FORT GEORGE ON THE NIAGARA:
AN ARCHAEOLOGICAL PERSPECTIVE

JOHN P. WILSON
LINDA D. SOUTHWOOD

NATIONAL HISTORIC PARKS
AND SITES BRANCH
PARKS CANADA
DEPARTMENT OF INDIAN
AND NORTHERN AFFAIRS

DIRECTION DES LIEUX ET DES
PARCS HISTORIQUES NATIONAUX
PARCS CANADA
MINISTERE DES AFFAIRES INDIENNES
ET DU NORD
Abstract

The National Historic Parks and Sites Branch sponsored archaeological investigations at Fort George National Historic Park, Niagara-on-the-Lake, Ontario, during the summers of 1973 and 1974. Documents and maps indicated a sequence of three wooden forts at the site; the first from 1796 until 1812 or 1813, a second during the War of 1812, and a third from 1814 until the mid-1830s at the very latest. Research goals included determining the feasibility of archaeology, excavating several specific structures, and either finding the locations of other fort remnants or showing that no traces survived. Information from this work would be used when further reconstruction became advisable.

Identifiable remains from the original fort were the guardhouse foundation, masonry powder magazine, a partial foundation from one blockhouse, and some smaller features. Of the other major buildings nothing remains. Nothing specific could be identified for the second, smaller fort. From the third fort there was a filled-in fortification ditch, segments of which were traced, two barracks, several small features, and one masonry foundation that may have originated as a third fort unit. By integrating archaeological and historical information, a map showing the superposition of the pre- and postwar forts has been constructed and from this additional interpretations of the site history can be made. Extensive test trenching for a new water-line route revealed the stratigraphy and some features beneath parts of the parade ground.

Artifacts from significant contexts have been identified and listed in tables. A model for the progressive discard of butchering debris and food scraps is proposed and tested against the collections from Fort George.

Submitted for publication 1975, by John P. Wilson, New Mexico State University, Las Cruces, and Linda D. Southwood, University of Calgary, Calgary.
Sommaire

Les fouilles archéologiques faites au fort George sur le Niagara près du lac Ontario s'inscrivent dans le cadre du programme de recherche sur l'histoire et l'aspect primitif de ce poste militaire anglais de la fin du XVIIIᵉ siècle et au début du XIXᵉ, dont elles visaient à trouver les vestiges des bâtiments originels. Le présent rapport porte sur les découvertes archéologiques, qu'il s'agisse des fondations et des vestiges antérieurs à la guerre de 1812 ou des ruines postérieures à ce conflit. Leur interprétation, voulue aussi exacte que possible, ne se fonde pas uniquement sur l'archéologie, mais fait aussi appel à l'histoire. Une tentative de retracer l'architecture d'un vestige brûlé s'est faite à partir des clous livrés par les fouilles sur son emplacement. Les données sur les autres artefacts, ceux appartenant aux contextes les plus significatifs, sont présentées sous forme de tableau, tandis que l'analyse des vestiges fauniques est abordée sous l'angle des techniques de débitage des animaux et des habitudes alimentaires.

Il y eut trois forts George, tous trois exécutés en bois, sauf leur poudrière. Le fort antérieur à la guerre de 1812 n'a laissé de vestiges que la fondation du corps-de-garde, la poudrière en pierre, une partie de l'assise du fortin et d'autres petits éléments. Le niveau du sol n'ayant pas beaucoup changé depuis cette époque-là, les autres constructions importantes du fort ont complètement disparu, surtout en raison des diverses reconstructions. Cependant, il s'en trouve peut-être encore quelques-unes d'enfouies à faible profondeur. L'architecture de second fort, construit durant la guerre de 1812, nous est difficile à concevoir, car les fouilles ne nous ont pas fourni le moindre indice précis à ce sujet.

Quant au troisième fort, celui de l'après-guerre, il tomba rapidement en ruines, mais certaines parties de son fossé ont été découvertes et dégagées. Les planchers de tous ses bâtiments auraient été construits sous le niveau du sol à l'époque et comme ce dernier s'est quelque peu élevé depuis, des bas de murs et des planchers pourris ont survécu. Nous avons trouvé et dégagé une fondation de pierre intacte qui aurait été celle d'un bâtiment du fort, construit en 1814 ou 1815. Les tranchées de sondage ont permis de trouver l'emplacement de deux casernes de la même époque.
La carte montrant la disposition des constructions des deux forts successifs constitue un précieux outil d'interprétation des vestiges archéologiques. Cette carte révèle également que la plupart des reconstructions modernes se trouvent, en entier ou en partie, sur le site des bâtiments authentiques. Impuissante à compléter nos connaissances de la première fortification, l'archéologie pourrait fort bien nous fournir de précieuses données sur l'établissement militaire d'après-guerre.
Acknowledgements

Numerous individuals and several organizations helped to make the Fort George investigations successful. Heading this list are the assistants and students who formed the archaeological staff; they did the recording, mapping, artifact processing and much of the excavation. Lawrence R. Duncan, the site assistant for both seasons, also wrote early drafts of the chapter on the privy. In 1974 James M. Calder served as a second site assistant, while Gwen Andrews was a field assistant during 1973. The two field assistants in 1974, both for part of the season, were James Tillotson and Louise MacGregor. Students, who worked as additional assistants, consisted of Shelagh MacLeod, Pat Collins, Louise MacGregor and James Tillotson in 1973, while Linda Southwood, Robert G. Mayer and Pamela Willoughby comprised the 1974 members. Locally-hired workmen, four to six of them in 1973 and upwards of ten during 1974, rounded out the field crews.

For many courtesies during our two summers we have to thank the superintendent at Fort George, Walter Haldorson, and his two principal staff members, John Newman and Marjorie McQuade. The local utility, Niagara Hydro, loaned us their truck-mounted extension ladder on several occasions; this proved indispensable for overall photographs of completed operations. Recollections by two former inhabitants of the old house, Mrs. Dorothy Riches and Mrs. Audrey Buckley of Niagara-on-the-Lake, provided much valuable information on that building. For additional information gathered while in the field we also have to thank the staffs of the Niagara Historical Society and the Buffalo and Erie County Historical Society.

Interpretation of this site leans heavily upon historical sources. We sincerely acknowledge Mr. Ronald Way's assistance in historical matters. The breadth and depth of research by historians Carol Whitfield, Elizabeth Vincent, Yvon Desloges, David McConnell, Margaret Coleman and Marianne McLean, all with the Historical Research Section of the National Historic Parks and Sites Branch during the period of this project, will be apparent as the reader progresses through this report.

Before artifact analysis could proceed it was necessary for the objects to be processed by the department's
Conservation Division. For expedient handling of our finds and most especially for their cleaning and stabilization of the metal objects, we have to thank Brian Arthur, Elizabeth Mibach, Jan Schaeffler, and their supporting staff. Artifact identifications and table compilations are almost entirely the authors' own work, but depended upon assistance and advice from Peter Priess, Dorothy Griffiths, Lynn Sussman and Olive Jones of the Archaeological Research Section; from Barry Rich of Interpretation Division, and from Ronald Peck of the Restoration Services Division.

Expertise from outside the department was required for the faunal and floral identifications. Anne Rick, Head, Zooarchaeological Research Centre, National Museum of Natural Sciences, studied the rather scrappy bones from the guardhouse excavations and briefly examined remains from other selected contexts. Her identifications gave us the basis for a chapter on foodstuffs and faunal remains. Dr. Vera Reynolds, then of the Seed Biology Laboratory, Agriculture Canada, identified the peach stones and other floral collections. Personal communications from Dr. Paul W. Parmalee, University of Tennessee; Dr. Stanley J. Olsen, University of Arizona, and Ronald R. Switzer, now superintendent of Mesa Verde National Park, all helped to clarify the discussion of salt pork.

For advice on architectural matters, in a practical as well as a historical sense, we have to thank Guhar Shemdin, assigned as architect to Fort George during the period of this project, and Ronald Peck, both of the Restoration Services Division. For comparative observations on an excavated blockhouse at Fort St. Joseph we are indebted to Karlis Karklins and Ellen Lee of the Archaeological Research Section.

All photographs, except Figure 27, from the collection of historic photos in the Historical Research Section, were taken by one or another of the listed members of the excavation teams.

As-found recording teams from the Restoration Services Division were present for several weeks each summer. Their graphic recording, particularly that done in 1974, helped to ensure accuracy in the archaeological maps and profiles. Figures 21, 22, 54, 57, 82 and 84 have been traced in part or whole from drawings by the as-found recording teams. Figures 87 and 88 were drafted by Steve Epps on the basis of plans dating from the 1930s and information from Mrs. Riches. Figures 3 and 6 have been redrafted from plans by engineers of the Ontario Region office of the Department of Indian and Northern Affairs. Final drafting of the other line drawings, based on the field drawings by various archaeological staff members, was the work of Dorothy Kappler and Karen Gillies, also of the Archaeological Research Section, whose labours provided a better account of Fort George than would thousands of additional words.
Introduction

In 1796 the British garrison abandoned Fort Niagara, at the juncture of Lake Ontario with the Niagara River, and established Fort George as the military headquarters for Upper Canada. The new location lay along the west, or Canadian, side of the same river, about one mile above Lake Ontario and only 1,300 yards from the post just vacated (Figs. 1, 2). An intervening plain separated Fort George from the budding community of Newark, which had been the capital of Upper Canada until the year before. Newark has become Niagara-on-the-Lake, but this part of Ontario and adjacent New York state are still known as the "Niagara frontier."

Fort George remained an administrative centre and garrison post. The number of log buildings within its stockade gradually increased until the War of 1812 set the whole frontier aflame. The site was greatly altered during that war, with the addition of at least one new set of earthworks and later a series of log buildings. Fort George held its administrative role until 1826, by which time the war-built structures lay in ruins and the focus of army activities had shifted to other points in the town. The military retained the fort site and adjacent reserve lands well into the 20th century, for use mainly as a summer training camp. Niagara-on-the-Lake has increased in size until it now adjoins the northern end of the park property.

In 1934 the Niagara Parks Commission leased the old fort property; between 1937 and 1940 the commission and the Province of Ontario sponsored a reconstruction of Fort George to represent its pre-War of 1812 appearance, based upon available information (Fig. 3). It is this reconstruction, except for the original stone powder magazine, that one sees there today. Since 1969 Fort George has been a national historic park, administered by Parks Canada, Department of Indian and Northern Affairs.

The Natural Setting

The location selected for Fort George lay along the top of an indented bluff, some 100 to 200 yards west of the Niagara River and about 294 ft. above sea level (ASL), 49 ft. above the mean level of Lake Ontario. The Niagara Escarpment, most prominent geological feature in this part of Ontario, is some 6.5 miles to the south. The sedimentary rock
formations there were utilized as a source of foundation stone and lime. North from the escarpment surface the strata become an interbedded series of sand, silt and clay deposits from the late Wisconsin glaciation, with Queenston Shale bedrock at a depth of 60 ft. or less around Niagara-on-the-Lake. Within the present fort confines, the finer glaciofluvial sediments extend down to a gravel stratum at about 279.5 ft. to 281 ft. ASL., as found around the powder magazine. Surface drainage is excellent; the water table inside the fort stood at 5 ft. below the surface as of June 1974. A spring issues from the hillside about halfway down the slope to the east.

Almost 180 years of occupation have seen the natural landscape around Fort George altered by urban encroachment, several roadways and two parking lots. However, if one looks toward the west or south, a description probably penned by an American scout in the summer of 1812 holds well today: "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."1

Extensive testing several hundred feet west of the fort revealed a well-developed natural soil profile, with heavy sod 0.5 ft. to 0.75 ft. thick and "A" horizons which extended approximately 2 ft. below the surface. The present surface within the fort confines is recent, an artifact of the 1937-40 reconstruction, although discontinuously beneath this level one finds a gently rolling surface with a well-developed profile. This last is the ground surface prior to the reconstruction of the late 1930s.

Between 1788 and 1792, Captain Gother Mann of the Royal Engineers wrote reports favouring the site of subsequent Fort George as a suitable location for a military reserve and post.2 His recommendations plus the existing government buildings at Navy Hall may have led to the selection of the heights behind Navy Hall. Mann perhaps was the only person, not merely the first, to assert the defensibility of this position. Prewar plans show little evidence for defensive considerations in design of the fort, which is not inconsistent with Fort George's primary intended role as an administrative headquarters. By the War of 1812, however, both British and Americans were well aware of the post's deficiencies in location and construction if it were subjected to an attack.
The Research Program

A need for information arose in early 1972 when stabilization or replacement of the present Fort George guardhouse came under discussion. The result was a program of historical and archaeological research by the National Historic Parks and Sites Branch. Until research findings became available, no means existed for deciding whether the modern units were acceptable as replicas and might be retained, or should be replaced in the interests of authenticity.

General studies of the fort and the town had already been compiled. In 1970, during excavation of the old commanding officer's house (site 12H) about one-half mile further west, some minor test excavations inside the fort preceded installation of a new utility system. William Trow Associates of Hamilton conducted soil borings within the fort grounds in an attempt to determine the depth of overburden and level of undisturbed soil beneath. Historians Elizabeth Vincent and Yvon Desloges, of the department's Historical Research Section, elucidated the first Fort George guardhouse and the structural history of the post in general. David McConnell subsequently continued research on the post's history, particularly during the postwar years, as an aspect of his studies on a complex of Niagara Frontier historic sites. Throughout the historians' work their efforts were coordinated and augmented by Carol Whitfield.

Archaeological investigation, another aspect of the research, had several goals outlined for it at a departmental coordinating team meeting in early June 1973. It was hoped that the program for 1973 would answer several questions: 1) Was archaeological work feasible at Fort George; did anything remain of the old fort buildings? 2) Could a foundation for the original guardhouse be located and if so, what might be learned concerning its size and construction, and materials used in this building? 3) The stone powder magazine, believed to be an original building, was to have its substructure investigated. This was to determine whether accessory buildings might once have been attached and whether the building itself rested upon the original foundation or otherwise showed signs of alterations. 4) The two-room frame structure variously called the museum, 1815 House and Brock House (Fig. 3) was something of an enigma. If its original location could be found, what might excavations
reveal concerning the age, origin and nature of a little house that hardly seemed to be a military building, local legends notwithstanding?

The excavation objectives were met during the summer and the findings presented in a report written during the spring of 1974. Artifacts were given only cursory study then, due to a shortage of time. Answers to the original questions were not always definitive or varied from what might have been anticipated.

A 1974 archaeological program then undertook to investigate remaining areas within the fort grounds where buildings had once stood and to determine the depth, extent and nature of any remains. With this information, estimates of time and costs could be prepared for undertaking complete excavations whenever these might be desired. Conversely, the 1974 testing also sought to establish which historical units now have no extant traces, or where the latter may be covered by the modern counterparts. Finding a water-line route that could cross the parade ground without crossing any building foundations also became a major, unplanned, summer project. These goals were substantially achieved and a half-dozen or so unexpected features saw partial or complete excavation. The present report is a final one on the two seasons of work.

Field and Laboratory Procedures

The 1973 field program extended from early June through mid-September; the 1974 one from the end of May to the end of August.

Personnel from the Historic Extant Recording Section, Restoration Services Division, Department of Indian and Northern Affairs, established a 100-ft.-interval system of grid lines within the fort interior and engineers from the Ontario Region office of Parks Canada subsequently marked the intersection points with rebar stakes (Figs. 3, 4). This universal reference framework served both groups and allowed locations of archaeological operations to be expressed with reference to grid intersection points. The Historic Extant Recording Section installed two concrete monuments as permanent ASL references (Fig. 3).

Nomenclature of the excavation units followed requirements of the Archaeological Research Section, National Historic Parks and Sites Branch.7 The term "operation" generally designated a separate historical building or a major testing project. Of 19 operations in all, six numbers were assigned in 1973 and the remainder during 1974. "Sub-operations" then became convenient subdivisions, such as single test trenches and the interior versus the exterior of a structure. The finest subdivision, the "lot," comprised
the working level of observation and description. As potentially significant units, lots might be levels in a test trench, intrusive features, occupation surfaces, post holes, and frequently even whole test trenches when these were seen to be of little historical significance or had encountered undisturbed sand at shallow depths. The limits of features - horizontal as well as vertical - were chosen as lot boundaries in preference to arbitrary or metric limits when any occasion for a choice arose. The site as a whole bears the number 19H.

Excavation normally proceeded with pick, shovel and trowel. With care it was quite possible to recover straight pins and fingernail-sized sherds by trowelling, without using a screen. A trial of screening the fill from behind the officers' quarters, over a period of several days, indicated that little if anything was being recovered to justify the extra effort. At the other extreme, a backhoe cut 6,030 lineal ft. of test trenches 2 ft. in width through an area outside of the fort proposed as a parking lot, and another 1,140 lineal feet of trenches across the parade ground inside of Fort George. These trenches were dug to provide clearance for construction, with most trenches being recorded as a single lot within one suboperation. Apart from fulfilling their purpose of clearance, the trenches within the fort opened good sections through the cultural and natural strata beneath the present surface (see "The Water-line Test Trenches").

The archaeological staff did its own mapping in the field as well as making the profile drawings. Historic Extant Recording Section personnel were present for several weeks both seasons and recorded the stone masonry construction, exclusive of the drain. Two plans were redrawn from plans by engineers from the Ontario Region office of the Department of Indian and Northern Affairs. For all other line drawings, the bases are the archaeological records.

Washing, sorting and bagging artifacts by type took place in a field laboratory, with more careful examination done later.

Project staff had little time during the summers for research other than the archaeological excavations. Persons who could recall the Fort George site prior to its massive alteration in the late 1930s were already quite scarce, but five older Niagara-on-the-Lake residents made themselves available for interviews. David McConnell subsequently conducted taped sessions with two former inhabitants of the old house, Dorothy Riches and Audrey Buckley (see "The Old House"). These two ladies provided the key to our understanding of the excavations at that structure's original foundation. Surprisingly, the Niagara Historical Society collections had almost no information concerning Fort George.
The Buffalo and Erie County Historical Society library has in its comprehensive card catalogue several dozen Fort George entries, not all of which could be examined during the one visit there. Their library also holds a run of the Buffalo Gazette newspaper for the War of 1812 period.

Subsequent to both field seasons the senior author carried on historical research, to supplement that of the historians, involving work with both primary and secondary sources. The expectation was that much more could be learned about Fort George by using the historical record to elucidate the archeological one and vice versa, rather than treat the two as separate activities and include artifact descriptions as a major feature of the archaeologist's final report. In our opinion the fruitfulness of this approach has been borne out and the artifacts are described and discussed in tables insofar as possible. While other historical leads could be pursued, it is clear that the most relevant primary sources for structural information have been identified by Desloges and Vincent, as well as Marianne McLean and Margaret Coleman, and that this documentation is found principally in the Public Archives of Canada with important maps in the British Museum.

With respect to artifacts from the excavations, only Ordnance materials have been studied completely - from all proveniences. This is largely due to a preference of the senior author, and also because unusual opportunities for interpretations arose. Otherwise, the two continuing project members decided which contexts (lots) seemed to contain materials in primary association with their levels or other features, and selected those contexts for study.

The remaining lots, those whose contents were a mixture of old and recent materials, or which had nothing to indicate association with the military occupation, were set aside for future reference if needed. In consequence, approximately two-thirds of the artifact collection remains unstudied since to do so would tell us virtually nothing more about Fort George.
Historical Background

The departmentally-prepared general and structural histories of Fort George greatly simplify requirements for a historical background; however, selected aspects of the post's history, particularly what happened during the War of 1812, bear on subsequent interpretations and are appropriate for discussion here.

Original sources in the form of material lists, estimates, plans for the site and even individual building layouts are relatively abundant. During the War of 1812 and especially in 1812-13, numerous letters, reports and newspaper articles were generated that tell us what went on at Fort George, if not so much about how its appearance changed. Before and after that war, information is again largely derived from routine military estimates and reports. Several dozen diaries, reminiscences and travel journals by both military men and civilians have been perused; these mention Fort George but rarely give more than passing comments. Drawings and photographs of the old powder magazine extend back to the mid-19th century and several informative paintings were made prior to 1812. Maps, most of which originated with the Royal Engineers, form a good sequence from 1790 through 1853. After 1853 there are few maps and it becomes difficult to trace older structures as continuing or new ones being created on the site. Photostats of the historic maps were at hand during the field work as well as afterwards.

It is the contemporary maps, used with care and with supplemental documents, which can provide the archeologist with his best guidance on where to excavate and what he may anticipate. Six plans, three of them almost identical and all drawn between 1799 and 1810, show the layout of the first Fort George. There are in addition plans and elevations for several major buildings. These maps agree well with one another as to the size and placement of the principal structures; they are scaled and most were presumably based on surveys. At variance is an 1810 plan which features two additional barracks (?) and no guardhouse. The 1799 maps may be the most accurate ones.

Cartographic evidence and contemporary reports show that major construction of the first Fort George took place between 1796 and 1800. Walls at least were of log construction, except for the stone powder magazine, and Desloges...
included all available details. The consensus of evidence is that prior to 1812 the post had a single set of buildings and that these were altered only through repairs and the addition of a few more structures. It is this first period that the modern reconstruction is intended to represent.

By June 1814 there was a different Fort George on the same site. What had happened over the previous two years is not so clear. British records from the summer of 1812 make it clear that the place was being strengthened. On 13 October 1812, while the Battle of Queenston Heights echoed some six miles to the south, American batteries in Fort Niagara and at a second position poured hot shot into Fort George and the vicinity. Reports on this action agree that several buildings in Newark and at least one detached military structure burned down, but all fires inside Fort George were extinguished. On that day Fort George could return the hostile fire with shells but not with hot shot, "owing to the want of furnaces on our side." Again, on 21 November, the two forts exchanged bombardments. This time, "About eleven o'clock the old building at Navy Hall, occupied as the mess room of the garrison, was set on fire by the enemy's battery at Youngstown and entirely consumed," as apparently happened with other buildings adjacent to it. The garrison controlled a fire in "the centre building in Fort George" and no structures were claimed lost within the palisaded confines.

On this second occasion the Fort George batteries returned both shells and hot shot, which meant the installation or construction of a hot shot facility during the intervening month, with appropriate archaeological implications. An arrangement such as Peterson describes is probable: "To fire 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 "furnace" could be made is shown by what happened on 8 June 1813 when Sir James Yeo's fleet bombarded the American forces under Major-General Morgan 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." The portable furnace developed by Captain Addison was only introduced in 1846 and so could not have been used.

Thus far into the war Fort George had evidently seen substantial alterations in its earthworks, gained at least one hole in the ground, and witnessed an increase in the litter, but had suffered no losses of buildings through fires. That changed on 25 May 1813. A cannonading opened from the American side early in the morning. According to one account, the hot shot and shells resulted in every
building but one inside Fort George, plus several storehouses outside, burned by 8 A.M. The last holdout soon followed and all wooden structures had been burned by 27 May, the commencement of American occupation. Reports by participants state that one bastion magazine blew up at the moment of occupation, but not the principal magazine. Until the fall of 1973 there would have been little question but that the fort that burned was the one erected in 1796-1800. Major Isaac Roach wrote the most explicit account of the destruction, published only in 1893, and said four large blockhouses inside and three storehouses outside the works burned by 8 A.M. on 25 May. A new map and description of Fort George by a U.S. Army major named Christopher Van Deventer, plus an order directed to him, instead raise the likelihood of a second Fort George having been the one destroyed.

The order of 28 June 1812 to Van Deventer requested him to prepare just such a description as the undated map and text encompass, and internal evidence suggests too that Van Deventer executed his orders sometime in the summer of 1812. The unscaled sketch showed a pentagonal earthwork, a simplified version of what used to be known locally as the "American fort," where the northern half of the first Fort George had been. The buildings inside the work bear little resemblance to those featured on prewar maps. The next sequent map is from June 1814 and it illustrates the reduced earthwork outline as somewhat more complex, with a still different set of buildings within. It was noted above that nothing remained standing at Fort George as of 27 May 1813 and there are also statements that British troops found no buildings when they reoccupied the post on the heels of the American evacuation on 10 December 1813 - the arsenal and principal magazine having just been burned and blown up, respectively. The structures on the June 1814 map should therefore have been new British construction, an early stage of the third Fort George.

This sequence of events, which is not without contradictions, would have the British rather than the American army commencing the reconstruction of Fort George sometime during the summer of 1812. Their work may have included new or substantially new wooden buildings as well as major changes in the earthworks. If so, then the second rather than the first Fort George should have been destroyed by fire on 25 May 1813, and this would mean the units featured on Van Deventer's map plus any remaining from the first fort. Provided that any foundations were still in existence from the war period and before, this proposed sequence could be cast in the form of a hypothesis suitable for archaeological testing.
Unfortunately we know little about the alleged new buildings, or outline. Major Van Deventer's text was consistent with his plan and he wrote as follows concerning the magazine: "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."16

In the course of describing how Fort George might be made defensible, Lieutenant-Colonel R.H. Bruyères, RE, noted, as of February 1813, that "The Powder Magazine can only at present be made temporary constructed of Log Work well covered with Earth."17 These parallel comments do indicate a new magazine, perhaps the one later blown up by the retreating American army and then used by the British to confine prisoners, but at least not the old stone one.18 The latter should have been well outside of the work represented by Van Deventer's sketch.

In his February 1813 report Bruyères went on to say 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 his proposal for the reduction in size should have already been accomplished in light of the evidence compiled above! Furthermore, Colonel William Claus was apparently the last British soldier to leave the fort on 27 May and his diary records that "At the time I went out of the breach by the octagon blockhouse a flag came in at the gate" [author's emphasis].19 The octagonal blockhouse had been part of the first Fort George and occupied a position outside of the south curtain wall similar to its replica's location today.

