RESULTS OF 1970 EXCAVATIONS IN THE
FORT GEORGE MILITARY RESERVE

by
James R. Henderson
(1973)

1973 ARCHAEOLOGICAL EXCAVATIONS
AT FORT GEORGE

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Abstract

The 1970 excavations on the site of the Commandant's Quarters, Fort George Military Reserve, Ontario Site 12H are described. Structural evidence of a frame house, built about 1820, was uncovered, showing numerous alterations over an occupation period of about forty years. A brief section on historical background outlines the documentary evidence concerning the building and also reveals some information about its two known occupants, John Powell and Lewis Clement. Details of construction are discussed and a lot-layer correlation is appended.
Preface

The purpose of this report is to present the findings of excavations conducted on the site of the Commandant's Quarters of the Royal Engineers, Niagara-on-the-Lake, Ontario. The excavations took place from 15 May 1970 to 20 September 1970.

The work was directed by the author who was assisted by David and Margery Garrick. The crew consisted mainly of college students from Trent University, Peterborough, Ontario, and Brock University, St. Catherines, Ontario. Some laborers were hired from the town of Niagara-on-the-Lake during the course of the season.

The staff of the Fort George National Historic Park were extremely helpful and co-operative throughout the course of the excavation season.
Introduction

The excavation area is located on the Fort George Military Reserve, Niagara-on-the-Lake, Ontario and lies south of the so-called *Otter* Trail and west of the Queenston Road. Test excavations conducted in 1969 by the author revealed a concentration of building collapse south of the dry shallow creek bed which meanders through the area, and it was in the vicinity of this previous excavation that the search for the Commandant's Quarters was begun. The area of the Commandant's Quarters is on the site of a new golf course and therefore excavation had to be as complete as possible.

The aim of the excavation was to locate and expose the remains of the Commandant's Quarters of the Royal Engineers, which appeared on maps dated between 1817 and 1853. The exact date for either the construction or destruction of this building is not known. Associated out-buildings included a stable, a privy and an ash-pit.

Standard excavation techniques were used to strip the site and excavation units were designated according to the National Historic Sites Service Archaeological Excavation Manual (Swannack 1971).

Operations 12H11, 12H12, and 12H13 were exploratory and were located in the vicinity of the southern half of the eastern addition to the house proper.

Operation 12H14 was located outside and south of the eastern addition.

Operation 12H15 included the kitchen and most of the south end of the house including the area of the well to the west of the kitchen.

Operation 12H16 was the contents of the cellar beneath the collapse of the superstructure.
Operation 12H18 was west of the rest of the excavations and on the location of the ash pit.

Operation 12H19 included all the area outside and south of the kitchen.

Operation 12H21 was the privy south of the kitchen and separate from the rest of the excavations.

This report begins with a chapter on historical background. In this chapter are data related to the structure of the building being excavated. Also included is some information on the lives of the two known inhabitants of the building, Lewis Clement and John Powell. A section is also devoted to some observations of the social and political conditions in which these individuals existed. This site provides an opportunity for speculation on problems of artifact analysis based on a reasonably comprehensive understanding of the social milieu surrounding their deposition. Although no specific discussion of artifacts is included here it is hoped that this report will prove valuable for future analysis.
Historical Background

Documentary History of the Commandant's Quarters
The following chapter on historical background has two objectives. First, specific references to the Commandant's Quarters and its history will be reviewed. Secondly, some background material on the social, economic and political scene in the community with specific reference to the individuals who inhabited the house will be outlined.

The first reference to the Commandant's Quarters in the middle of the Fort George Military Reserve was on a map dated 1817 (Public Archives of Canada [hereafter cited as PAC], "No. 6 Plan of Fort George, Mississauga and Niagara, the Military Reserves and the Town of Newark". Niagara, 1817). Construction must have taken place in the period immediately following the signing of the Treaty of Ghent in 1814.

In 1823 Lieutenant-Colonel E. Durnford of the Royal Engineers submitted a report on Fortification in Upper Canada (PAC, RG 8, II, vol. 81) in which he described the Commandant's Quarters as being in pretty good order but in a bad location that made drainage a problem. According to Durnford, the building was of frame construction on a stone foundation, 48 ft. by 35 ft. by 12 ft. with an addition 35 ft. by 25 ft. Durnford's report was accompanied by a floor plan, section and elevation of the structure (Fig. 1). The two rooms on the side of the building, sharing a double fireplace, are almost certainly an addition referred to in the report. However the section drawn through the length of the house reveals a roofline indicating that the room directly behind the front room was added to the original building at some date following the original construction and that the kitchen was a further addition to the house. Therefore, unlikely as it
sounds, it appears that at least three and possibly four stages of construction took place between the 24th December 1814, the end of the war, and the 24th September 1823 when Durnford made his section drawing.

On maps dated 1830, 1831 and 1835 (PAC, "Plan Showing the Situation of the Barracks, Magazines...", Fort George and Mississauga, 1830; "Plan showing the Survey of the Military Reserve at Niagara", 1831; Niagara-on-the-Lake, 1835) the building was referred to as the "Royal Engineers Commandants Quarters." The 1835 map also noted that it had been "let to Mr. Powell" (Fig. 2) whereas the maps dated 1842 and 1843 (PAC, "Niagara; plan to Accompany Returns Called for...", 1842; Niagara 1843) show that the building had been "let to Lewis Clement" (Fig. 3). Both of these individuals, Powell and Clement, were fairly prominent figures in the community and they will be discussed in some detail in the following section.

From 1830 to 1852 maps (PAC, "Canada: Niagara Verification Plan," 1853) clearly show a rectangular out-building south of the kitchen wing of the house, although none of these maps give a hint as to the function of the building. The final drawing of the house appears on a map dated 1853 (PAC,"Niagara", 1853) and is the last documentary evidence of the Commandant's Quarters (Fig. 4). The scale of the drawing is suspect but the outline of the building is clear and accurate. It shows that the kitchen wing had been extended eastward by about 10 ft. Off the southeast corner of the kitchen was a rectangular addition to which was attached a small rectangular privy. Beyond the privy to the south was attached another rectangular addition designated as an outhouse. Westward from the main house toward the creek bed was an ash pit.

Historical and Social Setting
The aim of the following section is to provide the social economic and political background for the individual inhabitants of the Commandant's Quarters, Powell and Clement.
As the 19th century began, Niagara or Newark as it was then known, was an important political and economic center in Upper Canada. It had been the first capital of the province and remained the principal town of the well-settled Niagara peninsula, focus of the military, judicial and administrative activities of the area. Its economic importance was insured by the fact that all commercial traffic bound for the settlements on Lake Erie passed through Niagara. The population of the town reflected this duality of activity. The first settlers had arrived from New York, New Jersey, Connecticut, Pennsylvania and Massachusetts after the American Revolution. As rewards for their loyalty to the Crown the officers of the militia received larger land grants, remained on half pay and were appointed to petty offices of local power. They soon translated these advantages into positions of local social status and political influence. The second group of settlers was a small number of Scottish merchants who, by controlling the trade which passed through the town, soon rose to a position of power equal to that of the Loyalists. "Within short order the two privileged groups, the officer Loyalists and the Scottish merchants, merged through friendship and marriage to form a tightly knit oligarchy that supplied the community with military, religious, social, economic and political leadership" (Nelles 1966:100).

The military tradition had always been strong in Niagara and almost to a man the sons of the privileged class followed their fathers into the ranks of local militia, usually, though not exclusively, as officers. Economic and political domination remained their private preserve. "To the
oligarchy fell the responsibility of social organization. Schools, churches, libraries and public buildings had to be erected and maintained; both the Church of England and the Presbyterian Church could rely upon the same three dozen families for support. The trustees of the Library Board, school trustees and magistrates all came from this tight little clique and the list of Directors of the Niagara District Branch of the Upper Canada Agricultural Society read like a role call of the oligarchy."

(Nelles 1966: 103).

The effects of the War of 1812 on the ruling class were two-fold. The first and most immediate result was further co-operation and a closing of ties between the two elements of the power structure. "Finally both groups shared a common military myth, and after the war this proud and decorated oligarchy resumed its prewar social and administrative dominance."(Nelles 1966:104). The second effect of the war was far more profound and led to a redefinition of the relationship between the few powerful families and the political and social ambitions of a rapidly expanding population.

"The war had left a patriotic legacy to all of the citizens of the District regardless of origin, religion or breeding, but to many (including some Loyalists) the bequest was one of poverty in the face of depression, desertion by a thankless colonial administration and frustration with local petty privilege" (Nelles 1966:104). Following the war the Loyalist merchant group continued to place their sons in positions of local political power but in elections were unable to withstand the pressure of the new populace. Many of the newcomers were American in origin, Methodists in religion and filled with political and commercial ambition and impatient with the rigid social order they found in Niagara. By 1827 only one of the five legislative seats in Lincoln county
was held by the traditional establishment. Raising the echoes of the war of 1812 and standing on their patriotism to the Crown availed the established families nothing. Accusations of radicalism simply fell on deaf ears as the District peacefully weathered the Rebellion of 1837 and the controversy that preceded it by successfully adopting a middle road. "By 1837 power had passed to the new men in Niagara; they held all of the elective positions and like Methodism, they were becoming 'respectable'. The old 'loyalty' issue had lost its magical charm in floods of immigration and the remnant of the old elite slipped into a proud obscurity." (Nelles 1966: 114).

The "old elite" in "proud obscurity" is what we find represented by the two inhabitants of the Commandant's Quarters.

**John Powell**

The immediate task is to place John Powell and Louis Clement in the social scene of Niagara in the first half of the 19th century.

John Powell was the son of William Dummer Powell, the first Chief Justice of Upper Canada and a man of considerable power and influence. It has been said that W.D. Powell and the Rev. Dr. John Strachen were the real rulers of the province at the beginning of the century. Chief Justice Powell had three sons; W.D. Powell, Jr., a lawyer in Queenston who eloped with one Sarah Stevenson of Grimsby in 1801 and died in 1803 (Carnochan 1913, Vol. 25: 28, 30); Jeremiah who ran away to sea, joined the Spanish pirate Mirando in Baltimore, was captured and sentenced to death by the Spaniards only to be saved by his father who successfully pleaded for his son's life in the Spanish Court, whereupon Jeremiah ran away to sea again and disappeared (Carnochan 1906, Vol. 14: 39); and John, who is the object of our scrutiny here.
A respectable though unremarkable citizen, John Powell was a landowner in the town (Lot 225) in 1800 (Carnochan 1916, Vol. 27: 15). He became a trustee of the Library in 1809 and remained as such until the dissolution of that institution in 1820 (Carnochan 1900, Vol. 6: 8, 14). He was a member of St. Mark's Anglican Church (Carnochan 1916, Vol. 27: 53) and Registrar of the town (Carnochan 1906, Vol. 14: 5). In 1812, as Captain in the militia, he commanded a small battery of guns at Fort George (Cruikshank 1904, Vol. 12: 15). His unit was left to defend the fort when Brock went to Queenston on 13 October 1812 and he saw no action on that day. However he fought well in a losing cause on 27 May 1813 when the Americans successfully captured Niagara and Fort George (Cruikshank 1904, Vol. 12: 20). On 13 December 1813 the American forces retreated from Niagara after destroying the town. Powell, who lost his house in the fire, was taken to Albany, N.Y. as a prisoner (Carnochan 1916, Vol. 27: 24). Following the termination of hostilities, he was released and returned to Niagara where he set up accommodations for himself and his family in the ruins of his old dwelling (Carnochan 1906, Vol. 14: 14).

His father, the Chief Justice, arranged for his son to accompany him on the circuit court. Mrs. W.D. Powell Sr. described the arrangement in a letter of 1815. "Mr. Powell left us five days ago to take the Eastern Circuit which will be a very long one, John accompanies him, the derangement in his means of subsistence requires the aid this temporary office affords him - indeed I see no chance of recovering from the unfortunate events of the last three years" (Carnochan 1906, Vol. 14: 8). The "temporary office" had become an es-
tablished position as described in another letter of 1817 which related that W.D. Powell was on the circuit and that "John is with him and he says will make a very profitable circuit as independent of liberal allowance for travelling expenses the clerk of Assize has fees upon all Court causes" (Carnochan 1906, Vol. 14: 20). John Powell continued as Clerk of Assize for some years after this letter. He became involved in provincial politics and worked in the legislature as a clerk (Carnochan 1906, Vol. 14: 36). When exactly he took up residence in the Commandant's Quarters is not known, though the map of 1835 lists him as a tenant. All in all the image is of a respectable and conventional man of limited ability who traded on his father's influence for status and livelihood and who probably found himself in reduced circumstances after his father's death.

Lewis Clement

Lewis Clement's family was one of the first in the Niagara District. His father, John, his grandmother and two uncles arrived in Upper Canada in 1777 from New York (Carnochan 1917, Vol. 31: 44). Their claim for reparations after the American Revolution indicated that they left large land holdings and a prosperous farm in the United States. John Clement joined Butler's Rangers and his exploits led to his being the subject of an epic poem by William Kirby entitled "The U.E.". Known ever after as "Ranger John" he remained on half-pay in the militia until the War of 1812 (Cruikshank 1934, Vol. 43:34).

Lewis Clement was admitted to a share in the Agricultural Society in right of his father in 1806 (Carnochan 1900, Vol. 6: 13). In 1815 he was mentioned as a subscriber to the Library (Carnochan 1900, Vol. 6:19). As a member of the militia artillery he played a small but significant part in the Battle of Queenston Heights, 13 October 1812 (Carnochan
1916, Vol. 28: 52). General Brock had stationed Clement with a single three-pound gun at Queenston as a watch on the river while the main force remained at Fort George seven miles away. When the Americans began crossing the river Clement opened fire with his "grasshopper" and the sound of the gun awakened Brock who rode with the militia to Queenston. Throughout the day Lewis Clement and his commanding officer John Ball kept their gun in action. Clement was evidently wounded in the battle and he played no further part in the war.

Following the war Clement returned to civilian life as a merchant. He remained a prominent citizen involved in church affairs (he was a warden of St. Andrew's Church in 1829 [Carnochan 1916, Vol. 27: 32]) and the Library. He owned a block of the main street of Niagara, described by James A. Davidson in 1836 as "the Clement block of stores, first that of Lewis Clement and Sons, next Peter Drummond's extensive grocery and that of the Laidlaw Bros., and on the corner a brick store, the fine establishment of Balfor and Drysdale". (Carnochan 1903, Vol. 11: 17).

A photograph exists of Lewis Clement taken in 1869 of himself with seven other veterans on the battleground at Queenston (Carnochan 1916, Vol. 28: 40). This is the last known reference to the man.

In summary one gets a rather different picture of Lewis Clement than John Powell. Clement was evidently a success on his own merits but was not as deeply involved in the intellectual life of the community. The point of greatest similarity seems to be that Powell and Clement were members of the same regiment of militia artillery during the War of 1812. They were both members of prominent families, part of the political oligarchy described above, and it seems certain that any real power or influence to be derived from this familial association had disappeared by the time either of these
men occupied the Commandant's Quarters. It is hoped that this brief background will provide some sense of social place for the material recovered from the excavation and that this knowledge will be of assistance in the analysis of the artifacts.
Description of Excavations

Excavations revealed the outline of a building 50 ft. wide at the broadest point with an overall length of 70 ft. Inside this structure were a cellar, the remains of three fireplaces, and a collapsed chimney, while outside the building proper was a well, a privy and an ash pit or root cellar (Fig. 5).

The Front Rooms (Operation 12H17)
The only traces of the front wall of the house was a shallow trench 49.5 ft. long and 1.3 ft. wide. It was packed with rubble consisting of broken brick and stone, mortar, wall plaster, pane glass and nails. This material occurred in three layers in the trench; large chunks of mortar and plaster with few artifacts at the bottom separated from the upper finer rubble mixture by a thin discontinuous layer of sub-soil. The easternmost 30 ft. of the trench was 2.5 ft. deep as was the northwest corner. However the western 12 ft. of the trench was only 1.3 ft. deep.

Along the north or outside edge of this trench was another trench of the same depth and 1.2 ft. wide. It contained little or no rubble but rather a mixture of disturbed sub-soil and clay. Three distinct post holes, one with a portion post intact, were found in this trench.

The post holes were located variously at distance of 24.5 ft., 28.5 ft. and 32.5 ft. from the northeast corner of the house. They were all 2.8 ft. deep. All of the post holes were rectangular, the eastern-most measuring 1.1 ft. by 1.5 ft., the middle 1.4 ft. by 1.3 ft. and the western 1.3 ft. by 1 ft. The post molds in the two outer holes were 0.8 ft. in diameter and the post in the middle hole was 0.65 ft. in diameter (Fig. 6).
The only piece of solid masonry found in the front wall was in the northeast corner. Here a stone and mortar footing was uncovered which varied in width from 1.35 ft. to 1.1 ft. It extended west from the corner 2.3 ft. and south 8.6 ft. and stood 1.1 ft. high at the corner.

The eastern wall continued south from the northwest corner a total of 37 ft. in the form of a trench packed with building debris identical to the remains of the front wall (Suboperation 12H17F and 12H17H). This trench was 2.5 ft. wide and 2 ft. deep in the northern-most 20 ft. while the southern portion was only 1.2 ft. deep.

A solid masonry wall footing was found running west parallel to the front wall from this point 37 ft. south of the northeast corner (Suboperation 12H17K). It was 18.5 ft. long and 1.5 ft. wide. Abutting its north side and 6.5 ft. long and 4 ft. wide (Fig. 7).

From the northwest corner of the north or front wall, and running south a distance of 20 ft. was another shallow, rubble-packed trench, 1.7 ft. wide and 1.5 ft. deep (Suboperation 12H17D). The southwest quadrant of the front part of the building was occupied by a cellar which will be described in detail below.

After the site was abandoned looters removed all reusable building material from the foundations in this part of the house, leaving shallow open trenches partly filled with rubble where the foundations had been. These trenches were filled with debris from the interior of the house when the site was levelled and prepared for military training purposes. No trace was found of any interior walls with the exception of the foundation abutting the hearth base. There
was very little material found in the interior of the rooms (Suboperation 12H17A, 17H17B, 12H17P, 12H17G, 12H17M) and what was there had been disturbed.

The post holes and post found in the builders' trench immediately north of the foundation trench must have been associated with the front entrance to the building. Whether they supported a wooden sill which, in turn, held a doorstep or if they were vertical members for the small porch situated at this point could not be determined.

The Cellar (Operation 12H16)
The cellar and associated features occupied the southwest quadrant of the front part of the building. The interior of the stone-walled room was approximately 15 ft. east and west and 10 ft. north and south. The floor was 4.5 ft. below the ground surface. All the walls were of careful stone construction bonded by lime mortar and utilizing the local Queenston limestone. The north wall of the cellar was in the best state of preservation. Parts of the surface of the north wall retained some crude plaster representing only a single application which varied in thickness from 0.02 ft. to 0.05 ft. There were traces of whitewash on the surface of the plaster (Fig. 8). The wall was 1.5 ft. thick with an interior length of 15.3 ft. and an exterior length of 18 ft. It stood to be a maximum height of 3.3 ft. above the cellar floor. In the centre of the wall was an area which was slumping to the south or interior of the cellar a maximum of 0.5 ft. from vertical.

The south wall of the cellar was 1 ft. wide, 1.5 ft. high at its maximum. The interior length was 15.2 ft., the exterior length 17.4 ft. At the east end of this wall were the remains of a set of stairs into the basement. It consisted of a solid masonry rectangle 5.4 ft. deep and 6 ft. wide.
A lateral wall, 1 ft. wide on each side of a 4 ft. opening, flanked the steps themselves. At its highest point this structure was 2 ft. above the cellar floor. The lowest step was roughly flush with the floor of the cellar and consisted of several flat flag stones. It appeared to have been disturbed at some point as some of this step was missing. The next step is 0.6 ft. above the first. It was constructed of two boards 0.6 ft. wide and 0.1 ft. thick covering the surface of the step. The boards rested directly on a mortar and masonry base. The next step was 0.8 ft. higher and consisted of a single board 1 ft. wide 0.25 ft. thick and set into the masonry, 0.3 ft. at each end. Above it and running parallel to and overlapping its southern edge were three bricks with two other bricks from the next course mortared to them. All the boards of the treads were badly charred. The masonry base for the steps extended an additional 1.7 ft. southward from the last wooden tread (Fig. 9).

Another example of a stairway of this type, i.e., wooden treads on a masonry base, was excavated at the entrance to the cellar of the fur loft, Lower Fort Garry, Manitoba (Chism 1966: 1).

The outside face of the west wall was obliterated over most of its length but it was evident that this wall was 1.3 ft. wide when it stood. The interior length was 10.4 ft., but the exterior length was impossible to determine. It stood 1.4 ft. at its maximum height.

The floor of the cellar consisted of clean, grey sand 0.4 ft. thick laid on a base of compact grey clay. There were series or rows of bricks and stones laid in this floor at regular intervals. The individual bricks were oriented north and south while the rows appeared to run east and west. One row of bricks ran at a distance of 0.7 ft. from the north wall of the cellar. The easternmost brick was 1.2 ft. from
the east wall, the next brick was 3.1 ft. from the first brick and 3 ft. from the brick to the west. The last two bricks were 2.8 ft. apart and the last brick is 3.9 ft. from the west wall.

The next row of bricks ran parallel to the first and 4.9 ft. from the north wall. There were six bricks and a stone bedded in the sand floor. Two bricks, side by side, occurred at a distance of 1 ft. from the east wall. Two more bricks, one parallel to the first two, the other at right angles to it, were 1 ft. further west. A stone lay in the floor 2.9 ft. further west. The last brick in the line was 3.8 ft. from the nearest other brick and 0.8 ft. from the west wall.

The final row consisted of three bricks and a stone parallel to and 0.8 ft. from the south wall of the cellar. The stone was 1.2 ft. from the east wall with the first brick 1.5 ft. further west and 2.3 ft. east of the next brick. The last two bricks were 8.8 ft. apart and the western-most brick was flush against the west wall. East of this brick, 2.2 ft., was a shallow depression which probably held another stone or brick which was dislodged during excavation.

The poorly preserved pieces of wood were found on the floor oriented east and west; one between the two eastern-most bricks in the north row and the other between the two easternmost bricks in the south row. On top of these pieces of wood and running north and south were four other very badly preserved boards.

The brick and stones were evidently used as supports either for a floor or for wooden shelving of some sort. The sand laid carefully over the natural floor of the cellar would make adequate flooring and therefore the idea of shelving seems most likely.
In the northeast corner of the cellar was a series of four bricks laid in two courses parallel to the east wall and 0.4 ft. from it. The bottom course of three bricks projected 2.2 ft. from the north wall. The second course was represented by a single brick flush with the north wall. These bricks were bedded on a shelf of hard light grey clay. To the north the thin clay shelf was 0.6 ft. wide, to the south only 0.3 ft. wide.

Whether this brickwork was part of a drainage system for the cellar or part of some support for the walls of the cellar is not clear. Too little of it was found to be able to determine its precise function.

Disturbances in the floor of the cellar at the west end led to the discovery of a trench, 0.25 ft. wide and 0.7 ft. deep, which ran 4.5 ft. from the west wall, parallel to the north wall and 1 ft. south of it. At this point the trench turned 90° and ran south a distance of 4 ft., where it was obscured by a square shallow pit, 1.5 ft. on each side, which surrounded the brick second from the west in the centre row. The trench continued southward 5 more feet to the south wall and at a distance of 4.8 ft. from the west wall. It thus formed a rectangle that enclosed all but a 1 ft. wide strip along the north of the western 4.5 ft. of the cellar. In profile this trench was straight-sided to the outside (i.e., the north and east sides) while the inside (west and south side) sloped. Boards were discovered laid flush against the straight side. This trench out through the sand floor and 0.3 ft. into the clay bottom of the cellar. The fill was sand.
This rectangular structure was constructed at some time after the construction of the cellar and the laying down of the sand floor. It seems very likely that it formed a bin of some sort used for storage, possibly of root crops. It was probably abandoned before the construction of the wooden shelves or racks described above.

A channel of disturbed sand ran from the southwest corner of rectangular disturbance mentioned above to a point on the west wall 6 ft. from the northwest corner. This feature was probably some sort of drain for the floor of the cellar. It connects to brick drains constructed to the west and on the same level as the cellar floor.

In the bottom of the cellar cavity was a 1.5 ft. thick deposit of rubble consisting of broken bricks, stones, mortar, plaster, burned wood and many artifacts. On top of this deposit was the remains of a collapsed brick fireplace and chimney. The remains of this structure indicated that when it was standing it must have been at least 12 ft. high (Figs. 10, 11). The fireplace was 5 ft. wide with a fire box 3 ft. wide and at least 2 ft. high. Across the top of the fire box was an iron bar, 4 ft. long 0.18 ft. wide and 0.02 ft. thick, set into the brick work as a structural support. At a height of approximately 8 ft. from the floor (if the chimney were standing) was a block of limestone 1.1 ft. long and 1 ft. wide with a circular hole, 0.7 ft. across, cut through it. It evidently held a stove pipe and was situated, not in the centre of the chimney but 1 ft. from the eastern edge.

The face and sides of the fireplace had been plastered and painted reddish-brown. This plaster was identical to samples recovered from the looted wall trenches, the well,
the ashpit and other localities throughout the site. There were three distinct layers. The innermost layer directly covering the bricks themselves was 0.3 ft. thick and consisted of coarse creamy-coloured lime mortar. On top of this was another layer 0.03 ft. thick, of coarse white plaster, finer than the mortar but not as fine as the 0.01 ft. of white plaster which was used to finish the wall. Over the finished plaster was a coat of red-brown or yellow-brown paint. Both of these colours on plaster samples were observed throughout the site.

This manner of finishing interior walls seems to differ slightly from the standard practices of the time. Peter Nicholson's *Practical Builder*, published in 1823, devotes a chapter to the plasterer's art in which he described the following (Nicholson 1823: 371-72):

The Cements [sic] made use of, for interior work, are of two or three sorts. The first is called lime and hair, or coarse stuff; this is prepared in a similar way to common mortar, with the addition of hair, from the tan-yards, mixed in it.

Fine-stuff, is pure lime, slaked in a small portion of water, and afterwards well saturated, and put into tubs in a semi-fluid state, where it is allowed to settle, and the water to evaporate. A small proportion of hair is some times added to the fine stuff.

Stucco, for inside walls, called trowelled or bastard stucco, is composed of the fine-stuff above described, a very fine washed sand, in the proportion of one of the latter to three of the former. All walls, intended to be painted, are finished with this stucco.
In the Commandant's Quarters it seems that a layer of coarse stuff was covered with stucco, as Nicholson recommends but that in addition to this a thin layer of fine stuff was added to the wall before the paint. Hair in the plaster was not present or at least was not readily observable.

Above the fireplace, and filling the balance of the cellar cavity to the surface, is another mass of disturbed rubble, building material and artifacts. The material below the collapsed chimney will, in all likelihood date from the occupation of the site while the debris above it would have been deposited after the burning of the house.

From the west side of the cellar, 3.5 ft. below the surface and beginning 6 ft. from the northwest corner, were the remains of two drains. The first or most northerly drain was in a poor state of preservation. Evidently it had been constructed of brick but for the most part only a stain in the soil remained, outlined by an occasional brick running in a northwesterly direction (Fig. 12).

The second drain was much better preserved (Fig. 13). There was a brick drain intact 7.5 ft. long, constructed of two rows of brick, 4 courses high and 0.4 ft. apart. At the western end of the brickwork were some pieces of decayed plank which appeared to have been incorporated into the drain. Along the northern edge of the trench in which the drains lay was a wooden beam 0.6 ft. wide by 0.6 ft. thick and at least 14 ft. long. The exact length was never determined because excavation was hindered by the extremely poor drainage in the west end of the trench. Large wrought iron spikes had been driven into the beam at irregular intervals along its length.
Durnford's report (PAC, RG 8, II, Vol. 81) mentioned a problem with poor drainage and the existence of these drains plus first-hand experience during excavation confirmed his opinion.

