation and Manufacturing Techniques," *Northeast Historical Archaeology*: Vol. 37 37: Iss. 1, Article 5. <http://digitalcommons.buffalostate.edu/neha/vol37/iss1/5>

⁵¹ 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.

Mississauga and other groups had been active since the beginning of hostilities in summer 1812, the unprecedented appearance of the New York State Iroquois at Fort Erie in summer 1814 suggests that they may be the users of the beads. A list of Native Volunteers in the Indian Volunteer Corps, 1 June to 23 July 1814⁵² includes members from various allied native groups, many of whom are not represented archaeologically in late 18th/early 19th century Ontario contexts which could explain the unique assemblage of beads. Present at Fort Erie in the summer of 1814 were the Seneca, Allegany, Cattaraugus, Onondagas, Tuscaroras, Delaware and Tonawondas.



Figure 44 (Top left) polyhedral clear glass beads, Unit H; Fig. 45 (top right) polyhedral black glass beads, Unit H; Fig 46. (bottom left) Ching porcelain with red painted design; Fig. 47 (lower right) Argand lamp.



Other significant finds in the Western Redoubt area are those found associated with what is thought to have been an Officers' Quarters. Several artifacts together support this hypothesis. A sherd of Chi ng polychrome over-glaze porcelain (1700-1750) (Figure 47), a sword scabbard clips/eyelets, a sword hilt guard and the base from an Argand oil lamp (Figure 48) are all suggestive of officers' possessions. These were found in the centre of the presumed building discussed below (Period II) in the vicinity of units A-E.

⁵² See Joseph Whitehorne, *While Washington Burned: the Battle for Fort Erie, 1814*, pp. 143-144.

4.6 Western Redoubt: Periodization of the Stratigraphic Sequence

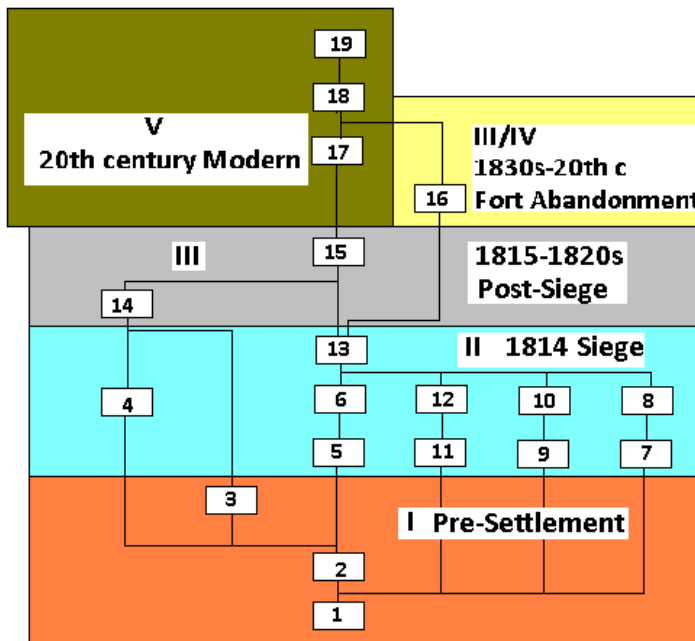
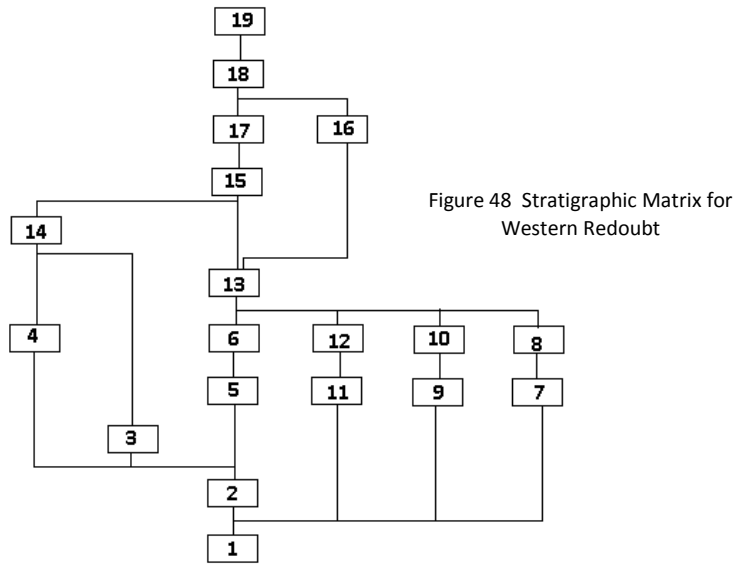


Figure 49 Period Matrix for Western Redoubt

Period I Phases [1] to [3] are deposits of clay subsoil, A-horizon, and a thin layer of sand overlying the original ground surface. The clay is a hard-packed, brown substrate overlain by the dark brown, organic original A-horizon found in most units in the area associated with the presumed building location (see below). In some areas, particularly where a traverse was thought to have been located, the A-horizon is very thin in one unit and absent in all others. It is possible that the area was stripped to create the

Table Period and Group/Class			
Western Redoubt	5878	100.0%	
I	117	2.0%	100.0%
Architectural	10		8.5%
Construction Materials	8		
Window Glass	2		
Arms and Military	9		7.7%
Ammunition/Artillery	9		
Faunal/Floral	17		14.5%
Bone	13		
Unsorted Bone	4		
Food Preparation and Consumption	3		2.6%
Ceramic Cooking/Storage	1		
Tableware	2		
Samples	7		6.0%
Samples	7		
Native	71		60.7%
Jewelry/Ornamentation	16		
Lithic	55		

traverse shown on two maps (see below) with the excavated sediment being used to create the traverse itself. A thin layer of sand is found only in those units below the main entrenchment (units E, M, N, and P), and appears to be related to the construction of the earthwork.

Artifacts found in this Period are those that have been introduced into the natural soil through natural (earthworms, tree roots, freeze-thaw) or cultural means (e.g., excavation for the construction of the earthwork). Of the 117 artifacts found 60% of those are chert debitage in the Native group. Faunal bone is the next largest category, followed by Architectural – mostly brick fragments and a couple of

pieces of window glass. Two sherds of creamware tableware were recovered from Period I indicating a late 18th century to early 19th date, or more likely, an 1814 date associated with the siege. Also included in this Period were 47 glass trade beads in unit H, lying flat on the surface of subsoil. These were described, and discussed above, as being possible evidence of New York State Iroquois. Finally, in the Arms and Military group a musket ball, buckshot and bird shot were recovered.

Period II Phases [4] to [13] are all associated with the 1814 siege. Phases [5, feature] and [6, interface] are probably rodent burrow or tree root activity found in two adjacent units. These natural

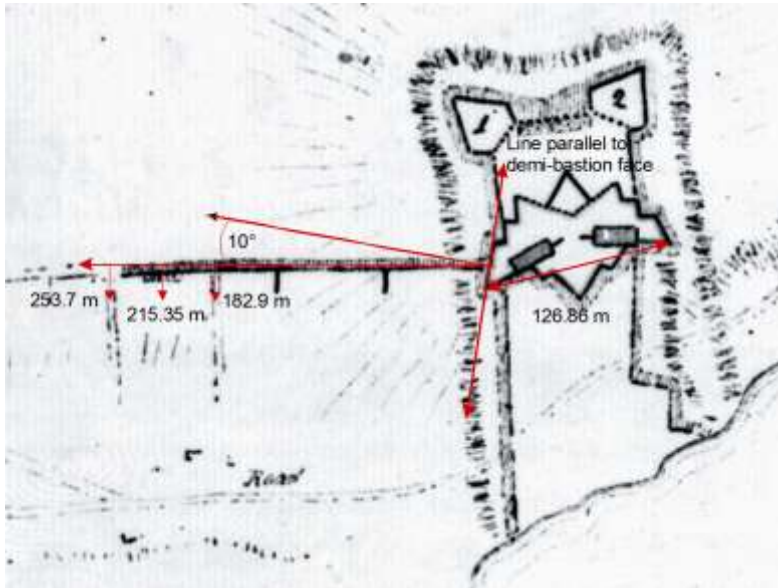
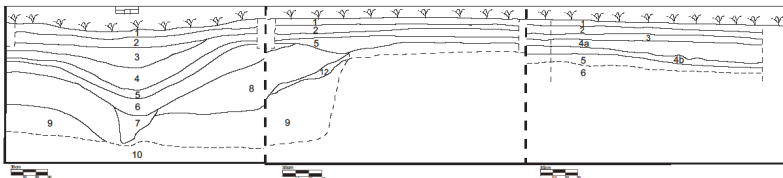


Figure 50 Romilly map dated 1814 showing American lines constructed during the siege. The rectangular structure shown at 215.35 metres is thought to be an Officers' Quarters situated behind and up against the defensive breastwork. The traverse shown at 253.7 metres is the traverse intersected by units F, G, H, J, and K.

disturbances are intrusive into the clay subsoil for a depth of as much as 30 centimetres and are filled with the overlying dark brown loam. Phase [4] is the earliest activity that occurred in this area and represents the interface cut into the natural subsoil for the construction of the defensive ditch. The ditch itself was cross-sectioned in the area shown in Figure 50 at 215.35 metres from the face of the demi-bastion on the southwest corner of the fort. The near-vertical interface (Figure 51) would have created a face to the ditch that was several feet in height when originally constructed, although, as in the Fanning's Battery area, the entrenchment has eroded. According to Benson Lossing's 1869 description, the earthworks in the area of Douglass Battery stood 7 feet, or almost two metres, in height.⁵³



Western Redoubt

Unit N, Unit M, Unit P
East Wall Profile
June 19th and 21st, 2012
Excavator: Sarah Sidridge, Kia Ohora
Digitized by: Katie Anderson



Soil Description For units N and M:
Lot 1: Sod
Lot 2: Dark brown loam/clay
Lot 3: Dark orange clay with mottles of brown
Lot 4: Grey brown clay with slight mottles
Lot 5: Thin orange clay layer
Lot 6: Dark brown grey loam/ clay (modern artifacts)
Lot 7: Dark grey/ black loam fill in modern trench
Lot 8: Clay, grey/brown cap of erosion on the earthwork face
Lot 9: Grey/orange transition to subsoil with artifacts from the war of 1812
Lot 10: Subsoil

Soil Description for Unit P:
Lot 1: Sod
Lot 2: Dark brown loam/clay
Lot 3: rock inclusions in dark brown loam/clay
Lot 4a: Dense mottled orange clay with dark brown clay
Lot 4b: Loose dark clay/loam, heavy charcoal inclusions
Lot 5: Sandy displaced subsoil
Lot 6: Subsoil

Legend:
Line level: 
Grass: 

⁵³ Lossing, 1869: 829.

Two post holes and associated interfaces (Phases [7-10] were found in unit J in the western section of the larger Western Redoubt area. The pits for these posts were about 40-50 centimetres in diameter and about 20-25 centimetres in depth. Both were cut into the subsoil and one pit contained some charcoal inclusions. The interface of the westernmost feature tapers to a vertical cut in the bottom of the pit, indicating a post – possibly burnt – rather than a fire pit/hearth. The second pit had less charcoal but the sides of the pit were near vertical. The pits are clearly structural in nature but it is uncertain what type of structure is associated with the features. The presence of architectural items such as nails, window glass, and brick together with tableware ceramics in the area of the posts, strongly suggests that the features are related to a building rather than a defensive feature such as a palisade. Phase [13] is a thin layer of clay soil, possibly a walking surface, found in most units overlying the original A-horizon. It is presumed that this is accumulated sediment during the siege and also displaced sediment spread over



Figure 52 Unit C showing mortar bomb fragments in bottom of crater. The pit to the top of the unit is a natural feature.



Figure 53 Close-up of mortar bomb fragments in crater.

the ground area from the construction of the earthwork/structures.

In unit C, a bomb crater was found embedded into the clay subsoil [Phases 11 and 12]. The feature measured about 35-40 cm. long by 25 centimetres wide and about 25 centimetres deep. At the very base of the crater 18 fragments of an 8" mortar bomb were found further embedded into the clay. Two more fragments were found in the adjacent unit D.

1814 ROMILLY MAP OVERLAY
Showing excavation units, 2012 and 2013



Figure 54 and 55 The excavation units in the Western Redoubt Area show the cross-sectioning of the building shown on the 1814 and 1815 maps adjacent to the earthworks. Unit C is located in the middle of the structure.

1815 CRANFIELD MAP OVERLAY
Showing excavation units, 2012 and 2013



1815 CRANFIELD MAP
Showing Building and Excavation Units



Duncan Williams, 2014

0 4 8 16 m
+++++

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

Figures 56 and 57 Detail of 1814 and 1815 plans showing units in relation to structures described in text; i.e., possible Officers' Quarters, units A-E, and the structure near the western traverse, units F-K

1814 ROMILLY MAP
Showing Building and Excavation Units



Duncan Williams, 2014

0 4 8 16 m
+++++

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

The presence in the mortar bomb in unit C takes on much larger significance when viewed in historical context. In fact, it is the archaeological context of the bomb in this unit that provides insight into the strategies employed by both British and American forces, and more specifically, the commanding Generals Drummond and Brown. Unit C is situated in almost precisely in the centre of the structure depicted on the 1814 plan (Figure 56). The situation of the bomb in this location is the only evidence available that the structure was actually hit, and likely destroyed.

Measurements taken on the bomb crater in the field were instrumental in determining that the bomb very likely was fired from Battery Three, completed on September 3, 1814⁵⁴. Whitehorne (1992: 67) notes that Battery Three mounted a 24 pdr and an 8" mortar, both of which were transferred from Battery One. He also notes that two 18 pdrs were in Battery Three, and that these had been 'originally emplaced in the nearly worthless Battery Two.' With the completion of Battery Three the British extended the siege line to its western limits. Before the completion of this battery and blockhouse it had not been possible previously to threaten the American entrenchments to the west of the fort – the 800 metre long line from the fort to Snake Hill, or Towson's Battery. With the

⁵⁴ Joseph Whitehorne, *While Washington Burned: the Battle for Fort Erie, 1814*, p. 67.

completion of Battery Three the new position could direct enfilading fire along the American lines, thereby posing a new and very real threat to the American defenses. Although Battery No. 3, mounting 3 guns, was completed on September 4 but was not put into effect; i.e., did not fire a shot until September 15 - a delay which had disastrous consequences. It has been questioned why the battery was not used earlier. Donald Graves speculates that General Drummond essentially had lost his nerve after



Figure 58 Plan of the Operations of the British Army, 1814, showing batteries 1, 2, and 3 and the American fortification line running for 800 yards from the fort to the Snake Hill Battery (upper right).

being wounded in earlier action and after suffering massive losses during the early morning assault of August 15 - suffering from a sick mind, he was simply put, incapable of acting. Whitehorne (1992:76) refers to the series of events that unfolded in the final four weeks of the siege, from the August 15 night attack to the September 15 sortie, as among the worst days of fighting with mounting casualties. Whitehorne (1992:76) concurs with Graves in his assessment of the commanding generals and notes that Drummond and Brown experienced the greatest strain during this period and that 'the situation had become a question of stubbornness or moral courage of the respective commanders'.

On the American side, a decision was made to attack and take Batteries Two and Three because of the threat they posed to the American position behind the lines. General Brown was especially concerned that Battery 3 could enfilade his position along the defensive earthwork. This decision was made exactly one day after Battery No. 3 came into use, on September 16 and the 'sortie' as it was called took place on September 17. To the American commanding general, Jacob Brown, this was an act of desperation as there was grave concern that all efforts to 'Hold the fort' would be in vain in the coming days.

The engagement on the afternoon of the 17th was one in which both sides suffered huge losses. Those killed, wounded or missing on both sides numbered more than 1100 – 600 British and 500 U.S. dead. After storming Batteries 2 and 3 the Americans were shortly thereafter repulsed and forced to retreat to the safety of their lines, pursued by the soldiers of the 82nd regiment and the native warriors allied with the British.

As mentioned above, one of the three guns mounted in Battery No. 3 was an 8 inch mortar. Mortars are especially effective in a siege. When viewed in the historical context of the siege at this late date, the archaeological evidence of the mortar bomb crater in Unit C gains increasing significance. It is clear that the mortar bomb did hit the centre of a building, something that was almost assuredly a calculated target; i.e., mortars could be aimed using calculations of distance, angle of incline, weight of shot, and size of powder charge. Gunnery manuals were available and tables using these variables, determined by experiment were in print for officers' use. Mortars are capable of launching a spherical powder-filled

$d = \frac{v^2 \sin(2\theta)}{g}$	<p>Where</p> <p>d = the total horizontal distance traveled by the projectile</p> <p>g = the gravitational acceleration (9.81 m/s²)</p> <p>v = the velocity at which the projectile is launched</p> <p>θ = the angle at which the projectile is launched</p>
-----------------------------------	---

projectile several hundred yards in a high trajectory - 45-60 degrees - with the intent that the exploding bomb will fall behind the defensive lines and onto an enemy position. In the 18th and 19th century systematic experiments at Woolwich, England, were carried out in an effort to maximize artillery potential. Under rigorous experimentation, variables were altered, observations made and tables of data created: distance to target, angle of incline, size of artillery, size of charge, were all considered.

Today the physics of a projectile is more completely and theoretically understood and variables of distance, gravitational effect, velocity, and angle of launch can all be calculated with exactness. Perhaps

not too surprisingly, given the extensive experimentation at Woolwich, 18th and 19th century tables compare quite well with modern calculated results using modern ballistic theory. The point of interest here is that values input into modern ballistic equations can be derived from the archaeological evidence. Two important variables are known: first, the trajectory (θ) is reflected by the angle of impact which was measured in the field as 56 degrees from the bomb crater in Unit C. Applying this variable the parabolic trajectory of the bomb can be diagrammed by employing standardized tables for projectiles fired in a vacuum.

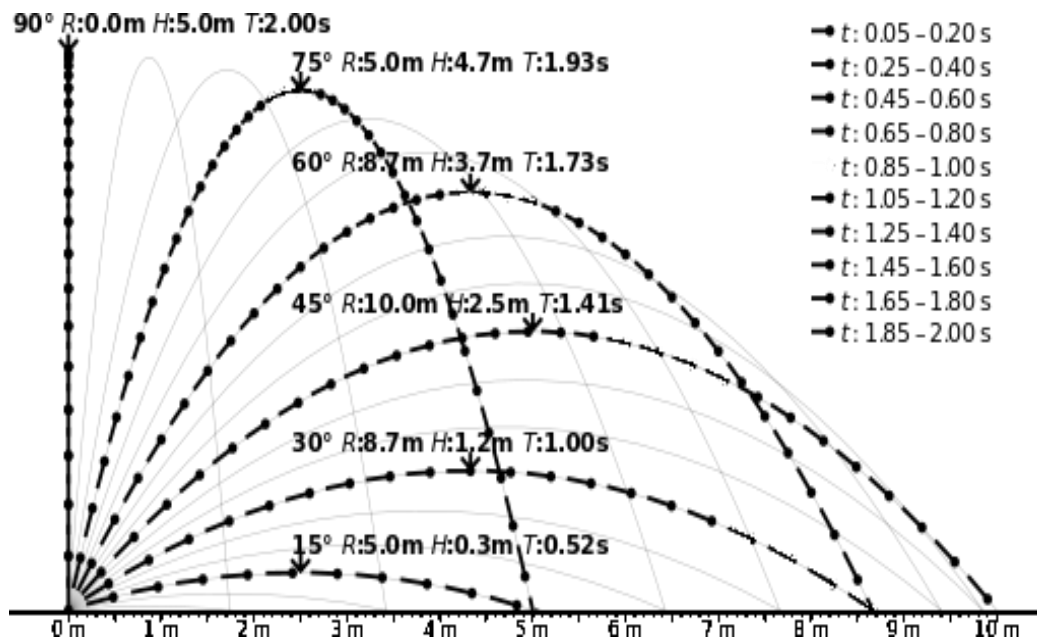


Figure 59 Trajectories of projectiles launched at different elevation angles but the same speed of 10 m/s in a vacuum and uniform downward gravity field of 10 m/s .

Second, the distance from gun to target can be determined from contemporary maps available. In this case distance from Battery no. 3 to target varies from 770 to 1050 metres with an average of about 900 metres.

Rearranging the equation for velocity [$v = \sqrt{\text{dist} \cdot \text{grav. constant}}$], time of flight is another variable that can be calculated. In a vacuum the time taken for a projectile to travel 910 metres at 95.4 m/s is 9.5 seconds. This result compares well with 19th century experimental data published in two sources: Benjamin Robins (1805)⁵⁵ and R.W. Adye (1801-1827)⁵⁶. From these manuals the time taken for an 8

⁵⁵ *New Principles of Gunnery: Containing the Determination of the Force of Gunpowder, and an Investigation of the Difference in the Resisting Power of the Air to Swift and Slow Motions. With Several Other Tracts on the Improvement of Practical Gunnery'*

⁵⁶ *The Bombardier and Pocket Gunner's Handbook* 7 editions.

inch mortar to travel a distance of 900 yards with 14 ounces of powder at an angle of 45 degrees is given as 13.5 seconds – the extra time is due to drag.

Extrapolating from these data, a bomb fired at an angle of 56 degrees with the same charge would travel

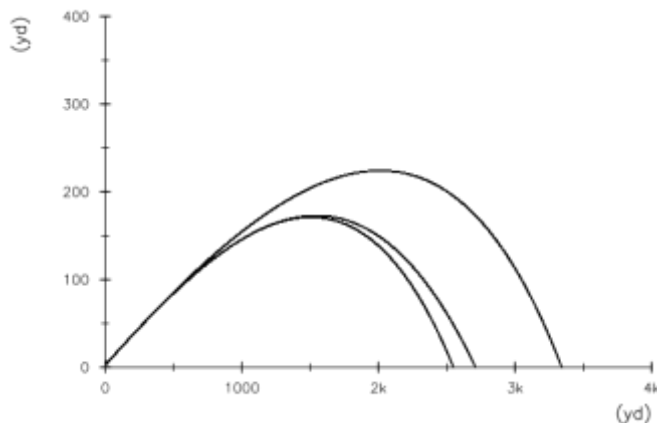


Figure 60 The effect of different drag models on cannonball trajectory for different weights and charges

about 885 metres in 14 seconds.

The apogee of the arc would have been about 100 -125 metres high and clearly visible in a cloudless sky. One question to be considered is did the men stationed at the impact site have time to scramble for safety if indeed the shot could be seen? Owing to the delay for the sound of the shot to actually reach the American soldiers in the building/battery, there would have been about 11 seconds after hearing the report of the mortar to impact⁵⁷.

Whether the bomb would have been visible or not, depending on weather conditions, the prospect of suffering a direct hit from the bomb must have been terrifying. Importantly, this was a new experience for those stationed along the defensive earthworks far from the fort itself - which up to that point had been the main target. Up until this time, positions on the line were protected from direct fire from Battery Two since there was no direct line of sight. Battery Three, however, posed a very new and real threat to the Americans. The British were now capable of directing enfilading fire along the American lines. Such was the scene on September 15, 1814.

As events unfolded, on September 15, General Drummond gave orders to conserve ammunition as he was concerned about a possible sortie from the American lines and wanted to ensure a response if necessary⁵⁸. On the night of September 16, Drummond ordered that Batteries Two and Three were to be abandoned because he was convinced that his guns were doing little damage to the Americans, despite the archaeological evidence for a direct hit. The targeting of this specific building, which was very likely an Officers' Quarters based on the types of artifacts recovered, would have been uplifting to British morale and demoralizing to the Americans.

One wonders if it was at this time, after witnessing or hearing the report of a direct hit on a building directly behind the lines, that General Brown made the decision to launch the sortie that later resulted in the loss of 500 of his men. Certainly this is so in the opinion of Donald Graves: Worried about the

⁵⁷ The speed of sound is 343.2 metres/second at sea level.

⁵⁸ The shortage of ammunition is mentioned by Whitehorne, p. 76, and I believe Donald Graves has a reference to only one shot an hour being fired from Battery Three on Sept. 15 and 16.

third British battery whose fire would be able to enfilade his entire position, Brown decided to sortie in an effort to save a division “neglected by a country for which it had devoted itself” This also leads one to speculate upon the actions taken by General Drummond who after only a single day of Battery No. 3 seeing service – and successfully bombing its intended target – ordered a complete withdrawal of forces and abandonment of the siege. Why did he not press his advantage? We know that Drummond had received 1200 seasoned reinforcements fresh from Europe (6th and 82nd) and also ammunition.

Nevertheless, on September 17, Drummond ordered a retreat citing bad weather, sick troops, supply shortages, attack from American troops. Each commanding officer would almost certainly have been apprised of the success of the mortar bomb hitting its target. One, Brown, reacted rationally, attacking the enemy position responsible for the hit, and the other, Drummond, acted irrationally, and abandoned what was clearly an advantageous and effective position.

On the whole Period II artifacts are relatively numerous making up 21.6% of the entire Western Redoubt assemblage. Native material, lithics, comprise half the assemblage. The presence of large numbers of Architectural group items such as brick, nails and window glass in both the presumed Officers’ Quarters area and the western traverse provide strong evidence for a building in both locations, as discussed previously.

Food Preparation/Consumption and faunal bone also provide corroborative support for living quarters situated in the Western Redoubt area. Tableware ceramics include mostly undecorated creamware followed by undecorated, painted early palette, edged and blue transfer in order of frequency. Storage vessels include glazed red earthenware exclusively with a single fragment of tin-glazed ware, possibly tableware. Container glass was also recovered.

One of the most distinctive features of the area is the large number of lead shot recovered. The 20 mortar bomb fragments have already been discussed but the large number of lead shot is unusual. Excepting rifle balls, all sizes of shot were recovered but buckshot (n=34) and birdshot n=33) in particular

II	1269	21.6%	100.0%
Architectural	242		19.1%
Construction Materials	201		
Nails	23		
Window Glass	18		
Arms and Military	96		7.6%
Ammunition/Artillery	92		
Gunflint	2		
Uniform Insignia	2		
Clothing Group	2		0.2%
Fasteners	2		
Faunal/Floral	71		5.6%
Food Preparation and Consumption	85		6.7%
Ceramic Cooking/Storage	29		
Glass Storage Container	13		
Tableware	43		
Furniture	2		0.2%
Lighting Devices	2		
Samples	104		8.2%
Samples	104		
Native	634		50.0%
Lithic	634		
Smoking	2		0.2%
Pipes	2		
Unassigned Material	31		2.4%
Misc. Material	31		

were numerous. Five musket balls were also recovered in addition to two gunflints. Four pewter uniform buttons were also found. One, interestingly, was a King's 8th British button. Another was an 11th U.S. Infantry button with an eagle motif above the '11', with head turned to the left⁵⁹. Another very similar button was found at Snake Hill in earlier archaeological excavations. The other two buttons were unmarked.

Remaining items include two oil lamp glass fragments, likely belonging to an officer rather than a soldier, and compatible with the copper oil lamp collar found in this area also. Two smoking pipe pieces recovered are among the meager number of objects in this group for the site as a whole. One is white clay and the other is a red clay pipe, possibly originating from Ohio where this type was manufactured in the early 19th century.⁶⁰

⁵⁹ Snake Hill: An Investigation of a Military Cemetery from the War of 1812, Williamson et al. See p. 322, Plate 13, Burial 6, Button 30.

⁶⁰ See Triggs, John Report on the 2008 Excavations at Ruthven Park National Historic Site, report on file at Ruthven Park NHS and the Ministry of Culture, Tourism and Sport, 2009.

Period III Phases [14] and [15] are the layers making up the earthwork and the slumping of those layers following the abandonment of the fort after the siege, respectively. The former deposits are found in every unit associated with the Officers' Quarters which was situated adjacent to the earthwork.

III	1756	29.9%	100.0%
Architectural	324	18.5%	
Construction Materials	291		
Door and Window	2		
Hardware			
Nails	21		
Window Glass	10		
Arms and Military	240	13.7%	
Ammunition/Artillery	237		
Gunflint	3		
Faunal/Floral	187	10.6%	
Bone	187		
Ferrous	1	0.1%	
Unassigned Material	1		
Food Preparation and Consumption	75	4.3%	
Ceramic Cooking/Storage	2		
Glass Beverage Container	2		
Glass Storage Container	34		
Metal Containers	1		
Tableware	36		
Furniture	3	0.2%	
Lighting Devices	3		
Samples	100	5.7%	
Samples	100		
Native	790	45.0%	
Lithic	790		
Smoking	1	0.1%	
Pipes	1		
Unassigned Material	35	2.0%	
Misc. Material	35		

These layers are absent on the western section of the larger Western Redoubt excavation area nearer to the traverse. Unlike the Fanning's Battery area, the slumping of the layers after the siege up to present day in this excavation area has been sufficiently severe as to almost eradicate all traces of the earthwork. The dating of these archaeological layers is based on the assumption that the artifacts dating from the siege were left *in situ* after U.S. forces retreated across the Niagara River in November 2014, and the area became of minimal significance strategically to the British army thereafter. Decades passed as evidence of the siege became gradually buried below naturally accumulated sediment and the erosion of the earthwork itself.

Artifacts found associated with this Period comprise almost 30% of all artifacts found in the Western Redoubt area. Most numerous are the lithic flakes/debitage which are ubiquitous through the entire excavation area. A single lithic tool, a scraper, is included in this category. This is followed by those items in the Architecture Group,

mostly brick fragments, but also a few wrought iron nails, window glass, and two door latch parts were recovered, all of which provides further support for there being a substantial structure in this location, rather than a light construction/shelter. Of interest is the Arms and Military group which includes 237 pieces of lead shot of all types: bird, buck, rifle and musket, along with three gunflints. The presence of so much lead shot, none of which has been fired, suggests that the material was lost before being salvaged for re-use. The context of the finds in this case provides the explanation. Almost all shot was found in unit E, which was located in the approximate centre of the structure, which had suffered a

direct hit from the mortar bomb found in unit C and described above. The devastation caused by the bomb, presumably resulting in the destruction and collapse of the building, would have buried any useable ammunition below a substantial pile of debris. In fact, in Unit E, lot 4, most of the buckshot found was recovered from one localized area, where the lead balls rested together as if they had spilled from a wooden box or ammunition chest, rather than from individual pre-made cartridges.

Tableware ceramics found include only creamware (painted, banded, and plain) as well as pearlware (painted, blue transfer-printed, banded, plain). The assemblage clearly dates to the time of the siege with no evidence of later types at all. Only two sherds of course red earthenware and a single sherd of yellow ware ceramics make up the remainder of the ceramic assemblage. Container glass is about as

III/IV	1500	25.5%	100.0%
Architectural	409		27.3%
Construction Materials	357		
Nails	35		
Window Glass	17		
Arms and Military	38		2.5%
Ammunition/Artillery	38		
Faunal/Floral	2		0.1%
Bone	2		
Food Preparation and Consumption	120		8.0%
Ceramic Cooking/Storage	28		
Glass Beverage Container	12		
Glass Storage Container	8		
Glass Tableware	3		
Tableware	69		
Furniture	1		0.1%
Lighting Devices	1		
Samples	94		6.3%
Samples	94		
Native	796		53.1%
Lithic	796		
Organic	2		0.1%
Samples	2		
Personal	1		0.1%
Toys and Leisure	1		
Smoking	1		0.1%
Pipes	1		
Unassigned Material	36		2.4%
Misc. Material	36		

common as ceramics, and most of that is green wine bottle glass. Faunal bone is also present in relatively large numbers indicating that food preparation and consumption was a significant activity at this structure. The presence of oil lamp glass, suggests a building where officers, rather than soldiers, were stationed.

Period III/IV A deposit of dark brown clay-loam [16] directly beneath the topsoil layer may mark a former ground surface exposed for several decades after the siege. The layer is found in every unit associated with the traverse area of the Western Redoubt, except unit J. The deposit is compact with significant mottling suggestive of earthwork and root activity. The presence of artifacts dated to the 1814 siege up to the mid-20th century strongly points to the layer being a former ground surface that was subject to trampling and other natural agencies which led to intrusive material being introduced into the sediment matrix.

Artifacts are quite numerous and make up more than 25% of the total number of items found in the Western Redoubt excavation area. Chert debitage is ubiquitous and abundant making up

more than half of the total assemblage for this Period. Architectural items, mostly brick fragments, are also well represented, but a few wrought nails and window glass found in the layer

V	1196	20.3%	100.0%
Architectural	107		8.9%
Construction Materials	80		
Nails	19		
Other Fasteners	3		
Window Glass	5		
Arms and Military	22		1.8%
Ammunition/Artillery	18		
Edge Weaponry	2		
Gunflint	1		
Uniform Insignia	1		
Faunal/Floral	16		1.3%
Bone	15		
Floral	1		
Ferrous	1		0.1%
Unassigned Material	1		
Food Preparation and Consumption	639		53.4%
Ceramic Cooking/Storage	7		
Glass Beverage Container	95		
Glass Storage Container	454		
Metal Containers	6		
Samples	1		
Pharmaceutical Containers	1		
Tableware	75		
Furniture	60		5.0%
Lighting Devices	60		
Medical/Hygiene	22		1.8%
Pharmaceutical Containers	22		
Samples	33		2.8%
Samples	33		
Native	280		23.4%
Lithic	280		
Personal	1		0.1%
Toys and Leisure	1		
Unassigned Material	15		1.3%
Misc. Material	15		

provide clear evidence of a structure having been once situated in this location. The Arms and Military group is also relatively well represented with 14 buck shot, 22 bird shot, 1 musket ball and a modern pellet from a .77 calibre air rifle. The presence of buck shot and bird mimics what was found in earlier periods and underscores the fact that the Period III/IV assemblage is related to the siege, but in a disturbed context. Ceramic tablewares found include pearlware and creamware as in earlier periods, with decorative varieties such as blue transfer-printed, banded, edged, and painted in evidence. Glazed redware is also present in the assemblage. Two mid-18th century varieties are also present - white salt-glazed stoneware and whieldon ware. A single white clay smoking pipe, a piece of oil lamp chimney glass, a porcelain doll part, two pieces of faunal bone and various unidentified metal items were also found in this layer.

Period V The final three phases in the stratigraphic history of the Western Redoubt are [17], a modern trench intrusive in the defensive ditch, [18] topsoil, and [19], sod. Phase 17, in units M and N, appears to be a mechanically excavated trench that truncates the original profile of the ditch and the soil slump into that ditch from earlier periods (Figure 61). The presence of large numbers of modern container and storage glass fragments is such that these make up more than 50% of the Period V assemblage, the vast majority coming from lots

associated with the intrusive trench in units M and N. The sod and topsoil layer covers all units in the Western Redoubt area to a depth of about 5-8 centimetres.

The recovery of artifacts that date to the time of the siege, along with modern materials, is due largely to materials found in association with the intrusive Phase [17] trench. Ceramics are represented by creamware and pearlware as in other periods, but also more modern varieties of mid-late 19th century

ironstone. These occur alongside modern beer bottle fragments, a plastic marble, and other modern materials. Items of interest found in the intrusive trench in the context of the defensive ditch include a lead artillery quill primer, found in other earlier contexts also, and lead shot of various sizes – bird shot, buck shot and musket balls dating from the time of the siege; a lead minié ball dating to post-1850, and a modern brass .22 cal bullet cartridge. A clip from a sword scabbard and a brass sword hilt guard⁶¹, twisted and broken, were also recovered. These provide strong evidence for the presence of officers nearby, most likely in the Officers’ Quarters that suffered a direct hit from the mortar bomb as discussed in connection with Period II. The distorted nature of the sword hilt guard also provides support for the damage that would have been caused by the bomb. Chert in the Native group is, as in all earlier periods, abundant, and is found in most units throughout the excavation area even in this late Period.



Figure 61 Arrow indicates modern intrusion into the original defensive ditch.

Period XXX This Period is the catch-all designation for artifacts found out of context, some on the surface, and others found while cleaning stratigraphic profiles for drawing, when provenience was uncertain. Artifacts found are few in number and include mostly chert debitage, together with brick fragments. Two buck shot are also included among the number of objects found, as are a few pieces of lamp chimney glass and a wrought nail.

XXX	40	0.7%	100.0%
Architectural	8		20.0%
Construction Materials	7		
Nails	1		
Arms and Military	2		5.0%
Ammunition/Artillery	2		
Food Preparation and Consumption	11		27.5%
Glass Storage Container	11		
Furniture	2		5.0%
Lighting Devices	2		
Native	17		42.5%
Lithic	17		
Grand Total	5878		

⁶¹ For an image of the sword hand guard see René Chartrand, *A Most Warlike Appearance - Uniforms, Flags and Equipment of the United States in the War of 1812*. Service Publications, PO Box 33071, Ottawa, Ontario K2C 3Y9, Canada. 2011.

4.7 Western Redoubt: Unit Descriptions

The following section describes the significant finds in each of the excavation units in the Western Redoubt Fanning’s Battery area (Figure 62). The stratigraphic matrix, showing the actual lot numbers assigned when in the field, is included under each unit discussion. The relative stratigraphic position of each lot within each unit can be found on the Stratigraphic Correlation Chart (Table 3). The stratigraphic sequence is divided into Periods which have been discussed above. The artifact assemblage found in each unit is discussed briefly in connection with the unit description. Detailed artifact descriptions can be found in the Artifact Catalogue(Appendix F), sorted by Unit, Group, Class, Object, and Datable Attribute. The significance of the Arms and Military group to the Fort Erie site is such that a summary table of these artifacts is included for each unit description. Images of significant features/layers are also included below for each unit.

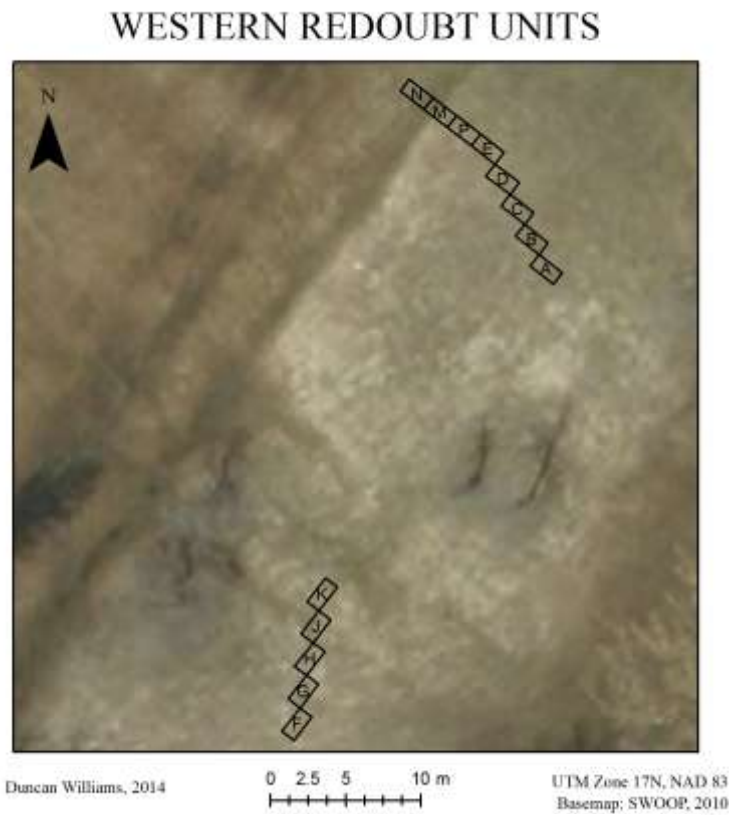


Figure 62 Detail of the Western Redoubt excavation area showing units referred to in the text.

Table 3 Correlation Chart for 2012 Western Redoubt

Period Description	Period	Student	Phase	Building Between Traverses					Western Traverse							
				Duncan	Mary	Katie	Sarah	Kia	Sabrina	Jessica	Alexis	Lilly	Shannon	Andrew/Bonnie	Don	Kia/Sarah
		LOT		A	B	C	D	E	F	G	H	J	K	M	N	P
Modern fill layer on mound - slumped	V	Sod	19	1	1	1	1	1	1	1	1	1	1	1	1	1
	V	Topsoil	18	2	2	2	2	2	2	2	2	2	2	2	2	2
	V	Modern intrusive trench in earthwork ditch - fill and interface	17											3,4,5,6,7,8	3,4,5,6,7	3,4a
1815-mid-20th century - Post-Siege - Fort Abandonment	III/IV	Soil slump from traverse - some modern material included - disturbed by plowing?	16						3	3	3		3			
Building destruction	III	Soil slump from breastwork - light brown clay loam mottled - displaced subsoil - overlying A-horizon - brick and stone rubble also	15	3	3	3	3	3						10,12	8	
1815-1820s Post-siege	III	Fill layers making up earthwork	14					4a,4b,4c,4d,5,6								

Old Fort Erie

WLU Excavations

Spring 2012

1814 Siege and Breastwork Construction	II	Light brown clay loam more mottled than overlying lot - overlies A-horizon - walking surface? High compaction - building debris	13	4	4	5	4		4	4	4	6	4			
	II	Mortar bomb crater	12			6										
	II	Interface for mortar bomb crater	11			10										
	II	Post hole fill with charcoal in western traverse	10									4				
	II	Interface for post hole	9									5				
	II	Post hole fill in western traverse	8									7				
	II	Interface for post hole	7									8				
	II	Tree root or rodent burrow	6		5	7										
	II	Interface for natural disturbance	5		6	8										
	II	Interface for defensive ditch	4											9a	9a	
Pre-Siege British and American Fort	I	Sand layer overlying original ground surface	3					7a						9	9	4b
	I	Eroded and compressed A-horizon - thin and transitional to subsoil	2	5	7	9	5	7	5							
Pre-Settlement	I	Subsoil	1	6	8	11	6	8	6	5,6	5,6	9,10	5,6	11	10	5,6



Unit A

**Western Redoubt
Unit A**

This 1 x 2 unit was located at the southern end of a line of staggered units.

The purpose of excavation in this general area was to cross-section the building shown on two maps: 1814 and 1815 (Appendix C). As with all units in this area Unit A was oriented with the long long axis in a north-south direction in a

line of units that ran for 16 metres north. No features were found in this unit. Instead, the stratigraphic sequence was composed of a series of 5 superimposed layers over subsoil. Lot 3 was the most significant layer in the sequence as it marked fill deposits – soil slump - contemporary with the siege. This was a layer of compressed loamy clay overlying a very thin and compressed A-horizon. By far the greatest number of artifacts was recovered from lot 3. In addition to a wide range of domestic and

Unit	Freq.	Group %	Class %
A	266	100.0%	100.0%
Architectural	38	14.3%	
Construction Materials	27		10.2%
Nails	2		0.8%
Window Glass	9		3.4%
Arms and Military	31	11.7%	
Ammunition/Artillery	30		11.3%
Gunflint	1		0.4%
Faunal/Floral	1	0.4%	
Bone	1		0.4%
Food Preparation and Consumption	12	4.5%	
Glass Storage Container	3		1.1%
Tableware	9		3.4%
Furniture	1	0.4%	
Lighting Devices	1		0.4%
Samples	7	2.6%	
Native	169	63.5%	
Lithic	169		63.5%
Unassigned Material	7	2.6%	
Misc. Material	7		2.6%



Figure 63 View looking east showing completed unit. A sondage was excavated in the southern end of the unit to confirm that subsoil was natural and not re-deposited.

Western Redoubt	407	100.0%
A	31	7.6%
Arms and Military	31	
Ammunition/Artillery	30	
Bird Shot	17	
Buck and Ball shot	13	
Gunflint	1	
Flake	1	

architectural items, and the prolific and ubiquitous chert debitage, the Arms and Military group included a significant number of lead shot, bird and buck shot, and a flake from a gunflint. Compared to most units in the Fanning’s Battery area, the number of shot found here is significantly higher.