If doubts now exist as to how the fort had been modified by 25-27 May 1813, further clues from American sources may help to clarify the situation. No buildings remained at either the beginning or the end of the American occupation. The American Secretary of War, John Armstrong, had given Major General Henry Dearborn an option of abandoning and destroying Fort George even before Dearborn had captured it.20 From mid-July until early September the U.S. Army waited, and occasionally skirmished, until Major General James Wilkinson arrived. Wilkinson had been disputing with the Secretary of War over strategy, with Armstrong giving Fort George a third and last priority as a scene for further action.21 Wilkinson arrived and looked around, recommended the place as "good for naught, but to command the ground it occupies" and determined to dismantle and abandon it. His officers supported him, but by now Armstrong had decided that the post should be retained and strengthened for its questionable strategic value.22
During the course of all this, someone thought to extend a field work from the old fort north to the Anglican church and apparently to place pickets from thence down to the riverbank. This much can be gleaned from testimony and from an 1816 plan; the main American camp evidently lay within the large enclosed space. According to Dr. James Mann, who was on the scene, even more was accomplished:

...General Dearborn was employed the month of June and part of July, in making preparation for the expedition [against Burlington heights]

...In the meantime the encampment was secured against surprise. Fort George was reduced in its dimensions and its lines of defence strengthened by a deep ditch and palisades. These preparations were in forwardness to recommence operations against the enemy...when General Dearborn was removed from this command.

Mann wrote only three years after the events in question and if he recalled correctly, Wilkinson must have considered the new works to be less than impressive.

Major General Wilkinson left with most of the regular troops on 2 October 1813 for an abortive campaign which culminated at Crysler's Farm. Colonel Winfield Scott remained in command at Fort George, supported by some 800 regulars and a regiment of militia. According to an 11 October report by Scott,

I have, by working night and day, greatly improved the defences of this post, and nearly filled up the idea of the engineer [Captain Joseph G. Totten]. I flatter myself that I have also improved the garrison in discipline.

Later, on 31 December, Scott told the Secretary of War that Fort George might be considered complete as a fieldwork when Scott took his regular soldiers after Wilkinson's army on 13 October.

The rather curious phrasing in Scott's report is explained by an early Scott biographer, who perhaps furnished the last piece to this puzzle.

...Wilkinson embarked with the Niagara on the 2d of October. In accordance with the same plan, Fort George was retained and garrisoned. Col. Scott was left as its commander, having between seven and eight hundred regulars, and a part of Col. Swift's regiment of militia, to complete and defend Fort George - the key to the peninsula. This work the Americans, after its capture, undertook to enlarge and reconstruct. A new trace was made by Captain (now Colonel) Totten, of the engineers, but was by no means filled out when Wilkinson sailed in Chauncey's fleet. One of the faces of the work remained open....
The consensus of all this seems to be that British initiatives first reduced Fort George to the approximate form shown on the Van Deventer map, leaving parts of the former curtain, with this much accomplished by the fall of 1812. The American army then built upon this work in 1813, either enlarging or reducing the size, but strengthening it in any case. Scott and Totten probably accomplished the major share of this construction during a ten-day stint in early October. It is more likely that Totten staked the outline on the ground, which Scott's men then "nearly filled up," than that anyone paused to draw up a plan. Several British sources noted the new strength of the works when their army regained Fort George in December. If this sequence is approximately correct there may have been two wartime forts, one British and one American, which neither historical nor archaeological evidence or the two together would allow us to firmly disentangle. The War of 1812 period entrenchments will therefore be referred to collectively as a second Fort George. There was an "American fort" at the site, but its nature is only conjectural.

British maps from June 1814 and from 1816 show the earthworks as progressively more complex. The outlines and interior buildings on the 1816 maps, the latter apparently drafting variants of one map, represent the third Fort George - the post in its final form. Construction of the new log buildings had begun in 1814 and by 1815 there were already complaints about them. The 1816 maps were evidently made to scale and included an outline of the old earthworks as well as of the new ones.

Later maps through 1853, mostly unscaled, continued to represent many of the buildings but noted these as ruins. Indeed a map marked up for the 1823 Durnford report numbered only the old stone and the new brick powder magazine, plus a guardhouse, as in use at the Fort George site. By 1825 the log buildings inside the earthworks had not been occupied for some time and in 1832 a passing officer recorded that Fort George "contains some low wooden decayed barracks." At least three passing remarks in 1817-19 period reports mentioned the barrack floors being below ground level and a cross-section of the 1823 guardhouse plan showed this same feature. Short wall sections from two of the barracks, found during the 1974 excavations, proved that these units had been built in depressions excavated below the general ground surface (see "The Postwar Barracks").

Superpositions of the first and third forts were attempted from the historic maps several times between the summers of 1973 and 1974. Thereby a better understanding of what had been found might be gained, as well as suggestions as to the locations of other structures. Transparencies made from the original maps and blown up or reduced to a
single scale helped in this effort. Successive approximations towards an exact alignment of maps (if one existed) resulted as knowledge of subsurface features grew, and test trenches were located where they should have intersected any surviving foundations. Only after the 1974 season had concluded was a final superposition possible, shown here as Figure 69. More details on this procedure and implications from it will be found in "The Fortification Ditch and Alignment of the First and Third Forts George." Unfortunately the Van Deventer map was an unscaled sketch and could not be projected onto any other plan.

Prior to any excavations, rumour had it that up to 8 ft. of overburden covered part of the site. However, back in 1816 Dr. James Mann had dropped a remark about Newark and Fort George being elevated 50 ft. above Lake Ontario. A 1:30 scale contour map cited as "John's map," preserved in the park superintendent's office, featured surface elevations between 290 ft. and 294 ft. ASL away from the earthwork embankments proper. This map is undated but made prior to 1937. With the present average elevation at circa 294 ft. ASL and the finding of both the guardhouse and blockhouse no. 2 foundations from the first fort within 1.0 ft. of this surface, Ronald Way's contention that the terreplein of the reconstructed fort approximates the original elevation is confirmed. The original contours were presumably more rolling.
The Water-line Test Trenches

The 1974 field season began with a request for the archaeologists to find a route across the parade ground for a new water line; a route that would allow the new line to interconnect with an old one between blockhouse no. 3 and the officers' quarters, and yet pass through no historic building foundations while crossing the parade ground. In addition to 1,140 lineal ft. of trenches cut by backhoe, digging by hand opened up another 100 ft. of trench (operations 19H9-19H12).

With an early version of the first and third fort superpositions as a guide (see "Historical Background"), a line route was selected and staked so as to avoid all projected building locations. After this line had intersected several structures after all, a new alignment some three degrees more toward the north was pursued. This alternate eventually avoided building remains, if just barely, after which more backhoe testing determined clear paths for lateral water lines to three hydrant locations.

Field designations for the water-line test trenches and their subdivisions have been retained in this report. The testing program proceeded through four stages, each of which is distinguished by a separate operation number, 19H9 through 19H12. An operation consisted of an alignment, for either the main line or a lateral, and was generally subdivided into 50-ft. segments. Each segment received a suboperation letter. The backhoe then proceeded along an alignment, digging a trench 2 ft. in width and usually about 48 ft. long, one suboperation after another, with a 2-ft. balk left in place between the ends of all trenches in a single line. Most of the nominal 50-ft. segments were excavated as one unit and therefore each would have been recorded as one lot; for example, 19H10F1. A schematic diagram to show the locations of the routes tested and the labels for the suboperations is given as Figure 4. Note that a few of the 50-ft. trench segments have not been excavated at all. In Figure 4 the lines which indicate suboperations also represent the actual running length of excavated trenches.

Figure 6 is a plan view of the water line test trenches to a larger scale, drawn to include all of the cultural features intersected by these trenches and with enlarged details of several areas. Four features were subsequently
excavated in part or whole - the privy (operation 19H14), the double fireplace base (operation 19H16), the section of semisubterranean room cut across by trench 19H12A, and another section through an unlined double channel at the bottom of trench 19H9G. Unfortunately time was not available for exploration of the features in the northwestern parts of the trench system.

This group of test trenches collectively gave a good cross-section through a diagonal of the parade ground as well as shorter sections at right angles to the first. The information revealed in the trenches can be presented graphically, with only brief additional remarks. A profile had been drawn of one side of every trench, and for the two diagonal alignments (operations 19H9, 19H10), the profiles were of the same side as one moved along the trenches. As the best representatives of stratigraphy below the present parade ground surface, the profiles of test trenches 19H10L through 19H10A are reproduced here as Figures 7 through 9. In addition to this series, a partial profile of test trench 19H9H is included in Figure 70 to show the foundations for a postwar barracks. Features which had apparently been associated with the original fort are reserved for discussion in appropriate later sections. The stratigraphy revealed in the water-line test trenches, what meaning this holds for the history of the fort, and comments on several minor features make up this chapter.

Figures 7 through 9 present the east, or north, test trench profiles in order from the northwest stockade wall to the road in front of the officers' quarters. It was intended that the trenches extend down to undisturbed sand, but a water table circa 5 ft. below the surface and subtleties in distinguishing a horizon between fill and sterile material meant that depths of excavation fluctuated above and below that horizon. The symbol used to denote this horizon is often an approximation, drawn where the cultural inclusions cease within a body that remains consistent in color and texture. Only in rare instances did the depth of trenching exceed 5 ft. below the present surface and, apart from the old fortification ditch, man-made disturbances seemed to extend no deeper.

Sod and topsoil have developed within the past 35 years and in any case were confined to the uppermost foot or less of the profile. Beneath this level, where no disturbance had taken place, lay a yellow-brown sand. The intensity of coloration varied from light yellow to brown as it was encountered around the site, but the stratigraphic unit is the same. Locally this may interpenetrate with bodies of sterile reddish, reddish-brown, and gray sand. At an average depth of 4 ft. to 5 ft. below the present ground level a stratum of markedly gray sand commences. In particle size
this last would probably be a silt. What lies below is known only through testing around the powder magazine.

Through test trenches 19H10G and 19H10H, and again in 19H10E through 19H10C, is a thick stratum noted as "Sbl." The upper surface of this is a gray to dark gray fill which contrasts sharply with the overlying yellow-brown (fill) sand. As the depth increases, this gray fill becomes more of a reddish-brown. This same stratum is found elsewhere on the site, as where it marks the second level in the test trenches just southeast from blockhouse no. 1 and the third level in the test by the north corner of the officers' quarters. Where a long profile is present, as in the water-line trenches, the upper surface may be seen to grade from the present topsoil level to a maximum of 2.5 ft. below that level. This graduation is especially well illustrated between the east end of test trench 19H9H and the west end of 19H9G.

This dark gray fill has developed above the building remains and even above the fortification ditch from the third Fort George, hence could not be a ground surface from anything during the fort's active life. Artifacts from beneath the upper surface make it appear that the fill has developed over the last century and a half. For dating value, the collections from level 2 in test trenches 19H9G and 19H9H and level 3 in operation 19H6 are equivalent, as would be also items from the third and lower levels in trenches 19H7K and 19H8L (Figs. 36, 38, 70; Tables 9-11). The ceramics suggest a mixture, with material principally from the 1830s-1860s time range and inclusions of earlier sherds. Complete bottles, however, include completely machine-made examples and one lipped for a crown cap, as well as specimens with hand-finished rims. From level 2 in test trench 19H6 came a Mark VII .303 calibre cartridge case with the headstamp date 1921. With 20th-century artifacts present within it, the probable interpretation for the gray fill stratum is its upper level having been the ground surface until the late 1930s and reconstruction. Levelling of the surface during reconstruction may have trimmed off higher lying portions of this fill as well as covering over the lower areas.

Where the profiles show other types of fill, as for example a brown or reddish-brown sand, this should mean presence of a feature. The meaning of the large disturbed area in the centre of test trench 19H10B is not known, but fill in the centre part of 19H10A is within the fortification ditch around the second and third fort. If indeed fill in some other soil profiles means features there, the latter are probably non-structural and it would require more excavation to establish their nature.

Stratigraphy in the three operation 19H11 test trenches
consists of undisturbed yellow-brown sand at about 1.0 ft. beneath the present surface, excepting only an intrusive utility trench through the centre part of 19H11B. Through most of the 19H12E-19H12F trenches the disturbed level is equally thin, though overlying a much darker sterile zone, until about 10 ft. from the south end of trench 19H12F the amount of fill increases towards the south to a maximum depth of 5 ft. The probable reason for the increase is another intersection with the old fortification ditch. In the operation 19H9 test trenches the stratigraphic situation is similar to what is shown on the 19H10 series profiles, with the well-defined dark gray fill stratum remarked on above. The segment of trench 19H9L east of the road showed that areas to be outside of the fortification ditch and the undisturbed yellow-brown sand appeared there at 1.0 ft. under the ground surface. The short course of trench 19H12H simply followed the course of the fortification ditch, but 10 ft. to the northwest, trench 19H12J featured sterile yellow-brown sand again at 1.0 ft. to 1.5 ft. below ground.

In addition to the telephone line, electric cables and other obvious utility intrusions, at least three features are probably no older than the reconstruction. Some 8 ft. from the north end of trench 19H10L a creosoted timber projects into the cut, at depths of 1.8 ft. to 3 ft. below the surface. This lay in a trench of its own and may have had an association with the stockade construction. In test trench 19H10B a large and a small squared timber, with sawdust and gravel associated, are probably part of a sawpit in use during the reconstruction (Fig. 8). Several photographs from the period show a sawpit in that general area rather than where a replica sawpit is now placed on the site. The concrete corner found projecting in trench 19H9J at 0.9 ft. below the surface was not investigated.

In addition to locating an acceptable route for a new utility through the present grounds, the water line test trenching project provided a good look at the stratigraphy beneath the sod and effectively dispelled any notions as to 8 ft. of fill at Fort George. The features located by the trenching would not have been suspected and, except for the fortification ditch and one building (an 1814-15 barracks) would have remained undiscovered if testing had been done on the basis of historic maps. Comments on the structural features will be found in subsequent sections.
The Guardhouse

Excavations and Analysis

Procedures

In line with the 1973 research goals, work began with an attempt to find the original guardhouse (circa 1799-1813) site. A best estimate of its location came from a study of all historic and recent maps, which placed the building somewhere in the vicinity of the modern guardhouse reconstruction (Fig. 10). Fortunately (as it turned out) a bastion from the third Fort George had partially overlain the guardhouse area until the late 1930s and no doubt furnished some protection against landscape alterations there.

The first guardhouse presumably rested upon stone foundations and two test trenches sought any remnants of these. Excavations in both trenches soon encountered a stone foundation wall. The building to which this wall had belonged could only have been the guardhouse from the first Fort George (Figs. 11, 12). All excavations connected with finding and uncovering the nearcomplete guardhouse foundation are grouped under the operation 19H1 heading.

From the points of initial discovery, trenches 4.5 ft. to 5 ft. in width traced the stone masonry foundations around its perimeter. The ground surface here averaged 294.2 ft. to 294.7 ft. ASL. With the wall tops but 0.3 ft. to 0.7 ft. beneath this surface, there was no need to extend trench depths to more than 293.3 ft. to 294 ft. ASL (Fig. 14).

The wall outlining made the shallowness of this previously unsuspected foundation very evident. Its alignment was virtually the same as that of its intended replica, which lies just to the northeast, but the external dimensions (exclusive of pedestals along the northeastern side) measured 28 ft. by 48.6 ft. After a narrow balk had been staked out just southeast from the foundation's minor axis and parallel with it, interior excavations proceeded by levels, with separate lot numbers for the sequence northwest and southeast from the balk.

Three supplemental test trenches, to base elevations of 293.7 ft. to 293.8 ft. ASL, were extended out from the northwest and northeast walls in an unsuccessful effort to find counterparts to the northeast-wall pedestals (Fig. 11).
The 19H1E1 test trench did find fill, which had come from the excavation of a semisubterranean room (19H1E2) that had intruded into the north corner area of the guardhouse foundation sometime after this first building was destroyed. Five cross-section trenches were cut through the foundation wall. Two old intrusive trenches (Figs. 13, 15) across or adjacent to the southeastern parts of the operation were cleared or sectioned.

Foundation

Angular, untrimmed or unshaped pieces of limestone or dolomite, in size from a few inches to slightly more than a foot across, composed the foundation wall proper. Several water-worn cobbles and fragmentary bricks had also been incorporated. The whole was laid up as random rubble stonework, in lime mortar (Figs. 13, 14). Wall widths averaged 1.6 ft., with plus and minus variations of 1.0 in. or more. The base of the foundation lay only about 1.0 ft. below the present ground surface and extant wall heights ranged from 0.3 ft. to 0.7 ft., with an average height of 0.4 ft. to 0.5 ft. A lack of stone or other construction debris adjacent to this foundation argues that the latter, although but one to two stones high, retains its full original height.

There was no trace of a builder's trench. The stone walls have settled from zero to 0.4 ft. into the underlying yellow-brown to reddish sandy undisturbed soil. The tops of the walls featured no special preparation or remnants of other construction to suggest the type of superstructure. However, a whole 3-ft.-long section from the southwest wall and occasional stones elsewhere were missing. Intrusion of a semisubterranean room in the north corner area had of course displaced a segment of the guardhouse foundation (Fig. 11).

Pedestals

Seven small rectangular masonry platforms or pedestals lay spaced along the exterior of the northeast wall. The interval was an average of 6 ft. on centres except for a 5 ft. spacing between the first and second ones from the east corner. Each pedestal measured 1.3 ft. to 1.5 ft. in width and extended out for 1.1 ft. to 1.3 ft. Remnants of two along the southeast wall could be seen at 4 ft. and 9 ft. from the east corner. Along the northwest wall there were three more; one at the corner and two at 4 ft. and 7.5 ft. towards the southwest (Figs. 11, 13). The intrusive semi-subterranean room (19H1E2) in the north corner area had probably taken out two more platforms as well as part of the northeast foundation wall.
Construction involved the same type of stones and lime mortar as found in the foundation walls except that five bricks had been included in the first remaining pedestal south of the semisubterranean room. The stones did not themselves bond the pedestals to the foundation, but the mortar did and thereby showed that all must have been contemporaneous. Perhaps these small accessory features supported joists beneath a porch floor. Testing towards the northeast from the east corner and northwestwards from the north corner failed to locate any comparable stonework, as might have supported the opposite ends of porch joists. Anything directly towards the northeast would have been destroyed by installation of the gravel base beneath the reconstructed guardhouse.

Stratigraphy

Below sod and topsoil at the surface one encountered the top of an old gravel layer at circa 0.4 ft. down, at an elevation of 294 ft. to 294.2 ft. ASL (Fig. 14). This stratum, an average of 0.1 ft. to 0.2 ft. thick, apparently began flush with the northeast foundation wall on the outside, extended over that wall and on inside of the structure. The top of this gravel showed no evidence of having been a floor or accumulation level and there were relatively few artifacts (mainly nails) from within it.

South of the balk this stratum proved to be relatively dense and continuous in the north corner area of that excavation unit, while absent in the west corner and between these extremes elsewhere. Gravel coverage north of the balk was most continuous along the eastern two-thirds of the balk wall and for several feet inside from the northeast foundation wall. Further towards the interior this gravel became patchy and diffused among the large rocks through the centre. Still north of the balk, this stratum was not found through the western third of the foundation interior or, except by the north corner, for 5 ft. to 8 ft. inside the northwest wall. The gravel layer had clearly been placed here and a possible reason for it is suggested in the interpretation section of this chapter.

At the base of the gravel and elsewhere within the foundation at the same level, lay a slightly rolling surface marked by burned debris. This occupation surface, as it is called here, was nearly continuous and will be discussed in the next section. The next stratigraphic zone commenced directly beneath the occupation surface and consisted of undisturbed sand, stained gray and with mortar or other bits of debris in the uppermost levels, with sterile yellow-brown sand appearing within a few inches. All cultural stratigraphy within the old guardhouse foundation is within 0.7 ft. to 1.0 ft. of the present ground level.
Two 5-ft.-deep test pits just outside of the west and south corners both showed cultural disturbances confined to the uppermost 1.1 ft. to 1.7 ft. (Fig. 11). Below this level undisturbed yellow-brown sand continued down to about 2 ft. below the present surface, and below that was a reddish silty clay. It is certain that no earlier structure(s) or occupation levels underlie the stone foundation.

The Occupation Surface

The gravel stratum lay directly upon a burn level, a gently rolling surface with no measurable thickness or signs of having been prepared. Burned debris, an abundance of artifacts and animal bones, and patches of orange-burned soil marked what was probably an old ground level beneath a wooden floor. "Occupation surface" will be used for this horizon. In elevation it ranged from 293.7 ft. to 294.1 ft. ASL.

Debris had evidently sifted between the floorboards while the guardhouse was in use, perhaps also when some of the planks became rotten or broken. The finely-burned material and the discoloured soil evidenced the superstructure here having been destroyed by fire. Figure 11 shows the general extent of burning debris, which did continue beyond the gravel limits through the northwestern part of the foundation interior. The central and western parts of the occupation surface were virtually free of such an accumulation, at least of any remaining accumulation, and there was also nothing like it outside the foundation. A general absence of logs, boards, bricks, hardware other than nails, or anything else useable suggests that the rubble was salvaged.

Charcoal stains, presumably the remnants of burned boards, aligned with both the major and minor axes of the building in the east corner area (Fig. 11). The fragmentary H-hinge from that area contained wrought nails that were bent though not clenched; this bit of hardware plus the latch-keeper found 3.3 ft. further to the southwest may represent a door in this part of the structure. If so, all other evidence had deteriorated too far to permit identification of construction and orientation.

A brick and mortar feature, mostly mortar with a few brick fragments, overlapped the area of the charcoal stains. This feature, such as it was, had an amorphous outline with a vague U-shaped opening towards the northwest (Fig. 15). Burning evidences went beneath as well as around it. It would be difficult to see a fireplace remnant here, but the Fort George guardhouse did have stoves by 1812 and this might mark a stove location.2

North of the balk the concentration of charcoal, burned wood, mortar, plaster, cultural and other debris fell
generally within the broad arc shown in Figure 11. The more regular charcoal traces are probably board locations. Positions of the one decent board fragment, a partial latch bar and group of nails (another door?), and the other interesting hardware are shown on Figure 11. The bayonet blade, with its bent and broken tang, had been thrust point downward through this level.

An ovoid, basin-shaped depression in the north central part of the interior had a maximum depth of 0.5 ft. below the adjacent occupation surface. More burned debris filled this depression and in particular it contained animal bones, pipe stem and bowl fragments. Whether this feature was of natural or man-made origin and came about prior to or as some part of the guardhouse, could not be determined. It at least became filled as part of the general burning of the guardhouse.

Figure 11 gives accurate locations for a series of loose angular stones similar to those employed in the foundation, but which lay scattered from the depression to the northwest side of the balk. The stones possessed neither an alignment nor signs of adhering mortar. For the most part they were outside the area of burning debris and also where the gravel stratum had become thin or had disappeared. However, those stones adjacent to the depression lay directly on top of the burned debris and occupation surface, with more of the debris around them. The gravel layer continued around or above other stones, but apparently not beneath them. The time of deposition for the stones can therefore be pinpointed to the period when the building burned or directly afterwards, but prior to deposition of the gravel. Unfortunately no purpose for the rocks can be suggested. Only two large stones turned up on the occupation surface southeast from the balk.

Intrusive Trenches

One narrow trench with a reddish sandy fill crossed through the southeastern part of the guardhouse interior while a second such feature passed close by the southeast wall along the exterior (Fig. 11). The former trench became evident at the level of the gravel stratum. This intrusion had evidently disturbed stones in the northeast foundation wall, cut through the burning debris including a charred board, and passed over the top of the southeast foundation wall. Its fill provided only two .30 calibre buckshot, some wrought nails and a latch bar. The trench along the exterior had probably disturbed two stone pedestals built against the southeast wall; its fill yielded no artifacts. Both features had arcs or flattened arcs as cross-sections, with a maximum depth of 0.2 ft. to 0.55 ft. below the occupation surface for the trench through the interior and half that for the
trench outside (below the level of excavation).

The two intrusive trenches clearly postdated destruction of the original guardhouse though it is not known how recent they may be or from what level they were cut. Their curvature rather precludes their being plow marks. A member of the present park staff suggested that they were associated with a former underground watering system. This cannot be documented, 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 Fort George site in 1860.

Associated Artifacts

All operation 19H1 artifacts have been studied except for a few from test trenches outside of the foundation. For presentation here, the various excavation units were grouped into two proveniences, the one associated with the occupation surface (or just below) and the other from the fill above this level and from around the wall exteriors. The artifact identifications and quantities will be found in Tables 3 to 34. The variety and number of objects from the occupation surface, the known length of time for accumulation, a virtual certainty as to when and under what circumstance the building superstructure was destroyed, and finally an apparent lack of later disturbances all make the occupation surface collection a good one for study. This was recognized in the field and every care taken to recover the artifacts present, even though no fill was screened. It is only regrettable that buttons and a coin seemed to be the largest complete objects.

Wrought iron nails, a lesser number of cut lath-nails, and animal bones constituted perhaps 90 per cent of the materials from the occupation surface. In view of the known use for these nails in the guardhouse and the large sample size, the nail collection offered an unusual opportunity for analysis. The special study made of them is reported in a subsequent section. Other hardware items included those whose locations are noted in Figure 11, plus a fragmentary padlock of riveted sheet iron, numerous buttons (mostly plain and regimental ones), brass straight pins, musket balls and buckshot, and an 1803 U.S. penny. Among the munitions were 14 musket balls for a .69 calibre weapon and only two for a .75 calibre bore. No iron bars turned up.

Other materials present, none complete, consisted of both pane and bottle glass with only the former class appearing to show damage through fire. There were numerous stems and bowls from white clay pipes, a sprinkling of small creamware and pearlware ceramic sherds, and ten gun flints Eggshells and charred peach pits occurred too and, with the faunal remains, will be discussed in another chapter.
The collection from the occupation surface was a valid assemblage with an estimated maximum age range (based mainly on the ceramics) of A.D. 1770 to 1830 and most probably just after the turn of the 19th century. This corresponds well with the historic duration of 1799 to mid-1813 for the original guardhouse. Materials from the fill contexts, in the sod zone above the occupation surface as well as around the foundation exterior, showed the same range of types with very few intrusive pieces of more recent date. This range in a near-surface collection must mean that an unknown amount of higher lying fill was removed during the reconstruction period.