Outside the southwest corner of the cellar and 0.4 ft. south of the exterior edge of the cellar wall were nine courses of brick, sloping upward toward the south (Fig. 14, 15). The bottom two courses were directly on top of each other while the remaining bricks overlapped, resting partially on the brick below and partially on the sterile red clay behind. Abutting the top course to the south lay a poorly preserved timber with a plank laid at right angles to it at the west end (Fig. 16). The timber was cut through by a roughly circular pit, 4 ft. in diameter and filled with loose stone rubble and trash. The top course of brick corresponds exactly where Durnford's drawing places the southwest corner of the addition. The brickwork may be related to an early attempt to construct a full cellar beneath the southern room of that addition. Brick was used to prevent slumping when it was decided to construct the smaller cellar.

The Back Rooms and Kitchen (Operation 12H15)
The southern wing of the house was 28 ft. square and was occupied by the kitchen and general service area. No solid evidence of interior partitions was found, although there was a trace of what might have once been an earlier exterior foundation.

The east wall of the kitchen (12H15P) consisted of two distinct elements. The northernmost 14 ft. was a shallow rubble filled trench in which was situated a series of five post holes. They varied in width from 1.3 ft. to 2 ft. with their long axes between 2.4 ft. and 4.4 ft. and oriented at right angles to the foundation trench. These holes varied in depth from 2.6 ft. to 3.3 ft. and were dug to include a step. That is to say the easternmost part of the hole lying outside the wall was consistently 1.5 ft. shallower than the hole proper.
These post holes suggest that at sometime this part of the wall was reinforced by placing very short pilings under the foundation. The fact that the holes were stepped indicates that the wall might have been standing when the work was done. However the possibility exists that the wall was constructed on wooden pilings, presumably with a horizontal timber resting on top of the piles and running along the bottom of the foundation.

The remaining 14 ft. of the east wall of the kitchen is solid masonry 1.5 ft. wide constructed of local Queenston limestone and mortar. The foundation was only a single course high. At the southeast corner of the kitchen (12H15M) set into the corner masonry, was a circular post hole, 1 ft. in diameter.

A wooden drain 0.4 ft. wide and excavated for a length of 9.7 ft. ran in a southwesterly direction outside the house from this corner.

The southern wall of the kitchen would best be described as a sandwich of four distinct structural elements each abutting one or more of the others and indicating that great physical changes had been made in this part of the house. First is the wall foundation proper which turned west from the southeast corner and ran 28 ft. to the west wall. It was identical in all respects to the foundation of the east wall except that it was only 1.25 ft. wide (Fig. 17).

There was no evidence of fireplaces along this wall and it bears very little resemblance to the wall drawn on the historic plan of 1823 (Fig. 1). It can only be concluded that this and all of the other structures in the south wall were built at some time after Durnford drew his plan of the house.

Secondly there was a hollowed rectangle of masonry immediately south of this wall. It began 7 ft. from the
southeast corner and measured 5.0 ft. long by 4.0 ft. wide. The open interior space was 3.5 ft. long and 1.5 ft. wide. The effect was of a square cornered "U" (Fig. 18).

This structure appears to have been a support for some more massive feature. It has been suggested that this might be all that remains of a masonry bake oven. Williams and Williams describe a situation which could account for such a feature (1957:52): "Bake ovens...also were built into chimneys located on end walls, where the depth of the masonry was frequently not sufficient to accommodate the entire oven. In such a case the oven would be built out beyond the house wall, and supported on masonry corbels..."

In the space between this structure and the wall previously described, was a second wall foundation. It ran parallel to and against the main wall and measured 16 ft. in length by 2 ft. wide. It was constructed of heavy larger stones and the impression was that this was a more solid structure (Fig. 17).

Along the westernmost 5 ft. of this wall on its southern edge was the fourth structural element. This piece of solid, well-preserved limestone masonry was 2 ft. wide and 5 ft. long. The artifacts found in the well-defined builders trench surrounding it may give some hint as to the date of its construction.

The rear wall of the kitchen evidently needed a great deal of reinforcement for no other explanation successfully accounts for the sandwiched masonry in this area. Taken all together this foundation could well have formed the base for a fireplace and oven. However, the wall was built in stages and no single stage could be associated with anything as massive as a fireplace base.

A tentative explanation of events would have the south wall of the kitchen with its original fireplaces remo-
ved, perhaps at the time when the military rented the premises to Mr. Powell. In place of the construction pictured in Durnford's drawing, a much simpler wall was erected and the job of cooking and heating was accomplished with cast iron stoves. A stove lid was, in fact, found in this area. The presence of coal on the site further encourages the contention that stoves were in use, since coal was more often used in stoves than in fireplaces, Rempel observed that "many of the early Ontario frame houses did not have fireplaces; they had stoves. If a man could afford a frame house, he could probably also afford a stove" (Rempel 1967: 110). He goes on to say that one stove could do the work of two fireplaces thus making stoves very much more economical.

The western wall of the kitchen (12H15E, 12H15F, 12H15T) was not as well preserved as either the eastern or southern walls. The southwest corner in fact had been destroyed entirely. The foundation where it did exist was a patchwork of brick, stone and mortar. Along the 8 ft. section north of the southwest corner, the wall foundation was so badly damaged that all structural details were obscured. North of this point the foundation became clearer although the state of preservation was very inconsistent throughout. The wall varied in width from 1.5 ft. in the southern part to 1 ft. at the northern end. The most curious characteristic of this wall was that it appeared to have been constructed directly on top of a shallow deposit of sand humus containing many household artifacts (e.g., ceramics, bottle glass) which filled a trench 0.2 ft. deep running the entire length of this wall. Cut down through the wall were two series of post holes. The first consisted of 5 holes and occurred just outside the wall (i.e., along its western edge). The holes however were of such a size as to cause gaps in the masonry foundation. After the
fragile masonry had been removed, a second series of five post holes was discovered directly beneath the wall foundation. All of the post holes varied in depth between 2.8 ft. and 3.1 ft. below surface (Fig. 19).

The wall itself was constructed of carefully laid limestone blocks with a facing of bricks along the eastern inside surface. This facing consisted on only two courses laid in a simple bond pattern and was observed only in the central 6 ft. of the wall where preservation was best. The foundation masonry in the area demonstrated a pronounced tilt toward the west. Although only 0.5 ft. high, it varied from vertical by 0.1 ft.

This wall lay in exactly the position indicated on Durnford's drawing for the west wall of the kitchen and all indications are that this was the original wall. It appears that in this area of the house the walls were constructed on a plank and piling foundation.

This method is described in various builder's guides of the period, notably Peter Nicholson's Practical Builder published in 1823, D.M. Maham's Civil Engineering for the U.S. Military Academy 1838 and G.D. Dempsey's Builder's Guide 1851. Simply it consisted of driving piles, 2 ft. apart, into a compressible soil, along the line of a foundation. The tops of the piles are sawn off level and a horizontal timber placed along them. The intervals between the piles is "filled up... with chalk and rubble" (Nicholson 1823: 304). The foundation is built on top of the horizontal timber.

As found in the Commandant's Quarters, this technique appears to have been modified in the following manner. The intervals between the piles were filled with sand and some rubble and old artifacts. The pilings were very much shorter than recommended in the builder's manuals; i.e., 3 ft. as opposed to 8 ft.
Running parallel to this wall and 4.5 ft. west of it was the remains of a second wall (12H15K). In this case no solid masonry was discovered, only masses of broken rubble filling a trench 2 ft. wide. Through the rubble and the trench were five distinct post holes and possibly two others. They were identical to those found with the west wall of the kitchen, being squared in the corners and between 2.5 ft. and 3 ft. deep. In one, the remains of a post were clearly visible (Fig. 20).

At a point 14.5 ft. north of the southwest corner a shallow trench 2 ft. wide crosses this corridor. In the bottom lay the remains of some planking while on top was piled a mass of rubble similar to that seen in the foundation which ran at right angles and to the west of it.

South of this trench and in the area immediately north of the well was a collection of badly disturbed flat fieldstones resembling a pavement of some sort (Fig. 21). A large number of artifacts, mostly ceramics, were associated with this pavement.

This second wall was constructed in much the same manner as the first, i.e., planking on pilings, although it was cruder. It formed a corridor or passageway which led from the entrance to the cellar at its north end to the paving stones bordering the well, at its south end.

Ceramics recovered from the post holes and deposits beneath the foundations and paving stones are of a much earlier date of manufacture than the more extensively distributed ironstone and mid-19th century wares found above the foundations and generally throughout the site. Quantities of pearlware and creamware, early transfer print and hand-painted ob-
jects along with locally made coarse earthenwares characterize the contents of the post holes.

It is apparent that these ceramic objects were deposited during the construction of this part of the Commandant's Quarters. Given the relative antiquity of this material it seems clear that the house was constructed in various steps as Durnford's drawing would lead one to conclude. This part of the building, i.e., the kitchen, must have been constructed before 1823 but after the original occupation of the house.

Some insight into the possible sequence of events in the construction of the south wall of the kitchen can be derived from examination of a brick drain built through the south wall at a point 6 ft. from the southeast corner. It was a carefully laid drain 1 ft. wide of two courses of brick and running north for 7 ft. at right angles to the wall. At the northern end of the drain was a 2 ft. by 1.7 ft. rectangular basin with a brick base. The drain was built through the south wall of the kitchen suggesting that the two features were contemporaneous. South of the wall, however, the drain ran at an angle toward the southwest through the open centre of the rectangular stone structure mentioned earlier as occurring at this point. However, where the drain passed out of this masonry rectangle it was broken, with the foundations built through the brickwork (Fig. 18). This fact suggests that the rectangular structure was built during a later period of construction than the drain on the south wall of the kitchen. Once clear of this masonry oven base, the drain curved and ran westward, parallel to the wall, a distance of 12 ft. At a point 8 ft. from the rectangular oven base, the drain had been broken by a pit dug through it at some date following its construction leaving a gap 2 ft. wide. The drain terminated at the edge of another pit (Fig. 22).
North of the brick basin at the north end of the drain, and separated from it by a mass of rubble 1 ft. wide, was a masonry rectangle 4.5 ft. wide and 5.5 ft. long. In the west side of this feature is a recess 1.5 ft. deep and 3 ft. long. The southern edge of the structure had been damaged and was not clearly defined.

This structure could be the base of a fireplace or perhaps the platform for a stove or some other massive structure. The proximity of the drain intake may be of significance. It seems fruitless to speculate as to its function before analysis of the artifacts has been completed.

A shallow trench packed with rubble ran northward from this solid masonry rectangle a distance of 9 ft. It was clearly in line with the drain on the south side of the stone feature (Fig. 23). This could well represent the remains of an original wall. Assuming that Durnford's drawing was accurate, the east wall of the kitchen in 1823 would have run along the brick drain and this deposit of rubble.

The Well (Suboperation 12H15L)
A well was located at a 3.5 ft from the southwest corner and 1 ft. from the west wall of the kitchen. It had been constructed of stones in the form of a circular shaft 3 ft. in diameter. The upper section of the well lining had been completely destroyed and a clear view of the well head was not possible until 4.6 ft. of rubble had been cleared off the top (Fig. 24). The stone lining was footed on some very compact grey clay at a depth of 10.7 ft. below the surface. The bottom of the well was filled with large stones piled loosely into the shaft to an unknown depth. Above the clay was some
hard, water-laid sand underlying a mass of mortared stones. The mortar was very soft and easily removed. On top of this masonry was 1 ft. of sand and gravel. Some artifacts were found below this sand and gravel layer but none were found in it. A hard whitish concretion formed a barrier between the sand and gravel, and the overlaying deposit of rubble consisting mostly of bricks and wall plaster. Most of the artifacts found in the well were from this deposit which filled the upper 3.9 ft. of the shaft.

Following the abandonment of the site it must have been necessary to fill the well with whatever was available, mostly rubble from the house. Unfortunately, because of the danger of collapse, the original base of the well was never reached.

While we were excavating this well in the dryest part of the year (July), we were drawing from 500 to 600 gallons of water per hour. Evidently the well was dug into a subterranean water course which ran directly beneath Fort George and emerged as a spring from the bank directly east of the fort.

Ashpits (Operation 12H18)
West of the cellar at a distance of 12 ft. was a pair of features which have been tentatively identified as ashpits. An ashpit is shown on the map of 1853 (Fig. 4) in this area. The possibility exists that one may represent a small root house while the other could have been a privy.

The northernmost and larger of the two features (12H18A) was a rectangular hole with straight sides measuring 10.5 ft. by 8.2 ft. and dug to a depth of 4 ft. In the bottom lay a brick floor which rested on a mortar base 0.25 ft. thick. The brick floor was 6.1 ft. by 4.1 ft. laid on edge in a simple bond pattern. Most of the bricks were well pre-
served. They were larger than the other bricks found on the site and more carefully made in a mold rather than wire-cut. They were yellow or buff in colour, not red as were the vast majority of the bricks in the building. There was an indentation or groove on one side of these bricks which measured 0.43 ft. by 0.21 ft. Along the west and south sides of this brick floor was a mass of stone and mortar about 1 ft. wide and rising at one point 0.15 ft. above the surface of the bricks (Fig. 25).

This feature was almost certainly an ashpit. Not only does its location correspond to the ashpit drawn on the 1853 map but its design is very close to that prescribed by the British military. The only recorded drawings available of a feature of this sort is from the Records of the Nova Scotia Command dated 1844 (PAC, RG 8, I, C24). It shows a rectangular pit lined with masonry, the interior dimensions of which are 10 ft. by 6 ft. The floor is 2.5 ft. below surface and the masonry walls 1.5 ft. thick rise to a height of 3 ft. above the ground. The ashpit from the Commandant's Quarters had smaller dimensions all around, but showed clear evidence that it had been lined with a masonry wall and that, measuring from the buried humus zone on the east side of the pit, it had been about 2.5 ft. deep.

Lying on top and around the brickwork was a layer of rubble 1 ft. thick containing few artifacts. This zone was covered by various slump levels consisting of grey and red clay at bottom then humus slump and finally mixed humus sub-soil and building rubble. The humus slump was from an extensive buried humus layer which was found in the western parts of the site. Very few artifacts came from these slump zones. Filling the top of the pit was a thick layer of rubble, quite loose and granular containing bricks, mortar, plaster, stones, nails and many artifacts in a good state of preservation. The decoration and forms of much of the ceramic
material from this layer was identical to that found in large numbers in the bottom of the privy (12H21).

Evidently following the abandonment of the site the ashpit had been left open, the masonry walls had been removed and material from the surrounding soil had slumped into the pit. Then, at some later date the site had been leveled. The rubble and debris from the house had been pushed westward filling up the ashpit and altering the contours of the land.

At the time of the destruction of the house, its occupants seem to have owned and used a large dinner service of heavy ironstone with a blue floral underglaze decoration. Some pieces had been lost before the fire and these were recovered from the privy. A sample of pieces that were lost in the fire came from the mass of rubble and debris in the upper levels of the ashpit.

In the south face of this pit there was the corner of a smaller, asymmetrical, wood-lined pit (12H18B). The hole measured 5.1 ft. on the north and west sides, 5.25 ft. on the south side and 5.7 ft. on the east. The bottom was level and 5.4 ft. below the surface. Driven into each corner was a vertical post, 0.3 ft. by 0.25 ft. in cross-section. The lengths varied as the upper posts of these verticals had disappeared. Horizontal planks were found wedged between the posts and the walls of the pit. These horizontals were not nailed to the posts but were bevelled slightly at each end to insure a snug fit. Further support came from vertical planks placed between the pit wall and the horizontal plank-king. The dimensions of the interior of the wood-lined hole were 5.1 ft. on the south and west sides, 4.85 ft. on the north side and 5.45 ft. on the east. The planks in the lining varied in width between 0.5 ft. and 0.1 ft. and averaged 0.1 ft. in thickness (Fig. 26).
The floor of the pit was compact natural grey clay. Above this was 2.4 ft. of mixed clays, soil, organic material, kitchen refuse, ash and artifacts. The mixture was very wet and heavy, making it quite difficult to remove. On top of this deposit were a number of fallen planks, oriented east and west and covering three-quarters of the area of the excavation at this level. Above the planks was another deposit of heavy damp mixed clays and humus, sub-soil and sand. Few artifacts were found at this level. Covering the eastern edge of the pit at this depth was a slump zone of mixed humus and yellow sub-soil, about 1 ft. thick at its maximum. Dry loose mixed ash and sand sub-soil containing few artifacts filled the balance of the pit.

The planks were, in all probability, the remains of some form of superstructure over the pit and they neatly separate the material deposited during the use of the feature from the material thrown into the pit to fill it. The exact use of this pit is not clear. It might have been a privy but its location so near the stream suggests that it was probably a small root house or ashpit instead.

The Privy (Operation 12H21)
Aligned with the east wall of the kitchen and 35 ft. south of the house was a privy represented by a hole 6.6 ft. wide 9.3 ft. long and averaging 5 ft. in depth. The hole was lined with planks which were much deteriorated, appearing only in the bottom 3 ft. of the cavity. The privy was divided by a wooden beam located 5.5 ft. from the northern end of the pit. This beam was parallel to identical beams which lay against each end of the pit. They measured 7 ft. in length by 0.35 ft. by 0.35 ft. A vertical mortice 0.15 ft. by 0.35 ft. was cut through the ends of each beam. Attached to the south side of the middle beam
was the remains of a board 6.6 ft. long, 0.35 wide at its maximum point and 0.08 ft. thick (Fig. 27).

In the bottom of the privy was a layer of dark damp organic soil laced with lenses of ash or lime. Mixed with this deposit was some building material and wood at the top, and cherry stones, peach pits and other kitchen refuse toward the bottom. Along the north edge of the hole at all levels was a lot of coal. In the southern portion of the privy (i.e., south of the middle beam, an area 3.8 ft. by 6.6 ft.) was a rich deposit of ceramics, bottles, shoe parts, bones, kitchen refuse, with some scrap metal, pane glass, pipes and a few nails. In the northern part of the privy (i.e., north of the middle beam, an area 5.5 ft. by 6.6 ft.) there were far fewer artifacts. The bottles and ceramics recovered came for the most part from the area immediately north of the middle beam. Along the western edge of the pit were found a number of clay pipe fragments in a good state of preservation. A few bones were found but no pane glass or scrap metal and very few nails.

Above this deposit of organic mud and artifacts lay a series of five planks with some scattered pieces of wood. The planks were oriented north and south and in a very poor state of preservation (Fig. 28). Above these planks and filling the remainder of the privy was a thorough mixture of clay and sub-soil, building debris and artifacts, coal and gravel. A slight depression was visible in the ground in this spot before excavation began.

The series of boards lying on top of the organic soil in the bottom of the privy represented the remains of the privy superstructure and deposited at the time of the destruction of the site. The material below these boards represents the time period immediately prior to the destruction of the house. The privy was probably designed so that
the floor over the north end of the pit could be removed and
the contents of the privy removed from beneath two seats
across the south end. On some military sites this was done
every two weeks but in a civilian site the frequency of this
activity would presumably be longer.

If the floor at the north end of the privy was loo­
se and could be removed, it is not difficult to imagine a man,
sitting in the south end and resting his pipe on a supporting
timber of the west wall losing his pipe through the floor and
into the north end of the pit along the west edge. Pipe
fragments recovered from the privy revealed that a number of
broken pipes were thrown down the hole in the south end but
one pipe was recovered unbroken from the north end along the
western edge.

Although it is not known in what year the house was
destroyed it seems probable that the final abandonment and
destruction took place in the fall or late summer. The privy
contained large numbers of cherry pits and peach stones which
would only be found in such numbers during the harvest of the
fruit and subsequent home canning operations.

Two or three chamber pots were recovered from the
south end of the privy. They were an excellent state of pre­
servation, unbroken and complete except for the handles.
They contained many cherry stones and had obviously been used,
not for their intended purpose but as garbage containers in
the kitchen.

In the early 1850s an addition to the house joined
the privy to the end of the kitchen. This room was probably
a summer kitchen and storeroom in which was kept a supply of
coal for the stoves in the house. After the destruction of
the building the privy was filled in with debris from the
surrounding structure and some of the unused coal was pushed
into the north end of the pit.
Summary and Conclusions

The Comandant's Quarters was built immediately following the conclusion of the War of 1812 as the dwelling for the senior officer of the Royal Engineers stationed at Fort George. It was a story and a half, single room frame house on a stone foundation. The interior walls were of lath and plaster and the fireplace, which was the major source of heat, was of brick.

By 1823 it had undergone several alterations with at least three and possibly four additions (Fig. 1). At this time it was a five room house, each room with a brick fireplace. A cellar for storage had been dug under one of the rooms of the western addition.

It is uncertain who lived in the house in this period but in 1835 it was being rented to Mr. John Powell and in 1842 to Mr. Lewis Clement, both civilians. These men were members of influential first families in Niagara. At the time they occupied the house, their families' traditional political and economic power, based on occupation of the area since the American revolution, had diminished considerably and these individuals, though socially prominent and financially comfortable, were not as prominent as their fathers had been.

In 1835 a large privy was constructed south of the house. By 1853 two rooms had been added to the south, one on either side of the privy, connecting it to the house proper.

At some point in the latter part of the structure's existence a conversion from fireplaces to stoves was made and the elaborate fireplaces in the south end of the kitchen were removed, necessitating major alterations to this part of the house. The kitchen itself was expanded to the east.
The building was destroyed by fire, probably in the 1850s. After the fire, reusable building material, principally foundation masonry and brick, was removed from the site and the well, ashpits, cellar and privy were filled with rubble. At some period the site was levelled and a large quantity of material, especially from the front rooms, was scraped off and dumped to the west. All surface evidence of the building was obliterated and the area became a training ground for the Canadian army.

This site provides a unique case study which should prove to be of value in understanding the material culture of Upper Canada in the first half of the 19th century. Much remains to be answered about the structure, questions that must wait for analysis of the artifacts. There are also gaps in our knowledge of the specific historic setting. However it is hoped that this report will provide the background understanding of the social milieu, the physical locality and the personalities involved in the deposition of over 130,000 artifacts. Final analysis of this material should lead to a coordinated study of the life style of the inhabitants of the Commandant's Quarters.
Appendix A: Lot-Layer Correlation 12H

The history of the Commandants Quarter's consists of a series of events or periods which can be at least partially isolated from each other archaeologically.

These stages in the existence of the structure are, from the earliest to the latest, as follows:

1) Construction (1820 approx.)
2) Occupation and renovation (1820-1860 approx.)
3) Destruction and abandonment (1865-1870 approx.)
4) Robbing. Immediate post destruction (1870-1900 approx.)
5) Levelling (1910-1916 approx.)
6) Modern (1916 - present)

In many areas of the site there is no clear differentiation between these levels. Leveling, robbing and destruction tend to run together. Occupation and destruction are frequently difficult to separate and the difference between original construction zones and renovations are impossible to tell apart in some areas.

The modern zone consists of the sod and humus which have built up since the use of the area as a military training ground during the First World War. This zone consists of the following lots:
When the army was preparing these grounds as a training area for troops in World War One, extensive leveling was done. Some areas of the site, notably the north or front rooms were scraped clean and no occupation level or evidence of partitions were found. Depressions were filled with rubble and all foundations above grade were demolished. Much of the material in these levels dates from the final occupation and from various constructions and renovations but these materials were deposited during the leveling of the site by the army. The following lots constitute material disturbed in this way.

<p>| 12H11D2  | 12H12H2  |
| 12H11D3  | 12H12K2  |
| 12H11E2  |         |
| 12H11F2  | 12H13A2  |
| 12H11F3  | 12H13A3  |
| 12H11G2  | 12H13A4  |
| 12H11H2  | 12H13A5  |
| 12H11H3  | 12H13A7  |
| 12H11H4  | 12H13A8  |
| 12H11H5  | 12H13B2  |
| 12H11H6  | 12H13B3  |
| 12H11H7  | 12H13B4  |
| 12H11H8  | 12H13B5  |
| 12H11H9  | 12H13B6  |
| 12H11H10 | 12H13B8  |
| 12H11K2  | 12H13B9  |
|          | 12H13C2  |
| 12H12A2  | 12H13C3  |
| 12H12B2  |         |
| 12H12C2  | 12H14A2  |
| 12H12C3  | 12H14A3  |
| 12H12D2  | 12H14B2  |
| 12H12E2  | 12H14C2  |
| 12H12E3  | 12H14D2  |
| 12H12F2  |         |
| 12H12F3  | 12H15B2  |
| 12H12G2  | 12H15B3  |
| 12H12G3  | 12H15C2  |
| 12H12G4  | 12H15D2  |</p>
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<td>12H15S2</td>
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<tr>
<td>12H15T2</td>
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<td>12H15T3</td>
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<td>12H18A2</td>
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<td>12H18A3</td>
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<td>12H19B3</td>
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<tr>
<td>12H19C2</td>
<td>12H19C3</td>
</tr>
<tr>
<td>12H19D2</td>
<td>12H19D3</td>
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</tbody>
</table>
After the site was abandoned many materials, brick and stone, were removed to be used elsewhere. The levels which were deposited by this activity contain much material from the occupation. They also consist of a good deal of scrap mortar, plaster, broken unusable bricks, nails, glass and other building materials. The lots which are clearly the result of robbing are listed below.

12H11D4
12H11E3
12H11F4
12H11G3
12H11G4
12H11H11
12H11K3
12H11K4

12H12B3
12H12C4
12H12E4
12H12E5
12H12F4
12H12F7

12H13B10
12H13B11

12H14A4
12H14A5
12H14B3
12H14B4
12H14B5
12H14C3
12H14D6

12H17C2
12H17D5
12H17E3
12H17F4
12H17H3
The undisturbed occupation zones are sometimes difficult to separate into distinct periods. There is considerable overlapping between the destruction and abandonment zone whose lots are listed below; the disturbed rubble above it and the undisturbed occupation layers beneath it. The lots below consist of undisturbed rubble and in the case of the ash pit areas (Operation 12H18) slump from the sides of the pit.

12H11D5   12H18A5
12H11E4   12H18B4
12H11F5   12H18B5
12H11K5   12H18B6
12H12C5   12H18B7
12H12D3
12H13A9   12H19A3
12H13B12   12H19B4
12H13C4
12H14D5   12H19C5
12H14D8

12H15D3
12H15D5
12H15E3
12H15E4
12H15G4
12H15H3
12H15H4
12H15H5
12H15T5
12H15T6
12H15W3
12H15W4
12H15W6
12H15W7

12H16A1
12H16A2

12H17K3
12H17K4
There were a number of lots which represent undisturbed occupation zones. The contents of drains, privies, wells and ash pits and the buried humus zones beneath the rubble of the collapsed house make up this group of lots. The buried humus zones are as follows:

12H12F5  
12H15B5  
12H15B9  
12H15C4  
12H15D7  
12H15D8  
12H15E6  
12H15F4  
12H15F5  
12H15K4  
12H15K5  
12H15M4  
12H15T7  
12H15T8  
12H19B7  
12H19C11  
12H19D7

The undisturbed contents of the drains are in the following lots:

12H12F9  
12H12F10  
12H12G16  
12H19C7  
12H19C19

The contents of the well is lot 12H15C3.
The floor of the cellar is 12H16A3.
The contents of the ashpit is

12H18B8  
12H18B9  
12H18B10
The contents of the privy is in 12H21A5 in the south and 12H21A6 in the north.