Western Redoubt Unit B

- 1 As with unit A, this unit was placed to intersect the east-west axis of the unidentified building -
- 2 presumed to be an Officers' Quarters -
- 3 shown on the 1814 and 1815 maps. The stratigraphic sequence for this unit was also similar to unit B in that a series of 5 superimposed layers were found overlying the natural clay subsoil. One natural
- 4 feature, a rodent burrow or tree root, was recorded
- 5 intrusive into subsoil - lot 5/6 fill and interface. Beyond this no structural features were found that would indicate a building. By far the most artifacts were recovered from Lot 3 which is the layer associated with the slumping fill of the adjacent entrenchment located only a few metres to the north. In addition to the wide assortment of architectural
- 6
- 7
- 8

Unit B feature, a rodent burrow or tree root, was recorded intrusive into subsoil - lot 5/6 fill and interface. Beyond this no structural features were found that would indicate a building. By far the most artifacts were recovered from Lot 3 which is the layer associated with the slumping fill of the adjacent entrenchment located only a few metres to the north. In addition to the wide assortment of architectural

Table	Group and Class		
Unit	Freq.	Group %	Class %
B	336	100.0%	100.0%
Architectural	98	29.2%	
Construction Materials	89		26.5%
Nails	4		1.2%
Window Glass	5		1.5%
Arms and Military	6	1.8%	
Ammunition/Artillery	5		1.5%
Uniform Insignia	1		0.3%
Faunal/Floral	31	9.2%	
Bone	31		9.2%
Food Preparation and Consumption	40	11.9%	
Ceramic Cooking/Storage	3		0.9%
Glass Storage Container	15		4.5%
Metal Containers	5		1.5%
Tableware	17		5.1%
Furniture	2	0.6%	
Lighting Devices	2		0.6%
Samples	24	7.1%	
Native	131	39.0%	
Lithic	131		39.0%
Smoking	2	0.6%	
Pipes	2		0.6%
Unassigned Material	2	0.6%	
Misc. Material	2		0.6%

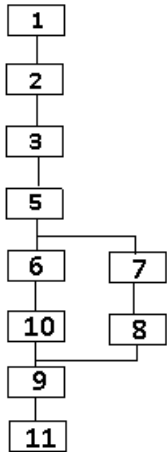
B	6	1.5%
Arms and Military	6	
Ammunition/Artillery	5	
Bird Shot	2	
Buck and Ball shot	2	
Musket Ball	1	
Uniform Insignia	1	
Military Button	1	

and domestic items recovered, the Arms/Military group included a small number of bird and buck shot, one musket ball and a pewter King's 8th regimental British uniform button.



Figure 64 View looking west showing the natural feature – rodent burrow or tree root – intrusive into the thin A-horizon overlying subsoil.

Western Redoubt Unit C



Unit C yielded significant evidence for the reconstruction of events that took place in the final days of the siege. It was in this unit that the mortar bomb, probably fired from Battery No. 3 on September 15-17, 1814, made a direct hit on the building.

Unit C

As described earlier the mortar bomb was found in a crater intrusive into the very compact clay subsoil. The 18 fragments of the mortar bomb recovered at the base of the crater



Figure 65 Mortar bomb crater and natural feature shown intrusive into subsoil.

Table	Group and Class	Freq.	Group %	Class %
Unit	C	358	100.0%	100.0%
	Architectural	222	62.0%	
	Construction Materials	211		58.9%
	Nails	9		2.5%
	Window Glass	2		0.6%
	Arms and Military	29	8.1%	
	Ammunition/Artillery	27		7.5%
	Gunflint	2		0.6%
	Faunal/Floral	10	2.8%	
	Bone	10		2.8%
	Food Preparation	16	4.5%	
	Glass Storage Container	2		0.6%
	Tableware	14		3.9%
	Samples	3	0.8%	
	Native	72	20.1%	
	Lithic	72		20.1%
	Unassigned Material	6	1.7%	
	Misc. Material	6		1.7%

C	29	7.1%
Arms and Military	29	
Ammunition/Artillery	27	
Bird Shot	5	
Buck and Ball shot	4	
Mortar Bomb Frag.	18	
Gunflint	2	
Flake	2	

indicate that this was an 8" mortar bomb of the type known to have been deployed in Battery no. 3. Measurements on the crater (lots 6/10, fill/interface) were taken on direction and angle of impact which allowed for the reconstruction of the trajectory of the bomb, the details of which appear in the Period II

discussion above. In addition to the mortar bomb another natural feature, possibly a rodent burrow or tree root, was found intrusive into the clay subsoil – lots 7/8. Aside from these features the stratigraphy of the unit was the same as units A and B to the south, comprised of a series of superimposed layers overlying subsoil. Lot 3, the soil slump from the adjacent earthwork, contained the most artifacts, among which were small numbers of buck and bird shot, and two gunflints. No structural evidence of the building was found, although the many brick fragments, nails and 2 pieces of window glass do provide indirect evidence of the structure – Officers’ Quarters - depicted on the 1814 and 1815 maps.

Western Redoubt Unit D



The stratigraphic sequence in unit D is precisely the same as unit A characterized by 5 superimposed deposits overlying subsoil. No natural or structural features were recorded, although the unit is in all likelihood situated directly inside the

Officers' Quarters building. Most artifacts were recovered from lots 3 and 4, and most of these consist of the ubiquitous chert debitage. The Arms and Military group is well represented by buck shot, bird shot, and a single musket ball. Two fragments of mortar bomb were recovered, and these can be assumed to be the blown-off fragments of the bomb found in the adjacent unit C. A

Table Group and Class			
Unit	Freq.	Group %	Class %
D	615	100.0%	100.0%
Architectural	30	4.9%	
Construction Materials	21		3.4%
Nails	9		1.5%
Arms and Military	23	3.7%	
Ammunition/Artillery	22		3.6%
Uniform Insignia	1		0.2%
Clothing Group	1	0.2%	
Fasteners	1		0.2%
Faunal/Floral	16	2.6%	
Bone	16		2.6%
Food Preparation and Consumption	17	2.8%	
Ceramic Cooking/Storage	2		0.3%
Glass Beverage Container	2		0.3%
Glass Storage Container	9		1.5%
Metal Containers	1		0.2%
Tableware	3		0.5%
Samples	30	4.9%	
Samples	30		4.9%
Native	485	78.9%	
Lithic	485		78.9%
Unassigned Material	13	2.1%	
Misc. Material	13		2.1%

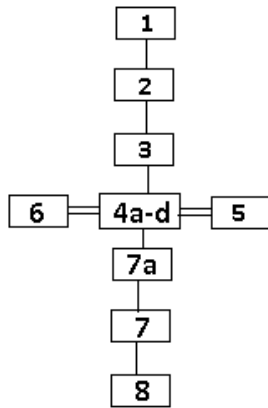


Figure 66 View facing west showing subsoil and close of unit.

D	23	5.7%
Arms and Military	23	
Ammunition/Artillery	22	
Bird Shot	5	
Buck and Ball shot	14	
Mortar Bomb Fragment	2	
Musket Ball	1	
Uniform Insignia	1	
Military Button	1	

single military uniform button was recovered also: an 11th Infantry (US) pewter button with an eagle motif above the '11' with head turned to the left. A similar button is shown in 'Snake Hill: An Investigation of a Military Cemetery from the War of 1812', p. 322, Plate 13, Burial 6, Button 30.

Western Redoubt Unit E



This unit is unlike the preceding units A-D in that it is situated near the crest of the main entrenchment possibly towards the north end – or rear side – of the Officers’ Quarters. Stratigraphy differs from other units as several fill layers associated with the earthwork construction were found. These are represented by lots 3, 4, 5, and 6, all of which are mixed fill deposits that have been displaced downward through soil slumping that occurred after the area was abandoned at the end of the siege. The artifact assemblage from this unit also differs considerably from the previous units. Almost a third of the assemblage is comprised of lead shot, mostly buckshot, but also a considerable number of musket balls, together with lesser numbers of bird shot and rifle balls. The recovery of most lead shot from the mixed fill layers of lot 4 in a very limited area suggests that a case of shot was left in situ, perhaps

Table Group and Class			
Unit	Freq.	Group %	Class %
E	614	100.0%	100.0%
Architectural	37	6.0%	
Construction Materials	32		5.2%
Door and Window	2		0.3%
Hardware			
Nails	2		0.3%
Window Glass	1		0.2%
Arms and Military	197	32.1%	
Ammunition/Artillery	197		32.1%
Faunal/Floral	55	9.0%	
Bone	55		9.0%
Ferrous	1	0.2%	
Unassigned Material	1		0.2%
Food Preparation and Consumption	7	1.1%	
Glass Storage Container	6		1.0%
Tableware	1		0.2%
Furniture	2	0.3%	
Lighting Devices	2		0.3%
Samples	64	10.4%	
Samples	64		10.4%
Native	237	38.6%	
Lithic	237		38.6%
Unassigned Material	14	2.3%	
Misc. Material	14		2.3%



Figure 67 View looking west showing subsoil and close of unit.

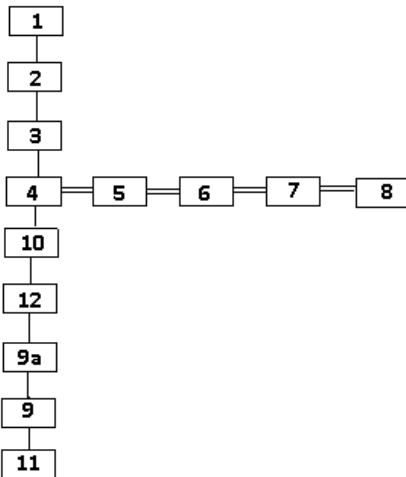
below the debris of the collapsed and destroyed Officers’ Quarters after it had suffered a direct hit from the mortar bomb. An iron door latch and handle was also recovered which, together with the brick fragments, 2 nails and window glass shards, provides certain evidence of a building in this location. The recovery of a significant number of burnt mammal bone fragments also indicates that a fire may have resulted from the mortar bomb hit.

E	197	48.4%
Arms and Military	197	
Ammunition/Artillery	197	
Bird Shot	16	
Buck and Ball shot	138	
Musket Ball	37	
Rifle Ball	6	



Figure 68 Unit E showing iron door latch and handle in situ.

Western Redoubt Unit M



Unit M

This unit was placed so as to intersect the ditch on the offensive side of the main entrenchment. The ditch is visible on aerial photographs and satellite images of the site as a dark linear crop-mark running in a roughly straight line from the southwest bastion of the fort to the tree-line beyond the Western Redoubt excavation area, some 260 metres distant. Evidence of the ditch



Figure 69 The scarp side of the ditch at the base of the earthwork is shown on the right side of image.

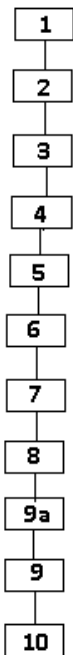
Table Group and Class			
Unit	Freq.	Group %	Class %
M	254	100.0%	100.0%
Architectural	15	5.9%	
Construction Materials	14		5.5%
Window Glass	1		0.4%
Arms and Military	9	3.5%	
Ammunition/Artillery	9		3.5%
Faunal/Floral	59	23.2%	
Bone	55		21.7%
Unsorted Bone	4		1.6%
Ferrous	1	0.4%	
Unassigned Material	1		0.4%
Food Preparation and Consumption	33	13.0%	
Glass Beverage Container	7		2.8%
Glass Storage Container	23		9.1%
Tableware	3		1.2%
Medical/Hygiene	6	2.4%	
Pharmaceutical	6		2.4%
Containers			
Samples	5	2.0%	
Samples	5		2.0%
Native	123	48.4%	
Lithic	123		48.4%
Unassigned Material	3	1.2%	
Misc. Material	3		1.2%

was found where subsoil had been truncated by a cut on an approximate 75° incline. The same cut was found in unit K in Fanning’s battery. In this unit the scarp side of the ditch, the offensive side of the entrenchment itself, is located at grid point 1013.3N. In Fanning’s battery the same scarp face of the ditch is at grid point 1018.5N. The archaeological evidence therefore indicates a slight bend in the earthwork of about 5 metres over a distance of about 200 metres. This corresponds to the 1814 British plan of the fort and associated earthworks (*The Fort as left by the Enemy, November 1814*) which does depict the entrenchment as not being a perfectly straight line. All other maps of the site, American and

British, in fact do show the entrenchment as an ideal defensive feature set in a perfectly straight line. Excavation in unit N, described below, revealed the counterscarp side of the ditch at grid point 1015N. The width of the ditch in this location is about 2.0 metres (about 6.5 feet), a width only slightly narrower than the ditch found at Fanning’s battery which was about 2.05 metres wide or 6.5-7 feet. The cut into the clay subsoil to create the face of the ditch in unit M served to create a ditch that was only about 70 centimetres below the surrounding ground level. This is about half the depth of 4 feet described in contemporary accounts. The difference is attributable to the adjacent mound which is described by Benson Lossing as being 7 feet high. In other words, the greater height of the mound next to the ditch created the illusion of a much deeper ditch than the actual depth. It is also possible that the outer edge of the ditch on the counterscarp side may have been mounded slightly which would also add to the illusion of a much greater depth for the ditch itself. Artifacts found embedded onto the scarp face of the earthwork included the tail end of a musket trigger guard, large bone fragments, and a few pieces of lead shot of various sizes.

M	9	2.2%
Arms and Military	9	
Ammunition/Artillery	9	
Bird Shot	5	
Buck and Ball shot	3	
Musket Ball	1	

Western Redoubt Unit N



This unit has the same stratigraphic sequence as the adjacent unit M. Unit N includes the north side of the ditch, the counterscarp side, as depicted on several contemporary maps. The cut or interface for the ditch forms (lot 9a) an approximate 75° slope where it truncates the natural clay subsoil (lots 9 and 10) to a depth of about 50 centimetres below the contemporary ground surface. Soil slumping after the

abandonment of the area in 1814 is represented by lot 8. A later 20th century intrusion into the ditch is represented by lots 3-7. The width of the original ditch, as described above in connection with unit M, is about 2 metres at this point in the 800 metre long earthwork. Artifacts found in this unit are predominantly domestic in nature with the Food Preparation

group comprising almost 60% of all finds. Most of these are in fact glass container shards, and a considerable number of those are modern shards associated with the later intrusion into the earthwork. Period materials are also present and the deposits in the unit contain early 19th century creamware and pearlware vessels contemporary with the siege, as well as a significant number of lead shot. Bird shot, musket balls and buck shot are all present, as are a mortar bomb fragment, a lead quill artillery priming tube, two sword scabbard clips, and a pewter U.S. button. A single gunflint made on Onondaga chert may be of native manufacture. Food bone is also quite numerous.

Table Group and Class			
Unit	Freq.	Group %	Class %
N	1005	100.0%	100.0%
Architectural	49	4.9%	
Construction Materials	26		2.6%
Nails	20		2.0%
Window Glass	3		0.3%
Arms and Military	27	2.7%	
Ammunition/Artillery	23		2.3%
Edge Weaponry	2		0.2%
Gunflint	1		0.1%
Uniform Insignia	1		0.1%
Faunal/Floral	103	10.2%	
Bone	103		10.2%
Food Preparation and Consumption	594	59.1%	
Ceramic Cooking/Storage	7		0.7%
Glass Beverage Container	87		8.7%
Glass Storage Container	426		42.4%
Metal Containers	1		0.1%
Samples	1		0.1%
Pharmaceutical Containers	1		0.1%
Tableware	71		7.1%
Furniture	61	6.1%	
Lighting Devices	61		6.1%
Medical/Hygiene	16	1.6%	
Pharmaceutical Containers	16		1.6%
Samples	27	2.7%	
Samples	27		2.7%
Native	101	10.0%	
Lithic	101		10.0%
Unassigned Material	27	2.7%	
Misc. Material	27		2.7%

N	27	6.6%
Arms and Military	27	
Ammunition/Artillery	23	
Bird Shot	10	
Buck and Ball shot	4	
Bullet	1	
Cartridge Case	1	
Mortar Bomb Fragment	1	
Musket Ball	5	
Priming Tube	1	
Edge Weaponry	2	
Scabbard Clip	1	
Sword Part	1	
Gunflint	1	
Gunflint	1	
Uniform Insignia	1	
Military Button	1	



Figure 71 View looking southeast showing the face of the ditch on right side with an artifact cut into the clay subsoil on left. The ditch profile is visible in the east wall profile (left side).



Figure 70 View of east profile of unit showing south side of ditch in adjacent unit M (right) and the cut into the clay subsoil (left) marking the counterscarp side of the ditch.



Figure 72 North side of unit showing clay subsoil and the interface of the counterscarp on right.

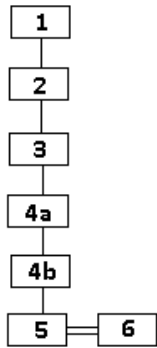
Western Redoubt Unit M/N Baulk

The baulk separating units M and N was excavated separately to expose the entire ditch on the offensive side of the earthwork. Care was taken during the excavation of the baulk to retrieve artifacts from lot contexts defined for each of the units. Of the relatively small number of artifacts recovered from the baulk, food bone and chert debitage make up most of the assemblage. Five pieces of bird shot, 3 buck shot and 1 musket ball were also recovered.

Table Group and Class			
Unit	Freq.	Group %	Class %
M-N	46	100.0%	100.0%
Arms and Military	9	19.6%	
Ammunition/Artillery	9		19.6%
Faunal/Floral	13	28.3%	
Bone	13		28.3%
Food Preparation and Consumption	6	13.0%	
Glass Storage Container	6		13.0%
Furniture	1	2.2%	
Lighting Devices	1		2.2%
Samples	3	6.5%	
Samples	3		6.5%
Native	14	30.4%	
Lithic	14		30.4%

M-N	9	2.2%
Arms and Military	9	
Ammunition/Artillery	9	
Bird Shot	5	
Buck and Ball shot	3	
Musket Ball	1	

Western Redoubt Unit P



This unit was located between unit E and unit M on the crest of the former entrenchment. Layers found here include those associated with the modern intrusion into the ditch (lots 3 and 4a, 4b). These deposits were

Unit P

displaced onto the natural clay subsoil (lots 5 and 6). The excavation of the unit provided a continuous cross-section of the area from unit A in the south to unit N in the north, a span of 16 metres. The relatively few artifacts found include mostly chert, together with modern container glass, a plastic toy marble, food bone and a single piece of bird shot.

Unit	Freq.	Group %	Class %
P	64	100.0%	100.0%
Architectural	5	7.8%	
Construction Materials	2		3.1%
Other Fasteners	3		4.7%
Arms and Military	1	1.6%	
Ammunition/Artillery	1		1.6%
Faunal/Floral	2	3.1%	
Bone	2		3.1%
Food Preparation and Consumption	8	12.5%	
Glass Storage Container	8		12.5%
Samples	1	1.6%	
Samples	1		1.6%
Native	46	71.9%	
Lithic	46		71.9%
Personal	1	1.6%	
Toys and Leisure	1		1.6%

P	1	0.2%
Arms and Military	1	
Ammunition/Artillery	1	
Bird Shot	1	



Figure 73 View looking east showing completed unit and subsoil with overlying thin A-horizon.

Western Redoubt Unit F



This unit was situated on the extreme western end of a line of five contiguous units in the area of a traverse in the general Western Redoubt excavation area. The traverse is depicted on four plans: 1814, 1815, 1816 and 1818. Today the ground

Unit F

surface in this area is generally flat and no topographic evidence of the former traverse is evident above ground. Presumably, the traverse would have stood at a significant height above the surrounding landscape, probably as high as the main entrenchment, the purpose of which was to protect the western end of the area enclosed by another traverse of equal size to the east, and within which the Officers' Quarters was situated. The stratigraphic sequence is comprised of several superimposed layers. The natural clay subsoil (lot 6), has remnants of a weathered A-horizon (lot 5), over which is another layer thought to be the ground surface contemporary with the 1814 siege (lot 4). Lot 3 overlies this layer and is interpreted as the soil eroded from the adjacent traverse throughout the 19th century and into the 20th century. Lots 1 and 2 are the sod and topsoil. Food Preparation and Consumption artifacts are the most abundant category with course red earthenware, and tableware ceramics making up almost 30% of the assemblage together with 3 shards of container glass. Creamware (plain) and pearlware (blue transfer printed, plain, edged and painted) dominate the tableware ceramics and date the deposits in which they are found to the early decades of the 19th century. Chert debitage is just as numerous as the Architectural group. Within the latter category brick is most abundant, together with a few wrought nails and a single piece of window glass. The presence of building materials within the assemblage is primary evidence for a structure in the vicinity - presumably the Officers' Quarters located only a few metres to the east. One

Table Group and Class			
Unit	Freq.	Group %	Class %
F	326	100.0%	100.0%
Architectural	75	23.0%	
Construction Materials	66		20.2%
Nails	8		2.5%
Window Glass	1		0.3%
Arms and Military	10	3.1%	
Ammunition/Artillery	10		3.1%
Food Preparation and Consumption	94	28.8%	
Ceramic Cooking/Storage	41		12.6%
Glass Storage Container	4		1.2%
Tableware	49		15.0%
Furniture	1	0.3%	
Lighting Devices	1		0.3%
Samples	56	17.2%	
Samples	56		17.2%
Native	78	23.9%	
Lithic	78		23.9%
Smoking	1	0.3%	
Pipes	1		0.3%
Unassigned Material	11	3.4%	
Misc. Material	11		3.4%

F	10	2.5%
Arms and Military	10	
Ammunition/Artillery	10	
Bird Shot	6	
Buck and Ball shot	4	

piece of lamp glass and a single smoking pipe bowl fragment were also recovered. The complete absence of animal bone suggests that this type of refuse was deposited elsewhere, possibly in the ditch for the nearby main entrenchment. Arms and Military group artifacts include a few pieces of bird and buck shot.

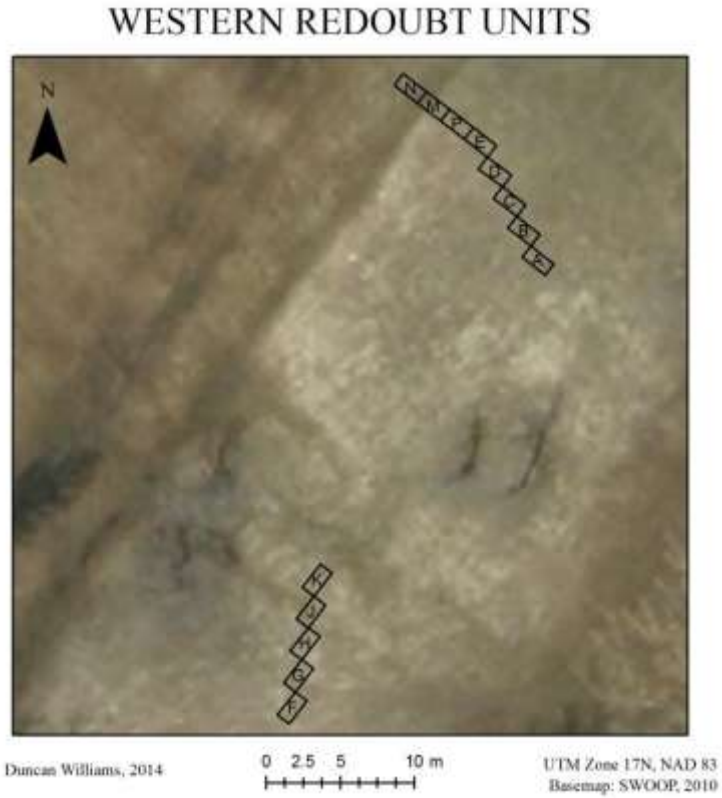
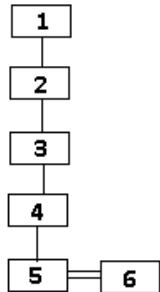


Figure 74 Western Redoubt excavation area showing location of units F-K in area of the traverse.



Figure 75 Lot 5, the weathered A-horizon showing tree roots and indentations into surface caused by tree roots and rodent burrows.

Western Redoubt Unit G



Unit G

Situated to the east of and adjacent to unit F, this unit had the same stratigraphic sequence as the former unit. The walking surface contemporary

with the 1814 siege is the most significant deposit in the unit. The majority of artifacts found in the unit are associated with the walking surface and the eroded traverse, and the assemblage is comparable to unit F in types of materials found. The Native group comprised of chert debitage is the largest category making up almost 60% of the assemblage. The Architectural group is also significantly large and in fact the absolute number of finds in this group is higher than unit F. Brick fragments are most numerous but the larger number of nails and window glass may be attributable to unit being in closer proximity to the structure; i.e., the Officers' Quarters to the east. Food Preparation and

Unit	Freq.	Group %	Class %
G	526	100.0%	100.0%
Architectural	111	21.1%	
Construction Materials	84		16.0%
Nails	15		2.9%
Window Glass	12		2.3%
Arms and Military	31	5.9%	
Ammunition/Artillery	31		5.9%
Faunal/Floral	1	0.2%	
Bone	1		0.2%
Food Preparation and Consumption	49	9.3%	
Ceramic Cooking/Storage	4		0.8%
Glass Beverage Container	11		2.1%
Glass Storage Container	10		1.9%
Tableware	24		4.6%
Samples	23	4.4%	
Samples	23		4.4%
Native	303	57.6%	
Lithic	303		57.6%
Smoking	1	0.2%	
Pipes	1		0.2%
Unassigned Material	7	1.3%	
Misc. Material	7		1.3%

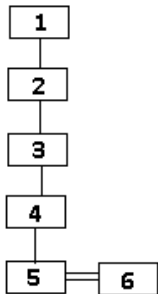
G	31	7.6%
Arms and Military	31	
Ammunition/Artillery	31	
Bird Shot	21	
Buck and Ball shot	10	



Consumption artifacts are also quite numerous and include coarse red earthenwares, along with plain creamware, painted and plain pearlware, and container glass shards. Based on the ceramic types the assemblage dates to the early 19th century. A single piece of food bone and a single smoking pipe fragment are similar to unit F. Military and Arms artifacts represented by greater numbers of buck and bird shot compared to unit F.

Figure 76 Close of unit showing subsoil and remnants of A- horizon.

Western Redoubt Unit H



Unit H, located in the middle of the five units in the traverse area, has an identical stratigraphic sequence to units F and G. As with the other units,

Unit H

the most significant layer is that which marks the ground surface contemporary with the siege. In this unit, artifacts found on the ground surface take on added significance as they indicate the presence of the native allies as discussed in the introduction to this section. Aside from the ubiquitous chert debitage, 47 glass trade beads (drawn/manufacture, clear and dark blue varieties) were also recovered from the surface of lot 4, the ground surface contemporary with the siege, in a cluster in the southeast corner of the unit. As previously discussed several bands of First Nations people were present at Fort Erie during the siege, allied with the Americans for the first time in the larger 1812 conflict. The beads found in unit H appear to have been from a string which had broken and which became deposited on the ground surface, in close proximity to a structural post (discussed under unit J). It seems likely that the beads simply became buried after the string was broken, and the simplest explanation is that they were worn by a native person in the latter part of the siege. An alternate explanation is that the beads were trophies taken by an American soldier from a fallen native British ally. However, available documentation does indicate that the native allies were positioned along the main entrenchment, somewhere towards the middle of this line; i.e., a position corresponding to the Western Redoubt

Table Group and Class			
Unit	Freq.	Group %	Class %
H	988	100.0%	100.0%
Architectural	274	27.7%	
Construction Materials	253		25.6%
Nails	13		1.3%
Window Glass	8		0.8%
Arms and Military	23	2.3%	
Ammunition/Artillery	23		2.3%
Clothing Group	1	0.1%	
Fasteners	1		0.1%
Food Preparation and Consumption	22	2.2%	
Ceramic Cooking/Storage	4		0.4%
Glass Beverage Container	2		0.2%
Glass Storage Container	2		0.2%
Glass Tableware	3		0.3%
Tableware	11		1.1%
Samples	11	1.1%	
Samples	11		1.1%
Native	650	65.8%	
Jewelry/Ornamentation	47		4.8%
Lithic	603		61.0%
Organic	2	0.2%	
Samples	2		0.2%
Unassigned Material	5	0.5%	
Misc. Material	5		0.5%

H	23	5.7%
Arms and Military	23	
Ammunition/Artillery	23	
Bird Shot	13	
Buck and Ball shot	9	
Musket Ball	1	



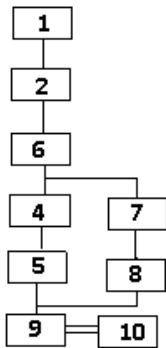
Figure 77 Close of unit showing subsoil and slight depression in southeast corner where 47 glass trade beads were recovered.

excavation area.⁶² The quantity of bird shot found in this and the adjacent units also points to hunting, rather than combat, and the evidence would seem to suggest that the native allies were supplementing, or perhaps wholly supplying, their food stores with wild game rather than army provisions. As with the other units discussed above, building materials are in even great evidence in this unit, which may be accounted for by the closer proximity to the Officers' Quarters. In addition to the numerous brick fragments, nails and window glass were also found here. Ceramics are less numerous than in units F and G, and include creamware (plain,

brown banded and printed) and pearlware (plain), yellowware, coarse red earthenware, and a single sherd of mid-18th century Whieldon ware. Buck shot and a single musket ball were also found but the lead pieces are mostly bird shot. A single plain pewter uniform button was also recovered. As with unit F faunal bone is not present.

⁶² Jim Hill, pers. comm. mentioned that this is the fourth prong of the August 15th night attack, an attack that is little discussed in the literature. However, this is where the native allies were intended to harass the Americans and create a diversion for the other three prongs - Lieutenant Colonel William Drummond in the centre, Douglass Battery to the British left and Snake Hill on the British right.

Western Redoubt Unit J



Unlike units F-H this unit did reveal two features excavated into the A-horizon and clay subsoil. Two pit features found in association with the ground surface

Unit J

contemporary with the siege, may represent structural features associated with a temporary shelter (quite separate from the Officers' Quarters), or structural elements of a fortification associated with the traverse. Lots 4/5, pit fill and interface, define a burnt post, 20 centimetres in diameter, set into a

pit of a projected size of 1metre diameter, although only half of the pit was found in the western profile of the unit. The large size of the post certainly indicates a structure of substantial size although until further excavation is carried out in the area, its identification remains elusive. Another pit/post (lot 7/8) was found intersecting the south wall of the unit, less than a metre away from the lot 4/5 pit. This pit was also large, a projected 90 centimetres in diameter, tapering to a dark stain marking the actually post, 20 centimetres in diameter. Although both posts were cut into the original ground surface (A-horizon and subsoil), only post 4/5 is contemporary with the 1814 ground surface. Post 7/8 was found below the lot 6 1814 ground surface, and is therefore an earlier structural element that may not be related to the later post 4/5.

Artifacts found in the unit are fewer in number than previous units discussed. Most numerous is chert debitage (almost 37%) followed by Architectural group items, mostly brick, but also nails and window glass. The Tableware ceramics class includes plain creamware, painted, edged and plain pearlware, and a few pieces of container glass. The Arms Group is also not as abundant as the previous units, although 4 buck shot and a single gunflint were recovered. It is perhaps significant that the 47 glass trade beads found in the southeast corner of unit H, are located less than a metre away from the post, lot 4/5, and, if the post is structural, it is possible that the string of beads may have been hung on the post, only to fall

Table Group and Class			
Unit	Freq.	Group %	Class %
J	374	100.0%	100.0%
Architectural	118	31.6%	
Construction Materials	99		26.5%
Nails	14		3.7%
Window Glass	5		1.3%
Arms and Military	5	1.3%	
Ammunition/Artillery	4		1.1%
Gunflint	1		0.3%
Faunal/Floral	1	0.3%	
Floral	1		0.3%
Food Preparation and Consumption	17	4.5%	
Ceramic Cooking/Storage	5		1.3%
Glass Storage Container	4		1.1%
Tableware	8		2.1%
Samples	73	19.5%	
Samples	73		19.5%
Native	138	36.9%	
Lithic	138		36.9%
Unassigned Material	22	5.9%	
Misc. Material	22		5.9%

at a later date on the ground surface. If this line of thinking is correct, the fewer overall artifacts recovered from this unit, and indeed unit K to the east, may reflect the interior/exterior of a small, temporary structure adjacent to the traverse. The greatest number of artifacts is found in the middle units G and H, with lesser numbers found in the bridging units. More excavation would have to be done to define spatial limits of such a hypothesized structure, but the artifact frequency together

J	5	1.2%
Arms and Military	5	
Ammunition/Artillery	4	
Buck and Ball shot	4	
Gunflint	1	
Flake	1	

with the structural evidence may be indicative of such an arrangement.

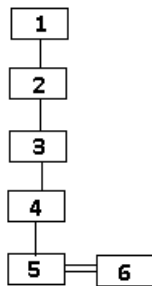


Figure 78 Plan view looking south, showing structural features 4/5 (right) and 7/8 (top) cut into subsoil.



Figure 79 Profile of west wall showing the post feature 4/5 with charcoal in base marking location of post.

Western Redoubt Unit K



Unit K

The easternmost unit in the line of units across the traverse is unit K. This unit had the same stratigraphic sequence as all other units, with the exception of unit J, where the two structural

posts were found. No structural features were found in this unit. Perhaps significantly, relatively few artifacts were recovered here compared to the other units in the area. As discussed above, the disparity between artifacts found here compared to the high number in units G and H, may indicate an interior/exterior context of a structural when the structural evidence of the posts found in unit J is considered. In fact, a fall-off of artifact frequency is



Figure 80 Close of unit showing subsoil.

suggestive of the centre of activity, possibly the interior of the

structure, centered on units G and H, and the lesser numbers indicative of the exterior – units F, J and K. Artifacts found include chert debitage, making up greater than half of the unit assemblage, followed by Architectural items, mostly brick fragments together with lesser numbers of nails and window glass. Kitchen-related items include a relatively small number

of ceramic tableware (plain creamware, plain, transfer printed and painted pearlware) together with two glass container shards, and the second sherd of mid-18th century ceramic tableware, a white salt-glazed stoneware fragment. The other piece of mid-18th century ware was the Whieldon ware found in unit H. Two buck pieces, 2 pieces of bird shot, and a gunflint were also found here. As with all other units in the traverse area, bone is rare or absent with only a single fragment recovered, suggesting that this type of waste was disposed of elsewhere, perhaps in the nearby ditch for the main entrenchment.

Unit	Freq.	Group %	Class %
K	136	100.0%	100.0%
Architectural	28	20.6%	
Construction Materials	20		14.7%
Nails	3		2.2%
Window Glass	5		3.7%
Arms and Military	5	3.7%	
Ammunition/Artillery	4		2.9%
Gunflint	1		0.7%
Faunal/Floral	1	0.7%	
Bone	1		0.7%
Food Preparation and Consumption	18	13.2%	
Ceramic	1		0.7%
Cooking/Storage			
Glass Storage Container	2		1.5%
Tableware	15		11.0%
Samples	11	8.1%	
Native lithic debitage	72	52.9%	52.9%
Personal	1	0.7%	
Toys and Leisure	1		0.7%

K	5	1.2%
Arms and Military	5	
Ammunition/Artillery	4	
Bird Shot	2	
Buck and Ball shot	2	
Gunflint	1	

5.0 Summary and Conclusions

EXCAVATION AREAS, FORT ERIE
2012 and 2013



Duncan Williams, 2014

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

The 2012 season at old Fort Erie was successful in achieving the goals initially laid out prior to field work. The overall purpose of the first season of excavation was to target specific defensive features related to the August/September 1814 siege, as depicted on 19th century maps, and to determine if traces of these features remain on the present landscape, which has been much altered in the two centuries since the siege. Map analysis conducted prior to fieldwork was instrumental in locating archaeological features dating to the 1814 siege. Contemporary maps depicting fortification and defensive elements, in particular the 800 metre long main entrenchment running southwest from the fort to Snake Hill, were determined to be accurate renditions of the War of 1812 period landscape. Prior to fieldwork siege features were scaled from the 1814 map entitled 'Fort Erie as left by the Enemy', by British engineer, S. Romilly, and the 1815 map made by Cranfield. The accuracy of these two plans was suggested at first by the consistency of scale and positioning of elements such as the Officers' Quarters, traverses, and batteries. Excavation confirmed that these were indeed the most reliable maps upon which to base an excavation strategy aimed at the investigation of the American occupation period. A

detailed study of these defensive features has provided a unique perspective on the site through the interplay of archaeological and historical documentation.

Although much has been written of the siege by historians using the available documentary sources, the archaeological investigation of 2012 has provided a unique material perspective for this period 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. Artifacts recovered have provided new and previously undocumented aspects of the material culture of the soldiers and officers. Such a perspective is only possible through the application of modern stratigraphic excavation methods and precise positioning of excavation units on the landscape. The importance of establishing *context* for all material recovered during the excavation cannot be overemphasized, and in fact it was only through such attention to detail that one of the major finds of the season, the mortar bomb crater, was able to be interpreted as a significant archaeological find that has the potential to add to, if not alter, existing views of the behavior of the two commanding officers, Drummond and Brown, during the final days of the siege.

The construction of an archaeological chronology represented here by Periods I to V, within which the thousands of artifacts recovered during the excavation are interpreted, differs from a purely historical chronology. The latter is based on events well-documented in contemporary correspondence and on maps, but as with all documentary evidence, the reader is cautioned to not accept uncritically the events recounted by the writer. All such accounts must be weighed and compared to eliminate potential bias. The archaeological chronology on the other hand is based on the actual archaeological facts of the archaeological record - the stratigraphy and the contained artifacts within that unbiased series of layers and features - and as such it is an entirely different rendering of events. The interpretation of all the evidence gathered during the 2012 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.

Significant finds from the 2012 excavation have been discussed in detail in the foregoing report, but will be recounted here in a summary format.

The most significant find of the season was the mortar bomb, found in its archaeological context, in the area referred to as the Western Redoubt. The bomb crater contained the remains of an exploded 8" mortar bomb within the context of an unidentified structure, shown on both the 1814 and 1815 plans, thought to be an Officers' Quarters. Artifacts such as sword parts, transfer printed and heirloom ceramics, and an argand lamp base suggest that the building was occupied by officers and not soldiers. The Officers' Quarters structure was situated immediately adjacent to the main 800 metre long earthwork, and would have been one of the best-protected areas in the American camp. Any structures which may have been situated in the open area between the earthworks and the lakeshore behind were subject to British cannon fire.

Historical accounts of the final American sortie of September 16/17 in which British battery number 3 was targeted, suggest that the Officers' Quarters, and indeed large sections of the American defensive line, were at that time threatened by enfilading fire from this battery; a battery put into service only a day or two before the sortie. The context of the mortar bomb, in the centre of the building, provides incontrovertible evidence that the bomb hit its intended target and may in fact have been one of the main factors that led to the sortie. It is clear that General Brown acted rationally by attacking the position when presented with the new threat of Battery 3. However, it is less clear why General Drummond would not have pressed the apparent advantage he now had and continue to bombard the American lines from the new, effective position offered by Battery 3. Instead, General Drummond ordered that the siege be lifted, and that battery number 3 be dismantled – even though he must have been aware that a building had been successfully hit. In essence, there is strong evidence that the British commander acted irrationally by ordering a retreat at the very time when he was in a position to harass the American camp from the most effective firing position attained up to that point in time during the 6 week-long siege.

Other finds during the investigation included details of the construction and appearance of the 800 metre-long defensive earthwork and the associated ditch. The earthwork, likely constructed without revetment, has suffered the effects of erosion since its construction in the summer of 1814, but it is clear that it was constructed by 'borrowing' earth from the adjacent ground, which was heaped up to create a raised mound with a steeply inclined face several feet in height. Evidence from the Fanning's Battery area and the Western Redoubt area suggest that the ditch on the landward side of the earthwork (the escarp side facing the enemy) was consistent at about 6 feet in width. The hard-packed nature of the clay subsoil in the area prevented the construction of a ditch of significant depth, and the relatively shallow ditch had to be artificially augmented by increasing the height of the adjacent mound. The only evidence of a firing step, or banquette, was found in Fanning's Battery East where an 8" or 20 centimetre high step was found cut into the clay subsoil at the base of the inside of the earthwork. This location is shown on maps as a fortified section of the earthwork, complete with a redan, or salient, and firing platforms for cannons as indicated by several post features found. A ditch was found on the inside of one traverse in the Fanning's Battery area and it seems likely that the area may also have been protected by a palisade composed of main support posts, interspersed with smaller pales.

In the western portion of the Western Redoubt excavation area there is evidence of another structure in addition to the formerly undocumented Officers' Quarters located a few metres to the east. This other structure is indicated by two structural posts and a distribution of artifacts consistent with an interior/exterior context. The presence of glass trade beads also points to an occupation by the First Nations allies from New York State, many of whom were active in the early days of the siege, and some of whom may have remained until the final days of the siege.

The material culture at Old Fort Erie is reflected by the thousands of items recovered in context from 34 units excavated in 2012, many of which were found on an undisturbed ground surface datable to the time of the siege. The types of ceramics found include common glazed and unglazed earthenwares manufactured domestically, together with imported tablewares dating from the time of the siege. The

overwhelming presence of creamware and pearlware, with plain, painted, edged, banded and transfer-printed decoration, suggests that the assemblage can be attributed to officers rather than soldiers, who it might be expected did not have access to this type of material culture. This remains a hypothesis to be tested, and excavation in areas other than adjacent to the earthwork would have to be carried out to confirm whether or not this is a pattern associated with rank. Faunal bone found mostly in the ditch contexts, and container glass also provide evidence of subsistence activity during the siege and the distribution of this material is instructive in how different areas of the camp functioned. Building materials such as nails, window glass and brick provide evidence of structures in the case of the Officers' Quarters and possibly the unknown structure in the far western end of the Western Redoubt. A puzzling aspect of the 2012 assemblage is the almost complete dearth of smoking pipes. As with the tableware ceramics this distribution may be attributed to the different behavior associated with officers compared to soldiers, as these types of items are usually ubiquitous in military contexts. Excavation in other areas of the camp, at a distance from the earthworks, would have to be done in order to determine if the observed distribution of these items is due to the context adjacent to the earthworks. Aside from possible associations with rank, another possible explanation is that smoking was simply not allowed in the proximity of a battery where black powder would have been stored.

In 2014, GIS (Geographic Information Systems) analysis of digital spatial data by Duncan Williams (Appendix E) 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', (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. GIS analysis of artifact categories, specifically lead shot, suggests patterns that reflect the organization of specific regiments along the defensive lines and thus holds great promise for understanding the tactics employed by the American forces. The current analysis of different types of lead shot (bird, buck, rifle, and musket) indicates differences between specific batteries along the defensive earthwork. 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 GIS is extraordinary and is being increasingly employed by archaeologists who study past landscapes. It is important to understand, however, that the technique is only as powerful as the data behind the analysis. The technique relies on archaeological finds, artifacts, in context and for this reason it is critical that the spatial position of all artifacts, especially lead and iron shot, be recorded precisely. Plotting the distribution of mortar shell fragments, and solid shot offers in areas not previously surveyed offers the potential of further studying the deployment and effectiveness of British artillery during the siege. Magnetometer survey, initiated in the 2012 season, and planned for future investigations, holds great promise for this type of analysis. Certainly the mortar bomb, found in context, was instrumental in reconstructing the final days of the siege, and artillery and lead shot found on the larger battlefield, on both sides of the long defensive earthwork, will be similarly important for studying the larger siege.

The fact that these lead and iron shot can still be found in context within the National Historic Site, is the prime reason that metal detecting in the Fort Erie region, and in particular in any landscape contexts associated with the siege, within the protected area of the park, and also in the surrounding landscape, terrestrial and underwater, must be identified as a threat to the integrity of all War of 1812 archaeological resources. This type of illegal activity has a long history in the Fort Erie and larger Niagara region, and it is incumbent upon all licensed archaeologists to act to end this practice. The author believes that this is best accomplished through public education – public lectures, media coverage, and publication – where it is demonstrated to those who have been engaged in this activity in the past, or those who are actively engaged still, that these activities result in an irretrievable loss to the historical/archaeological record. Undocumented finds are akin to pages torn from a unique and rare book where the story of the site is made incomplete, never to be reconstructed.