Interpretation

All available evidence points to the foundation under discussion being that of the original, pre-War of 1812 guardhouse. In 1802 Lieutenant-Colonel R.H. Bruyères had reported the dimensions of the guardhouse as 48 ft. by 20 ft. and the length agrees with that for the excavated foundation. However, the 26-ft. lengths of oak and pine specified in the original materials list would be appropriate as beams for the excavated building where interior width was slightly less than 25 ft., rather than in a 20-ft.-wide structure. Since the extant Bruyères document is a copy rather than the original, a copyist might have misread a six or an eight for a zero.

Placement of the foundation on the site is just where the first guardhouse should have stood. Test trenches showed only undisturbed sand at greater depths in this area. Burned debris and patches of earth discoloured by burning inside the foundation, indicated that a fire had destroyed the superstructure. No one stated explicitly that the guardhouse at Fort George burned on 25 May 1813, but writers did say that all of the wooden buildings were destroyed. Associated military artifacts and other datable objects are appropriate for the early 19th century. There are no known historical data for other buildings with this size and orientation being on the site, nor would any other findings suggest that this foundation might be something other than the first guardhouse.

The 28-ft. dimension probably marks the width between the front and back walls, rather than the distance from back wall to the edge of the front-side gallery. The stone pedestals described above would have been superfluous for supporting a porch colonnade and on the wrong side of the wall to hold up outer ends of porch floor joists. Even so there is the archaeological evidence of an H-hinge circa 7 ft. inside from the northeast wall and a latch bar 6 ft. to 6.5 ft. in from the same wall, in the east and north corner areas respectively (Fig. 11).
Vincent\(^6\) has made at least two inferences which do not find archaeological confirmation and two more that do. The quantity of window glass in the 1797 estimate is many times the amount found during excavation though melted pane glass clearly indicates the presence of windows. There was no evidence for a chimney or fireplaces despite the 6,000 bricks called for in the materials list and a chimney shown in Edward Walsh's 1805 painting. Part of the brick order might have been intended for masonry between studs in the interior partitions, to judge by the 10,000 bricks requisitioned for this use in blockhouse no. 2.\(^7\)

Perhaps this guardhouse had stoves all along instead of fireplaces though we know only that it had two stoves by 1812. The mortar and brick rubble feature towards the east corner area may easily be seen as a stove base. Two doors, at least to the front or northeast side, are indicated by the sparse hardware. As to the interior layout, salvaging apparently denuded the building of wood remains that could give evidence. It is possible to make an indirect argument, however.

Bruyères stated in 1802 that the Fort George guardhouse had officers' and soldiers' guardrooms and four solitary cells for confinement. From this and other evidence, Vincent\(^8\) suggested a layout with the two guardrooms, each running part of the length of the building, and the cell area at the back. A hypothetical layout can be based upon the distribution of the faunal remains, discussed in a later chapter of this report, over the old guardhouse occupation surface. The greatest concentration of bone refuse lay towards the northern and eastern parts of the excavation north from the balk. These parts should then reflect the most active living area, that is, the men's guardroom and where the guards took their meals. We know indeed that "In the 49th Regiment each man was supposed to have a tin kettle in which his meals could be carried to him when he was on guard."\(^9\) If there had been a built-in berth, opportunities for anything dropping through to the ground would have been lessened in that area. Cell construction was presumably tight and for the 41st Regiment, at least the mess regulations required officers to take their meals at the mess or to pay a fine if they did not.\(^10\)

Bruyères's statement plus the distribution of bone refuse suggest an interior layout that coincides with Vincent's proposal and generally with the 1819 guardhouse plan for Chambly and the 1823 one at Coteau-du-Lac.\(^11\) Counterarguments may of course be raised, one being that erosion may have simply removed debris through the south and southwestern parts of the old structure. If the suggested internal order cannot be confirmed by historical or archaeological evidence in the present case, the proposed layout
might be tested by finding and excavating a guardhouse with a known interior layout.

In another effort to infer an interior plan, the presence and absence of plain metal buttons and regimental buttons, as well as whether these were for officers or men, was examined north and south of the balk. No distributional pattern could be seen beyond most of the buttons deriving from the context north of the balk where the artifact concentration was heaviest in any case. It is quite apparent that the majority of plain metal buttons from the whole excavation, buttons which were most probably used by militia units, came from lots associated with the guardhouse excavation. The implications of the association are not evident.

Finally, there is the matter of the gravel stratum on top of the burn level. This gravel must have been spread very shortly after the fire and the removal of any salvagable materials. Perhaps the gravel had no more esoteric purpose than to preserve soldiers' boots and feet in an area loaded with nails. Also, Dr. James Mann noted that in June 1813 it rained almost incessantly, July and August were very hot, and it rained again in October and November. If this were the weather picture, then the rain may have eroded away part of the freshly-laid gravel, as perhaps over the southern and southwestern parts of the old guardhouse foundation.

The Nails from the Guardhouse

The excavations produced a minimum of 2,937 complete nails and shanks with identifiable heads from both fill and occupation surface contexts. Of these, wrought nails comprise some 2,635 or 90.6 per cent of the combined wrought-cut nail total and cut nails number 275 (9.4 per cent). There are in addition 27 wire nails. The occupation surface contained approximately two-thirds of the collection and the balance came from the fill above this surface or outside of the building (Table 5). Not scored with the above are 94 unidentifiable specimens, which had not been cleaned, and some 402 broken shanks without heads that might well 'mend' with identifiable heads (Tables 3, 4).

A December 1797 estimate of costs and materials to build the guardhouse included four pennyweight sizes of nails and two additional forms by name, giving the amounts of each (37,000 total). An 1803-04 Ordnance list and an 1813 illustrated memoranda of nail sizes were also available. These data and references suggested a study to determine if the archaeological sample reflected the original materials estimate. A second problem was to establish, if possible, correlations between nail lengths and board thicknesses. As a third problem, we sought to determine the uses of nails and boards in the original guardhouse considering both the historical and the archaeological records. The
chronological development of nails is not within the scope of this study.

Three types of nails are present in the collection. These are handwrought, cut and wire nails. Certain features distinguish each type. Generally:

Cut nails are easily distinguishable from wrought nails by the following very apparent differences. Both have rectangular shanks, but the wrought nail tapers on all four sides; the cut nail, only on two opposing sides; the later nail being as thick (namely the thickness of the nail plate from which it was cut) at the point as at the head. Moreover, the two cut sides of the cut nail show very plainly, minute parallel striations, always absent on the wrought nail, marking the downsmear of the cutter.  

Other characteristics of hand wrought nails:
- shanks usually taper; iron fibers run lengthwise; lack of uniformity (especially heads).

Wire nails are cut from wire stock. They have round shanks, usually a four-facetted point and gripper die marks on the shank. Various forms of each type are manufactured for different uses by changing the head, shank or point aspects.

The forms for wrought nails in North America are not known to have any chronological sequence. This type was used exclusively until the beginning of mechanical nail production circa 1790 and continued in everyday use for another 50 years. Cut nails were the most common type used from 1830 to 1890. A chronological sequence has been developed for cut nail forms, which changed through time with the production methods. Wire nails were gradually accepted (circa 1850-80). All three types continue in manufacture today with wire nails the most common and the others for specialty uses.

A Brief Structural History of the Guardhouse

The estimate for construction of the Fort George guardhouse is dated 26 December 1797. It appears that the building was completed "probably early in 1799, but certainly before the fall of 1800." Civilian labour may have been used due to the illness of the troops; however, it was more common to use cheaper, military labour. No specific record of repairs to the guardhouse has been found. Lord Selkirk's comments of 22 May 1804 suggest that few repairs were undertaken:

The Curtains are merely picketed - Cedar pickets 10 feet above ground 2 below took 20 to 25 per Rod were paid at rate of 6c Halifax each for cutting
and getting out - this to the Soldiers - it is supposed would have cost double to common labourers - ...the works are going to ruin nothing being allowed for repairs except the labour of the Police party a part of the garrison employed in rotation....but the smallest article of materials is not allowed - they are pulling to pieces the old shingles of Oswego to get nails ....

Repairs would change the original nail sample, but any later repairs using wrought nails would not be determinable due to the similarity of forms through time. In light of Selkirk's remarks, we note that back in the summer of 1793 the distressed commander of Fort Ontario (Oswego) had complained "that all the works are already in ruins: There is not a shingle or nail to remedy even a leak in a roof."21

The building apparently was destroyed by burning on 25 May 1813, as noted earlier and according to the accounts of two officers present at the time, Colonel William Claus and Captain William H. Merritt:

A little before day they returned to their alarm posts and the fire from the enemy opened from all their batteries upon the garrison of Fort George. I had time to fire two rounds from a 24 pounder when I received orders to stop firing, but by the enemy it was kept up till about 2 o'clock p.m., by which time they had set fire to and burnt nearly every building in the fort.22

On the 25th, they commenced cannonading Fort George, which for want of ammunition we were unable to return. They burned all the buildings in it.23

The suggestion of burning is confirmed by the burned areas on the occupation surface within the guardhouse foundation and by the red oxide present on some of the recovered nails.

Procedure

Nails from all lots were counted, with specimens from the fill being identified only as to type, form, and inclusive range of shank lengths (Table 5). This sub-group is not considered further. Nails from the occupation surface lots and from one of the intrusive trenches (19H1C6) are tabulated together as being from the most significant contexts (Table 3). To allow identification, the corroded nails were cleaned by sandblasting or, with the more fragile samples, were x-rayed. A slight size distortion was present on the radiographs due to a two-dimensional perspective that also makes identification more difficult.

The length of each complete nail was measured. Identification of forms was based upon the historical records and
on observations made during the study. The result, Table 3, shows the frequency of lengths for each form. Shank length was measured for wrought nails and the full length for cut nails, the measurement being along the line of least distortion. The 1/8-in. intervals used in tabulation were based upon the smallest fractional division listed in the 1803-04 Ordnance list or in the 1813 memoranda list referred to previously.

The Sample

Detailed study has been given to only those 1,908 nails from the burned debris on the occupation surface or beneath it (Table 3). Destruction of the guardhouse by burning, at a known date, and a rapid covering of the detritus (after salvaging) by a gravel layer practically ensures against contamination of the sample by later disturbances. There is of course no archaeological evidence for rebuilding beyond the semisubterranean room in the north corner area, or any historical evidence apart from the three small structures indicated on an 1850 map (see "Semisubterranean Room"). Within the study sample, 91.6 per cent of the total are wrought nails and all but one of the remainder are an early form of cut nail (Table 5). The one wire nail present would be dated 1850-80+, later than the historical date for the guardhouse. It may have been introduced from the intrusive trench (19H1C6) and will be discounted here as a secondary deposition.

The cut nails are not uniformly made. Lengths range from 1-1/8 in. to 2 in. though the frequency distribution of their lengths suggests that all could have been intended as but one size (Tables 3, 7). They were cut from thin plates (1/16 in.; 2 cm.), possibly when cold. The heads are irregular and appear to have been made with a single hammer blow which produced a head with one facet. The shanks vary in width and some have a sharp point produced by what may have been an extra cut across the tip. Some samples show a slight narrowing of the shank beneath the head, where they were clamped for heading (Fig. 18). The cross-sections have parallel sides with burring on diagonal corners, with one exception, a trapezoidal-sectioned nail with burrs on one side. The two forms may occur at the same time due to an overlap in production methods, or the trapezoidal cut nail may have occurred at the end of the nail plate. Nelson would date the parallel-sectioned nails to the 1790s-1820s and the trapezoidal cut nail to 1810-20s with additional overlap due to continued use of old machinery. Also, "heads vary in size and shape, usually thin and flat (no facets), and eccentric to shank. Shanks vary in length and often have a sharp point. Bulge under head often present." The trapezoidal cut nail and some of the more regularly cut
nails could be evidence for repairs after the original construction.

Nelson's description of lath nails, just quoted, closely corresponds to the guardhouse cut nail sample. The most frequent lengths among the recovered specimens centre about 1-1/2 in. and this too is appropriate if they were used as lath nails in the original guardhouse. The estimate for this building had included 3,000 lath nails (Table 6).

The most common wrought nail forms are rose-head sharp, rose-head spear, T-head sharp, and clasp bevel-headed flat (Table 3, Figs. 16, 17). The most frequent lengths for wrought nails, without distinguishing forms, center about 1-7/8 in., 3 in., and 4-1/8 in. (Table 7). This first peak occurs within a range of shank lengths, which suggests that an apparent overlap of what are actually several sizes may be present in this graph. The shorter lengths are in the same size range as the cut lath nails and perhaps had the same use; wrought lath nails are listed in the 1813 memoranda at 1-1/8 in. and 1-1/2 in. The 1-7/8 in. length is the most frequent of all. In the 1813 memoranda list there is a fine shingle nail at 1-7/8 in. length, 7 lbs. per 1,000, and another such at 1-1/4 in. length, 4 lbs. per 1,000. The same weights in the 1803-04 Ordnance list suggest that a similar length continued in use through the time period of the guardhouse.

The 1797 guardhouse estimate gave lath and shingle nails by name while listing the other four sizes by pennyweights: 10d, 20d, 30d and 40d (see Table 6). This presents an inherent problem in determining lengths:

The retailer's terms for nails were expressed in pennyweights (d.). Pennyweights, initially regarded as the weight of a silver penny, were not only indefinite in themselves but varied from country to country and in different localities of the same country. Ideally, the pennyweight of a nail equalled the number of pounds per 1,000 nails.25

Information with respect to pennyweight sizes and the corresponding lengths, for the period of the guardhouse, is contained in the 1803-04 Office of Ordnance "List of Iron..." and the 1813 Office of Ordnance memoranda for ordering nails, as cited previously.26 Extracted pertinent information appears in Table 1. This table is constructed for rose sharp and for lath nails, the two most common forms recovered from the guardhouse excavations. Wrought nails of different forms will vary in weight and perhaps also in shank length for a given pennyweight size.

If the shank lengths are as consistent as the weights between the listings in Table 1, then the following approximate lengths may be suggested for the pennyweight nail
sizes specified in the 1797 estimate: lathing nails - 1-1/2 in.; shingle nails - 1-7/8 in.; 10d - 2-1/4 in.; 20d - 3-1/16 in.; 30d - 3-1/2 in.; and 40d - 3-3/4 in. These dimensions, together with the number of each size nails in the order, are plotted as an ideal or theoretical model in Table 6.

When the frequency distribution of the study sample (Table 7) is then compared with this model, it is evident that the highest peak in frequency for the wrought nails corresponds to the size for shingle nails, which were also the most abundant single category (18,000) in the original order. The 10d size and any wrought lath nails which may have been present cannot be identified separately and it is probable that they contribute to the first peak in Table 7. The second peak, at 3 in., may represent the 20d size. The third and last peak at 4-1/8 in. probably indicates the 40d length as a 4-1/8-in. shank length is closer to the model of the 40d than to the 30d size. The 30d nails do not appear to be represented at all. With respect to the first problem posed above, it is concluded that for lath and shingle nails and the 10d, 20d and 40d sizes, the proportions of complete nails recovered archaeologically have an approximate correspondence to the proportions of nails in the 1797 estimate. From this conclusion we may move on to identify the nature and seek the reasons for variations between the numbers in the estimate and those recovered archaeologically, and to answer the other two problems.

Explanation of Variation

Stores of 40d, 30d, 20d, 10d, 8d and 6d nails are indicated in a 1793 Halifax Office of Ordnance list. However, as a result of Jay’s Treaty (1795) the British undertook increased building of new fortifications and it is possible that the absence of 30d nails from the study sample means no more than a temporary shortage of materials circa 1796, in lieu of which the next larger or next smaller size perhaps was substituted.

In comparison to the 37,000 nails estimated for the guardhouse construction, the recovered sample contains a very small proportion. The percentage (all types and forms) from the occupation surface alone is 5.15 per cent; for the occupation surface and fill combined, 7.8 per cent. The extent and degree of burning in the guardhouse may have been a factor in determining the number of nails which remained, as well as their size frequencies. Extensive burning of the roof and weatherboarding (if present) would have released the associated nails. Collapse of the roof or little burning of the interior may have permitted the flooring and wall boards to be salvaged with their nails still holding. One
comment about the events of 25 May 1813 implies that any remaining superstructure from the guardhouse or elsewhere probably went into repairing the defences at Fort George:

During the remainder of the day we were busily employed in repairing the picketing destroyed by the shells which were thrown in great numbers and admirably served as well as their guns.28 Although the clearance of debris is one explanation for the variation between the model and the recovered nail frequencies, and an explanation which is probably operative, the amount of the variation which might be accounted for in this manner cannot be estimated.

Another explanation might obtain if it could be shown that the estimated number of nails was greater than what would actually have been required for a building of such a size. However, when the number and sizes of boards were compared with the quantities of appropriate-length nails, the result was quite reasonable figures of 7 to 17 nails per board. Selkirk's29 observation that "1/4 is allowed for wastage in cutting" would increase the nails/board estimate by only a small amount. Another Selkirk diary entry30 from late 1803 was that "Leach reckons Shingles at 4$ per 1000 to cover 6 x 4 inches." At this size, 9,000 shingles would have been far fewer than needed to cover a guardhouse with an estimated 2,300 sq. ft. of roof area. If each shingle was intended to cover a 6 in. by 6 in. area, after a 50 per cent overlap had been allowed for, then 9,000 would be an accurate figure and so too for the shingle nails. It appears that no grounds exist for suspecting overestimates in the materials request, for nails or otherwise, and therefore no explanation of variations lies in this area.

The absence from the archaeological collections of 90 per cent-plus of the nails that theoretically went into the guardhouse seems to be explainable only through salvage of materials; the usable lumber being hauled away for repairs, firewood or whatever with nails still attached, or the nails themselves being recovered for new construction, or both.

Sources of Supply

The source(s) of the hardware and wood required for the guardhouse is not clear. Building hardware would normally be obtained through the Office of Ordnance locally, elsewhere in North America, or, ultimately, from England. Nails at least were still being supplied by Britain in 1836.31 Local iron works may have been a supplier at the time; in 1803 Lord Selkirk commented that "An Iron Work has been attempted at Niagara - but it was Bog Ore soon exhausted. The Mills at Chippewa tho' in an admirable situation have not done much."32 Cut nail manufacture in Montreal had begun
in the 1790s; naileries were operating at Pittsburg in 1826. If the building hardware was not manufactured locally, the economics of transport may have determined the source. Transportation of hardware from England generally went through Montreal and Kingston to Niagara:

By far the greater part of the trade to the lakes is at present centered at Montreal; for the British merchants not only can convey their goods from thence to the lakes for one third less than what it costs to convey the same goods thither from New York, but they can likewise afford to sell them, in the first instance, considerably cheaper than the merchants of the United States.... and all British hardware, and dry goods in general are admitted duty free into Canada.

Weld also noted that the transportation of goods across Lake Ontario was expensive. In contrast, La Rochefoucault-Liancourt commented in 1795 that the cost of goods at Newark was high due to local price fixing and duties levied by England. High costs due either to transport or duties would have encouraged contraband trade in American goods, as Weld indeed observed at the time. Whatever hardware could be obtained at a lower price may have been the source of supply. In the absence of either distinctive features in the archaeological samples or direct statements in the historical record, the source of the nails and other hardware for the guardhouse and indeed for all of the original Fort George buildings remains unknown.

Construction of the Guardhouse

In addition to the nail specifications represented in Table 6, board sizes are given in the guardhouse materials estimate:

- Fifty 1/2 inch Boards
- Two hundred & eight 3/4 Inch Boards
- Four hundred Inch Boards
- One hundred 1 1/4 Inch Boards
- Two hundred 1 1/2 Inch Pine Plank
- Two hundred 2 Inch Pine Plank
- Nine thousand shingles

The nails obviously would have been used to fasten the boards and planks in place. The principles used at Amherstburg in 1796, to construct a blockhouse according to a plan approved for use at that place (Fort Malden), Fort St. Joseph, and Fort George, may reflect the architectural practice in other buildings and at other posts as well:

A block-house, built on the most approved plan, is so constructed, that if one half of it were shot away, the other half would stand firm. Each piece
of timber in the roof and walls is joined in such a manner, as to be rendered independent of the next piece to it; one wall is independent of the next wall, and the roof is in a great measure independent of all of them...40

If the buildings at Fort George were similarly constructed by joinery, as respects their heavy members, then the few (two) spikes found with the guardhouse remains would be explained.

From the nails and boards specified in the construction estimates for the two smaller Fort George blockhouses41, for a contemporary guardhouse at Isle au Bois Blanc,42 for detached kitchens with the officers' quarters at Fort George,43 and for other structures cited in the same two sources, it is possible to make correlations between board thicknesses and the lengths of nails used to fasten the boards and to suggest the uses of various board sizes. The conclusion is that nail lengths were approximately double the thickness of the boards for which the nails were intended.44 The correlations are as follows:

<table>
<thead>
<tr>
<th>Nail size</th>
<th>Board thickness</th>
</tr>
</thead>
<tbody>
<tr>
<td>lath</td>
<td>lath; 1/2-in. board</td>
</tr>
<tr>
<td>shingle</td>
<td>shingles</td>
</tr>
<tr>
<td>10d</td>
<td>3/4 in.</td>
</tr>
<tr>
<td>20d</td>
<td>1 in.</td>
</tr>
<tr>
<td>30d</td>
<td>1-1/4 in. and 1-1/2 in.</td>
</tr>
<tr>
<td>40d</td>
<td>2 in. (plank)</td>
</tr>
</tbody>
</table>

Materials lists which show exceptions to the above pattern may readily be found and nails longer than double a board thickness may of course have been used.

The uses of certain board and nail sizes might be reflected in the amounts ordered if it could be shown that quantities were appropriate for the size of the buildings. In the case of an 1818 estimate for a privy, it was possible to design a structure 14 ft. by 20 ft. in size, with 10-ft. high walls and a 1:1 pitch roof, in which the amount of lumber specified would virtually all have been used if boards 20 ft. long and 8 in. wide were employed for the flooring, siding and roof.45 In the case of the guardhouse, the structure itself was more complex and there may be additional complications due to the materials list itself. For example, the list included no lathing although lime, sand, hair and lath nails were all there. Was it intended to split the 1/2-in. boards to lath size? The guardhouse estimate gives only numbers of planks, without their intended lengths or a running length for given board sizes. This effectively handicaps any effort to suggest the uses of boards (and nails) in the original guardhouse. When we consider too that six board thicknesses (plus lath?) are being specified for a structure with log walls (that is, not of frame construction), there are simply too many variables
to make much progress in redesigning this building, comparable to what was achieved with the 1818 privy estimate.

Vincent has suggested probable uses of the various construction materials in the guardhouse estimate. Our own attempts to redesign other, less complex structures from the lists in her report and Desloges; as well as the guardhouse estimate itself, lead to suggesting these possible uses:

- 1/2-in. board - lathing or?
- Shingles - shingles
- 3/4-in. board - weatherboarding
- 1-in. board - roof covering
- 1-1/4-in. 1-1/2-in. boards - interior finishing
- 2-in. planks - flooring

In the case of the flooring, where a design figure of 1,728 sq. ft. is probably quite accurate, 400 2-in. planks each 8 in. in width and 12 ft. long would have sufficed quite nicely, leaving less than ten per cent as wastage. For the roof, 1.0-in. boards of the same length would have provided twice the material needed. With the weatherboarding 8-ft. lengths of the boards indicated and some 280 of these would have been adequate. The timber members are appropriate for a hip roof with a 1:1 pitch and the lack of spikes in both the original estimate and archaeological record indicates timberwork held together by joinery.

This limited effort at least seems to reinforce the inference based upon estimating the amount of nails needed; that is, that the boards requested were an honest reflection of what was needed.

Clenched nails offer another opportunity for inferences on construction procedures. Through the site as a whole there were two general types of clenching; one in which the shaft had a single (rarely two) approximately right-angle bend, and the second in which the nail shaft had curled around upon itself. The first type reflects a nail penetration through two board thicknesses, into open space or an unresistant material behind, after which a hammer blow flattened the nail point against the proximate board surface. To make a curled shank, the carpenter must have laid an iron plate on the ground beneath where his nail point would project, then by pounding on the head he caused the shaft to continuously curve back into the wood as it emerged from the lower board.

There were only 19 clenched nails in the occupation surface sample (Table 8), of which 14 had been flattened and 5 had a moderate curl. These perhaps had been used to fasten together the boards in doors and cupboards and to attach hardware to boards, as well as wherever else two boards had to be joined in such a manner. When clenched lengths are plotted against original shaft lengths there appear to be four groupings: (a) nails 1-3/8 in. to 1-5/8
in. long clenched at around 3/4 in.; (b) 1-5/8 in. to 2-1/4 in. nails with clenching at 1-1/8 in.; (c) 3 in. to 4-1/8 in. nails clenched at 2-1/4 in.; and (d) 2-3/8 in. (10d) nails with clenched lengths between 1-1/2 in. and 1-11/16 in. To the extent that the clenched length indicates two board thicknesses, the boards would have been of the three thinner sizes. Finally, with one exception, the general purpose, rose-head sharp wrought nail form had been used in these clenched applications, whereas the presumed finishing nail form (T-head) occurred only once in the sample.

While shank lengths may have been the most important factor in nail ordering, the forms (Figs. 16, 17, 18) perhaps reflect use also. Rose-head wrought nails, including the heavier shanked forms, were more probably general purpose nails. The T-head nails and thinner-shanked forms, the latter near 4 in. in length, were likely intended for finishing work. T-heads were often made from rose-heads by hammering down two sides of the T-head. The thick-shanked, clasp bevel-headed nails would have been appropriate for securing floor members. Various other forms have a very low frequency in the study sample and might have been derived from some specialty uses.

The nails from contexts other than the occupation surface in operation 19H1 show the forms and sizes that occurred in the study sample, with only a small proportion of recent admixture (wire nails) (Table 4). Apart from the wire nails, these other specimens are presumed to be from the original construction.