There is an unidentified pit in 12H14D3 which is neither a robbers' trench nor a construction feature and so is included here.
The construction and renovation zones consist of builders trenches and various post holes. It is impossible to accurately separate the various periods of construction at this time. The builders trenches are as follows:

| 12H11D6 | 12H15D6 |
| 12H11D8 | 12H15E5 |
| 12H11D9 | 12H15F3 |
| 12H11D10 | 12H15G3 |
| 12H11D11 | 12H15K6 |
| 12H11D12 | 12H15T12 |
| 12H11D13 | 12H15T13 |
| 12H11H12 | 12H15W9 |
| 12H11H13 | 12H15W10 |
| 12H12F6 | 12H15W11 |
| 12H12F8 | 12H17A4 |
| 12H12G6 | 12H17A5 |
| 12H12G7 | 12H17A6 |
| 12H12G8 | 12H17C5 |
| 12H12G9 | 12H17E4 |
| 12H12G10 | 12H17K7 |
| 12H12G11 | 12H19B5 |
| 12H12G12 | 12H19C12 |
| 12H12G13 | 12H19C13 |
| 12H12G14 | 12H19C15 |
| 12H12G15 | 12H19H3 |
| 12H12G3 | 12H14C4 |
| 12H12H5 | 12H14C6 |
| 12H12K3 | 12H14D4 |
| 12H12K4 | 12H14D7 |
| 12H12M2 | 12H15B4 |
| 12H12C5 | 12H15B6 |
| 12H13C5 | 12H15B7 |
| 12H14C4 | 12H15B8 |
| 12H14C6 | 12H15B10 |
| 12H14D4 | 12H15B11 |
| 12H14D7 | 12H15C5 |
The various post holes in the site are represented by the following lots:

12H11D7
12H14A6
12H14B6
12H14C5
12H15F6
12H15F7
12H15K8
12H15K9
12H15M5
12H15P4
12H15P5
12H15P6
12H15T10
12H15T11
12H15T19
12H15V2
12H15W5
12H17A7
12H17E5
12H19B6
12H19B8
12H19C6
12H19C8
12H19C9
12H19C10
12H19C14
12H19C16
12H19C17
12H19C18
12H19D4
12H19D5
12H19D6
Plan of Commandant's Quarters, Fort George Military Reserve 12H, identifying use areas.
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Plan, Section, and Elevation of the Commandants Quarters with the Offices at Fort George.

Scale 20 Feet to an Inch No. 9

Section on the line C. D.

Section on the line E. F.

Elevation on the line E. F.
2 (Niagara-on-the-Lake 1835). A sketch of the Military Reserve at Niagara showing the mode in which it is proposed to let the Ordnance premises now occupied by establishment. (Public Archives of Canada).
Commandant's Quarters
Let to Lewis Clement.

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Niagara Verification Plan. Showing the boundaries as marked on the ground of the military reserve belonging to the Ordnance in the Township of Niagara, County of Lincoln, Canada West; surveyed by Mr. F.F. Passmore, Provincial Land Surveyor, between the months of February and June, 1852; verified by Lieut. Berdoe A. Wilkinson, Royal Engineers and Mr. Nelson Walker, Surveyor and Draftsman, Royal Engineers Department. (Public Archives of Canada).
5 Plan of Features and assigned Sub-operations, for Commandant's Quarters, Site 12H.
EXCAVATION PLAN OF COMMANDANT'S QUARTERS  
FORT GEORGE MILITARY RESERVE 12H  
LOCATION OF OPERATIONS 
AND SUB-OPERATIONS

NOTE: Operation 16 consisted of sub-operation A and was located beneath all 
of parts of sub-operations 11G, 11K, 12C, 12F and 12E, contained entirely by 
the walls of the cellar.

- Brick
- Wood
- Post Molds
- Depressions
- Mortar
- Rocks
- Limits of Excavation Units
6 Foundation trench, post hole and post, front wall (12H-59 Y).

7 Interior Wall foundation and fireplace base (12H92 X).
8 Plaster on the face of the north wall of the cellar. Bricks along the east wall of the cellar (12H-45X).

9 Steps into southeast corner of the cellar (12H-26X).
10 Collapsed brick fireplace and chimney, note: iron bar supporting the top of the fire box (12H-6X).

11 Collapsed brick fireplace and chimney after removal of the first layer of brick (12H-28X).
12 Poorly preserved brick drain running northwest from the west wall of the cellar (12H-52X).

13 Brick drain running west from the west wall of the cellar (12H-19X).
14 Brick feature outside the southwest corner of the cellar facing south (12H-61X).

15 Brick feature outside the southwest corner of the cellar facing east and down (12H-19X).
16 Top of brick feature outside the southwest corner of the cellar showing wood traces on the south and west sides. Before excavation was completed (12H53X).

17 South wall of the kitchen facing west. The brick drain is in the centre to the right. The masonry rectangle built over the drain is to the left. The well lies beneath the wooden cover in the background (12H-112X).
18 The brick drain built through the kitchen wall and obstructed by the masonry rectangle (12H-98X).

19 Foundation and post holes in the west wall of the kitchen. The steps into the cellar are in the background (12H-65X).
20 Post and post hole in foundation of far western wall of the kitchen (12H-102X).

21 Paving stones north of the well. The west wall of the kitchen is in the foreground. The well is beneath the rubble on the left (12H-69X).
22 Brick drain south of the kitchen. The masonry rectangle built through the drain is in the left background (12H-131X).

23 The interior of the kitchen. The northern edge of the stove base is in the foreground with the foundation of the interior wall running northward from it (12H-133X).
24 The well (12H-58X).

25 The floor of the ashpit (12H-101X).
26 Wood lined ashpit (12H-132X).

27 Floor of the privy mortice in west end of the south beam (12H-95M).
28 Centre beam in floor of the privy. Board nailed to south side (12H-98M).
1973 Archaeological Excavations
at Fort George
by John P. Wilson
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Preface

This report summarizes the three months of field work at Fort George during the summer of 1973 and evaluates the findings. It is a near-final one with respect to the excavation data but considers most artifact categories only in a preliminary fashion. Details of how the work was conducted will be found in Chapter 1.

The seven-member archaeological team arrived at Niagara-on-the-Lake on June 7, began actual field work June 12, and continued through September 14. In charge was Dr. John P. Wilson, with site assistants Gwen Andrews and Lonnie Duncan. Four university students, James Tillotson, Pat Collins, Shelagh MacLeod, and Louise MacGregor, were staff members by virtue of the project also being a field or training school for potential assistants. Three students left at the originally designated end of the field season, August 31, while the remaining four people continued to the actual end. Four to six locally-hired workmen also participated in the work beginning in mid-July. A great measure of the success for what was accomplished belongs to the two assistants and four students who, under the author's direction composed the field staff. They did much of the actual excavation, kept the records, and processed the artifacts conscientiously through the season.

The Historical Research Section of the Department of Indian and Northern Affairs had preliminary reports on the guardhouse and general structural history of the fort ready by the beginning of the season and compiled photostats of historical maps for our use in the field, information which was of the greatest importance in guiding our excavations.
Within Niagara-on-the-Lake we are indebted to Mr. John Dawson of Niagara-on-the-Lake Hydro for making their truck-mounted extension ladder available on three occasions for overhead photography. Several local residents volunteered reminiscences of the fort site prior to reconstruction, and information from Mrs. Dorothy Riches in particular was uniquely valuable. Sincere appreciation is extended to all of the above for their parts in the project.

The drafting of Fig. 35 was by Mrs. Louise MacGregor; final ink tracings of the other eleven line drawings were by the author. Ceramic identifications and the possible validity of ceramic assemblages are based upon advises from Miss Dorothy Griffiths and Miss Lynn Sussman. Any misuse of their information is the author's responsibility, however. Miss Olive Jones gave her opinion on the glass from two lots, where the estimated age of the specimens was of particular importance. Mr. R.A. Pitt of Canadian Breweries Ltd. and Mr. James A. Drum of Coca-Cola Ltd. provided specific information as to when crowns (bottle caps) recovered during the excavations had been in use. All other analyses and interpretations are the work of the author.
Introduction

In 1796 the British Army removed from Fort Niagara in New York State and established Fort George as the military headquarters for Upper Canada. The new location along the west side of the Niagara River lay about one mile above Lake Ontario and only 1300 yards from the post just vacated. Between fort and river mouth the budding community of Newark intervened. Today this part of Ontario yet retains its late 18th century name as the Niagara Frontier.

Fort George continued as an administrative centre and garrison post until the War of 1812, during which the contending armies fought over, destroyed, and threw up a new Fort George. Both old and new forts featured log buildings and earthwork bastions. Use of stone was held to building foundations and the walls of a powder magazine. The new post retained its administrative role until 1826, by which time the war-built structures had largely fallen into ruin. Even so the military retained the fort site and its associated military reserve well into the 20th century, principally as a summer camp. In 1934 the Niagara Parks Commission leased the fort property, and from 1937-1940 they supervised a reconstruction of Fort George to represent its pre-War of 1812 appearance (Fig. 1). Since 1969 this site has been administered as a National Historic Park by the federal Department of Indian and Northern Affairs. Modern Niagara-on-the-Lake is the successor to old Newark, and the present urban area abuts the park property at its northern end.
The Natural Setting

The chosen location for Fort George lay some 100 to 200 yards west of the Niagara River, along the top of an indented bluff, about 294 feet above sea level or 49 feet above the level of Lake Ontario. The Niagara Escarpment, most prominent geological feature in this part of Ontario, lies about 6.5 miles to the south. Local surface geology is an interbedded series of sand, silt and clay deposits from the late Wisconsin glaciation, with Queenston Shale bedrock at a depth of 60 feet or less. Within the fort confines these finer glacio-fluvial sediments extend to a gravel stratum, which lies at an elevation of ca. 279.5 - 281 feet above sea level around the powder magazine. Surface drainage is excellent, although at present this is aided by a sub-surface system of drain tiles.

Almost 180 years of occupation have seen the natural landscape around Fort George altered mainly by urban encroachment. An American description probably penned in the fall of 1812 essentially holds today: 1

The Country that bounds Fort George on the W.S.W. & south, is level and smooth and freed from Trees and Bushes to considerable extent around.

The lack of notable soil development inside the fort is a consequence of repeated disturbances, most recently during the 1937-1940 reconstruction. Extensive testing several hundred feet west of the site revealed a well-developed natural profile, with heavy sod ca. 0.5 to 0.75 feet thick and "A" horizons which extended approximately two feet in all below the surface.

Favourable reports by Captain Gother Mann R.E., written between 1788 and 1792, plus the existence of government buildings at Navy Hall, may have led to the heights behind Navy Hall being selected as a military reserve and fort location. 2 Mann's initial assertions were perhaps almost the last
ones anyone made as to the defensibility of this location. Design of the first Fort George showed little evidence of defensive considerations, not inconsistent with its primary role as an administrative headquarters, however. By the War of 1812 both British and Americans were only too aware of the post's deficiencies in siting and construction, if it was subject to an attack.

Introduction
The Research Program

Stabilization of the reconstructed guardhouse had become highly desirable by 1972. Plans to specify the needed work were drawn but could not be justified as historically accurate, while estimated costs for stabilization were approximately equal to those for new construction. In a series of meetings through October 1972 it became evident that development planning for the site, the guardhouse being but one element, would require a program of historical and archaeological research. The decisions were made to expedite historical research, particularly on the structural history, and to carry out archaeological investigations during the summer of 1973.

General histories of the fort and the town of Niagara-on-the-Lake were already at hand. Mr. Ronald L. Way, who had been the historical advisor during the reconstruction of Fort George, provided comments and recollections on that work that were both comprehensive and extremely valuable as background for the archaeologist. William Trow Associates of Hamilton conducted soil borings over the site area to determine the depth of overburden and the level of undisturbed soil beneath. Problems of interpretation make their report less useful than it might have been.

Within the Department's Historical Research Section, historians Elizabeth Vincent and Yvon Desloges were assigned to research, respectively, the first Fort George guardhouse and the structural history of the post in general, their efforts coordinated by Carol Whitfield. Preliminary versions of both reports were available in May 1973; these have since
been completed and will be most valuable research documents, the more so as their contents encompass much beyond the physical appearance of Fort George buildings.

All of this was in hand for the archaeological crew by the beginning of June, 1973. A Departmental coordinating team met at that time and agreed upon the following as a specific guide for the 1973 archaeological investigations:

(a) Is archaeological work feasible at Fort George, and does anything remain of the old fort buildings? This question arose from the expectation that upwards of eight feet of overburden covered part of the site.

(b) Can the foundations of the original guardhouse be located, and if so, what information can be derived concerning the size, construction, and materials used in this building?

(c) The stone powder magazine, believed to be an original building, would be recorded in detail by an "as found" architectural crew from the Department. The archaeologist was requested to investigate its sub-structure to determine whether accessory buildings might have been attached at some time, and indeed whether the building rested upon the original foundations or otherwise exhibited differences within those foundations that were exposed.

(d) Way reported that during the reconstruction the "1815 House" or "Brock" house had been moved ninety feet north-west of its "as found" location. If its former location could be found, what might be learned about the age, nature and origin of this little house which hardly seemed to be a military building, local legends notwithstanding?

As time allowed, other areas within the fort enclosure were to be tested in order to locate building foundations or other remains. Structural information recorded by an "as found" architectural crew, together with that from the archaeologist's records, would then be available for future development plan-
ning. All of these objectives were met during the summer, although the answers in some cases were less than definitive or at variance with what may have been anticipated.

At the beginning of the field season architects and archaeologists laid out a 100-ft. interval grid system within the fort confines. This was a universal reference framework for the use of both groups. Although it attempted to re-establish a grid system used during the William Trow Associates study, the latter only approximated the present system. Archaeological operations were located with reference to grid intersection points, generally by triangulation, and the grid intersections will be monumented for permanent use.

Nomenclature of excavation units followed the requirements of the Research Division, National Historic Parks & Sites Branch. The term "Operation" was reserved for a separate building or major testing project and only six were assigned. "Sub-operations" were convenient subdivisions, such as single test trenches and the interior vs. the exterior of a structure. "Lots" were the working level of observation and description, being such potentially significant units as levels in a test trench, intrusive features, occupation surfaces, post holes, and test pits. Lots within test trenches necessarily had their horizontal limits set by the extent of the trenches, but otherwise observable cultural or architectural contexts were chosen in preference to arbitrary limits as Lot boundaries.

Washing, sorting and bagging of artifacts by type took place in the field, with detailed examination to follow later. The archaeological crew sketched, mapped and otherwise recorded their findings as the work progressed, while during late August and September an "as found" architectural crew made complementary drawings of the exposed remains as an aspect of their own extant recording project. Loan of the Niagara Hydro "cherry-picker" or truck-mounted extension ladder proved indispensable for adequate overall photographs of completed
Operations (Figs. 2, 3, 26, 27). Other details of excavation procedures will be mentioned, as appropriate, under the excavation unit headings below.

Time was short during the summer for other than archaeological research. Five older residents of Niagara-on-the-Lake made themselves available for interviews, and other leads were collected. Persons who could recall the Fort George site prior to its massive alteration during the late 1930's were quite scarce, and oral history interviews should be pursued. One of the interviewees, Mrs. Dorothy Riches, provided the key to understanding of our "1815 House" excavations through her residence in that house some fifty years ago. Surprisingly, the local Niagara Historical Society had almost no information on file concerning Fort George. A one-day trip to the Buffalo and Erie County Historical Society produced a series of articles from the War of 1812 period run of the Buffalo Gazette, plus a number of Fort George entries in their comprehensive card catalog. The temporary absence of their archivist meant that many entered items will have to be located and examined at a later time.

Subsequent to the 1973 field season some historical research by the author produced additional material. This activity included locating and obtaining copies, via correspondence, of the known Fort George records in the U.S. National Archives and Records Service; examining and transcribing Fort George data from the Upper Canada Gazette/The York Gazette between 1795-1815 and from pertinent numbers of Niles' Weekly Register; and collecting information from a variety of other archival and published sources. The nine volumes of Ernest A. Cruikshank's The Documentary History of the Campaign Upon the Niagara Frontier in the Years 1812-1814 contain much of interest from the war period and save infinite labor in research; these were carefully examined and indexed. The more useful items from all of this will be
evident in the endnotes. However, while other leads await examination, it is clear that the most relevant primary sources for structural information have been identified by Desloges and Vincent\(^7\) and this documentation resides principally in the Public Archives of Canada, with important maps in the British Museum.

The Research Program


7 See note 4 above.
Historical Background

The recent general and structural histories of Fort George greatly simplify requirements for historical background in the present paper. Only selected aspects of the fort's history which may bear on the archaeologist's interpretations or which are not cited elsewhere will be treated here.

Certain classes of information concerning Fort George are available in abundance. This is the case with lists of materials, estimates, and fortunately with plans of the site and even of individual buildings. During the War of 1812 and especially in 1812-13 almost innumerable letters, reports, newspaper articles and whatnot were generated that bear on Fort George. These tell us what went on there, if not so much about how the appearance of the place changed. Before and after that war our information is again largely derived from routine official estimates and reports. At all times personal reminiscences by either military men or civilians are quite sparse. A series of drawings and photographs of the old powder magazine extend back to the mid-19th century, and several very informative paintings date prior to 1812. Photos and graphic representations are otherwise remarkably few. Maps, most of which originated with the British Army, form a good sequence from 1790 through 1853. After 1853 the paucity of maps makes it difficult to trace either the continuity of older structures or the creation of new ones on the site. Photostats of the maps were at hand during the field work; about the inferences derived from them (and from supplemental documentation), more needs to be said.

Contemporary maps, used with care, can provide the best
guidance for the archaeologist as to what he may anticipate and where to begin. Six plans that date from 1799 through 1810 show the layout of the first Fort George, and there are additional plans and elevations of several major buildings within it. These maps agree well with one another as to the relative size and placement of the principal structures; they are scaled and presumably derived from surveys. However, when compared they vary dimensionally and we have no means for judging which, if any, is more reliable. Most at variance is the 1810 plan, which shows two additional barracks (?) and no guardhouse.

The cartographic evidence is consistent with contemporary reports and estimates that show major construction of the post between 1796 and 1800; walls at least were of log construction and Desloges includes all available details. The consensus of evidence then is that prior to 1812 Fort George had a single set of buildings and was altered only through repairs and a few additions. It is the first period that the modern reconstruction is intended to represent.

By June 1814 there was a different Fort George on the site; what happened in the interim is not so clear. On October 13, 1812, while the Battle of Queenston Heights was fought out some six miles to the south, U.S. forces bombarded Fort George and the vicinity with hot shot from the batteries in Fort Niagara and from a second position. Reports on this action agree that several buildings in Newark and at least one detached military building burned down, but all fires which started in Fort George structures were extinguished. On that day Fort George returned the fire with shells, but not with hot shot "owing to the want of furnaces on our side." Again on November 21st Fort George and Fort Niagara exchanged artillery fire. This time "the old building at Navy Hall, occupied as the mess room of the garrison" and others adjacent were burned; the garrison controlled a fire in the "centre building in Fort George" and neither side claimed any
structures lost within the palisaded confines. Upon this second occasion Fort George again received hot shot from the U.S. batteries, but now returned both shells and hot shot of its own. This circumstance means the installation or construction of a hot shot facility at Fort George during the intervening month, and the archaeological implications warrant a short digression. The portable furnace developed by Captain Addison was only introduced in 1846 and so could not have been used.

More probable is an arrangement such as described by Peterson:

To fire hot shot, the gun crew first prepared a hole in the ground about six feet in diameter and four feet deep. In this they built a hot fire, then placed the balls on top.

How quickly a workable arrangement could be made is shown by what happened on June 8, 1813, when Sir James Yeo's fleet bombarded the U.S. forces under General Lewis near Forty-Mile Creek. Lewis reported that he sent captain Totten, of the engineers (a most valuable officer) to construct a temporary furnace for heating shot, which was prepared and in operation in less than 30 minutes.

We have no information as the facilities at Fort Niagara or the detached battery above it, and the masonry hot shot furnace at Fort Niagara dates only from 1839.

Thus far into the war Fort George had evidently gained a substantial increment of litter and at least one new hole in the ground, but no loss of buildings through fire, at least within the fort enclosure. All that changed on May 25, 1813. A bombardment from the U.S. side opened early in the morning, and according to one account the hot shot and shells resulted in every building, but one burned by 8 a.m., which included several storehouses outside of the
works. Whatever the pace, this last one soon followed and all wooden buildings had been fired and destroyed by the time of the U.S. occupation on May 27th. Newspaper and other accounts notwithstanding, reports by participants clearly stated that one bastion magazine blew up, but not the principal magazine.

Until recently there would have been little question but what the fort that burned was the one erected in 1796-1800. The most explicit account of the destruction was by Major Isaac Roach, published only in 1893, which said that four large blockhouses inside and three storehouses outside the works burned by 8 a.m. on May 25th. The discovery of a new map and description by a U.S. Army Major named Van De Venter instead raises a question as to whether it was not the second Fort George that was destroyed.

Although the map and its accompanying text have no date, Desloges reasons from internal evidence and the chronology of events that they should be from the late summer or early fall of 1812. The pentagonal earthwork shown here, overlying the northern half of the first Fort George, is a simplified version of what has heretofore been considered the "American fort" or second Fort George. The buildings inside the earthwork bear little resemblance to the buildings on pre-war maps. The next sequent map, from June 1814, shows elaboration of the new earthwork outlines and a still different set of buildings. We have seen already that nothing remained standing as of May 27, 1813, and there were statements that no buildings existed when British troops reoccupied the post on the heels of the U.S. evacuation Dec. 10, 1813. The structures shown on the June 1814 map would then be new British construction, an early phase of the third Fort George.

To unravel the sequence, what apparently happened was that the British rather than the Americans commenced the reconstruction of Fort George sometime during the summer of
1812, and this work may have included the erection of a new or substantially new set of internal buildings as well as modifications to the line of the fort. If this was the case, the second rather than the first Fort George was destroyed by fire on May 25, 1813, and this would mean the buildings shown on the U.S. map plus perhaps any abandoned and not taken down from the first fort. The implications for archaeological findings should be obvious.

Unfortunately we know nothing about the construction of the alleged new buildings and the few contemporary descriptions are silent on other points as well, or offer contradictory information. Major Van De Venter's written description was consistent with his plan. With respect to the magazine, he wrote:

The magazine is also wood. It stands under the south line of Pickets, sunk deep into the Earth; its roof is scarcely on a level with said Pickets.

In February 1813 Lieut.-Col. Bruyères R.E. outlined the state of unpreparedness and noted that:

The Powder Magazine can only at present be made temporary constructed of Log Work well covered with Earth.

These parallel comments indicate a new magazine, perhaps the one subsequently blown up by retreating U.S. forces and then used by the British to confine American prisoners, but not the old stone one. Indeed the stone magazine should have been well outside the second Fort George as shown on Major Van De Venter's map, but in his same February 1813 report Bruyères wrote that:

It will be further very desirable to diminish the Line as much as possible by cutting off the present Work on the South East Front in order to reduce the extent of the Fort which
is rendered very weak by enclosing too large a space of Ground; Yet the plan he proposed here, complete with bastion and palisade curtain, should already have been in existence. And Colonel Claus, evidently the last man out on May 27, 1813, put in his diary that:

At the time I went out of the breach by the octagon blockhouse a flag came in at the gate. (Emphasis added.)

The octagon blockhouse, a building from the first Fort George, occupied a position outside the south curtain wall much as does its replica today. These clues together leave us in some doubt as to what extent Fort George had been modified by May 25-27, 1813.

At this point, we call attention to errors in the published versions of two maps. Illustration 2 is from an 1810, rather than 1812, plan of the area around Newark. Illustration 3 is a redrawing of the June 1814 plan which portrays the third Fort George at an early stage.

We have already seen that at the end of the U.S. occupation, May 27 -- Dec. 10, 1813, there were no buildings left standing if indeed any had been erected. Although the U.S. Army has previously been credited with the pentagonal earthwork, now thought to have been started by the British, we can document the U.S. construction of some field works immediately north of and adjoining the pentagonal one. American plans for the place changed during the summer 1813. U.S. Secretary of War John Armstrong had given Major General Dearborn the option of abandoning and destroying the place even before he had captured it. From mid-July until early September the U.S. Army simply waited for the arrival of Major General Wilkinson, who was disputing with the Secretary of War over strategy, Armstrong giving Fort George third and last priority as a scene for further action. Wilkinson arrived, looked around, recommended the place as "good for
nought but to command the ground it occupies" and determined to dismantle and abandon it. In this he was supported by his officers, but by now Armstrong had decided that the place should be retained and strengthened for its questionable strategic value.  

Major General Wilkinson and most of the regulars left October 2nd for an abortive campaign which ended at Crysler's Farm, leaving Colonel Winfield Scott at Fort George with some 800 regulars and a regiment of militia. Scott's troops, under the direction of Captain Totten of the engineers, then worked day and night to improve the defences and had the works nearly completed by October 13th, at which time Scott and the regulars left. Presumably Scott and Totten accomplished the major portion of whatever American-period construction was done on Fort George proper, during this ten-day period. Several British sources noted the new strength of the works when their army regained the fort in December. We can only assume that the American army strengthened the pentagonal earthworks initiated by the British, since Totten's map has evidently not survived if one was made. The "American fort" therefore remains an elusive image; one existed, but its nature is only conjectural.

British maps from June 1814 and from 1816 show the earthworks as progressively more complex, as compared with the Van De Venter map, and the earthworks with the interior buildings erected in 1814-1816 constitute the third Fort George. There are in fact three 1816 maps at the Public Archives of Canada, all filed as V3/440-Niagara-1816 and apparently drafting variants of one another. These are particularly valuable in showing the juxtaposition of the new earthworks with respect to the old, in apparently being scaled drawings, and in showing the third fort in essentially final form (complaints about the buildings had already begun in 1815).

More recent maps through 1853 were mostly rendered as
sketches, but continued to represent many of the buildings, noted as in ruins. Indeed a map marked up for the 1823 Durnford report showed only the old stone and new brick powder magazines, plus a guardhouse, in use at the Fort George site. By 1825 the log buildings had not been occupied for some time, and in 1832 a passing officer noted that Fort George "contains some low wooden decayed barracks." At least three passing remarks from 1817-1819 mentioned the barrack floors being below ground level, and a cross-section of the 1823 guardhouse showed the same feature. If this was indeed the general rule, buildings of the third fort may be found more easily by the archaeologist than those of the first one, provided that the present ground surface approximates the original one.

Desloges continues the history of the fort grounds to the reconstruction period, dealing in particular with the stone and the brick powder magazines and the little two-room "Brock" or "1815 House". Additional information about these structures will be incorporated below as it is pertinent.

The best consensus as to building dimensions and locations for the first and third forts was projected onto a single map during the winter of 1973-74, both to aid in interpreting what had already been found and to suggest where additional structures might lie. The 1816 maps referred to above were the initial guide to alignment of these two sets of structures; the Van De Venter map was an unscaled sketch and any projections from it would be highly problematical. Implications from this effort will be cited as they are relevant; a general observation is that most or even all of the larger buildings from the first Fort George could be covered over by the present reconstructions.

Finally, the lack of notable soil development within the fort and speculations as to the depth of overburden were mentioned earlier. A 1:30 scale contour map of the fort site, undated but prior to 1937, has been preserved in the park.
superintendent's office. This map showed elevations that
generally ranged between 290 - 294 feet above sea level
away from the earthworks proper. The present average
elevation of 294 feet above sea level and the undisturbed
sand encountered within one foot of the surface in
Operation 1 and Sub-operation 19H6C (see below) support
Way's contention that the terreplein of the reconstructed
fort is at approximately the same elevation as it was
originally. 35 The Operation 1 guardhouse foundations
and lithic debris from a prehistoric occupation, the latter
found ca. 7 to 9 inches below the modern surface in Sub-
operation 19H6C, also argue that the old ground level
approximated the modern one.