Clearly, further excavation at the site of Old Fort Erie holds significant promise for studying the siege itself, as reflected by the fortification elements, but also for studying the daily life of those who were present at the site both before and after the siege. The site is unique in Canada in that it is both an American site for the period July – November 1814, but it is also a significant and long-term occupation by the British for the time before the war, 1760s to 1814, and after. Future controlled and carefully planned excavation holds the promise of learning more about all periods. The interplay of documentary and archaeological evidence informs historical reconstruction in a way that no single source can on its own and future research endeavours will undoubtedly aid in our understanding of the site within the context of this early and formative period in the province's history.

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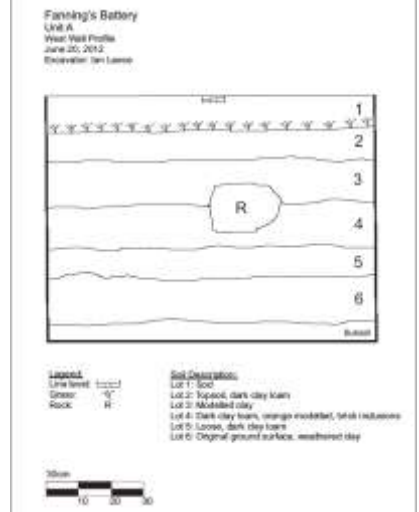
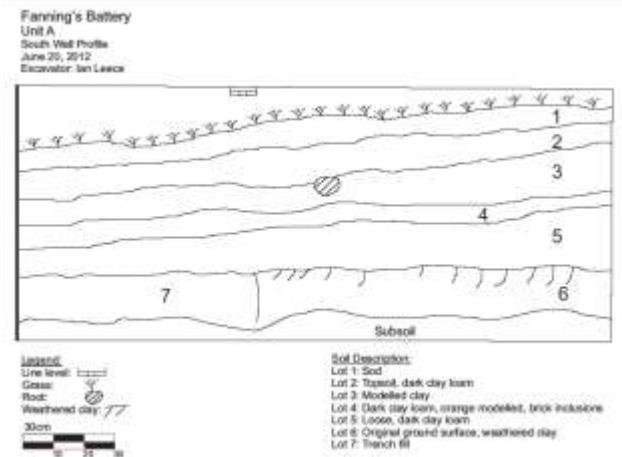
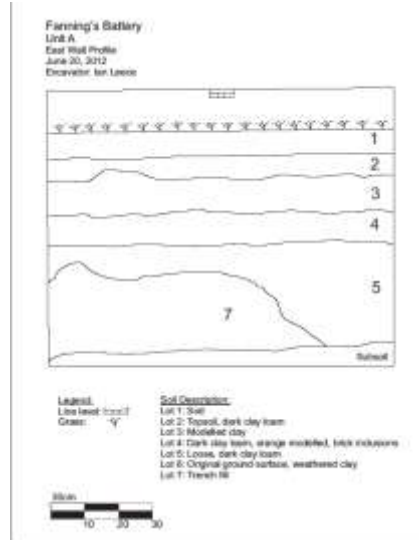
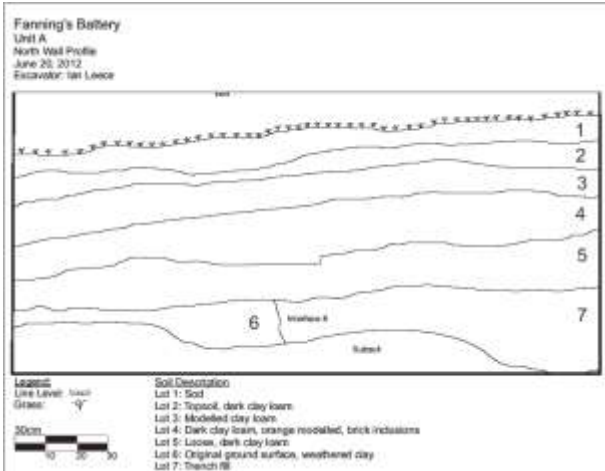
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Appendix A

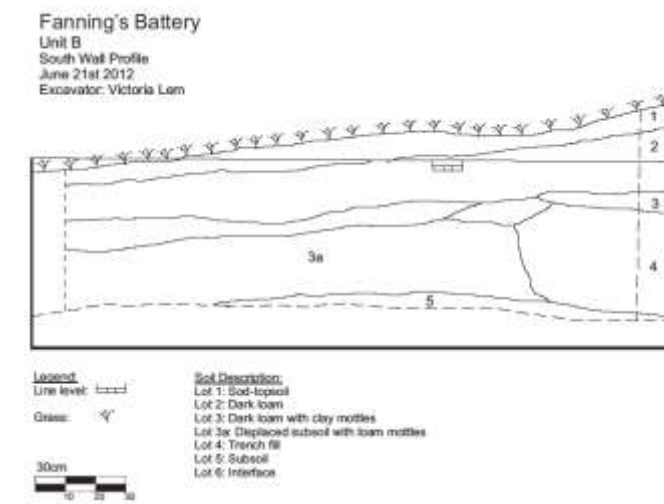
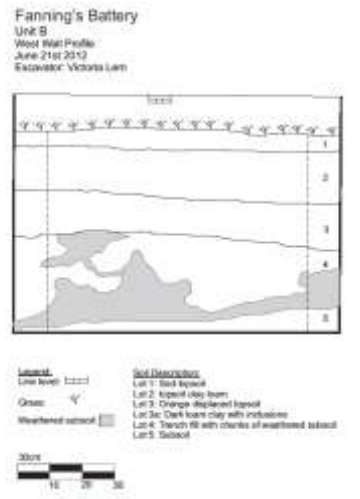
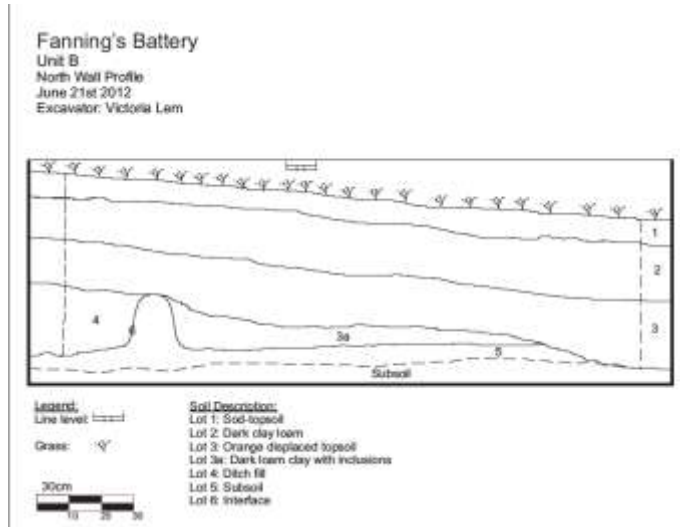
Technical Drawings – Stratigraphic Profiles

Fanning's Battery Profiles –

Unit A

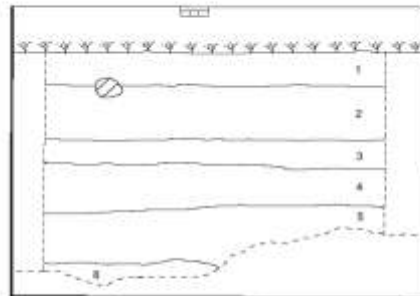


Profiles – Unit B

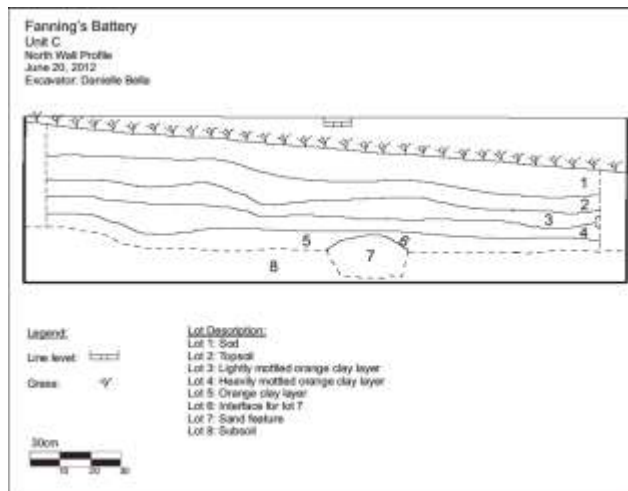


Profiles – Unit C

Fanning's Battery
Unit C
West Wall Profile
June 20, 2012
Excavator: Danielle Bels

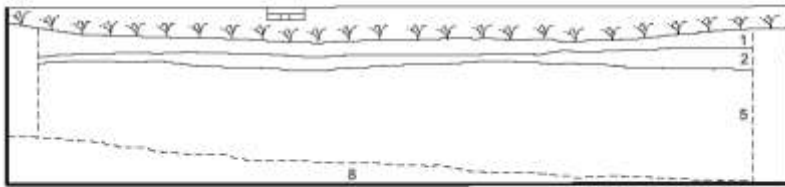


- Legend:**
- Line level: [Symbol]
 - Grass: [Symbol]
 - Root: [Symbol]
- Lot Description:**
- Lot 1: Sod
 - Lot 2: Topsoil
 - Lot 3: Lightly mottled orange clay layer
 - Lot 4: Heavily mottled orange clay layer
 - Lot 5: Orange clay layer
 - Lot 8: Subsoil

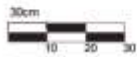


Profiles – Unit D

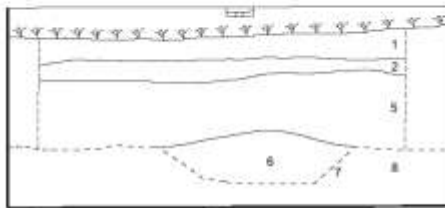
Fanning's Battery
Unit D
North Wall Profile
June 20, 2012
Excavator: Anne Marie Oliver



Legend: Soil Description:
Line level:  Lot 1: Sod
Grass:  Lot 2: Topsoil
 Lot 5: Mottled clay
 Lot 8: Subsoil



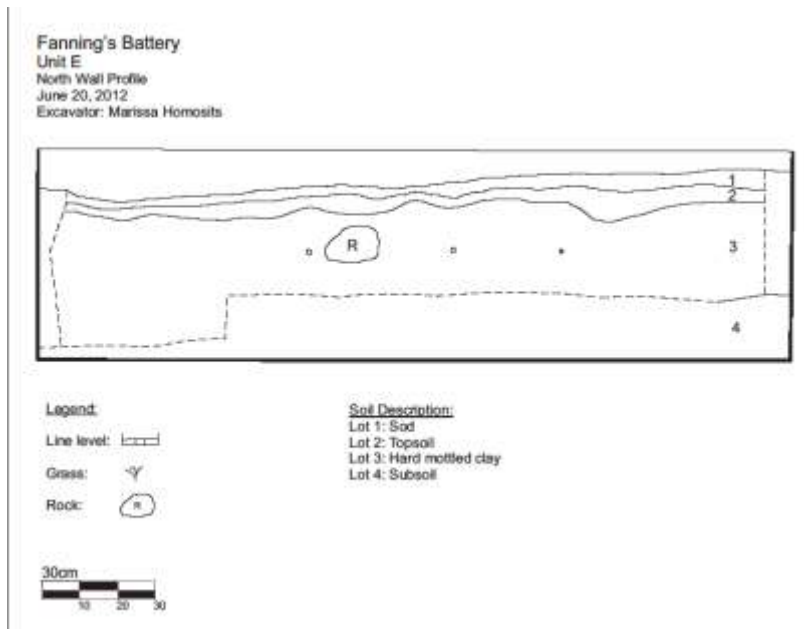
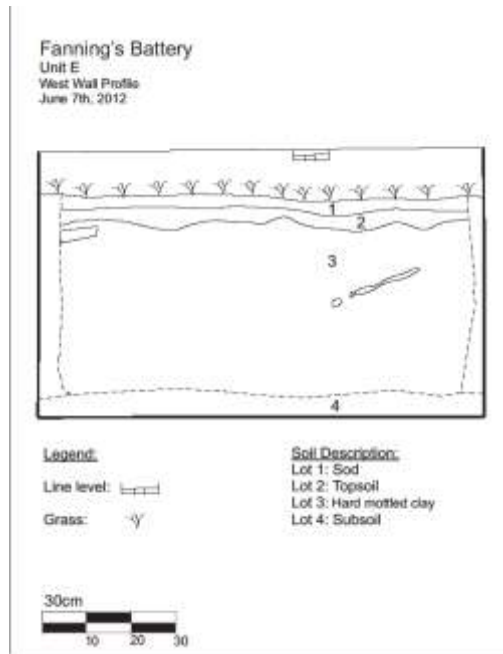
Fanning's Battery
Unit D
West Wall Profile
June 21, 2012
Excavator: Anne Marie Oliver



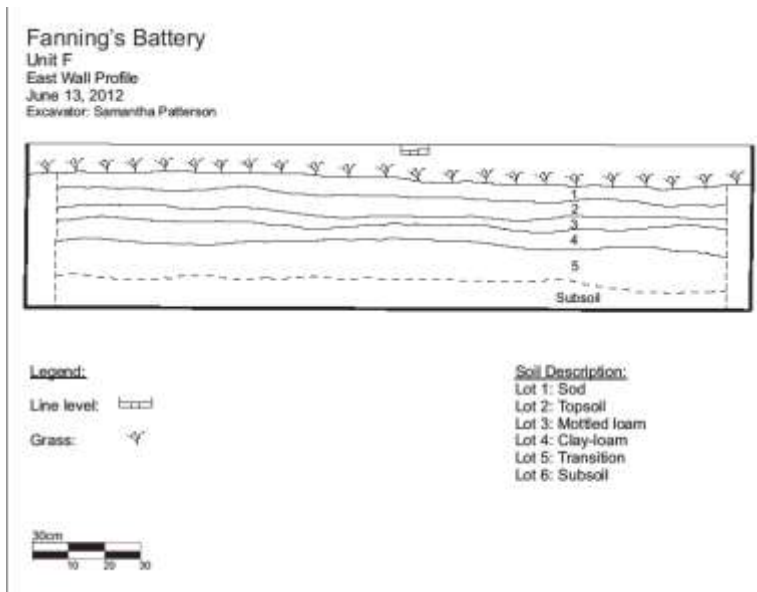
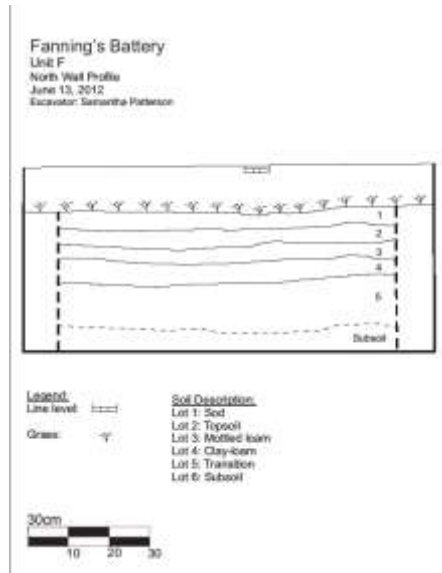
Legend: Soil Description:
Line level:  Lot 1: Sod
Grass:  Lot 2: Topsoil
 Lot 5: Mottled red orange clay
 Lot 6: Feature, sandy, loosely compacted soil
 Lot 7: Subsoil interface
 Lot 8: Subsoil



Profiles – Unit E

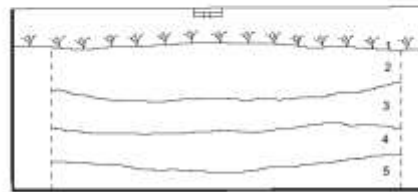
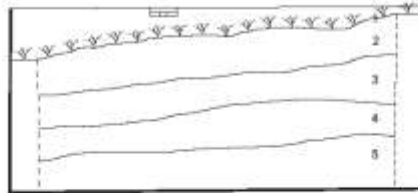


Profiles – Unit F



Profiles – Unit G

Fanning's Battery
Unit G
West Wall and East Wall Profiles
June 20, 2012
Excavator: Kelsey Grant

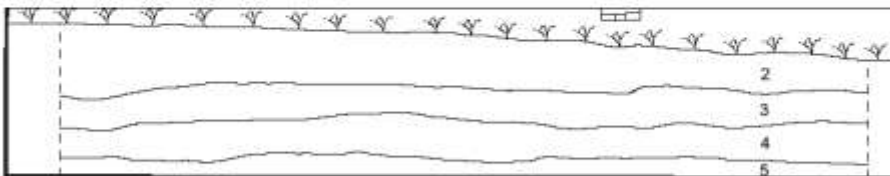
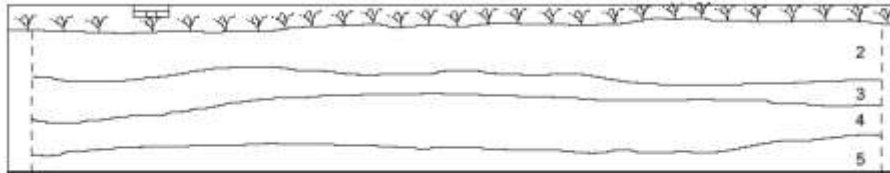



Legend:
Line level: 
Grass: 

Soil Description:
Lot 1: Topsoil
Lot 2: Clay loam
Lot 3: Mottled clay loam
Lot 4: Clay
Lot 5: Subsoil

30cm 

Fanning's Battery
Unit G
West North and East South Profiles
June 20, 2012
Excavator: Kelsey Grant



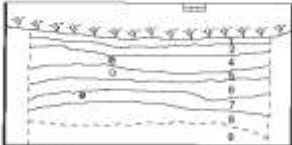
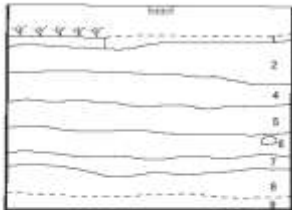
Legend:
Line level: 
Grass: 

Soil Description:
Lot 1: Topsoil
Lot 2: Clay loam
Lot 3: Mottled clay loam
Lot 4: Clay
Lot 5: Subsoil

30cm 

Profiles – Unit H

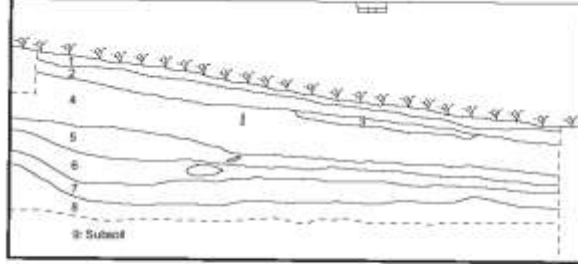
Fanning's Battery
Unit H
North and South Wall Profile
June 20, 2012
Excavator: Sara-Lyn Forman



Legend:
Line level: [Symbol]
Grass: [Symbol]
Root: [Symbol]

Soil Description:
Lot 1: Sod, clay-loam, medium compaction
Lot 2: Topsoil, clay-loam, medium/hard compaction
Lot 4: Clay, clay-loam, hard compaction
Lot 5: Loam-clay, orange and dark brown mottling, medium compaction
Lot 6: Loam, loamy soil, moderate amounts of orange clay, medium compaction
Lot 7: Mottled clay, clay-loam, extensive amounts of orange clay, medium compaction
Lot 8: Clay, clay soil, nearly homogeneous orange clay, medium hard compaction
Lot 9: Subcell, clay, homogeneous clay, medium/hard compaction

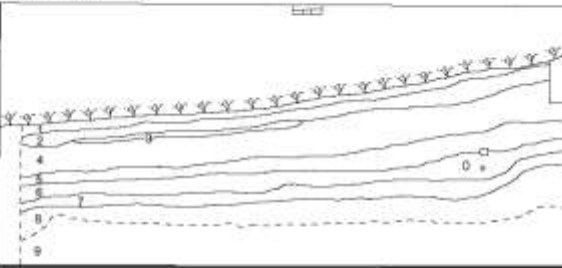
Fanning's Battery
Unit H
East Wall Profile
June 20, 2012
Excavator: Sara-Lyn Forman



Legend:
Line level: [Symbol]
Grass: [Symbol]

Soil Description:
Lot 1: Sod, clay-loam, medium compaction
Lot 2: Topsoil, clay-loam, medium/hard compaction
Lot 3: Clay mottling, clay-loam, orange clay mottling, medium/hard compaction
Lot 4: Clay, clay-loam, hard compaction
Lot 5: Loam-clay, orange and dark brown mottling, medium compaction
Lot 6: Loam, loamy soil, moderate amounts of orange clay, medium compaction
Lot 7: Mottled clay, clay-loam, extensive amounts of orange clay, medium compaction
Lot 8: Clay, clay soil, nearly homogeneous orange clay, medium hard compaction
Lot 9: Subcell, clay, homogeneous clay, medium/hard compaction

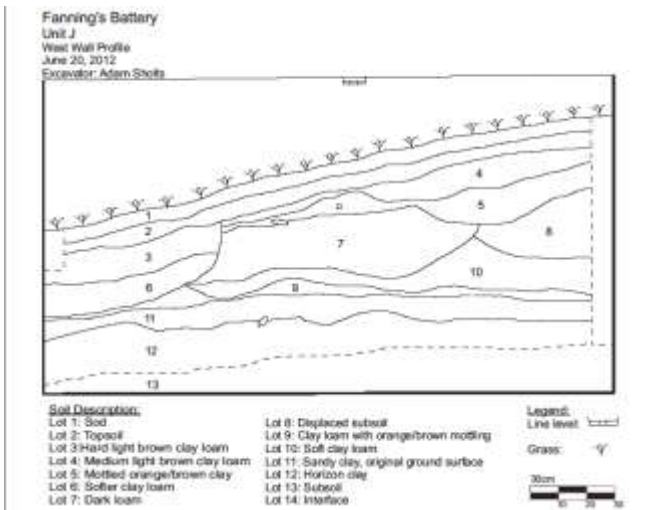
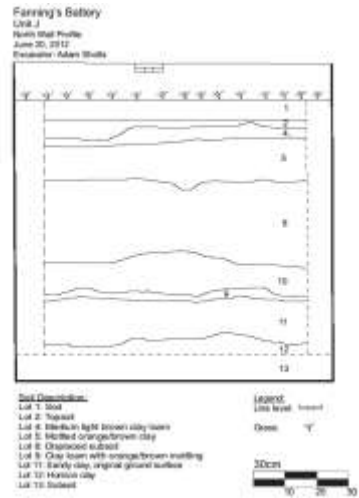
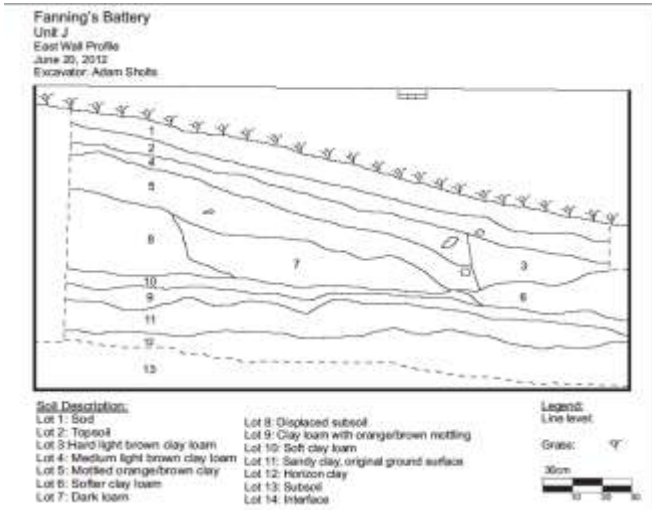
Fanning's Battery
Unit H
West Wall Profile
June 20, 2012
Excavator: Sara-Lyn Forman



Legend:
Line level: [Symbol]
Grass: [Symbol]

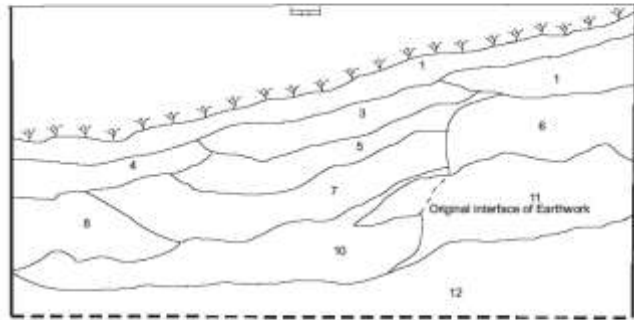
Soil Description:
Lot 1: Sod, clay-loam, medium compaction
Lot 2: Topsoil, clay-loam, medium/hard compaction
Lot 3: Clay mottling, clay-loam, orange clay mottling, medium/hard compaction
Lot 4: Clay, clay-loam, hard compaction
Lot 5: Loam-clay, orange and dark brown mottling, medium compaction
Lot 6: Loam, loamy soil, moderate amounts of orange clay, medium compaction
Lot 7: Mottled clay, clay-loam, extensive amounts of orange clay, medium compaction
Lot 8: Clay, clay soil, nearly homogeneous orange clay, medium hard compaction
Lot 9: Subcell, clay, homogeneous clay, medium/hard compaction

Profiles – Unit J



Profiles – Unit K

Fanning's Battery
 Unit K
 East Wall Profile
 June 18, 2012
 Excavator: Liam McGeer

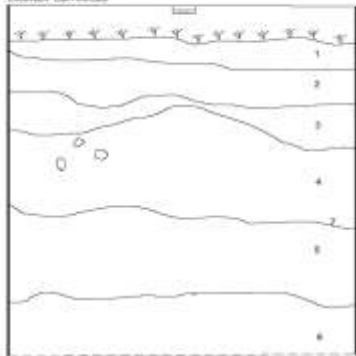


- Soil Description**
 Lot 1: Topsoil
 Lot 2: Clay loam
 Lot 3: Medium clay loam
 Lot 4: Wet, muddy loam
 Lot 5: Soft moist clay loam
 Lot 6: Mottled hard clay
 Lot 7: Mottled soft clay
 Lot 8: rusty clay loam
 Lot 9: Interface
 Lot 10: Soft wet clay loam
 Lot 11: Hard clay orange with charcoal
 Lot 12: Subsoil

- Legend**
 Line level: [dashed line symbol]
 Grass: [grass symbol]



Fanning's Battery
 Unit K
 South Wall Profile
 June 18, 2012
 Excavator: Liam McGeer

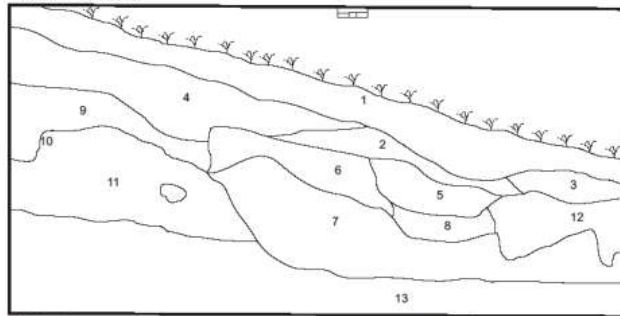


- Soil Description**
 Lot 1: Topsoil
 Lot 2: Medium clay loam
 Lot 3: Soft loam
 Lot 4: Mottled hard clay
 Lot 5: Hard orange clay with charcoal
 Lot 6: Subsoil
 Lot 7: Interface

- Legend**
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 Grass: [grass symbol]

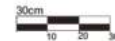


Fanning's Battery
 Unit K
 West Wall Profile
 June 18, 2012
 Excavator: Liam McGeer

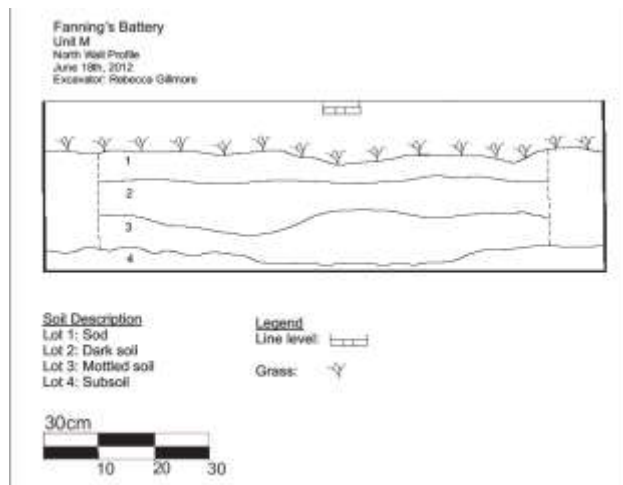
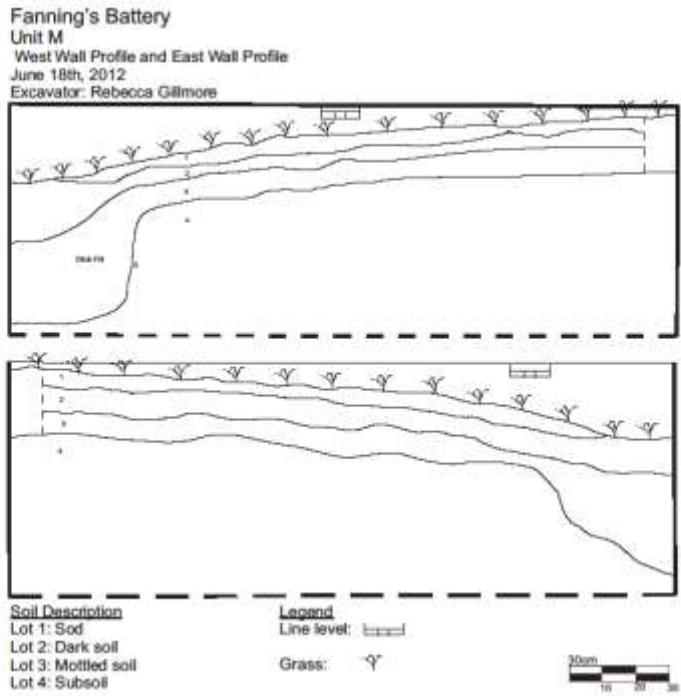


- Soil Description**
 Lot 1: Topsoil
 Lot 2: Medium clay loam
 Lot 3: wet, muddy loam
 Lot 4: Clay loam very dry and hard
 Lot 5: Mottled soft clay
 Lot 6: Soft clay loam, moist
 Lot 7: Soft clay loam, very wet
 Lot 8: rusty clay loam
 Lot 9: Mottled hard clay
 Lot 10: Interface
 Lot 11: Hard clay orange with charcoal
 Lot 12: Hard rusty clay
 Lot 13: Subsoil

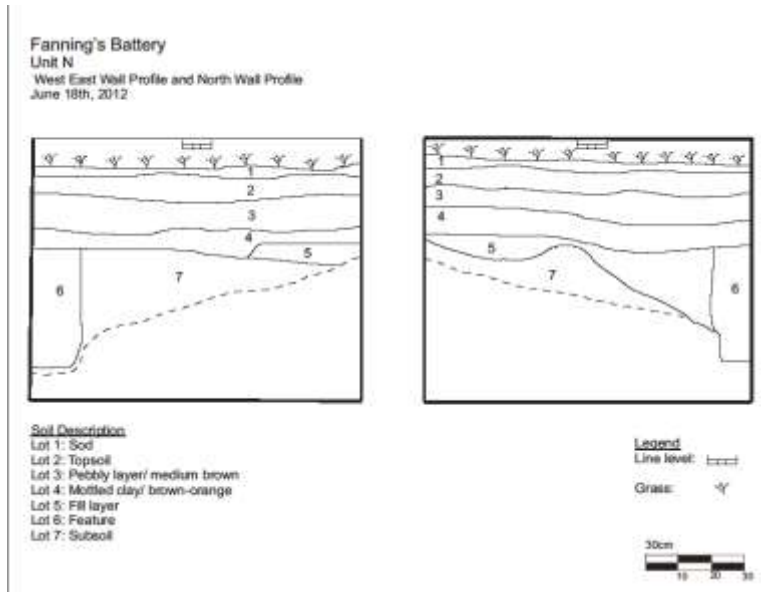
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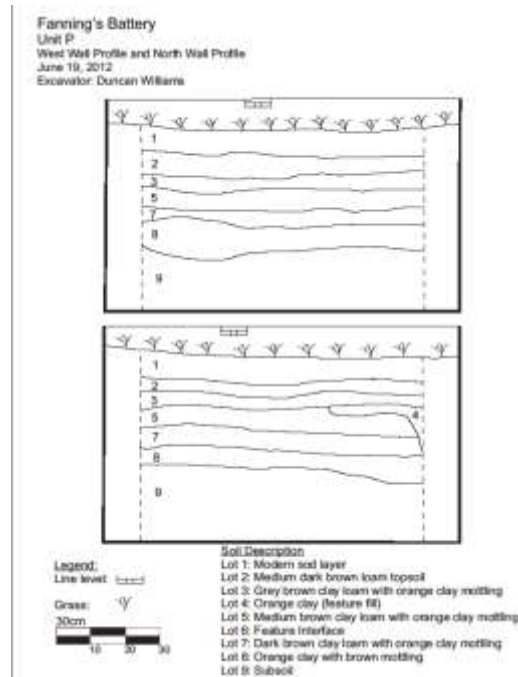
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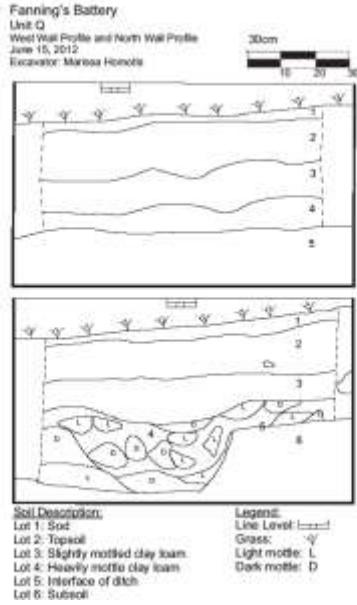
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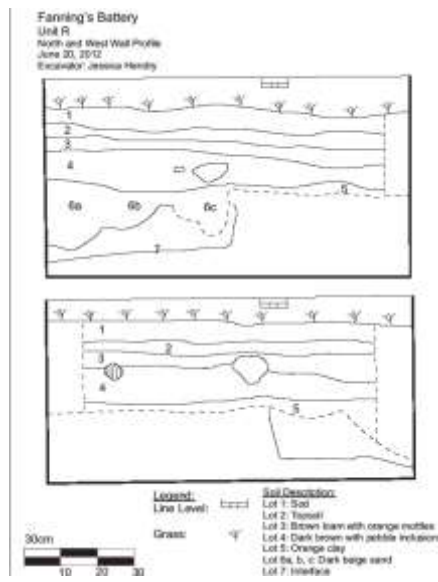
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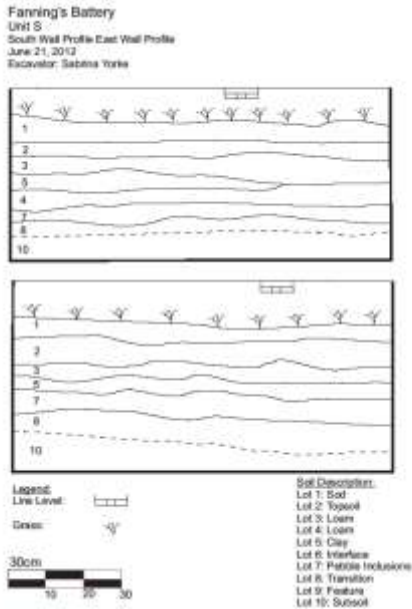
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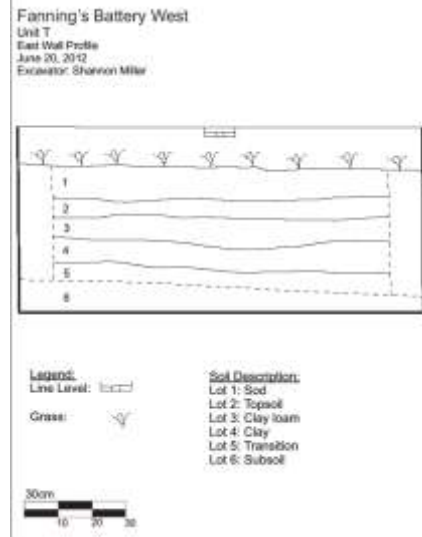
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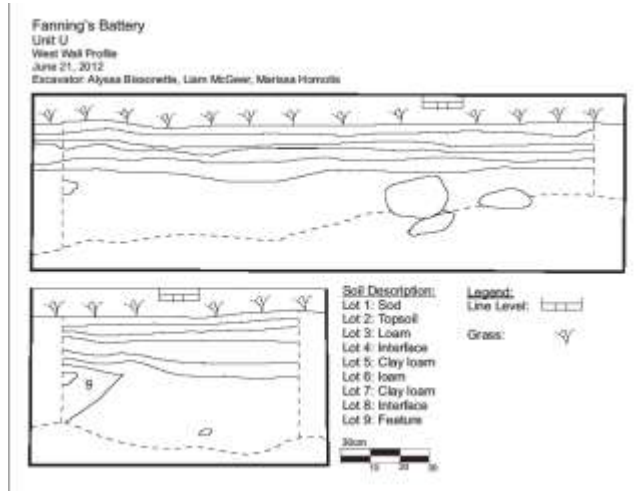
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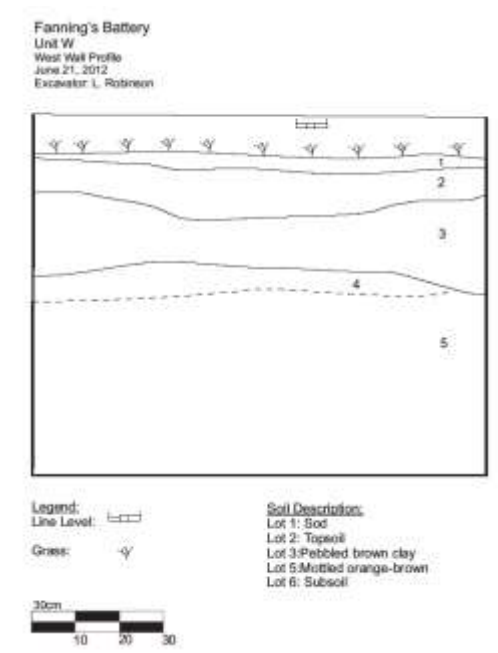
Profiles – Unit T



Profiles – Unit U

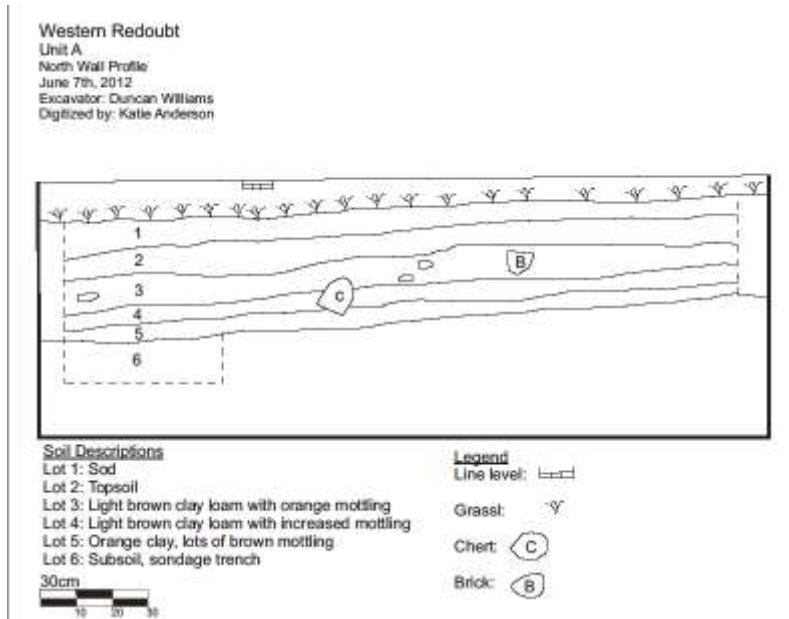


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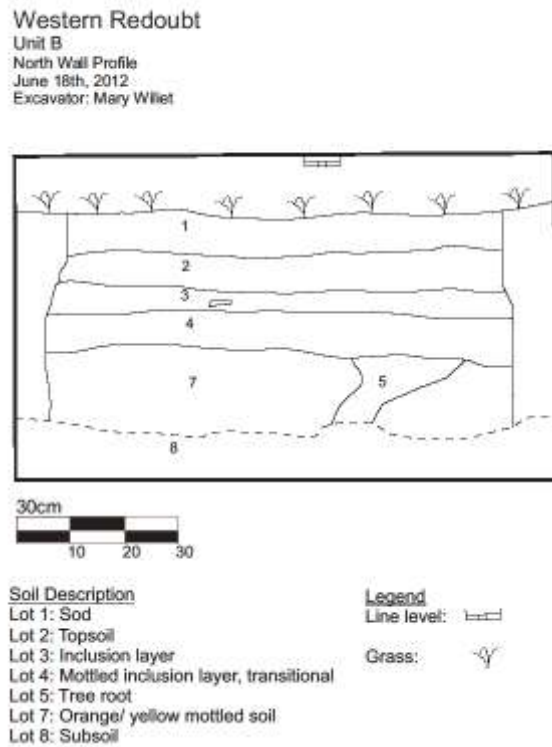
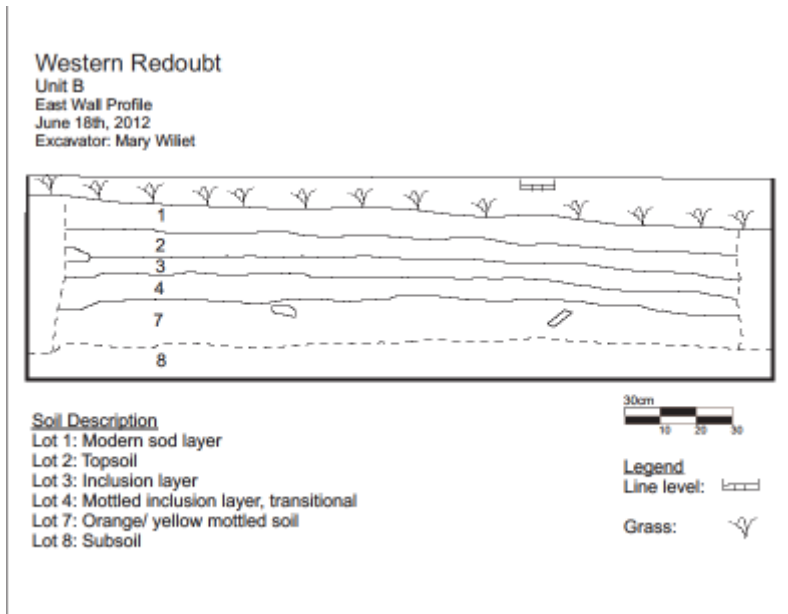