Conclusions

The following conclusions may be drawn with respect to the problems expressed at the beginning of this nail study. The archaeological sample shows five of the six nail sizes given in the original construction estimate and although less than ten per cent of the 37,000 nails called for were still in or around the building foundation, proportions among the sizes recovered approximate proportions in the 1797 list.

A correlation between nail lengths and the thickness of boards for which the nails were intended may be established. This is based on comparisons of materials lists, principally for structures simpler in construction than the guardhouse and not on archaeological evidence. Exceptions to the suggested pattern of use may be found without trouble and longer nails could always have been employed with a given board thickness.

The archaeological record has little or nothing to offer regarding the places which nails and boards of various sizes had in the original guardhouse, after the existence of certain nail sizes has been shown. However, when the
guardhouse materials estimate is compared with those for other, simpler, buildings, inferences as to what uses certain board sizes and their associated nails had in the guardhouse can be put forward. This does not permit a redesign of the building, partly because the original was too complex for this to be attempted without better historical data, but suggestions can be offered about where certain board thicknesses found use. Nothing has been inferred from the nails and the boards that would increase our knowledge of the interior layout.
Blockhouse No. 2

Procedures

The original centre blockhouse (1796-1813) had been one of the largest buildings and it seemed reasonable that a portion of its foundation might remain. A search for this building became an early and then a continuing part of the 1974 research program. An early version of the superposition map discussed in "The Fortification Ditch and Alignment of the First and Third Forts George" gave principal guidance for selecting test trench locations. Estimated distance across the parade ground from the original guardhouse, as scaled from 1799 and later maps, was also considered. We anticipated a stone foundation similar to that in the guardhouse, but had no means to estimate its probable depth. Ground surface elevation around the present building is 294.1 ft. to 294.4 ft. ASL in front and 293.9 ft. to 294.1 ft. ASL behind it.

It turned out that the first test location was quite wrong. Test trench 19H8A (Fig. 38) found no building and offered little encouragement. It was only in the seventh trench (19H8X), after working more than halfway around the existing building perimeter, that we met with a surviving part of the rear wall foundation and north corner. Two additional trenches could find no further remains. An expansion of test trench 19H8X permitted complete excavation of the remaining wall and corner of the original blockhouse no. 2, where exposed behind the reconstruction (Figs. 19, 21, 38). Ground floor dimensions of the reconstructed blockhouse are 40 ft. by 120 ft. as compared with 26 ft. by 96 ft. for the original and it was fortunate that the old foundations had not been completely covered or destroyed. If more of the first building should still remain beneath the modern one, the occupation surface and upper courses at least will probably have been removed. It was not possible during 1974 to test underneath the present building's floor.

Test Trenches

Of the nine separate test trenches dug in search of the original blockhouse no. 2, only trench 19H8X scored a success. The other eight all encountered fill to greater or lesser depths and occasional features, but nothing particularly
significant for the history of Fort George. The locations of all are shown in Figure 38. Observations on what these trenches did contain or uncover may be summarized before proceeding with a discussion of the blockhouse remains. For test trench 19H8B, Figure 95 illustrates the profile directly under the front wall of present-day blockhouse no. 2, Figures 19 through 22 give details of the original foundation. In this report Figure 38 is the only representation for the other seven and that figure includes any features worthy of mention.

The initial trench, 19H8A, encountered the dark gray fill of the prereconstruction ground level at 292.6 ft. to 293 ft. ASL and then undisturbed sediments below 292 ft. ASL or slightly lower. The two intrusive electrical utilities crossed this test and the one through the centre did contain large foundation-type stones as backfill. However, these stones most probably came out of the present foundation and went into the backfill in 1967 when the utility was installed.

Three test trenches - 19H8B, 19H8C and 19H8E - spaced along the front side of today's blockhouse no. 2 all revealed fill to various depths, but nothing structural. Trench 19H8C was the shallowest; it came to a sterile reddish sand at 293.0 ft. to 293.1 ft. ASL for an average depth below surface of 1.0 ft. to 1.1 ft. Any original foundation in this area would therefore lie within a foot of the present surface if it survived at all. When the next trench - 19H8E - still contained fill at 293.2 ft. to 293.4 ft. ASL, there was little point in continuing it to a greater depth if in search of blockhouse remains. Partly to ensure against complacency, excavation of the southwesternmost 5 ft. in 19H8E carried down to sterile at 288.7 ft. to 288.8 ft. ASL. The nearly 6 ft. of fill here contained some 20th century artifacts for most of the way down and another manifestation of the former ground surface at 292.5 ft. ASL. Preparation of the final map superpositions (Fig. 69) eventually showed that this test must have come down within the 170-ft.-long barracks from the third Fort George.

The third test in this area, 19H8B, encountered sterile gray silt in the east corner, at a maximum depth of 6 ft. Otherwise fill was not completely removed. This location overlay the fortification ditch around the third Fort George, but both the profiles and the artifacts indicate that the present ditch fill is quite recent, probably 20th century, and therefore the original fill has been disturbed or removed and replaced (Fig. 95). The lowest level contained almost two dozen wire nails and glass from 20th-century soda bottles. At the start of test 19H8B, hopes had been raised by the discovery of 70-plus gunflints, many of them burned and fragmentary, within 1.0 ft. to 1.6 ft. of the present surface near the southeast end. The wire nails
far below meant that the flints (not tabulated in Table 26) had been redeposited.

Excavations in test trenches 19H8F and 19H8U, off the northwest end of blockhouse no. 2, ceased while both were still in fill. At their northwest ends these had been taken to 292 ft. ± 0.25 ft. ASL; close to the building wall, this base level was 292.7 ft. to 292.9 ft. ASL. At these levels the dark gray fill of the old surface began and no foundations could have survived here. Behind the blockhouse, test trench 19H8Y stopped at only 1.0 ft. - 1.1 ft. below the ground level when undisturbed sand appeared over part of the exposed area. Test trench 19H19A, an attempt to find the east corner of the original foundation, found only some disturbed foundation-type stones, brick and stone rubble, and various artifacts. The disturbed stones may have nothing to do with the former foundation. The fill graded into a sterile brown sand at 291.2 ft. to 291.4 ft. ASL.

Foundation

The north corner and 27 ft. of the northeast wall, all that could be found of the original Blockhouse no. 2 foundation, lie up to 5.5 ft. behind the replica building and parallel with the latter's rear wall (Figs. 21, 38). The excavated corner is 15 ft. to 15.5 ft. southeast from the north corner in the modern unit. By successive expansions of test trench 19H8X, the testing exposed the masonry and cleared around or beyond it. The shallowness of the whole affair and numerous subsurface disturbances mean that we were very fortunate to find anything preserved (Fig. 20). Only several feet of the old northwest wall remain and the northeast wall has been abruptly truncated by the fortification ditch around the third Fort George.

For the foundation, chunks of limestone or dolomite had been laid up as random rubble coursing, with the individual stones from a few inches to 2 ft. in length. The angular stones had not been trimmed although the split faces generally aligned with the wall sides (Figs. 19, 20). Larger stones formed the inside and outside faces, the core between being almost rubble. The foundation contained very few brick fragments and only two chunks of lime mortar, the latter just where the fortification ditch cut off the wall. Perhaps most surprising was the apparent use of mud mortar to bind the stones together, which may have contributed to the disarray evident in the upper coursing. This mud binding had now disintegrated into dark brown or gray sand.

Top of the foundation wall was only 0.8 ft. below ground or at 293.0 ft. to 293.3 ft. ASL. The base of this wall, where examined by a section through it, lies at 291.9 ft. ASL and the maximum standing height seems to be 1.6 ft.
Design width had been 2 ft. This foundation may retain its full height; the top is about 1.0 ft. below the comparable level for the guardhouse. With a possible qualification, there were no displaced stones lying adjacent. Just outside of the northeast wall and at 7 ft. to 11 ft. from the north corner, a platform of loosely piled stones extended to 2.5 ft. from the building (Fig. 21). Elevation of these stones matched the foundation top. A similar projecting feature at the privy was interpreted as a step and the same may apply here. With reference to the 1796 ground plan for the centre blockhouse, this would mean that the exterior doorway by the north corner had been in the northeast rather than in the northwest wall, though at the same distance from the corner. As a possible modification of the building design during construction, such a relocation would have been a small detail.

The foundation for blockhouse no. 2 had been laid up in a builders' trench. A dip circa 0.4 ft. deep existed in the red sand (see stratigraphy section) and less than 0.1 ft. of a yellow sand fill intervened between stones and silt. This trench must have been wide enough to accommodate the wall and no more, and the foundation had no footing beyond the red sand. The old ground surface has long since been removed and there is no way to determine how deeply into the ground the foundation was set.

**Stratigraphy**

Stratigraphy around this foundation indicated that the cultural layers were compressed within the same shallow depth as at the guardhouse foundation (see "The Guardhouse). The levels were not so clearly defined or as extensive as at the guardhouse, and understanding came partly from attempts to correlate profiles. The profile and sectional drawings in Figure 22 illustrate the situation rather fully. With respect to Figure 22, all parts of profile and section E-E should be lowered circa 0.3 ft. relative to the elevation lines in order to be accurate.

Gravel, a deposit dating from the late 1930s, was 0.6 ft. to 0.8 ft. thick along the northeast side of the test trench. By the back wall of the reconstruction this gravel had thinned to 0.3 ft. or had disappeared entirely. Just below the gravel, to the northwest side of the foundation and continuing beyond the excavation limits, was a burned level where patches of sand had been discoloured black and red (Fig. 21). No charcoal or cultural material had accumulated on this surface, however, or else this had been cleared away. By analogy with the guardhouse, this zone was probably an occupation surface. It occurred only 0.8 ft. beneath the modern surface, and at an ASL elevation of 293.4 ft. to
293.5 ft. The top of the adjacent foundation was at this same level or slightly lower. Some 365 ft. away the guardhouse occupation surface lay only 0.3 ft. to 0.6 ft. higher.

The same level appeared in profile on the northeast side of the main trench, at least to a point 5 ft. from where the fortification ditch cuts that side of the trench. Along this profile a circa 0.1-ft.-thick stratum of reddish-brown sand, burning debris or simply gray ash, occurred at the base of the gravel wherever the gravel did not rest directly upon a yellow sand. This burning level maintained about the same elevation, circa 293.4 ft. ASL, and also stayed within 0.1 ft. (vertically) of the adjacent foundation top. Some 8 ft. out from the masonry, towards the northeast, a gray stain at the top of yellow sand disappeared.

The yellow sand stratum is probably a natural deposit; at worst it may be clean fill. It was continuous, and though occasional black pockets or patches occurred within it; there were virtually no artifacts. At approximately 0.6 ft. to 0.7 ft. below the burning level, yellow sand was replaced by sterile red sand. A test trench dug to expose a section through the foundation showed that the masonry base lay 0.4 ft. or more below the red sand-yellow sand interface level; within a shallow cut.

The stratigraphic situation inside of the blockhouse foundation was quite analogous to what has been described (Fig. 22 Profile B-B). A thin, dark reddish-brown stratum represented the occupation surface there and was generally less than 0.1 ft. thick. It occurred at the same level as the burn area outside to the northwest. The yellow sand beneath was clean, with the black patches and pockets. There had been no debris accumulation upon the surface or any signs of it having been prepared or compacted, so we assume that this was probably the old ground level beneath a wooden floor. The evidence of burning on the occupation surfaces both inside and outside of the walls pointed to destruction of the superstructure by fire.

The large intrusion uncovered in the southeastern 8 ft. to 12 ft. of the 19H8X trench was clearly another portion of the fortification ditch around the third (and second?) forts. Its position on the site, angle, alignment with other parts of the ditch system, and cutting through of the foundation all supported this interpretation and we saw no reason to excavate into the feature. Profile A-A in Figure 22 even shows the beginning of the downslope into this ditch, from the top of the yellow sand stratum.

Associated Artifacts

The excavations recovered very few artifacts here. Materials from the overlying gravel and from the fill above the
fortification ditch have been excluded from study; all others are grouped as one context and reported in the accompanying tables. The 17 chert flakes must belong with a prehistoric occupation. More definitive would be the 30 ceramic sherds, of which the identifiable ones were principally creamware, pearlware or burned. With dark green wine bottles and at least one fruit jar, glass from a century apart may have become mixed here. The nail total at least had only one wire one, the others being wrought. Nestled between several rocks at the top of the foundation was a sadiron base. Whether this or the iron handle had any more association with the foundation than did the fruit jar is questionable at best. The burned gun flint, with the eight burned ceramic sherds and 11 similar pieces of glass, had presumably been at hand when the building burned. Pane glass, some two dozen pieces, featured thin, medium and thick varieties. Military items, other than the gun flint, were noticeably absent.

This collection is neither very diagnostic nor datable. Little if anything actually came from the burned levels and the whole inventory came from so near to the gravel stratum that it is difficult to feel much assurance about artifact-structure associations. When the obvious late 19th century intrusions are put aside, the balance could fit an early 19th century context. It is other evidence that allows us to identify this building as the original centre blockhouse.

Conclusions

The horizontal and vertical positioning on the site, destruction by burning, location relative to the intrusive fortification ditch, and construction techniques all support the correlation of this foundation with the prewar central blockhouse. It lies 340 ft. across the parade ground from the guardhouse, as measured front wall to front wall, but the difference between this dimension and the 315 ft. to 320 ft. indicated on the 1799 and 1803-04 maps is an acceptable amount of error in drafting and scaling of these maps. No known evidence argues against the correlation. The shallowness of this foundation and the reconstructed blockhouse being sited over most of the original probably means that any other part of the original is gone.

Two comparative observations may bear on its construction and appearance. Isaac Weld\textsuperscript{2} saw the Amherstburg counterpart of this Fort George building going up and his comments on the construction of walls and roof have been quoted in "The Guardhouse." The third blockhouse to be built to this common plan, at Fort St. Joseph, was excavated by Norman Emerson and Karlis Karklins.\textsuperscript{3} So far as could be seen, the building there conformed to the 1796 plan and this included
the two fireplace base locations.

Indications that the superstructure in this building burned thrust a little more complexity into the argument about when the fort was modified and rebuilt. If this foundation was for the original centre blockhouse, then the most economical explanation for its destruction by fire is the comprehensive loss that occurred on 25 May 1813. Should this be true, the original Fort George construction would evidently have been destroyed in 1813 rather than a new set of buildings erected in 1812, as implied by the Van Deventer map. The excavated building identified as the centre blockhouse must have been lost sometime prior to excavation of the ditch through its remains, and it is true that the ditch need not have been dug before 1813 (that is, perhaps for a later rather than for an earlier phase of the second Fort George) since Van Deventer's map shows only a palisade for this area. The non-inclusion of this building on his map from the summer of 1812, when loss of the unit presumably occurred in late May 1813, is the difficult point to explain. We suspect the answer to be that the Van Deventer map shows a new line or enclosure at Fort George, but the major buildings therein were the originals with inaccurate locations.
The Powder Magazine

Procedures

The old stone powder magazine (operation 19H3) was not questioned as being an original Fort George building, however much it may have been modified, reroofed and even rebuilt through the years (Figs. 23, 27). The problems for field investigation involved examination of the foundations to see whether alteration of the building or the existence of accessory structures seemed to be indicated, also to recover material samples that perhaps had been part of the original construction. A concrete slab from the reconstruction period covered the entire interior subfloor and so the investigation proceeded by three test trenches around the exterior (Fig. 24).

Findings in all three tests were quite similar and the results can be discussed as a unit, with qualification where necessary. Ground level around the magazine was consistent at 283.9 ft. ASL. Though the three excavations were controlled vertically by two or three levels, cultural stratigraphy seemed to be absent. Balks left in two of the trenches proved to be less informative than the wall profiles. The situation with respect to both foundation and stratigraphy will be grasped more readily from illustrations than from written descriptions, hence the rather complete set of drawings in Figures 24-25 and 29-30 and the supplemental photographs.

Foundation, Shoring and Slabs

The excavations found poured concrete shorings along the main walls, commencing about 1.0 ft. below the ground level, everywhere except in a corner by the southwest buttress (Figs. 24-26, 28, 30). This concrete had been poured in places, as segments 3 ft. to 5 ft. in length, with cross-sections about as shown in Figure 25, Sections B-B and F-F and Figure 30. The trenches dug prior to pouring the concrete had undercut the stone walls by up to 0.4 ft. Just why these shorings had been thought necessary was no longer apparent. Only in the corner by the southwest buttress had the old wall been left exposed (Fig. 28). Where any mortar bonding remained in wall stones adjacent to the concrete shorings, it was old lime mortar rather than Portland cement.
Above-ground portions of the walls had been tuck-pointed if not reset with modern cement (Fig. 27), but the archaeological work produced nothing to show that the walls were anything other than original.

Buttresses may be a different matter. Three that were examined rested upon concrete slabs, with the tops of the slabs some 1.7 ft. to 2 ft. below ground level or about even with the base of the shorings (Figs. 25, 26). A builders' trench followed around the outside of each slab and the slab faces showed that concrete had been poured against board forms. One slab had a projecting wire nail. Where slabs and shorings came together, the latter rested upon or overlay the former, thus indicating that the slabs had been in place first.

At the southwestern buttress along the northwest wall an effort was made to probe the association between buttress stone work and the concrete slab. A tunnel beneath the northeastern side of this slab found the concrete resting upon gravel for at least 2.5 ft. towards the interior from the slab face, confirming the inference of a slab (Fig. 25). On the opposite side of this buttress another tunnel encountered concrete only as a shoring. Directly behind this concrete and extending up into the buttress from the gravel were stones in a matrix of clay. Since these stones could not be removed, it is not known how the stone on one side interfaced with the slab, on the same level, which extends inward from the other side. Another section through the southwestern side of this buttress, closer to the corner, revealed a regular concrete shoring there (Fig. 25).

The scarcity of associated and datable artifact remains in this operation, either within the builders' trenches or elsewhere, leaves the age of this concrete work uncertain. In addition to the projecting wire nail, a very well preserved stub from a creosoted 6-in. by 6-in. timber lay in a builders' trench by the southwest buttress, with a rock over the wood. Available reports on the powder magazine stabilization during the late 1930s did not mention concrete work. Specifications dated September 1938, for concrete, masonry and plastering on the Fort George restoration, implied a slab floor inside the magazine but said nothing about slabs or shorings on the exterior. Most conclusive was one photograph from the same period (Fig. 27) that showed the buttresses as freshly-laid masonry. The slabs were necessarily in place by then.

The problem of dating this concrete work was complicated by the buttresses having been rebuilt not once but twice. Originally the magazine had no buttresses.¹ Lossing's sketch from 1860 illustrated the low buttresses first shown on an 1823 elevation and section of the building.² In 1893 a local contractor named Thornton did extensive repairs on
the building and stated, among other things, that "I built six buttresses and copped [that is, capped] them with portland cement." Since Thornton did not specify pouring slabs for his buttresses, he probably did not do so. By 1934 his buttresses were in need of extensive repairs.  

The conclusion on the concrete slabs and shorings is that they are no more recent than the second contract with Brennan Paving Company, awarded in September 1938, and were most probably built during the span of that contract. The slabs formed a base for the new buttresses; the motive for the shorings is not clear.

Along the lower part of the northeast wall a footing made of the same stones as in the wall projected 0.4 ft. beyond the plane of the wall (Figs. 24, 30). The two side walls featured a double footing; an upper one above-ground and ranging from negligible width to 0.15 ft., with a lower one below-ground and up to 0.25 ft. in width (Figs. 25, 30). Concrete masked the base of the walls almost everywhere. At Section F-F (Fig. 25) the stonework began at 1.4 ft. below the present ground level; in the exposed corner by the southwest buttress this base level lay 1.5 ft. to 1.6 ft. below ground (Fig. 28). In the other test locations we saw that the stone base lay higher than the bottom of the shorings and therefore less than 2 ft. below the modern surface. The original walls rested upon either sand or clay.

Stratigraphy and Associated Remains

Stratigraphy in the three test trenches is represented by the profiles in Figures 29 and 30, the profile locations being keyed to Figure 24. In general an undisturbed sand or sandy silt occurred within a foot of the present ground surface and so close to the building as at the outer edge of the builders' trench. Occasionally the fill zone extended to 1.5 ft. in depth and there were a few, easily recognizable, intrusive pits and trenches. Overlapping and discontinuous levels, generally marked by mortar concentrations, existed within the upper 0.8 ft. of fill and probably represent old work surfaces. At some place within each of the three trenches the testing reached gravel, at 279.5 ft. to 281 ft. ASL. Excavation into the gravel by the southeast magazine wall found the water table 2 ft. beneath the gravel surface. Rotten board remains in the trench by the northeast wall lay only 0.05 ft. to 0.25 ft. under the surface (Fig. 31). The board grain ran southeast to northwest, parallel to the magazine back wall, and a wire nail remained in the wood. A layer of mortar mixed with earth lay directly beneath the board remains. The significance of this is evidently a board floor, perhaps for the shed shown in a picture from the mid-1930s or for a work platform from the
stabilization.

Clearly dating from the reconstruction period were the trim ends of boards found outside the centre buttress, along the northwest wall. Outside each buttress, where tested, lay a concentration of rock in a shallow depression (Figs. 24, 26). These stones probably represent leftover building materials and trimming debris from the restoration. From the general appearance around the magazine area at that period, as shown by Figure 27, neither the existence of such stone piles or the apparent absence of stratigraphy is a cause for wonder.

Associated Artifacts

A small number of artifacts may have had an actual association with the powder magazine and military occupation. These would be the five cast brass tacks, with flat heads and Shank lengths of 1-1/8 in. to 1-3/8 in., like specimen no. 84 in the 1813 memoranda. They derived from the lowest level in the trench by the northeast wall and had probably held copper sheeting onto some of the magazine's original woodwork. Similar examples are known from the magazine at the fort at Coteau-du-Lac. The same level as the tacks unfortunately contained the brass base for a 10-gauge paper shotgun shell. A .75 calibre musket ball and one gunspall were the other military artifacts from the powder magazine excavations.

Of greater potential interest may be the corroded sheet iron fragments found in the test outside of the northwest wall, mainly in the area just north of the southwest buttress. Cleaned samples showed a sheet thickness of 0.05 cm. or 0.02 in. and remnants of tin or terneplate. The plating and the folded seams indicate that the fragments were from "tin" roofing. Seam widths fell into two groups, 0.63 cm. or 0.25 in., and 1.4 cm. or 0.55 in.

We knew that the 1796 materials list called for a sheet iron roof and that the building (still?) had such a roof in October 1830. Lossing reported it with a slate roof in 1860, but the excavations produced no slate. Thornton stated in 1893 that "I will paint the roof to preserve the tim [sic]." Analysis of the plating should determine whether the plating is actually tin or the tin-alloy known as terne metal. Since the latter came into use during the early 1840s, it would mean a replacement roof if found in the magazine samples. An estimate of sheet size or other details would probably be hopeless if attempted from the present samples since they are fragmentary and the roofing was available in a large number of sizes and weights.

Copper trimming scraps, a common inclusion in the fill, may be no older than the 1930s. The predominant ceramics
were a brownware drain tile, three dozen fragments in all, found as fragments in all of the test trenches. These may be no older than the late 19th or early 20th century. Other ceramics consisted mostly of white earthenware, probably mid-19th century and more recent in origin. The five creamware sherds would have been appropriate for the early years of the magazine's existence and so too would the only sherd of a black-glazed earthenware with a dark red body and moulded relief decoration, a ceramic known as Cyples Ware. Glass showed an equally diverse array, with dark green wine bottle sherds, modern soda bottles, and other items which range in age from the early 19th to mid-20th centuries. Finally, the nail assortment included wrought, cut and wire examples.

The total artifact collection was quite small and the number from a given context amounted to so few that it was not possible to state when layers were laid down or when features intruded. Ceramics and other more sensitive artifact types indicated mixture or disturbance in the fill. Much of the material may have had no association with the magazine prior to its occupation as a dwelling sometime in the 19th century, and perhaps is derived from that interval.

Interpretations

In place of an old ground surface around the powder magazine, there was a general fill stratum with levels of mortar and other debris, apparently work surfaces, with undisturbed sand beneath. Cultural stratigraphy, if present, was probably removed during the restoration(s). Only disturbed contexts remain.

The basic magazine structure appears to be original. Buttresses as well as the concrete work evidently date from the late 1930s, however. While not an archaeological problem, two windows through the southeast wall were a modification from sometime prior to 1860 since Lossing's sketch showed them. An inspection in September 1892 had reported that the windows were created "about thirty years ago." Pieces of sheet iron or "tin" roofing confirmed the use of this for an earlier roof and, depending upon the plating composition the recovered specimens, may or may not have been from the original roof. As for accessory structures, there was only the rotten board remains outside of the northeast wall. No evidence of burning came to light. Exterior modifications to the present building have not been serious and it could be brought to nearly its original appearance with modest effort.
Test Trenches, Southeast Part of Fort George

The Officers' Quarters and Its Kitchen

The large officers' quarters and its kitchen had stood just to the southeast side of the parade ground at the first Fort George. As another part of the 1974 program we sought anything remaining of these two structures, or to establish that nothing was left.

An early version of the superposition map mentioned in "The Water-line Test Trenches" guided the initial test trench locations. Experience with the guardhouse led us to expect more stone foundations.

Modern surface elevations around the officers' quarters and kitchen are extremely consistent at 294 ft. to 294.2 ft. ASL. Along the roadway southeast of the quarters the level rises to about 294.3 ft. ASL and by the roadway to the northeast it has dropped to 293.8 ft. ASL. This flatness is a probable consequence of the reconstruction program. However, the 1:30 scale contour map, "John's map," referred to near the end of "Historical Background," shows elevations of only 294.9 ft. ASL behind the officers' quarters and other readings of 294.4 ft. or above through the same area. This means that the present ground surface is less than a foot lower than the level here before 1937. Much of the area around these buildings has a cover of pea gravel.