Historical Background
1 Robert S. Allen, op. cit., pp. 61-93; Elizabeth Vincent,
op. cit.
2 Yvon Desloges, op. cit., Fig. 10.
3 Ibid., pp. 4-60.
4 Ernest A. Cruikshank, ed., The Documentary History of the
Campaign upon the Niagara Frontier in the Years 1812-14
(Welland: Lundy's Lane Historical Society, 1896-1908),
(hereafter cited as Documentary History), Vol. 2, pp. 89,
112-113, 118, 128. U.S. National Archives. National
Archives and Records Service, Microcopy 588 Roll 7,
Smith to Proctor, Fort George, 18 October 1812.
5 Ernest A. Cruikshank, ed., Documentary History, Vol. 2
pp. 128, 147.
6 Ibid. Vol. 2 pp. 228, 233; Vol. 3 p. 17; William Wood,
ed., Select British Documents of the Canadian War of 1812
(Toronto: Champlain Society, 1920), Vol. 1, p. 649;
Michigan Historical Commission, Collections and Researches
Made by the Michigan Pioneer and Historical Society of the
State of Michigan.
13 Yvon Desloges, op. cit., pp. 64-69 and Fig. 17.
14 Ibid., Fig. 19.
16 Yvon Desloges, op. cit., pp. 61-64, 69.
17 Ibid., Fig. 17.
18 Ibid., pp. 68-69.
19 Ibid., p. 63.
23 Yvon Desloges, op. cit., pp. 30-32.
25 Yvon Desloges, op. cit., pp. 77-79, Fig. 20.
26 U.S. National Archives, National Archives and Records Services, Microcopy 6, Roll 6, Secretary of War to Maj. Gen. Dearborn, War Department, May 27, 1813.
34 Yvon Desloges, op. cit.
In Search of the Guardhouse: Operation 1

The Operation 1 Building

Procedures
Field excavations began with an attempt to locate the original guardhouse. Our best estimate of its location came from examination of the pre-War of 1812 maps, and comparison of these with subsequent maps of the fort site. A bastion from the second and third Fort George had evidently lain over the general guardhouse area until the alterations of the late 1930s.

This estimate placed the original building somewhere in the vicinity of the present reconstruction. In consequence test trenches 19H1A and 19H1B, each five feet in width and eighty to ninety feet long, were laid out parallel to one another and at a 45° angle to the long axis of the present guardhouse (Fig. 35). The alignment of 19H1B in fact passed through the west corner of the present structure, with 19H1A five feet further to the west. We presumed that the original guardhouse had had stone foundations and sought to intersect any remnants. On the afternoon of the second day, excavations in the southern portions of both trenches did encounter a stone foundation wall. All subsequent work associated with uncovering the building which this first wall represented fell under Sub-operations A through G of Operation 1.

Sub-operations A and B became wall-tracing excavations following the initial discovery. Exposure of what turned
out to be a rectangular foundation and a nearly intact one proceeded in either direction around the building from approximately the center of the northwest wall, the latter being the point of discovery. Sub-operation 19H1A denotes the work around the western half and Sub-operation 19H1B the trenching to follow out the eastern half. These trenches averaged 4.5 to 5.0 feet in width and extended to a depth of 293.3 to 294 feet above sea level depending upon the location (Fig. 4). The ground surface here averaged 294.2 to 294.7 feet above sea level. The tops of the walls were but 0.3 to 0.7 feet beneath the modern surface.

This hitherto unsuspected building lay directly west and southwest from the guardhouse reconstruction (Figs. 1, 2, 3, 35). The foundations were rectangular, 28 by 48.6 feet from exterior wall to exterior wall (depending upon which two rocks one measured between), exclusive of the pedestals along the eastern sides. The building alignment was virtually the same as that of the modern structure.

The wall tracing made the shallowness of the foundation course very evident. Next came the layout of a northeast to southwest balk through the structure, slightly southwest from and parallel to its short axis. Excavations within the interior then proceeded as Sub-operation 19H1C, with four and three Lot numbers respectively assigned to the various levels north and south of the balk.

After the interior had been completed, supplementary test trenches (Lots 19H1E1, 19H1D, 19H1G) with base elevations of 293.7 - 293.8 feet above sea level were extended out from the northeast and northwest walls. Cross-sections were made at five places (19H1F) through the foundation walls and two narrow intrusive trenches (19H1C6, 19H1C9) which ran across or adjacent to the southeastern parts of this building were cleared or sectioned (Figs. 6, 7). Photographing and mapping of what we now called the Operation 1 building followed (Figs. 2, 3, 35).
Investigation of a disturbed area between this building's north corner and the modern guardhouse revealed the west end of a semi-subterranean feature that had just overlapped and intruded through the Operation 1 building. Upon excavation this new feature proved to be part of another structure, labeled the 19H1E2 excavation (Figs. 8-13, 36). After it had been cleared and recorded it was immediately backfilled, since to leave this open posed some threat to stability of the reconstructed guardhouse. However, a plastic sheet protected the Operation 1 building foundations until these could be mapped again by an "as found" recording team, after which backfilling took place on top of the plastic sheet. Excavation of the main structure required the full crew of students and assistants from mid-June into the fourth week of July, and a three-person team continued with the 19H1E2 project until the end of July.

Foundations
Angular, untrimmed or unshaped pieces of limestone or dolomite, from a few inches to slightly more than a foot across, composed the foundation wall proper. A few water-worn cobbles and fragmentary bricks were included in the coursing. The whole had been laid up as random rubble stonework, in lime mortar (Figs. 4, 5). From interior to exterior, the walls averaged 1.6 feet in width, with plus and minus variations of one inch or more depending upon where one chose to measure. Extant wall heights ranged from 0.3 to 0.7 feet with an average height of 0.4 to 0.5 feet. The wall base lay one foot or so below the present ground surface.

The lack of stone or any other construction debris adjacent to either inside or outside argues that the full original height of these foundations, although but one to two stones, is extant here. There was no sign of a building trench and the walls have settled from zero to 0.4 feet into
the underlying yellow to reddish sandy soil. A whole three-foot section of the southwest wall and occasional other stones were missing. The 19H1E2 feature had of course displaced the northern part of the northeast wall when the newer construction intruded.

Pedestals
A series of rectangular pedestals were spaced along the exterior of the northeast wall. Originally there must have been nine of these; seven remained. These little platforms averaged 1.3 to 1.5 feet in width, measured along the wall, and extended out for 1.1 to 1.3 feet (Figs. 4, 7, 35). Construction was of the same rock and lime mortar as in the walls except that five bricks had been incorporated into the first remaining pedestal south from the 19H1E2 feature. The stones themselves did not bond the pedestal features into the foundation walls, but mortar does bind them together and shows that they must be contemporary. The first and second pedestals from the east corner were spaced five feet apart; the others averaged six feet apart on centers. Along the southeast wall, one pedestal lay at the east corner and the remnants of two disturbed ones could be seen four and then five feet further along (Fig. 7). The adjacent northwest wall featured three pedestals also; two quite large and one average size, situated one at the corner and the others at intervals of 4 and 3.5 feet (Figs. 8, 35). Stones found next to these two latter walls, elsewhere along, where more likely displaced from the walls than from other pedestals.

Perhaps these small platforms supported one end of joists beneath a porch floor. The tests to locate comparable stonework (19H1D, 19H1G) upon which the opposite ends of the joists would have rested found nothing. Any remains to the east were probably destroyed by installation of the gravel base beneath the present guardhouse.
Stratigraphy
Stratigraphy inside the foundations was generally similar north and south of the center balk. Some 0.4 feet below the ground surface lay the top of a gravel layer, at an elevation of 294 - 294.2 feet above sea level, the gravel being 0.1 to 0.2 feet in average thickness (Fig. 5). It overlay the northeast foundation wall and ended flush with the front or east side of this wall, but continued inside the building. The top of the gravel had no floor or occupation surface. Relatively few artifacts, principally nails, came from within it. South of the balk this stratum was relatively dense and continuous in the northern area of the Lot (19H1C3), absent in the west corner, and between these extremes elsewhere in the Lot. Gravel coverage north of the balk comprised the lower half of Lot 19H1C1. It was the most continuous along the eastern two-thirds of the balk wall and inside from the northeast wall, for a distance of several feet. Further inside it became patchy and diffused among the large rocks through the center. The stratum was absent entirely in the western third of 19H1C1 and, except by the north corner, for five to eight feet in from the northwest wall. The function of this layer remains obscure.

At the base of the gravel or at an equivalent level lay a slightly rolling surface marked by burned debris, Lots 19H1C4 and 19H1C5 (Figs. 2, 3, 6). This was nearly continuous both north and south of the balk and will be described separately in the next section. The next stratigraphic layer (Lots 19H1C7, 19H1C8) consisted of native sand, stained gray and containing mortar or other remains in the uppermost levels, but grading into native yellow sand within a few inches. However, included in Lot 19H1C8 was a debris-filled depression, with a maximum depth below the adjacent occupation surface of 0.5 feet (Fig. 35).

Two subsequent test pits outside of this structure, dug as Operation 5, extended to five feet below the modern ground
surface. Both showed that cultural disturbances were confined to the uppermost 1.1 to 1.7 feet, below which the tests found yellow sand and at about 2 feet a reddish silty clay. There was, therefore, no earlier structure or occupation level underlying the excavated foundations. All cultural stratigraphy within the foundations lay within 0.7 to 1.0 feet of the present ground level.

The Occupation Surface
The base of the gravel stratum lay directly upon a burn level, a gently rolling surface which had no measureable thickness or evidence of preparation. The term occupation surface will be used for this horizon; it was Lot 19H1C4 north of the balk and 19H1C5 to the south (Figs. 2, 3). Burned debris, an abundance of artifactual remains and animal bones and patches of orange-burned soil marked what was presumably an old ground level beneath a wooden floor. Its elevation ranged from 29 3.7 to 294.1 feet above sea level. Debris had evidently sifted between the floor boards when the building was in use, while the finely-divided burned material plus the discolored soil gave evidence that the superstructure must have been destroyed by fire. Fig. 35 illustrates the general extent of burning debris, which continued beyond the gravel limits through the northwestern part of the building interior. However, the central and western parts of the occupation surface horizon were virtually free of such an (remaining?) accumulation. A general absence of sizeable boards or logs, bricks, hardware other than nails, or anything usable suggests that the rubble was salvaged. Brief remarks about the artifactual contents will be included below.

Charcoal stains, the remains of burned boards, were noted in the east-central part of Lot 19H1C5 (Fig. 35). Some marks aligned with the long axis of the building and others with the short axis. In with these lay a fragmentary "H"
hinge, 6.8 to 8.2 feet from the interior face of the northeast wall and 8.4 feet from the southeast wall interior. 3.3 feet further to the southwest and 8.7 feet in from the southeast wall a latch keeper turned up. The hinge contained clenched nails and the remains at this location could represent a door. If so it was too far deteriorated to determine the structure and orientation.

Also in the eastern part of 19H1C5 and overlapping the area of charcoal stains lay a brick and mortar feature (Fig. 6). This was mostly mortar with a few brick fragments, and amorphous in outline beyond a vague U-shaped opening towards the northwest. Burning evidences went beneath as well as around it. It would be difficult to see this as any sort of a fireplace remanant, but perhaps it marks a stove location. An intrusive trench (19H1C6) cut through this same part of the building and a brief description of it will be given below. Only two large rocks turned up on the 19H1C5 occupation surface, in contrast with the situation to the north.

The concentration of charcoal, burned wood, mortar, plaster, cultural and other debris in the 19H1C4 level fell generally within a broad arc between balk and west corner, as shown in Fig. 35. Some charcoal traces were more regular and probably mark board locations. One board fragment with measurable dimensions of 5.7 by 0.45 feet, and a thickness of at least 0.2 feet, lay oriented 15⁰ west of north. Its north end was 3.9 feet from the interior face of the northwest wall and 8.0 feet from the interior southwest wall. A partial latch bar and group of nails turned up within a 0.5 foot diameter area, in an ashy concentration, some 7.0 to 7.5 feet inside the northwest wall and 6.0 to 6.5 feet in from the northeast wall. Perhaps another door fell there. The only other interesting hardware possibly in place was a bayonet, thrust point downward through this level, 2 feet inside from the southwest wall and 20 feet from the interior northwest wall.
An ovoid, basin-shaped depression with a maximum depth of about 0.5 feet and a lateral extent of 5 to 6 feet occupied the north-central part of the 19H1C4 - 19H1C8 occupation surface (Fig. 35). Burned debris like that removed from the occupation surface elsewhere filled this depression, and in particular it contained bones, pipe stem and bowl fragments, all removed as part of Lot 19H1C8. Its original function is unknown, if it was not a natural part of the landscape. The depression probably predates the building and became filled as a part of the general burning.

Scattered about from this depression to the northwestern side of the balk, and apparently on the occupation surface, lay a number of angular rocks similar to those employed in the foundation. Each was mapped in and its location is represented accurately in Fig. 35. They possessed no recognizable pattern, nor were chunks of mortar adhering to the rocks. For the most part they lay without the area of burning debris and also where the gravel stratum was thin or absent. Investigations around and beneath those rocks near and within the depression indicated that these lay directly on top of the burned debris and occupation surface, with such debris also around them. The gravel passed around or above other rocks off to the south and southeast, but apparently not beneath them. The time of deposition can therefore be documented as the period when the building burned down or directly afterwards, but prior to when the gravel stratum was laid. We unfortunately cannot suggest a purpose for these rocks.

Accessory Test Trenching
Three accessory testing projects followed upon conclusion of the interior excavations; see Fig. 35 for locations. One trench 16 feet in width and only so deep as the yellow sand (0.7 - 0.8 feet below ground surface) was placed between the north corner of the Operation 1 building and the back wall
of the present guardhouse. This clearly showed fill continuing down over most of this test area (19H1E1), but no counterparts to the pedestals along the northeast wall. The balance of this sub-operation will be described below.

Immediately southeast of the present guardhouse another test trench (19H1D) was sunk to the same yellow sand level. Although this one extended some 16 feet northeast from the Operation 1 foundations, it revealed no evidence for stone platforms to support the far ends of porch joists. In this area the guardhouse reconstruction may have destroyed any evidence, as the gravel went ca. 0.3 feet below the surface and overlay a 0.3 to 0.4 foot thick layer of gray sand, which was also recent.

Finally, Sub-operation 19H1G northwest of the north corner area of the Operation 1 building had a similar objective. Excavations to undisturbed yellow sand followed out eight feet from the northwest wall and probing continued for another four feet, but results were again negative. The findings from five short test trenches through the walls have been incorporated into the Foundations section above.

Intrusive Trenches
Two trenches, each distinguished by a reddish sandy fill from the undisturbed sand or other fill adjacent to them, crossed the southeastern parts of the Operation 1 excavation (Fig. 35). The trench designated as Lot 19H1C6 cut through the east corner of the excavated building, had apparently disturbed stones in the northeast wall while passing over the southeast wall, and first became evident as an intrusion on the 19H1C3 (gravel) level (Fig. 6). Trench 19H1C6 had cut through the burning debris, including a charred board remnant. The second trench (19H1C9) passed close by the eastern half of the southeast wall, on the exterior side, and then turned away (Fig. 7). It had probably disturbed two stone pedestals adjacent to that wall. Extant widths of the two features
ranged from 0.8 to 1.0 feet and their profiles were arcs or flattened arcs, 0.2 to 0.55 feet in depth for 19H1C6 and half that for 19H1C9, with higher portions perhaps removed. Lot 19H1C6 contained two .30 caliber buckshot, some wrought nails and a thumb latch, while 19H1C9 had no artifacts.

Stratigraphic indications were clearly that the two trenches post-dated the destruction of the Operation 1 building. Since the two features were curved, as seen in plan view, an interpretation as plow marks is not likely. One of the present Fort George staff suggested that they were associated with an underground watering system previously in operation within the fort grounds. It has not been possible to document that possibility, but Lossing mentioned that "There were two or three houses within the works, and the parade and other portions were devoted to the cultivation of garden vegetables" when he visited the site in 1860.

Artifactual Contents
Beyond a preliminary examination of the ceramics and faunal remains, the artifacts from Operation 1 have not been studied. Nearly all of the metal objects are currently with the Conservation Division for sufficient cleaning to permit accurate identification. However, observations made during the field work permit some statements on the nature of objects recovered, if little on their frequencies of occurrence.

As noted earlier the most significant contexts were the occupation surface and below; Lots 19H1C4, 19H1C5, 19H1C7 and 19H1C8. This tight association, with the variety and quantity of objects present, will make a good study collection. Perhaps 90% or more of the total number consisted of wrought iron nails and animal bones. Nails in great number, of various sizes, clenched and unclenched, were in the burned debris especially and no doubt in consequence of
the superstructure having burned down. A small proportion exhibited a bright red iron oxide, a result of exposure to fire.³

Metal objects included the hardware mentioned in the occupation surface description plus brass straight pins, buttons both plain-surfaced and with military insignia, an 1803 U.S. penny, musket balls and buckshot. Among the munitions were some 14 musket balls for a .69 caliber weapon and only two for a .75 caliber bore. There were no iron bars, which might be expected from a burned guardhouse. This may only mean that the bars were salvaged. Other items, none complete, consisted of pane and bottle glass, stems and bowls from white clay pipes, ceramics, and even such food remains as peach pits and egg shells. The eleven gun flints were both broken and complete. Samples of mortar, charcoal and wood from this matrix have been passed to the Restoration Services Division for their use in future designs. The faunal remains are discussed in a separate section.

An examination of Operation 1 ceramics has had the objects of determining whether ceramics from any or all contexts form a contemporary assemblage, what variety is present, and what may be learned about the age or use of the associated structure. An actual description of the ceramic collection will have to be a separate project, for the future.

The ca. 300 ceramic sherds from Lots 19H1C4, 19H1C5, 19H1C7 and 19H1C8 are discussed together here. Many pieces were quite small and no identifiable complete specimens were recovered. Nearly all of the vessels represented were of creamware and pearlware; forms included plates and at least several bowls. Pieces of a single, shell-edge pearlware plate featured a green-painted, lightly scalloped rim, and there were no blue-painted rims. Other decorated pearlware included at least eight pieces with underglaze polychrome
painting in blue, yellow, brown, green and red (in various combinations); several with hand-painted blue designs; and two or more bowls which had blue, transfer-printed decorations. No decorated creamware sherds were seen.

This collection appeared to be a valid assemblage, as opposed to an accumulation. The presence of the gravel would also seem to preclude problems of mechanical mixing or intrusions, even though the context lies so very close to the modern surface. The estimated maximum age range based on the ceramics was A.D. 1770 to 1830 and most probably just after the turn of the 19th century. This corresponds with the historical limits of 1799 to mid-1813 for use of the guardhouse.

The 250 or so sherds from the shallow fill just below the modern surface, Lots 19H1C1 and 19H1C3, were also examined to see in what respects they might differ from the ceramics in the Lots beneath. It turned out that the range was the same; primarily creamware which included a half-dozen brown and yellow polychrome painted (underglaze) sherds, with a lesser proportion of pearlware. Decorated pearlware was represented by green shell-edged rims from two plates, as above, sherds from several vessels with blue transfer-print designs, and two hand-painted polychrome specimens; one dark-yellow and blue, the other yellow and green, both again with the painting under the glaze.

Interpretations
The Operation 1 building is what remains of the original Fort George guardhouse. All available evidence from the excavations points to this conclusion. In 1802 Bruyères reported the guardhouse dimensions as 48 by 20 feet and his length agrees with that for the excavated building. However, specifications for 26-foot lengths of oak and pine in the original materials estimate would be appropriate for a building whose interior width between foundation walls
was slightly under 25 feet rather than for one only twenty feet wide. Since the extant Bruyères document is not an autograph original, there is the possibility of a copyist having mistaken a 6 or an 8 for a 0.

Placement of the foundations on the Fort George grounds is exactly where the first guardhouse should have stood. Test trenches showed that the soil beneath was undisturbed. Associated debris within the foundations, and burned earth beneath, clearly indicated that the superstructure had been destroyed by fire. While no one wrote explicitly that the Fort George guardhouse burned on May 25, 1813, there were statements that all wooden buildings had been destroyed. Artifacts from within the foundations included some military items (bullets, buttons) and the datable objects, to the extent that these have been studied, were appropriate for the early 19th century. We have no historical data for other buildings with a plan, orientation or age remotely approaching that of the excavated one, for this part of the Fort George enclosure. Nor are there other findings, historical or archaeological, to indicate that the Operation 1 building could be something other than the first guardhouse.

The 28-foot width probably marks the actual width between building walls for the superstructure, rather than distance from back wall to porch front. Rectangular stone platforms would have been superfluous if an adjoining wall was available to support a porch colonnade, and on the wrong side of that wall if to hold up the outside ends of porch floor joists.

The gravel layer must have been spread very shortly after the structure had burned, and salvaged materials taken away. Perhaps this gravel had no more exotic purpose than to preserve soldiers' boots, and feet, in an area loaded with nails. There is also a reminiscence that in June 1813 it rained almost incessantly, July and August were very hot, and it rained again in October and November. If this
was the case then the rain may have eroded away part of the freshly-laid gravel, as where the latter was thin or absent in the southwestern and southern parts of the building.

A hypothetical structural layout can be made on the basis of animal bone distributions over the old occupation surface, proceeding from the discussion of faunal remains in that section. The general concentration of such bone, in what we will now call the old guardhouse, was towards the northern and eastern parts of the northern half (Lots 19H1C4, 19H1C8) in this structure. These parts should then have been the most active living area i.e. the men's guard room and where the guards took their meals. Opportunities for anything dropping through to the ground would have been lessened by a built-in berth, if one existed. Cell construction was presumably tight, and we assume too that officers on duty still ate in their own quarters or the officers' mess.

Bruyères in 1802 stated that the Fort George guardhouse did contain officers' and soldiers' guard rooms, plus four cells. His information plus the distribution of faunal remains underfloor suggest a possible reconstruction as a three-part layout, with the men's guardroom in the northeastern part, the officers' guardroom and cells being in the other two areas. Illustrations of possible arrangements are shown in Vincent. Arguments may of course be presented against this line of reasoning, one being that any erosion of gravel through the south and southwestern parts of the old structure may likewise have removed any underlying debris. This layout remains a hypothetical one, untestable in the present case, but perhaps susceptible to confirmation or disproof where a guardhouse with a known interior layout can be excavated.

The 19H1E2 Excavation
Several bricks aligned as if to form a surface had been noted
near the north corner of the old guardhouse foundations, while first tracing out these walls (Fig. 8). The 19H1E1 test trench showed fill continuing down within that same area, with the aligned bricks evidently in fill. Additional bricks lay beneath the first tier. Removal of fill between this brick feature and the back (west) wall of the reconstructed guardhouse, as Lot 19H1E2, gradually revealed the western end of a semi-subterranean room-like feature, the balance of which the modern guardhouse covered over. Some five feet of this new feature projected beyond the overlying structure, and its longer axis appeared to be northeast to southwest. Width across the room, between two vertical sand walls, was 12.2 feet (Figs. 9, 10, 36).

Room Features
The brick feature turned out to be the back wall of a corner fireplace, which opened to the east (Figs. 11, 12). Any portions of this fireplace above the level of the old guardhouse foundations had been destroyed and removed at some past time. Dimensional details of the remaining part may be scaled in Fig. 36. Many partial and few complete bricks, of several sizes, had been used in this fireplace, and there is no doubt but what these were reused bricks. A maximum of six courses remained above the firebed level and the latter was of bricks laid on edge. Evidence of burning on the firebed showed that the fireplace had been used.

On the floor area in front of the fireplace was a triangular hearth, also of brick except for four flagstones incorporated into it. The surface of this hearth had an elevation of 292.2 to 292.3 feet above sea level, or some two feet-plus below the outside ground surface. Bricks and stones of the hearth had been laid in a bed of reddish-colored (lime) mortar 0.15 feet thick and traces of this mortar were noted elsewhere in the fireplace proper.
The southwest end and accessible portions of the two side walls were of native yellow sand, vertical or even slightly undercut, easily defined at their interface with the dark brown fill of the feature. No signs of lining remained, if indeed the pit walls had been lined. In the end wall and directly south of the hearth a few bricks remained in place from some accessory construction now partially destroyed (Fig. 13).

The southeastern half of this excavation, away from the fireplace, produced scraps of wood oriented variously with the long and short axis of this structure, those aligned with the short axis evidently resting upon the others (Figs. 9, 10, 36). These scraps were most probably remnants of a plank or board floor, at an elevation of 291.9 to 292.1 feet above sea level or slightly above the level of the hearth. The base of this excavation lay at 291.7 feet above sea level. Since the extant height of the yellow sand by the modern guardhouse is 294.0 feet, the wooden floor of the 19H1E2 structure had lain at least two feet below the outside ground surface, and probably more, at the time of occupation.

Fill and Artifactual Contents
The fill itself was a mixture of sand and clay, gray to dark brown, with gravel in at least the higher levels. Some charcoal and both fragmentary and whole bricks were included, but only minor amounts of cultural debris. Some measurements of bricks from 19H1E2, principally those in the fireplace, are given in the section on Construction Materials.

Artifacts came from throughout the fill, with no concentration towards the floor or lower levels. Objects included a pair of scissors and a brass spigot, several metal buttons and brass buckles, a thimble, iron wire, and pieces of iron hinge. There were non-metallic items such as bottle
and pane glass, animal bones, egg shells, clay pipe fragments, and a single gun flint. Perhaps most significant were two identical Wellington tokens, No. 217 or 217\textsuperscript{a} in Charlton\textsuperscript{9} and No. 127 in Haxby and Willey.\textsuperscript{10} Although these featured a date of 1816, many such private tokens placed in circulation after 1825 bore earlier dates. Haxby and Willey\textsuperscript{11} say that the 1816 ones "are light-weight pieces struck on Canadian order and issued about 1830".

The small ceramic collection from Lot 19H1E2 amounted to about forty sherds and again no complete or restorable vessels. Of these a small proportion were creamware, including one decorated in polychrome, and the majority consisted of blue, transfer-printed pearlware. There was also a piece of pearlware with hand-painted blue designs. Sherds from five shell-edge plates with scalloped rims, three edged with blue painting and two with green; and three 18th century polychrome pieces done in blue, yellow and brown represented other decorated pearlware vessels.

Two sherds from stoneware bottles had a dark red slip and no glaze. Of four salt-glazed stoneware specimens, one featured a mottled yellow-brown surface and the others had a surface color which graded from dark yellow to brown. These may have been blacking bottles. Finally, one piece of white earthenware had a flo-blue design and a bone china cup displayed a pink lustre decoration.

The consensus is that except for the last two sherds, which would seem to be more recent, the ceramics from 19H1E2 are a valid assemblage for the period of A.D. 1790-1815.

Interpretations
Interpretation of this 19H1E2 structure posed some problems, especially in view of the floor below ground level. The building had not been expected at all, and it post-dated the destruction of the first Fort George by virtue of intruding
through part of the old guardhouse foundation. Initially it was thought to be an accessory construction of some sort to a bastion which stood in this general area during the second and third Fort George. The ceramics and coins would have allowed such an interpretation. However, once the estimated locations for buildings from the first and third forts were projected onto one map (see Chapter II), it became clear that the western-most of the two barracks marked "A" on an 1816 Fort George map had the same orientation and should not have been far distant from the 19H1E2 structure. That same old barracks appeared on maps as recently as 1852, though marked "ruins", as indeed had probably been its state since the 1830s. We also had the information about barrack floors in the third fort being below ground level, which now became meaningful.