Western Redoubt Profiles –

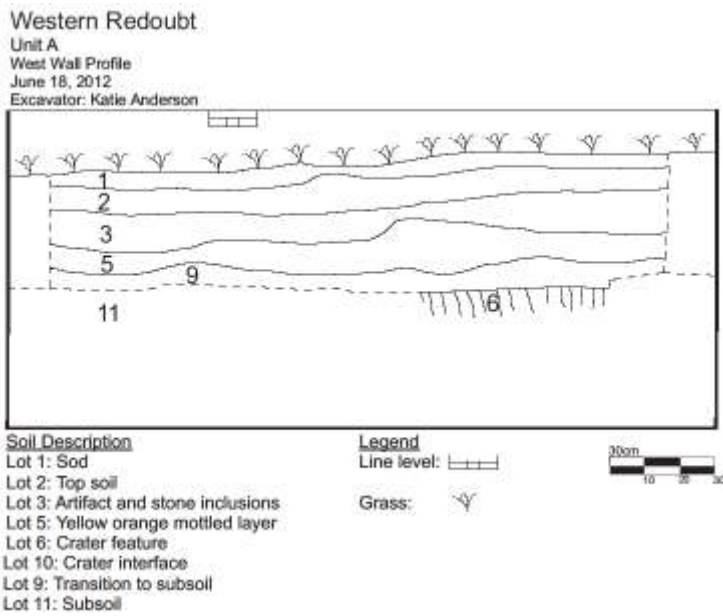
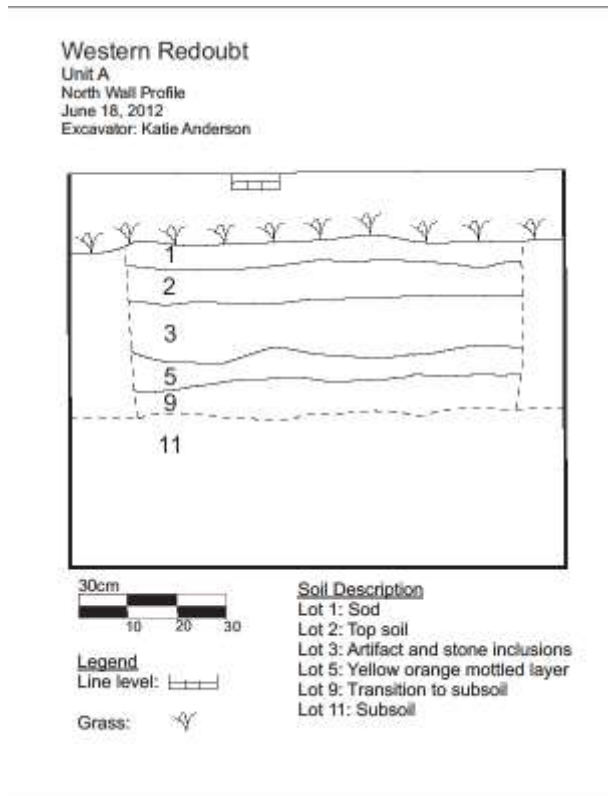
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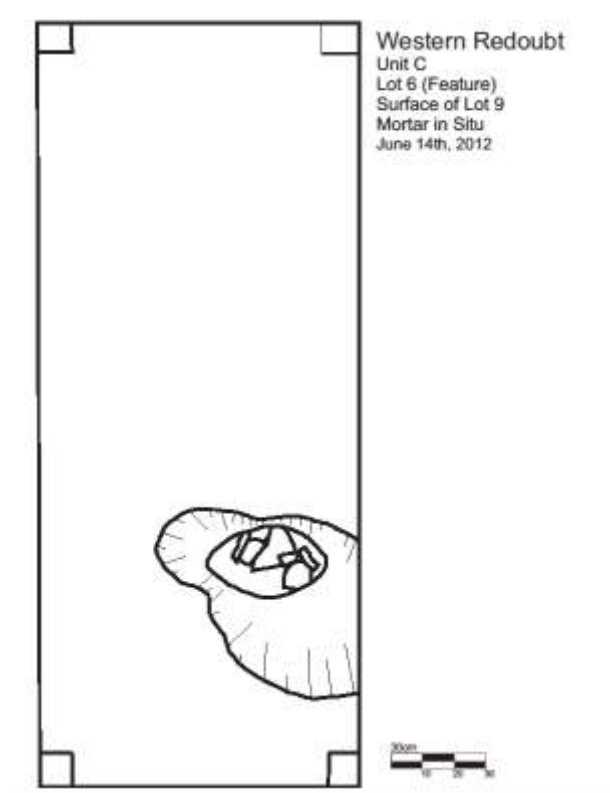


Unit B

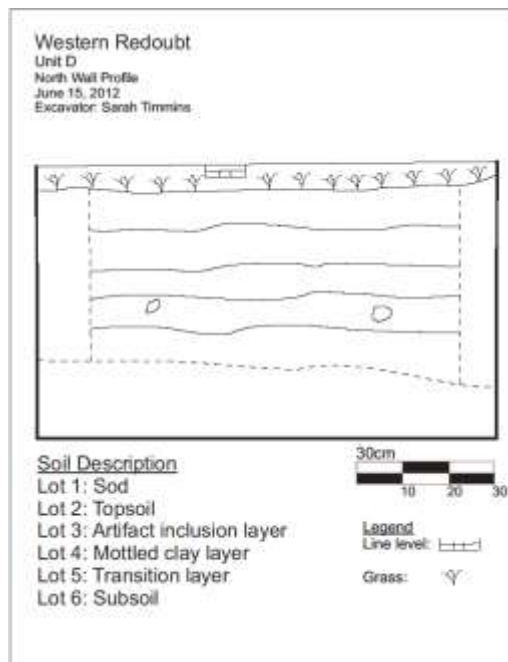
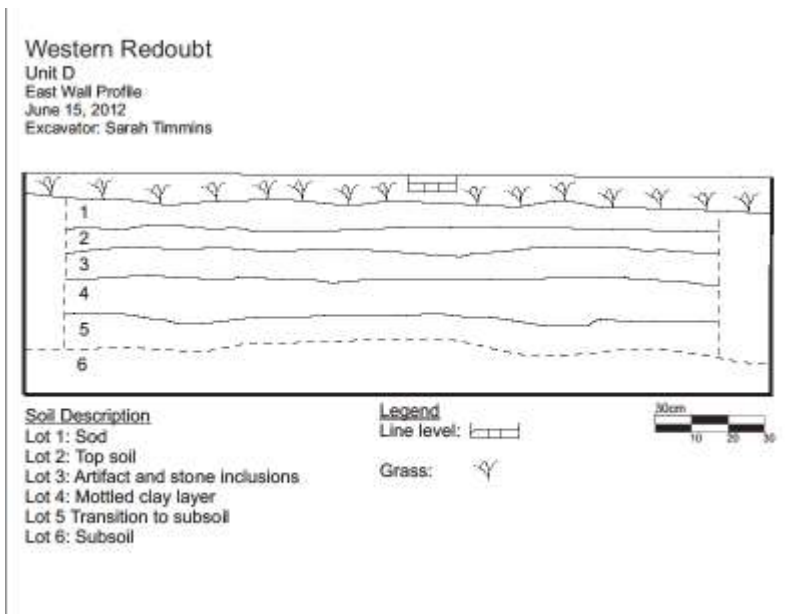


Unit C



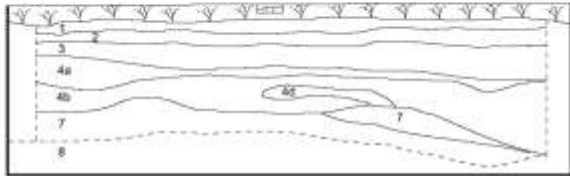


Unit D



Unit E

Western Redoubt
Unit E
East Wall Profile
June 15, 2012
Excavator: Kia Ohara

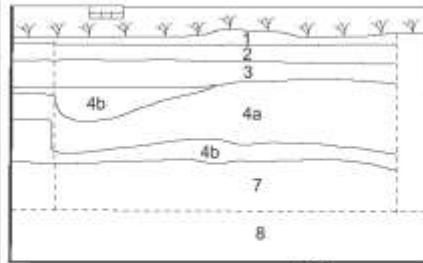


Soil Description

- Lot 1: Sod
- Lot 2: Topsoil
- Lot 3: Dark brown with orange clay mottles
- Lot 4a: Dark orange clay mottled with dark brown soil
- Lot 4b: Dark brown with charcoal inclusions (Ammunition)
- Lot 4c: Bright orange clay (not seen in profile)
- Lot 4d: Dark brown with gravel
- Lot 7: White-yellow sandy- top of earthwork (original surface)
- Lot 8: Subsoil

Legend
Line level:
Grass:

Western Redoubt
Unit E
North Wall Profile
June 14, 2012
Excavator: Kia Ohara



Soil Description

- Lot 1: Sod
- Lot 2: Topsoil
- Lot 3: Dark brown with orange clay mottles
- Lot 4a: Dark orange clay mottled with dark brown soil
- Lot 4b: Dark brown with charcoal inclusions (Ammunition)
- Lot 7: White-yellow sandy- top of earthwork (original surface)
- Lot 8: Subsoil

Legend
Line level:
Grass:

Western Redoubt
Unit E
West Wall Profile
June 15, 2012
Excavator: Kia Ohara



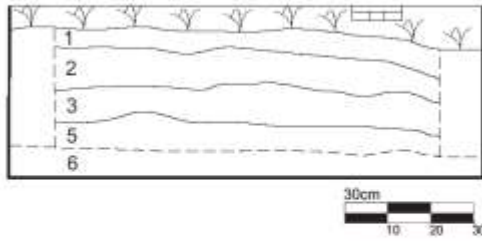
Soil Description

- Lot 1: Sod
- Lot 2: Topsoil
- Lot 3: Dark brown with orange clay mottles
- Lot 4a: Dark orange clay mottled with dark brown soil
- Lot 4b: Dark brown with charcoal inclusions (Ammunition)
- Lot 7: White-yellow sandy- top of earthwork (original surface)
- Lot 8: Subsoil



Legend
Line level:
Grass:

Unit F

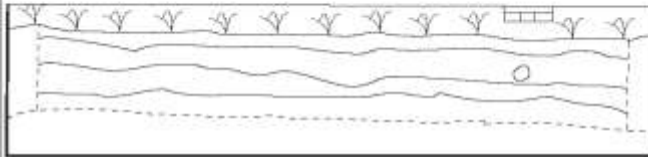
Western Redoubt
Unit F
East Wall Profile
June 14, 2012
Excavator: Sabrina Yorke





Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Loam layer
Lot 4: Interface
Lot 5: Clay layer
Lot 5: Subsoil

Legend
Line level: 
Grass: 

Western Redoubt
Unit F
North Wall Profile
June 15, 2012
Excavator: Sabrina Yorke



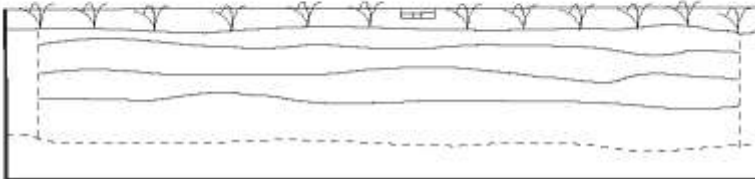
Soil Description
Lot 1: Sod
Lot 2: Topsoil
Lot 3: Loam layer
Lot 4: Interface
Lot 5: Subsoil

Legend
Line level: 
Grass: 



Unit G


Western Redoubt
Unit G
North Wall Profile
June 11, 2012
Excavator: Jessica Hendry




Soil Description

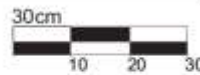
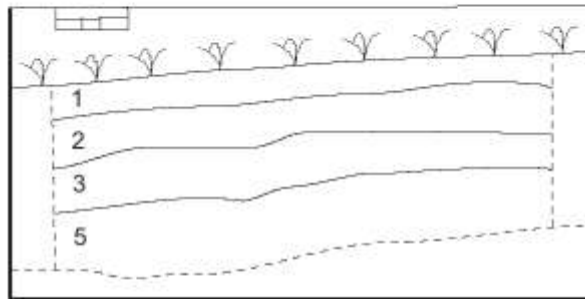
- Lot 1: Sod
- Lot 2: Brown loam with rock inclusions
- Lot 3: Brown loam with orange clay mottles
- Lot 4: Interface
- Lot 5: Subsoil

Legend

Line level: 

Grass: 


Western Redoubt
Unit G
West Wall Profile
June 11, 2012
Excavator: Jessica Hendry



Soil Description

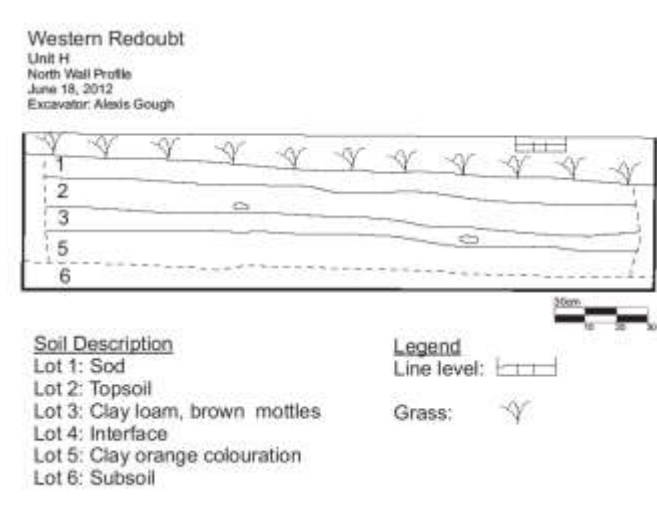
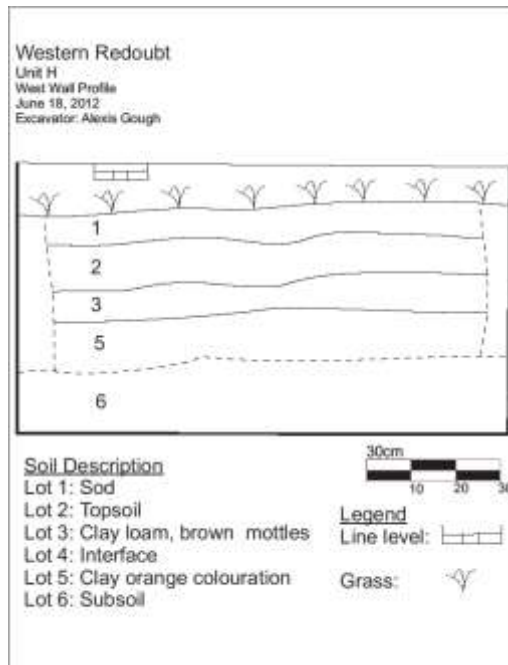
- Lot 1: Sod
- Lot 2: Topsoil
- Lot 3: Orange clay mottles
- Lot 4: Interface
- Lot 5: Subsoil

Legend

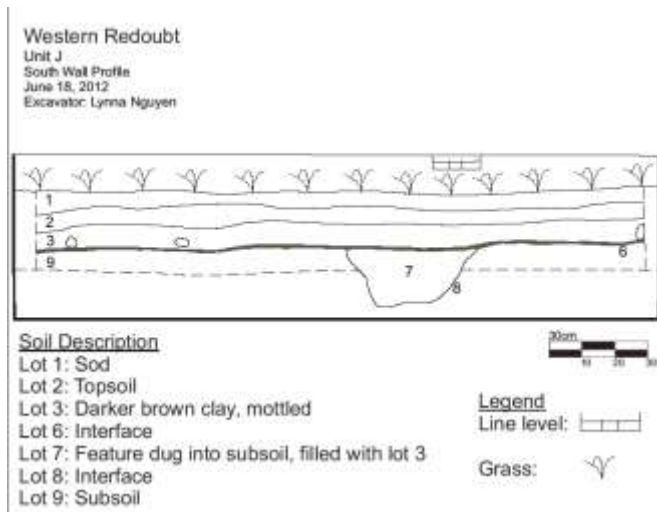
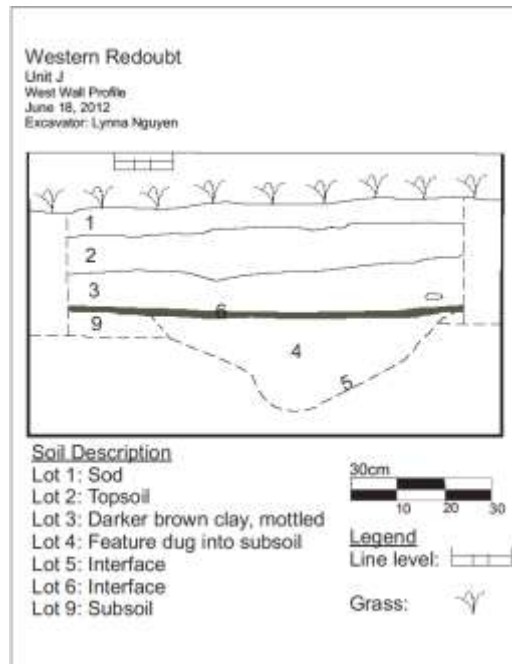
Line level: 

Grass: 

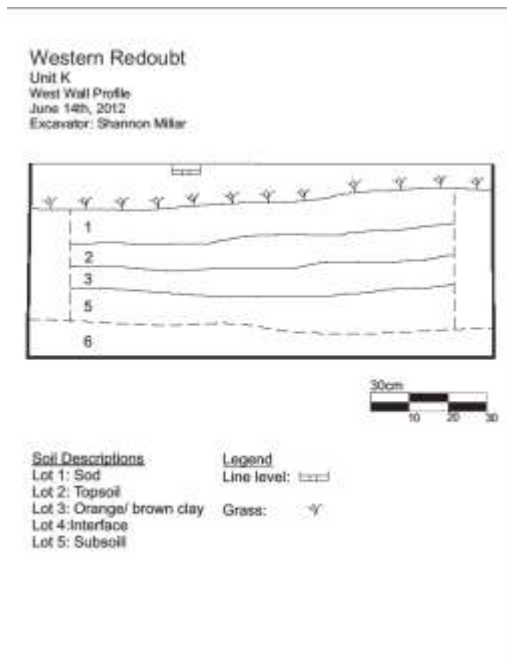
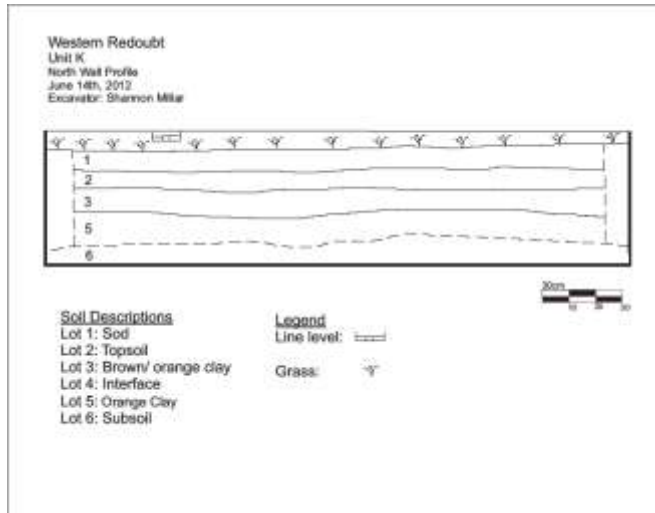
Unit H



Unit J



Unit K



Western Redoubt

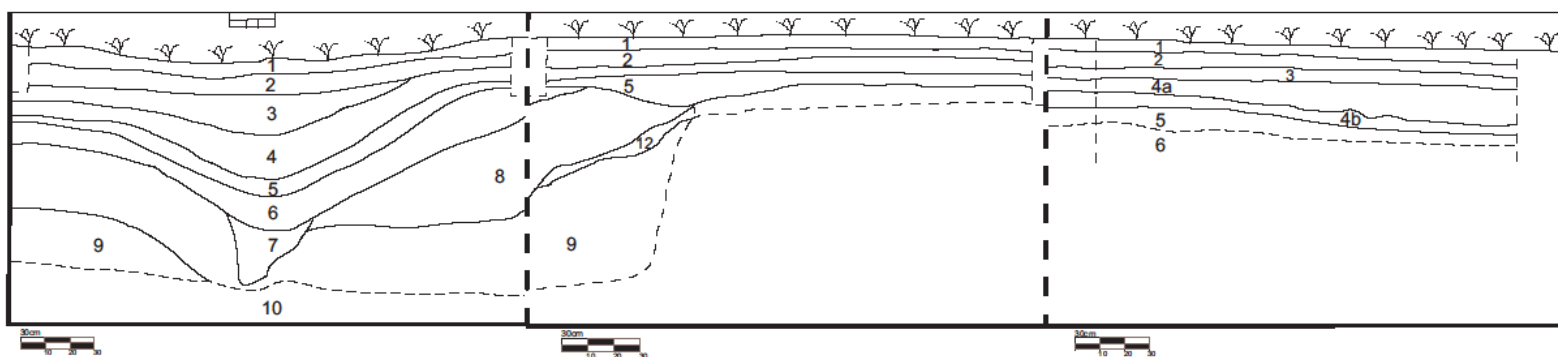
Unit N, Unit M, Unit P

East Wall Profile

June 19th and 21st, 2012

Excavator: Sarah Bolstridge, Kia Ohora

Digitized by: Katie Anderson

Soil Description For units N and M:

- Lot 1: Sod
- Lot 2: Dark brown loam/clay
- Lot 3: Dark orange clay with mottles of brown
- Lot 4: Grey brown clay with slight mottles
- Lot 5: Thin orange clay layer
- Lot 6: Dark brown grey loam/ clay (modern artifacts)
- Lot 7: Dark grey/ black loam fill in modern trench
- Lot 8: Clay, grey/brown cap of erosion on the earthwork face
- Lot 9: Grey/orange transition to subsoil with artifacts from the war of 1812
- Lot 10: Subsoil

Soil Description for Unit P:

- Lot 1: Sod
- Lot 2: Dark brown loam/clay
- Lot 3: rock inclusions in dark brown loam/clay
- Lot 4a: Dense mottled orange clay with dark brown clay
- Lot 4b: Loose dark clay/loam, heavy charcoal inclusions
- Lot 5: Sandy displaced subsoil
- Lot 6: Subsoil

Legend:

Line level:

Grass:

Appendix B

Artifact Images



Clockwise from top left: U.S. pewter uniform button – Fanning’s Battery E3; back of U.S. button showing copper shank; back of plain copper alloy button with thread – Western Redoubt H4; front of same



Top to bottom: clay smoking pipe with tin glaze on rim- Western Redoubt F4; overglaze transfer-printed porcelain – Western Redoubt N5; porcelain doll arm – Western Redoubt K3.



Top: lead artillery quill primer – Western Redoubt N7; Bottom: Sword hilt guard, Western Redoubt N9.



First row: pharmaceutical bottle base with pontil scar, Western Redoubt G4; sword scabbard clip, Western Redoubt N5; Second row: percussion caps, Fanning's Battery N2; Door handle and latch, Western Redoubt E4b; Third row: black glass polyhedral trade beads, Western Redoubt H4; white glass polyhedral trade beads, Western Redoubt H4.



First row: musket strap swivel hinge, Fanning's Battery P8; musket frizzen, Fanning's Battery H7; Second row: glazed red earthenware smoking pipe, exterior, Western Redoubt B4; glazed earthenware smoking pipe, interior, Western Redoubt B4; Third row: shako hat plate fragment, Fanning's Battery G3; salt-glazed stoneware with lettering ' - MOW-' or 'WOM - ' Fanning's Battery C3.

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

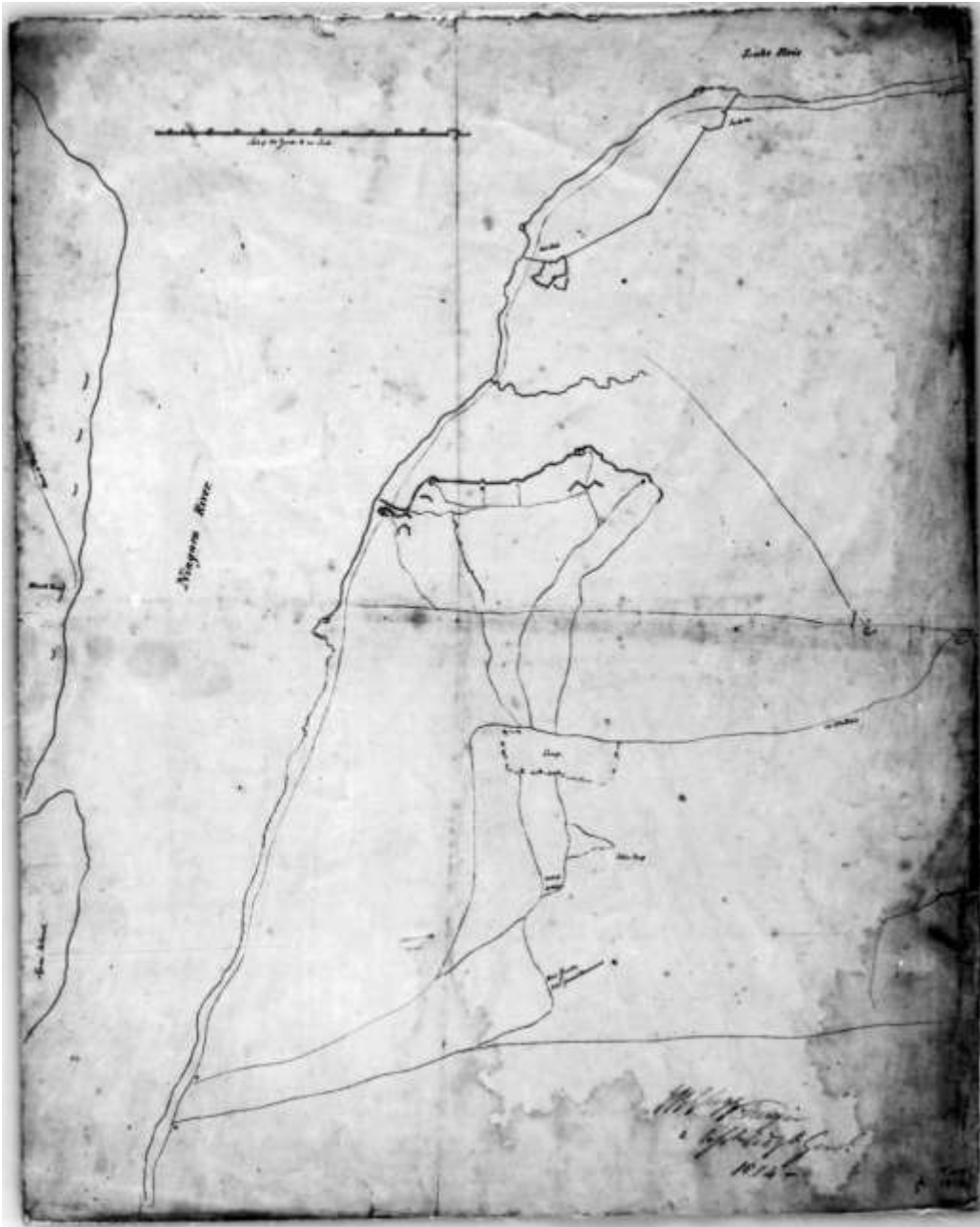


Figure 1 [1814] Sketch showing the situation of Fort Erie and position of forces for the attack by the British [Sgd] J.B. Glegg Major & Asst Adjt Genl 1814 Library and Archives Canada, NMC 4857.

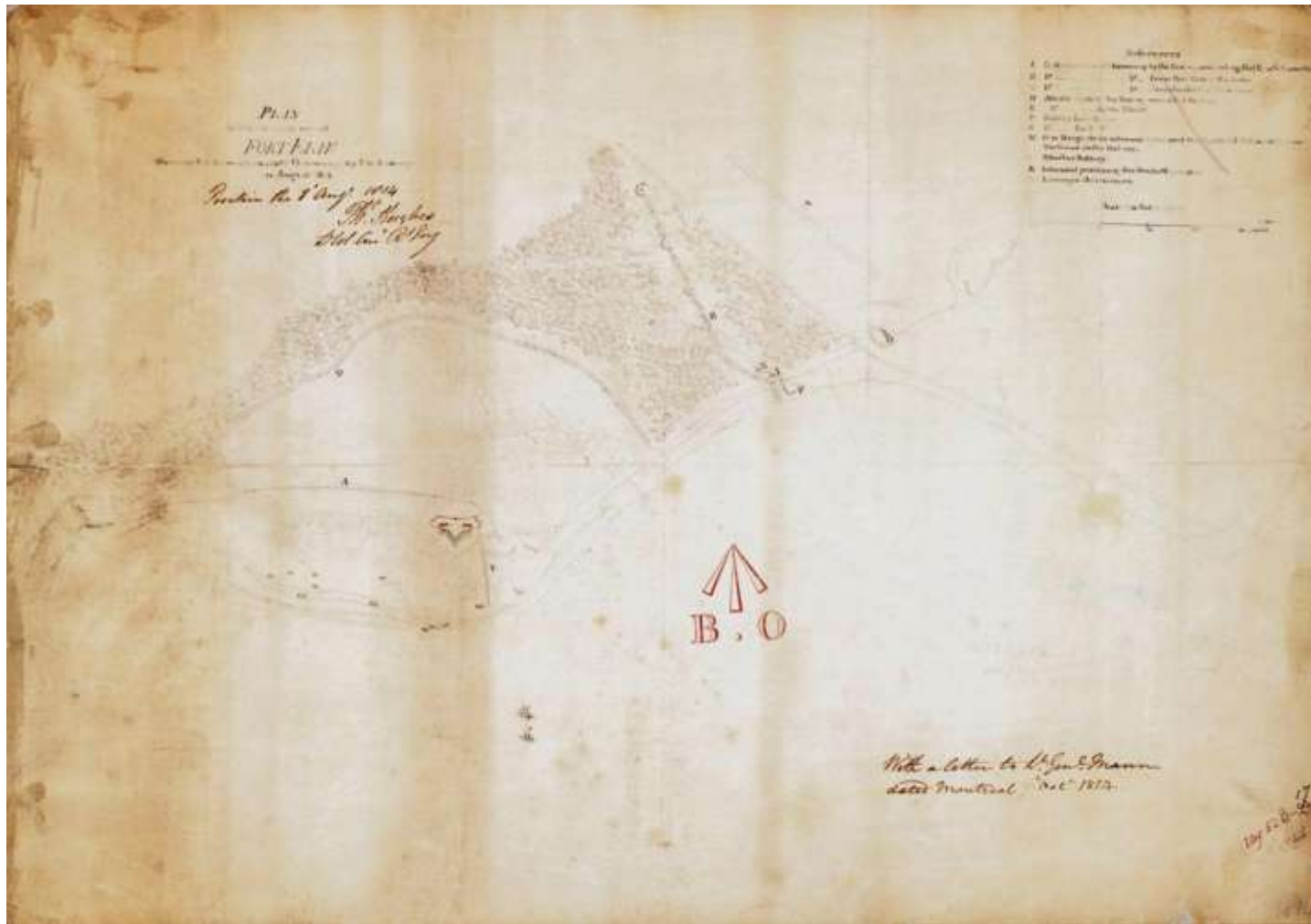


Figure 2 August 8, 1814 plan by Ph (Philip) Hughes, Library and Archives Canada NMC 3803.

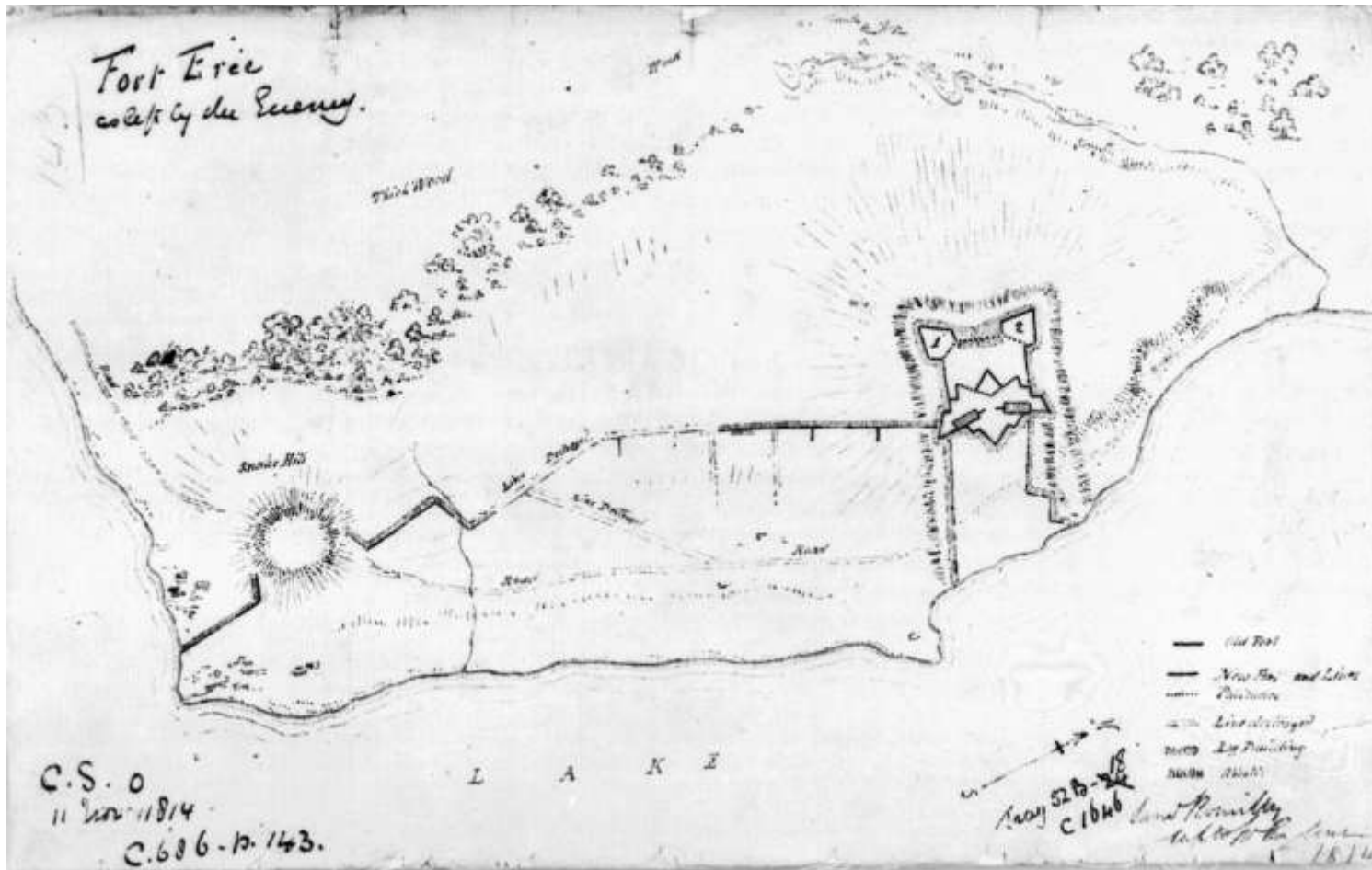


Figure 3 [1814] [Endorsed title]: 'Fort Erie as left by the Enemy.' [Sgd] Sam Romilly Lieut R1 Engineers. Library and Archives Canada, NMC 70956.

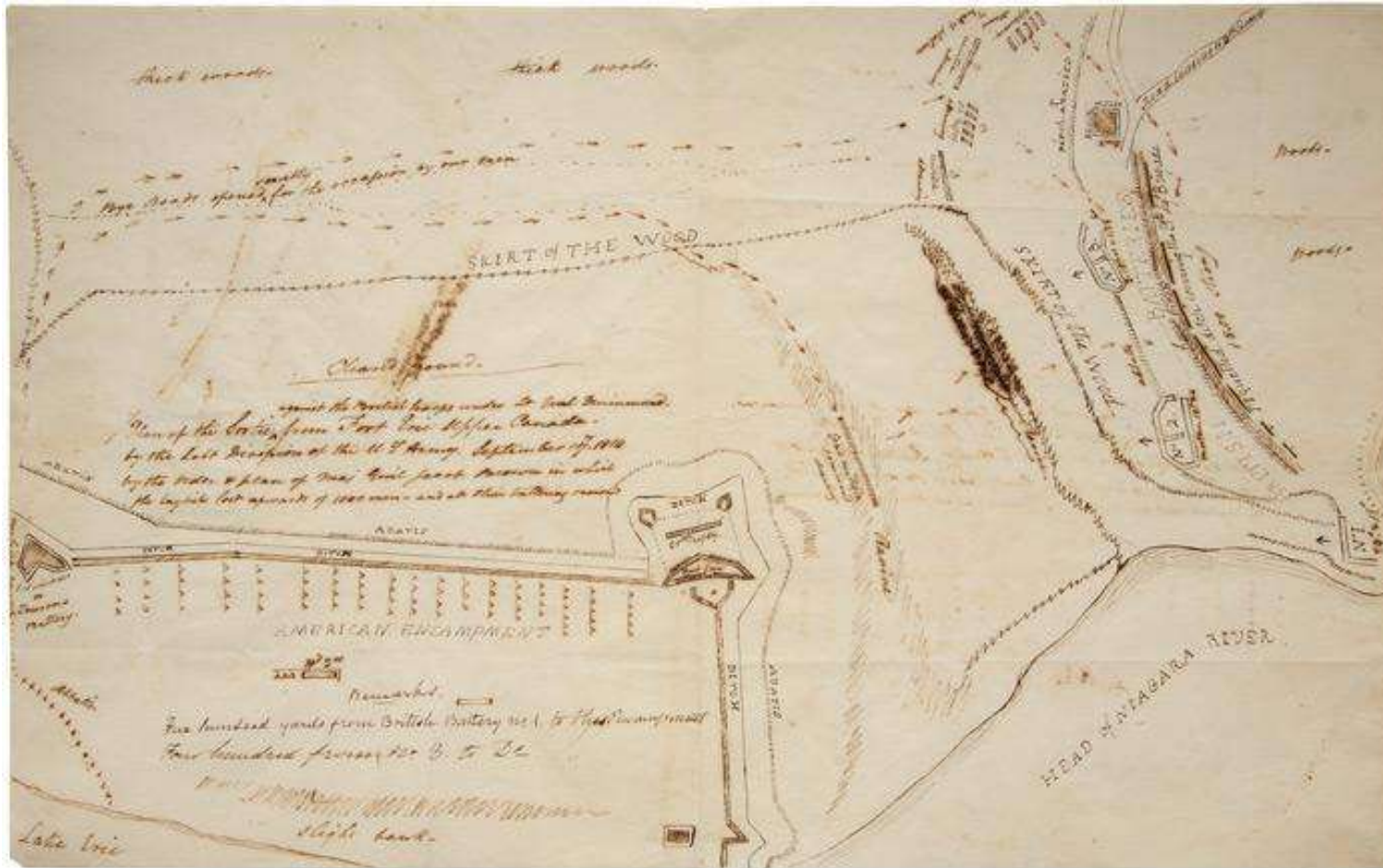


Figure 4 Map from David Hobden from William Reese and on file in the Clements Library, University of Michigan.



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 R1 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.

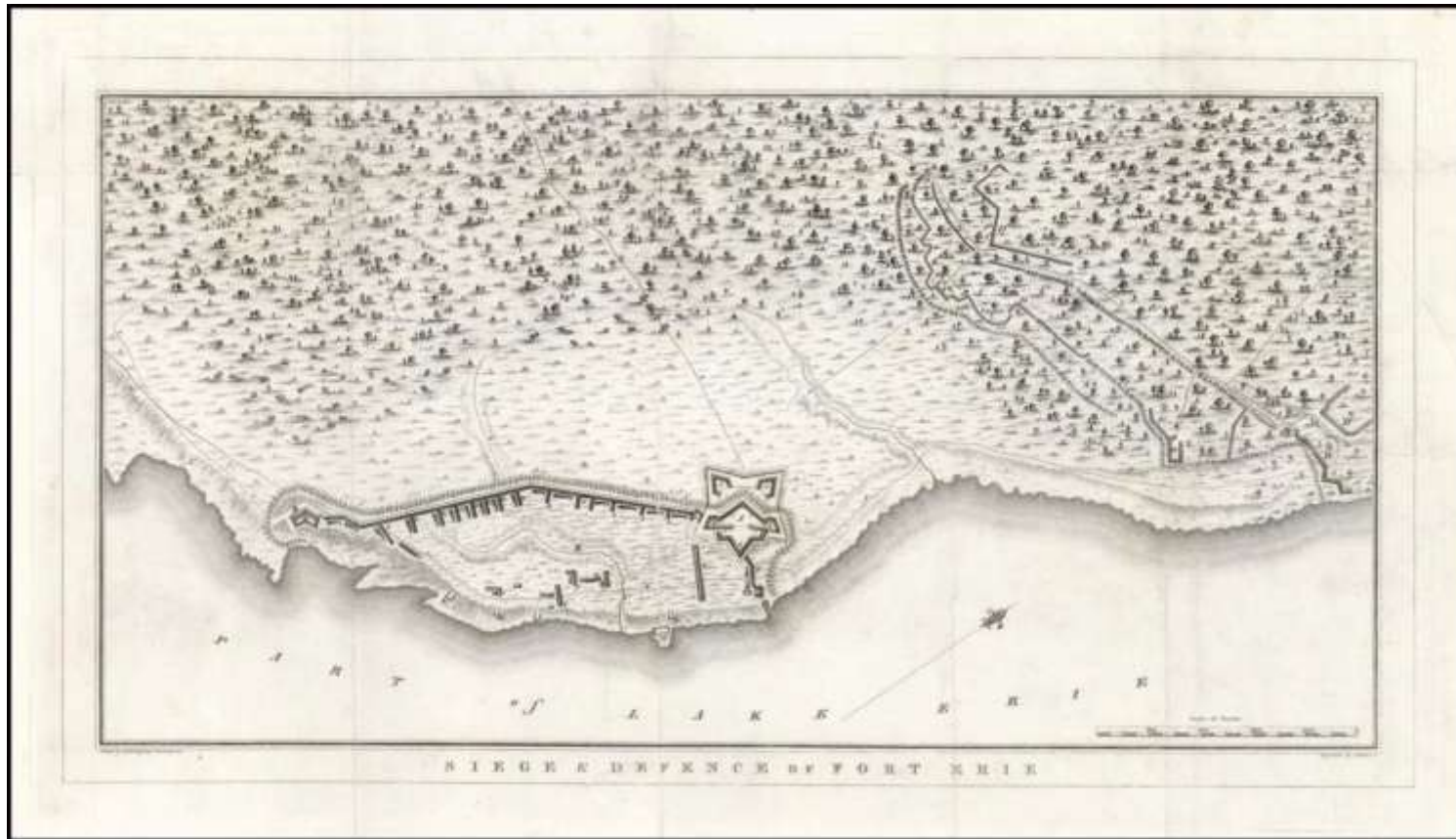


Figure 7 1816 Siege and Defense of Fort Erie, by D.B. Douglass and John Vallance, in Dennie, Joseph 1816 *Attack on Fort Erie*. Portfolio Magazine, Philadelphia.