Test trenches were eventually placed to all sides of the officers' quarters and along three walls of its kitchen. This test series all came under the operation 19H7 heading, with suboperations A through M assigned to denote the individual trenches (Fig. 32). These did encounter a series of subsurface features which will be described below, but we could find no foundations or other substantial remains of the quarters or the kitchen and no grounds for thinking that some part of these yet existed. The final projected locations for the two original buildings (Fig. 69) differed slightly from our early assumption and the first officers' quarters probably lay beneath the replica (see "The Fortification Ditch and Alignment of the First and Third Fort George"). If so, then the reconstruction has at least made inaccessible and almost surely destroyed whatever the fortification ditch did not take away.

All but two of the test trenches encountered utility intrusions and several came upon the other features described
below (Figs. 32, 40, 49). Apart from these disturbances, the trenches all found a sterile red sand at 1.0 ft. or less beneath the present level. The surface of this sand was relatively consistent at 293.3 ft. to 293.5 ft. ASL through the trench system, dropping slightly to 293 ft. to 293.2 ft. ASL in the trenches which extend towards the northeast. A stratum of light brown sandy clay containing rubble and a few artifacts intervened between the red sand and the upper course of gravel, where the gravel existed.

A consensus as to what happened in this area can be arrived at by comparing the 1:30 scale contour map "John's map" with our final estimate of superpositions (Fig. 69) and the stratigraphic findings just outlined above. Excavation of the fortification ditch around the third (and second?) Fort George had removed the front part of the prewar officers' quarters. Test trench 19H7K in fact came down almost squarely upon this ditch (Fig. 32). What happened to the landscape immediately southeast of the ditch and the old building we do not know, but by sometime early in this century the surface there stood at about 294.9 ft. ASL. During the reconstruction this area may have been scraped down to sterile red sand or to an equivalent level, removing up to 1.4 ft. of fill. If any foundations from the original officers' quarters and kitchen had persisted until that time, they were lost with this ground preparation. The light brown sandy clay just above the red sand was more likely a redepotition from the time when this work was ongoing than an old level with some occupational association. It is possible, judging from the perspective of Walsh's 1805 painting of the fort interior,¹ that the officers' quarters vicinity originally stood slightly higher than the land around it. Any old foundations in the area would have been especially vulnerable to destruction due to levelling.

Subsurface Features by the Officers' Quarters

Although it is not shown on Figure 32, there was a subsurface feature (19H7E3) at the point where test trench 19H7E met the inside corner of the officers' quarters. The sides of this test trench crossed the east side of this feature at 2 ft. and 4 ft. from the end of the trench; how much of the feature lies beneath the building or at least under its rear veranda, we do not know. The exposed part of the feature was excavated to a depth of 290.3 ft. ASL or about 3.4 ft. below the gravel surface, down to a hard gray sand. By its proximity to where we think the original officers' quarters must have been, this feature may have had an association with that building. The identifiable artifacts - a few creamware and dark green bottle fragments, eight wrought nails - have therefore been listed in the accompanying
A second feature, this one shallow and with an irregular outline, extended southwest for 11 ft. from the west end of the drain lateral and projected for about 6 ft. from beneath the southwest wing of the officers' quarters (Figs. 40, 47). This excavation unit was designated 19H7F3. The presumption that it may have been associated with the original officers' quarters is based upon its contents, possible association with the drain lateral, and closeness to the probable location of the old building. Maximum depth of the feature was at 292.4 ft. ASL and its fill consisted of a light brown sand with brick fragments, lime, plaster and charcoal. In addition it contained a completely charred ½-in.-thick board (Fig. 40).

The relative wealth of the 19H7F3 artifacts, many of them burned, and their possible association with the officers' quarters justify listing these as from a significant context. The burned and melted glass and ceramics suggested that this debris might derive from the May 1813 burning episode. The cut lath nails, along with the many wrought nails and the food scrap nature of the faunal remains, do indicate destruction of a habitation here. Particularly notable were the blue shell-edge pearlware ceramics, which contrasted with the green shell-edge ones contained in features between the kitchen and the officers' quarters (see below), and the butt plate probably derived from a U.S. model 1795 musket. The latter alone would suggest a date no earlier than 1813 for the context.

The Hospital and Its Kitchen

The same prefatory remarks as pertain to the officers' quarters and kitchen apply to the search for the original hospital and its associated kitchen. The workshop-forge and the administrative office on the site today stand in roughly the locations of the old hospital and kitchen though the office building is dimensionally quite different from anything there before (Fig. 32). Blacktop pavement lies to the northwest of both structures and extends around two-thirds of the workshop.

Test trenches which attempted to find foundations or other remains from the first two buildings were all numbered under operation 19H13 (Fig. 32). The spacing of these trenches along the edges of the blacktop as well as adjacent buildings reflected our knowledge just gained from work around the officers' quarters. If we found undisturbed sediments at 1.0 ft. or thereabouts below the ground level, all around the blacktop perimeter and wherever we could test close by the present buildings, removal of the blacktop for the sake of testing would be wasted effort. Any foundations in this area would have been lost long ago. In the end, a
sterile red sand did appear consistently at about this depth and it was consequently unnecessary to elaborate on the test trenching here.

The general surface elevation through this part of the site was 294 ft. ASL, the same as when a mess hall and hospital stood here earlier in this century (see "John's map"). Around the southwest side of the office the ground level has been artifically raised to 295.2 ft. ASL, while by the northeast end of trench 19H13B the level sloped down to 293.6 ft. ASL. The gradient was only circa 0.2 ft. from northwest to southeast in trench 19H13D, before the latter commenced to downslope into the powder magazine depression, but there was a drop of about 1.4 ft. from northeast to southwest along trench 19H13F (Fig. 32).

This series of trenches came upon a large number of intrusive utility lines, as many as four such in a single test, but only two features otherwise and no foundations from any period. Wherever undisturbed sediments still existed, they tended to be a sterile red sand. In test trench 19H13F a sterile yellow-brown sand was also present. Through the operation 19H13 trenches this sand appeared at about 293 ft. ASL, with an overall range of 0.7 ft. lower than this at the north end of trench 19H13B to 0.6 ft. higher in the eastern part of trench 19H13G. This area of the site, as with the ground just to the northwest, may have been graded to the red sand during reconstruction and then partially covered with fill again. Foundations for anything earlier would have been removed at that time if not before.

Test trench 19H13D was extended to 80 ft. in order to also trace the old surface contour into the powder magazine depression. We found that the present level surface and abrupt slope had indeed been built up. The level of sterile sand commenced to drop at about 12 ft. from the southeast end of this trench. At 9 ft. from the southeast end this sand lay 2.7 ft. below the modern surface; at 2.4 ft. from the end it had fallen to 6.2 ft. Maximum depth attained in this excavation was 287.3 ft. ASL, still in fill, as it proved unfeasible to trace out the complete contour. Fill at this end of the trench consisted of a light brown sandy clay soil with large stones (rubble) and a relatively small amount of cultural debris.

One small feature in trench 19H13G will be described later. Otherwise, this testing operation afforded a forceful lesson in observation and the superposition of features, thanks to the maze of utility lines uncovered (Figs. 32, 96). In some test trenches as much as two-thirds of the area had been disturbed by utility installations such as electric lines, sewers, water lines and drains. Up to four utilities showed up in a single trench. Virtually none of these had been anticipated. In most places the utility
nature was confirmed by digging down into the trench and working out the mutual intersections did provide a bit of exercise. However, the destructive potential of uncontrolled utility installations was all too clear.

The Drain Feature

Just behind the southwest end of the officers' quarters an early test trench crossed an intrusive feature at nearly a right angle. Excavation into this feature showed that it had two parallel walls, 2.9 ft. apart at the present base of the overlying gravel and slightly undercut at lower depths. Some 3.75 ft. below the surface the tops of two stone walls or ledges appeared, alongside either of the unlined vertical walls. Continued excavation between the stone ledges carried to a hard gray-brown sand at 5.15 ft. beneath the present ground level, equivalent to 289 ft. ASL. The resultant feature or features, after excavations had been concluded, appeared to have been a drain and is so called in the present report (Figs. 39-42).

The extent of this feature was traced out, at a shallow depth, by noting the division line between fill and sterile red sand to either side. Generally this could be done as soon as a test trench found undisturbed sand, that is, within 0.5 ft. to 1.5 ft. of the surface. The results are shown in Figures 32 and 40. Towards the northwest the soil division disappeared under the southwest wing of the officers' quarters. A broad, shallow test trenching project (19H8E) traced it towards the south and determined the general direction. Thereafter four discrete test trenches confirmed that the feature continued towards the south for a total measureable length of 225 ft. An excavation labelled 19H7Q2 provided a second cross-section through the fill of the drain (Fig. 42) and although the feature was sought in trench 19H7R, no indication of it had appeared at 1.9 ft. below ground. The end of the field season precluded any further attempts to follow out the drain. What proved to be a short lateral drain joined the main course at the southwest end of the officers' quarters.

The original trench walls, cut through hard sand and silt, were vertical to slightly undercut where the archaeological excavation first found the feature (Fig. 42, Section B-B; Fig. 43). At that location the sides of the drain made a square angle with the red sterile sand surface. This indicated that no slumpage or erosion of the walls had occurred and that the trench therefore had not stood open. Elsewhere (Fig. 41, Section D-D; Fig. 42, Section E-E) the side walls did slope in from top to bottom, but no erosion was evident. The wall surfaces gave no evidence of lining by clay, boards or otherwise, above the top of the stones.
Within the main drain feature a stone lining had been built up along the base of either wall to a height of four or five courses. The stones had been used as quarried and were of the same type and general size as used in the above-ground foundations (Fig. 44). They had been laid in mud or clay. The two faces on these low stone walls generally sloped in from top to bottom, the distance between them being 1.3 ft, to 1.5 ft. at the upper edge. Overall height of the stonework ranged from 1.4 ft. to 1.8 ft. A hard gray-brown sand formed the channel base and lowest limit of excavation. Elevation readings on this lowest level showed a gradient towards the south amounting to 2.85 ft. over a distance of 225 ft. for a grade of 1.27 ft. per 100 ft.

The lateral drain was of the same general construction (Figs. 40, 41, 45). Sides of the original trench were approximately 3 ft. apart at the top of the stone linings and the natural sides sloped outwards slightly as they rose. The stones themselves and their installation were as described above. Over the western end of the lining there was a covering of five slabs stacked on one another. From the northern limit of this cover to the main drain was an uncovered run of about 8 ft. and over this length the base of the channel graded downward about 0.6 ft. At its eastern limit the lateral came out on top of the main drain lining.

At the juncture between lateral and main drains the stone walls of the lateral continued partway over the channel of the main drain, where they could only be supported at present by leaving fill in position (Figs. 45, 46). What arrangement supported these walls originally could not be learned; if the fill in the main channel should be removed now, the lateral walls at this juncture would collapse into the channel. By its higher elevation, the lateral must have served as a tributary or feeder into the main drain channel.

A light brown sand, mottled with pockets of more reddish sand and gray silt or clay, filled the drain feature. Between the stone linings this became noticeably finer-grained. In general this fill was quite clean, especially with respect to artifacts, but it did contain some broken red bricks as well as occasional bits of wood, charcoal and lime. At the top of the profile where the drain was first located, by Section B-B in Figure 40, there was a fill stratum below the gravel but above the drain trench. Artifacts from the former were not carefully separated from what came within the drain trench proper and it is possible that these artifacts, though they included burned ceramics and some green-edged creamware, could be a redeposition from the time of reconstruction instead of an accumulation associated with the officers' quarters or fill of the drain feature.

Once the drain cross-sections had been excavated, no divisions could be seen on the fill profiles. Boards at
least had been expected across the tops of the stone walls, as a covering, but no boards or other covering material could be found there. This system would hardly have been allowed to stand open because of the interference to access if for no better reason, so we can only suggest that the covering might have been at ground level.

There are no known historical or cartographic references to a drain system at Fort George, but for this type of accessory construction a separate mention may not have been customary. By the location and course of this feature it was logically a drain for the original officers' quarters, though why a drain was thought necessary may be obscure today. The artifacts are compatible with such an assignment. Items from the fill included wrought nails (9), an iron handle from a piece of cutlery, and unspecified thin sheet iron pieces. Faunal remains from one of the cross-section excavations amounted to food scraps ("Foodstuffs and Faunal Remains"). If these were less than definitive, the bottle glass consisted mainly of dark green wine bottle sherds, including two restorable Group 42 wine bottles, and half a dozen clear table glass fragments. Ceramics proved to be even more helpful with 84 creamware and pearlware sherds, some decorated but mostly plain, and no white earthenware specimens. Burned ceramics, noted in the fill just above the drain feature, also occurred within that fill. The most datable items may be the tin(?)-plated plain button with a conical boss, probably made in the early 19th century up through the War of 1812 period, and the button fragment derived from the Royal Canadian Volunteers tour of duty at Fort George. The regiment disbanded at the end of August 1802 (Table 2).

The only comparable feature noted in the literature was the stone slab-lined drain found at Fort Loudoun, another British post, but dating from 1756-60 and located in eastern Tennessee. Shape of the channel appeared to be similar in the two, but the Loudoun drain was at the surface.

Features Between the Officers' Quarters and the Kitchen

Test trenching between these two structures had the original purpose of seeking foundations (Fig. 32). Removal of the gravel and underlying fill to a depth of 0.7 ft. to 1.0 ft. uncovered sterile red sand in some areas, showing that no foundations remained, but found areas of fill within 10 ft. of the kitchen's northwest side.

This fill suggested subsurface features. Definition of any features on a horizontal plane proved to be nearly impossible. By excavating into the fill and then out toward a wall or side, it was possible to find and excavate three sub-surface features and a utility line which cut through one feature (Figs. 42, 48). Investigations between the
officers' quarters and kitchen were recorded as a single suboperation, 19H7D. Artifacts from the fill beneath the gravel (19H7D2) were listed in the accompanying tables since most of the material came from the upper levels in the features prior to their definition.

Deep Rectangular Feature

A deep rectangular pit (19H7D3), whose four sides all sloped in to a flat bottom, lay almost beneath the northwest wall of the kitchen (Figs. 42, 50). Dimensions of this pit at its base were 3.15 ft. by 7.9 ft. From what depth it had been excavated originally is unknown since the sides could only be defined from 1.7 ft. below the present surface to the bottom. Elevation of the latter measured 289.6 ft. to 289.7 ft. ASL. The lower sides and base retained their shape through having been excavated into a hard gray sand. No signs of a lining existed.

Fill below the uppermost 2 ft. was generally very clean. It consisted of yellow sand with black pockets (decayed wood?), red sand, and also some gray sand. There were bits of brick, charcoal, mortar and limestone chips mixed in. Above the 2-ft. level a large (circa 2.6 ft. by 3 ft.) pocket of lime occurred, much as if a bag of lime had been dropped or left there, and the lime lay directly upon a layer of burned material that included dark green bottle glass, animal bones, .75 calibre musket balls and some nails. Down on the bottom and beneath some 2.5 ft. of the clean sandy fill lay a rotten timber, 0.25 ft. to 0.3 ft. square, with nine wrought nails in and by it; also a restorable wine bottle and a hammer head with two flat tangs projecting for the handle attachment.

Artifact content of this pit is detailed in the appropriate tables. The only items with military associations would be the six .75 calibre musket balls. The wrought nails, glass and ceramics bear no particular implications for use of the feature. Timewise the two Group 4 and two Group 5 wine bottles would be most appropriate for the early 19th century as would the two partially restorable pearlware bowls, one with a chinoisery design. In the fill overlying this feature a partially restorable bone china cup and saucer, with gold leaf decoration, and a mid-19th-century blue transfer-printed bowl had been recovered. No burned or melted pieces of either glass or ceramics came from the pit fill and, apart from the restorable pieces, ceramics amounted to only ten sherds. The artifacts indicated an early 19th-century date and the pit could have been associated with the first Fort George.

Although no historical evidence for its existence and probable use could be found, the size, shape and depth were
similar to those for latrine trenches excavated elsewhere by the senior author. Arguing against this would be its location on the site, presumably right by the original kitchen (if they were contemporary) and the very clean fill. Perhaps the feature was excavated but never used for its intended purpose, then partially backfilled before trash had begun to accumulate in the lower level.

Pit with Insloping Sides

Another pit whose sides insloped from top to bottom, but this time near-circular in plan view (19H7D5, 7D7, 7D8), came to light some 2 ft. to 10 ft. northwest from the west corner of the kitchen (Figs. 42, 48, 52). Maximum dimensions where this feature could first be defined, 1.0 ft. below the gravel surface, were about 8 ft. by 10 ft. From this level it gradually tapered inward to a flat bottom circa 4.5 ft. to 4.7 ft. across at an elevation of 288.3 ft. to 288.4 ft. ASL. Excavation of the pit into a hard gray sand had helped to preserve the sides though these became less distinct where, in the upper levels, the cutting had passed through a red sand. Neither sides or base had traces of any lining. Along the northwest side and near the top was a rectangular excavation, purpose unknown, accessory to the larger feature.

A soil colour change, sometimes including decayed planks and knots, appeared to span or cover this pit. The change began around the perimeter at an elevation of roughly 292 ft. ASL and sloped to about 291.4 ft. ASL at the centre. This was first noted in cross-section and then traced out through the southeastern half of the fill. Fill above this decayed wood level included most of the artifacts in the feature, in a matrix of gray to red mottled sand with bits of brick, coal, plaster, mortar and charcoal. Below the wood, artifacts became much sparser and the fill was a light brown sand mottled with red to gray soil, again with rubble inclusions. The final 0.15 ft. above the base consisted of an ashy fill with eggshells, ceramics, glass, and some construction rubble as inclusions.

Study of artifacts collected above and below the colour change horizon showed no significant difference in the two complexes beyond the occurrence of many more articles in the upper fill. In particular a deep redware bowl, with a trailed yellow design on the interior and clear glaze over the design work, occurred as sherds from top to bottom. Identifiable military artifacts - one gunflint, a 41st Regiment button and the iron shot - came as part of the upper level fill. The quantities and variety of other items will be found listed in detail in the accompanying tables.

At least ten dark green wine bottles were represented by necks and hundreds of body sherds. Only one piece of burned
or melted glass occurred. The nails recovered were identifi­able as 32 wrought and a single cut lath nail. Ceramics consisted mainly of plain creamware and pearlware with a scattering of bone china, redware and other types. Perhaps most interesting were the cross-mended and potentially mendable ceramics and glass. Pieces of a green, shell-edge pearlware platter mended with pieces found in the shallow rectangular feature described in the following section (Table 12). Fragments from the neck and body of a clear glass decanter could be fitted together and level 1 of test trench 19H12A out in the parade ground produced another sherd that mended with these. A fine earthenware with a buff-coloured paste occurred in this 19H7D5 feature and in the drain also, with several sherds either place.

The ceramic assemblage did include 19 burned specimens, but the wood associated with the soil colour change did not show charring nor was there burned debris above this level. Artifact assortment and relative lack of stratigraphy both suggest that the filling took place within a short time, no earlier than the summer of 1802 when the 41st Regiment first arrived. This pit, like the deep rectangular one close to it, was evidently dug and filled in during the early 19th century and most probably saw use before the War of 1812.

The purpose of the feature is unknown. It would appear to be rather small for a storage cellar, and hardly deep enough to have been a well. However, with its location it might have served as a cistern.

Shallow Rectangular Feature

A square pit (19H7D4, 19H7D6), shallower than either of the other two, lay just northwest from the northeastern end of the deep rectangular feature (Figs. 42, 48, 50, 51). This new pit measured 3.7 ft. square with an outward bulge along part of one side. What depth it had originally been dug from is not known, but the present elevation of its base is 291.5 ft. ASL. The outline had been defined at only 0.85 ft. below the surface. Sides were vertical and the bottom flat; neither had had any lining so far as could be seen. Unfortunately a ditch for a drain tile, 1.5 ft. to 1.9 ft. in width, had been dug completely through the earlier feature and had destroyed almost half of it. The intrusion was recognized at the start and clearance of the ditch fill took place before excavation of the remaining pit. Since artifacts from the ditch probably originated in the pit, the contents of both are given in the accompanying tables; however, table glass from the ditch does not appear in Table 13.

There are two levels of fill in the feature. The upper one extended from where the pit had been defined down to 1.7 ft. above its bottom. The base of this level dipped toward
the centre, to a maximum thickness of about 0.85 ft. Its matrix was a variegated sandy clay with gray, green, yellow and red coloured elements. Most of the artifacts came from this level. The lower level of fill consisted of a mottled red, yellow and gray sand.

The nature and extraordinary quantity of material recovered from this pit made it one of the most interesting features from the whole excavation program. Most prominent were the ceramics, particularly the restorable or partially restorable creamware and pearlware examples listed in Table 12. With these came a minimum of 17 dark green wine bottles, 10 or more clear glass tumblers, hundreds of sherds from both, and an unknown number of stemware pieces. The ceramics were principally green shell-edge and individual pieces exhibited minor to virtually no use, as shown by the lack of scratch marks that would indicate use. Not only did the ceramics form an assemblage appropriate for the 1790s or even slightly earlier, but they strongly suggested a single dinner service. Notable too were the lack of any military hardware and of burned or melted ceramics and glass. Bone refuse from this pit consisted of fish and bird bones with only a few from sheep and none identifiable as cattle bones (see "Foodstuffs and Faunal Remains").

The nature and quantity of this collection, with the functional association and probable contemporaneity of its components, suggests that this pit encapsulates a single event - almost as if someone had swept the dinner table into this pit after a banquet. The estimated date would be well prior to the War of 1812, if not indeed before Fort George itself had been established. Although the officers' quarters may have witnessed many banquets in its time, we have a brief glimpse into one that took place at Newark in 1793, when Governor Simcoe entertained the Duke of Kent:

It is recorded in contemporary memoranda that the guests were feasted "with game, and all the dainties the season and the wilderness could produce, such as white-fish, trout, wild-fowl, roast beef, ale, old port, and Madeira, of better quality...than can be got in the present year of grace, 1862."^5

We do not know if this particular event took place close to Navy Hall or somewhere else.

In summary, the three subsurface features between the officers' quarters and its kitchen were quite different from any others found at the site. By their artifacts as well as their location, it is most likely that these features and the nearby drain system as well, were dug and used as accessories to the officers' quarters before this was destroyed. The contents of the shallow rectangular feature may be even earlier and representative of a single event.
Test Trenches, Blockhouses Nos. 1 and 3 and Other Prewar Buildings

During 1973 we trenched, without success, for any remains of the original blockhouse no. 1. In 1974 we sought whatever might be left of blockhouse no. 3, with no better luck. An 1810 map of Fort George had shown four small buildings in front of the centre blockhouse and the 1974 program included many test trenches in search of them (Figs. 33, 38). Again we were disappointed; however, the findings do bear upon the history of Fort George and merit some discussion.

Blockhouse No. 1

An early effort to project locations of the first buildings placed blockhouse no. 1 at the site of its reconstruction and immediately to the southeast. Therefore two test trenches and later a third trench were arranged as shown in Figure 33. These bore the operation number 19H6. In the two trenches to the southeast were three levels of fill from one and four in the other. The third trench ended at a much shallower depth and necessitated only one level. Around this building the general ground surface elevation was 294.3 ft. to 294.5 ft. ASL.

Test trench 19H6C, to the southwest side, encountered undisturbed sand and clay at 1.0 ft. to 1.2 ft. below the surface. The foot or so of fill through the northwestern half of this test contained good evidence for a prehistoric occupation at depths between 0.6 ft. and 1.1 ft. This evidence consisted of lithic debris and at least one chipped stone artifact, but no obvious features. There were no building foundations either or reason to think that blockhouse no. 1 had lain quite this far to the southwest.

In the two trenches by the southeast side the third level of excavation ended at 4.5 ft. to 5.2 ft. below the ground surface. In one trench (19H6B) this third level reached undisturbed sand through its length except where a balk was left to support an intersecting drain tile (Figs. 35, 36). In the other trench (19H6A) the third level came upon native sand through the northwestern half of the trench and the same excavation level was then maintained through the southeastern half. A fourth level, to a maximum depth of 5.9 ft. below the modern surface, and a sloping sterile sand base, was removed from the southeastern 9 ft. of trench
19H6A (Fig. 34). These two trenches uncovered no structural remains.

Stratigraphy

Trenches 19H6A and 19H6B appeared to have the same depositional sequence and to have come down within a subsurface feature or filled-in depression (Figs. 34, 54). After Figure 69 had been drafted to show the first and third forts superimposed, these two trenches were seen to lie at approximately the north end of the 170-ft. barracks in the postwar fort. From historical sources we knew that these buildings had floors below ground level and therefore could have been built in depressed areas. The amount of fill here became explicable once we did locate walls of two postwar barracks (see "The Postwar Barracks") even though no walls or foundations appeared in trenches 19H6A and 19H6B.

Beneath the surface gravel and a stratum of yellow-brown sand lay a continuous dark gray fill horizon, the top of the old ground surface discussed in "The Water-line Test Trenches" (Figs. 34-36). It appeared at a depth of 1.9 ft. to 2.8 ft., averaging slightly more than 2 ft. under the present surface, and all material from above it was treated as level 1. Below the dark gray upper horizon the fill showed a gradual transition in colour and texture, being mostly a brown sand, down to the native red or yellow-brown sand at the bottom of the trenches.

In both trenches the horizontal split between a second and third level was arbitrary and inclined. In trench 19H6A the second level had a thickness of only about 0.6 ft. to 0.8 ft. and its base sloped down 0.4 ft. from the northeast side to the southwest. The measured thickness of level 2 in trench 19H6B averaged 1.0 ft. and its base there sloped down some 0.4 ft. from end to end, beginning at 3.2 ft. below ground by the northeastern end.

In these first three strata the fill produced large numbers of artifacts, especially metal objects, ceramics and some glass. The 1921 cartridge from level 2, already noted in "The Water-line Test Trenches," was one important bit of evidence to buttress the correlation of dark gray fill horizon with pre-reconstruction ground surface. The fourth level, in trench 19H6A only, featured a general level of brick fragments at the top of the level (Fig. 37). At the very bottom, the yellow or red sand was simply undisturbed material left after the natural surface had been removed, prior to any construction or deposition upon this level.