The location, orientation, construction, and apparent age for the partially excavated 19H1E2 structure support its interpretation as a barracks for the third Fort George. It is not the specific building for which we possess a plan and elevation but rather the one to the west of the latter. Although both were spoken of as 20 feet in width, this may pertain to the above-ground portion, the excavation for some reason being of lesser width. Whatever reason may have existed for putting floors below ground level, it seems to have been as obscure to the early post-war commanders at Fort George as it is today.

In Search of the Guardhouse: Operation 1

4 Elizabeth Vincent, *op. cit.*, pp. 91-92.
5 Ibid., p. 84.
7 Elizabeth Vincent, *op. cit.*, pp. 91-92.
8 Ibid., Figs. 6, 7, 17.
11 Ibid., p. 125.
12 Yvon Desloges, *op. cit.*, Fig. 20.
13 Ibid., Fig. 23.
14 Ibid., p. 93.
The Powder Magazine: Operation 3

Procedures

There was no reason to question the old stone powder magazine as an original Fort George building, reroofed and repaired otherwise from time to time. The depression in which it sits is presumably original too, restored or renewed in the 1930's (Fig. 14). Problems for field investigation were to determine what the building foundations were like and whether these belonged to the original magazine, what evidence existed for any accessory structures, and to recover material samples that might have been associated with the original construction. The program initially included excavations beneath the present floor, but this part was dropped because a concrete slab (from the 1930's) covered the entire subfloor area.

Excavation of three test trenches, Sub-operations 19H3A, 19H3B and 19H3C, commenced on August 2nd and all work except backfilling concluded on August 17th. Trench 19H3A lay principally between the central and southwestern buttresses along the northwest wall of the magazine (Fig. 16); 19H3B was against the back or northeast wall, and 19H3C between the central and northeastern buttresses along the southeast wall (Fig. 37). 19H3B and 19H3C were taken down in three and two vertical Lots respectively. 19H3A also consisted of three superposed Lots, but was expanded horizontally by increments from the initial test between the two buttresses. Although balks were left in 19H3A and 19H3B, the wall profiles proved to be more
informative. Ground level around the powder magazine, at present, is consistent at 283.9 feet above sea level.

Findings in all three tests were quite similar and the results can be discussed as a unit, with qualifications where necessary. The situation around the magazine especially will be more grasped from illustrations than from written descriptions, hence rather complete reproductions of the relevant field drawings are included as Figures 37 through 40. Members of the "as found" architectural recording team also made a thorough record of the findings in 19H3A and 19H3B, 19H3C having been backfilled prior to their arrival on the site.

Foundations, Shoring and Slabs
Poured concrete shorings were found along the main walls, commencing about one foot below the ground level, everywhere except in a corner by the southwest buttress (Figs. 15, 18, 19, 37, 38, Fig. 39 Profile D-D, Fig. 40 Sections G-G, H-H). The concrete had been poured in place, as segments three to five feet in length, each being 0.9 to 1.1 feet in depth and up to 1.3 feet in width. Width was determined by tunnelling beneath the shorings, at least once in each Sub-operation (Fig. 15). The concrete projected only 0.5 to 0.9 feet out from the walls, 0.4 feet or so of the width therefore lying behind the plane of the exterior walls. Impressions of board forms on the vertical faces of the concrete and builder's trenches 0.5 to 1.3 feet in width alongside indicated that the pouring had been done in a series of short trenches, the latter undercut below the old stone walls by up to 0.4 feet (Figs. 38, 40 Sections H-H, L-L). The reason for these shorings was not apparent. Only in the corner by the southwestern buttress had the old walls been left exposed (Figs. 18, 19). Insofar as any remained, the mortar bonding in wall stones adjacent to the
shorings was old lime mortar, not portland cement. Above-ground portions of these walls had at least been tuck-pointed with modern cement, if not reset, but the archaeological investigations produced no evidence that the building walls were anything other than the originals.

The buttresses may be a different matter. The three such that were investigated rested upon concrete slabs, the tops of these slabs being some 1.7 to 2 feet below the present ground level or about even with the base of the wall shorings (Figs. 17, 21, Fig. 40 Sections G-G, I-I, J-J).

At the northeastern buttress along the southeast wall and the center buttress along the northwest wall, the slabs were even with the end of the buttress but projected along at least one side (Fig. 17). Again a builder's trench followed around the outside of each slab, and the vertical faces showed that the concrete had been poured against board forms. Where slabs and shorings met, the latter rested upon or overlay the former, indicating that the slabs were in place first (Fig. 17).

The only serious effort to probe the association between buttress stonework and concrete slab was made at the southwestern buttress along the northwest wall. A tunnel beneath the northeastern side of the slab there encountered only concrete resting upon gravel, for 2.5 feet towards the interior from the outside face (Fig. 40 Section I-I).

This was the maximum distance that could be reached without a major supplemental excavation, but confirmed the inference of a slab. On the opposite side of this buttress and about in line with the first section, another tunnel found that the concrete there was only a shoring. Stones, in a clay matrix, lay directly behind the concrete and extended up into the buttress right from the gravel (Fig. 40 Section K-K). These stones could not be removed and therefore we did not learn how the stones on one side interfaced with the slab.
which had been traced inwards from the other. At 1.5 feet further towards the southeast, Section L-L (Fig. 40) shows a higher-level concrete shoring along the wall again and the base of this concrete was some 0.9 feet lower than the adjoining stone wall.

The scarcity of datable cultural materials from builder's trenches, as elsewhere in Operation 3, leaves the age of this concrete work uncertain. However, a wire nail actually projected from one slab (Fig. 40 Section G-G) and a very well reserved stub from a creosoted 6 x 6 timber lay in a builder's trench by the southwestern buttress, with a rock above the wood (Fig. 18). Way¹ did not mention concrete work in connection with the powder magazine stabilization, and while the September 1938 specifications for concrete, masonry and plastering on the Fort George restoration implied a slab floor inside the magazine, they said nothing about exterior slabs or shoring.² Photographs from this same period did show the buttress stone work as freshly laid, so the slabs at least must have been in place by then.

The problem of dating this concrete work, recognizing that the shorings overlie the slabs, is complicated by the buttresses having been rebuilt twice rather than just once. Lossing³ illustrated the arrangement of low buttresses first noted on an 1823 elevation and section of the building.⁴ A local contractor named Thornton did extensive repairs on the building in 1893; among other things he stated that "I built six buttresses and copled (i.e. capped) them with portland cement". Since he did not specify pouring slabs for his buttresses he probably did not do so. The stonework itself was presumably done with lime mortar; by 1934 the buttresses were in need of extensive repairs.⁵

The conclusion on the concrete slabs and shorings is that these are no more recent than the second Brennan contract,
awarded in September 1938. The only earlier opportunity would have been during the 1893 stabilization, since photographs indicate that Thornton's buttresses persisted unchanged until the work of the 1930's. Of these alternatives it is most probable that slabs and shorings both were done in the late 1930's, the former as a base for the new buttresses and the latter for reasons unknown.

The original stone foundations were masked by the concrete shoring almost everywhere and little can be said about them. At the location of Section L-L (Fig. 40) the base of the foundations was approximately 1.4 feet below the present ground level; in the exposed corner by the southwest buttress the base level was 1.5 to 1.6 feet below ground (Figs. 18, 19). Elsewhere, where tested, we know that the stone base was above the bottom of the concrete shorings and therefore less than two feet below the present surface. The original walls rested upon sand or clay.

Along the northeast or back wall a single stone footing projected 0.4 feet beyond the plane of the wall itself (Fig. 38 Profile E-E). The side walls had a double footing; the upper one above ground and from negligible width to 0.15 feet, the lower one below ground and upwards of 0.25 feet wide (Fig. 21, Fig. 40 Sections G-G, H-H).

Stratigraphy and Associated Remains
Stratigraphy in the three test trenches is portrayed by several profiles, Figures 38 and 39, whose locations are keyed to Figure 37. In general an undisturbed sand, sandy silt or clay was found within a foot of the modern surface, so close to the buildings as the outer edge of the builder's trench. Occasionally, as in Profile C-C (Fig. 39), the fill zone extended to a depth of 1.5 feet. Intrusive
pits and trenches penetrated even deeper, but were easily recognizable in plan or cross-section. Overlapping, discontinuous, and sometimes uneven levels generally marked by mortar concentrations were thought to represent old work surfaces. These occurred within the uppermost 0.8 feet of fill. At some place in all three trenches and twice in 19H3A, the testing reached gravel at 279.5 to 281 feet above sea level. In 19H3C we continued two feet into this gravel and reached the water table.

Test trench 19H3B revealed rotted board remains in Lot or level 19H3B2, only 0.05 to 0.25 feet below the surface (Figs. 20, 37). The grain ran southeast to northwest, parallel to the back wall. One wire nail remained in the wood and others were noted in the level. Directly beneath the board remains was a layer of mortar, mixed with earth. The significance seems to be a board floor, probably for the shed shown in a picture from the mid-1930's, possibly a work platform from the stabilization. A thick scatter of wood remains, this time the trim ends of boards, occurred in Lot 19H3A2 at a depth of ca. 0.3 to 0.6 feet below surface, outside the center buttress along the northwest wall. These were certainly no older than the 1930's.

Concentrations of rock lay in shallow depressions outside of each buttress area, particularly those along the northwest wall (Figs. 21, 37). These rocks were similar to those in the building walls and probably represent leftover building material, plus some trimming debris, from the restoration.

The overall collection of artifacts from this Operation was quite small and those from any one context so few that it is not possible to state when any layers were laid down or features intruded, beyond the remarks made already.
Artifactual Contents
Artifacts ranged in age from a .75 caliber musket ball, wrought iron nails, and several very interesting heavy copper nails (all probably associated with the first Fort George) up to a 1963 penny. There was no noticeable concentration in any area or level. The copper nails were from Lot 19H3B3 and presumably derived from copper sheathing on the magazine's original woodwork; similar examples are known from the magazine at Fort Coteau du Lac. However, from that same Lot came the brass base for a paper shotgun shell. Copper trimming scraps were common especially in Sub-operation 19H3A, and these may be no older than the 1930's.

Of greater potential interest are the corroded sheet iron fragments from Lots 19H3A2 and 19H3A3, found principally in the area just north from the southwest buttress. One of these has been cleaned and a patch of tin or tern plating yet remained to confirm that at least this piece had been "tin" roofing. Folded-over edges also suggest such an employment. The materials list from 1796 called for a sheet iron roof and the building (still?) had such a roof in October 1830. Although Lossing reported it with a slate roof in 1860, no pieces of slate turned up in the excavations, and Thornton wrote in 1893 that "I will paint the roof to preserve the tim (sic)." The sheet metal from the excavations therefore should belong with the building, but where along in its history is difficult to say.

Other artifact materials included bottle and pane glass, faunal remains (see that section), and ceramics, of which only the latter have been examined. The ceramics indicated mixture or disturbance in the fill and accordingly provided little help in interpretation. Pieces of a buff paste, clay drain or sewer tile comprised the largest
single group of material, with ten fragments in Lot 19H3A2, twenty-three in 19H3B3, six in 19H3B2, and seven in 19H3C2. These were almost surely of late 19th or 20th century origin.

Otherwise the Sub-operation 19H3A testing produced four or more cream-ware sherds, one piece each of polychrome (brown and yellow) and blue painted pearlware, an 18th century black-glazed red earthenware, and a black-bodied stoneware with distinct molded relief, the latter known as Cyples Ware and the only example of such noted for the site. Several blue transfer-printed sherds were of mid-19th century origin and other vitrified white earthenware specimens perhaps date from late in that century. The 19H3B testing by the northeast wall resulted in one creamware, one stoneware, and four late 19th century white earthenware sherds, in addition to the tile. From 19H3C came several pieces of white earthenware and two sherds of Chinese porcelain. One of the latter had blue underglaze designs; no date is suggested.

The small collection showed a range of manufacture extending from late 18th to at least late 19th century. The contexts were clearly disturbed and these sherds may have had no association with the magazine's use before it was occupied as a dwelling sometime in the 19th century. 11

Interpretations
From the foregoing description it should be no surprise that an old ground surface, not to mention the original one, is absent around the powder magazine. What we do have is a fill level containing zones with mortar and brick debris, these apparently being work surfaces, with native sand or clay beneath. Accumulations of debris in this vicinity, if they existed, must have been removed during
restoration or the various restorations of the magazine. The little that remains furnished too few significant artifacts to say anything about the ordering of levels or features around the building.

The testing produced no reason for suspecting the basic structure to be other than the original. The buttresses evidently date from the late 1930's and the same for the shoring along the wall foundations. This shoring in fact obscured most of the original stone foundations. Fragments of sheet iron or "tin" roofing in the adjacent fill confirm an earlier roof covering of this type for the building. The only suggestion of an accessory structure was the rotten board floor, of 20th century origin, behind the magazine. There were no evidences for burning. The exterior modifications now known through historical and archaeological research are not serious, and the magazine could be brought to a close approximation of its original appearance with relatively little effort.

The Powder Magazine: Operation 3
2 Ibid.
4 Yvon Desloges, op. cit., Fig. 24.
5 Ibid., pp. 105-106.
6 Ibid., Fig. 30.
7 Peter Priess, personal communication.
10 Yvon Desloges, op. cit., p. 105.
The "1815 House" Foundations: Operation 2

**Procedures**
The problem with the "1815 House" was essentially that of identification, and archaeological investigation was to proceed concurrently with a historical one. History of the building prior to the late 1930's was a blank and the proposition that it had ever been a Fort George building seemed especially dubious. The lead as to where to begin came from Way¹ who recalled that "the contractor was required to move the building some 90 feet north-west of its "As Found" site (R.P. 16A)" because its old location interfered with the complex of new blockhouses. The map referred to as R.P. 16A was one of the architect's drawings, dated September 1938, and indeed this showed both present and old locations for a rectangular building ca. 16 by 31 feet. Unclear at the time was what relation the structure on that map bore to one shown as "Old Frame House" on an architect's drawing of September 1937 (R.P. 4), the latter house being part of the caretaker's residence and apparently standing on the same site as the "1815 House" before its removal.

We presumed that the superstructure of the "1815 House" must have had foundations at its old location and determined to locate these. Five parallel trenches, each 30 by 5 feet and spaced 5 feet apart, were laid out with a NNE-SSW orientation to bracket the area some 90 feet southeast from the present building (Figs. 22, 41). There is a slight elevational gradient in this part of the site, present
ground surface being 294 to 294.2 feet above sea level just behind Blockhouse No. 1 and 293.2 to 293.5 feet above sea level along the northeastern end of these trenches. Of the five, only the 1st, 3d, 4th and 5th from the northwest were excavated at all, and these bore the designations 19H2C, 19H2A, 19H2B and 19H2D respectively. Excavations in 19H2C were restricted to the northern half and then ceased at a maximum depth of 0.85 feet, without encountering anything structural. In 19H2D they proceeded to a maximum of 1.3 feet below the surface, while in 19H2A and 19H2B the excavations ceased at depths of 1.5 to 2.6 feet.

The southern ends of trenches 19H2A and 19H2B came down upon the top of a stone wall just three feet below the present surface. Thenceforth all work connected with the removal of overburden and fill from this supposed structure, which lay towards the west from the initial discovery point, was treated as Sub-operation 19H2E. Excavations by hand traced this wall for some twenty feet and showed that courses had been removed or knocked about in the upper portions, also that the overlying fill was 20th century. A backhoe then cleared this overburden from over the whole structure and within it down to the tops of the walls. The limits of backhoe excavation were the limits of Operation 2 around the building (Fig. 41).

The result was a rectangular foundation of stone masonry, 30.7 by 16.2-16.4 feet, measured externally, with the long axis oriented 50° west of north (Figs. 26, 41). These dimensions fitted the "1815 House" superstructure, the location was as predicted, and the upper-level fill at least dated from the 20th century (Figs. 25, 28). In view of these findings we referred to this structure as the "1815 House" or "Brock" house foundations, and nothing in subsequent work controverted this interpretation. After the
foundations had been discovered, further work in the trenches to the northeast consisted of finishing what was in progress and recording. These Sub-operations had served their purpose in locating the building foundation and were backfilled from Lot 19H2E.

The level removed by the backhoe from above the foundation walls was Lot 19H2E1. A two-foot wide balk remained in place, lengthwise through the center, until excavations to either side had removed the fill down to native sand. The balk itself was then removed; Fig. 42 Section B-B shows a profile of this balk facing northeast. Excavation of the several levels and various features within the foundations were all part of Sub-operation 19H2E, with Lot numbers assigned through 19H2E9. Trenching without and below the level of the extant upper courses of masonry was recorded as Sub-operation 19H2F, Lots 19H2F1 through 19H2F3. Extant wall heights ranged from 290.5 to 291.7 feet above sea level, and it appeared that an original upper course did not remain anywhere. Photographing, mapping, other recording, and accessory trenching continued until mid-September and the hole was refilled on September 14th. This Operation had involved a three-person team with laborers since July 24th.

Test Trenches
Substantial work was done in three test trenches; 19H2A, 19H2B and 19H2D, the locations and dimensions of which were given above. A descriptive account of the findings is deferred since these probably have no significance for the history of the site prior to the 1930's. None of the three reached undisturbed sediments. Sub-operations 19H2A and 19H2B each had two Lots, the dividing line being an old water pipe which passed through both trenches, 2.2 feet below the surface along the northwest face of 19H2A and
2.0 feet below along the same face in 19H2B. 19H2D was dug as a single Lot. Stratigraphy was present in terms of different types of fill and a possible brick walkway at one place, but the contents appeared to be exclusively from the 20th century. Construction debris, in the form of old building stones and segments of brick walls, filled most of 19H2D and occurred at places in the other two trenches (Fig. 23). The impression created was of "clean" fill having been brought in to level up the eastern part of the site area, during the reconstruction.

**Foundations**

Walls consisted of angular blocks and slabs of limestone or dolomite, laid as random-coursed rubble. The stones averaged slightly larger than those in the old guardhouse foundations and had also been laid in lime mortar. The smooth or vertical face went to the exterior; interiors were completely irregular and unfinished except for two segments 10.8 and 10.3 feet in length along the interior southwest face, as shown in Figs. 25 and 41. Only at the latter places were the walls more than one tier thick. Wall thickness varied from a minimum of 0.8 feet to an average of between 1.1 and 1.5 feet. Dry-laid bricks with mortar on top had been used to fill in part of the space at the southwest end of the northwest wall (Figs. 29, 43). Both at this latter area and for approximately five feet along the adjacent southwest wall (interior) lower portions of the masonry had caved away at some time in the past. The empty or caved-out sections there had been filled in with stone rubble and even trash (Figs. 25, 29).

The southwestern wall rested upon undisturbed sand and featured a footing 0.2 feet in height which projected out 0.3 feet from the exterior face (Fig. 42 Section C-C).
There was no footing for the southeastern wall and, while it rested upon a light brown sandy fill, undisturbed sand was encountered just inside at a level a foot or more higher than the top of this sand outside of the wall (Fig. 42 Section D-D). Elsewhere, so far as could be determined, undisturbed sand was at the base level of the foundation walls and this base came at 288.8 to 289 feet above sea level. Builder's trenches in the sense of those around the powder magazine were not found here, but the whole structure may have been built within an excavated depression (see below). Extant wall heights ranged from 1.5 to 3.1 feet with an unknown amount lost off the top at the time when the superstructure was removed and the foundations filled over. An iron grill 1.45 feet in height and about 2.5 feet wide remained in place in the northwest wall (Figs. 25, 41, 43). The grill presumably marked a former window opening.

A rectangular masonry feature 5.5 feet in width projected up to 4 feet inside the foundation from the northwest wall (Figs. 25-27, 41, Fig. 42 Section A-A, Fig. 43). This feature and the wall had neither a gap nor actual bonding between them. Given the irregular nature of the foundation wall interior, however, any connection between the two masonry segments would have been obscure. The rectangular feature had been laid up in the same manner as the foundations, the smooth faces towards the outside, with lime plaster adhering to the exteriors in a few spots (Fig. 42 Section A-A, Fig. 43). The base was as low as 288.1 feet, or even below that of the foundation walls. Inside of this feature loose construction rubble in the form of rocks and bricks, but with no ashes or signs of burning, extended down to the level of the wall base. The designation 19H2E5 pertains to this whole feature. Its functional significance became apparent when
it was noted as lying directly beneath the fireplace in
the "1815 House" superstructure. The term "fireplace
support structure" was therefore generally used as a
descriptive label for this unit.

Stratigraphy
The interior fill situation is represented fairly by the
northeastern face of the balk (Fig. 42 Section B-B). A
weakly developed topsoil overlay from zero to almost a
foot of red gravel, the latter being continuous with the
gravel around Blockhouse No. 1 and equally recent. Below
this and inside the approximate limits of the foundation
walls, Lot 19H2E1 contained a hard gray clay. Elsewhere
the fill in this Lot consisted variously of gray clay,
gray sand, and reddish silty sand. Old blocks of stone
masonry were abundant along the southwestern side of the
excavation and recent cultural debris occurred throughout.
Lot 19H2E1, as the zone removed by the backhoe down to the
top of the extant foundation walls, had a corresponding
depth below surface of 2.35 to 2.95 feet.

The next level down, Lot 19H2E2, had a matrix of hard
gray clay. Old building stones and bricks were numerous,
especially nearer the walls, around the fireplace support
structure and in the lower parts of this level (Fig. 24).
The vicinity of the fireplace support structure especially
contained voids in the stone rubble, and there had been
some effort towards dry-coursing of rubble in the gap
between that feature and the southwest wall (Fig. 25).
Cultural debris was rather sparse for the volume of fill
involved. The bottom of this Lot was the natural
interface with an underlying reddish silty sand (Fig. 42
Section B-B), this juncture being at depths of 3.5 to
4.1 feet below the modern ground level.
This sand was taken out as two lots, 19H2E3 down to the level of the foundation base, and 19H2E4 from that point to the undisturbed native sand. Lot 19H2E4 varied in thickness with the contours of the sand beneath; from 0.1 to 0.6 feet. This arbitrary division came about when it was seen that there would be no "floor" or prepared surface at the bottom of the excavation. The objective was simply to keep separate whatever might be resting upon the native sand. There was no accumulation of debris on the latter and no reason to think of the bottom of Lot 19H2E4 as an "occupation surface".

The 19H2E3 level contained more old building stones, especially around the fireplace support structure, and two planks near the south corner (Fig. 41). Number and variety of artifacts increased relative to Lot 19H2E2 although not necessarily the age; interesting specimens included three 19th century bank tokens, bottle caps, and a cigarette lighter. Overall depth from the ground surface outside to undisturbed sand reached 5.2 to 5.8 feet; foundation base elevations have been given above.

The problem of where the ground level had been when the superstructure was moved, or at any time in the building's past, was not completely resolved in the field. The southeastern face of the excavation pit near the balk contained a horizontal separation between two types of fill, at a level of 290.6 feet above sea level or 3.7 feet below the ground there. However, this horizon did not continue on the adjacent balk or elsewhere around the excavation pit. When we commenced Lot 19H2F1, the removal of fill outside of and adjacent to the "1815 House" foundations, this proceeded only 0.5 to 1.0 feet below the tops of the foundations at most places, or to a level of approximately 291 feet above sea level. At this level plank fragments were lying horizontally in the fill, adjacent
to both the northeast and southwest walls (Fig. 41). These we took as tentative indicators of an old surface and tested below that level with four small trenches, principally to obtain samples of cultural material. The samples were quite small and further testing temporarily had a lower priority than completing interior excavations. Subsequent study of the ceramics (see below) showed that the base of the plank fragments indeed might separate an early 19th century accumulation below from a 20th century one above, although several more recent artifacts came from the lower level. The absence of a soil profile at the plank horizon was not particularly surprising since the material was fill and adjacent to an old building, but disturbances during or prior to the superstructure removal may have taken away higher levels of fill. As it is, the 291 foot elevation measured near the west corner of the excavation pit and the 290.6 foot one in the southeast wall appear to mark the same horizon.

Test trench 19H2F2 between the excavation limits and the exterior southwest wall was dug to undisturbed yellow sand, found at the wall base or 288.8 feet above sea level (Fig. 41, Fig. 42 Section C-C). There was no builder's trench. The uppermost 1.2 feet of fill in the trench profile was a tan, hard-packed sandy silt, with brick and mortar rubble inclusions. The lower 0.75 feet was a reddish sandy silt with lesser amounts of rubble. The natural sand at the bottom simply commenced at the point where the interface between fill and undisturbed sediments occurred, without an old surface. From the wall base outward the sand surface continued at the same level for about two feet, then rose gradually to an elevation 0.85 feet higher and appeared to level off at 3.8 feet out from this wall (Fig. 42 Section C-C). At the point of leveling-off was an area ca. 0.3 feet thick, with ash, brick and mortar rubble.
In test trench 19H2F3 a light brown sandy fill, which must have been in place when the wall was laid, extended ca. 0.8 feet below the wall base on the exterior side. Undisturbed sand could be followed out at this lower level for some 0.9 feet from the plane of the wall, then graduated upwards until even with the wall base at 2.7 feet out from that wall. The rise continued ca. 0.3 feet higher (Fig. 42 Section D-D). Again there was no identifiably builder's trench or old surface level at or below the lowest foundation course, only a change in fill texture and color just below the level of the wall base. 19H2F3 produced a small artifactual collection.

This building evidently began with a relatively broad, shallow excavation, dug so that the excavation walls sloped down from the outside to the point where the masonry walls were begun. The slope was modest; less than a foot within the last three to four feet of the wall. We have no information as to where the ground surface lay when this excavation commenced. The ceramic evidence for the 19H2F2 and 19H2F3 fill being early 19th century will be discussed in the ceramics section, with other lines of evidence brought in when we arrive at interpretations.

**Interior Features**
Apart from the masonry of the walls and fireplace support structure, interior features were found only on or within the natural sand at the bottom of the excavation. The three classes of features consisted of floor trenches (19H2E6), post holes and apparent upright posts on the surface (19H2E7), and a depression by the fireplace support structure (19H2E8).

Extant portions of three sub-floor trenches extended approximately seven feet out from the southeastern wall interior, to where the northeastern face of the balk had
been (Figs. 26, 41). These three generally paralleled the short axis of the building and apparently did not continue beneath the southeast wall. The trenches may well have continued across the room but were removed when the level southwest from the balk was inadvertently taken lower. There were only three, all treated as Lot 19H2E6, and numbered 1 to 3 beginning with the southeasternmost one.

Both plans and profiles were irregular; widths ranged from one to 1.7 feet with the average of the first two slightly under 1.5 feet and trench no. 3 about one foot across. Trench no. 1 had a maximum depth of some 0.45 feet below the base of Lot 19H2E4; in nos. 2 and 3 the depths varied from 0.3 and 0.4 to 0.7 and 0.75 feet. Sides and bottom in the first trench were a single arc; the others tended towards steep sides and flattened bottoms. The fill in all three consisted of brick and mortar rubble, nails and some recent cultural debris in a reddish silty-sand matrix, but trench no. 1 also contained a substantial decayed board, on its side. Henderson described a trench and a channel plus parts of two drains in the cellar floor at the nearby Commandant's Quarters, but with the "1815 House" foundations the floor should have lain several feet above these trenches. Historically a root cellar did stand just outside the southeast foundation wall and adjacent to it. What purpose these trenches served and indeed whether the lower foundation area in the "1815 House" was ever accessible are both problematical.