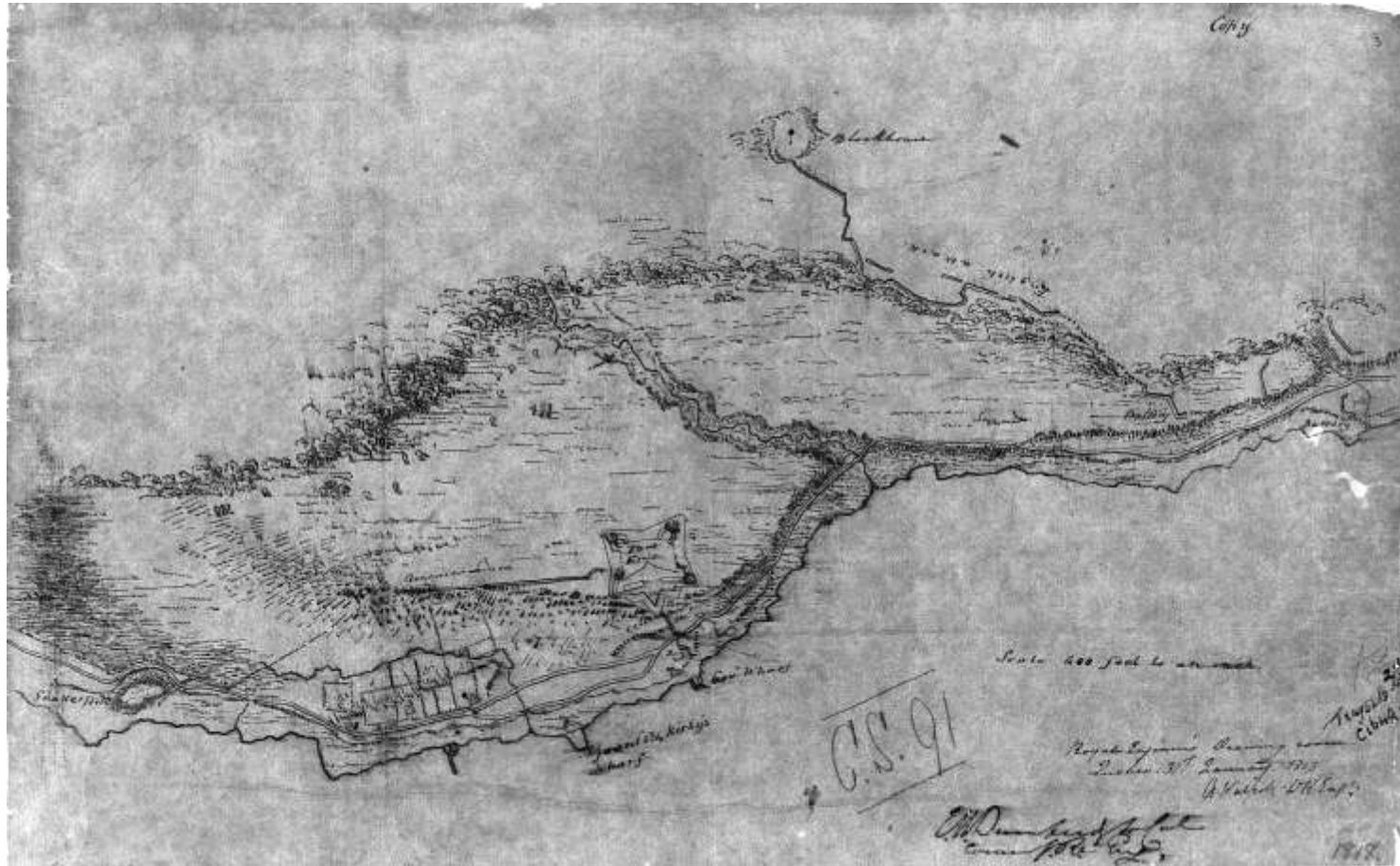


Figure 8 1818 Royal Engineers plan of Fort Erie by A. Walpole and E.W. Durnford. Library and Archives Canada, NMC 3804.



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

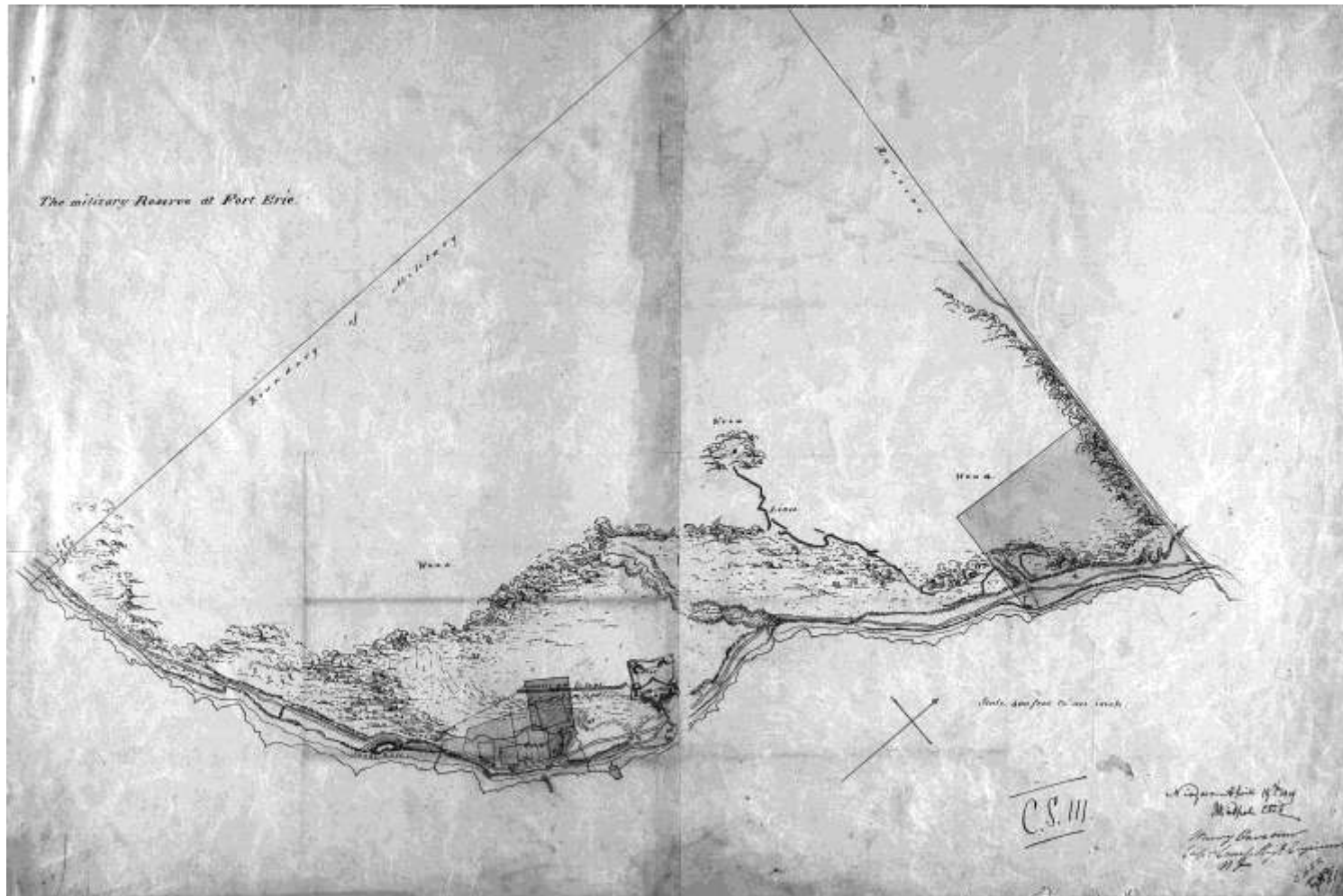


Figure 10 1819 plan of Fort Erie and Military Reserve, by A. Walpole and Capt. Henry Vavasour, Royal Engineers Library and Archives Canada, NMC 22342.

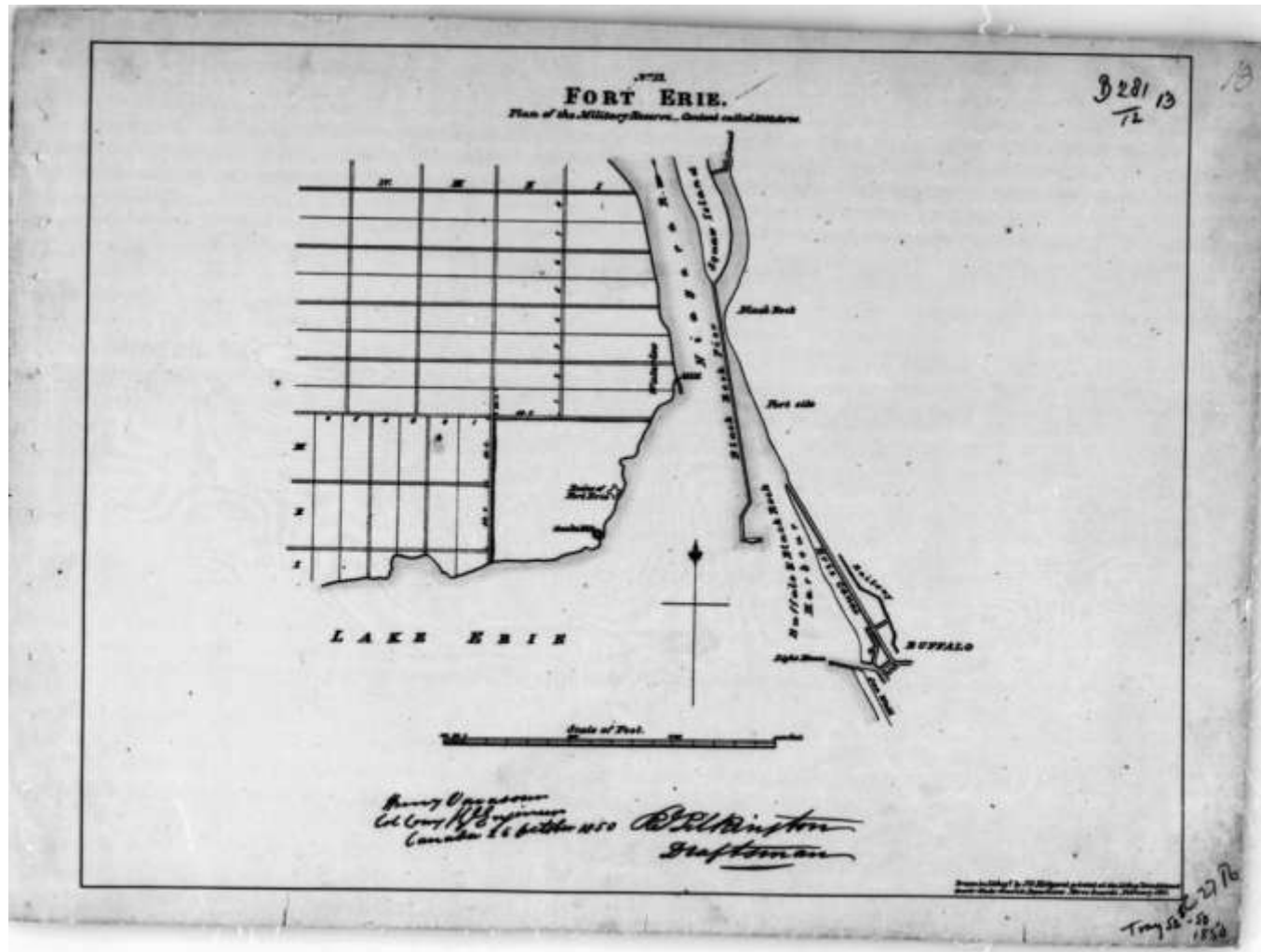


Figure 11 [1851] No. 13 Fort Erie, Plan of the Military Reserve by Henry Vavasour, Royal Engineer showing 'Ruins of Fort Erie'. Library and Archives Canada, NMC 3811.

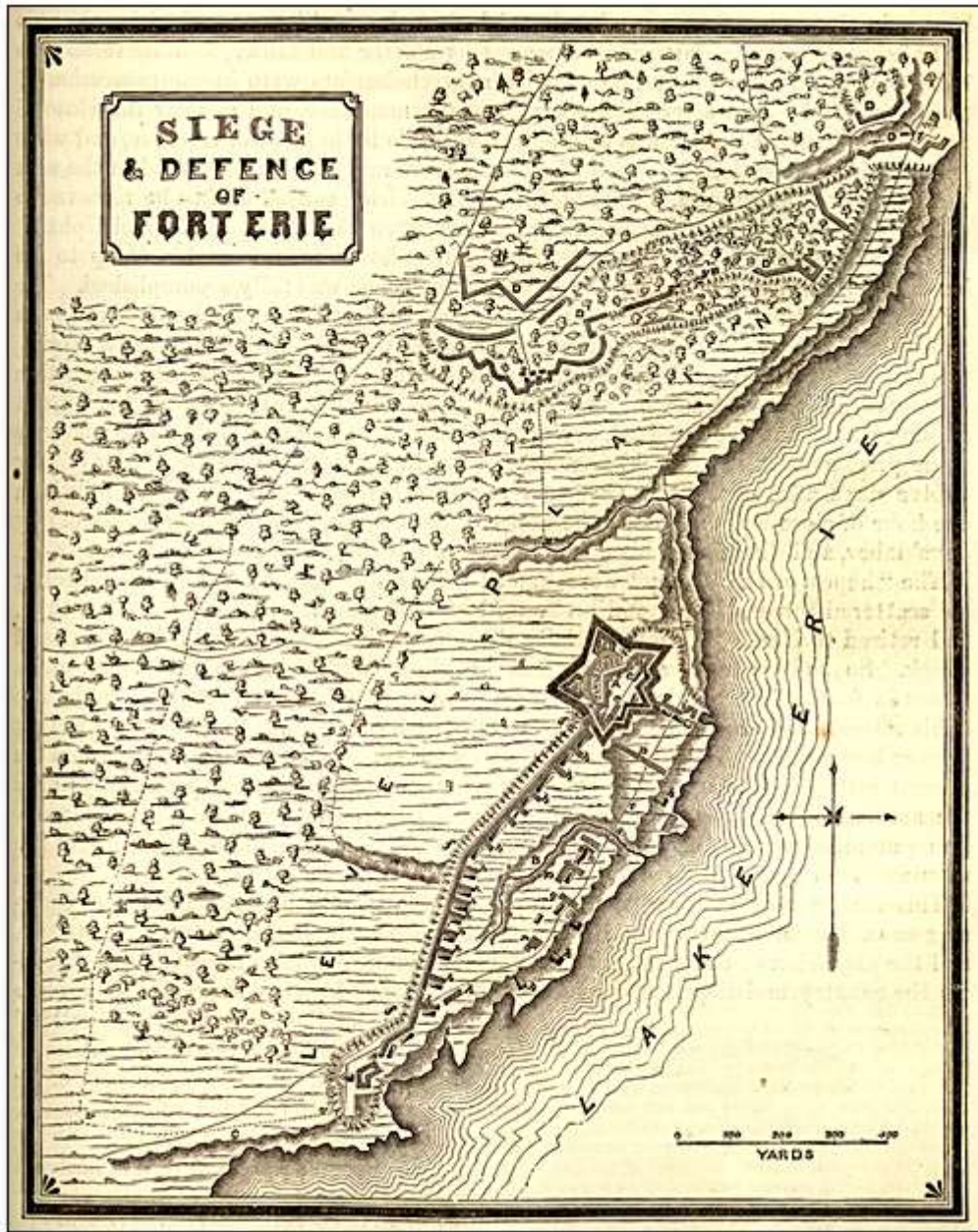


Figure 12 Plan of Fort Erie from *Pictorial Field-book of the War of 1812*, by Benson J. Lossing, 1869. Illustration. Reference Code: 971 .034 LOS, page 839 Archives of Ontario Library.

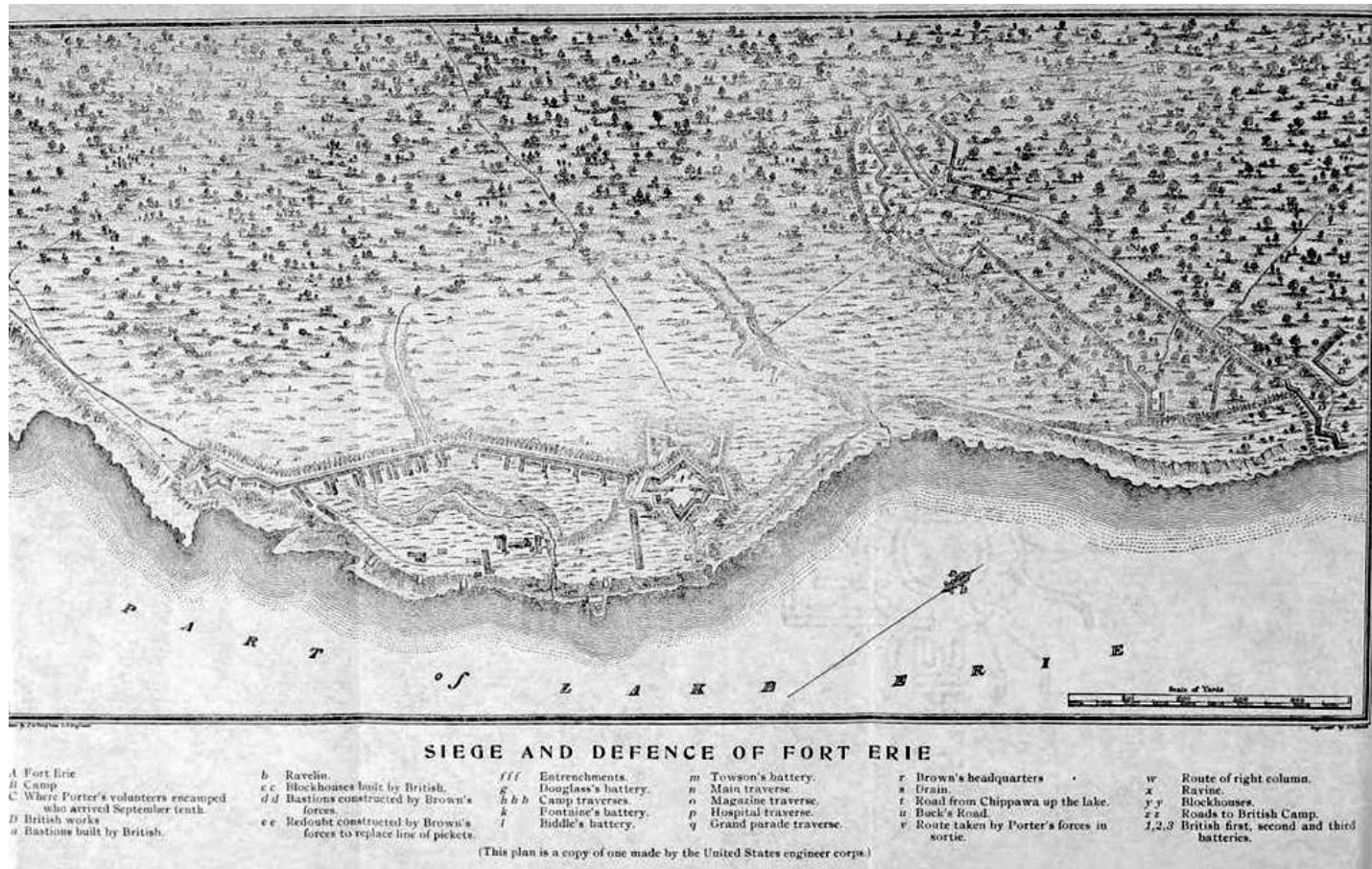


Figure 13 1905 Cruickshank (copy of Douglass 1816 plan).



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.

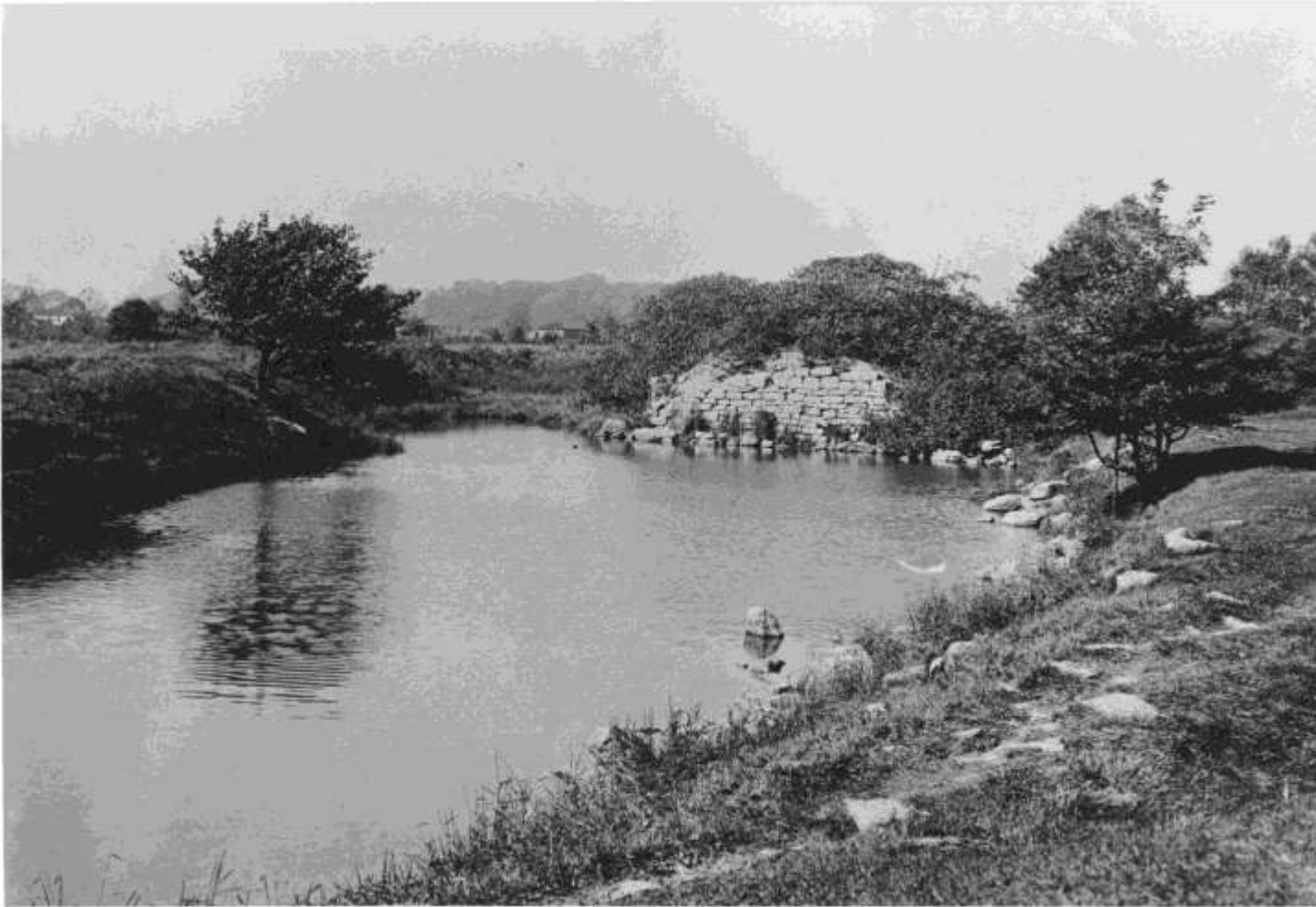
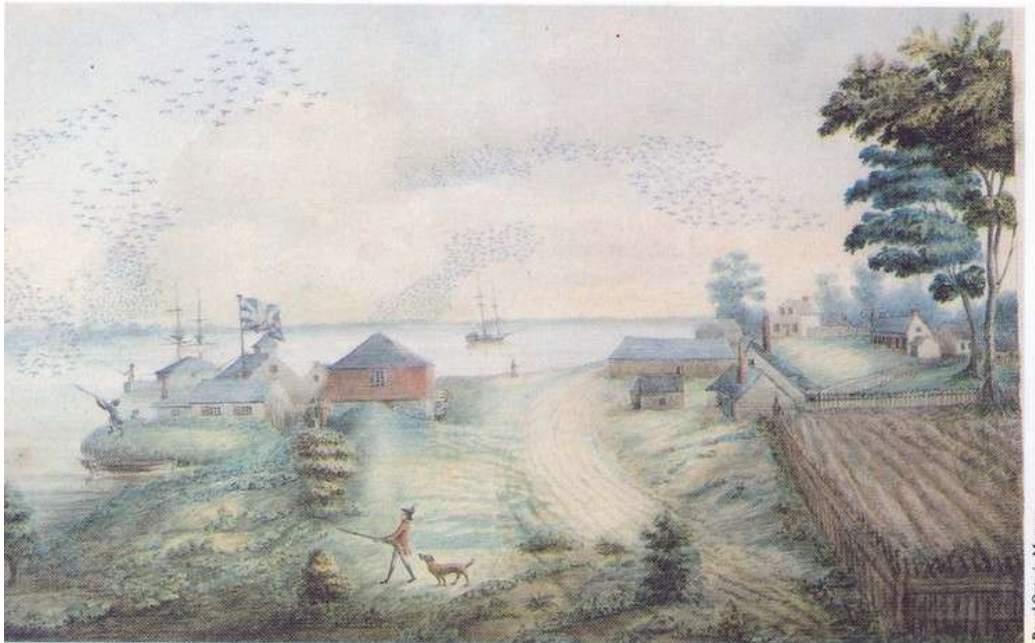


Figure 17 View of ruins of bastion at Old Fort Erie showing inundated defensive ditch. Undated photograph on file at Old Fort Erie, NHS.



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.



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

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.

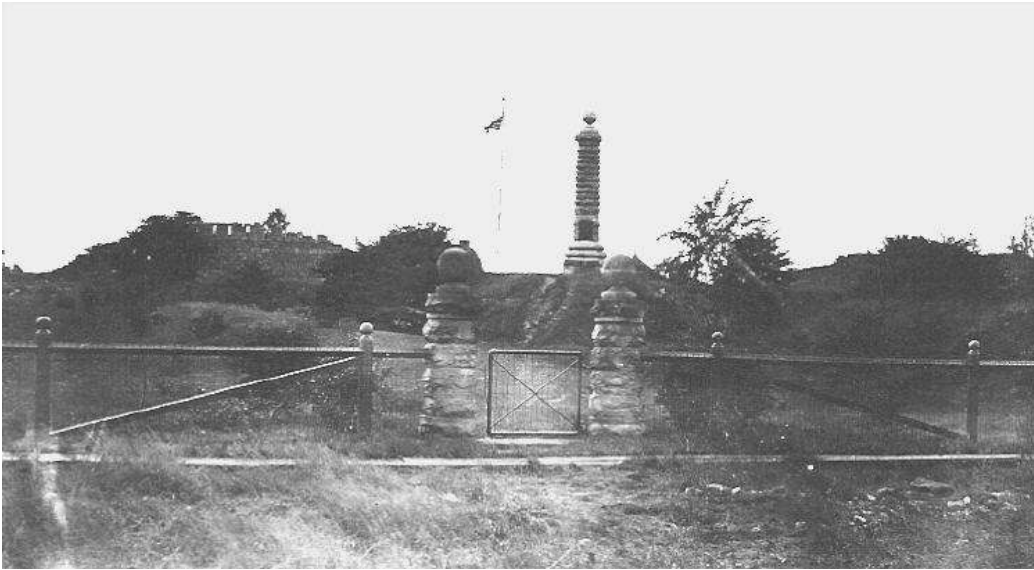


Figure 24 Old Fort Erie Park Ruins, [Francis J. Petrie Collection](#), Date 1910. [General Photograph Collection](#), Niagara Falls Public Library, Record ID 94822.

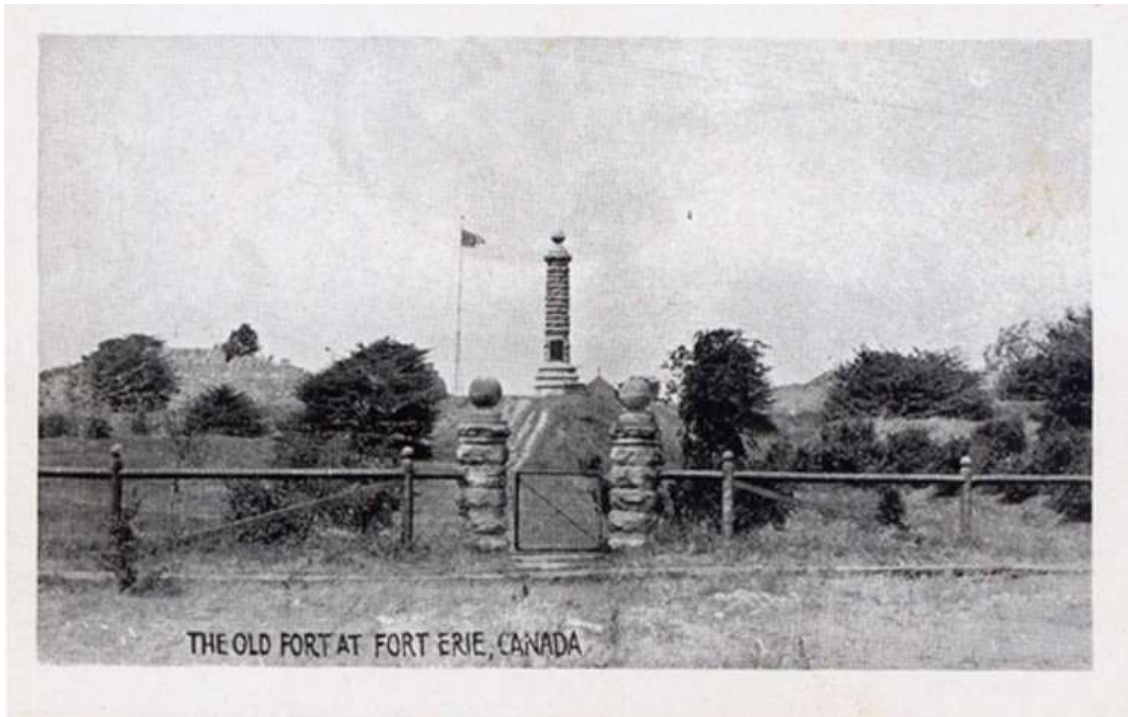


Figure 25 The Old Fort at Fort Erie, Canada, Photographer Unknown, General Photograph Collection, postcard. The Petrie Collection, Niagara Falls (Ont.) Public Library, Record ID 362530. Probable date – ca. 1910.



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

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,

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

undetermined, was also created for those flints for which type attribution was not possible.⁶³ In order of size musket flints generally conform to the metrics presented in the 1849 Ordnance Manual

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

	Inches		Millimeters	
	min	max	min	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	

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.⁶⁴ Compared to the 1849 U.S. Ordnance

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

measurements, British-made musket and pistol flints were thicker,

although about the same length and width.

⁶³ 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.

⁶⁴ 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 Skerichly)*

	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

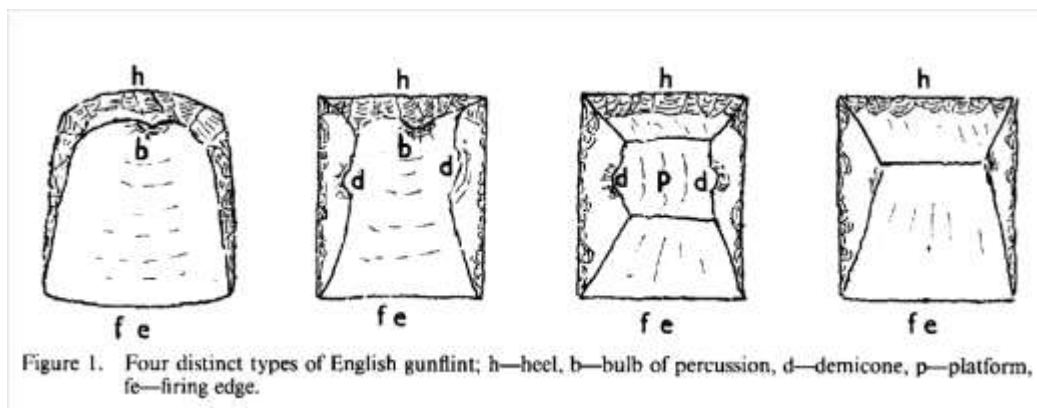
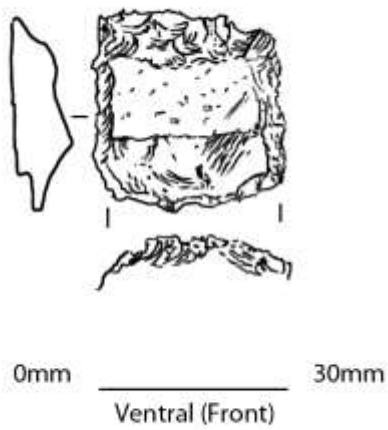


Figure Figure from S. de Lotbiniere, *Gunflint Recognition*, the International Journal of Nautical Archaeology and Underwater Exploration (1984), 13.3: 206-209, p.206. From left to right, **flake-type**; the **spall-type** made on a flake; the **platform blade** or prismatic; and common prismatic.

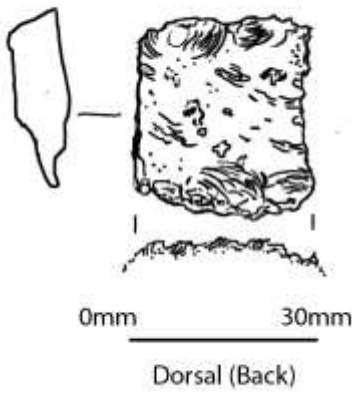
2012 Fanning's Battery						
	Musket	Pistol	Rifle	Undetermined	Total	
Blade	1	3	1	2	7	
Spall					0	
Flake				1	1	
	1	3	1	3	8	
2012 Western Redoubt						
	Musket	Pistol	Rifle	Undetermined	Total	
Blade	1				1	
Spall					0	
Flake				3	3	
	1	0	0	3	4	
2013 Douglass Battery West						
	Musket	Pistol	Rifle	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.



Fort Erie
Douglass Battery West
Unit E
Lot 9
June 10, 2013
Carolyn Pallett
Washed By: Cosimo DeFrancesco
Processed By: Carolyn Pallett



Fort Erie
Douglass Battery West
Unit E
Lot 9
June 10, 2013
Carolyn Pallett
Washed By: Cosimo DeFrancesco
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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

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

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.

Appendix E

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.

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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

century⁶⁵. The fort was not built with particular urgency (largely due to the economic situation in Britain 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

⁶⁵ 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) and 1805 (1991: 270; Litt et 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.

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.

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 from 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 perimeter.

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 forces 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, Battery 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 September 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 than 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 m² 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 some⁶⁶ 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).

⁶⁶ 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.

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 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 obviously 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 georeference 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 redoubts⁶⁷ 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

⁶⁷ 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.

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 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 position 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 abatis. 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 truthing) 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 Pennsylvania 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:

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

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

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.

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 1814. 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 strengths derived from ration abstracts which show 338 riflemen in August and 454 in September. Thus, there appears to have been between 300 and 400 riflemen 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.⁶⁸ For those shot that were too deformed to allow for an accurate measurement of diameter, a linear regression formula based on 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: $\text{Diameter} = 0.223204 \times (\text{weight in g})^{1/3}$.

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 Preparation 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

⁶⁸ This analysis was carried out by Sarah Timmins.

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 phenomenon 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 m²). 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 m². 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/m². 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). Whitehorse (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 conclude 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 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 (more so 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, and 1816 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 *in 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 20 th 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
	Ila	44
	III/IV	2
	IV	4
	V	2
Douglass Battery East	I	1
	II	5
	Ila	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
FANNING'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	165⁶⁹	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).

⁶⁹ 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 Hembriillo 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	
		Period	Frequency
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
		Ila	375
		III/IV	1
		IV	64
		V	42
Douglass Battery East	405	I	12
		II	269
		Ila	124
		IV	22
		V	33

Table 15 – Bottle fragment period distribution by area.

Area	Total Frequency (Periods IV and V removed)	Period Distribution	
		Period	Frequency
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	Ila	92
		IV	48
		V	60
Douglass Battery East	202	I	3
		II	15
		Ila	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
		Ila	94
		III/IV	2
		IV	82
		V	69
Douglass Battery East	427	I	6
		II	58
		Ila	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
		Ila	45
		III/IV	1
		IV	40
		V	31
Douglass Battery East	333	II	46
		Ila	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
		Ila	42
		IV	9
		V	17
Douglass Battery East	1898	I	10
		II	152
		Ila	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.

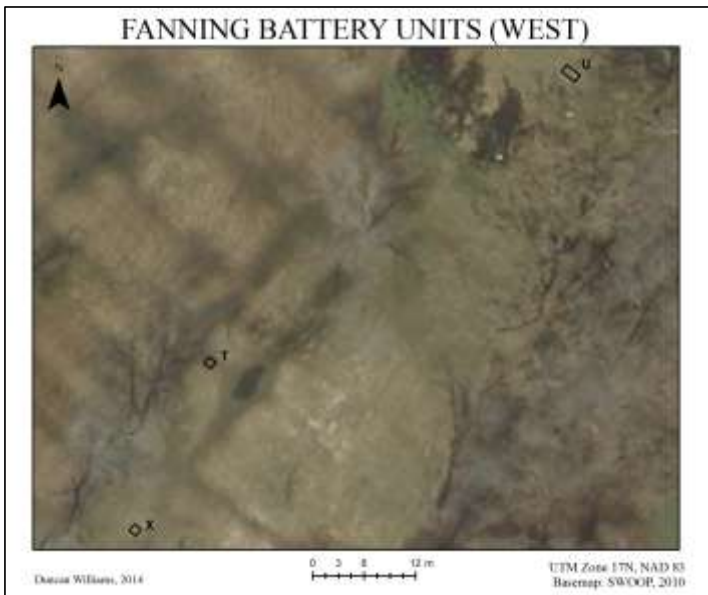


Figure 2 – Units in Fanning Battery West.

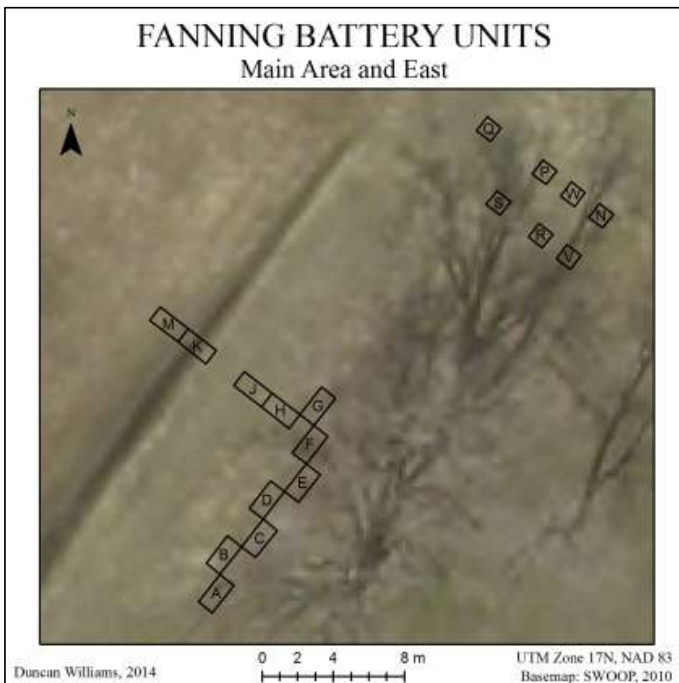


Figure 3 – Units in Fanning Battery main (A, B, C, D, E, F, G, H, J, K, M) and Fanning Battery East (N, P, Q, R, S, V, W).

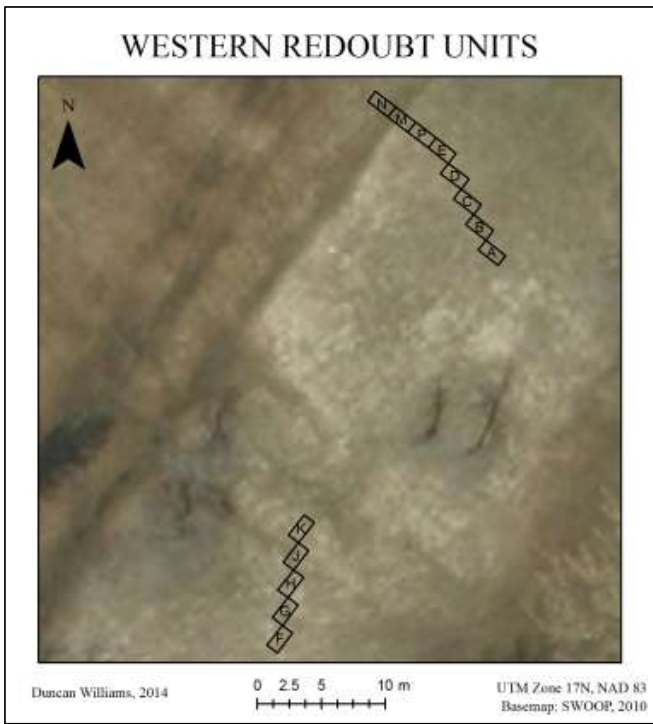


Figure 4 – Units in Western Redoubt East main (A, B, C, D, E, F, M, N, P) and Western Redoubt West (F, G, H, J, K).



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).

1814 ROMILLY MAP



0 60 120 240 m
|-----|-----|-----|-----|

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

Duncan Williams, 2014

Figure 6 – 1814 Romilly map overlay on modern landscape.

1815 CRANFIELD MAP



Duncan Williams, 2014

0 100 200 400 m

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

Figure 7 – 1815 Cranfield map overlay on modern landscape.

1815 NICOLLS MAP



0 100 200 400 m
|-----|-----|-----|-----|

UTM Zone 17N, NAD 83
Basemap: SWOOP, 2010

Duncan Williams, 2014

Figure 8 – 1815 Nicolls map overlay on modern landscape.

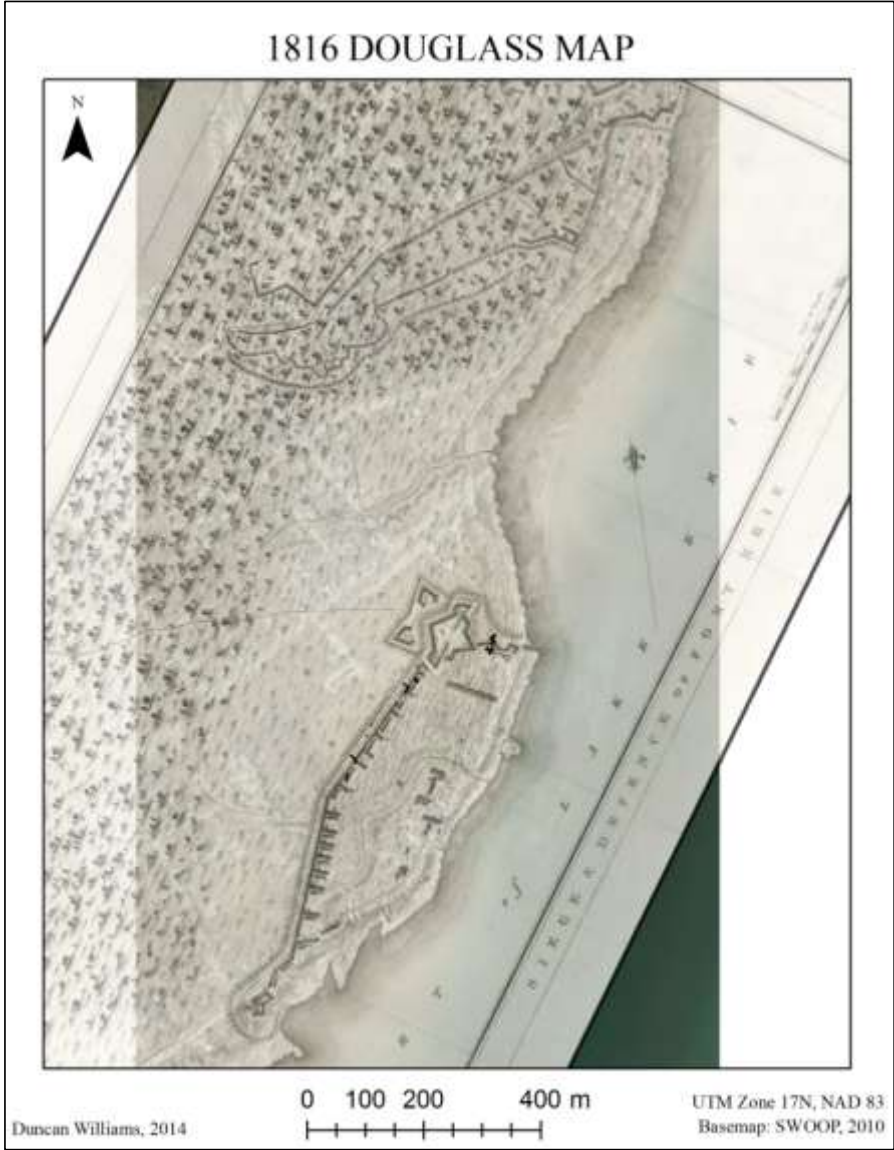


Figure 9 – 1816 Douglass map overlay on modern landscape.