Brick Feature

Figure 33 gives a detailed plan view of the bricks found at the top of level 4. Most bricks were fragmentary and some
extended into the level, but there was no coursing and no recognizable structure could be seen. Bricks did extend beyond the trench walls. Perhaps, especially in view of the cannonballs in association, a destroyed structural feature is indicated. Associated artifacts around and beneath the brickwork included a large number of corroded iron objects and up to 80 per cent of the animal bones from the whole operation (see "Foodstuffs and Faunal Remains"). Level 4 had no evidence of burning.

Associated Artifacts

Levels 1 and 2 of trenches 19H6A and 19H6B contained a mixture of objects made anywhere between the early 19th century and the early 20th century, with the latest deposition probably in the 1930s. These were not studied beyond determining the recent and disturbed nature of the collection.

Specimens from level 3 in both trenches suggested a primary deposit there; that is, not in fill that had been disturbed or transported to the site. This stratum produced very little military hardware; only three regimental buttons, a musket ball, and two iron case shot. These may have been earlier inclusions, however, for the majority of the ceramics were white earthenware and indicative of the 1830s through the 1860s period (Table 9). Worth noting are two creamware jelly mould sherds, one from level 3 in each trench. Of circa two dozen pieces of glass, most came from dark green bottles. The most specifically datable item from this level may be a cast brass padlock with the name "Champion 6-Level" on one side. Correspondence in two issues of the Spinning Wheel included a letter from one owner of such a lock which also bore patent dates of 1870, 1873 and 1900.

The observations on faunal remains in "Foodstuffs and Faunal Remains" pertain mainly to what was found in level 4. In addition to bones and the disturbed brickwork, there were lead bullets for at least three types of weapons and a dozen iron balls for various sizes of case and grape shot. A bayonet, a gunflint protector and two cannonballs reinforced the association of this level with one of the military occupations at the site. Fortunately a good ceramic collection was derived from this level and featured mostly creamware and pearlware, with lesser amounts of white earthenware and other wares (Table 9). Most of the glass was from dark green bottles and one Group 4 rim had been included. The ceramics especially constituted a valid assemblage for around the turn of the 19th century, with the white earthenware at least suggesting a slightly later date of deposit or some minor admixture. When the nature of the military items is also considered, a probable period for this accumulation would be circa 1814-26. The collections from level 4 were
probably the best from the project for materials associated with the third Fort George.

Conclusions

The fragmentary bricks and other findings in level 4 were associated with Fort George and probably with the postwar occupation, but the evident disarray and incomplete excavation there preclude our knowing what, if anything, they have to do with the north end of the 170-ft. barracks. These postwar barracks had walls as much as 4.5 ft. to 5 ft. below the present surface, and evidence from elsewhere on the site showed that the whole filled depression which operation 19H6 tested may have been used fortuitously for the barracks.

Ceramics and other materials from the third level of fill would have been too recent for any military occupation. In 1860 Lossing did note an "Irish family" living in a small house somewhere on this part of the site and they may have been the source of the third-level accumulation. The two families of caretakers that lived in the nearby "old house" (see "The Old House") from circa 1882 through the mid-1930s most probably left the debris found in the level 2 excavation.

After 1974 excavations had been nearly completed it was possible to refine earlier estimations of the pre- and postwar fort superimpositions and derive a more probable location for the original blockhouse no. 1. Finding the north corner of blockhouse no. 2 (see "Blockhouse No. 2") in fact gave the final piece of evidence for estimating the positions of blockhouses no. 1 and no. 3. It turned out that blockhouse no. 1 would have been under the east corner area of its intended replica, with the original northeast wall projecting about 7 ft. and the southeast wall projecting 5 ft. beyond the outer faces of the present building. Between the operation 6 test trenches, the excavations which uncovered the "old house" foundations, and a 1973 backhoe trench right by the modern blockhouse east corner, 5 ft. of fill had been shown in this area. We believe that the original blockhouse no. 1 has been entirely destroyed and this loss probably occurred as a consequence of building the third, postwar Fort George.

Blockhouse No. 3

Four test trenches (operation 19H15) around the modern third blockhouse sought foundations for the original building (Fig. 38). These tests were carried down through one or more levels, as seemed most advisable at the time, until an undisturbed horizon appeared. Ground surface elevation around the present blockhouse was 294 ft. ASL with little variation.
None of the trenches encountered foundations for the first blockhouse or for any other structural features, nor did they find any levels that could date to the Fort George military occupation. Since the deposits may well have been mixed and the testing did not achieve its principal purpose, artifacts from here have not been examined. In trench 19H15A the work continued to a maximum depth of 290.36 ft. ASL, some 3.7 ft. below the surface, by the present southwest wall. However, in trench 19H15B off the southeast wall, a yellow sand at only 0.75 ft. below ground appeared to be sterile. The two tests by the north corner, 19H15C and 19H15D, found sterile red sand at 290.13 ft. and 291.29 ft. ASL respectively, in the deepest places. Experience with the guardhouse excavation and what was left of blockhouse no. 2 showed that foundations should have been about a foot beneath the surface if anything remained. Since there were none and the testing carried down to sterile sand, we concluded that nothing remains of the original blockhouse no. 3.

The first two tests in this series were located in accordance with our initial map projections as to where foundations might lie. After finding blockhouse no. 2, the two trenches by the north corner were dug. The final projection of the blockhouse no. 3 position, as shown in Figure 69, would place it directly beneath the northeastern part of the supposed reproduction. The latter is larger than the original and perhaps dissimilar otherwise, but the siting is correct.

Other Prewar Buildings

Between unsuccessful test trenching and finding actual foundations, we accounted for all of the structures shown on pre-War of 1812 Fort George maps except for the two, or four, smaller buildings in front of the centre blockhouse. Maps produced through 1803-04 featured only two structures; four were shown in an 1810 edition and these bore the indication of barracks. Desloges suspected that at least one could have been a soldiers' kitchen. Contemporary building estimates and other records included nothing that could be identified with these buildings. Anything that could be learned about them would have to come from archaeological investigations.

By reference to the 1:30 scale contour map, "John's map" cited earlier, the area now in front of blockhouse no. 2 had a surface elevation of 291.4 ft. to 294 ft. ASL except where a 10-ft. to 11-ft.-high earthwork crossed through. Present ground level throughout this part of the parade ground was 294 ft. ASL with variations of only 0.1 ft. or so. Within this century it appears that this part of the site has seen the flatter areas built up and the earthwork of course removed, but no general decrease in the elevation
due to grading or levelling. Surface alterations that had affected foundations, if any, must therefore have been done long prior to the reconstruction.

Test trenches 19H8D, 19H8G through 19H8N, 19H8Q, 19H8R, 19H8W and 19H18C had the basic purpose of trying to find these four buildings (Fig. 38). Some of the tests were so located as to do double duty and although the coverage of probable areas appears to be incomplete, this is because test trenches showed extensive areas of subsurface disturbance. Any tests for prewar foundations into a filled area that had been excavated only after the war would clearly be futile.

The deep fill encountered in the operation 19H6 test trenches has just been discussed. Defining the limits of that depression, if possible, would mean that any part of the parade ground so encompassed need not be sampled for anything earlier than the third Fort George. We consequently placed two tests, 19H8P and 19H8S, where they defined the western limit of the depression for the 170-ft. barracks (Fig. 38). A deep pit in trench 19H8E had already established the presence of the depression itself, but a series of trenches — 19H8N, 19H8Q, 19H8L and 19H8R — had good success at tracing out the eastern side of this depression where it downsloped from a former ground surface. At the southwest end of trench 19H8R the line marking the upper edge curved abruptly towards the southeast and we do not know what happened from that point on. With four trenches to one side and two to the other, it was possible to block out the limits of the depression for the longest postwar barracks. For present purposes it is enough to note that the original excavations was probably incidental to creating the earthworks just to the southeast and that the earth movement had removed any part of two small buildings in front of the blockhouse. Had a foundation corner perhaps escaped, construction of the asphalt roadway would have taken care of that.

With two buildings lost, we concentrated on trying to find the two which stood southwest from the southeastern end of the centre blockhouse. The experience here was comparable to the one just described. Test trench 19H8B had exposed a large disturbance and trench 19H8D then came upon what looked like the western edge of another depression. This last was traced out more by accident than design through trenches 19H8H and 19H8M, and proved to be the inside edge of the fortification ditch surrounding the third (and second?) Fort George (Figs. 62-64). By the position of this ditch relative to the original blockhouse no. 2, after we had found the latter's foundation, it was easy to see that the original excavation of this fortification ditch had cleared away anything remaining of the other two small structures in front of the old blockhouse. The more recent road would not
even have to be blamed in this case.

In hopes that something might have survived, several more test trenches were dug into this general part of the parade ground. These tests were the southeastern two rectangles of 19H81 and all of trenches 19H8K, 19H8W and 19H18C (Fig. 38). These located several more utility lines, another patch of fill that was not followed and a shallow rectangular feature (19H18C). Otherwise these trenches found a sterile sand which varied in colour from red to yellow-brown (Fig. 63). There were no foundations or indications of features other than what has been described already. With reference to pre-reconstruction surface elevations, we were given no reason to think that the ground in front of the centre blockhouse had been scraped or lowered during the reconstruction. If anything, it was added to. The four small structures in front of the centre blockhouse and whatever may be lost from this part of the parade ground has been gone since 1813 or 1814.
The Fortification Ditch and Alignment of the First and Third Forts George

The Fortification Ditch

Historic maps indicated that a filled-in ditch, once a part of the fort defences, should lie beneath what is now the southeastern part of the parade ground. The Van Deventer map\(^1\) probably made in the summer of 1812 showed only a palisade through here. A British plan dated June 1814 featured a ditch and curtain in about the same area and Desloges\(^2\) believes that the American garrison dug the ditch. Whichever army wielded the shovels, the construction must have taken place during this two-year span.

This ditch was located archaeologically and traced by seven separate test trenches although the purpose of these trenches had been to find buildings and to clear a waterline route (Figs. 9, 21, 38, 62-68, 70). The early expectation that test trench 19H8B bracketed the ditch had to be qualified when the wire nails appeared near the bottom of the fill and it was later seen that a more recent filling had occurred there (see "Blockhouse No. 2"). Actual identification of the various ditch segments came about only after the blockhouse no. 2 foundations had been located. The latter made it possible to overlay various maps of Fort George and in the course of this the alignment of several previously unexplained depressions with already-identified ditch segments became apparent (Fig. 69).

From north to south this fortification ditch was first found in test trench 19H8X where its western edge had abruptly truncated the original centre blockhouse back wall at 27 ft. from the north corner (Figs. 21, 38). The western edge continued in the same line through test trench 19H8D, just in front of the present blockhouse (Figs. 38, 62). Across the road and in trench 19H8H this edge turned an angle of approximately 110 degrees thereby changing its direction from northeast-southwest to northwest-southeast (Figs. 38, 63). It was then possible to trace the ditch for a length of 55 ft. through trenches 19H8H and 19H8M, mostly at a depth of a foot or less beneath the ground surface by noting the line of separation between fill and sterile sand. At the southeastern end of trench 19H8M the ditch line again changed angle, this time towards the south. When next seen
the ditch was a cross-section on the profile of test trench 19H10A (Fig. 9), in the central part of that trench. Another water-line trench, 19H12H (Figs. 4, 6) had cut through the ditch fill longitudinally, almost on the ditch centreline, and did show that its alignment at that location was N 13° E.

The principal excavation where a section through this ditch could be worked out was at test trench 19H7K, directly by the north corner of the modern officers' quarters (Figs. 32, 65-68). More discussion of this excavation will be given below. Finally, this same ditch was suspected but not confirmed at test trench 19H12G (Figs. 4, 6).

Clearance of a fortification ditch had no part in the 1974 program and we made no effort to remove the fill in trenches 19H8M, 19H8X and 19H12G. Tests 19H10A and 19H12H were both water-line test trenches that necessarily exposed whatever the backhoe had cut into. In the other instances - tests 19H8D, 19H8H and 19H7K - excavations of all or parts of the ditch took place because at the time we did not know what kind of features the fill might be covering.

Segments of the ditch were exposed by trenching down along its western side, as shown in Figures 62-64. Figure 64 gives a good illustration of the profile in test 19H8H. Sterile sand lay 0.85 ft. below the surface along the southwest side of that trench and the ditch profile declined at an angle of 30 degrees with the vertical to a sterile gray sand at 4.5 ft. below the surface (289.2 ft. ASL). The side rounded out to a flat bottom at that level and remnants of a log seemed to be in place upon the bottom. Relatively few artifacts came from the ditch excavations proper (19H8H2, 19H7K4) but these are reported in the accompanying tables.

The cross-section through the fortification ditch at test trench 19H7K is represented in Figures 65-68. In this test the upper two levels of fill had extended down to a dark gray fill stratum, the pre-reconstruction ground surface again, which here downsloped from the sides towards a low point of 291.7 ft. ASL at the centre. The accumulation in this depression included 20th-century debris.

Following the excavation of the dark gray fill layer, all of the remaining fill in this test trench was gradually taken out as a single unit, 19H7K4. This in effect meant the material below the Sb1 horizon shown in Figure 66, Profiles B-B and C-C. The fill matrix consisted of a light brown to reddish sand with brick rubble, rotten wood, charcoal, stone debris and artifacts as inclusions. Brick rubble was confined mainly to the sub-area delimited on the Figure 66 plan view and formed no structural pattern. A finer-grained light brown and red sand fill came from the deeper centre trench; otherwise no stratigraphy could be seen below the base of the dark gray fill level.
A sterile gray sand formed the base of this excavation. Diagonally across the centre ran a narrow trench whose bottom lay some 3.1 ft. below the balance of the ditch. This lowest point of 286.26 ft. ASL was found only by testing a 2-ft.-long segment of the narrow trench since the water table partially filled the excavation and made working at this depth more difficult (Fig. 68). Presumably this narrow trench had been dug to accommodate a palisade. The tested section produced only a couple of iron shot from the fill and two chunks of brick and a plank fragment at the bottom. There were no traces of rotten posts.

Between the narrow centre trench and the east corner of the excavation lay two broad, flat areas at elevations 1.4 ft. apart (Fig. 66). These formed the base of the fortification ditch east of the narrow centre trench. Their surfaces were quite smooth and regular, without features. The profile of the ditch beyond the eastern corner is not known.

West of the narrow centre trench lay a shallow depression which, in part, held a rotten log circa 0.9 ft. in diameter (Fig. 67). This log had untrimmed branch stubs and a wrought nail protruding from its side. It had its counterpart in logs found through other segments of this ditch, particularly in water-line trenches 19H10A and 19H12H. Their function was not apparent. Beyond the log lay a flattened area and then a steep initial upslope, that soon became more gradual, to the western limit of the test trench.

A horse skeleton rested directly upon the bottom of the ditch and partially overlapped the narrow centre trench (Figs. 65, 66). The head and feet had been separated before the body was laid in. The skull lay directly in front of the forelimbs while the feet - carpals, tarsals and phalanages - had been placed in front of the lower hind limbs with two hooves towards the north and two towards the south. Since bones of the body appeared to be in articulation, the beast must have been interred prior to decomposition. Why the head and feet should have been separated we cannot suggest. Small hooves probably indicate a riding animal rather than a farm breed, but there were no horseshoes present or any other accoutrements. A musket ball, the only artifact in possible association, occurred directly beneath the right scapula. From its position the ball might have caused a flesh wound, but would hardly have been the cause for the horse's death.

A few of the artifacts from the ditch fill have been noted already. Additional military items included a 6-pounder shell, part of a bayonet blade and a heavy brass tack. Datable objects consisted mainly of 10 pearlware and 10 creamware ceramic sherds and 18 nails, half of the latter wrought and half of them cut. The articles listed in the tables plus the brick fragments, wood scraps and bone refuse
added up to a rubble and trash deposit in the lower ditch fill. From the historical background on Fort George this stratum should logically date from circa 1815-25 and the artifact assemblage was at least conformable to that period, if not so specific. The palisade, if ever installed, must have been pulled before the horse came to rest here.

In addition to the two historic plans referred to earlier in this chapter, several documents and memoirs mentioned site alterations that could have included construction of the fortification ditch. To review these would largely be redundant with what has been said before, particularly in "Historical Background." The quotation from Dr. James Mann was the most explicit and would place the ditch excavation during the American occupation. If he was correct, the British may of course have made alterations as they saw fit after Fort George returned to their hands. One of the 1799 plans of Fort George showed a section through a ditch in front of a bastion and although this featured a narrow centre trench for a palisade line, it had a simpler profile otherwise than did trench 19H7K4.3

Map Alignments of the First and Third Forts George

One of the best potentials for interpreting subsurface findings lay in correctly aligning or overlaying Fort George plans from more than a single period. The prewar site maps varied little among themselves - one showed two more buildings - and the same appeared to be true with the postwar plans. Assuming that a scaled map from each period had been a true representation when made, an accurate superimposition of the two should show the relative and absolute locations of major buildings from the first and third forts. One could then estimate how much of the earlier fort the postwar construction had destroyed and where buildings may have intruded upon one another. If this projection could be overlaid with a plan of the present site, one would have both a guide for planning excavations and a means for understanding features as these appeared.

This process was not nearly so straightforward as might be imagined. Several maps of the third Fort George had included a trace of the first fort earthwork line. The position of this line ultimately proved to be inaccurate and misleading. The powder magazine and the guardhouse foundations provided guidepoints for aligning the first fort with the modern site, but the position of the third fort remained an approximation through most of the two field seasons. Several versions of superposed fort plans were drafted beginning in the summer of 1973, each, it was hoped, more accurate than its predecessor and these guided much of the test trenching.
Mechanically, the process of alignment involved selecting scaled contemporary maps and having a transparent print made of each, all of the latter to the same scale. The prints could be shifted over one another in order to superimpose bastions, earthwork traces, buildings or whatever might be desired. The maps themselves showed only one fixed point through time - the old powder magazine - and this with some inconsistency in its location. The two plans relied upon the most were from 1799 and 1816.4

In order to make a correct alignment, however, it became necessary to locate archaeologically two or more points which would correlate with points on each of the historic maps. In the end we had even more. From the first Fort George the identifiable features became the powder magazine, the guardhouse, and the blockhouse no. 2 foundations. Their actual positions when compared with the 1799 map proved to be quite accurately shown on the latter. Segments of the fortification ditch and most especially its intersection point with the original centre blockhouse foundation gave the necessary points for identifying the third fort and locating it relative to the first one. With the alignment made on this basis, the archaeologically-recovered segments of barrack walls from the third fort did not quite correspond with the projected locations. This was presumably due to some error in drafting of the 1816 map.

It now became possible to project the 100-ft.-interval grid system established in the present fort grounds, for the overall result shown here as Figure 69. On this plan the buildings were traced from the 1799 and 1816 maps, the only modern features being the grid points and the archaeological findings. Grid points do not have quite the same relationship to the actual 1799 buildings as they do with the present reconstructed units. This is due to different-sized buildings as well as to minor scaling errors in the original map.

With two basic maps accurately superposed it became possible to seek additional explanations. The fortification ditch bore the same relationship to the 1799 officers' quarters as did test trench 19H7K to the reconstructed officers' quarters. This, with the circumstantial evidence from testing behind the building, led to our judgement that the modern structure overlay the original one. One also notes that the postwar earthwork fell directly over the old guardhouse remains. This supports the contention that the gravel layer in the guardhouse was laid soon after its destruction. The protection of the earthwork also helps to explain why any part of the guardhouse survived. On the other hand, the origin and nature of a small room yet to be described (19H1E2), which was intrusive into the guardhouse foundation, is even more of a mystery.

To continue, the relationship of the smallest structure along the northeast side in the postwar fort to old blockhouse
no. 1 corresponded almost exactly with the relationship between our "old house" foundation (see "The Old House") and the projected location for blockhouse no. 1 ("Test Trenches, Blockhouses Nos. 1 and 3 and other Prewar Buildings"). This provided another piece of evidence for the "old house" foundation being as old as the third Fort George, whatever may have been the history of the superstructure. To the southeast from blockhouse no. 1, we saw that the operation 19H6 test trenches indeed lay almost over the northern end of the 170-ft.-long postwar barracks thus helping to account for the brickwork and military refuse at the bottom of trench 19H6A as well as to explain the depth of fill there. It became evident also as to why we found none of the four small structures shown in front of the first centre blockhouse. A combination of the excavations for the fortification ditch and for the depression that later held the 170-ft. barracks would have destroyed all four of these.

The loss of buildings outside and southeast of the third fort's southeastern front, or of blockhouse no. 1 inside the enclosure, was not readily explained by any construction or earthmoving connected with the forts. Site disturbances after the military occupation may have been to blame in these cases. The locations of the privy almost in the centre of a postwar bastion and of the double fireplace base east from a postwar barracks suggested the period of these two smaller features. Their artifacts tended to confirm the implications of the map overlay; that they would have been accessible and in reasonable positions during the time of the third fort, but would not have belonged where they were found if used prior to the War of 1812. It was a small disappointment that none of the minor features discovered by the excavations - as in test trenches 19H12A, 19H8V, 19H1E2, 19H9D and 19H13G - found a representation on any known maps and hence cannot be explained by reference to Figure 69.

Finally, we sought to enlarge or reduce the Van de Venter map of Fort George in some manner that would permit it to be overlaid upon any other map. In this we did not succeed and instead reached the conclusion that his map, in spite of its neatness and implied accuracy, was probably an unscaled sketch.

An endeavor of this type may be seen as quite fruitful for understanding the history of a site from the archaeologist's viewpoint. It is only regrettable that an accurate superimposition map comes as a result of research rather than as a guide available prior to excavations. In its present form the Fort George overlay may find some continuing use in planning the installation of any future utility lines so that these will have minimum impact upon the remaining subsurface features. The difficulties in routing utilities through the maze of buildings and earthworks will be readily apparent.
The Postwar Barracks

The 110-Foot Barracks

Procedure

Test trench 19H9H was one of the 50-ft. sub-operations along the route first proposed for a new water line (Figs. 4, 6). Initially we excavated the trench down to the top of a dark gray fill horizon, another location of the ground surface prior to reconstruction (Fig. 70). The stratum was continuous along the trench profile and downsloped from 293.5 ft. ASL near the east end to 292.1 ft. ASL at the west end. A hard gray sand marked the beginning of sterile. At approximately 3.5 ft. below the modern ground level trenching found large rotten logs or timbers which crossed the test trench diagonally at two locations. Our tentative conclusions in the field were later confirmed by the Figure 69 map superimposition, that is, that the two logs in test trench 19H9H were the lower parts of the east end and of the north wall for the 110-ft.-long barracks at Fort George built in 1814-15.

Foundation and Floor

The exposed remains consisted mainly of the two rotten logs or timbers, the deterioration being sufficiently far along that we could not determine whether the wood had been squared or sawn. Estimated widths were 1.5 ft. and 1.1 ft. for the eastern and western logs respectively and their bases lay at 290.3 ft. and 290.0 ft. ASL. The segment of wall furthest west rested upon a loose stone foundation, the stones not mortared and extending to an unknown depth. Whether the log to the east had a similar foundation is not known. Between the exposed logs and at an elevation of 290.2 ft. ASL was a thin concentration of mortar and wood debris which evidently marked the remnants of a wooden floor. Sterile gray clay lay directly beneath this floor level. The only artifact specifically identified as from this floor level was a Britannia-eagle token (Table 27), for which the 1813-15 date would fit the context very well. Nothing in the exposed profile suggested that higher courses of the walls might remain or that the area between the walls
and above the floor contained fill any different from fill elsewhere in the trench.

Situation of the Foundation

The upper surface of the sterile gray sand continued from the western end of trench 19H9H through test trench 19H9G at 290.5 ft. to 290.8 ft. ASL, or virtually at the same level. Whether the ground surface at the time of barrack construction lay above this, we cannot determine. To the east the level of the sterile sand rose gradually to 291.9 ft. ASL at the eastern end of the test trench, thus placing the ground surface east from the end of this building at a higher level than the floor inside. This observation will be brought up again after reviewing what was found in the excavation of another barrack wall segment.

The 170-Foot Barracks

Procedure

Two segments of the 19H8L test trench found sterile sand at only 0.8 ft. below the surface but the third segment, the one furthest to the northwest, still had fill at the base of the first level (Fig. 38). Continued excavation in that unit revealed another locality for the pre-reconstruction ground surface or dark gray fill stratum, this time at 290.1 ft. to 290.2 ft. ASL. The top of this horizon, as seen on the west profile of the trench, sloped down from south to north (Fig. 70). Refuse was relatively abundant, late 19th- and 20th-century material being mixed with earlier debris and occurring both above and below the old surface.

Continued excavation uncovered a partial level of mortar and brick rubble in the west corner and the remnants of a layer of wood. When a rotten log or timber appeared in the trench, it became evident that we had a segment from another barrack wall (Fig. 71). The preparation of Figure 69 subsequently affirmed that the remains here were from the back or southeast wall of a 170-ft.-long barrack structure built in 1814-15.

A comparison of Figures 38 and 69 will show that the deeper end of test trench 19H8E also must have been within the confines of this same barracks. Level 4 in that test had had a thickness of about 0.6 ft. and had ended at sterile gray sand 288.7 ft. to 288.8 ft. ASL. The possibility that the level lay within a structure had not been considered at the time of excavation. However, as a rough measure of what the fill within and adjoining this barrack may have contained, the contents of level 4 from test trench 19H8E have been combined with the materials found southeast of the log wall (that is, outside) in test 19H8L and listed in the
accompanying tables. The artifacts considered to have a floor-level context within the barracks are listed separately as level 6 (19H8L6).