The remnant of an upright 4 by 6 inch timber stood adjacent to the southeast wall at the south corner, on the outside (Fig. 41). Inside were five, possibly six post holes and posts (Fig. 26, 27, 41). One rectangular impression was eventually judged highly questionable and is not shown in Fig. 41; its center lay two feet inside from the northeast wall and 5.7 feet inside the southeast
wall, as measured from the exterior faces. The three principal posts (nos. 2, 4, 6) aligned roughly down the center of the short axis, below where the partition wall above would have been. Holes were one to 1.1 feet deep below the sand surface. Two of the posts were 0.5 feet in diameter and the third had been a 5 by 7 inch timber. With all three the holes were considerably larger than the posts. Post no. 5, only 0.15 feet in diameter, stood upright on a flat rock and had a very shallow hole around it. No. 1 was a rectangular hole 0.35 feet deep with some decayed wood in one corner. Recent ceramics in the holes showed that some at least had been filled simultaneously with the foundations. The purpose of the posts other than those along the center axis is not known.

Lot 19H2E8 was an irregular, steep-sided depression between the fireplace support feature and the foundation wall 2.5 feet to the southwest (Figs. 27, 29, 41, Fig. 42 Section A-A, Fig. 43). The bottom lay one foot lower than the base of the walls in 19H2E5 but the pit sides rounded up abruptly to both the latter and to the main foundation wall, thereby indicating that the depression did not predate the house. A reddish sandy fill with stone, brick and mortar was overlain by a gray sand. The third level up produced most of the artifacts; bottles and Flo-blue ceramic sherds with an A.D. 1912+ maker's mark, included with more brick and stone rubble. Initial hopes that artifacts from this context might date early repair work if not initial construction for the house were therefore not realized, and the reason for the depression itself is not known. Presumably it existed prior to removal of the house superstructure, but the existence of ceramic sherds from the same set of dishes in both this depression and the fill overlying the foundations suggested simultaneous filling rather than accumulation.
Artifactual Contents
As with Operation 1, ceramics and faunal remains have been given a preliminary examination and other materials are mostly unstudied. Coins and metal buttons have been with the Conservation Division for cleaning for some months now, while many of the remaining metal objects were recent and could probably be identified in their present condition. The bulk of material from Operation 2 was the largest for any operation, but by its questionable association it may also be the least significant. The general range of artifacts will be mentioned without regard to specific placements since the ceramics discussion will hopefully make clear that most contexts were really areas within a single deposit.

Animal bones and iron hardware formed two of the largest categories and considerable field selection was exercised in retaining ironwork. Bolts, nails, wire, washers, files, hinges, container fragments and a sparkplug were all present, and may largely be 20th century in date. Nonferrous metal objects included pins, buckles, tableware, wire, cartridges, buttons, a few coins, and one musket cap (the last from 19H2E4). A vest-pocket, chrome-plated cigarette lighter, somewhat corroded, turned up near the southwest wall in 19H2E3 and is probably no older than the 1930's.

Glass was another large category, principally bottle glass and including whole bottles of the late 19th and early 20th centuries. Glass from lamps, table and pane glass, was also present and has yet to be studied. Samples of mortar, brick and wood from the excavations have been conveyed to the restoration architects. Minor amounts of military artifacts and objects perhaps as old as Fort George - five gun flints, musket balls, buttons, clay pipe
fragments - were interspersed with the more recent refuse. Egg shells and fish bones occurred along with much larger amounts of animal bone. There were at least five plain clay marbles, three from 19H2E3 and two from different 19H2E7 postholes, the marbles with diameters of 1/2 to 11/16 inches.

Coins
Three copper, half-penny bank tokens all derived from Lot 19H2E3, two in the area of the balk and one from west of it. These are as follows:

"Habitant" token, Bank of Montreal half-penny, 1837. This is No. 234 in Haxby & Willey⁴ and No. 19b in Charleton;⁵
Bank of Montreal token, half-penny, 1842. This is No. 279 in Haxby & Willey⁶ and No. 23a in Charleton;⁷
Bank of Upper Canada token, half-penny, 1857. This is No. 289 in Haxby & Willey⁸ and No. 102d in Charleton.⁹

The first-listed was placed in circulation in 1838 and the second evidently during the year of issue, but there is a suspicion that some of the 1857 coinage only began to circulate about ten years later. The 1971 edition of Haxby and Willey¹⁰ carried the following note on the persistence of such coinage in use:

When the decimal system was adopted, the semi-regal and bank issues were allowed to continue in circulation, an Act of 1870 fixing their value at one cent per halfpenny and two cents for each penny. It was nearly 1890 before the colonial coppers were withdrawn from circulation and enough cents were
in use.
With this longevity, such coins probably have limited value for dating the contexts in which they may be found.

Crows
Specific information was sought on identifiable metal crown caps. Identical "Old Vienna Beer" crowns from 19H2E2 and 19H2E3 featured the name in red script lettering on a yellow background, with red and black circles (one of each) around the perimeter. A letter from Canadian Breweries Ltd. reported that crowns are not registered and this particular one was in use in the post-World War II period, but could have originated many years prior. The single Coca-Cola crown from 19H2E3 had the name in red script again on a pearl-colored background. Research by Coca-Cola Ltd. and its suppliers disclosed the following. The particular decoration was introduced in 1934 and continued until 1945 (November), at which time the company name changed from The Coca-Cola Company of Canada Limited to Coca-Cola Ltd. The base metal was bright tinplate rather than black plate, the latter being a war-time substitute. Manufacture of this crown was therefore bracketed between 1934 and 1939-40, which coincides with the Fort George reconstruction period. It could only have gotten where it was found by being dropped inside of the old "1815 House" foundation cavity, after the superstructure had been moved and before or while the hole was being filled.

Ceramics
Ceramics from the various contexts within and without the foundations were studied each Lot by itself and the several collections eventually ranged against one another. First under discussion will be the contexts from within the foundations
followed by those without. There were no complete vessels.

We initially assumed that the 19H1E8 feature offered the best prospect for an association with some period of the house's construction or use. Analysis of the ceramics from this Lot rather eliminated the possibility. Of 74 sherds in all, one came from a tile of the type discussed under 19H1E4, below. Twelve represented an unpainted, vitreous paste, light gray ceramic with a molded "Wheat" design, there being at least two cups of this. Among 35 various specimens were one shell-edge pearlware plate with a blue-painted, scalloped rim; one blue sponge-decorated; a hand-painted violet and green white earthenware piece; and three relatively recent white earthenware cup fragments with polychrome transfer-printed decorations. However, 26 late, Flo-blue plate sherds, possibly even from a single plate, comprised the largest single group within the 19H1E8 collection. One of these pieces joined with another from Lot 19H1E3 and gave a complete mark, that shown as No. 3313 in Godden with the name "ROSE" added above the mark. Godden dated this as c. 1912. Other fragments from this same set of Flo-blue dishes turned up in Lots 19H2E1, 19H2E2 and 19H2E4, thus giving this one pattern a distribution from top to bottom in the 19H2 excavations.

The molded "Wheat" pattern originated during the 1860's and the other pieces listed above could represent vessels from the early 19th to early 20th century. Filling of the 19H2E8 depression could only have taken place sometime after 1912 and prior to 1940, most likely when the foundation cavity was filled in the 1930's.

Two of the postholes (Lot 19H2E7) also contained ceramics. A bone china piece from one had an elaborate decoration combining underglaze blue, hand-painted motifs in other colors, and lustre over the glaze. The age was estimated at mid-19th century. Twenty-eight sherds from
another posthole represented a heavy, white earthenware plate and a bowl or chamber pot of same, the plate at least with a molded decoration. The period of manufacture was the second half of the 19th century.

Lot 19H2E4, the few inches above the undisturbed sand inside the foundation base, provided 47 sherds. The variety here included several creamware specimens; pearlware decorated with blue transfer-printed and hand-painted designs, plus three shell-edge and lightly scalloped pearlware plate rims with blue edging. Several fragments of heavy white earthenware were like those found in one posthole. Other items included one specimen from the same Flo-blue set already described; blue and polychrome transfer-printed sherds, the only example noted of Mocha ware, and a late 19th or early 20th century transfer-printed plate rim done in a gray-green color, stylistically like others found in Lots 19H2E1 and 19H2E3 higher in the fill.

From Lot 19H2E4 also came a substantial piece of a variegated, heavily-glazed, light brown to light green ceramic tile. The complete size was 3 by 6 inches and the molded design incorporated two *compositae* flowers. Evidently such tiles were meant to be set end to end in a row, so as to form a decorative molding. Lot 19H1E8 produced one small piece of this tile; numerous others came from Lots 19H2E2, 19H2E3 and 19H2E5, all higher up in the fill.

The next highest level, Lot 19H2E3, contained approximately 220 ceramic sherds. With these were five redware fragments, probably from flower pots and tile, and the only example noted for the site of a white earthenware bowl with brown banded decoration. The range of material otherwise was as described for Lot 19H2E4. For both 19H2E3 and 19H2E4 the estimated age span for the
ceramics was early 19th to early 20th century, the same as for the contexts first discussed. Within the fireplace support structure only one small piece of the same Flo-blue set occurred, while directly on top of this structure lay several broken pieces of the decorative tile. The two highest levels of fill within or over the house foundations exhibited the range of ceramics found lower down, although in larger quantities. Marked pieces were of English origin and mostly with "England" as part of the mark, indicating manufacture after 1890.

The consensus from examination of ceramics within the foundations was that the fill had been dumped in as one operation, and little if any of it represented an accumulation through occupation of the house above. A minority of the ceramics were as old as Fort George, but these specimens occurred alongside early 20th century sherds. The interior fill is probably mixed, and also a secondary deposition brought from some other location, presumably within Niagara-on-the-Lake. Such an interpretation is reinforced by the similarity of ceramics from the construction debris build-up outside of these foundations. The opinion expressed above concerning the 19H2E8 fill therefore holds for the fill throughout the foundation cavity; post-1912 and prior to 1940, most probably brought in to fill up the hole during the 1930's. It remains now to discuss whether ceramics from the tests outside of the foundation walls and adjacent to these walls revealed anything different.

Test 19H2F2 incorporated another small test pit, between which 73 ceramic sherds were recovered. The majority were from creamware plates with a narrow brown band (one or more) near the perimeter. This is a style of the early 19th century, used on dinnerware. There were also plain creamware sherds. Nine pearlware specimens included two shell-edge plates with blue-painted and scalloped rims, two polychromes,
two blue transfer-printed, and two with hand-painted blue designs, all underglaze. The assemblage was a good one and should date from right around A.D. 1800.

The ceramics from Lot 19H2F3 were about half and half pearlware and creamware, out of 23 sherds. One creamware example had painted banding (brown and green) and there were two blue transfer-printed pearlware specimens. Also present were a yellow ware and a salt-glazed stoneware bottle sherd, both more recent than the balance. Except for the last two the assemblage would be appropriate for the period ca. 1790-1815. The same association was present in fifteen sherds from a small test pit adjacent to the northeast wall: six creamware sherds, one redware, and eight pearlware, the latter including three shell-edge plate forms with lightly scalloped and blue-painted rims.

Still outside the foundations but from the level of the extant wall height down to the plank fragments outside (Lot 19H2F1) the few ceramics included redware tiles, Albany Slip and salt-glaze stoneware, another piece of the decorative tile described above, and two insulator fragments. It appears therefore that despite the absence of a visible stratigraphic horizon, the base of these planks does indicate the ground surface of the time the house superstructure was removed and the foundations filled over.

Ceramics have thus far revealed much about the nature and age of the fill both inside and outside of the "1815 House" foundations, but adjacent to the outside we now have an early 20th century deposit directly overlying one whose ceramic contents are a century or more earlier, with no horizons to represent the post-War of 1812, ca. 1860, or 1882 occupations which can be documented for this immediate site area. Further comments are deferred to the next section,
in which other evidence is considered along with that of the ceramics.

Interpretations

The foundations excavated as Operation 2 can be confirmed as those for the "1815 House" or "Brock" house, and confirmed in several ways. Ronald Way's reference to the former location of the house, the old and new locations shown on map R.P. 16A, archaeological confirmation of building foundations in the stipulated place and of exactly the size for the house superstructure, a masonry support structure beneath where the fireplace is situated in the present house, and fill with 20th century debris in the foundation cavity - all of these aspects have been reviewed now and collectively leave no doubt but what the excavated foundations were for this particular house prior to ca. 1938. What then do we know of the structure's origins and history?

Two structures from the third Fort George were persistently shown, at the same relative locations, on maps commencing with the one of June 1814 and continuing through 1853. The two were the brick powder magazine, which evidently stood until the early 20th century, and the one labeled as "b" - "Temporary Barracks for Officers" on the June 1814 map, "b" being the southeasternmost and smallest in a row of three. The name "G. Room" (guard room) written by it on an 1835 map implies that it was used at least that recently. These two persisted after all others were in ruins or had ceased to be represented, and are shown on the following maps from the Public Archives of Canada, National Map Collection: H4/450 - Niagara - 1814 (year); V3/440 - Niagara - 1816; H1/440 - Niagara - 1818; V1/440 - Niagara - 1819; RG8, Series II, Vol. 38 (1830); V1/440 - Niagara - 1831; V1/440 - Niagara - 1835; H3/440 - Niagara -
It is true that only the two powder magazines were portrayed on two maps from 1843 and 1852. After 1853 we unfortunately have no good maps again until the 20th century. The June 1814 map was carefully drafted, done to a large scale and presumably intended to represent a new construction program just underway. Building "b" there measured 16 by 30 feet.

Building details on the third Fort George are quite sparse. Notations from 1817-1819 about the barracks floors being below ground level, and an 1823 plan which showed the same for a nearby guardhouse, were cited in the Historical Background chapter above. For the three row structures first shown on the June 1814 map we know nothing beyond their indicated placements, dimensions, and uses. The available records by their silence might imply that floors elsewhere in the fort were like those in the barracks, but would not contradict the existence of stone foundations.

Where did Building "b" stand with respect to the fort grounds of today? In Chapter II we discussed how the 1816 maps of (the third) Fort George showed both old and new earthwork systems. By overlaying a transparency of an 1816 map, to the same scale, on a 1799 map or the one from 1803-04, the first and third sets of buildings can be plotted together. The validity of the results is dependent, among other things, upon how accurately the 1816 maps represented both sets of earthworks.

When this is done, Building "b" falls approximately 100 feet east of the original Blockhouse No. 1. This does not seem reasonable, since the consistency of pre-War of 1812 maps and our own finding of the guardhouse strongly suggest that the reconstructions stand very close to their proper sites. If this last correlation is correct, then Building "b" would have lain under or even outside of the
pentagonal earthworks as based on the known position of these earthworks prior to their removal. The building of course was inside.

Another approach is to first draw a chord between the nearest corners of the powder magazine and the guardhouse, as shown upon one of the 1799 maps (V2/440-Niagara-1799 was chosen). The distance was found to be the same, within a few feet, as on a map constructed from our measured locations of powder magazine and guardhouse foundations, done in summer 1973. On the latter map one then draws a perpendicular from the first chord to a corner of the "1815 House" foundations, measures the location and length of the second chord, and replots this point on the 1799 map. When a ca. 16 by 30 foot rectangle is then completed, it lies directly behind (east of) Blockhouse No. 1 from the first fort, in almost exactly the same relationship as obtains between the reconstructed Blockhouse No. 1 and the "1815 House" foundations. This reploting by dimensions rather than overlay tends to explain other features recovered archaeologically, and at least for now we believe it is a better approximation technique. An implication from all of this is that the two sets of earthworks were not correctly represented relative to one another on the 1816 maps.

By virtue of persistence through time until at least 1853, the length and width dimensions, and location on the grounds, one can build a case that the Building "b" first shown in June 1814 persisted and is today represented by the so-called "1815 House" foundations. No claim is made that the superstructures are the same. Two further lines of attack could confirm whether the excavated foundations were originally for a (third) Fort George building.

One is the direct historic approach, and on this Desloges and the present author used complementary means of inquiry. An "Old Frame House" or "Old House" was mentioned
at the beginning of this chapter. Figure 30 illustrates that structure with associated ones as traced from an early 20th century map of the Fort George grounds. Near the end of September 1973, Mrs. Dorothy Riches of Niagara-on-the-Lake spent an afternoon explaining to the writer the layout of this "Old House", in which she had lived as a child during World War I. A diagrammatic representation of her information is shown in Figure 31. The "1815 House" comprised a two-room core for the old Reid house, to which core a row of ground-level rooms had been appended along the northeast and southwest sides sometime prior to Mrs. Riches' knowledge. This agrees completely with Way's remark that "Stripped of its modern lean-to appendages, the obviously early-19th century original building measured 30' 9" by 16' 10". The "New House" (Fig. 30) incidentally was moved off the site and now stands, minus veranda, on Davy Street in Niagara-on-the-Lake.

Desloges had been able to trace the old residence from ca. 1910 back to 1882 through leases to a Wright family, and even found a 1910 remark by Mrs. Wright that "We really built all this house except two rooms...". Obviously the Wrights departed and the Reids arrived sometime between 1910-1914. What then prior to 1882? At this point the direct historical approach failed for want of information, and we apparently lack the means to demonstrate a continuity (if indeed there is one) between the structure shown on two 1853 maps and the house leased in 1882 et. seq.

Archaeological information from around or within the "1815 House" foundations should then provide the clinching argument as to whether the walls there may be as old as 1814, and originally built for a (third) Fort George building. In the ceramics discussion we saw that the interior fill was all early 20th century although it included earlier items. Outside, however, the 1.95 feet of fill in 19H2F2 and 2.3 feet in
19H2F3 (both maximums) produced ceramic assemblages appropriate for the period 1790-1815. The remaining artifacts from these two trenches included both .69 and .75 caliber musket balls and (from 19H2F2) a brass button of the 68th Light Infantry, a unit stationed at Fort George from June 1819 to May 1822. Stemware and bottle glass sherds could be as old as the ceramics, with the exceptions of an aqua piece and a jar rim which are probably late 19th and 20th century respectively. The latter two, and the only two late pieces of ceramics as well, came from Lot 19H2F3. If the early 20th century maps are correct, that test trench may have come down within a root cellar (Fig. 30) and this would easily account for any admixture of artifacts. Nails from the same two contexts were heavily corroded and remain to be cleaned, but both cut and wire ones were present in 19H2F2. Neither test trench seems to have produced an entirely pure early 19th century assemblage.

From all of the evidence at hand the most economical explanation for the "1815 House" foundations is that they were originally for a small building erected in 1814, as part of the third Fort George. Further research to affirm or disprove this conclusion should include (a) analysis of the other artifacts from 19H2F2 and 19H2F3, (b) a search for maps, leases or other evidence to help fill the informational gap about the Fort George grounds between 1853 and 1882, and (c) perhaps testing for the presence or absence of foundations where buildings "C" and "C", the "Temporary barracks for men", were shown in the same row with "b" as of June 1814.
The "1815 House" Foundations: Operation 2
5 J.E. Charlton, op. cit., p. 15.
7 J.E. Charlton, op. cit., p. 15.
9 J.E. Charlton, op. cit., p. 31.
14 Yvon Desloges, op. cit., p. 103, Figs. 27, 31.
15 Ibid., Fig. 19.
18 Ibid., pp. 96-98.
Test Trenches Alongside Blockhouse No. 1; Operation 6

Procedures
From August 29 through September 11 one crew sought information for use in planning another field season. Blockhouse No. 1 from the first Fort George should have been partially beneath its reconstruction or immediately to the southeast, according to our best projections. If any foundations could be found, we would then know their placement with relation to the present building, and by projection have an accurate idea of the same relationship for Blockhouses No. 2 and No. 3.

Two test trenches (19H6A, 19H6B) were placed to the southeast and one (19H6C) to the southwest of reconstructed Blockhouse No. 1, in an effort to find any remaining foundations (Fig. 44). These trenches constituted Operation 6. The first two should have intersected walls provided that (a) stone foundations were used (b) these have not been destroyed subsequently (c) they are not completely covered by the modern structure, or (d) dimensions on the historic maps are not seriously in error. The testing revealed no foundations and we know as little as before about where and indeed whether anything remains of the originals.

The findings in this area do bear on the history of the site and warrant description. The general ground surface elevation was 294.3 - 294.5 feet above sea level, almost the same as behind the blockhouse. Test trench 19H6A measured 20 x 5 feet and projected out from the
southeast side of Blockhouse No. 1, near the center of that wall (Fig. 44). The two feet of trench length nearest to the blockhouse were not excavated. Fill was removed in four levels, each assigned a Lot number. The bottom of the third level was on undisturbed sand in the northwestern half of the trench, 4.5 feet down from the outside ground level or at an elevation of 290 feet above sea level (Fig. 45). Elsewhere the base of Lot 19H6A3 went to 4.4 - 5.0 feet below the surface. Lot 19H6A4 attained a depth of 5.9 feet or to 288.5 feet above sea level, as a maximum, but to a sloping surface of native sand. The horizontal limits of this Lot were the southeastern nine feet of trench length.

Trench 19H6B, parallel to and five feet out from the southeastern side of Blockhouse No. 1, extended perpendicular to the southwestern side of 19H6A (Figs. 32, 44). 19H6B also measured 20 by 5 feet and was excavated over its length, except for a balk left in the center to support an intersecting drain tile. Three levels of fill each correlated with a Lot and the levels were selected to approximate those in 19H6A. The third Lot stopped at undisturbed sand, which in 19H6B occurred at 289.3 to 289.8 feet above sea level, deeper at the eastern end than towards the west (Fig. 46). From ground level, depth of this trench ranged from 4.5 to 5.2 feet. A small test pit in the bottom only confirmed that sand continued for at least 1.9 feet further.

Sub-operation 19H6C in front (southwest) of the same blockhouse was also five feet in width and laid out as shown in Fig. 44. This trench came upon undisturbed sand and clay 1.0 to 1.2 feet beneath the modern surface, and the foot or so of fill included evidence for a prehistoric occupation at 0.6 to 1.1 feet down, through the northwestern half of the Sub-operation. There were four Lots; 19H6C1 and 19H6C2 as two levels within a ten-foot length of the trench, 19H6C3 and 19H6C4 as single levels at the north-
western end and over the southeastern half of the Sub-
operation. In all three Sub-operations backfilling took
place after recording had been completed.

Stratigraphy
The stratigraphic situation in Sub-operations 19H6A and
19H6B is rather fully represented by the profiles in Figures
45 and 46. Deposition within these two followed the same
sequence and they will be discussed as one. The shallowness
of fill in 19H6C precludes any need to say more about that
trench at this time. It was apparent from the five foot
or greater depth of fill southeast of the blockhouse, as
opposed to only about one foot of fill by the southwest
wall, that 19H6A and 19H6B either came down within a semi-
subterranean feature or lie just to the south or east from
an abrupt downslope. Since neither trench encountered a
slope or wall we do not know which alternative is correct.

Figures 45 and 46 imply discontinuities between natural
levels, whereas gradations were typical. Three good horizons,
of unequal significance, do exist. Uppermost was the base
of the coarse gravel, about 0.7 feet below the surface around
the blockhouse. This gravel had been installed only at the
time of reconstruction. Next lowest was the top of a dark
brown organic soil which contained scraps of decayed wood,
the latter oriented in every direction. The top of this
level appeared to be an old natural surface, perhaps from
prior to reconstruction, and it contrasted sharply with
the fill above. This horizon was taken as the base of Lot
1 in both trenches; its depth below surface amounted to
2.1 to 2.3 feet in 19H6A and 1.9 to 2.8 (average 2.3 - 2.7
feet) in 19H6B (Fig. 32). Below this the transitions
between fill colors and textures were gradual, until a
natural yellow sand marked the base level of disturbance
and the third horizon. Other observable discontinuities
in the profiles marked the fill or spoil from animal burrows and the sides of man-made intrusions.

Although the top of Lot 2 and base of Lot 3 had natural boundaries, the Lot 2 - 3 interface was an arbitrary horizon - in 19H6A it sloped from 2.7 - 2.8 feet below surface along the northeast side to 3.1 feet below by the southwest side. In 19H6B the same horizon sloped from 3.2 feet below the ground to 3.6 feet below, from the northeastern to the southwestern end. Lot 19H6A4 lay beneath the southeastern half of 19H6A3 as explained in the foregoing section.

Neither fill nor profiles gave evidence for any floors or occupation surfaces, beyond the probability of Lot 2 being an old surface, or for burn levels. The yellow sand at the bottom was simply an undisturbed sediment, from which the natural surface had been removed prior to any deposition upon this level. No structural remains were encountered and the only features can be described briefly, in the section following.

Features

Part of a plank floor, or perhaps just a fallen plank door, projected from the southeastern part of the northeast trench profile in Lot 19H6A1. The boards had been put together with wire nails (Fig. 33). Although its depth was recorded as 1.1 feet below ground, this feature had a modest slope (Fig. 45).

Most of the bricks in Lot 19H6A4 formed a general level at the top of this Lot, but some extended into it (Fig. 34). Figure 44 presents a detailed plan view. No recognizable structural feature could be made out of this brickwork; there was no coursing, and most bricks were fragmentary. They may represent a destroyed structural feature, especially in view of the two cannonballs associated with them. The bricks do extend beyond the trench walls. Associated around
and beneath the brickwork was a large number of artifacts, especially corroded iron objects, and also faunal remains. This context did not contain any evidences of burning.

**Artifactual Contents**

Artifacts from Sub-operation 19H6C consisted mainly of prehistoric lithic debris, which will be the subject of a separate section. Within trenches 19H6A and 19H6B only the ceramic and faunal collections have received even a preliminary study. Apart from the 19H6A4 context the quantity of material recovered during Operation 6 was much less per volume of dirt than in Operation 2.

One complete Hock or Rhine Wine bottle with a pleasant amber color came from the top of Lot 19H6B2\(^1\) (see Fig. 46). This measured 13.25 inches in height and 2.9 inches in diameter. It had been produced in a two-part mold and the mold seams extended to ca. one inch of the lip. The Champagne finish lip had been finished by hand but lacked an applied ring. The bottle should date from the late 19th century.

Our present understanding of the age and nature of various Operation 6 contexts hinges principally upon their ceramic contents. The four Lots in Sub-operation 19H6C together produced 33 ceramic sherds, most of them quite small. Apart from one redware and two salt-glaze stoneware specimens, the collection consisted of creamware, pearlware, and vitreous white earthenware. At least three tiny, blue transfer print decorated examples appeared to be pearlware. The time range represented was early 19th through perhaps early 20th century and the collection clearly seemed to indicate a secondary deposition or disturbance, probably during the 1930s.

Examination of ceramic collections from the seven Lots in Sub-operations 19H6A and 19H6B showed temporal differences in the stratigraphic layers, and also the apparent equivalence of layers bearing the same Lot numbers in the two trenches.
For discussion of how ceramic associations bear upon interpretations of the excavations, Lot 19H6A4 (the lowest) will be taken first, followed by the 19H6A3 - 19H6B3 materials considered together. The contents of Lots 1 and 2 in both trenches indicated that materials there were a mixture, to a depth of ca. three feet below the present surface, laid down sometime in this century and probably during the 1930s (i.e. during the reconstruction). Ceramics from the four uppermost contexts will therefore also be discussed as one body. As elsewhere no complete or recognizably restored vessels came from this Operation.

The disturbed brickwork and various military hardware items from 19H6A4 suggested an association with the first or second Fort George and the ceramics bore this out. From a total of approximately 100 sherds, some 90% were creamware and pearlware. Plate, bowl and cup forms were represented. Two decorated creamware sherds, perhaps from the same vessel, featured molded relief surfaces with dark brown and red banding. Pearlware pieces derived from several blue transfer-printed bowls, one or more blue hand-painted bowls, a shell-edge plate with a green-painted and lightly-scalloped rim, plus five polychrome (blue, brown, yellow) specimens. Several fragments from a stoneware blacking bottle also turned up. Together these constituted a valid assemblage with an estimated maximum age range of 1770-1820, most probably marking a context just prior to 1800. However, in terms of the site's known history, a time of deposit around 1813 would be more acceptable.