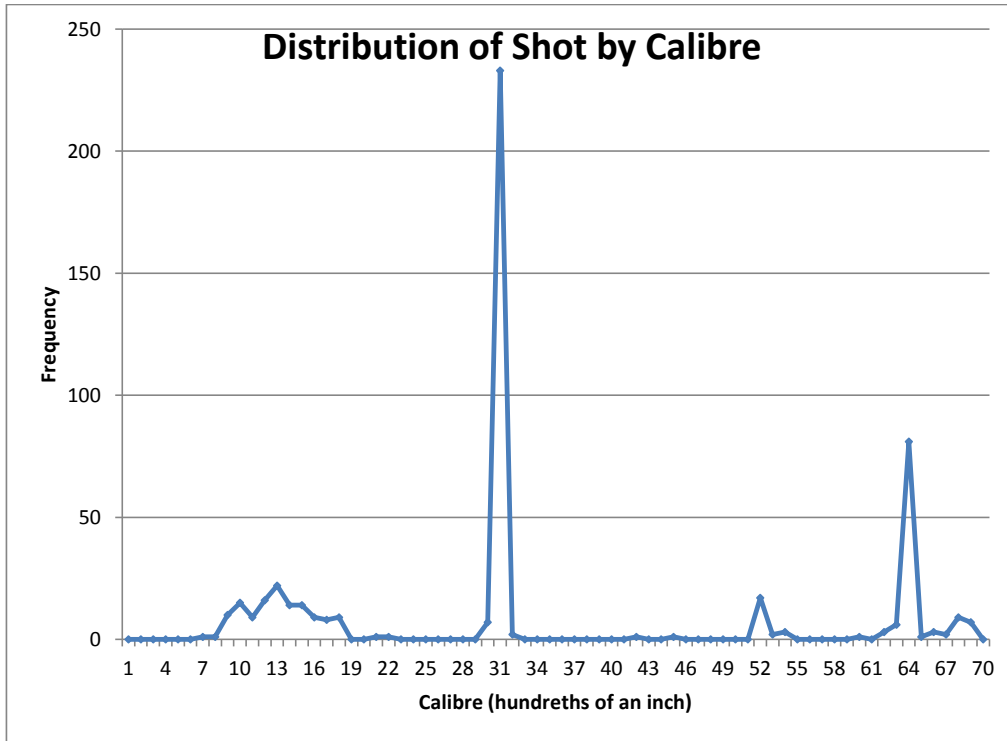


Figure 10 – Distribution of shot by calibre. Note the areas corresponding to the different shot types (bird, buck, rifle, American musket, British musket).

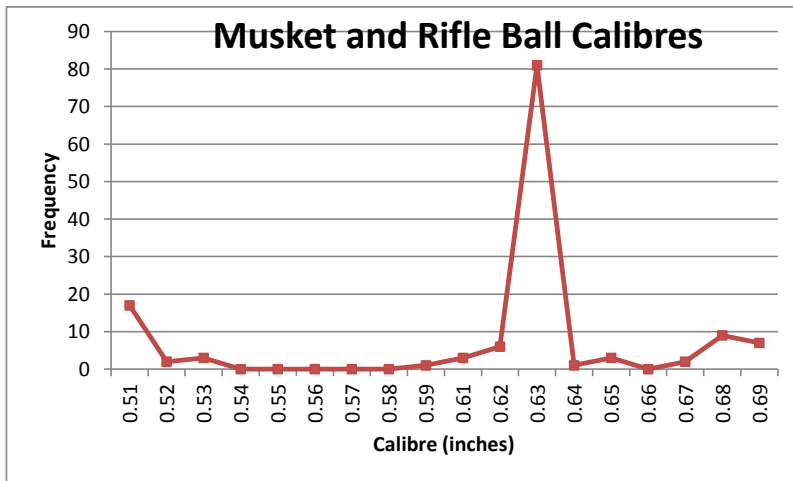


Figure 11 – Distribution of rifle and musket balls by calibre. Note the peaks for rifles, American musket balls, and British musket balls.

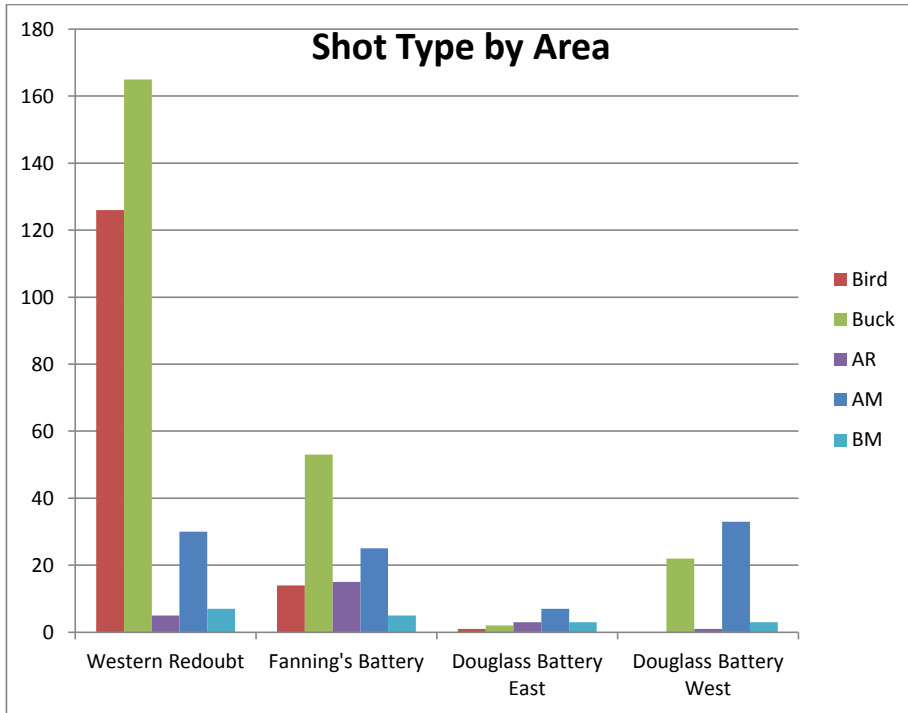


Figure 12 – Distribution of shot by area and category. AR is American rifle, AM is American musket, and BM is british musket.

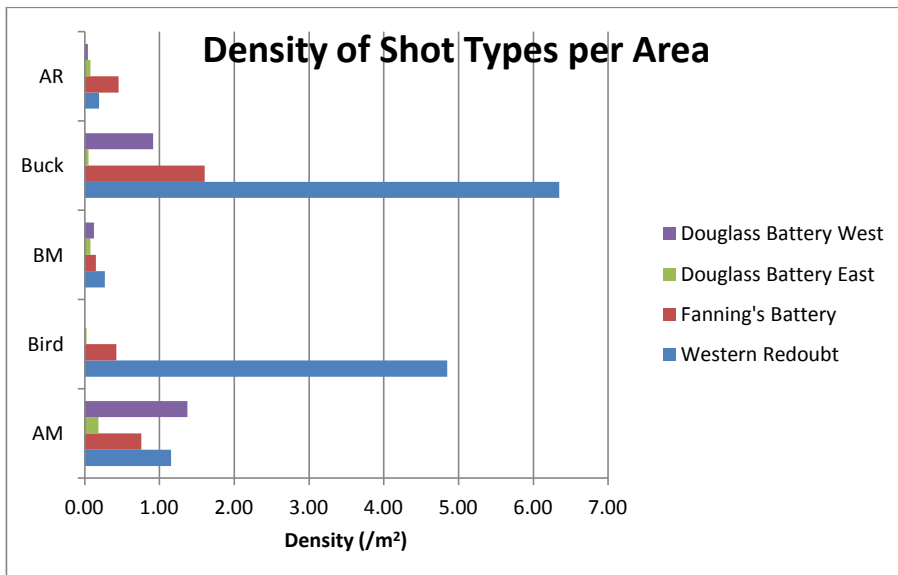


Figure 13 – Distribution of shot by area and category.

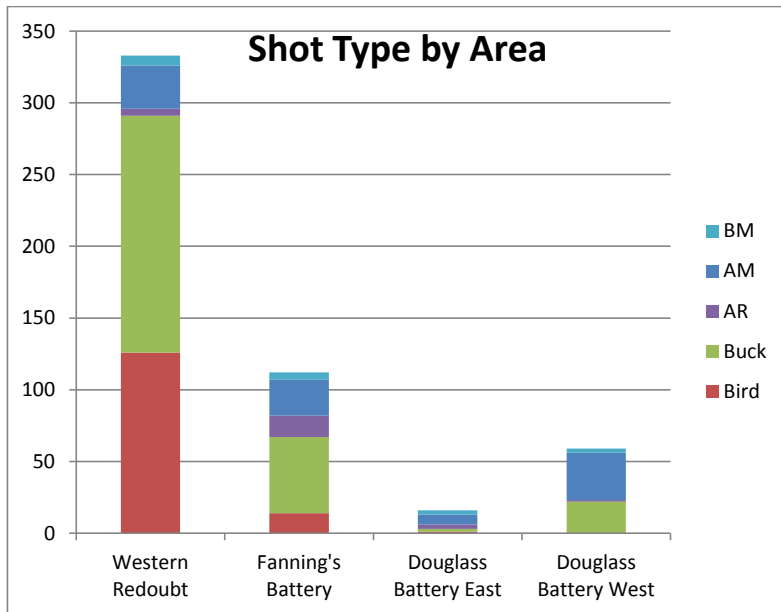


Figure 14 – Distribution of shot by area and category (shot stacked by area).



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.

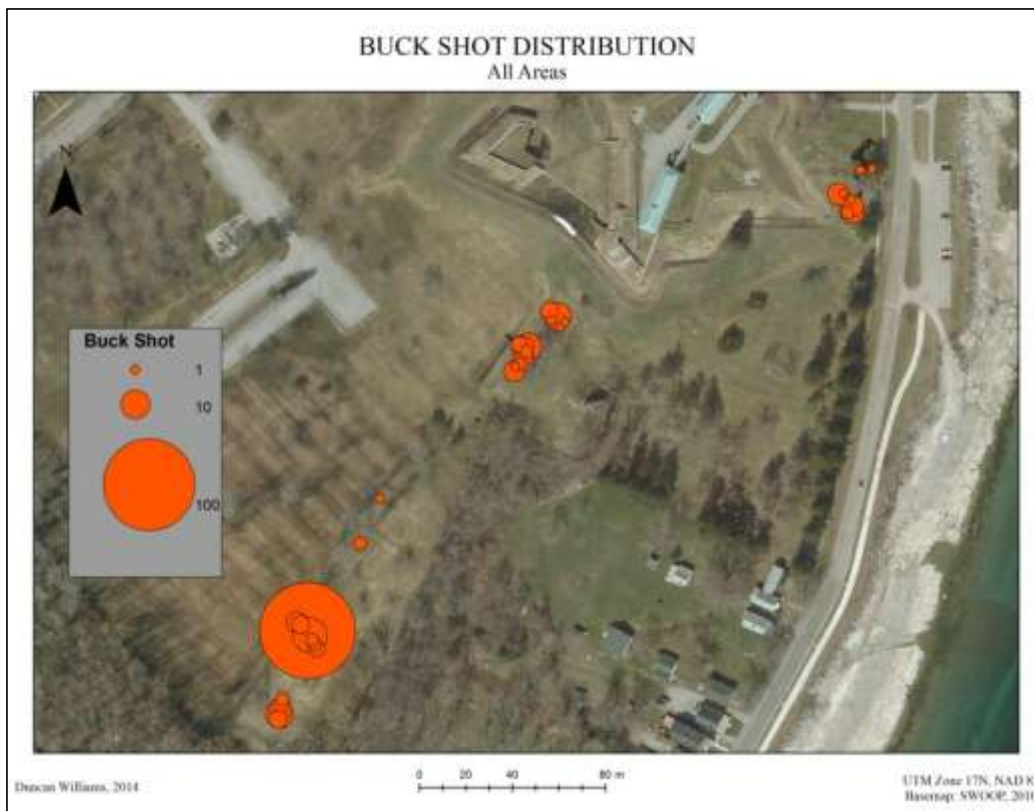


Figure 18 – American musket ball distribution, all areas.

AMERICAN MUSKET BALL DISTRIBUTION

All Areas



Duncan Williams, 2014

0 20 40 80 m

UTM Zone 17N, NAD 83
BaseMap SW00P, 2010

Figure 19 – Rifle ball distribution, all areas.



Figure 20 – British musket ball distribution, all areas.



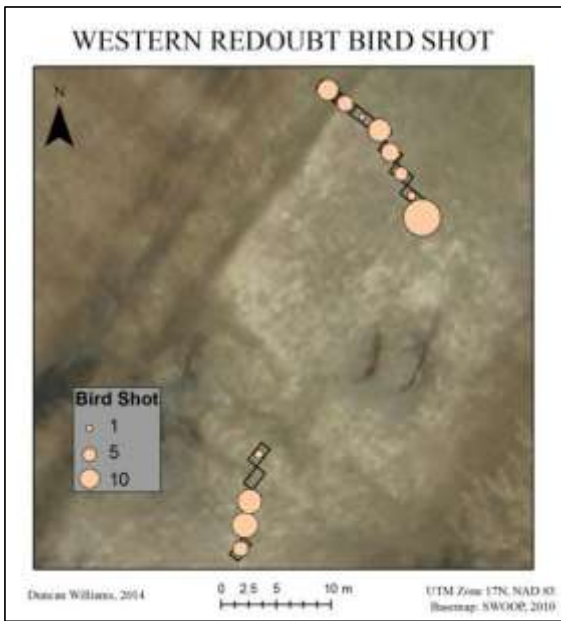


Figure 21 – Bird shot distribution at Western Redoubt.

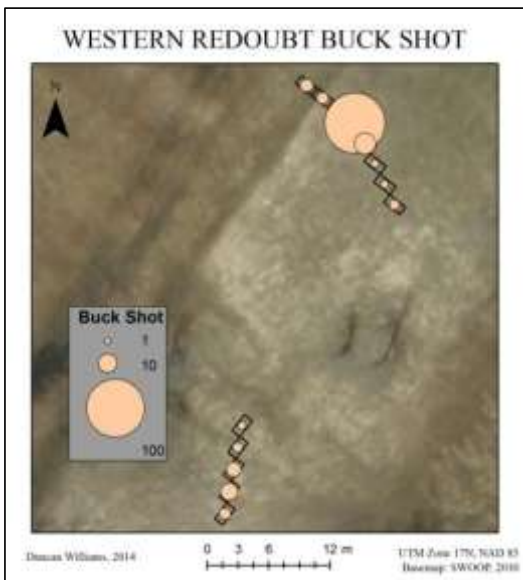


Figure 22 – Buck shot distribution at Western Redoubt.

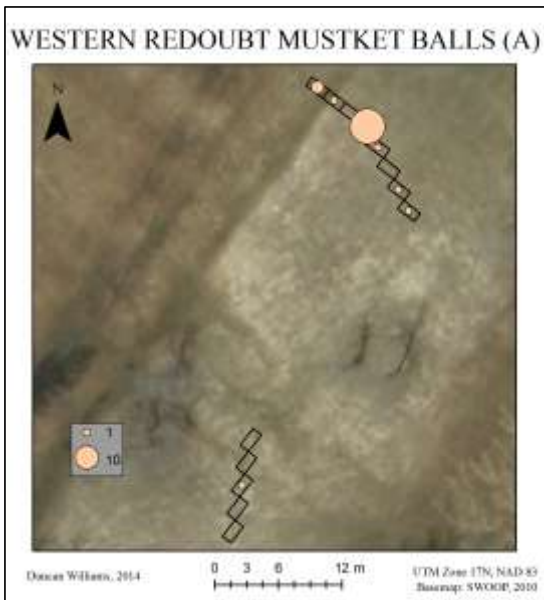


Figure 23 – American musket ball distribution at Western Redoubt.



Figure 24 – Buck shot at Fanning Battery.



Figure 25 – Rifle balls at Fanning Battery.



Figure 26 – American musket balls at Fanning Battery.

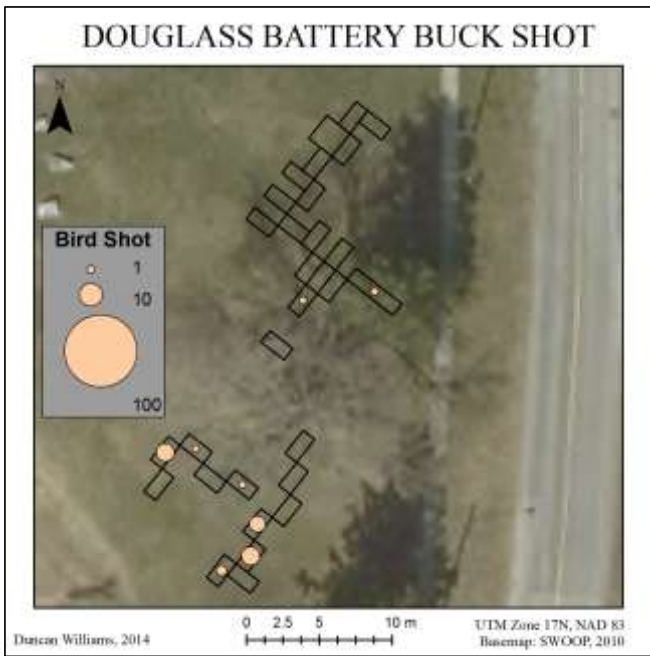


Figure 27 – Buck shot at Douglass Battery.



Figure 28 – American musket balls at Douglass Battery.

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

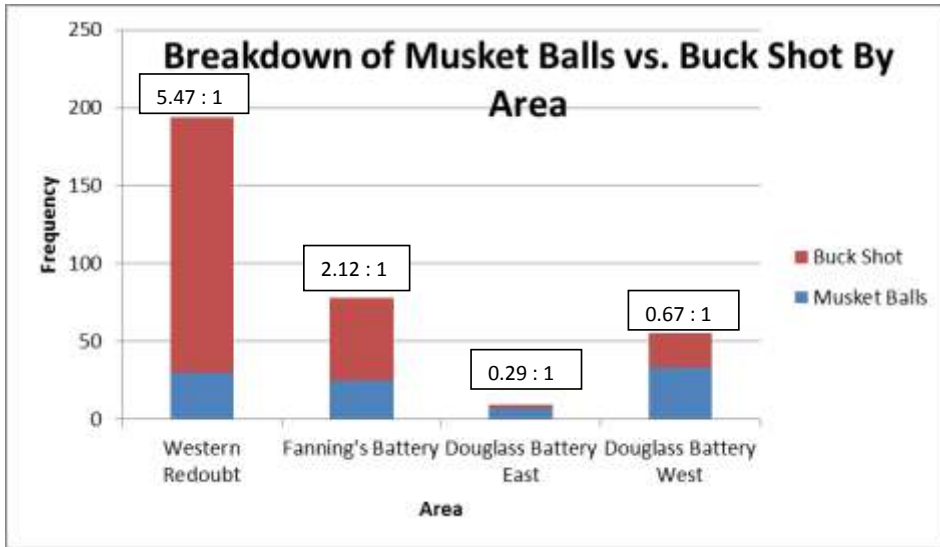


Figure 30 – Faunal remains, all areas.



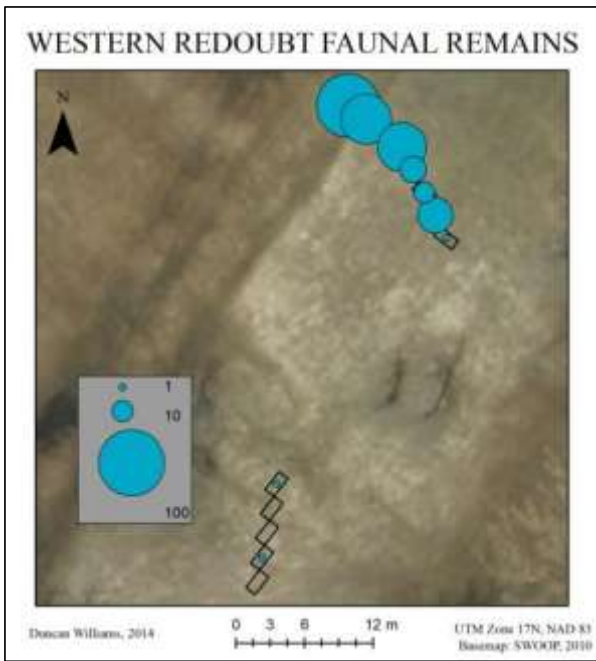


Figure 31 – Faunal remains at Western Redoubt.



Figure 32 – Faunal remains at Fanning Battery.

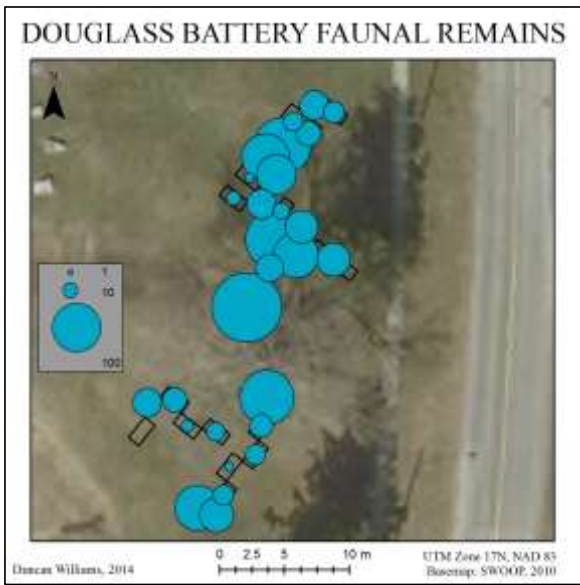


Figure 33 – Faunal remains at Douglas Battery.

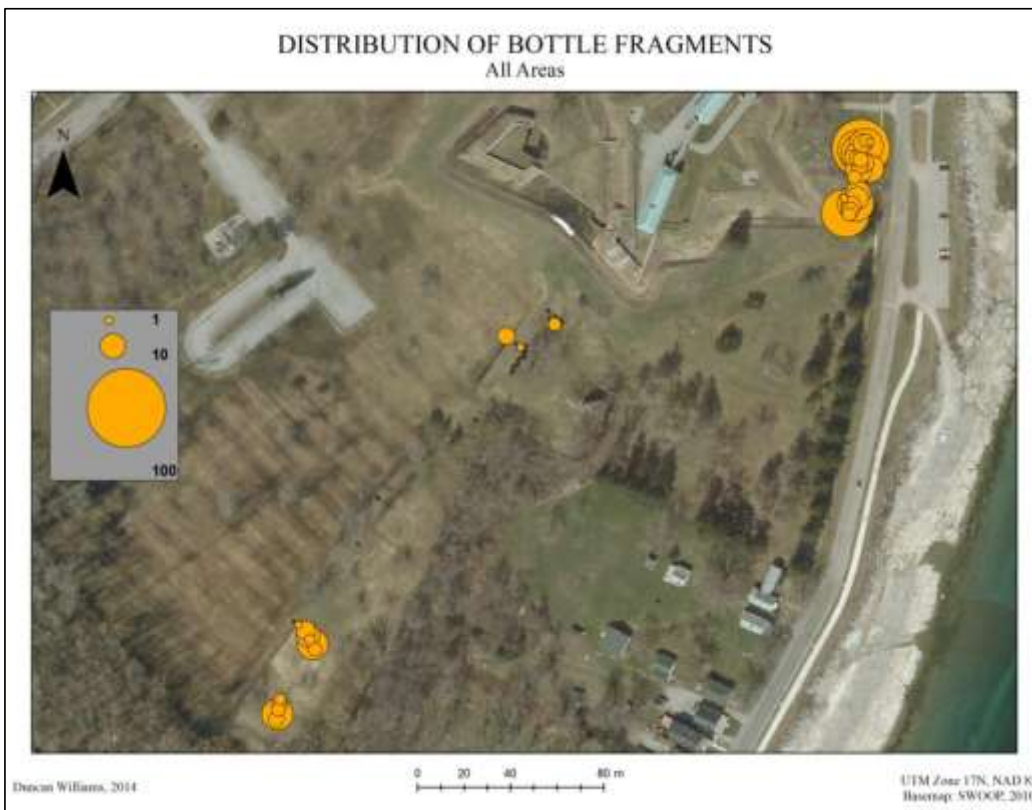


Figure 34 – Bottle fragments, all areas.

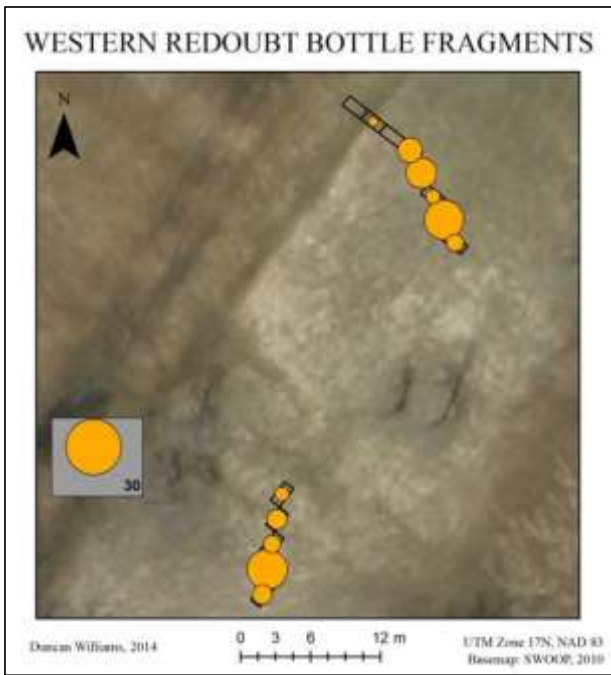


Figure 35 – Bottle fragments at Western Redoubt.

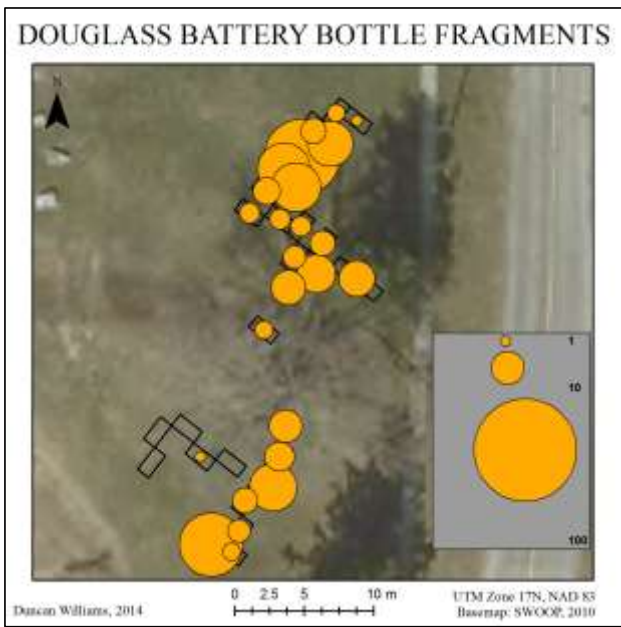


Figure 36 – Bottle fragments at Douglass Battery.

Figure 37 – Tableware fragments, all areas.

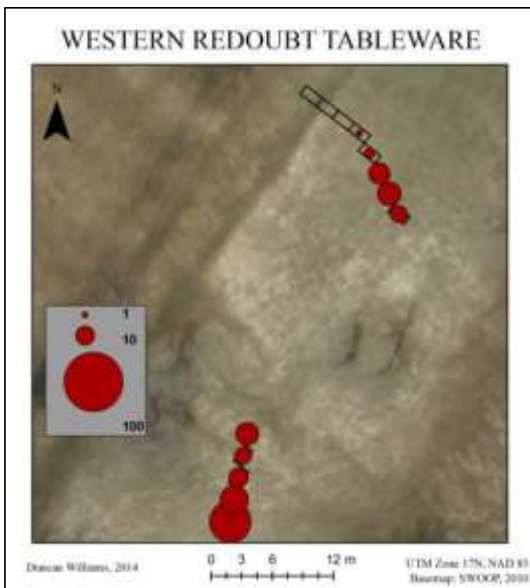


Figure 38 – Tableware fragments, Western Redoubt.

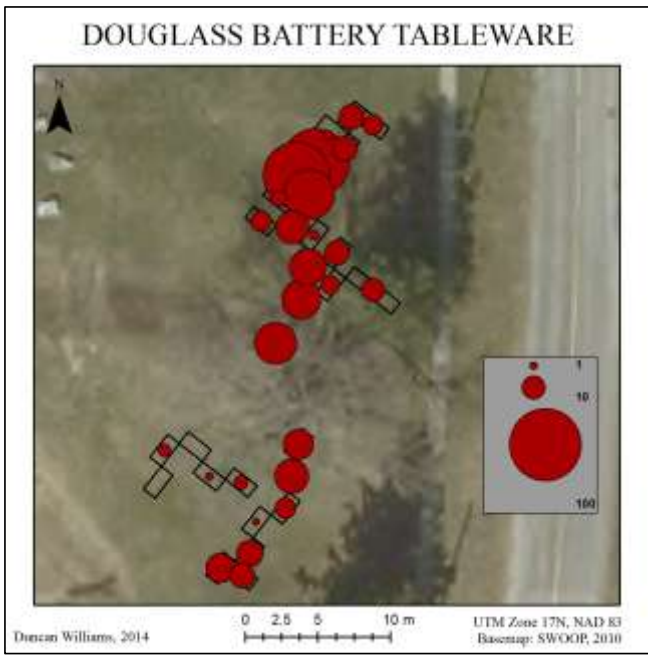


Figure 39 – Tableware fragments, Douglass Battery.

Figure 40 – Nails, all areas.

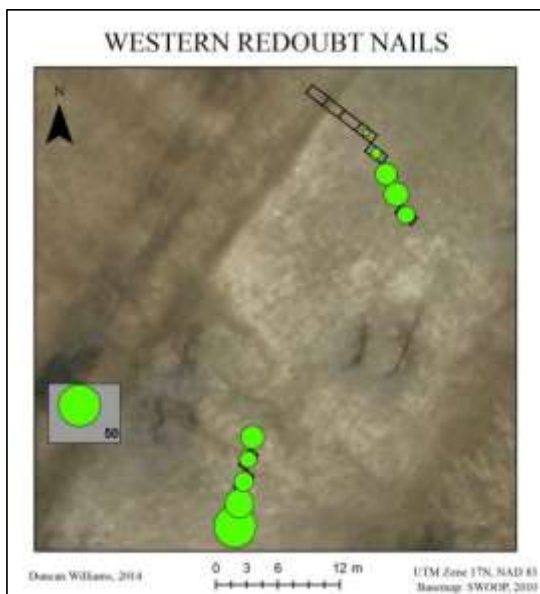


Figure 41 – Nails, Western Redoubt.



Figure 42 – Nails, Douglas Battery.

Figure 43 – Window glass, all areas.

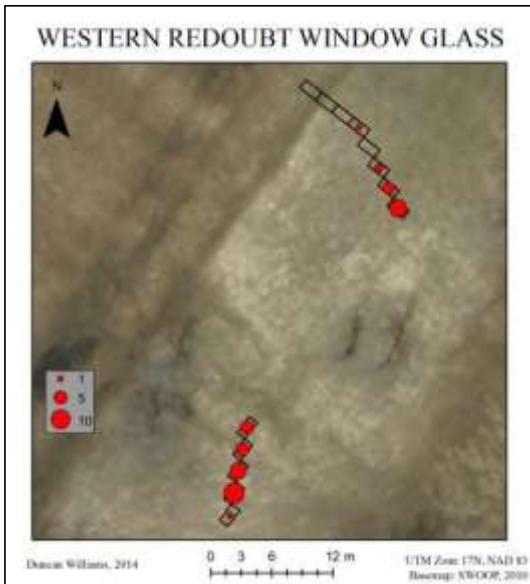


Figure 44 – Window glass, Western Redoubt.

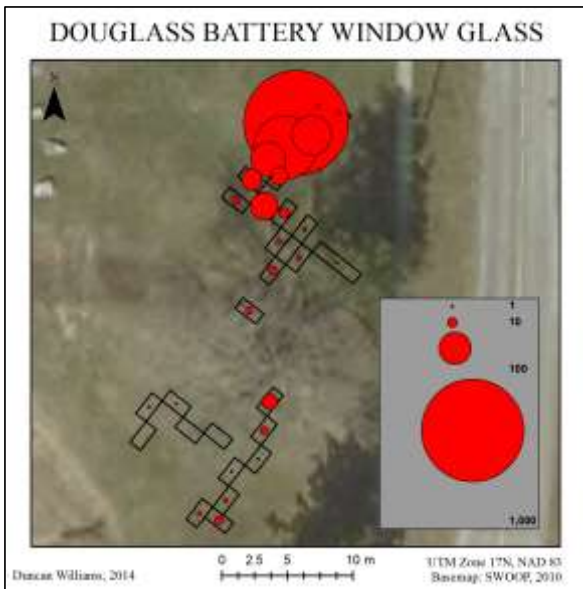


Figure 45 – Window glass, Western Redoubt.



Figure 46 – Mortar bomb fragments, all areas.

Figure 47 – Historic landscape model.

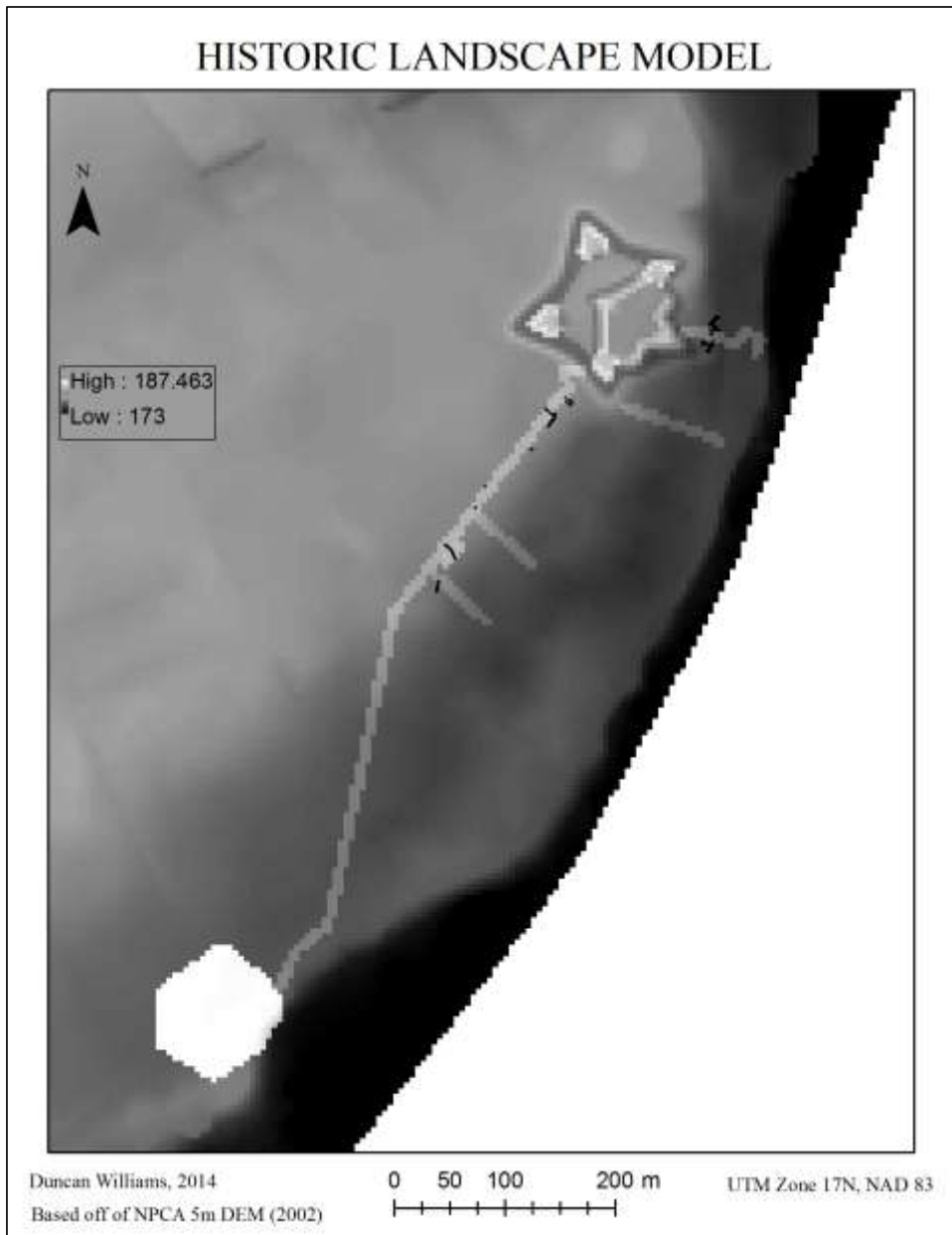


Figure 48 – Approximate positions of siege batteries.



Figure 49 – Viewshed from Battery 1.

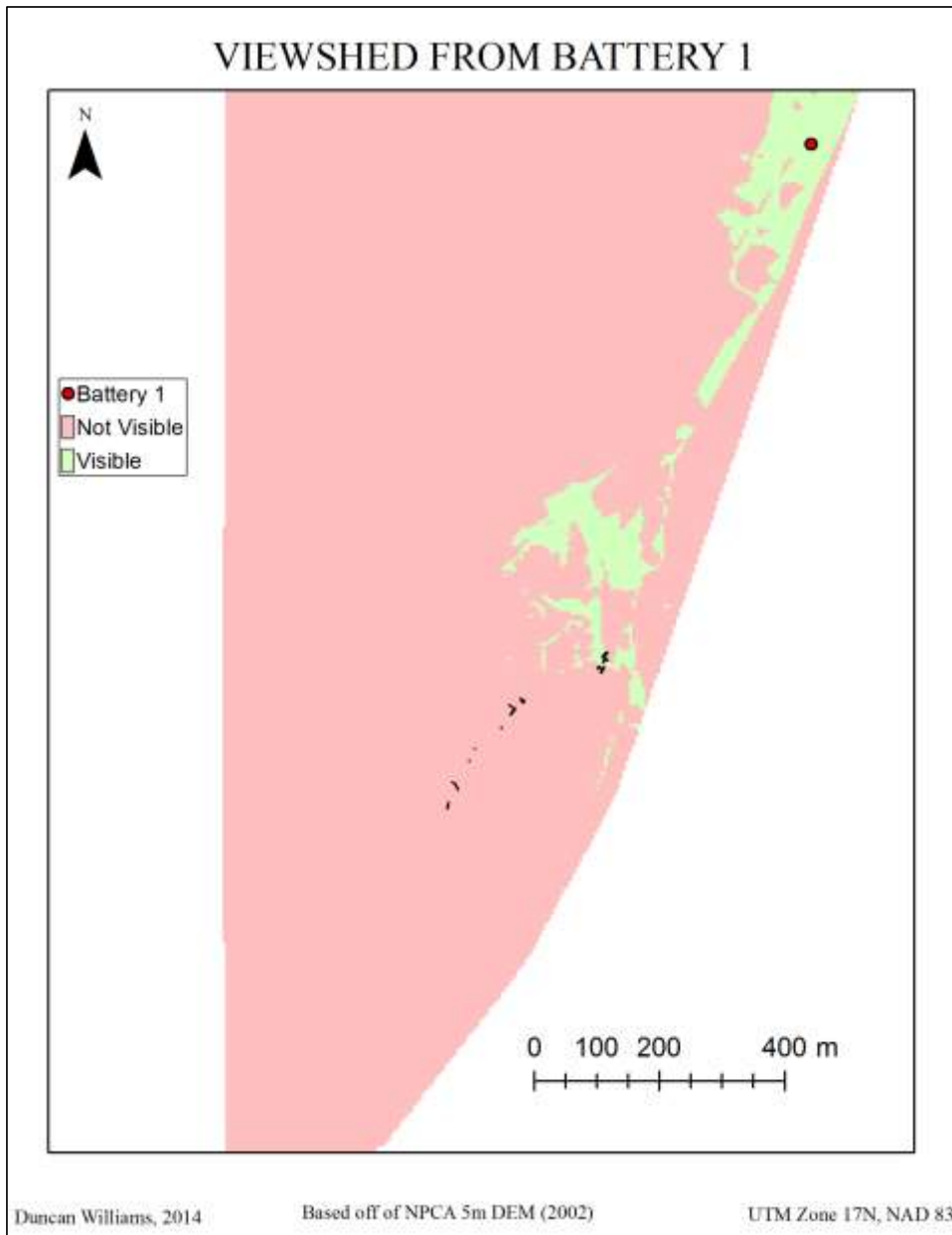


Figure 50 – Viewshed from Battery 2.

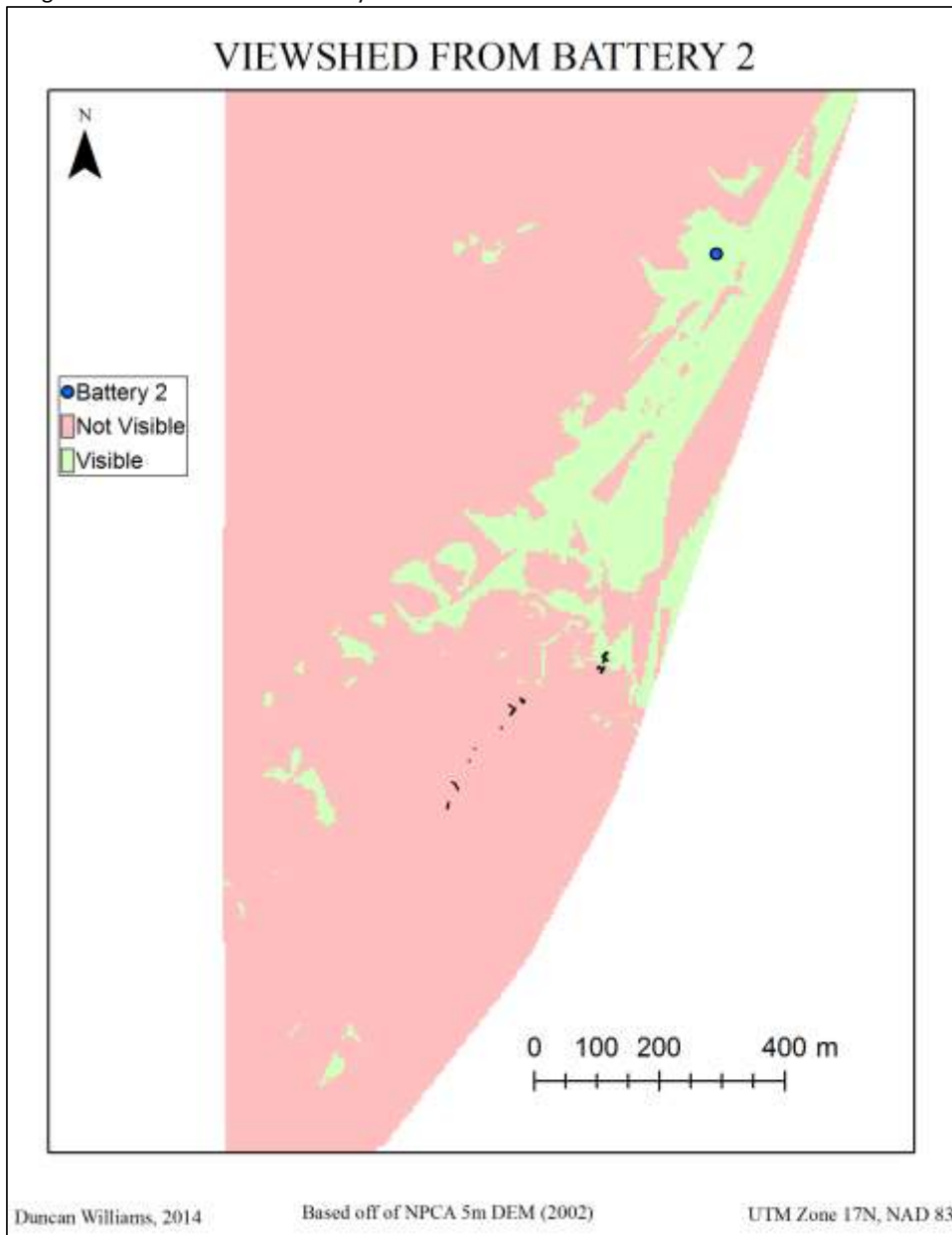
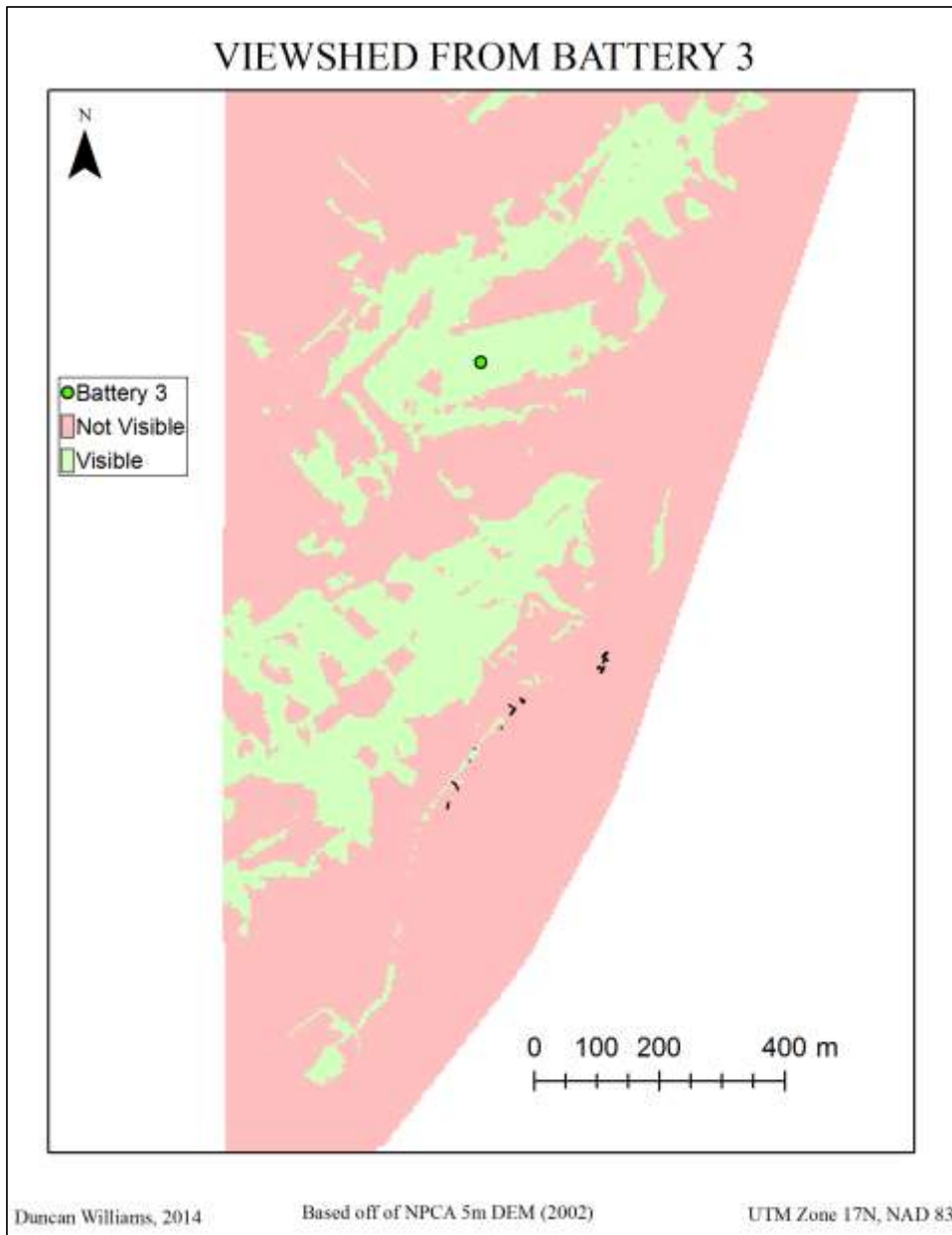


Figure 51 – Viewshed from Battery 3.