Foundation and Floor

The rotten remains of a square-cut timber, possibly just a log, rested on sterile gray sand at just 289 ft. ASL, about 5 ft. below the present surface (Fig. 70). About midway along the exposed length of the timber a half-lap joint may have been present, but poor condition of the wood made this only a suggestion. Estimated width of the timber was 0.8 ft. to 1.0 ft. and in the trench profile only the single log could be seen. No stone or other foundation occurred with the log, but it did lie at an angle to and partially over a shallow trench or groove cut into the sterile clay. Perhaps the log had become displaced from a position in this trench.

Within the west corner area a circa 0.5-ft.-thick level of mortar and brick rubble first appeared at 4.2 ft. below the ground surface. This stopped at a gray sandy fill that was 0.1 ft. to 0.2 ft. thick in the corner area, and beneath which lay sterile gray sand. It was from the last level of fill that the majority of artifacts catalogued from level 6 were actually recovered.

At 4.6 ft. to 4.7 ft. below ground and along the southwest wall profile was a layer of wood, quite rotten, beneath which this gray sandy fill and also some of the mortar were found. This must have been a wood floor that has now mostly disintegrated since little or no wood was noted elsewhere at the same level.

Situation of the Foundation

The profile in Figure 70 illustrates the rising level of sterile yellow-brown sand immediately outside the back wall of this barracks. Before the removal of part of this profile by test trench 19H8R, this undisturbed horizon had risen to 0.8 ft. below the present surface at the southeast end of the profile. This very rapid rise shows both that the barracks floor would have lain below ground surface along the back wall at least and that the depression where the barracks rested was probably an excavation rather than a natural feature.

Associated Artifacts

Artifacts from the floor level, level 6, are listed in the relevant tables. The relative wealth of material, its variety, strong military cast and good datability make this a valuable study collection for the third Fort George occupation. Three tokens with 1816 dates were, like the one
from the 19H9H floor level, completely in keeping with the estimated age of the level. Two whitemetal buttons were unfortunately too far deteriorated to be legible. The balance of the collection largely divided into items associated with the mess - creamware and pearlware sherds and broken cutlery - and artifacts of strictly military origin, particularly ordnance. This material was probably what fell through and accumulated below the barracks floor and if the postwar maps of Fort George indeed meant what we will infer from them, the collection could represent a time span of only four years.

Interpretation

Maps were more specific than documents regarding the postwar appearance of Fort George. On an 1816 plan no less than seven structures had a barracks label attached. An overlay of this plan with the archaeological remains just described allowed the identifications with specific barracks.

Written reports and estimates for the same period, especially from 1816-19, either neglected to state the number of barracks or referred to only two, one that was 110 ft. long and a second that measured 70 ft. to 75 ft. in length. By reference to the maps, the 110-ft. barracks is easily identified as the one along the south front of the parade ground. This unit we located in test trench 19H9H. A plan and elevation for this building had even been included with an 1819 proposal. The structure which the 1816 maps showed as 170 ft. in length and to the southeastern side of the fort enclosure was apparently not mentioned in any known document nor was it shown on a Fort George plan later than 1818. We can only suggest that this one may have been allowed to collapse before anyone mentioned it specifically or requested funds for its repair.

Accounts from the postwar period do bring out the poor condition of the Fort George barracks and the problems with trying to keep them habitable. Barrack floors were broken or rotten and were flooded in wet weather, a consequence of being below ground level. An 1823 sectional view through an unexcavated building within the fort grounds illustrated a subgrade floor level. This situation matched what we encountered archaeologically. In "Test Trenches, Block-houses Nos. 1 and 3 and Other Prewar Buildings" we noted that the depression(s) wherein the 110-ft. and the 170-ft. barracks lie may have been created as borrow pits for the earthworks to the south and southeast. The 110-ft. barracks might have seen some occupation into the 1820s since it was shown on maps of even more recent date, but the deletion of the 170-ft. long one from any post-1818 plans suggests a brief duration, perhaps no more than four years, for that set of quarters.
The Privy

A backhoe operating in test trench 19H9J struck the northeast wall of a stone masonry foundation (Figs. 4, 6). The size and nature of the indicated structure were unknown as its existence had not been suspected. Subsequent work revealed the remaining three walls of a rectangular foundation, approximately 8 ft. by 13.3 ft. in size, with its major axis oriented N 33 degrees E (operation 19H14) (Figs. 38, 53, 54). Work continued until the end of the field season in an attempt to complete the excavation and if possible to determine the function of this building, but time ran out with almost half of the interior fill in place although it is unlikely that much new information would have been gained by removing it.

Fill Around the Structure

From one to four levels were removed around the exterior walls, apart from what the backhoe had cleared away by the northeast wall. ASL elevation of the ground surface in this area was 293.75 ft. to 294 ft.

The first level, primarily sod and topsoil, extended all the way around the building. In depth this unit ranged from 1.3 ft. by the north corner to 0.4 ft. by the west corner, averaging 1.0 ft. or less. Even above the base of this level, reddish-brown and light yellowish-brown sterile sands continued from the south corner all along the southeast wall and to midway along the northeast wall and from within 0.2 ft. of the wall exteriors to the limits of the excavation. Elsewhere around the exterior there was fill which graded from sand to clay in texture.

Two other levels, principally fill again, were removed only around the northwest, the southwest, and part of the southeast walls; that is, from the north corner to the small balk. A fourth level took away the remaining fill and some underlying sterile gray silt along the northwest wall, northeast from the balk. Excavations ceased at 292.24 ft. to 292.59 ft. ASL along the southwest limits and at 291.81 ft. to 292 ft. ASL by the northwest side, or some 1.26 ft. to 2.06 ft. beneath the ground surface. With reference to the tops of the walls, these excavations carried circa 0.65 ft. and 1.2 ft. below along the southwest and northwest sides respectively.
The underlying sterile appeared at varying depths. Outside the northeast wall it lay almost at the base of the sod, at 293 ft. ASL, while by the southwest wall undisturbed sand approximated the base of the excavation. The old ground level would have been at or above the elevations for undisturbed sand. At no time did this work around the outside encounter any identifiable features or remains of an occupation surface.

Architecture

Interior dimensions were 6 ft. by 10 ft. to 10.3 ft. Tops of the walls lay at an average elevation of 293 ft. to 293.1 ft. ASL or between 0.67 ft. and 1.41 ft. below the surface. The walls extended down another 2.9 ft. to 3 ft. at the north end and 3.2 ft. to 3.3 ft. at the south end, to a maximum of 4.1 ft. below the present ground level (Fig. 54). The relatively consistent wall height around the building and lack of noticeable disturbance in the walls indicate a complete foundation, one for a semisubterranean structure.

The present shallowness of sterile soil and its close proximity to the wall exteriors suggest the method of construction. A rectangular pit was dug with just sufficient width and depth for the foundation, whereupon the mason built up walls from the inside, placing the building stones nearly flush with the pit walls. Excess mortar spread over the outside face, leaving it with an unfinished appearance.

Construction consisted of a double thickness of cut dolomitic limestone, laid as random-coursed rubble, the stones having a quarry or split face to the interior (Figs. 54, 55). In some places only one large stone extended across the wall width. Four to six courses of masonry, depending upon available sizes of stones, have survived. Bonding was with a lime and sand mortar. No bricks were used in the construction. From present appearances the top of this foundation had been completely covered with mortar before placement of a (wooden?) superstructure over the top.

Excess width at the southwest end involved solid stone and mortar construction, not rubble fill, and may represent a step outside a doorway. The blockhouse no. 2 foundation had a similar feature (Fig. 21). If these were steps, the one for the present building would measure a maximum of 1.4 ft. by 6.6 ft. with sterile sand about 0.6 ft. below the top of the stonework.

The finished side of the foundation wall faced to the interior where a vertical surface has had excess mortar cleaned from between the stones. This inside face is not now plastered and apparently never was. At the base on the interior was a prepared floor, a pebbled mixture of clay and small limestone pieces packed to a thickness of about 0.1 ft. The upper surface of this floor downsloped from north
to south, from an ASL elevation of about 290.09 ft. to 289.72 ft. Two tests beneath it found a sterile reddish sand in the east corner and an undisturbed bluish-gray clay in the south corner.

**Interior Fill**

The interior was dug in nine excavation levels which can be grouped into five stratigraphic units. The sod and topsoil were a light yellowish-brown sand that graded into a fine reddish-brown sand. This unit, the first two levels, extended down to about 293.1 ft. ASL or to the tops of the foundations.

A second unit consisted of a reddish-brown sandy silt with an abundance of mortar and brick fragments, removed as three levels. Some charcoal was present and most of the artifacts in this unit came from the lower part of it. Brick rubble appeared in all four corners, at circa 0.5 ft. below the foundation top and downsloped to a low point of 291.55 ft. ASL in the south-centre of the interior. The top of this rubble layer largely coincided with the bottom of the second unit (Fig. 56).

Unit 3 was then the removal of brick and mortar rubble with some large building stones in the upper two-thirds of level 6. In this unit and in the two units beneath it, excavations removed only the southeastern half of the interior fill (Fig. 54). Brick fragments in the third unit were found to a maximum depth of 290.8 ft. ASL or 3 ft. below the ground surface. This rubble varied from 0.6 ft. to 1.4 ft. in thickness and effectively separated the two units above it from those below.

A fourth stratigraphic unit, the lower one-third of level 6, extended to approximately 290.5 ft. ASL and took in 0.4 ft. to 1.5 ft. of fill beneath the rubble. Patches of reddish-brown sandy clay gave way to a dark gray sandy clay and then to a gray ash. Inclusions besides artifacts were pieces of mortar, charcoal and burned wood debris, with scattered brick fragments (some burned). A level where broken sections of unburned wood appeared, flat in the soil but not in a structural alignment, marked the bottom of this unit.

The lowermost three levels or fifth stratigraphic unit totaled a minimum of 0.4 ft. in thickness. Large construction stones occurred randomly, as part of the fill, and caused local variations in the depths of levels. The matrix was ash and old mortar, possibly with lime, in a grayish sandy silt. Fragments of thin boards from 4 in. to 6 in. in width, unburned, lay at various angles through the fill. Now damp and fragile, these boards may have been part of a floor which collapsed before the brick and mortar rubble was
dumped into the structure.

The damp fill of this lowest unit had lime scattered throughout, a greenish colouring and a distinct odour of organic decay. These point to the building having been a privy. If so, then the brick and mortar rubble should seal off the fill in the lowest three levels and artifacts from the latter contexts may date to when the structure was in use. The numerous fragmentary bricks within the foundation had almost certainly been deposited as rubble from elsewhere, perhaps from the double fireplace base (19H16), rather than as a collapsed part of the privy superstructure.

**Artifacts**

Artifacts from beneath the sod and topsoil horizon, both inside the foundation and around the exterior, have been studied. The majority of these materials, especially the abundant faunal remains, came from below the brick and rubble fill (unit 3). Extreme corrosion and disintegration of metal from the units below the rubble horizon greatly inhibited identifications of these metal artifacts. Objects from the sod and topsoil unit, inside the foundation or out, had no clear associations with the building.

No impressive differences existed in the nature of artifacts above and below the rubble. Military items were scattered throughout, with a fragmentary shako plate for the 100th Regiment below the sod level outside of the walls and a similar plate for the 70th Regiment below the rubble inside. From the latter context too came two pewter buttons for the 68th Regiment. The lowest level of fill contained what appears to be an American musket barrel (interior diameter approximately 0.7 in.) in a very fragmentary condition. Other objects included gun flints, one iron ball from a cannister shot and another from a grape shot, the crown from a shako plate, an iron ball button and a hollow brass button. The last two might have had either military or civilian associations.

Besides the military items there were, from all contexts, two riveted sheet-iron padlocks, several dozen wrought nails but only one cut specimen, a strap hinge, and many fragments of thin sheet iron (tin cans?) and iron straps (barrel hoops?). The fifth level of fill, or lower part of the second stratigraphic unit, produced a British token dated 1814. Stem and bowl fragments of the ubiquitous white clay pipes totalled more than 100. Personal and household items amounted to an iron buckle with a tongue, a cast brass buckle with decoration in relief, two bone handles for dinner knives, and two tablespoons. Pane glass was almost all of the thin and medium thicknesses. Utility glassware ran mostly to dark green wine bottles, with a restorable
Group 4 example, and several pieces of clear glass stemware and tumblers from beneath the rubble. Ceramics were mainly pearlware and creamware. Data on the above and other minor artifacts, with their proveniences, will be found in the appropriate tables.

The two lowest levels contained large and small bone fragments from a large cow, with at least two elements each (in a total of around 50) from a pig, ducks and a sturgeon. Burned pieces of bone had probably been contained in the ashy fill. Food remains in addition to animal bones consisted of eggshells, black raspberry seeds and peach pits, a cherry stone and three bivalve shell fragments.

**Dating of the Fill**

Several artifacts permit a close estimate as to when the interior was filled, at least for the last time, though the date of construction may remain uncertain.

The 1814 British token would give a bottom date to its context, the fill just above the brick and mortar rubble (fifth excavation level). However, from down in the seventh level came two pewter buttons from the 68th Regiment of Foot and a fragmentary shako plate for the 70th Regiment. Service at Fort George for the latter regiment dates from May 1817 to July 1819, while the 68th did duty from July 1819 to May 1822. The latest identifiable artifact provides the control for the age of the fill and in this case the interior contents below the rubble could have been deposited only after July 1819 - when the 68th Regiment first arrived. Fill deposition therefore must date from the latest years of Fort George as an active military post, circa 1819-25. Whether the contents are a contemporaneous association or a mixture of artifacts from different periods, will be hard to judge because of the extreme metal disintegration in the lower levels.

The 100th Regiment shako plate came from outside of the northwest wall, in the second level or 0.5 ft. below the ground surface. That regiment arrived at Fort George in August 1809 and served there discontinuously through July 1814. The context for the plate could therefore be no earlier than August 1809, however much later it might be. In an attempt to date this context more exactly, the crown from level 6 of the interior fill was fitted against the 100th Regiment plate, which lacked a crown. The two did not match nor did the crown match other plates from around the site that also lacked their crowns.

Finally, the fill slightly above sterile in level 4, outside of the northwest foundation wall, produced a stoneware bowl sherd with the name ADAMS impressed on its bottom. The manufacturer used this style of name on general earthenware
from 1800-64. The sherd must consequently have been lost after 1800. Its position stratigraphically below the 100th Regiment shako plate, in the same area, suggests that the sherd context dates circa 1800-20 provided that the plate is in a primary deposit. In this respect, the nature of the plate's context is uncertain.

The conclusion on the date of this structure's filling, perhaps only for the latest time, stands as given above. More reasonably, it was also built after the War of 1812 than prior to that war, but its possible time of construction ties in with the inferred use and warrants a separate discussion.

Function of the Structure

This foundation is best interpreted as a privy. Within the fill a slight odour suggested decaying organic matter, and lime would be expectable as a standard measure to combat odour and to help speed up the natural rate of decay. Dr. James Mann, a surgeon with the U.S. Army during its occupation of Fort George, wrote that General Boyd "repeatedly called the attention of the officers commanding corps, to the important necessity of daily covering the sinks [privies] with earth."

With its shallow depth and masonry walling, the foundation or vault must have been cleaned out periodically if it was used for any length of time. An approved request from December 1831 required the men's privy at Butler's Barracks "to be effectually cleaned out," thus documenting the existence of this service although from a slightly later period. Artifacts below the brick and rubble fill unit should represent accumulation after the last cleaning, the rubble and fill above probably being post-occupational debris.

No historic maps show privies or even so much as small, unidentified buildings placed apart from the barracks. However, in his 12 September 1802 report and recommendations concerning Fort George, Captain Bruyères stated that "two Privies are required to be built of Masonry within the Fort, One for use of the Officers, One for the Men," and attached cost estimates for £60.8.2; each privy to be 14 ft. long and 8 ft. wide. These dimensions match those of the present foundation very well. Whether Bruyères's two privies were ever allotted funds and built, and where upon the site, are all unknown. He may also have been specifying privies in addition to whatever existed already. No materials list accompanied the cost estimate.

The only other documentation for privy construction comes from after the War of 1812. An estimate for "a new privy" originated at the Royal Engineers' office at Fort George, 14 September 1818. This, with a cost figure of
£46, filtered up through channels to receive approval by the Military Secretary for both expenditure of funds and allocation of materials. Whether anything actually came of the paperwork is doubtful since another estimate dated 4 January 1820 included a request for £46 to erect a new privy at Fort George. In any case, Captain Vavasour's 1818 proposal did include a materials list with the appropriate types and quantities of lumber for a 14-ft. by 20-ft. frame building with a 6-ft. (or deeper) vault beneath; a structure much larger than the one reported here.

Placement on the site affords a further line of argument on the use and date of this building. It would have lain about 75 ft. northwest from and almost in front of the officers' quarters at the prewar Fort George (Fig. 69). This location hardly seems appropriate for a privy nor do its walls parallel those of any other buildings. Even with four structures labelled as barracks in the parade ground, as shown on the 1810 map, the excavated unit would have been some 60 ft. distant from and not aligned with the closest of these.

In the postwar fort this small unit would have been very nearly centred in the center bastion along the southeast front (Fig. 69). It would also have lain some 60 ft. east from the northeast end of the 110-ft.-long barracks and effectively behind the latter. This position for a privy seems more reasonable than any location relative to buildings in the prewar fort.

Finally, there is the unscaled sketch by Lieutenant Van De Venter, discussed in "Historical Background." The proportions on his map are such that it cannot be overlaid on any of the scaled drawings, but in the general area of operation 19H14 is a small feature marked "Magazine" north from a block house and behind a lineal "Officers' Quarters." The situation of a magazine close by two other structures would have been a bad one as an explosion would have caused damage to these nearby buildings. In view of the relative location, a privy in the same spot would make more sense than a magazine. Could Van Deventer have misidentified a privy as a magazine?

A final suggestion is that the present unit may have been built as a small magazine, even as one of the bastion magazines that we know existed, and subsequently converted to use as a privy. In this case it would have been constructed during the period of the second fort or early in the span of the third Fort George.

Conclusions

This semisubterranean foundation is most probably the base for a privy constructed after the War of 1812 as a part of the third Fort George.
The Double Fireplace Base

The north corner of a stone foundation projected from the south profile of test trench 19H10C. Three other test trenches in this area (19H9H, 19H12D and 19H12E) did not encounter the foundation (Figs. 4, 6). These four suboperations delimited an approximately rectangular area that became an excavation unit, operation 19H16, situated in the southeastern part of the parade ground (Fig. 38). Later this operation was expanded to include a short test trench to the north.

Procedures

Initially a V-shaped balk was laid out with the arms of the balk nearly perpendicular to the two foundation sides exposed by the test trench (Fig. 60). This balk provided a stratigraphic profile during the excavation. The removal of sod and topsoil then proceeded to a depth of 0.43 ft. to 1.38 ft. below the surface and to the top of a dark gray fill stratum. The south wall profile of test trench 19H10C served as a guide for the excavation of a second stratigraphic layer all around the stonework, except at the balk, with the base of this level at 1.35 ft. to 2.09 ft. below ground level. The foundation was then seen to be a stone masonry feature, rectangular and approximately 6 ft. by 7 ft. (Figs. 57, 58).

Removal of the fill from above this masonry, to 1.34 ft. to 1.63 ft. beneath the modern surface, came next. The dark gray fill stratum rested upon a densely packed layer of mortar fragments which in turn overlaid a soft mortar layer (Fig. 59). To facilitate the recognition of any features, the two mortar layers were removed as separate levels. The foundation then stood exposed as a solid piece of masonry construction; a base rather than a set of walls. Outside of this masonry and circa 0.2 ft. below its surface lay an old occupation surface upon which patches of a thin mortar layer yet remained.

Three test units were excavated through the old occupation surface in the north, the southwest-central and the east areas of this excavation (Fig. 57). Near the east corner two decomposing logs ran parallel to the northeast side of the foundation (Fig. 60). The log nearest to the foundation lay in a trench. In the other two test units sterile sand was encountered beneath a thin occupational layer. After
the balk had served its purpose, it too went out as a part of the fill.

To seek the limits of the occupation surface by tracing its thin mortar capping and to find the wall of any associated building, we extended a test trench (19H16D) to the northwest from the main excavation (Fig. 57). The mortar did not continue into this trench and no further evidence for an associated structure could be found.

Stratigraphy

The uppermost level of fill consisted of sod and topsoil together with a light brown sandy soil (Munsell "light yellowish brown," 10YR 6/4, and "dark brown," 7.5 YR 4/4). The base of this level downsloped slightly towards the northwest, conforming with the top of the dark gray sandy fill stratum (Munsell "grey," 10YR 5/5). In this second level was another exposure of the old ground surface prior to reconstruction, as discussed in "The Water-line Test Trenches." A thin band of charcoal was present at the top of the dark gray fill, along the southwest side of the excavation, from the south corner to a point 8.3 ft. towards the northwest. No association for this band could be seen.

The dark gray fill included mortar, brick and charcoal fragments. The density of mortar fragments increased near the bottom of this stratum, both immediately around and above the masonry work. A dense layer of mortar fragments was then underlain by a continuous layer of soft mortar, the latter effectively capping the stone base. Outside of and adjacent to the foundation a thin layer of orange-brown sandy soil occurred beneath any remaining mortar on the occupation surface (Figs. 57, 59). A gray, sandy, sterile soil (Munsell 5 YR 3/4) underlay the orange-brown fill.

Along the northeast side of the foundation the nearest log measured about 7 in. in diameter (Fig. 60). The top of the wood and the base of the masonry were at the same level. The trench which contained this log had been excavated from a level equivalent to the top of the foundation; that is, from the base of the dark gray fill stratum. Gravel filled the trench above the wood and a mottled sandy fill lay to either side of the log remains. A structural relation between log and foundation, or a stratigraphic relationship of trench to foundation, could not be established. However, it is virtually certain that these were contemporary features and parts of one building. A second piece of wood, parallel to the 7-in. log but some 2.75 ft. further east, lay at the same depth (Figs. 57, 60). The more distant piece had actually been a beam or timber with a cross-section of 5 in. by 10 in. Neither log nor beam was followed to its full length.
Although by elevational readings the occupation surface
was at the same level with or higher than the masonry, the
surface sloped and averaged 0.2 ft. lower where it met the
foundation.

The Masonry Base and Other Construction Features

Quarry or split-faced pieces of gray dolomite or limestone
had been laid as randomly coursed stonework, two to three
stones in height. The lower stones were slightly larger and
dry-laid; the upper ones were bonded together with mortar.
Enough of the mortar was cleared away to expose the irregular
outlines of stones. A 6-ft. by 7-ft. base had probably been
intended here and the actual dimensions varied from these by
0.1 ft. to 0.4 ft. (Fig. 57). The test units showed this
base to be 1.0 ft. to 1.1 ft. thick with the stones laid up
in a shallow depression excavated into the underlying gray,
sandy sterile soil (Fig. 61). This last abutted the stonework;
there were no signs of builders' trenches.

What appeared to have been wooden planks 0.9 ft. to 1.2
ft. wide lay upon the northeastern and southwestern sides of
the foundation respectively, along the edges. Little remained
except charcoal. Ash and charcoal bands, 1.0 ft. and 0.4
ft. wide and circa 0.2 ft. thick, lay along the northeast
and northwest foundation sides and may indicate burned
boards.

A single course of bricks remained mortared to the
masonry surface along most of the northwest side (Figs. 57,
61). This brickwork was widest at the northwest-southeast
axis of the foundation, from whence the inside edges of the
brick course diverged at more than a right angle. The plan
of this brick layer indicated that the stone masonry had
been a double fireplace base with its major axis at N 40° W
and the two fireplace openings to the northeast and to the
southwest. All signs of a dividing centre wall had disappeared.
In the south corner several bricks were still in place as
well as the mortar impression where another brick had lain.
Every other trace of a brick fireplace or other superstructure
had been removed.

The thin layer of mortar on the occupation surface
adjacent to the fireplace base had presumably been laid
intentionally. This surface unfortunately could not be
traced to any walls. Mortar capping on the foundation
itself was at least partly the remnants of brickwork bonding.

Despite a lack of direct evidence for association
between the wooden log or its trench with the fireplace
base, their parallel position suggests that the wood might
have been a sleeper. The second beam had no trench and may
have been displaced. If these beams were originally perpen-
dicular or parallel to the walls of a building associated
with the fireplace, then the building orientation and perhaps
its size might be indicated by the sleepers.
The 1974 excavations at Fort St. Joseph, specifically in the 1796 blockhouse built to the common plan for a blockhouse at Amherstburg and the centre one at Fort George, revealed two stone fireplace bases. Both had been constructed upon lower-lying stone footings. The only well-preserved base had dimensions of about 7.1 ft. square, quite comparable to those for the operation 19H16 feature. Perhaps more interesting was a cavity lengthwise through each base, slightly off the centreline and parallel with the minor axis of the barracks. Each cavity had contained a log. Another parallel log had rested alongside or slightly into one base. At Fort St. Joseph the logs apparently had the role of sleepers, beneath the floor joists. Possibly a similar explanation is in order for the logs beside the Fort George fireplace base.

Associated Artifacts and Estimated Age

The associated ceramics (Table 10), glass (Table 14) and metal artifacts (Tables 18, 20) did not represent a specific activity and the quantities were small in any case. Only materials from significant contexts, those associated directly with the occupation surface and the foundation, were studied. The higher-lying strata contained recent (20th-century) inclusions.

Ceramic types present consisted of creamware, pearlware and two sherds of white earthenware, but the sherds were small and mostly plain, and at least eight of them were burned and not even identifiable. Small pieces of dark green bottle glass indicated one or more wine bottles, while four medium and one thin pane glass fragments tell little. Wrought nails, at least 77 specimens with various head forms, were the only nail type present and most of these came from the mortar layer directly on top of the fireplace base. There were also two dozen broken shanks and corroded nails probably derived from wrought nails. Three .75 calibre musket balls, two heavily corroded whitemetal discs (that is, buttons), one two-tined fork, a possible clasp knife blade (fragmentary) and a few pieces of unidentifiable iron and brass scrap comprised the additional metal artifacts.