Lot 3 in both trenches commenced at an average depth of three feet (2.7 to 3.6 feet depending upon location) below the surface and extended to either undisturbed sand or to the top of Lot 19H6A4. The artifacts were evidently in a primary deposit, not disturbed or transported to the site. Of the ca. 150 ceramic sherds most were white earthenware,
with a smaller quantity of pearlware and a few sherds of
creamware. The latter included a jelly mold fragment, the
only one noted. Decorated pearlware varieties ran to shell-
edge plates with scalloped and blue-painted rims; blue
sponged; Willow and other blue transfer-print designs.
Transfer-printing in brown and red as well as blue, blue-
edged plates with light shell-edge molding and straight rims,
and sponged decorations were all present among the white
earthenware. Other types in the collection were yellow
ware (3 sherds), salt-glaze stoneware bottles (ca. 6 sherds),
and glazed redware. The overall variety comprised another
valid association, and the period represented was the 1830s
through the 1860s.

Although Lots 1 and 2 in the two Sub-operations reached
to a depth of approximately three feet, the second Lot
contained some 200 sherds and the uppermost level only 38.
As noted above, the proportions and range in variety of the
various ceramic elements seemed to be the same in the four
contexts. The bulk of the ceramic collection was white
earthenware, either plain or with molded designs. Specimens
with red and blue transfer-print designs were also present,
and two Flo-blue decorated sherds. Other types included
several pieces of creamware, one with brown and yellow
polychrome painting; two pieces of inexpensive porcelain, and
a few examples of bone china. More utilitarian materials
were the ca. 25 redware sherds with either no glaze, a clear
glaze, or a mustard-colored glaze; and four stoneware
specimens with Albany Slip interiors or exteriors.

The overall time range represented by the Lots 1 and 2
ceramics was early 19th into early 20th century, and the
deposit seemed to be a mixture brought about by disturbance
or deposition of materials from elsewhere. Construction
activity attendant upon rebuilding Blockhouse No. 1,
preparing the ground surface there prior to construction
or in simply raising the elevation of the site in this area, was probably to blame for the situation. Since the third level did appear to be a valid assemblage, a further possibility is that some part of that level had been graded off and the items from that context mixed with more recent ones in forming the present overburden. Whatever the sequence of events, it seems clear that the uppermost three feet in test trenches 19H6A and 19H6B represent the early 20th century. The only ceramics or other artifacts from these test trenches that could be associated with Fort George in any assurance were those from the lowest level, 19H6A4.

**Interpretations**

Any interpretations of Operation 6 are obviously speculative, since we do not even know whether test trenches 19H6A and 19H6B lay within or without a structural feature. The bricks and other finds in Lot 19H6A4 were associated with the Fort George occupation and probably with the first fort, but the disarray there and incomplete excavation precluded our understanding as to what these represented. The level of "hard-packed, brown sandy fill" otherwise apparently correlated with the 1830s - 1860s period, by virtue of the ceramics from Lots 19H6A3 and 19H6B3, and the "pinkish sandy fill" next highest in trench 19H6A might be included here. Artifacts of this age would be too recent for any military occupation, but they could have derived from the "Irish family" whom Lossing² as of 1860 noted as living in a small house somewhere in this area.

Debris in the levels of Lots 1 and 2 could have come from the Wright family, unless any of this upper three feet was transported to the site during reconstruction for leveling-up. In this connection it should be noted that wire nails came from Lot 19H6A2 as well as from the Lot above. Missing throughout this Operation were the
concentrations of old construction debris, building stones and segments of brick walls, which formed so prominent a part of the fill in Operation 2 and even in the southern part of that Operation.

An undisturbed level in 19H6C four feet higher than that in nearby 19H6B is one reason for asking whether the two deeper test trenches came down within a structure (Fig. 44). We do know that a magazine for the second Fort George lay somewhere in this part of the site, but either a magazine or the hot shot furnace that must have been on this side of the fort would have been smaller than the extent of the trenches. A more realistic possibility arose when a dimensional projection of the third Fort George buildings was attempted over the modern ones. The long barracks from the third fort, the one which measured 20 by 110 feet, in part fell over the area explored by Operation 6. Although the floor in this barracks was below ground level, we do not know how deep it went. If the ground surface then was several feet lower in this part of the fort, it seems possible that we could have gotten into this barracks with Sub-operations 19H6A and 19H6B. Were that the case, ceramics of the age found in Lots 19H6A3 and 19H6B3 might be allowable, but we should have found traces of flooring or other clues to the existence of a structure. Lot 19H6A4 would hardly seem to represent that barracks in view of the relatively early associated remains for this Lot.

Finally, an additional projection of Blockhouse No. 1 from the first Fort George onto the same plan with the barracks just discussed showed a most unhappy possibility. One location for the blockhouse would have it almost entirely covered by the northern end of the 20 by 110 foot barracks. With a sub-grade floor level in the latter, its construction might have eliminated most or all of any blockhouse remains that had survived burning and salvaging. Add to this the
prospect raised before as to the original blockhouse foundations lying under the reconstruction, if they were not wiped out by this reconstruction, and the probability of recovering the original Blockhouse No. 1 seems rather dim. Future field work might well avoid this general area until other structural remains have been identified, then attempt to work back in this direction.

Test Trenches Alongside Blockhouse No. 1; Operation 6
3 Yvon Desloges, op. cit., pp. 89, 93, Figs. 20, 23.
Test Excavations in the Proposed Visitor Reception Center Parking Area

An unoccupied area between the Queens Parade and the Niagara Parkway/present Fort George parking lot is soon to become a parking area for the proposed new visitor reception center. During the summer the Ontario Regional office requested archaeological clearance for this tract and made available a 1:40 scale plan which showed the location and layout for the addition. Overall dimensions were 584 feet north-south by 310 feet east-west, with a half-circular projection from the southeast side. One crew spent the week of August 20-24 in thoroughly testing this area, with a backhoe, to determine whether it contained any significant archaeological remains. Available historical documentation suggested that it did not. The landscape there bore only a heavy cover of grass.

The Department of Indian Affairs and Northern Development map with project title Fort George National Historic Park, Visitor Reception Center Parking, scale 1" = 40', was the base map. Commencing 30 feet from the southwest side of the staked lot area we placed ten parallel rows of stakes lengthwise (north-northwest to south-southeast) through the field, the rows at 30 foot intervals. Stakes along each alignment were at 50 foot intervals except for the final segment, which measured only 34 feet. The ten trenches subsequently excavated along these alignments bore Sub-operation numbers 19H4A through 19H4K, omitting use of the letter "I". Two additional stake lines 90 and 100 feet in length respectively ran eastward from the tenth parallel, 19H4K, the one nearest to Fort George, at
points 34 feet and 84 feet north-northwest from the southern end of the latter trench and at right angles to it. Sub-operations 19H4L and 19H4M designated the trenches along the last two alignments. The total length of all twelve rows came to 6030 feet.

Test trenching with a backhoe commenced along the southwesternmost alignment (19H4A) and proceeded through the remaining eleven, in alternate directions from one trench to the next. In the first ten trenches the stake line marked the eastern side of the trench; in the other two it denoted the northern side. Trench depths generally extended to the top of the "B" soil horizon, between 1.4 and 2.9 feet below ground surface, but at least once per trench the operator tested to a depth of five or six feet. Two or three utility trenches and a few other recent disturbances were the only intrusions into an otherwise continuous heavy black sod, the original ground level for this area or but slightly altered from it.

As the work progressed one student remained constantly with the backhoe to guide the operator as to depth and to inspect the floor of the trench each time before the backhoe moved on. Another student and the present writer inspected both sides of the trenches every few feet, to watch for signs of disturbance, features, cultural materials, etc. Each suspicious location was marked and then investigated by a field assistant, with a laborer or student. Nearly all such locations were ultimately judged to be of no archaeological significance. This whole Operation remained under the direct supervision of the author, who prepared a somewhat more detailed report with map under date of August 26, 1973. Backfilling of the trenches commenced after field investigations had been finished on August 23, and this filling was completed by the end of the workday on August 24th.
Only three Lots were potentially significant. Lot 19H4H1 marked a point eight feet from the northern end of that trench where, up to 1.9 feet below the present ground level, fragments of an apparent shrapnel shell were found. The materials consisted of twelve cast iron shell fragments, from a sphere that had been about eight inches in diameter, and 48 lead musket balls. The shell casing was not complete and we presume that this may have been a dud; some additional comments are given in the Munitions section.

At 212 feet north from the southern end of 19H4K, Lot 19H4K1 produced a clay pipestem, musket ball, glass which included at least some 19th century specimens, and more recent refuse as well. All of this lay within the present grass roots, no more than 0.25 feet below the surface. The relative age of these finds recommended this area for further investigation.

Lot 19H4L1 in the perpendicular 90-foot trench expanded into a test area some six feet east-west by 3.8 feet north-south and to a depth of two feet below ground. A dozen or so foundation-type stones turned up through the fill here, bearing no recognizable pattern of alignment and lacking also any mortar or association with other construction materials. This could be a badly disturbed foundation. An iron grapeshot, bottle glass and fragments of a white earthenware plate with a black transfer-print decoration were in association. The maker's mark on the latter was a scroll embellished with flowers, the name "BELZONI" thereon, with "E W & S" and "Patented" beneath. These initials correspond to Enoch Wood and Sons, concerning whom Godden\(^1\) reports that many printed marks incorporated this name or the initials E.W.&S. ca. 1818-1846. If the association is valid there is apparently a mid-19th century or slightly earlier feature in this vicinity.
Test Excavations in the Proposed Visitor Reception Center Parking Area

1 Geoffrey A. Godden, op. cit., p. 686 (No. 4260).
Artifactual Remains

Artifacts from the 1973 excavations can be conveniently dichotomized into prehistoric and historic groups. The former consisted entirely of stonework; three artifacts and a concentration of lithic debris, which will be discussed rather completely. Historic-period remains comprised nearly all of the total and no more than a beginning has been made towards evaluating this collection.

Study of the ceramics has been for the purpose of interpreting the contexts in which they were found, rather than the description of ceramics as an artifact class. The results have been incorporated into the foregoing text under the appropriate excavation headings, in the expectation that they will be more meaningful presented in that way. Selected examples of other items such as building hardware, coins, and even two bottles crowns were introduced in a similar fashion. For descriptive reportage concerning artifacts, study of such large categories as glassware, ceramics, clay pipes, hardware and faunal remains would be most effectively done by specialists in those fields. Their individual contributions can provide the archaeologist with a means for evaluating his contexts, and simultaneously form parts of a final report. Several man-years of time will be required to study the 1973 collections.

Sections on Fort George construction materials and on munitions at the site are included below, following the study of prehistoric remains. The former two, plus impressions from an examination of the animal bones, are
the only categories discussed under separate headings at this time. The historical correlations can be a key to understanding and could also prompt research inquiries that lead to better understanding of the fort's appearance and functioning. For such major categories as glassware and clay pipes, however, there are virtually no remarks at this time.

It is the writer's impression that probably two-thirds of the artifactual (and faunal) remains from the site as a whole have no more than a secondary association with Fort George. This association came about through deposition on the grounds subsequent to the military occupation, especially during the 1930's.

The Prehistoric Occupation at Fort George

The probable existence of a prehistoric site on the Fort George grounds is not surprising in view of the fort's favorable situation. Evidence consisted of two chipped stone projectile points, a fragmentary bifacial artifact, and some 92 unmodified flakes, most of the latter being wastage from bifacial retouching. The material without exception was a mottled gray and blue-gray flint, undoubtedly the well-known Onondaga flint discussed by Ritchie and probably both of his varieties. A possible pit outline was noticed at 1.7 feet below the modern surface in test pit 19H5B, just outside the northwest wall of the old guardhouse foundations, but the presumptive artifacts within it turned out to be limestone/dolomite spalls like the rocks in the adjacent foundations. This feature had no greater depth and no other possible prehistoric features were observed.

A Brewerton Side-notched point came from the sod level of the initial 19H1BL test trench, adjacent to the
old guardhouse foundations. This had an estimated 0.25 inches of the tip broken away, the extant length being 1.47 inches and the width 0.87 inches. A Brewerton Corner-notched point, in the parking-lot area outside of Fort George, was associated with glass and other recent debris some seventy feet from the south end of test trench 19H4G and at a depth of 1.7 feet below the surface. Both corners of the stem were broken away; the length was 1.53 inches and the width 1.19 inches. The probable association of the points was with the Archaic Brewerton Phase, to which Ritchie assigned a "climax date" of 2000 B.C., but both points came from disturbed contexts.

The basal fragment from a bifacial artifact or preform was associated with the lithic debris in test trench 19H6C. Apparently a rounded base had been intended. The artifact had broken along a hinge fracture 1.03 inches from the base, leaving an extant width of 1.57 inches.

White's terminology is appropriate for discussing the lithic debris. None of the latter exhibited signs of further modification or use. The largest piece, a tabular flake from a broken nodule, measured 2.37 by 1.09 inches. Four blocky fragments, without noticeable bulbs, were much smaller and may be from broken cores. Another two or three appeared to be discard flakes removed from a core. The balance, 85 in all, were relatively thin and flat with sides which generally expanded from the bulb of percussion area. Their overall size range was about 0.3 to 1.1 inches with the majority in the 0.5 to 1.0 inch category. These flakes presumably resulted from the bifacial retouching of artifacts.

The tabular flake and three others came from the fill around the old guardhouse. Two of the ones apparently struck from a core, plus one additional flake, were from the 19H6A and 19H6B test trenches. Eighty-six, or all of
the remainder, derived from the shallow test trench 19H6C, and from the central and northern parts of the trench only. It was noted during excavation that most flakes were concentrated in a zone 7 to 9 inches below the present ground surface, but ten flakes did come from a depth of 13 to 14 inches. There were no hammerstones, fire-cracked rock, charcoal, or other signs of occupation associated with the flakes. Sub-operation 19H6C showed no recent disturbance, beyond a small intrusive pit, more than several inches beneath the surface. The flakes and the fragmentary bifacial artifact which came with them were therefore presumably in place. Whatever else may lie in the vicinity, these findings indicate tool manufacturing activity here and probably during the Archaic period.

There is a respectable body of literature on archaeological explorations both east and west of the Niagara River, including such proximate sites as the Lewiston Mound, and the elements of a cultural sequence exist. However, interest and publication activity have focused on the late prehistoric - early historic Neutral or Neutral Iroquois, so that sites of the latter type have been reported but few others. In view of the extensive attrition to known late sites, this apparent earlier occupation at Fort George should be considered in formulating any development plans.

Construction Materials
The primary construction materials for all Fort George buildings were timber, both as logs and sawn lumber; stone and bricks. With respect to the first, the estimates indicated a preference for pine, followed by oak, with much lesser amounts of cedar, hemlock and hickory. No doubt the pine and oak had different intended uses. The documents
which gave the wood specifications provided no indications as to sources, but a local potential is shown by a November 1794 letter which listed local trees as white pine, oak, walnut, sugar maple, beech, hickory and basswood. Nearby saw mills existed from the 1780's.

The construction stone in the powder magazine, guardhouse foundations and "1815 House" foundations appears to be a limestone or dolomite, not available locally but almost surely obtained from quarries along the Niagara Escarpment. The quarries there are well known and their products have been used quite widely, although we have no information as their actual antiquity. Again the Fort George construction estimates specified the quantity of stone, but not what kind or where it was to be obtained. The only specific lead to an implied source was a June 24, 1812 letter from Lewiston, New York:

They are repairing Fort George and building a new fort at York. A number of boats are daily employed, manned by their soldiers, plying between Fort George and Queenston, conveying stone, lime, and pickets for necessary repairs.

As for lime, we also have mention in a September 20, 1812 letter from Lewiston that "one shot has proved fatal to a man at the Lime Kilns, on the Canada shore". The kilns were presumably not far from a source of limestone, which again would mean the escarpment and Queenston.

Bricks are another matter, with some thousands of them specified for use in the first and third forts. Historical research to date has not identified a source, although at least one local brick industry existed. In 1793 William Dickson of Newark petitioned Governor Simcoe, mentioning that he had resided in Newark for six years past and had
built the first brick house in the province. At least one other in town and one outside were built within the next few years. The August 19, 1795 Upper Canada Gazette; or, American Oracle published at Niagara (Newark) carried a legal notice from a week prior which concerned "Benjamin Robinson and Josiah Willard, late of Newark, brick-makers,..." Stokes, contrasting the use of stone and brick, says that The more common masonry material was brick manufactured from local clay, one brickyard being noted on early maps close to the mouth of One Mile Creek.

Which maps these are, and of what age, remain to be shown. A local source lay at hand, whether or not the British Army at Fort George made use of it.

The source may in fact have been of limited capacity or relatively short-lived. In 1806 a traveler through Newark noted "The houses in general are of wood, and may amount to two hundred". In 1816-17 Lieut. Francis Hall observed that ".... the village of Newark, which has in great part been rebuilt, houses of wood", and the majority of Stokes' examples are of wood frame construction. Economic considerations would of course have influenced the choice of materials.

Numerous bricks, almost all of them fragmentary, came from the Operation 1 excavations. Most of these were common red bricks with approximate dimensions of 2 x 4 x 8 inches, but somewhat less than ten per cent featured glazed surfaces. This latter feature is probably accounted for by the following observations on early Virginia brickmaking:

The typical Virginia brick burned with hardwood had a considerable range in color. A kiln could have light reds, the least well burned, dark reds through browns to the partially glazed
brick which were the hardest burned of all. You could expect to get about fifteen per cent of the brick of a kiln with glazed ends and, of course, some of them had glazing on their sides also.

These first brick were burned with hardwood which continued to be the fuel throughout the whole colonial period, and which caused the glazing to form on the brick in the flues or hot test part of the kiln. In other words, glazed brick were an inescapable product of the kiln and they were often used to secure decorative effects.

Today, with a kiln burning hardwood, approximately fifteen to twenty per cent of the brick have some glazing, or varying degrees of glassiness. This is probably similar to the results from the colonial kilns for in the seventeenth-century walls there was usually about fifteen per cent of the headers with glazing. They were therefore desired as face brick.

In Williamsburg the glazed bricks were sometimes employed as headers in Flemish bond, presumably for their decorative effect, through the time of the Revolutionary War. We have no direct evidence from documents or archaeological findings as to how they were employed at Fort George and Stokes does not mention glazed bricks in the older Niagara-on-the-Lake houses.

Lot 19H1E2 provided the best opportunity for a sample of bricks from a controllable context. The great majority of these bricks were fragmentary, which suggests reuse from
the first Fort George; in any case they should be no more recent than the third Fort George. From a total sample of 75 with at least one measurable dimension only ten were complete, and all but two of these differed in size:

<table>
<thead>
<tr>
<th>Size (in inches)</th>
<th>No. of specimens</th>
</tr>
</thead>
<tbody>
<tr>
<td>8 x 4 x 2</td>
<td>1</td>
</tr>
<tr>
<td>8 1/2 x 4 x 2 1/2</td>
<td>1</td>
</tr>
<tr>
<td>8 3/8 x 4 1/2 x 2 1/2</td>
<td>1</td>
</tr>
<tr>
<td>8 x 3 3/4 x 1 7/8</td>
<td>1</td>
</tr>
<tr>
<td>8 3/4 x 4 1/2 x 2</td>
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<td>8 1/2 x 4 x 2</td>
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<tr>
<td>8 x 3 3/4 x 2</td>
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<tr>
<td>8 1/2 x 4 x 2</td>
<td>1</td>
</tr>
<tr>
<td>8 3/4 x 4 1/2 x 2 1/2</td>
<td>1</td>
</tr>
</tbody>
</table>

In the fragmentary examples where lengths could be measured, these lengths ranged from eight to nine inches. The most common width was four inches, with a range from 3 3/4 to 4 1/2. The thinnest brick seems to have been 1 3/4 inches and the thickest 2 3/8 inches, with the average right at two inches.

By way of comparison, South and Lazarus have worked with brick sizes from the southeastern U.S. and indicate that inferences as to the cultural traditions behind bricks from historic sites may be possible provided that one has a context for the brick samples, knows the range of possible traditions, and is aware of the possible supplying brickyards. Dimensions alone were found to be no chronological guide.

There were also several fragments of buff brick at Fort George, again from the Operation 1 excavations and particularly the test trench in front of the old guardhouse foundations (Lot 19H1D1). If these are comparable to bricks in The Rectory, an 1858 building which Stokes
notes is "Constructed in pressed buff brick, an early use of this material....", then the bricks recovered from fill and near-surface levels in Operation 1 may not all be so old as Fort George. Although a great many bricks and sections of brick walls were removed from the fill in Operation 2, these came from unknown buildings and were probably transported to the site as construction fill. If older bricks from Fort George were intermixed in Operation 2, it would not be possible to separate these out.

Two unusual types of construction materials from around the old powder magazine; heavy copper nails and fragments of plated, sheet-iron roofing; were mentioned in Chapter IV. A wealth of comparative information on the nature, sources, and use of such roofing will be found in Waite.\textsuperscript{25}

\textbf{Munitions}

Munitions lists and even passing comments from the War of 1812 period have significant bearing on the interpretation of small arms ammunition found at Fort George. The significance, for the ammunition and the weaponry which employed it, involves both identification and use. The quantity of small arms ammunition recovered was quite small and most of the lead balls have been measured, with results listed below. A few iron cannon balls, grape shot, and possible shell fragments await cleaning for identification and are only noted as present.

At the time of the War of 1812 the standard British military musket was of .75 caliber. Both French and American-made muskets were .69 caliber weapons. Ammunition for these ordinarily came in the form of paper cartridges, which combined powder and bullet (or bullets) for a single charge within a thumb-sized, paper-wrapped packet. The lead balls used in ball cartridges were several hundredths of an inch smaller in diameter than the nominal bore in the
smoothbore weapons, an allowance which was termed "windage". Archaeological evidence of small arms munitions would consist only of the lead balls, which might be in any condition depending upon whether the bullets had been fired in a weapon or derived from lost, burned, destroyed, etc, cartridges.

Available records showed that the weaponry situation on the Niagara Frontier was not what would logically be anticipated. A return of ordnance and stores captured from the U.S. Army at Queenston Heights listed 435 Muskets, French carbine, but no other type of small arms. A similar return for ordnance destroyed and captured (from the U.S.) at Black Rock, on July 11, 1813, listed 177 English and French muskets. Finally, the vast quantity of munitions and other stores which the British captured at Fort Niagara in December 1813 included "7200 French muskets" and evidently no others. The absence of U.S. arms in the three inventories from the Niagara Frontier is remarkable. Production statistics show that the U.S. arsenals at Springfield, Massachusetts manufactured over 12,000 muskets in 1811 with lesser quantities in years prior and afterwards. However, in a war where "the average annual expenditure of muskets from loss or other causes was 90,545," perhaps a major combat zone would feature almost any kind of weapon.

With respect to the British forces, an October 21, 1812 order issued at Fort George directed militia companies to exchange weapons so that any one company had either English or French muskets. Otherwise the distribution of proper-sized ammunition became difficult. A return of ordnance at Fort George from March 1813 listed 720 English and 240 French muskets. The British and Canadian troops may of course have been using weapons captured at Queenston Heights, and not have had French muskets prior to then.

The small arms situation at this time was therefore
somewhat complex, and interpretations from ammunition remains could lead one astray. For example, a .69 caliber ball might have been used or intended for use by an American soldier in a French musket, or by an English or Canadian soldier in a French musket, but we lack documentation that either side had American-made arms of the same caliber at hand. A .75 caliber ball might also have been used by either side, as we see from the returns, but at least should only represent an English musket.

Even this last point is disputable. Both at Queenston Heights and the Battle of Fort George, British artillerists at least were using a relatively new creation - spherical case shot or shrapnel. A hollow iron shell, with a fuse, contained musket balls and an explosive charge. This antipersonnel weapon was a British invention, first used in 1803-1804, and we do not know whether it had become a U.S. ordnance item by this time. In one of the Operation 4 trenches we found what appeared to be a broken shrapnel shell, with pieces of the iron shell and 48 musket balls, in an area approximately two feet across. This may have been a dud. The projected outside diameter was ca. 8 inches, appropriate for a 68-pounder carronade or for an 8-inch howitzer. Ordnance taken by the British at Fort Niagara did include two 8-inch howitzers. When loaded with a shell and three pounds of powder, these pieces would have just been able to reach Fort George. Whatever the age of the shell from Operation 4, the musket balls of nominal .75 caliber were for the most part off-round and even included casting defects. Similar balls would of course be dispersed by exploding shells, and the archaeologist would face an additional alternative that such bullets may have derived from a spherical case shot as well as from an English musket.
Although the shoulder arm of the time was a musket, the most abundant single size of projectile was probably the buckshot. The list of U.S. ordnance captured at Queenston Heights included 2810 cartridges with ball and buckshot, 3140 with buckshot only. Another list of U.S. ordnance found and seized at Fort Niagara included ten cwt. of buckshot. The normal "buck and ball" load for the U.S. Army contained one nominal-size musket ball with three buckshot; a buckshot cartridge alone should have contained twelve buckshot.

Wound statistics from the Niagara campaigns bear out the use of loads containing buckshot, and even the regulation buck and ball combination, by the American forces. Two contemporary British-made buckshot cartridges had six and nine shot; the use of other loads is presumed but not documented.

Seventeen lead balls from various contexts within Sub-operation 19H1C (the guardhouse excavation) and seven from Sub-operation 19H6A have been measured. Three of these were buckshot, twelve for a .69 caliber musket, and apparently only two for the .75 caliber weapon. Six balls from Lot 19H6A4 and one from 19H6A3 consisted of five .75 caliber, one .69 caliber, and a small one perhaps intended for a .54 caliber pistol. The actual spread of diameters was as follows, based upon single measurements for each ball, and some balls vary by upwards of .010 inches depending upon where one chooses to measure:

Buckshot (3 specimens from 19H1C):
Diameters- .293, .305, .310 inches.

.69 caliber musket balls (13 specimens from 19H1C, 1 from 19H6A4):
Diameters ranged from .633 to .648 inches; six specimens at .635 to .638 inches, two below this and five above.

One slightly flattened and not measured.
.75 caliber musket balls (5 specimens from 19H6A, 2 from 19H1C8):
   One undersized specimen at .670 inches diameter. The remaining six
   were distributed two each with .685, .687, and .690 inch diameters.
.54 caliber (?) pistol ball (Lot 19H6A4):
   .535 inch diameter.

The six nominal-size .75 caliber balls were but slightly smaller than the sample of seventy reported by Lewis as 0.687 to 0.700 inches in diameter, averaging 0.694 inches.

The concentration of .69 caliber balls in Operation 1 and .75 caliber ones in Operation 6 was quite apparent, but in view of what has been said it is difficult to say what the distributions may mean. The simple presence of .69 caliber ammunition is not sufficient to infer an American occupation context. If indeed the British forces did not have French muskets (or American ones either) at Fort George prior to the War of 1812, then the bullets in the guardhouse context would practically document the time of destruction for that building. The only two .75 caliber balls in the latter excavation came from the lowest context, Lot 19H1C8, although one of the balls was undersized. The scarcity of buckshot may be more apparent than real since it is difficult to see in fill and more examples may have been missed.

Artifactual Remains
2 William A. Ritchie, A Typology and Nomenclature for

3 Ibid, p. 16.


6 William A. Ritchie, The Archaeology of New York State (New York: The Natural History Press, 1965), pp. 215-217, Fig. 1.