Appendix F

Artifact Catalogue

Fort Erie 2012 Artifacts Sorted by Unit

Area	Unit	Lot	Freq.	Material	Group	Class	Object	Datable Attribute	Comment
Fanning's Battery	A	2	7	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	2	4	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	2	4	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	A	2	3	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	light green glass
Fanning's Battery	A	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	A	2	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green colour
Fanning's Battery	A	2	7	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	2	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	2	1	Plastic	Personal	Toys and Leisure	Marble	Plastic	Plastic Marble, Modern
Fanning's Battery	A	3	4	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	3	10	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	3	7	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	3	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	3	1	Ferrous	Architectural	Nails	Nail	Wrought	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	A	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	A	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	A	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	A	3	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	A	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	A	3	6	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	3	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	4	11	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	A	4	4	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	A	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	A	4	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	A	4	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	A	4	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	1.77 Cal. Spool shaped pellet? -modern
Fanning's Battery	A	4	3	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	A	4	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Artillery			
Fanning's Battery	A	4	2	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	A	4	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	A	4	1	Lead	Arms and Military	Ammunition/ Artillery	Priming Tube	Quill Primer	Lead Artillery Quill Ammunition Primer -hand made
Fanning's Battery	A	4	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Fanning's Battery	A	4	3	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	A	4	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	4	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	4	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	4	22	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	5	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	5	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	A	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	5	7	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	A	6	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	7	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	A	7	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	A	7	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	A	7	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	7	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	7 Wall	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	A	7 Wall	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	A	7 Wall	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	A	Wall	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	2	8	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	B	2	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	B	2	6	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	B	2	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear glass
Fanning's Battery	B	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain	
Fanning's Battery	B	2	1	Glass	Medical/Hygiene	Pharmaceut. Containers	Pharmaceut. Bottle	N/A	
Fanning's Battery	B	2	4	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	B	2	22	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery									
Fanning's Battery	B	2	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	B	2	14	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	B	2	17	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	2	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	2	31	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	B	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	B	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	B	3	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	"US" button
Fanning's Battery	B	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	B	3	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	B	3	10	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	B	3	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear glass
Fanning's Battery	B	3	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	B	3	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	B	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	B	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	B	4	1	Lead	Arms and Military	Ammunition/ Artillery	N/A	N/A	Pistol ball
Fanning's Battery	B	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	B	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	7	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	B	3 Wall	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	Backfill	N/A	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear glass
Fanning's Battery	Backfill	N/A	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Late Palette	
Fanning's Battery	C	2	9	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	C	2	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	C	2	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	C	2	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	C	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	C	2	1	Ferrous	Unassigned	Misc. Material	Scrap Metal	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery		Material							
Fanning's Battery	C	3	6	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	C	3	7	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	C	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	C	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	C	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	C	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	C	3	1	Ferrous	Arms and Military	Ammunition/Artillery	Mortar Bomb Fragment	N/A	
Fanning's Battery	C	3	1	Lead	Arms and Military	Ammunition/Artillery	Musket Ball	N/A	
Fanning's Battery	C	3	1	Lead	Arms and Military	Ammunition/Artillery	N/A	N/A	Pistol Ball
Fanning's Battery	C	3	1	Pewter	Clothing Group	Fasteners	Button	N/A	Plain Button
Fanning's Battery	C	3	8	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	C	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red Earthen. Glazed	
Fanning's Battery	C	3	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	green glass
Fanning's Battery	C	3	3	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	C	3	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	C	3	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	C	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	C	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	C	3	8	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	C	4	2	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A	
Fanning's Battery	C	4	1	Flint	Arms and Military	Gunflint	Flake	N/A	
Fanning's Battery	C	4	9	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Fanning's Battery	C	4	6	Bone	Faunal/Floral	Bone	N/A	N/A	
Fanning's Battery	C	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware	
Fanning's Battery	C	4	1	Lead	Unassigned Material	Misc. Material	N/A	N/A	Triangular Piece of Scrap Lead
Fanning's Battery	C	4	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	C	5	6	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A	
Fanning's Battery	C	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	C	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	C	5	10	Lead	Unassigned Material	Misc. Material	N/A	N/A	Scrap Lead
Fanning's Battery	D	2	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	D	2	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	3	5	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	1.77 Cal. Lead spool shaped pellet?-modern
Fanning's	D	3	1	Ceramic	Food	Tableware	Tableware	Pearlware,	

Fort Erie 2012 Artifacts Sorted by Unit

Battery		Prep/Consumption						Other Décor	
Fanning's Battery	D	3	2	Gypsum	N/A	N/A	N/A	N/A	
Fanning's Battery	D	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	D	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	D	4	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	D	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	5	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	7	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	63	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	5	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	13	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	24	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	45	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	7	Brick	Architectural	Construction Materials	N/A	N/A	Brick
Fanning's Battery	D	5	8	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	5	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	8	Brick	Architectural	Construction Materials	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	D	5	6	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	D	5	1	Ferrous	Architectural	Electrical/Tele comm.	Electrical Wire		
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buckshot	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	D	5	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	D	5	1	Flint	Arms and Military	Gunflint	Gunflint	Prismatic Blade	French
Fanning's Battery	D	5	1	Flint	Arms and Military	Gunflint	Gunflint	Prismatic Blade	Native Chert
Fanning's Battery	D	5	1	Flint	Arms and Military	Gunflint	Gunflint	Prismatic Blade	
Fanning's Battery	D	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	

Fort Erie 2012 Artifacts Sorted by Unit

Battery									
Fanning's Battery	D	5	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	D	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	D	5	3	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Fanning's Battery	D	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	D	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain	
Fanning's Battery	D	5	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	D	5	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	D	5	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	D	5	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	D	5	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	D	5	1	Chert	Native	Lithic	Flake	N/A	Primary Flake
Fanning's Battery	D	5	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	D	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	5	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	5	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	D	5	4	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	D	5	2	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	D	5	3	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	D	5	2	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	D	5	1	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	D	5	1	Metal	Unassigned Material	Misc. Hardware	Hook	N/A
Fanning's Battery	D	5	1	Metal	Unassigned Material	Misc. Hardware	Hook	N/A
Fanning's Battery	D	5	1	Ferrous	Unassigned Material	Misc. Material	Rod	N/A
Fanning's Battery	D	5	1	Metal	Unassigned Material	Misc. Material	Rod	N/A
Fanning's Battery	D	5	1	Metal	Unassigned Material	Misc. Material	Rod	N/A
Fanning's Battery	E	2	4	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	E	3	19	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	E	3	11	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	E	3	3	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	E	3	19	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	E	3	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Fanning's Battery	E	3	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Fanning's Battery	E	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Fanning's Battery	E	3	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Artillery			
Fanning's Battery	E	3	3	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	E	3	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	E	3	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	E	3	3	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	E	3	1	Pewter	Arms and Military	Military Button	N/A	N/A	Infantry
Fanning's Battery	E	3	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	U.S. Button
Fanning's Battery	E	3	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	U.S. Button
Fanning's Battery	E	3	3	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Fanning's Battery	E	3	4	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Fanning's Battery	E	3	3	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Fanning's Battery	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Fanning's Battery	E	3	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	E	3	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	E	3	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	E	3	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	E	3	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	E	3	4	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	E	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	E	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	E	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	E	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	E	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	F	3	3	Shell	Faunal/Floral	Shell	Shell	N/A	
Fanning's Battery	F	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Clear Glass (Modern), with a decorative ring
Fanning's Battery	F	3	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	F	4	4	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	F	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green colour
Fanning's Battery	F	4	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	F	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	F	4	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	F	5	3	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	F	5	2	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	F	5	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	F	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	F	5	1	Lead	Arms and Military	Ammunition/	Buck and Ball shot	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Artillery		
Fanning's Battery	F	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt
Fanning's Battery	F	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	F	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Fanning's Battery	F	5	1	Quartz	N/A	N/A	N/A	N/A
Fanning's Battery	F	5	1	Charcoal	N/A	N/A	N/A	N/A
Fanning's Battery	F	5	1	Coal	N/A	N/A	N/A	N/A
Fanning's Battery	F	5	1	Quartz	N/A	N/A	N/A	N/A
Fanning's Battery	F	5	2	Slate	N/A	N/A	N/A	N/A
Fanning's Battery	F	5	1	Charcoal	N/A	N/A	N/A	N/A
Fanning's Battery	F	5	13	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	F	5	2	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	F	5	6	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	F	5	1	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	F	5	20	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	F	5	13	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	F	5	2	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	G	2	1	Brick	Architectural	Construction Materials	N/A	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	G	2	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	G	2	4	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	G	2	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	G	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	G	2	2	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	G	2	1	Lead	Arms and Military	Ammunition/Artillery	N/A	N/A	Pistol ball
Fanning's Battery	G	2	1	Lead	Arms and Military	Ammunition/Artillery	Rifle Ball	N/A	
Fanning's Battery	G	2	1	Pewter	Clothing Group	Fasteners	Button	N/A	
Fanning's Battery	G	2	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear Glass -modern with imprinted design
Fanning's Battery	G	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	G	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Clear
Fanning's Battery	G	2	2	Glass	Food Prep/Consumption	Glass Stor. Container	Medicine Bottle	N/A	Aqua Glass
Fanning's Battery	G	2	22	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	G	2	13	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	G	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	G	2	2	Gypsum	N/A	N/A	N/A	N/A	
Fanning's Battery	G	2	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	G	2	1	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery										
Fanning's Battery	G	2	2	Chert	Native	Lithic	Flake	N/A		
Fanning's Battery	G	2	1	Chert	Native	Lithic	Misc. Debitage	N/A		
Fanning's Battery	G	2	6	Chert	Native	Lithic	Misc. Debitage	N/A		
Fanning's Battery	G	2	1	Chert	Native	Lithic	Misc. Debitage	N/A		
Fanning's Battery	G	2	2	Chert	Native	Lithic	Misc. Debitage	N/A		
Fanning's Battery	G	2	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A		
Fanning's Battery	G	3	6	Brick	Architectural	Construction Materials	N/A	N/A	Brick	
Fanning's Battery	G	3	2	Brick	Architectural	Construction Materials	N/A	N/A		
Fanning's Battery	G	3	1	Brick	Architectural	Construction Materials	N/A	N/A		
Fanning's Battery	G	3	1	Ferrous	Architectural	Door and Window Hardware	Hinge	N/A	broken hinge plate, 3 holes on surface, 2 fasteners still in place	
Fanning's Battery	G	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	Buckshot	
Fanning's Battery	G	3	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A		
Fanning's Battery	G	3	3	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A		
Fanning's Battery	G	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buckshot	N/A		
Fanning's Battery	G	3	2	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	NA	
Fanning's Battery	G	3	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	G	3	3	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	one is very squashed, has been fired
Fanning's Battery	G	3	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	Cap?
Fanning's Battery	G	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	N/A
Fanning's Battery	G	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Not burned
Fanning's Battery	G	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	G	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	G	3	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	G	3	2	Glass	Food Prep/Consumption	Glass Tableware	Glassware	N/A	N/A
Fanning's Battery	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware	
Fanning's Battery	G	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Not glazed
Fanning's Battery	G	3	11	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	N/A
Fanning's Battery	G	3	13	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	G	3	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	G	3	2	Chert	Native	Lithic	Flake	N/A	NA
Fanning's Battery	G	3	3	Chert	Native	Lithic	Flake	N/A	N/A
Fanning's Battery	G	3	6	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	G	3	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	G	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	NA

Fort Erie 2012 Artifacts Sorted by Unit

Battery									
Fanning's Battery	G	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	G	3	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	G	3	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	G	3	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	G	3	1	Lead	Unassigned Material	Misc. Material	N/A	N/A	Scrap Lead
Fanning's Battery	G	3	2	Copper-Alloy	Unassigned Material	Misc. Material	N/A	N/A	Brass Metal with imprint
Fanning's Battery	G	3	2	Copper-Alloy	Unassigned Material	Misc. Material	Scrap Metal	N/A	Corroded, bumpy surface
Fanning's Battery	G	3	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	G	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	H	2	2	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	H	2	2	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	H	2	1	Wood	N/A	N/A	N/A	N/A	
Fanning's Battery	H	2	4	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	H	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	2	1	Metal	Unassigned Material	Misc. Material	Wire	N/A	
Fanning's Battery	H	2	1	Metal	Unassigned Material	Misc. Material	Wire	N/A	
Fanning's Battery	H	3	2	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	H	4	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	H	4	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	H	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Fanning's Battery	H	4	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	H	4	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	H	4	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	H	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	5	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	H	5	1	Metal	Personal	Toys and Leisure	Gaming Piece	N/A	Jack
Fanning's Battery	H	5	1	Metal	Personal	Toys and Leisure	Gaming Piece	N/A	Jack
Fanning's Battery	H	6	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	H	6	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	H	6	14	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	H	6	19	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	7	7	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	H	7	1	Brick	Architectural	Construction	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Materials			
Fanning's Battery	H	7	6	Brick	Architectural	Construction Materials	N/A	N/A	Brick
Fanning's Battery	H	7	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	H	7	1	Ferrous	Architectural	Nails	Nail	Wrought	Really Corroded
Fanning's Battery	H	7	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	H	7	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	H	7	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	Buckshot
Fanning's Battery	H	7	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	H	7	1	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A	
Fanning's Battery	H	7	1	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A	
Fanning's Battery	H	7	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	H	7	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	Rifling?
Fanning's Battery	H	7	1	Flint	Arms and Military	Gunflint	Gunflint	N/A	French
Fanning's Battery	H	7	1	Flint	Arms and Military	Gunflint	Gunflint	Prismatic Blade	French, broken in half longitudinally
Fanning's Battery	H	7	1	Metal	Arms and Military	Musket/ Rifle	N/A	N/A	Frizzen
Fanning's Battery	H	7	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	H	7	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Dark green
Fanning's Battery	H	7	5	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	H	7	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	H	7	2	Chert	Native	Lithic	Flake	N/A	N/A
Fanning's Battery	H	7	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	H	7	14	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	7	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	7	2	Chert	Native	Lithic	Misc. Debitage	N/A	N/A
Fanning's Battery	H	7	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	H	7	1	Lead	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	H	8	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	J	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	J	4	5	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	J	4	2	Gypsum	N/A	N/A	N/A	N/A	
Fanning's Battery	J	4	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	J	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	J	5	1	Metal	Furniture	Lighting Devices	Light Bulb	N/A	Possible light bulb filament
Fanning's Battery	J	5	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	J	5	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	J	5	1	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery									
Fanning's Battery	J	6	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	J	6	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	J	6	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	J	6	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	U.S. Button
Fanning's Battery	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware	
Fanning's Battery	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	J	6	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	J	6	9	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	J	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	J	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	J	6	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	J	7	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	J	7	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	J	7	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	J	9	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	Burnt
Fanning's Battery	J	11	6	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	K	3	1	Ferrous	Architectural	Nails	Nail	Wrought	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	K	3	26	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	K	3	80	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear glass- modern -machine made mouthpiece
Fanning's Battery	K	3	121	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Dark Green Glass -modern
Fanning's Battery	K	3	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear Glass -modern
Fanning's Battery	K	3	14	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear Glass -modern
Fanning's Battery	K	3	8	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	green glass
Fanning's Battery	K	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	K	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	K	3	15	Glass	Food Prep/Consumption	Glass Stor. Container	Medicine Bottle	N/A	Light Blue Glass - Modern
Fanning's Battery	K	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	K	3	1	Metal	Personal	Currency	Coin	1940s	American Coin from 1945
Fanning's Battery	K	3	1	Metal	Personal	Currency	Coin	1940s	American coin from 1941
Fanning's Battery	K	3	21	Plastic	Personal	Toys and Leisure	N/A	N/A	Brown plastic pieces likely belonging to a toy -modern -"902"
Fanning's Battery	K	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	K	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	square shaped
Fanning's Battery	K	5	1	Stone	N/A	N/A	N/A	N/A	black flakey possibly coal
Fanning's	K	6	1	Brick	Architectural	Construction	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Materials			
Fanning's Battery	K	6	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	K	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	K	6	5	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	K	6	1	Gypsum	N/A	N/A	N/A	N/A	
Fanning's Battery	K	6	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	K	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	K	7	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	K	7	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	K	7	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	K	7	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	K	8	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	K	8	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	K	12	1	Wood	N/A	N/A	N/A	N/A	Chip
Fanning's Battery	K	12	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	M	2	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	M	2	3	Metal	Arms and Military	Ammunition/ Artillery	Percussion Cap	N/A	
Fanning's Battery	M	2	1	Metal	Arms and Military	Ammunition/ Artillery	Percussion Cap	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	M	2	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	M	2	2	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	M	3	3	Vinyl	Activities	N/A	Other	20th Century	Record
Fanning's Battery	M	3	1	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Fanning's Battery	M	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	M	3	1	Metal	Arms and Military	Ammunition/Artillery	Percussion Cap	N/A	
Fanning's Battery	M	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	M	3	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	M	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Clear
Fanning's Battery	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Ceramic Burnt beyond recognition
Fanning's Battery	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Late Palette	
Fanning's Battery	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	M	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	M	3	1	Plastic	Medical/Hygiene	Grooming and Hygiene	Hairpin	Plastic	Modern hair pin
Fanning's Battery	M	3	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	M	3	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	M	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	M	4	1	Lead	Arms and Military	Ammunition/	Bird Shot	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Artillery			
Fanning's Battery	M	4	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Fanning's Battery	M	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Late Palette	
Fanning's Battery	M	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Late Palette	Painted Blue
Fanning's Battery	M	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	M	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	M	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	M	2 (Baulk)	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	M	2 (Baulk)	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	M	2 (Baulk)	3	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Fanning's Battery	M	2 (Baulk)	2	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	M	2 (Baulk)	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	M	2 (Baulk)	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	N	2	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	N	2	2	Chert	Native	Lithic	Misc. Debitage	N/A	Cream

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	N	3	2	Ferrous	Activities	Hand Tools	N/A	N/A	gimlet (little drill)
Fanning's Battery	N	3	8	Brick	Architectural	Construction Materials	N/A		
Fanning's Battery	N	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	N	3	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	N	3	9	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Fanning's Battery	N	3	2	Bone	Faunal/Floral	Unsorted Bone	Burnt	N/A	
Fanning's Battery	N	3	2	Bone	Faunal/Floral	Unsorted Bone	N/A	N/A	
Fanning's Battery	N	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red Earthen. Glazed	
Fanning's Battery	N	3	2	Mica	N/A	N/A	N/A	N/A	
Fanning's Battery	N	3	1	Gypsum	N/A	N/A	N/A	N/A	
Fanning's Battery	N	3	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	N	3	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	N	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	N	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	N	3	1	Ferrous	Unassigned Material	Misc. Hardware	N/A	N/A	wedge shaped with circle on one end -made of iron plate - -hand made
Fanning's Battery	N	3	4	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	N	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	N	3	1	Metal	Unassigned Material	Scrap metal	N/A	N/A	
Fanning's Battery	N	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	N	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	N	4	2	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	N	4	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	not fired
Fanning's Battery	N	4	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	N	4	1	Copper-Alloy	Arms and Military	Edge Weaponry	N/A	N/A	bayonet finial or ram rod finial
Fanning's Battery	N	4	1	Pewter	Arms and Military	Fasteners	Button	N/A	Face decorated, star pattern, number in centre '1'
Fanning's Battery	N	4	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	
Fanning's Battery	N	4	1	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	Plain
Fanning's Battery	N	4	7	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Fanning's Battery	N	4	11	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	One large fragment (possibly a rib), and some smaller pieces
Fanning's Battery	N	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red Earthen. Glazed	
Fanning's Battery	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	N	4	1	Gypsum	N/A	N/A	N/A	N/A	
Fanning's Battery	N	4	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	N	4	7	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery								
Fanning's Battery	N	4	5	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	N	4	3	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A
Fanning's Battery	N	4	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A
Fanning's Battery	N	5	2	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	N	5	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A
Fanning's Battery	N	5	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A
Fanning's Battery	N	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt
Fanning's Battery	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Jar	N/A
Fanning's Battery	N	5	3	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	N	5	6	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	N	5	1	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	N	5	7	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	N	5	2	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	N	5	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A
Fanning's Battery	P	3	23	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt
Fanning's Battery	P	3	11	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	P	3	1	Chert	Native	Lithic	Core	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	P	3	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	P	3	10	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	P	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	P	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	P	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	P	5	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	P	5	26	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	P	5	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	P	5	7	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	P	5	14	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	P	5	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	P	7	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	P	7	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	P	7	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	
Fanning's Battery	P	7	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A	Teeth
Fanning's Battery	P	7	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	P	7	11	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	P	7	1	Ceramic	Food	Tableware	Tableware	Creamware	

Fort Erie 2012 Artifacts Sorted by Unit

Battery					Prep/Consumption				
Fanning's Battery	P	7	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	P	7	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	P	7	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	P	7	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	P	8	7	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	P	8	2	Lead	Arms and Military	Ammunition/ Artillery	Buckshot	N/A	
Fanning's Battery	P	8	3	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	P	8	1	Ferrous	Arms and Military	Fasteners	Buckle Part	N/A	Strap Holder For Musket
Fanning's Battery	P	8	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	P	8	5	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	P	8	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	Q	2	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	Q	3	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	Q	3	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	Q	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	Q	4	4	Lead	Arms and Military	Ammunition/ Artillery	Buckshot	N/A	
Fanning's Battery	Q	4	1	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	Q	4	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	R	4	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	R	4	1	Brick	Architectural	Construction Materials	N/A	N/A	Brick
Fanning's Battery	R	4	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	R	4	2	Ferrous	Architectural	Other Fasteners	Spike	Wire	
Fanning's Battery	R	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Fanning's Battery	R	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Fanning's Battery	R	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	R	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Fanning's Battery	R	4	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette	
Fanning's Battery	R	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	R	4	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	R	4	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	R	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	R	4	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	R	4	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	R	5	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	White/Clear glass
Fanning's Battery	R	5	5	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery								
Fanning's Battery	R	5	10	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	R	5	1	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	R	5	2	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	R	4 Wall	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A
Fanning's Battery	S	2	1	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	S	2	1	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	S	3	2	Clinker	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	S	3	1	Ferrous	Architectural	Nails	Nail	Wrought
Fanning's Battery	S	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	S	4	4	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	S	4	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	S	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	FSW, White Salt Glaze
Fanning's Battery	S	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Fanning's Battery	S	4	13	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	S	4	3	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	S	4	28	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	S	4	2	Chert	Native	Lithic	Misc. Debitage	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	S	4	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	S	5	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	S	7	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	S	7	1	Ferrous	Architectural	Nails	Nail	N/A	small and corroded, but likely wrought
Fanning's Battery	S	7	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	S	7	1	Lead	Arms and Military	Ammunition/Artillery	N/A	N/A	Pistol ball
Fanning's Battery	S	7	1	Flint	Arms and Military	Gunflint	Flake	N/A	French
Fanning's Battery	S	7	1	Flint	Arms and Military	Gunflint	Gunflint	Prismatic Blade	French, broken in half horizontally
Fanning's Battery	S	7	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	S	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Fanning's Battery	S	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	S	7	1	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	S	7	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	S	8	2	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	S	8	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	S	8	2	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	S	8	2	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	S	8	3	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery									
Fanning's Battery	S	8	4	Ferrous	Unassigned Material	Misc. Material	N/A	Wrought	Iron Strapping
Fanning's Battery	S	9a,b,c,d	7	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	T	1	1	Plastic	Food Prep/Consumption	N/A	N/A	N/A	small plastic container fragment -modern
Fanning's Battery	T	2	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	T	2	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Fanning's Battery	T	2	1	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	T	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	T	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	T	5	1	Lead	Arms and Military	Ammunition/Artillery	Musket Ball	N/A	
Fanning's Battery	U	3	28	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	U	3	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	U	3	98	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	modern - purple, melted, clear, green (light and dark)
Fanning's Battery	U	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	White
Fanning's Battery	U	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China, Plain	Cream
Fanning's Battery	U	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Course Stoneware, Salt Glaze	
Fanning's Battery	U	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	Burnt beyond recognition
Fanning's Battery	U	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain	
Fanning's Battery	U	3	17	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	3	1	Metal	N/A	N/A	N/A	N/A	Metal ring
Fanning's Battery	U	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	3	1	Metal	Personal	Currency	Coin	1940s	American Coin from 1968
Fanning's Battery	U	3	1	Ceramic	Personal	Personal Items	N/A	N/A	piece of an ironstone ceramic ornament -modern
Fanning's Battery	U	4	20	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	4	7	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	4	11	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	4	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	4	20	Ferrous	Architectural	Nails	Nail	Cut	
Fanning's Battery	U	4	21	Ferrous	Architectural	Nails	Nail	Cut	
Fanning's Battery	U	4	12	Ferrous	Architectural	Nails	Nail	Wire	
Fanning's Battery	U	4	1	Ferrous	Architectural	Nails	Nail	Wire	umbrella head roofing nail
Fanning's Battery	U	4	13	Ferrous	Architectural	Nails	Nail	Wire	
Fanning's Battery	U	4	15	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	U	4	12	Ferrous	Architectural	Nails	Nail	Wrought	

Fort Erie 2012 Artifacts Sorted by Unit

Battery										
Fanning's Battery	U	4	71	Glass	Architectural	Window Glass	Pane Glass	N/A	Some are slightly melted	
Fanning's Battery	U	4	33	Glass	Architectural	Window Glass	Pane Glass	N/A		
Fanning's Battery	U	4	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A		
Fanning's Battery	U	4	6	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A		
Fanning's Battery	U	4	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	FEW Colored, Slip Banded		
Fanning's Battery	U	4	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	FEW Jackfield	slightly burnt	
Fanning's Battery	U	4	3	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Fine Earthen.	brown green colour	
Fanning's Battery	U	4	6	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Fine Earthen.	Burnt	
Fanning's Battery	U	4	3	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Fine Earthen.	Dark Grey in colour	
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Fine Earthen.	Green/Grey colour	
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Fine Stoneware, Basalts		
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW	White	
Fanning's Battery	U	4	3	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW	Dark Grey in colour	
Fanning's Battery	U	4	3	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW	White	
Fanning's Battery	U	4	38	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A		
Fanning's Battery	U	4	27	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A		
Fanning's Battery	U	4	1	Glass	Food Prep/Consumption	N/A	N/A	Patterned Mould	Glass with moulded decoration, possible glass	

Fort Erie 2012 Artifacts Sorted by Unit

ornament									
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware	
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware	
Fanning's Battery	U	4	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	FEW Tin Glaze	
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	FEW Tin Glaze	
Fanning's Battery	U	4	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Non-Identifiable
Fanning's Battery	U	4	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Refined White EW, Plain	2 are burnt
Fanning's Battery	U	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Refined White EW, Plain	
Fanning's Battery	U	4	32	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	4	2	Stone	N/A	N/A	N/A	N/A	Stone with Paint
Fanning's Battery	U	4	3	Stone	N/A	N/A	N/A	N/A	Stone with melted metal on it
Fanning's Battery	U	4	2	Stone	N/A	N/A	N/A	N/A	Burnt Stone
Fanning's Battery	U	4	43	Glass	N/A	N/A	N/A	N/A	Melted Glass
Fanning's Battery	U	4	15	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	4	1	Charcoal	N/A	N/A	N/A	N/A	piece of charcoal/wood with paint on it
Fanning's Battery	U	4	30	Glass	N/A	N/A	N/A	N/A	Melted Glass
Fanning's Battery	U	4	3	Plastic	N/A	N/A	N/A	N/A	Piece of orange plastic
Fanning's Battery	U	4	16	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	4	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	4	1	Glass	Personal	N/A	N/A	N/A	Glass moulded to shape, possible candle holder?
Fanning's Battery	U	4	1	Metal	Unassigned Material	Misc. Hardware	Rivet	Machine Cut	Modern
Fanning's Battery	U	4	1	Metal	Unassigned Material	Misc. Material	N/A	N/A	Metal in the shape of a half circle
Fanning's Battery	U	4	1	Metal	Unassigned Material	Misc. Material	N/A	N/A	rectangular cut piece of metal
Fanning's Battery	U	4	1	Metal	Unassigned Material	Misc. Material	N/A	N/A	Possible piece of metal clasp
Fanning's Battery	U	4	3	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	U	4	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	U	5	1	Composite (wood and lead)	Activities	Writing	Slate Pencil	N/A	School Supplies, wood and lead
Fanning's Battery	U	5	1	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	5	25	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	5	35	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	5	2	Ceramic	Architectural	Door and Window Hardware	Door Knob	N/A	Burnt door knob with glaze
Fanning's Battery	U	5	81	Ferrous	Architectural	Nails	Nail	Cut	
Fanning's Battery	U	5	18	Ferrous	Architectural	Nails	Nail	Wire	
Fanning's Battery	U	5	1	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	U	5	22	Ferrous	Architectural	Nails	Nail	Wrought	

Fort Erie 2012 Artifacts Sorted by Unit

Battery										
Fanning's Battery	U	5	83	Glass	Architectural	Window Glass	Pane Glass	N/A		
Fanning's Battery	U	5	1	Metal	Arms and Military	Ammunition/Artillery	Cartridge Case	N/A	"16; REM; UMO; 12; arrow"	
Fanning's Battery	U	5	1	Lead	Arms and Military	Ammunition/Artillery	Musket Ball	N/A		
Fanning's Battery	U	5	1	Shell	Clothing Group	Fasteners	Button	N/A	Plain	
Fanning's Battery	U	5	1	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	Plain	
Fanning's Battery	U	5	1	Plastic	Clothing Group	Fasteners	Button	N/A	Blackberry shaped	
Fanning's Battery	U	5	2	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	Plain	
Fanning's Battery	U	5	17	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A		
Fanning's Battery	U	5	1	Shell	Faunal/Floral	Shell	Shell	N/A		
Fanning's Battery	U	5	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW		
Fanning's Battery	U	5	6	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A		
Fanning's Battery	U	5	94	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Green Colour	
Fanning's Battery	U	5	32	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Green Colour/melted glass	
Fanning's Battery	U	5	1	Composite	Food Prep/Consumption	Metal Containers	Closure	N/A	Metal cover jar lid - glass on inside with plastic seal - "Marv Garden" "... Paris" "Manufactured"	
Fanning's Battery	U	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China	1 pain, 1 blue	
Fanning's Battery	U	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	N/A	Unidentifiable -no exterior	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Fanning's Battery	U	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Porcelaineous	With overglaze decal transfer.
Fanning's Battery	U	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware		
Fanning's Battery	U	5	1	Metal	Food Prep/Consumption	Utensils	Spoon	N/A	
Fanning's Battery	U	5	1	Metal	Furniture	Decorative Furnishings	N/A	N/A	possible knob from unidentified ornament - brass
Fanning's Battery	U	5	3	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Fanning's Battery	U	5	12	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	5	1	Lead	N/A	N/A	N/A	N/A	Melted Lead
Fanning's Battery	U	5	1	Metal	N/A	N/A	N/A	N/A	Circular piece of metal -like a coin but much thinner and plain
Fanning's Battery	U	5	8	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	U	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	5	14	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	5	1	Metal	Personal	Personal Items	N/A	N/A	Bracelet
Fanning's Battery	U	5	1	Composite (copper alloy and plastic)	Unassigned Material	Misc. Hardware	N/A	N/A	wheel and screw -likely belongs to a cart or piece of furniture
Fanning's Battery	U	5	2	Ferrous	Unassigned Material	Misc. Hardware	Screw	N/A	
Fanning's	U	5	1	Metal	Unassigned	Misc. Material	N/A	N/A	possible grate from interior

Fort Erie 2012 Artifacts Sorted by Unit

Battery				Material				of car radiator	
Fanning's Battery	U	5	3	Plastic	Unassigned Material	Misc. Material	Plastic	N/A	Scrap Plastic Pieces
Fanning's Battery	U	5	15	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	U	5	1	Copper-Alloy	Unassigned Material	Misc. Material	Wire	N/A	coiled wire
Fanning's Battery	U	6	1	Composite (wood and lead)	Activities	Writing	Slate Pencil	N/A	School Supplies, wood and lead
Fanning's Battery	U	6	8	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	6	49	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	6	42	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	6	47	Ferrous	Architectural	Nails	Nail	Cut	
Fanning's Battery	U	6	38	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	U	6	1	Ferrous	Architectural	Other Hardware	Architectural Staple	N/A	
Fanning's Battery	U	6	18	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	U	6	1	Metal	Arms and Military	Ammunition/ Artillery	Cartridge Case	N/A	22 Cal. Shell casing modern
Fanning's Battery	U	6	1	Glass	Clothing Group	Fasteners	Button	N/A	Black with beaded border and beaded geometric design
Fanning's Battery	U	6	2	Shell	Clothing Group	Fasteners	Button	N/A	fragmented shell button
Fanning's Battery	U	6	1	Glass	Clothing Group	Fasteners	Button	N/A	white with design showing profile of a woman
Fanning's Battery	U	6	1	Glass	Clothing Group	Fasteners	Button	N/A	plain white button

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	6	21	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	U	6	36	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Melted
Fanning's Battery	U	6	62	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Clear
Fanning's Battery	U	6	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Green
Fanning's Battery	U	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Refined White EW	
Fanning's Battery	U	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Soft Paste Porcelain	
Fanning's Battery	U	6	9	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	6	16	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	6	9	Coal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	6	4	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	U	6	17	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	6	1	Ceramic	Smoking	Pipes	White Clay, Stem	N/A	Mouthpiece
Fanning's Battery	U	6	1	Copper-Alloy	Unassigned Material	Misc. Hardware	Rivet	N/A	
Fanning's Battery	U	6	1	Lead	Unassigned Material	Misc. Items	N/A	N/A	rectangle - three incisions - printers type set piece?
Fanning's Battery	U	6	1	Metal	Unassigned Material	Misc. Material	N/A		"L" shaped iron bracket - possible car part
Fanning's Battery	U	6	18	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	U	6	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	molten brass
Fanning's Battery	U	6	35	Metal	Unassigned	Misc. Material	Wire	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Battery				Material					
Fanning's Battery	U	7	1	Composite (wood and lead)	Activities	Writing	Slate Pencil	N/A	School Supplies, wood and lead
Fanning's Battery	U	7	37	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	7	148	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	7	7	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	7	1	Ceramic	Architectural	Door and Window Hardware	Door Knob	N/A	Burnt door knob with glaze
Fanning's Battery	U	7	49	Ferrous	Architectural	Nails	Nail	Cut	
Fanning's Battery	U	7	60	Ferrous	Architectural	Nails	Nail	Cut	
Fanning's Battery	U	7	27	Ferrous	Architectural	Nails	Nail	Wire	
Fanning's Battery	U	7	13	Ferrous	Architectural	Nails	Nail	Wire	
Fanning's Battery	U	7	94	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	U	7	59	Ferrous	Architectural	Nails	Nail	Wrought	
Fanning's Battery	U	7	81	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	U	7	17	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	U	7	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Fanning's Battery	U	7	1	Metal	Clothing Group	Fasteners	Buckle Part	Fastener	buckle for fine woman's undergarment -silver plated

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	7	1	Shell	Clothing Group	Fasteners	Button	N/A	
Fanning's Battery	U	7	3	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	
Fanning's Battery	U	7	4	Plastic	Clothing Group	Fasteners	Button	N/A	2 white, 2 black
Fanning's Battery	U	7	2	Copper-Alloy	Clothing Group	Fasteners	Button	N/A	
Fanning's Battery	U	7	1	Bone	Clothing Group	Fasteners	Button	N/A	plain bone button, four holes in middle
Fanning's Battery	U	7	1	Ferrous	Clothing Group	Fasteners	Button	N/A	plain iron button, intact shank
Fanning's Battery	U	7	1	Glass	Clothing Group	Fasteners	Button	N/A	black button, beaded design, shank intact but folded over
Fanning's Battery	U	7	1	Plastic	Clothing Group	Fasteners	Button	N/A	black, beaded design with pentagon in centre, shank missing
Fanning's Battery	U	7	27	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	U	7	18	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	U	7	3	Shell	Faunal/Floral	Shell	Shell	N/A	
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Other Décor	
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW	White
Fanning's Battery	U	7	45	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Fanning's Battery	U	7	23	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Fanning's Battery	U	7	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	moulded lettering "...ATION"
Fanning's	U	7	34	Glass	Food	Glass Bever.	Bottle	N/A	melted

Fort Erie 2012 Artifacts Sorted by Unit

Battery					Prep/Consumption	Container				
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ceramic	Dark brown/Maroon colour on one side -other side missing	
Fanning's Battery	U	7	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain		
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain		
Fanning's Battery	U	7	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Porcelaineous	With overglaze decal transfer.	
Fanning's Battery	U	7	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Refined White EW, Plain		
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Refined White EW, Plain		
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Refined White EW, Polychrome Transfer		
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	burnt	
Fanning's Battery	U	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain		
Fanning's Battery	U	7	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A		
Fanning's Battery	U	7	7	Plastic	N/A	N/A	N/A	20th Century	modern plastic, perhaps parts of a fan blade	
Fanning's Battery	U	7	18	Charcoal	N/A	N/A	N/A	N/A	Bag of Charcoal	
Fanning's Battery	U	7	31	Charcoal	N/A	N/A	N/A	N/A		
Fanning's Battery	U	7	81	Glass	N/A	N/A	N/A	N/A	Melted Glass	
Fanning's Battery	U	7	5	Stone	N/A	N/A	N/A	N/A	Painted Red and burnt stone	
Fanning's Battery	U	7	10	Charcoal	N/A	N/A	N/A	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	7	4	Coal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	7	3	Wood	N/A	N/A	N/A	N/A	burnt
Fanning's Battery	U	7	20	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	U	7	3	Chert	Native	Lithic	Flake	N/A	
Fanning's Battery	U	7	18	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	7	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	7	1	Ceramic	Personal	Toys and Leisure	Marble	N/A	unglazed clay marble undecorated
Fanning's Battery	U	7	1	Ceramic	Smoking	Pipes	White Clay, Stem	N/A	
Fanning's Battery	U	7	1	Metal	Unassigned Material	Misc. Hardware	N/A	N/A	brass tube threaded at opposite ends -give length and diameter -possible car part
Fanning's Battery	U	7	1	Ferrous	Unassigned Material	Misc. Hardware	N/A	N/A	iron tack with white glass head
Fanning's Battery	U	7	1	Copper-Alloy	Unassigned Material	Misc. Hardware	Rivet	N/A	
Fanning's Battery	U	7	1	Metal	Unassigned Material	Misc. Items	Spark Plug	N/A	possible car part - ring - white metal -spark plug part???
Fanning's Battery	U	7	2	Metal	Unassigned Material	Misc. Material	N/A	N/A	3 inch long meal bar with curves in it
Fanning's Battery	U	7	4	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	U	7	66	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Fanning's Battery	U	7	3	Ferrous	Unassigned Material	Misc. Material	Wire	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	9	5	Brick	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	9	10	Mortar	Architectural	Construction Materials	N/A	N/A	
Fanning's Battery	U	9	1	Metal	Architectural	Door and Window Hardware	Hinge	N/A	Has nails sticking out of it
Fanning's Battery	U	9	38	Ferrous	Architectural	Nails	Nail	N/A	
Fanning's Battery	U	9	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Fanning's Battery	U	9	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Fanning's Battery	U	9	2	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Fanning's Battery	U	9	1	Metal	Clothing Group	Fasteners	Button	N/A	
Fanning's Battery	U	9	1	Copper-Alloy	Clothing Group	Fasteners	N/A		Hook and Eye
Fanning's Battery	U	9	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	U	9	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Fanning's Battery	U	9	6	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	light green glass
Fanning's Battery	U	9	2	Glass	Food Prep/Consumption	Glass Tableware	Glassware	N/A	Glass Handle - possibly to a glass pitcher - modern
Fanning's Battery	U	9	32	Charcoal	N/A	N/A	N/A	N/A	
Fanning's Battery	U	9	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Fanning's Battery	U	9	1	Plastic	Personal	Toys and Leisure	Gaming Piece	Plastic	Possible Chess Piece - modern
Fanning's Battery	U	9	1	Metal	Unassigned Material	Misc. Hardware	N/A	N/A	steal -resembles oar-lock - meant to be inserted into

Fort Erie 2012 Artifacts Sorted by Unit

Fanning's Battery	U	9	1	Ferrous	Unassigned Material	Misc. Hardware	Screw	N/A		wood b/c of projecting wedge -car part?
Fanning's Battery	U	9	1	Lead	Unassigned Material	Misc. Items	N/A	N/A		rectangle - three incisions - printers type set piece?
Fanning's Battery	U	9	15	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A		
Fanning's Battery	V	2	1	Brick	Architectural	Construction Materials	N/A	N/A		
Fanning's Battery	V	2	2	Glass	Architectural	Window Glass	Pane Glass	N/A		
Fanning's Battery	V	2	4	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A		
Fanning's Battery	V	2	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A		light green glass
Fanning's Battery	V	2	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A		dark green glass
Fanning's Battery	V	2	1	Plastic	Food Prep/Consumption	N/A	Other	20th Century		Milk tab
Fanning's Battery	V	2	1	Chert	Native	Lithic	Flake	N/A		
Fanning's Battery	V	2	5	Chert	Native	Lithic	Flake	N/A		
Fanning's Battery	V	2	8	Chert	Native	Lithic	Misc. Debitage	N/A		
Fanning's Battery	V	2	13	Chert	Native	Lithic	Misc. Debitage	N/A		
Fanning's Battery	V	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A		top is pinched, forms an apex
Fanning's Battery	V	3	11	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A		
Fanning's Battery	V	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain		
Fanning's	V	4	1	Lead	Arms and Military	Ammunition/	Musket Ball	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Battery						Artillery		
Fanning's Battery	W	3	2	Brick	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	W	3	1	Clinker	Architectural	Construction Materials	N/A	N/A
Fanning's Battery	W	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	W	3	3	Chert	Native	Lithic	Flake	N/A
Fanning's Battery	W	3	4	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	X	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A
Fanning's Battery	X	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	X	3	2	Chert	Native	Lithic	Misc. Debitage	N/A
Fanning's Battery	X	4	1	Dentition	Faunal/Floral	Bone	Mammal Bone	N/A
Fanning's Battery	X	4	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Fanning's Battery	X	5	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A
Fanning's Battery	X	5	2	Bone	Faunal/Floral	Bone	Mammal Bone	N/A
Fanning's Battery	X	5	1	Chert	Native	Lithic	Core	N/A
Western Redoubt	A	3	4	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	A	3	7	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	A	3	4	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	A	3	4	Brick	Architectural	Construction Materials	N/A	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	A	3	2	Ferrous	Architectural	Nails	Nail	Wire	
Western Redoubt	A	3	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	A	3	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	A	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	A	3	4	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	A	3	9	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	A	3	1	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	1.77 Cal. Spool shaped pellet? -modern
Western Redoubt	A	3	3	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	A	3	12	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Western Redoubt	A	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Western Redoubt	A	3	1	Chert	Arms and Military	Gunflint	Flake	N/A	
Western Redoubt	A	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	A	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	A	3	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Banded	
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Twin brown bands with brown squiggle in between
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	A	3	1	Ceramic	Food	Tableware	Tableware	Pearlware, Blue	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt					Prep/Consumption			Transfer		
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette	Olive green, yellow and blue	
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette	Brown Colour	
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted, Unknown Palette	Blue and white	
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted, Unknown Palette		
Western Redoubt	A	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain		
Western Redoubt	A	3	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass	
Western Redoubt	A	3	1	Quartz	N/A	N/A	N/A	N/A		
Western Redoubt	A	3	5	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	A	3	1	Lead	N/A	N/A	N/A	N/A	Squished Lead	
Western Redoubt	A	3	13	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	A	3	12	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	A	3	1	Chert	Native	Lithic	Flake	N/A	Large Primary	
Western Redoubt	A	3	50	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	A	3	3	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	A	3	26	Chert	Native	Lithic	Misc. Debitage	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	A	3	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	A	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	A	3	30	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	A	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	A	3	7	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	A	4	3	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	A	4	12	Chert	Native	Lithic	Misc. Debitage	N/A	Giant Pieces all found in same area
Western Redoubt	A	5	4	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	A	5	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	A	5	4	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	A	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	A	3 (Walls)	4	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	2	6	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	2	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	B	2	2	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	B	2	5	Metal	Food Prep/Consumption	Metal Containers	Closure	N/A	One complete bottle cap, One bottle cap broken
Western Redoubt	B	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Banded	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	B	2	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	B	2	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	B	3	13	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	3	18	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	3	30	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	3	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	3	1	Asphalt	Architectural	Construction Materials	Roofing Material	Asphalt	Asphalt Shingle -modern
Western Redoubt	B	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	B	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	B	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	B	3	26	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	B	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	B	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	B	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Coarse Red Earthen.	
Western Redoubt	B	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	B	3	5	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	B	3	7	Glass	Food	Glass Stor.	Bottle	N/A	clear

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt					Prep/Consumption	Container				
Western Redoubt	B	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	green	
Western Redoubt	B	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass	
Western Redoubt	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Early Palette	
Western Redoubt	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Blue Transfer		
Western Redoubt	B	3	5	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Plain		
Western Redoubt	B	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Plain		
Western Redoubt	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Banded		
Western Redoubt	B	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain		
Western Redoubt	B	3	7	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	B	3	2	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	B	3	1	Quartz	N/A	N/A	N/A	N/A		
Western Redoubt	B	3	1	Coal	N/A	N/A	N/A	N/A		
Western Redoubt	B	3	1	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	B	3	5	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	B	3	9	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	B	3	12	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	B	3	2	Chert	Native	Lithic	Flake	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	B	3	8	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	B	3	13	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	B	3	47	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	B	3	4	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	B	3	1	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	B	3	1	Chert	Native	Lithic	Scraper	N/A
Western Redoubt	B	3	1	Ceramic	Smoking	Pipes	White Clay, Plain Bowl	N/A
Western Redoubt	B	4	3	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	B	4	3	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	B	4	6	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	B	4	4	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	B	4	1	Ferrous	Architectural	Nails	Nail	Wrought
Western Redoubt	B	4	2	Ferrous	Architectural	Nails	Nail	Wrought
Western Redoubt	B	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A
Western Redoubt	B	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A
Western Redoubt	B	4	2	Glass	Architectural	Window Glass	Pane Glass	N/A
Western Redoubt	B	4	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Western Redoubt	B	4	1	Lead	Arms and Military	Ammunition/	Buck and Ball shot	N/A

Fort Erie 2012 Artifacts Sorted by Unit

						Artillery			
Western Redoubt	B	4	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	B	4	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	Design on front - '8'? Lettering around edge on back?
Western Redoubt	B	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	B	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Plain	
Western Redoubt	B	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Plain	
Western Redoubt	B	4	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Western Redoubt	B	4	4	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	B	4	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	B	4	3	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	B	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	B	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	B	4	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	B	4	1	Ceramic	Smoking	Pipes	Red Clay, Marked bowl	N/A	
Western Redoubt	B	4	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	B	4	1	Pewter	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	B	5	6	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	B	7	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	B	7	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	B	7	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	B	7	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	B	3 Wall	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	Backdir t	?	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	Found in Screening Dirt Pile by Duncan Williams / Could be from units A, B, C, D, E, M, or N
Western Redoubt	C	2	34	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	2	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	C	3	9	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	3	26	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	3	102	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	3	9	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	3	5	Brick	Architectural	Construction Materials	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt						Materials			
Western Redoubt	C	3	3	Ferrous	Architectural	Nails	Nail	Wrought	Heavily corroded
Western Redoubt	C	3	1	Ferrous	Architectural	Nails	Nail	Wrought	Really corroded that could be a wrought nail
Western Redoubt	C	3	3	Ferrous	Architectural	Nails	Nail	Wrought	Heavily corroded
Western Redoubt	C	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	C	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	C	3	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	C	3	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	C	3	1	Chert	Arms and Military	Gunflint	Flake	N/A	French chert
Western Redoubt	C	3	1	Chert	Arms and Military	Gunflint	Flake	N/A	French chert
Western Redoubt	C	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	C	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	C	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	C	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Painted	Early Palette
Western Redoubt	C	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	C	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Banded
Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Banded
Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette
Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	C	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	C	3	1	Slate	N/A	N/A	N/A	N/A
Western Redoubt	C	3	5	Chert	Native	Lithic	Flake	N/A
Western Redoubt	C	3	3	Chert	Native	Lithic	Flake	N/A
Western Redoubt	C	3	5	Chert	Native	Lithic	Flake	N/A
Western Redoubt	C	3	11	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	C	3	4	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	C	3	7	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	C	3	11	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	C	3	3	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	C	3	8	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	C	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A
Western Redoubt	C	5	8	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	C	5	8	Brick	Architectural	Construction	N/A	N/A

Fort Erie 2012 Artifacts Sorted by Unit

						Materials			
Redoubt									
Western Redoubt	C	5	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	C	5	1	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	C	5	3	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	C	5	7	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	C	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette	
Western Redoubt	C	5	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	C	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	6	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	C	6	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	C	6	1	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	C	6	3	Ferrous	Arms and Military	Ammunition/Artillery	Mortar Bomb Fragment	N/A	One lg. piece, 2 sm. fell off
Western Redoubt	C	6	3	Ferrous	Arms and Military	Ammunition/Artillery	Mortar Bomb Fragment	N/A	One lg. piece, 2 sm. fell off
Western Redoubt	C	6	11	Ferrous	Arms and Military	Ammunition/Artillery	Mortar Bomb Fragment	N/A	
Western Redoubt	C	6	1	Ferrous	Arms and Military	Ammunition/Artillery	Mortar Bomb Fragment	N/A	
Western Redoubt	C	6	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	C	6	1	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	C	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	6	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	6	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	C	6	4	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	C	6	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	Small corroded lump - possible nail?
Western Redoubt	C	9	1	Stone	N/A	N/A	N/A	N/A	Architectural
Western Redoubt	D	2	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	2	1	Ferrous	Architectural	Nails	Nail	Wrought	very rusted
Western Redoubt	D	2	33	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	D	3	11	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	3	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	3	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	D	3	3	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	D	3	4	Ferrous	Architectural	Nails	Nail	Wrought	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	D	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Western Redoubt	D	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	D	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	D	3	5	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	D	3	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bever. Bottle	N/A	
Western Redoubt	D	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	D	3	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	D	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	D	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	D	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	D	3	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White Glass, Melted
Western Redoubt	D	3	1	Composite	Food Prep/Consumption	Metal Containers	Closure	N/A	Metal Bottle Cap with Plastic Seal
Western Redoubt	D	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	D	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Banded	
Western Redoubt	D	3	2	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	D	3	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	D	3	1	Copper-Alloy	N/A	N/A	N/A	N/A	Jagged Triangle Shape

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	D	3	2	Gypsum	N/A	N/A	N/A	N/A
Western Redoubt	D	3	2	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	D	3	2	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	D	3	2	Gypsum	N/A	N/A	N/A	N/A
Western Redoubt	D	3	3	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	D	3	1	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	D	3	3	Gypsum	N/A	N/A	N/A	N/A
Western Redoubt	D	3	16	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	3	3	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	3	12	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	3	95	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	3	16	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	3	6	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	3	6	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	3	17	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	3	42	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	3	6	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	3	5	Chert	Native	Lithic	Misc. Debitage	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	D	3	31	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	D	3	3	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	D	3	7	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	D	3	3	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	D	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	D	4	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	D	4	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	D	4	3	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	D	4	4	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	D	4	4	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	D	4	5	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	D	4	1	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A	
Western Redoubt	D	4	1	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A	
Western Redoubt	D	4	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	D	4	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	Possibly 11th Infantry (USA). Eagle motif above 11 with head turned to the left. Very similar button

Fort Erie 2012 Artifacts Sorted by Unit

									shown in <i>Snake Hill: An Investigation of a Military Cemetery from the War of 1812</i> on page 322, Plate 13, Burial 6, Button 30
Western Redoubt	D	4	1	Pewter	Clothing Group	Fasteners	Button	Fastener	
Western Redoubt	D	4	1	Bone	Faunal/Floral	Bone	Mammal Bone	N/A	
Western Redoubt	D	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	D	4	2	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	D	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	D	4	3	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	D	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	CEW Tin Glaze	
Western Redoubt	D	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	N/A	N/A	
Western Redoubt	D	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	D	4	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	D	4	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	D	4	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	D	4	1	Stone	N/A	N/A	N/A	N/A	Rust Marks
Western Redoubt	D	4	16	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	D	4	2	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	D	4	16	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	4	1	Chert	Native	Lithic	Flake	N/A
Western Redoubt	D	4	3	Chert	Native	Lithic	Flake	
Western Redoubt	D	4	20	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	4	5	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	4	43	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	4	20	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	4	49	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	4	17	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	5	2	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	D	D Walls	3	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	E	2	1	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	E	2	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	E	2	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	E	2	6	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	E	2	11	Chert	Native	Lithic	Flake	N/A
Western Redoubt	E	2	3	Chert	Native	Lithic	Flake	N/A
Western Redoubt	E	2	11	Chert	Native	Lithic	Misc. Debitage	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	E	2	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	E	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	E	3	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	E	3	2	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	E	3	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	E	3	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	E	3	5	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	4 Small ball = 1.25cm, 1 bigger ball =1.5cm
Western Redoubt	E	3	10	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	E	3	5	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	E	3	2	Bone	Faunal/Floral	Bone	Fish Bone	Burnt	
Western Redoubt	E	3	40	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt	
Western Redoubt	E	3	12	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	E	3	1	Metal	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	
Western Redoubt	E	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	E	3	5	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	E	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Blue Transfer	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	E	3	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	E	3	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	E	3	9	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	2	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	1	Quartz	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	4	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	10	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	1	Plastic	N/A	N/A	N/A	N/A	Plastic -modern
Western Redoubt	E	3	14	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	1	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	9	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	2	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	1	Quartz	N/A	N/A	N/A	N/A	
Western Redoubt	E	3	14	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	E	3	12	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	E	3	27	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	E	3	8	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	E	3	1	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	E	3	14	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	E	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	33	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	3	14	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	E	4	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	E	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	E	4	53	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	E	4	14	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	E	4	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	E	4	7	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	E	4	1	Chert	Native	Lithic	Flake	N/A
Western Redoubt	E	4	14	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	E	4	4	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	E	4,b1	4	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	E	4,b1	4	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	E	4,b1	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Western Redoubt	E	4,b1	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Western Redoubt	E	4,b1	26	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	E	4,b1	26	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	E	4,b1	10	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A
Western Redoubt	E	4,b1	10	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A
Western Redoubt	E	4,b1	3	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A
Western Redoubt	E	4,b1	3	Lead	Arms and Military	Ammunition/ Artillery	Rifle Ball	N/A
Western Redoubt	E	4,b1	2	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	E	4,b1	2	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	E	4,b1	3	Chert	Native	Lithic	Flake	N/A
Western Redoubt	E	4,b1	3	Chert	Native	Lithic	Flake	N/A
Western Redoubt	E	4b	8	Brick	Architectural	Construction	N/A	N/A

Fort Erie 2012 Artifacts Sorted by Unit

						Materials			
Redoubt									
Western Redoubt	E	4b	1	Metal	Architectural	Door and Window Hardware	Latch/Latch Part	N/A	Door handle
Western Redoubt	E	4b	1	Metal	Architectural	Door and Window Hardware	Latch/Latch Part	N/A	Door handle
Western Redoubt	E	4b	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	E	4b	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	E	4b	10	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	E	4b	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	E	4b	3	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	E	4b	2	Chert	Native	Lithic	Core	N/A	
Western Redoubt	E	4b	5	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	E	4b	17	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	E	4b	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	F	3	12	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	3	4	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	3	14	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	3	12	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	3	2	Ferrous	Architectural	Nails	Nail	Wrought	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	F	3	2	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	F	3	2	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A	
Western Redoubt	F	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Western Redoubt	F	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Western Redoubt	F	3	5	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	3	7	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	3	5	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	F	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	F	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	F	3	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	F	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	F	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Blue Transfer	
Western Redoubt	F	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Blue Transfer	
Western Redoubt	F	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Edged	
Western Redoubt	F	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	F	3	1	Ceramic	Food	Tableware	Tableware	Pearlware, Plain	Accidental bleeding

Fort Erie 2012 Artifacts Sorted by Unit

					Prep/Consumption					underside
Western Redoubt	F	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain		
Western Redoubt	F	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	Accidental bleeding underside	
Western Redoubt	F	3	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass	
Western Redoubt	F	3	22	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	F	3	2	Stone	N/A	N/A	N/A	N/A		
Western Redoubt	F	3	1	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	F	3	4	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	F	3	22	Charcoal	N/A	N/A	N/A	N/A		
Western Redoubt	F	3	2	Stone	N/A	N/A	N/A	N/A	black flakey possibly coal	
Western Redoubt	F	3	7	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	F	3	1	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	F	3	3	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	F	3	7	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	F	3	10	Chert	Native	Lithic	Misc. Debitage	N/A		
Western Redoubt	F	3	3	Chert	Native	Lithic	Misc. Debitage	N/A		
Western Redoubt	F	3	7	Chert	Native	Lithic	Misc. Debitage	N/A		
Western Redoubt	F	3	10	Chert	Native	Lithic	Misc. Debitage	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	F	3	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	Half ring, small rod
Western Redoubt	F	3	1	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	F	3	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	Half ring, small rod
Western Redoubt	F	4	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	4	10	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	4	11	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	F	4	4	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	F	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	F	4	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	F	4	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	F	4	6	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	4	8	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	4	7	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	F	4	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	F	4	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	F	4	1	Ceramic	Food	Tableware	Tableware	Creamware,	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt					Prep/Consumption			Plain
Western Redoubt	F	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Blue Transfer
Western Redoubt	F	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette
Western Redoubt	F	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	F	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	F	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	F	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	F	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain
Western Redoubt	F	4	2	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	F	4	1	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	F	4	6	Chert	Native	Lithic	Flake	N/A
Western Redoubt	F	4	3	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	F	4	1	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	F	4	11	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	F	4	9	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	F	4	1	Ceramic	Smoking	Pipes	White Clay, Marked Bowl	N/A
Western Redoubt	F	4	4	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	N/A
Western Redoubt	F	4	1	Copper-Alloy	Unassigned Material	Misc. Material	Scrap Metal	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	F	4	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	F	5	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	F	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	
Western Redoubt	G	2	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	G	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	15	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	10	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	8	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	12	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	4	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3	7	Ferrous	Architectural	Nails	Nail	Wrought	very rusted
Western Redoubt	G	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	G	3	2	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	G	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	G	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	G	3	4	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	G	3	2	Glass	Architectural	Window Glass	Pane Glass	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	G	3	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	G	3	4	lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	G	3	6	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	G	3	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	G	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	G	3	3	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	G	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	G	3	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	burnt
Western Redoubt	G	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	G	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	G	3	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	G	3	2	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	G	3	3	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	G	3	3	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Late Palette	Painted Blue

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted, Unknown Palette	Painted Blue
Western Redoubt	G	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	G	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	G	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	G	3	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	G	3	1	Quartz	N/A	N/A	N/A	N/A	All white
Western Redoubt	G	3	4	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	G	3	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	G	3	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	G	3	7	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	G	3	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	G	3	2	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	3	3	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	3	68	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	3	25	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	3	2	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	G	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	3	76	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	3	21	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	3	28	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	3	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	3	1	Ceramic	Smoking	Pipes	Red Clay, stem	N/A	
Western Redoubt	G	3	3	Metal	Unassigned Material	Misc. Material	Rod	N/A	
Western Redoubt	G	3	4	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	G	4	10	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	4	10	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	4	6	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	4	5	Ferrous	Architectural	Nails	Nail	Wrought	very rusted
Western Redoubt	G	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	G	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	G	4	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	G	4	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Western Redoubt	G	4	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Western Redoubt	G	4	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	G	4	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	G	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	G	4	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A
Western Redoubt	G	4	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A
Western Redoubt	G	4	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A
Western Redoubt	G	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Medicine Bottle	N/A
Western Redoubt	G	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted, Unknown Palette
Western Redoubt	G	4	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Painted, Unknown Palette
Western Redoubt	G	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	G	4	1	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	G	4	8	Chert	Native	Lithic	Flake	N/A
Western Redoubt	G	4	8	Chert	Native	Lithic	Flake	N/A
Western Redoubt	G	4	12	Chert	Native	Lithic	Flake	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	G	4	2	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	4	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	4	11	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	4	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	G	5	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	G	5	2	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	G	3 Wall	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	G	3 Wall	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	H	3	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	33	Brick	Architectural	Construction Materials	N/A	N/A	Brick
Western Redoubt	H	3	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	12	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	1	Brick	Architectural	Construction Materials	N/A	N/A	burnt
Western Redoubt	H	3	25	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	6	Brick	Architectural	Construction Materials	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	H	3	50	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	47	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	3	1	Ferrous	Architectural	Nails	Nail	Wrought	Corroded
Western Redoubt	H	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	3	3	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	3	3	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	Thin, just over 1mm
Western Redoubt	H	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	Thin, just over 1mm
Western Redoubt	H	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	H	3	3	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	Different Sizes
Western Redoubt	H	3	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	H	3	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	H	3	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	H	3	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	H	3	4	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	H	3	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt						Artillery			
Western Redoubt	H	3	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	NA
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Ceramic	Fire redware with a whieldon pattern
Western Redoubt	H	3	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	H	3	1	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	H	3	3	Glass	Food Prep/Consumption	Glass Tableware	Glassware	N/A	NA
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Banded ware	
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Banded	banded with brown
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Transfer Print	Brown print
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain	NA
Western Redoubt	H	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Yellowware, Plain	
Western Redoubt	H	3	4	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	H	3	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	H	3	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	H	3	8	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	H	3	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	3	68	Chert	Native	Lithic	Flake	N/A	Different sizes
Western Redoubt	H	3	8	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	3	4	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	3	43	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	3	27	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	53	Chert	Native	Lithic	Misc. Debitage	N/A	N/A
Western Redoubt	H	3	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	54	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	39	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	55	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	3	2	Faunal/ Floral	Organic	N/A	N/A	N/A	Charcoal
Western Redoubt	H	3	1	Metal	Unassigned Material	Misc. Material	Rod	N/A	Heavily corroded
Western Redoubt	H	3	1	Metal	Unassigned	Misc. Material	Rod	N/A	Heavily corroded

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt					Material				
Western Redoubt	H	3	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	H	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	H	4	20	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	4	46	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	H	4	2	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	4	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	H	4	3	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	H	4	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	H	4	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	H	4	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	H	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	H	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	H	4	1	Pewter	Clothing Group	Fasteners	Button	Fastener	
Western Redoubt	H	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	brown
Western Redoubt	H	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Medicine Bottle	N/A	
Western Redoubt	H	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	H	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	H	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	H	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	
Western Redoubt	H	4	1	Copper-Alloy	N/A	N/A	N/A	N/A	Scrap brass cylindrical shape with hole in middle
Western Redoubt	H	4	1	Metal	N/A	N/A	N/A	N/A	corroded sheet metal fragment
Western Redoubt	H	4	1	Quartz	N/A	N/A	N/A	N/A	
Western Redoubt	H	4	12	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	4	17	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	H	4	45	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	4	141	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	H	5	16	Glass	Native	Jewellery/Ornamentation	Bead	Glass	
Western Redoubt	H	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	1	1	Ferrous	Unassigned Material	Misc. Material	Sheet Metal	N/A	
Western Redoubt	J	2	1	Floral	Faunal/Floral	Floral	Seed	N/A	
Western Redoubt	J	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	2	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	J	3	22	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	3	6	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	3	6	Brick	Architectural	Construction	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt						Materials			
Western Redoubt	J	3	24	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	3	4	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	J	3	4	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	J	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	J	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	1.77 Cal. Lead Air rifle pellet -modern
Western Redoubt	J	3	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	J	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	J	3	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette	
Western Redoubt	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Edged	
Western Redoubt	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	J	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	J	3	1	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	J	3	3	Chert	Native	Lithic	Flake	N/A	N/A
Western Redoubt	J	3	6	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	J	3	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	J	3	18	Chert	Native	Lithic	Flake	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	J	3	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	3	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	3	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	J	3	13	Tin	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	J	3	5	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	J	4	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	4	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	J	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	J	4	1	Chert	Arms and Military	Gunflint	Flake	N/A	
Western Redoubt	J	4	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	interior brown glaze, double incised linear decoration on exterior
Western Redoubt	J	4	19	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	J	4	9	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	4	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	J	4	1	Tin	Unassigned Material	Misc. Material	Scrap Metal	N/A	Bent sheet, partially rolled on one end

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	J	5	1	Charcoal	N/A	N/A	N/A	N/A	128 grams
Western Redoubt	J	5	1	Charcoal	N/A	N/A	N/A	N/A	128 grams
Western Redoubt	J	6	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	6	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	6	24	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	J	6	2	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	J	6	4	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	J	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	J	6	2	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	J	6	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	J	6	2	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	C Red EW Glazed	
Western Redoubt	J	6	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware with green shell decoration (scalloped Edge)	
Western Redoubt	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	Burnt
Western Redoubt	J	6	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	
Western Redoubt	J	6	1	Charcoal	N/A	N/A	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	J	6	2	Coal	N/A	N/A	N/A	N/A	N/A
Western Redoubt	J	6	2	Charcoal	N/A	N/A	N/A	N/A	N/A
Western Redoubt	J	6	2	Chert	Native	Lithic	Flake	N/A	N/A
Western Redoubt	J	6	1	Chert	Native	Lithic	Flake	N/A	N/A
Western Redoubt	J	6	18	Chert	Native	Lithic	Flake	N/A	N/A
Western Redoubt	J	6	22	Chert	Native	Lithic	Misc. Debitage	N/A	N/A
Western Redoubt	J	6	3	Chert	Native	Lithic	Misc. Debitage	N/A	N/A
Western Redoubt	J	6	14	Chert	Native	Lithic	Misc. Debitage	N/A	N/A
Western Redoubt	J	7	3	Brick	Architectural	Construction Materials	N/A	N/A	N/A
Western Redoubt	J	7	24	Charcoal	N/A	N/A	N/A	N/A	N/A
Western Redoubt	J	9	2	Brick	Architectural	Construction Materials	N/A	N/A	N/A
Western Redoubt	J	9	1	Glass	Architectural	Window Glass	Pane Glass	N/A	N/A
Western Redoubt	J	9	1	Charcoal	N/A	N/A	N/A	N/A	N/A
Western Redoubt	J	9	1	Chert	Native	Lithic	Flake	N/A	N/A
Western Redoubt	J	9	2	Chert	Native	Lithic	Misc. Debitage	N/A	N/A
Western Redoubt	J	7 & 8 Feature	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	J	7 & 8 Feature	21	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	J	7 & 8 Feature	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	K	2	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	3	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	3	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	3	2	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	K	3	1	Ferrous	Architectural	Nails	Nail	Wrought	
Western Redoubt	K	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	K	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	3mm Thick
Western Redoubt	K	3	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	K	3	1	Lead	Arms and Military	Ammunition/Artillery	Buck and Ball shot	N/A	
Western Redoubt	K	3	1	Bone	Faunal/Floral	Bone	Unsorted Bone	Butchered/Unspecified	
Western Redoubt	K	3	1	Ceramic	Food	Ceramic	Holloware	FSW, White Salt	

Fort Erie 2012 Artifacts Sorted by Unit

					Prep/Consumption	Cooking/Stor.		Glaze
Western Redoubt	K	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A
Western Redoubt	K	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A
Western Redoubt	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain
Western Redoubt	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain
Western Redoubt	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Blue Transfer
Western Redoubt	K	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette
Western Redoubt	K	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette
Western Redoubt	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Late Palette
Western Redoubt	K	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	K	3	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	K	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain
Western Redoubt	K	3	1	Slate	N/A	N/A	N/A	N/A
Western Redoubt	K	3	7	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	K	3	1	Slate	N/A	N/A	N/A	N/A
Western Redoubt	K	3	1	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	K	3	6	Chert	Native	Lithic	Flake	N/A
Western Redoubt	K	3	7	Chert	Native	Lithic	Flake	N/A

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	K	3	3	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	K	3	12	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	K	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	8	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	14	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	3	1	Chert	Native	Lithic	N/A	N/A	Cortex
Western Redoubt	K	3	1	Ceramic	Personal	Toys and Leisure	Doll/Doll Part	Porcelain	
Western Redoubt	K	4	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	4	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	K	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	K	4	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	K	4	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	K	4	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	K	4	1	Flint	Arms and Military	Gunflint	Gunflint	Prismatic Blade	French
Western Redoubt	K	4	1	Ceramic	Food	Tableware	Tableware	Creamware,	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt					Prep/Consumption			Plain	
Western Redoubt	K	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	
Western Redoubt	K	4	1	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	K	4	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	K	4	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	4	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	K	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	M	2	5	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass
Western Redoubt	M	2	4	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Purple Glass
Western Redoubt	M	2	11	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	M	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White Glass, Melted
Western Redoubt	M	2	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	M	2	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	2	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	M	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	M	3	2	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	M	3	1	Glass	Food Prep/Consumption	Glass Bever. Container	Beer Bottle	N/A	Amber Colour

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	M	3	6	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	M	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	M	3	6	Glass	Medical/Hygiene	Pharmaceut. Containers	Pharmaceut. Bottle	N/A	Blue Colour
Western Redoubt	M	3	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	M	3	8	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	M	3	7	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	3	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	Rolled
Western Redoubt	M	4	1	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	M	5	1	Stone	Architectural	Construction Materials	Construction Block	N/A	Limestone Slab with mortar adhering 22cm
Western Redoubt	M	6	5	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	M	6	1	Glass	Architectural	Window Glass	Pane Glass	N/A	
Western Redoubt	M	6	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	M	6	6	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	6	10	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	7	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	M	7	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	8	1	Metal	Ferrous	Unassigned Material	Misc. Material	Scrap Metal	
Western Redoubt	M	8	1	Gypsum	N/A	N/A	N/A	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	M	8	28	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	M	8	12	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	9	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	M	9	1	Bone	Faunal/Floral	Unsorted Bone	Burnt	N/A	
Western Redoubt	M	9	3	Bone	Faunal/Floral	Unsorted Bone	N/A	N/A	Claws from animal
Western Redoubt	M	9	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	M	9	21	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	M	9	5	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	9	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	10	3	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	M	10	3	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	M	10	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	12	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	M	12	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	M	12	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	12	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M	13	3	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	M	13	55	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	M	13	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	M	13	1	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	M-N	9	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	M-N	9	4	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	M-N	9	2	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	M-N	9	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	M-N	9	13	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	M-N	9	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	M-N	9	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	M-N	Baulk	1	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A	
Western Redoubt	M-N	Baulk	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	M-N	Baulk	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass
Western Redoubt	M-N	Baulk	4	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	M-N	Baulk	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	M-N	Baulk	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	2	5	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	N	2	2	Glass	Food	Glass Stor. Container	Bottle	N/A	Purple Glass

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt					Prep/Consumption	Container				
Western Redoubt	N	2	31	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass	
Western Redoubt	N	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass with part of a label/name -modern container glass	
Western Redoubt	N	2	10	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass	
Western Redoubt	N	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Dark Green Glass with label/name on bottom - modern Bever. bottle "Limited"	
Western Redoubt	N	2	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Dark Green Glass	
Western Redoubt	N	2	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	Patterned Mould	White/Clear Glass with moulded part of lip piece	
Western Redoubt	N	2	13	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	One piece (from bottom of plate) has "...land" written on it	
Western Redoubt	N	2	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass	
Western Redoubt	N	3	4	Brick	Architectural	Construction Materials	N/A	N/A		
Western Redoubt	N	3	5	Ferrous	Architectural	Nails	Nail	Wrought		
Western Redoubt	N	3	1	Lead	Arms and Military	Ammunition/ Artillery	Bullet	N/A	Mini ball - 0.4 cal.	
Western Redoubt	N	3	1	Ferrous	Arms and Military	Ammunition/ Artillery	Mortar Bomb Fragment	N/A		
Western Redoubt	N	3	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A		
Western Redoubt	N	3	1	Chert	Arms and Military	Gunflint	Gunflint	Prismatic Blade	Prismatic fracture Onondaga chert w/ retouched edge most likely native produced	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	3	4	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	
Western Redoubt	N	3	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	Machine Made	Green Glass, Printed on bottom "SL ^{td} "
Western Redoubt	N	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	Machine Made	
Western Redoubt	N	3	5	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Amber glass
Western Redoubt	N	3	7	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	N	3	21	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	
Western Redoubt	N	3	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Clear, Foggy
Western Redoubt	N	3	6	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Blue Glass
Western Redoubt	N	3	4	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	N	3	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green Glass
Western Redoubt	N	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green Glass/worked glass
Western Redoubt	N	3	12	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass
Western Redoubt	N	3	81	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	3	10	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	Patterned Mould	White/Clear Glass with patterned mould
Western Redoubt	N	3	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	Solarized	
Western Redoubt	N	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Jar	N/A	
Western Redoubt	N	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Jar	N/A	Embossed Lettering Dates post 1821 - parks Canada Glass Glossary

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	3	19	Glass	Food Prep/Consumption	Glass Stor. Container	Jar	N/A	Clear
Western Redoubt	N	3	1	Metal	Food Prep/Consumption	Metal Containers	Closure	N/A	Broken piece of a Bottle lid, Modern
Western Redoubt	N	3	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	3	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	3	13	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	Manufactured in England
Western Redoubt	N	3	7	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	N	3	5	Glass	Furniture	Lighting Devices	Lamp	N/A	
Western Redoubt	N	3	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Western Redoubt	N	3	4	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Western Redoubt	N	3	1	Glass	Medical/Hygiene	Pharmaceut. Containers	Pharmaceut. Bottle	N/A	
Western Redoubt	N	3	1	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	N	3	3	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	N	3	4	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	N	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	3	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	3	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	2-Piece body mould	Light Turquoise Glass with mouth piece formed from mold

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	4	6	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	N	4	6	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green Glass
Western Redoubt	N	4	13	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass
Western Redoubt	N	4	66	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass with part of a label/name -modern Bever. bottle
Western Redoubt	N	4	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass with part of a decoration/label/name -modern
Western Redoubt	N	4	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Light Turquoise Glass
Western Redoubt	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	4	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Early Palette	
Western Redoubt	N	4	6	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	N	4	4	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	N	4	13	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	4	3	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	N	5	6	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	N	5	1	Brick	Architectural	Construction Materials	N/A	N/A	Large
Western Redoubt	N	5	6	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	N	5	8	Ferrous	Architectural	Nails	Nail	Wrought	Very Rusted

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt										
Western Redoubt	N	5	1	Ferrous	Architectural	Nails	Nail	Wrought		
Western Redoubt	N	5	1	Ferrous	Architectural	Nails	Nail	Wrought		
Western Redoubt	N	5	3	Ferrous	Architectural	Nails	Nail	Wrought		
Western Redoubt	N	5	3	Glass	Architectural	Window Glass	Pane Glass	N/A		
Western Redoubt	N	5	1	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A		
Western Redoubt	N	5	1	Copper-Alloy	Arms and Military	Edge Weaponry	Scabbard Clip	N/A		
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	CEW Tin Glaze		
Western Redoubt	N	5	4	Glass	Food Prep/Consumption	Glass Bever. Container	Beer Bottle	N/A	Amber Colour	
Western Redoubt	N	5	3	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Dark Green Colour	
Western Redoubt	N	5	11	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A	Thin Glass	
Western Redoubt	N	5	65	Glass	Food Prep/Consumption	Glass Bever. Container	Bottle	N/A		
Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	2-Piece body mould	White/Clear Glass with visible seam and part of lip piece	
Western Redoubt	N	5	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A		
Western Redoubt	N	5	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A		
Western Redoubt	N	5	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass	
Western Redoubt	N	5	8	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Purple Glass
Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	N	5	4	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green Glass
Western Redoubt	N	5	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green Glass/worked glass
Western Redoubt	N	5	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Light Turquoise Glass
Western Redoubt	N	5	3	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	N	5	5	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Green Glass
Western Redoubt	N	5	31	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass with part of a label/name -modern bottle "P" "liquid"
Western Redoubt	N	5	12	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	5	9	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass
Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Dark Green Glass
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	N/A	N/A	N/A	Burnt Beyond Recognition
Western Redoubt	N	5	1	Glass	Food Prep/Consumption	Pharmaceut. Containers	Pharmaceut. Bottle	Coloured Glass	Purple Colour
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Bone China Painted	Chinese Porcelain over Glazed Red Painted -Imari?
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	C Red EW Glazed	Black Glaze or Possibly Burnt

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Creamware, Plain	
Western Redoubt	N	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ironstone Plain	
Western Redoubt	N	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Ironstone Plain	
Western Redoubt	N	5	3	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Plain	
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	N	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware, Plain	
Western Redoubt	N	5	4	Ceramic	Food Prep/Consumption	Tableware	Tableware	Porcelaineous	With overglaze decal transfer.
Western Redoubt	N	5	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Plain	
Western Redoubt	N	5	2	Ceramic	Food Prep/Consumption	Tableware	Tableware	Vitrified White EW, Transfer	Painted with a flower design.
Western Redoubt	N	5	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Western Redoubt	N	5	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Western Redoubt	N	5	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	N	5	5	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	N	5	4	Glass	Medical/Hygiene	Pharmaceut.	Panel Bottle	Glass Stor.	Darker Turquoise

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt						Containers	Container		
Western Redoubt	N	5	11	Glass	Medical/Hygiene	Pharmaceut. Containers	Panel Bottle	Glass Stor. Container	Lighter Turquoise
Western Redoubt	N	5	1	Unidentifiable	N/A	N/A	N/A	20th Century	5.5 cm max dimension - crescent shaped metal plate
Western Redoubt	N	5	5	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	N	5	1	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	N	5	7	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	N	5	2	Gypsum	N/A	N/A	N/A	N/A	
Western Redoubt	N	5	1	Rubber	N/A	N/A	N/A	Vulcanized Rubber	Vulcanized Rubber with writing "...TRON" Above that there is a logo that is a circle.
Western Redoubt	N	5	2	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	N	5	6	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	N	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	5	3	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	5	1	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	5	2	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	5	6	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	5	4	Chert	Native	Lithic	Misc. Debitage	N/A	
Western Redoubt	N	5	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	Wire
Western Redoubt	N	5	2	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	N	5	1	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	N	5	3	Metal	Unassigned Material	Misc. Material	Scrap Metal	N/A	
Western Redoubt	N	6	2	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	N	6	1	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	N	7	6	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	N	7	1	Brick	Architectural	Construction Materials	N/A	N/A	
Western Redoubt	N	7	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	N	7	5	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A	
Western Redoubt	N	7	1	Metal	Arms and Military	Ammunition/ Artillery	Cartridge Case	N/A	22 Cal. Shell casing modern
Western Redoubt	N	7	1	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A	
Western Redoubt	N	7	1	Lead	Arms and Military	Ammunition/ Artillery	Priming Tube	Quill Primer	Lead Artillery Quill Ammunition Primer -hand made
Western Redoubt	N	7	1	Copper-Alloy	Arms and Military	Edge Weaponry	Sword Part	N/A	Hand Guard; broken; See Chartrand Uniforms, Flags, and Equipment book
Western Redoubt	N	7	1	Pewter	Arms and Military	Uniform Insignia	Military Button	N/A	U.S. Button
Western Redoubt	N	7	10	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Redoubt									
Western Redoubt	N	7	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A	
Western Redoubt	N	7	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Course Stoneware Bristol Style	N/A	salt glazed stoneware base fragment
Western Redoubt	N	7	4	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW	Modern
Western Redoubt	N	7	1	Ceramic	Food Prep/Consumption	Ceramic Cooking/Stor.	Holloware	Vitrified White EW	Likely Modern, "..ES" and "...Pure"
Western Redoubt	N	7	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	7	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass
Western Redoubt	N	7	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass
Western Redoubt	N	7	1	Ceramic	Food Prep/Consumption	Tableware	Tableware	Pearlware Early Palette	
Western Redoubt	N	7	25	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	N	7	2	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	
Western Redoubt	N	7	8	Glass	Furniture	Lighting Devices	Oil Lamp	N/A	Glass
Western Redoubt	N	7	1	Metal	Furniture	Lighting Devices	Oil Lamp Collar	N/A	
Western Redoubt	N	7	1	Plastic	N/A	N/A	N/A	20th Century	Black Plastic electrical tape
Western Redoubt	N	7	2	Charcoal	N/A	N/A	N/A	N/A	
Western Redoubt	N	7	5	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	N	7	3	Chert	Native	Lithic	Flake	N/A	
Western Redoubt	N	7	6	Chert	Native	Lithic	Misc. Debitage	N/A	

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	N	7	8	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	N	7	11	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	N	8	1	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	N	8	19	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Western Redoubt	N	8	72	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Western Redoubt	N	8	1	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	N	8	1	Chert	Native	Lithic	Flake	N/A
Western Redoubt	N	9 Int.	1	Brick	Architectural	Construction Materials	N/A	N/A
Western Redoubt	N	9 Int.	1	Ferrous	Architectural	Nails	Nail	Wrought
Western Redoubt	N	9 Int.	1	Lead	Arms and Military	Ammunition/ Artillery	Bird Shot	N/A
Western Redoubt	N	9 Int.	4	Lead	Arms and Military	Ammunition/ Artillery	Buck and Ball shot	N/A
Western Redoubt	N	9 Int.	3	Lead	Arms and Military	Ammunition/ Artillery	Musket Ball	N/A
Western Redoubt	N	9 Int.	1	Bone	Faunal/Floral	Bone	Unsorted Bone	N/A
Western Redoubt	N	9 Int.	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A
Western Redoubt	N	9 Int.	1	Charcoal	N/A	N/A	N/A	N/A
Western Redoubt	N	9 Int.	1	Gypsum	N/A	N/A	N/A	N/A
Western Redoubt	N	9 Int.	7	Chert	Native	Lithic	Misc. Debitage	N/A
Western Redoubt	N	9 Int.	17	Metal	Unassigned	Misc. Material	Scrap Metal	N/A

Fort Erie 2012 Artifacts Sorted by Unit

				Material						
Western Redoubt	N	Wall	1	Glass	Furniture	Lighting Devices	Oil Lamp	N/A		
Western Redoubt	N	Baulk	1	Ferrous	Architectural	Nails	Nail	Wrought		
Western Redoubt	N	Baulk	2	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White/Clear Glass	
Western Redoubt	N	Baulk	1	Chert	Native	Lithic	Misc. Debitage	N/A		
Western Redoubt	P	1	1	Plastic	Personal	Toys and Leisure	Marble	Plastic	Plastic Marble, Modern	
Western Redoubt	P	3	2	Brick	Architectural	Construction Materials	N/A	N/A		
Western Redoubt	P	3	3	Copper-Alloy	Architectural	Other Fasteners	Spike	Wire		
Western Redoubt	P	3	1	Lead	Arms and Military	Ammunition/Artillery	Bird Shot	N/A		
Western Redoubt	P	3	2	Bone	Faunal/Floral	Bone	Unsorted Bone	Burnt		
Western Redoubt	P	3	6	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	White Glass	
Western Redoubt	P	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Turquoise Glass	
Western Redoubt	P	3	1	Glass	Food Prep/Consumption	Glass Stor. Container	Bottle	N/A	Brown Glass	
Western Redoubt	P	3	1	Wood	N/A	N/A	N/A	N/A		
Western Redoubt	P	3	3	Chert	Native	Lithic	Flake	N/A		
Western Redoubt	P	3	36	Chert	Native	Lithic	Misc. Debitage	N/A		
Western Redoubt	P	3	1	Chert	Native	Lithic	Misc. Debitage	N/A		
Western Redoubt	P	5	3	Chert	Native	Lithic	Misc. Debitage	N/A		

Fort Erie 2012 Artifacts Sorted by Unit

Western Redoubt	P	4B	3	Chert	Native	Lithic	Misc. Debitage	N/A
			11011					