8 Ibid., p. 62.

9 Yvon Desloges, op.cit.


11 A. James Rennie, Niagara Township, Centennial History (1967), pp. 15-17, 32.


16 Ibid., p. 19.
19 George Hoert's travels.
21 Peter John Stokes, Old Niagara on the Lake.
24 Peter John Stokes, Old Niagara on the Lake, p. 96.
27 Ibid., Vol. 4, p. 219.
29 A Description of the United States Armory at Springfield, (Mass.) with a Statement exhibiting the number of Arms manufactured and repaired, and the amount of Expenditures
annually, from the commencement of the establishment in 1795, to the close of the year 1817 (n.p., 1818? - reprint). 4 pp., table.


32 Ibid., Vol. 3, p. 218.


40 Berkeley R. Lewis, op. cit., p. 107, Plate 23.

41 Ibid., p. 51.

42 Ibid., p. 107.
Foodstuffs and Faunal Remains

Historical research into the subsistence of Fort George garrisons has only begun and thousands of animal bones from the 1973 excavations await specific identifications by a zoologist. In the interim, some relevant statements from the contemporary records should not be lost to sight. Observations on the general nature and cultural implications of faunal remains can also be offered, in the form of hypotheses, and as one means to point the direction of future interpretations. A review of some historical references to subsistence matters follows first below, and after that a commentary on the archaeological findings with comparative notes.

Historical Background
Examination of a twenty-year run of the Upper Canada Gazette, later The York Gazette, produced a series of advertisements between 1797 and 1812 in which bids to furnish provisions for His Majesty's Forces at various posts in Upper Canada were solicited. Prior to November 1803 there were only three ads in all, two seeking flour and peas and one for fresh beef, which may simply mean that foodstuffs were being shipped in from Lower Canada or more distant points. An April 1798 ad stipulated that each barrel of flour was to contain 200 pounds net, otherwise no specifications were included. This situation changed with a public notice of February 23, 1805 that apparently continued in effect, the notice stating that each barrel of flour was
to contain 196 pounds, or 224 pounds net, first quality, etc., the peas "so to be furnished to be White, prime Boilers, and packed in Casks". If the flour was stored in small barrels and peas in large barrels (as of 1799), the latter must have been unwieldy indeed. Apart from the possibility of barrel remains, these vegetable foodstuffs should have left no archaeological traces.

The first call for supplying pork (mess pork, salt pork) in November 1803 said that it was to be delivered in barrels containing 208 pounds net. In June of the next year another ad specified that the pork was to be in barrels containing 52 pieces of four pounds each. This was formalized in a public notice dated September 14, 1805 which also indicated the type of salt and other matters, and likewise appears to have remained in effect. The notice itself made it clear that problems with irregular weights plus the "detriment that has arisen from the improper Curing and Packing of PORK, heretofore purchased for the use of His Majesty's Forces", lay behind this effort to implement quality standards. Would pig bones from the refuse reflect cuts of the appropriate size, whatever the sequence in butchering? Guilday implies that salt pork was boned before it was barreled, so that any pig bones would mean the presence of live animals or dressed carcasses. If this is correct, then that army staple salt pork will have left no more in the way of archaeological remains than flour or peas; only the barrels in which it was packed, if the barrels were not reused. We know that Fort George did have 41,600 pounds of good pork on hand as of July 1808. Sheep as a meat source might be anticipated, but we have no documentary references to their use.

Advertisements to "supply Fresh Beef of good quality" from November 1803 through at least 1810 carried the instruction that "The Beef [is] to be received by the
Commissary at each post by the quarter". No references to live animals or salted beef were found. If the contractors followed the stipulations, then cattle bones from military contexts on the site should be principally upper limb bones from the front and hind quarters, but not waste parts of the animals. Butchering debris if present should reflect the contract provisions, and likewise the food scraps. On the other hand, a greater variety of elements in the cattle bone assemblage might be interpreted as the slaughter of live animals, the presence of non-specification dressed portions, or as bones not from the military occupation.

We have a few other direct references. A letter written shortly after U.S. forces captured Fort George in 1813 stated that "Among the stores taken were 1000 barrels of powder, with great quantities of flour, pork, beef, liquors, etc." Colonel Landmann clearly documented two bears at Fort George in 1798. One was shot while attempting to escape (or desert?) and wound up on the dinner table. Finally, and on rather thin evidence, we might claim that the British troops drank rum, the U.S. forces drank whiskey.

Visitors and residents of the Niagara area commented on the availability of fish. As it happened, the references were all from the early 1790s and so did not document Fort George activities. In the late fall of 1791 Mrs. John Graves Simcoe wrote that

We have a great many white fish, we all think them better than any other fresh or salt water fish. The sturgeons are five or six feet long. The 5th Regiment have caught 100 sturgeons and 600 white-fish a day in nets.
At the same time (1791-92) Captain Alexander Campbell of the 42nd Regiment commented:12

Near the fort [Niagara] saw 1000 mostly whitefish caught in a seine net; sometimes 6000 are caught in one day, fishing is from October to May; the troops and inhabitants have stated days.

Another traveler writing in November 1794 stressed not only the importance of fish but year-round fishing activity:13

The town of Newark ... plentifully supplies with fish at all seasons. In winter are caught with seines whitefish, from two to six lbs. weight, sturgeon, bass, salmon, in the creeks around the lake. They are not only a luxury but a great assistance to new beginners in supporting their families, many laying in a half dozen barrels for winter use.

The Duke de Rouchfoucault Liancourt visited Canada and stayed awhile with the Simcoes during the summer of 1795, adding this comment on the local fisheries:14

I helped one day at fishing with the soldiers, net 100 ft. long, four ft. deep, caught 500 fish, sturgeons, pikes, sunfish, salmon, trout, herring.

The soldiers at Niagara clearly were engaged in shallow water fishing, with nets, in a large way and probably used the fish as an important supplement to their otherwise monotonous diet. What happened to the fisheries and policy with respect to soldiers fishing, as time went on, remains to be determined. The next section will show that certainly someone did fish.
Faunal Remains at Fort George

Operation 1
The guardhouse excavations produced several thousand large mammal bone fragments. The great majority of these bones, here as elsewhere were presumably from domesticated species. In size the animals would have ranged from sheep/pigs up to cattle. The only numerous elements were articular ends and shaft fragments from long bones; ribs, and vertebrae. There were very few lower leg, sacral or scapular fragments, and almost no teeth, cranial or mandibular pieces. The bones themselves were almost never complete, instead in relatively small fragments seldom more than a few inches in length. The pieces resulted from both cuts and breakage, and the butchering marks were by cutting rather than by sawing. An absence of shaft cross-sections indicates that no one ate steaks or similar cuts.

The impression from this refuse was that the larger animals had already been slaughtered when brought to the site, at least to the guardhouse portion, and so relatively few "waste" parts of the animals were there to be cast into the refuse. This was expectable, based on the discussion in the first part. Also, the small size of the bone elements suggested that they were food refuse rather than butchering debris, which again is consistent. The elements present, however, show rather clearly that more than just quarters were being consumed; the deliveries must have included whole sides or even dressed carcasses.

A thousand or more fragmentary fish bones were also recovered from the guardhouse, principally from the northern half of the old occupation surface and below (Lots 19H1C4, 19H1C8). These were ribs and vertebrae, with a few other elements, and from fish in the size range of less than a pound to perhaps two pounds. We saw above that hundreds of
fish might be caught in a single cast of the net, so the numbers of fish bones recovered here may reflect only a small fraction of the fish actually consumed. Bones from birds and small mammals comprised a very low proportion of the total, probably no more than 1 - 2%.

Approximately 40% of the mammal bones came from the occupation surface and below within the northern half of the guardhouse area (Lots 19H1C4, 19H1C8), some 20% from the fill above (19H1C1), 30% from the general fill in trenching around or north of the building, and about 10% from the fill and occupation surface contexts south of the balk. The quantity from 19H1C8 and particularly from the depression, a great catch-all, must mean that bones had already accumulated on that level prior to destruction of the building. Presumably bone refuse was pushed through cracks between boards or knotholes.

Yet very few bones, perhaps two dozen in all, showed any charring and this was true even for the fish elements. The explanation may be that a heavy plank floor, and Vincent suggests two-inch pine, did not burn through in all places and rather protected what was beneath it where the floor held. The flooring and anything else usable from the structure were presumably ripped up and used in shoring the defences, for rebuilding somewhere else, or just for firewood, as of late May 1813. Such debris as lay on top of the boards dropped to the ground then when the planks came up, resulting in a mechanical mixture of old bones and whatnot else with newly burned debris. Some bone refuse in the fill may of course post-date destruction of the guardhouse.

The 19H1E2 structure which intruded in part into the old guardhouse produced relatively few bones; perhaps fifty in all from the excavation. Most of these were large mammal bones; a few from a large bird or birds.
Operation 2

With respect to Operation 2, the initial test trenches 19H2A through 19H2D contained but few bones, in total perhaps no more than 100. These were a constituent of the clean fill or construction debris deposited on that part of the site. However, the "1815 House" excavations - Sub-operations 19H2E and 19H2F - provided a faunal collection with another interesting story to tell.

Again there were probably several thousand large mammal bone fragments, from within and directly around the "1815 House" foundations as well as from the overlying fill. With some assurance we can assert that the species represented will again be mostly domesticated animals, in the size range from sheep/pigs up to cattle, plus small rodents such as mice, rats or gophers. Among the large mammal bone collection the same elements as in the guardhouse assemblage were predominant. Operation 2 did produce a slightly larger proportion of "waste" parts - mandibular, pelvic, lower limb bones, etc. Again there were few teeth. Except for elements below the tarsus and carpus, complete bones were rare. The fragments from Operation 2 were noticeably larger than those from the guardhouse. Breakage produced most of the bone separations; otherwise both sawing and cutting marks were in evidence. Shaft cross-sections, although infrequent, indicated some utilization of steaks and similar cuts.

A relatively small proportion of bird and small mammal bones, of unknown species, came from Operation 2 contexts. The greater part of these probably derived from rodents; the bones were often complete and included skulls, with three of the latter from Lot 19H2E5. Fish remains were negligible.

Distributionally, probably no more than 10% of the total bone in Operation 2 came from the two higher levels -
Lots 19H2E1 and 19H2E2. The balance was from the lower levels (19H2E3, 19H2E4) and the fill just outside of the foundation walls. There were two horse teeth from 19H2E3. Charred or burned elements seemed to be rare.

The overall impression given by animal bones from the "1815 House" excavations was one of intermediate butchering debris rather than refuse from direct food consumption. This was suggested by the size of the bone fragments and the low proportion of bones from "waste" parts of the animals. Also, in part because of their fresher appearance and the recent age of the 19H2 fill in general, it is most probable that these bones represent food consumption in Niagara-on-the-Lake or its environs rather than at old Fort George.

Operation 3
No more than fifty bones all told came from the old powder magazine excavations. Only large mammal bone fragments were present, most of these being rib and long bone members with several elements only from lower limbs and pelvi. Nearly all bones appeared to have been broken, in relatively large pieces as at Operation 2, with cutting and sawing marks rare beyond two shaft cross-sections. Again "waste" elements seemed to be rare, but the small total collection and proximity to an old powder magazine make any interpretation difficult. Perhaps the bones from this Operation were only food refuse of people who once dwelt in the magazine.

Operation 6
Finally, an estimated 500 bones were recovered from all contexts in the Operation 6 test trenches. Large mammals and probably domesticated ones were represented exclusively; again in sizes appropriate for a pig or sheep up to cattle. Most common elements continued to be long bone shaft fragments, the articular ends of same, and ribs, but now
lower limb bones probably outnumbered vertebrae. At least half a dozen teeth were derived from cattle and one from a horse. Otherwise few fragments or whole bones denoted "waste" parts of animals. As to size, the fragments seemed to be a combination of larger and small pieces, though again few bones except those below the tarsus and carpus were complete. Bone separations in all contexts were nearly all in consequence of breakage and cutting. Neither small mammal or bird bones constituted a noticeable proportion.

Despite its small volume, Lot 19H6A4 alone provided an estimated 80% of all faunal remains from Operation 6. The only consistent difference between bones in this Lot and those found in other contexts was the absence of saw marks on 19H6A4 materials. The ceramic date for Lot 19H6A4 indicated an association with the first Fort George, but as a collection these bones showed a greater proportion of large fragments as compared to those from the guardhouse, and no charring or burning was evident. The elements present in 19H6A4 can be interpreted as the delivery of sides or dressed carcasses and not solely quarters, as we saw before for the guardhouse collection.

The frequency of elements, size and treatment of faunal remains from Operation 19H6 suggested that these represent a combination of intermediate butchering debris and food consumption remains. The animals were certainly slaughtered and dressed prior to their arrival on site. This interpretation would obtain for all of the Operation 6 remains, although the recent date of deposit for the uppermost three feet of fill means that the animal remains found there may have been transported in - as remains - from elsewhere.
Other Remains

Additional foodstuffs at Fort George were poorly represented by archaeological finds. Peach pits, some charred, came from several contexts inside the old guardhouse foundations (Sub-operation 19H1C) and also from Lot 19H3A2 by the powder magazine. Eggshells too were observed and recovered, albeit in small pieces, from the guardhouse interior again and from at least six contexts inside the "1815 House" foundations, among these three postholes.

Faunal Remains at Other Military Sites

Cleland noted the quantity of animal bone from the storage basements, converted into refuse pits, found beneath both the French and British-period houses at Michilimackinac. Grimm found this situation also at Fort Ligonier, in the one house with a storage cellar excavated there, while Olsen's Valley Forge and Morristown samples came from the fireplace sites of the huts. The first two sites were at least built as permanent garrisons and, although storage cellars are thus far lacking at Fort George, the animal bone from floor-level contexts in the guardhouse presents a similar depositional situation.

Several other historic fort reports show that cultural implications may be derived from patterns of bone deposition. At Fort Fillmore, Parmalee inferred from the absence of skull and lower limb elements that cattle were slaughtered elsewhere, a situation like that at Fort George. On the other hand, nearly all bones of the sheep turned up at Fort Fillmore. Guilday found most or all elements of the cow at Fort Ligonier, a situation also reported by Parmalee for Fort Loudoun, and in these cases either a supply of live cattle or the maintenance of herds can be documented. Most interesting were the findings at Valley Forge and Morristown, where nearly all of the bone fragments came from areas of
the animal usable, as soup bones or normally designated as scrap. These soldiers may have been better nourished even so than had they relied upon cuts of lean meat from the scrawny animals available.

In comparison with soldiers' fare at several other posts and camps, at least the portion that came as fresh meat, it appears that Fort George troops ate well. Their cuts were good and came to the post kitchens already dressed, as indeed would be anticipated for a garrison post. How often fresh meat came around is another question, one for which we presently have no answer.

Foodstuffs and Faunal Remains
1 Yvon Desloges, op. cit., p. 54.
3 Yvon Desloges, op. cit., p. 54.
4 Public Archives of Canada, RG6, Vol. 109, p. 86.
6 Yvon Desloges, op. cit., p. 54.
7 Niles' Weekly Register, 19 June 1813, p. 260.
9 Yvon Desloges, op. cit., p. 54.

13 Ibid., p. 41 (Anonymous).

14 Ibid., p. 42. Duke de Rouchfoucault Liancourt

15 Elizabeth Vincent, op. cit., pp. 29, 87.


20 John E. Guilday, op. cit.

21 Paul W. Parmalee, op. cit., p. 43-44.

Summary

The 1973 archaeological program answered the questions posed at the beginning of the field season, as listed on page 5. The first day of field work showed that archaeology was feasible and saw one of the old fort buildings, the original guardhouse, located. A subsequent attempt to find another original building, Blockhouse No. 1, did not succeed. We cannot predict that remains of other structures will be found, without actual excavations, and their remnants could even be covered over by the modern reconstructions. The northeastern side of the site area does have a substantial overburden of fill, some of it very recent, but elsewhere the disturbed level may extend no more than one foot beneath the surface.

The building foundations excavated as Operation 1 were those of the original guardhouse. The evidence at hand supports this correlation and nothing contradicts it. Width of the building was greater than expected, and this may mean nothing more than a transcription error in a contemporary document. Very little could be learned as to interior arrangements, due probably to any usable construction materials having been salvaged after the building burned. Pedestals along the northeast (front) wall were probably to support the joists under a porch floor, but nothing to underlie the opposite ends of the joists could be found.

The stone powder magazine is substantially an original building. Unfortunately concrete shoring masked the lower wall foundations everywhere but in one corner, and concrete slabs lay beneath the stone buttresses. This concrete work and the buttresses as well are probably no older than the 1930s. There were no other evidences below ground for
alterations or additions that affected the building. A very rotten board floor by the northeast end lay in the grassroots level and probably marked a shed location. Shallow fill around the magazine graded to undisturbed sediments within a foot of the surface.

Finally, upon the basis of Ronald Way's information and maps from the reconstruction period, we located and excavated the stone foundations where the "1815 House" superstructure had originally rested. The age and origin of this little house are not completely settled, however. Through a combination of oral history, cartographic arguments, archival and archaeological research, the best present explanation for these foundations is that they were originally for a building erected in 1814, a unit of the third Fort George. This is an interpretation which in our present state of knowledge leaves the smallest residue of contradictory evidence; it is not necessarily the only or even the correct interpretation. Suggestions for further research made on page 70 may or may not lead to an eventual solution of this building's original identity.
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Fig. 2 Operation 1 building (the old guardhouse), excavated to the occupation surface. View facing southeast. (19H-130X)

Fig. 3 Operation 1 building (the old guardhouse), excavated to the occupation surface. Intrusive trench 19H1C6, excavated, in near part of building. View facing northwest. (19H-126X)
Fig. 4 Operation 1 building (the old guardhouse), a section of the northeast wall including a pedestal. View looking down and towards the southwest. (19H-66 X)

Fig. 5 Operation 1 building (the old guardhouse), a section of the northeast wall, showing the gravel stratum in the profile of the clearance trench. View facing west. (19H-47 X)
Fig. 6  Brick and mortar feature on the occupation surface, intrusive trench 19H1C6, in eastern part of the Operation 1 building (the old guardhouse). View facing southeast (19H-160 X)

Fig. 7  East corner of the Operation 1 building (the old guardhouse), including two pedestals. Note intrusive trench 19H1C9 adjacent along the exterior. View facing southwest. (19H-68 X)
Fig. 8 North corner of the Operation 1 building (the old guardhouse), showing the disturbed area immediately southeast, and the top of the brick fireplace subsequently excavated in 19H1E2. View facing southwest. (19H-140 X)

Fig. 9 The 19H1E2 excavation, showing internal features and location relative to both the old and new guardhouses. View facing southeast. (19H-283 X)
Fig. 10 The 19H1E2 excavation, showing internal features and location relative to both the old and new guardhouses. View facing northwest. (19H-260 X)

Fig. 11 Brick fireplace and hearth in west corner of the 19H1E2 excavation. View facing west. (19H-241 X)
Fig. 12 Detail of the fireplace, and portion of the hearth, in west corner of the 19H1E2 excavation. View facing west. (19H-270 X)

Fig. 13 Remnant of a brick accessory feature (?), in the pit wall south of the fireplace. Note proximity of the 19H1E2 features to the level of undisturbed yellow sand. View facing south. (19H-265 X)
Fig. 14 Northeastern and northwestern sides of the old powder magazine at Fort George. Camera facing south. (19H-18 X)

Fig. 15 Concrete shoring along the southeast wall of the old powder magazine, with exploratory tunnel beneath. View facing northwest. (19H-363 X)
Fig. 16 Northwestern side of the old powder magazine, with Sub-operation 19H3A excavations completed. View facing southeast. (19H-454 X)

Fig. 17 Base of the central buttress, northwestern side of the old powder magazine. Note concrete slab beneath the buttress, re-excavated builder's trench around slab, and stone debris adjacent. View facing east. (19H-407 X)
Fig. 18 Angle between northwest wall and southwest buttress of old powder magazine. Fill soil removed and builder's trench along buttress partially re-excavated; stub of creosoted beam visible in trench. Stone debris not yet removed. View facing southeast. (19H-427 X)

Fig. 19 Angle between northwest wall and southwest buttress of old powder magazine, with stone debris removed. Stone foundations, apparently original ones, visible here due to shortfall of concrete shoring. View facing south. (19H-453 X)
Fig. 20  Rotten board remains just below the present ground surface, by the northeast wall of the old powder magazine. View facing southwest. (19H-378 X)

Fig. 21  Area of the southwest buttress, northwestern side of the old powder magazine. Note concrete slab beneath the buttress, re-excavated builder's trench around slab, and stone debris adjacent. View facing southeast. (19H-455 X)
Fig. 22 The area, behind Blockhouse No.1, where the "1815 House" foundations were excavated. Superstructure of that house visible near right margin of photo. View facing west-northwest. (19H-203 X)

Fig. 23 Brick and stone rubble, intentionally deposited on this part of the site, as revealed in an Operation 2 test trench (19H2D). View facing southwest. (19H-253 X)
Fig. 24 The "1815 House" foundations west of the balk, excavated through the second level (19H2E2). Note the stone construction debris within and without the foundations. View facing southeast. (19H-366 X)

Fig. 25 Northwestern end of the "1815 House" foundations, with iron grill and most of the fireplace support structure visible. Note the finished interior of the southwest wall. Superstructure of the house in the background. View facing northwest. (19H-473 X)
Fig. 26 Overall view of the excavated "1815 House" foundations. Facing southeast. (19H-615 X)

Fig. 27 Northwestern half of the excavated "1815 House" foundations. Top of the photo is to the southwest. (19H-526 X)
Fig. 28  Foundations for the "1815 House" excavated in the foreground; superstructure for that house in the background. View facing northwest. (19H-532 X)

Fig. 29  Depression (19H2E8) in the west corner of the "1815 House" foundations, between the fireplace support structure and the southwest wall. View facing northwest. (19H-523 X)
30 Layout of former caretaker's (Robert Reid) residence complex at Fort George, prior to reconstruction. Tracing from topographic map cited as "John's map". "1815 House" incorporated into Old House shown above.
(19H-74-102-14)
31 Internal layout, room functions and some furniture positions in main residential building ("Old House" in Fig. 30) of former caretaker's residence complex, Fort George. Based on sketch by Mrs. Dorothy Riches, N-O-T-L and interviews with her, Sept. 21-22, 1973. (19H-74-102-13)
Fig. 32 Profile of the southeastern wall of test trench 19H6B. View facing south-southwest. (19H-599 X)

Fig. 33 Remains of a plank floor or ? near the southeastern end of test trench 19H6A, 1 ft.† below the present surface. View facing east-southeast. (19H-483 X)
Fig. 34 The brickwork in Lot 19H6A4, ca. 4.5 ft. below the modern surface in the south­eastern half of test trench 19H6A. View facing southeast. (19H-503 X)
35 Operation 1 building foundations (19H-74-102-1).
RECONSTRUCTED GUARDHOUSE

DISTURBED AREA

SECTION A-A

LEGEND

STONES
UPPERMOST BRICK LAYER
2nd LAYER BRICKS
3rd LAYER BRICKS
4th LAYER BRICKS
5th LAYER BRICKS (FIREBED)
6th LAYER BRICKS
7th LAYER BRICKS (HEARTH)
BRICKS UNASSOCIATED WITH FIREPLACE
GRAVEL
UNEXCAVATED FILL
BOARD FRAGMENTS

SECTION B-B

PLAN AND SECTIONAL VIEWS, 19thCIE.
SEMI-SUBTERRANEAN ROOM WITH FIREPLACE INTRUSIVE INTO NORTHEAST CORNER OF OPERATION I BUILDING.
PROFILE F-F, SOUTHWEST FACE OF TEST TRENCH 19H3C.

PROFILE E-E, SOUTHEAST FACE OF BALK, TEST TRENCH 19H3B.

LEGEND

1. SOD AND TOPSOIL
2. CONCRETE SHORING
3. BUILDER'S TRENCH
4. DECAYED BOARD FRAGMENTS
5. FILL (SAND) WITH CHARCOAL AND MORTAR FRAGMENTS
6. CLAY WITH OCCASIONAL MORTAR INCLUSIONS
7. SANDY SILT
8. SAND
9. CLAY
10. GRAVEL

LIMITS OF EXCAVATION
APPROX. LEVEL OF BOARD FRAGMENTS
STONES

STONES
FORT GEORGE NATIONAL HISTORIC PARK
(SITE 19H)
NIAGARA-ON-THE-LAKE, ONTARIO
OPERATION 2 BUILDING FOUNDATIONS, EXCAVATED JULY-AUGUST 1973

LEGEND

- LIMITS OF EXCAVATION
- CEMENT MORTAR
- BOARD FRAGMENTS
- STONES
- POST HOLES
- EDGE OF DEPRESSION/TRENCH
- INTERIOR WALL FINISHED

82.0 FT. DATUM TO SE CORNER "IBIS HOUSE"
76.0 FT. DATUM TO SW CORNER "IBIS HOUSE"
58.7 FT. DATUM TO GRID POINT C6

66.5 FT. DATUM TO GRID POINT C6

RECONSTRUCTED BLOCKHOUSE No. 1
SECTION B-B. Northeast face of balk, showing fill conditions within the building foundations

OPERATION 2 BUILDING FOUNDATIONS
CROSS-SECTIONS

SECTION A-A. Sectional view through northwest part of building foundations

LEGEND

--- --- LIMITS OF EXCAVATION ///
\--- \--- GRAVEL
\---- \---- LT. BROWN SANDY FILL
\---- \---- STONES

/\/// A FOUNDATION WALLS
\---- \---- NATIVE SAND (UNDISTURBED)
\---- \---- WOOD
\---- \---- BRICKS

0 2 4 6 8 10 12 14 16 18 20 FT.

SECTION C-C. Southwest wall and native sand surface

SECTION D-D. Southeast wall, fill and native sand surface

(19H-74-102-12)
OPERATION 2 BUILDING
FIREPLACE SUPPORT STRUCTURE

ELEVATION, SW FACE, WITH SECTION OF ADJOINING FOUNDATION.

LEGEND

- - - - - LIMITS OF EXCAVATION

[Diagrams showing iron grill, fill, rubble, sand, mortar, gray sand, reddish sand, and elevation, NE face, with section of adjoining foundation.]

0 1 2 3 4 5 6 FT.

(19H-74-102-9)
ENLARGED DETAIL, SOUTHEASTERN END OF 19H6A, SHOWING ARRANGEMENT OF BRICK FRAGMENTS & LARGER ARTIFACTS AT BASE OF EXCAVATION.

LEGEND

--- LIMITS OF EXCAVATION.

• STONES

• BRICKS

OPERATION 6 TEST TRENCHES, ADJACENT TO RECONSTRUCTED BLOCKHOUSE No. 1

(19H-74-102-10)
PROFILE, NORTHEAST FACE OF TEST TRENCH 19H6A

LEGEND

1. SOD AND TOPSOIL
2. COARSE GRAVEL
3. GRAY SANDY FILL
4. HARD-PACKED, PINKISH SANDY FILL WITH MORTAR AND BRICK FRAGMENTS
5. YELLOW SAND
6. DARK BROWN ORGANIC SOIL WITH DECAYED WOOD
7. PINKISH SANDY FILL
8. COAL ASH
9. HARD-PACKED, BROWN SANDY FILL WITH MORTAR AND BRICK FRAGMENTS
10. NATIVE SAND (UNDISTURBED)
11. UTILITY TRENCHES

LIMITS OF EXCAVATION

WOOD

STONES

BRICKS

NATIVE SAND (UNDISTURBED)

MAJOR STRATIGRAPHIC DIVISION

PROFILE, SE 5 FT. ONLY, SOUTHWEST FACE OF TEST TRENCH 19H6A

45 ...

(19H-74-102-4)