This array of materials lacked sensitive temporal indicators or adequate samples of anything except nails. The approximate limits for dating would be 1790 to 1850, based mainly upon the nails and ceramics, and within this interval the early 19th century is most probable. Further study of artifacts alone offered little hope for narrowing the possible date range.

Rumford's Fireplace Designs

There was scarcely enough left of this feature to identify its original purpose, much less judge its appearance.
However, some chance existed that Count Rumford's new system of fireplace design, evidently developed in England during the 1780s and presented in a 1795 publication, could have been used by the British military as well as by anyone else. If these principles of construction had been employed, a possible and even probable design for the fireplace and chimney could be suggested. There were enough remnants of the double fireplace base to test this relationship and in addition the plans for the original officers' quarters and centre blockhouse, dated 1799 and 1796 respectively, featured fireplace details. The digests of Rumford's principles contained in an 1860 manual and as given by Orton furnished the necessary background information.

Rumford proposed that the sides of the fireplace should be constructed of non-conducting substances, not of iron, at an angle of 135 degrees with the back wall or 45 degrees with the front line of the fireplace. The width of the back wall should be the same as the fireplace depth. The front opening then became three times the width of the back. Additional design considerations pertained to the upper parts of the fireplace and to the chimney. Variations occurred, as indeed the manual quoted one observer: "Although the best form for register stoves has now for several years past been adopted, the desire for novelty has caused the true principles of construction to be frequently departed from...."

With the excavated example the probable dimensions for a single fireplace were: front opening, 5 ft.; back wall, 4 ft. to 4.5 ft.; depth, 2 ft. to 2.5 ft. For the centre blockhouse and the officers' quarters the scaled plans indicated proportions of depth to width of back wall of about 2:3, and for width of back wall to width of front opening, about 3:4. The fireplace which had rested upon the excavated base was therefore even less deep and had sides more nearly perpendicular than the designs for the first Fort George. In neither case did the principles used at Fort George approach those espoused by Rumford. Given this lack of agreement, there is insufficient historical basis to indicate anything about the design of a double fireplace here.

Relative Placement of the Double Fireplace Base

The base was stratigraphically beneath the dark gray sandy fill and so must predate the formation of that stratum. This does not tell us very much. Mentioned in the historical records for the original Fort George were several buildings that have not been located and were not shown on maps, for example, a 9-ft. by 15-ft. bakery, a rebuilt bakery, a temporary hospital, and a soldiers' kitchen. While the present structure might have been part of one of these, it
seems unlikely that such units would have been built in the parade ground of the prewar fort. The design was not appropriate for a bakery in any case.

Unnamed buildings were also indicated on postwar maps of Fort George. An 1818 map revised or marked up through 1823 showed one small building between two barracks. Drafting on this particular plan was crude, but by comparison with the 110-ft. and 170-ft. lengths of the same two barracks on a scaled map from 1816, the small unknown building would measure circa 10 ft. by 25 ft. When the projected locations for the two barracks were plotted with the archaeological findings in Figure 69, the double fireplace base was near if not at the location for the small unknown building. The latter, if 10 ft. by 25 ft., would have been large enough for the two rooms implied by the double fireplace.

If this building were an adjunct to the two nearby barracks, the top of the fireplace base lay about 2 ft. higher than the barrack floor levels. Since the barracks had been built within a large depression, this difference is no point of objection. There could be a legitimate question about the base being a later, post-military feature that is undocumented. However, the artifact associations and one map representation make this last explanation a less likely one.

Conclusion

The masonry and remaining bricks identify the structure excavated in operation 19H16 as being a double fireplace base. Neither the form of the fireplace nor the nature and dimensions of the building it served could be determined beyond that this last had two rooms and a thin mortar coating on the occupation surface. A small building was represented at this location on an 1818-23 map of Fort George and the best present explanation for the double fireplace base is that it formed part of that building.
Semisubterranean Room

Procedures

Several bricks in alignment lay near the north corner of the original guardhouse in a section where the foundation wall was missing (Fig. 72). The bricks rested in fill, their upper surfaces a few tenths of a foot below the 294.0 ft. ASL elevation of undisturbed yellow-brown sand in that area. On excavation, the brick construction proved to be the rear wall and sides of a corner fireplace that opened into the western end of a semisubterranean room. The modern guardhouse building covered all but about 5 ft. of this room, whose major axis appeared to have been northeast to southwest. This newly-found unit had, when built, intruded through the north corner area of the original guardhouse and therefore postdated the destruction of the guardhouse (Figs. 73, 74). Ground surface at the time of intrusion must have approximated the guardhouse foundation level.

Room Features

Two vertical to slightly undercut walls had been formed, 12.2 ft. apart, by cutting into the undisturbed sand. Their interface with the dark brown interior fill was easily defined and no traces of any wall lining remained. Through the southeastern half of this room, scraps of wood, probably a decomposed wooden floor, lay at an elevation of 291.9 ft. to 292.1 ft. ASL or 0.2 ft. to 0.4 ft. above the bottom of the original excavation. Orientation of these scraps corresponded to the axes of the room, the fragments aligned with the minor axis being on top (Figs. 73, 75).

Many partial bricks and a few complete ones, salvaged or reused from some earlier structure, had been employed in the fireplace construction. A maximum of six courses remained above the firebed level; any higher portion had been destroyed. Bricks in the firebed had been laid on edge and the bed showed evidence for fires having been built there (Fig. 76). Adjacent to the fireplace lay a triangular hearth, made of bricks except for four flagstones, with bricks and stones placed in a bed of reddish-coloured lime mortar 0.15 ft. thick. Traces of this mortar had been noticed elsewhere in the fireplace, but for the most part mortar had apparently disintegrated. In the end wall of the
room and directly south of the hearth there were a few bricks in place from some accessory construction, now partially destroyed (Fig. 76).

This fireplace provided the best collection of bricks, which were not rubble fill, from a feature anywhere in the excavation. The fragmentary condition of these bricks suggested reuse from the first Fort George or perhaps from buildings in the town of Niagara. From a total sample of 75 there were only ten complete specimens and nine of these differed in at least one dimension. Average size was 8 in. by 4 in. by 2 in. with maximum variations of 0.5 in. on the upward side. Although thousands of bricks had been specified for use in fort construction, no source of supply was given. A brick industry did exist in or near Niagara by the 1790s and thus offered the potential for a local source.

**Fill and Associated Artifacts**

The room fill appeared to be homogeneous, gray to dark brown in colour, composed of sand and clay with gravel in at least the higher levels. Charcoal, fragmentary and whole bricks, and minor amounts of cultural debris were inclusions. Artifacts came from throughout the fill with no concentrations near the lower levels, the floor, or elsewhere. Identifications of the various items have been given in the accompanying tables although it is unlikely that any were associated with actual use of this room.

A brass strap fastener and an English gunflint were the only probable military items from the fill. Nothing in the way of ordnance occurred and the brass buttons had no features to mark them as military. Two large staples, a fragmentary H-L hinge, clay pipe fragments and a brass spigot all suggested no particular affiliation, while a scissors, thimble and gold-plated teaspoon were typical household articles. Eggshells and animal bones could have been anyone's food remains. Perhaps most significant were two 1816 Wellington tokens and an 1816 Brock token (Table 27), one token having been found near the bottom of the excavation. The Brock token may be honestly dated, but Haxby and Willey state that the 1816 Wellington halfpenny tokens "are lightweight pieces struck on Canadian order and issued about 1830."

Of the 47 ceramic sherds, the majority were decorated pearlware and the balance mostly creamware and stoneware bottle fragments. Pieces from one or more dark green wine bottles and from a medicine bottle comprised the glass collection. The one flow-blue sherd would have been a mid-19th century or later intrusion, otherwise the ceramics suggested that the fill contained a valid assemblage of early 19th-century artifacts.
The reconstructed guardhouse prevented exploration of the intrusive unit to its full extent. The latter matched nothing known historically from either documents or maps and its interpretation therefore presented a problem. As a possible way to uncover more of the room and learn what its purpose may have been, an L-shaped test trench was excavated just northeast of the modern guardhouse. If the semisubterranean room continued sufficiently far towards the northeast, this trench should have located it again.

The findings, in plan and profile, are presented in Figure 77. There was no architecture at any level though two groupings of stones within a foot of the present surface gave early hopes for a foundation. After removing fill through the entire trench to a depth of 2.7 ft. to 2.8 ft. below the 294.67 ft. ASL surface level, a 5 ft. square within the trench was continued down to sterile sand at 288.6 ft. to 288.8 ft. ASL. The bottom lay just 3 ft. lower than the maximum depth of the intrusive room behind the guardhouse.

The trench failed to achieve its main purpose and only the most significant details of what came from it will be repeated here. The pre-reconstruction ground surface of dark gray to dark brown fill appeared through most of this test. From a depth as shallow as 0.4 ft. below the present surface at the southeastern end, this surface gradually downsloped towards the north or northwest to a depth of 1.0 ft. at the west corner. The stones mentioned above appeared to rest upon this surface. In the south corner, generally within a radius of 3 ft. from the corner and at 1.2 ft.-plus below the ground level, a lighter-coloured sandy fill contained a relative wealth of debris. Animal bones were prominent in this, with charcoal, ceramic sherds, fragmentary iron hardware and a few military items also present. A previously unknown type of shako plate, for the 70th "Glasgow Lowland" Regiment of Foot, came from this area at 1.8 ft. below the present ground surface. Finally, both profiles of the deeper 5 ft. square test revealed a thin charcoal layer that sloped downwards toward the northwest.

The fill in this test trench from the old surface level down to where the smaller pit was started (and possibly lower) may have been a secondary deposit, or at least undisturbed. Pearlware ceramics were predominant throughout, but in level 3 (the one with the shako plate) there was more white earthenware than creamware. The 70th Regiment could not have lost an accoutrement on the site prior to its arrival there on 1 May 1817 (Table 2), at a time when pearlware ceramics should have been in highest favour. Wire nails in the next higher level indicated post-1880 material there, but artifacts from level 4 and below could form a
valid assemblage for a period following the War of 1812 until the abandonment of Fort George by the mid-1820s.

**Interpretation**

The room intrusive into the original guardhouse foundation either did not extend northeast beyond the reconstructed building or had been destroyed there by a still later disturbance. Knowledge of what remained between the fireplace and the back wall of the modern guardhouse was not adequate to support a suggestion of room use. Historical data that might bear on this problem was also less than conclusive.

If the room had been built as an accessory construction of some type to the south bastion in the third Fort George, it lay well outside that bastion (Fig. 69). The presence of a fireplace precluded it having been a bastion magazine. That the room floor lay a minimum of 2 ft. below ground at the time of construction suggested the west end of an 1814-15 barracks which were known to have had floors lower than the outside surface. However, the postwar barracks closest to the excavated room had been 20 ft. wide. Once test trench 19H9H uncovered the eastern end of that barracks ("The Postwar Barracks"), the latter's relatively greater depth, differing orientation, and probable termination circa 50 ft. short of the intrusive room made it clear that still another explanation would have to be sought.

The map showing superpositions of pre- and postwar forts (Fig. 69) offered no further ideas nor did other maps from the period of Fort George's active life. However, an 1850 map of the military reserve at Niagara featured three small structures in the appropriate area of the old fort, without explanation as to what they were. The same buildings were shown on an 1853 tracing. Lossing in his 1860 visit found "two or three houses within the works," but the two families that he mentioned lived in the old powder magazine and near the first blockhouse location. Lossing's sketch included nothing in the area of the original guardhouse and later maps provided no help.

The unusual construction feature of floor levels below ground has been documented for at least the barracks in the third Fort George and this had the expectable consequence of rotten floors. Whatever the original reason for this procedure, its failure in practice implies that it would probably not have been repeated. The presence of such a floor in the room intrusive into the original guardhouse may therefore be good evidence that this room was a feature of the third Fort George. Artifacts from the room fill were of an appropriate age to support this contention. The depth of fill in the test trench northeast of the modern guardhouse may have been due to the depression associated with the
barracks along the south front in the third fort continuing beyond that barracks to the west (Fig. 69). Cultural materials from that test trench should then have been, as indeed they were, a mixture of older debris with objects from the last years of Fort George and even postdating its abandonment as a military post.
The Old House

Historical Background

North of Blockhouse no. 1 stands a two-room clapboard building that is variously called the 1815 House, Brock House, and Museum (Fig. 3). It has been there since the reconstruction, but its history prior to the late 1930s was unknown. The proposition that it had ever been a Fort George building seemed to be very dubious. If its original location could be found, excavations on that site might produce information concerning the age, origin and nature of this little house.

Ronald Way furnished the most important lead for the archaeologists when he recalled that "the contractor was required to move the building some 90 feet north-west of its as-found site" during the reconstruction because its old location interfered with the complex of new blockhouses. Way made a reference to an architect's drawing, dated September 1938, made in the course of reconstructing Fort George. It showed a rectangular building circa 16 ft. by 31 ft. in size situated where the two-room clapboard house now stands, and an old location for it 97 ft. to the southeast.

Two other maps clouded this picture a bit. Another architect's drawing, dated September 1937, indicated a larger "Old Frame House" as standing on the old location for the two-room clapboard house, this old frame house being a part of the caretaker's residence. The size and number of existing buildings featured on the September 1937 plan coincided with those on the undated 1:30 scale contour map of the Fort George grounds cited earlier as "John's map" (Fig. 87). The structure called the old frame house on the September 1937 plan had been labelled as the old house on "John's map" and we eventually adopted the name "old house" for the structure represented by the foundations in operation 19H2 (Figs. 79, 80, 86). Three 20th-century maps therefore appeared to confirm Way's statement that the present two-room house superstructure had been moved from a nearby location and additionally told us that the building had been a part of the caretaker's residence.

Procedures

The landscape behind blockhouse no. 1 has an elevational gradient of about 1.0 ft. in 30 ft. from west to east,
beginning at 294 ft. to 294.2 ft. ASL just east of the
blockhouse (Fig. 78). Five test trenches were laid out here
so as to bracket the area 90 ft. southeast of the two-room
clapboard house. Through testing we expected to find the
building's original foundations and to excavate these as the
means of determining the house's age, origin, etc. Sub-
stantial excavations took place only within the easternmost
three trenches, the work in test 19H2C ceasing at 0.85 ft.
below ground level without having found anything structural
(Fig. 80).

The southern ends of trenches 19H2A and 19H2B found the
top of a stone wall just 3 ft. below the modern surface.
Excavations traced this wall for 20 ft. toward the north,
found a north corner and also showed that the overlying fill
dated from the 20th century. The foundation itself lay to
the west and a backhoe was called in to clear the overburden
from above the whole structure down to the present tops of
the walls.

The backhoe excavation traced out a rectangular founda-
tion of stone masonry, 30.7 ft. by 16.2 ft. to 16.4 ft.
measured externally, its major axis oriented N 50° W (Figs.
79, 80). These dimensions fitted the existing superstructure,
the foundation lay where it had been predicted, and fill in
at least the upper level dated to the 20th century. With
these findings in hand, we felt that the original foundations
for the two-room house had been located and started calling
both parts the old house. Nothing in subsequent research
changed this interpretation.

Within the foundation, the excavations proceeded by
hand through levels 2, 3 and 4, the backhoe material being
considered as level 1. A 2-ft.-wide balk remained in place
through the centre along the major axis until the fill to
either side had been removed down to native sand. Excavations
within the foundation limits bore the designations 19H2E2
through 19H2E8 while testing without and below the level of
the wall tops was recorded as test trenches 19H2F1 through
19H2F3.

Test Trenches

Substantial work was done in test trenches 19H2A, 19H2B and
19H2D, the average depths attained being 1.5 ft., 2.6 ft.
and 1.3 ft. below present ground level respectively. None
of the three reached undisturbed sediments and their contents
appeared to be exclusively 20th century, probably of no
significance for the site prior to the 1930s. A possible
driveway surface, a brick walkway, different types of fill
and old construction debris (building stones, segments of
brick walls) were through most of trench 19H2D and in parts
of the other two trenches (Fig. 81). This material indicated
that "clean" fill had been brought in to level the eastern
part of the site area during reconstruction.
Foundation

Upper parts of the stone masonry walls had been removed or knocked about during the reconstruction period so that an original top course probably did not remain. The extant heights ranged from 290.5 ft. to 291.7 ft. ASL (Fig. 82). Angular blocks and slabs of limestone or dolomite had been laid up as randomly coursed rubble, in lime mortar. These stones averaged slightly larger in size than those in the guardhouse foundation. The finished side of the masonry faced to the exterior and except for two segments along the southwest interior, the inside walls were completely irregular and unfinished (Figs. 80, 83).

Wall thickness varied from a minimum of 0.8 ft. to an average of 1.1 ft. to 1.5 ft. Masonry more than one tier wide occurred only where the two wall segments had been finished on the inside. Dry-laid bricks with mortar on top had filled part of the space just inside from the southwest end of the northwest wall (Fig. 84). At that place and for 5 ft. along the adjacent southwest wall, lower portions of masonry had caved out and had been replaced or filled in with stone rubble and refuse at some time in the past. Extant wall heights ranged from 1.5 ft. to 3.1 ft. with an unknown amount lost from the top at the time the superstructure was removed and the foundation filled in. An iron grill 1.45 ft. in height and about 2.5 ft. wide remained in place and probably marked an old window opening in the northwest wall (Figs. 80, 83, 84).

The southwestern wall rested upon undisturbed sand and featured a small stone footing (Figs. 82, 85). The southeastern wall had no footing and while it had been built upon a light brown sandy fill, there was undisturbed red sand just inside of the foundation there and at an elevation higher than the wall base (Fig. 82). The base level of the foundation elsewhere around the structure appeared to lie on undisturbed sand at an elevation of 288.8 ft. to 289 ft. ASL. Builders' trenches were not found as at the powder magazine, but the whole foundation may have been built within an excavated depression.

A rectangular masonry feature adjoined the inside of the northwest wall (Figs. 80, 82-84). The masonry had been laid in the same manner as in the foundation, with the vertical face on the outside and with patches of lime plaster adhering to the exterior. An elevation of 288.1 ft. ASL at the base of the lowest course was even lower than the foundation level. Interior fill consisted of loose construction rubble, rocks and bricks, without ashes or signs of burning. Position of this feature within the foundation indicated the smaller unit's function; it would have lain directly beneath the fireplace in the old house superstructure. The term fireplace support feature has therefore been adopted as a label (Fig. 83).
Stratigraphy

Below a weakly developed topsoil and up to a 1.0 ft. of red gravel, level 1 consisted mainly of a hard gray clay. It contained blocks from old stone masonry along the southwestern side of the excavation and recent cultural debris throughout. This level, the zone removed by the backhoe, extended to between 2.35 ft. and 2.95 ft. below the ground surface.

The second level of fill again had a matrix of hard gray clay, with old building stones and bricks especially numerous in the lower part and around the fireplace support feature. In the vicinity of the latter were voids in the rubble. Cultural debris was rather sparse for the volume of fill involved. The base of this level interfaced with a reddish silty sand fill at a depth of 3.5 ft. to 4.1 ft. below the surface.

Most of this sand fill was taken out as a third level, which reached the elevation of the foundation base. A fourth level involved removing the remainder of the sand once it was seen that no floor or prepared surface lay at the bottom of the excavation. These two levels contained more old building stones and a greater number and variety of artifacts relative to level 2. Level 4 varied in thickness from 0.1 ft. to 0.6 ft. depending upon the contours of the undisturbed sand below. There had been no accumulation of debris upon the latter and nothing suggested an occupation surface there. Overall depth of the excavations from the ground surface outside to natural sand inside the foundation ranged from 5.2 ft. to 5.8 ft.

The problem of where ground level had been when the superstructure was moved was resolved by a combination of archaeological and historical evidence. Along the southeastern side of the excavation near the balk a horizontal separation occurred between two types of fill, at 290.6 ft. ASL or about 3.7 ft. below the modern surface. This horizon was not evident elsewhere, but removal of fill just outside the foundation uncovered plank fragments only 0.5 ft. to 1.0 ft. below the foundation top, at a level of approximately 291 ft. ASL (Figs. 80, 82). These fragments we tentatively took to be indicators of an old surface and when test pits sampled the fill below, artifacts from that fill showed that the planks indeed might mark an early 19th-century fill zone beneath from a 20th-century one above. These two stratigraphic indications could then be compared with the contours shown on the 1:30 scale plan "John's map" and on the September 1937 drawing. The former featured elevations of 290.6 ft. ASL just northwest from the New House and 297.5 ft. at circa 10 ft. southeast of the old house, so did not provide much help. On the September 1937 plan, however, a contour line at 290 ft. ASL had been drawn around both houses of the caretaker's residence. It can safely be concluded that the
horizon on the southeast side of the excavation and the plank fragments do mark the ground level just prior to reconstruction and for an unknown length of time before.

Test trench 19H2F2 lay entirely below this old ground surface. The trench continued down to the foundation base and an undisturbed yellow-brown sand there (Figs. 80, 82, 85). Sandy fill from the test contained some brick and mortar rubble, more in the upper levels, and the natural sand commenced with no indication of a surface. This natural level continued out from the wall base for about 2 ft., then rose gradually for about 0.85 ft. and leveled off again (Fig. 82).

The stratigraphic situation in test trench 19H2F3 is shown by Figure 82. The natural sand at the base of the light brown sandy fill rose gradually from a point 0.8 ft. below the wall base directly at the exterior to a level even with the base at 2.7 ft. out from it. Again there was no suggestion of a prepared or occupation surface where the fill ended. A change in fill texture and colour did occur just below the level of the wall base, however. Artifacts from the 19H2F2 and 19H2F3 test trenches and from several small 19H2F1 tests as well are listed in the appropriate tables. These collections were the only significant ones from this whole operation as regards the age and possible origins of the old house.

The sequence of building here apparently began with a relatively broad and shallow excavation being dug in order to receive the foundation. The ground surface at that time was probably even less than its 290 ft. to 291 ft. ASL elevation just before the house superstructure was relocated in 1937-38. Evidence from historical sources and from the artifacts derived from tests around the exterior will be considered in a later section when we attempt to trace the origin of the old house.

Interior Features

There were three types of features on and within the natural sand at the bottom of the excavation within the foundation. These consisted of floor trenches, post holes and apparent upright posts, and a depression by the fireplace support feature.

Three shallow subfloor trenches commenced at the northeast wall and extended for at least 7 ft. across the interior, parallel to the minor axis of the building (Figs. 79, 80, 82). If they originally continued across the entire width, any parts southwest from the balk had been lost when that area was excavated lower than necessary. In both plan and profile views the trenches were variable; one had an arc-shaped cross-section and the other two tended to have steep sides and flattened bottoms. Fill in all three
consisted of brick and mortar rubble, nails and recent cultural debris in a reddish sand, with a substantial decayed board in the trench nearest to the southeast wall. The purpose of these trenches is not known. The space beneath the wooden floor in this house was evidently not accessible during the later years of its habitation.

An upright 4-in. by 6-in. timber stood adjacent to the south corner, outside (Fig. 80). The interior contained five and possibly six post holes and posts (Figs. 79, 80, 82); one rectangular impression that was considered highly questionable is not shown in the accompanying illustrations. Three principal posts, aligned roughly along the building's minor axis, rested in holes 1.0 ft. to 1.1 ft. deep and were beneath the partition wall location for the old superstructure. Two of these posts were 0.5 ft. in diameter and the third had been a 5-in. by 7-in. timber. A fourth post, only 0.15 ft. in diameter, stood upright on a flat rock. The fifth one was a rectangular hole with some decayed wood. Relatively recent ceramics within the post holes showed that they had been filled at the time the foundation itself was covered over.

Between the fireplace support feature and the southwest foundation wall lay a steep-sided depression, its bottom up to 1.0 ft. lower than the base of the support feature's walls (Figs. 80, 82-4). Since the pit sides rounded up to the masonry walls all around, the depression did not predate the foundation. The several layers of fill within this depression are shown in Figure 84 and most of the artifacts from within it came from the rubble level. A hope that this context might belong to the construction or early occupation of the house went unrealized when the fill produced flow-blue ceramic sherds, one with a maker's mark used only from 1912 onward. The reason for this depression is not known. Ceramic sherds from the same set of flow-blue dishes occurred throughout the fill of the foundation and suggested that the whole interior was filled at once.

Associated Artifacts

The artifact collections from operation 19H2 formed the largest bulk from the 1973 excavations and also probably the least significant with regard to a Fort George association or even an association with the foundation within and around which they were found. Once this situation was recognized, the majority of the material was set aside and not studied. Columns in the accompanying artifact tables report what came from the fourth and lowest level in the interior in order to illustrate the relatively recent date of that fill (as well as the fill above) and to contrast with the contents from the three significant test trenches adjacent to the foundation exterior.
Within the interior the fill produced large amounts of broken ceramics, glass, iron hardware and animal bones. In addition to what is tabulated from level 4, the listings of ordnance items and coins include specimens from the old house fill. The variety of metal artifacts not listed would include bolts, nails, wire, container fragments, tableware, pins, a few cartridges and buttons, and a spark plug. Perhaps most instructive of the ceramics was the set of flow-blue dishes, pieces of which occurred from the surface down through the depression by the fireplace support feature. A sherd from the latter context mended with one from level 3 and gave a complete mark, No. 3313 in Godden, with "ROSE" added above. The date assigned to this mark is circa 1912. The general similarity of ceramics from all levels of the interior and from the initial test trenches reinforces this idea of a secondary deposition in the operation 19H2 area.

The third level of fill, a reddish silty sand, had a curious assemblage of artifacts mixed in. Two metal crown caps were studied and one could be dated as made in the 1934 to 1939-40 period. Present too was a vest-pocket, chrome-plated cigarette lighter. The same level produced all four of the 15th Regiment buttons (not tabulated) found at the time, three bank tokens with dates between 1837 and 1857, and virtually all of the several dozen slate pencils recovered in the two years of excavations. The old house may have continued in service as a guardroom even after the 15th Regiment arrived (Table 2) though we wonder if this reddish fill might have been scooped up from around Butler's Barracks or somewhere else in town and brought to the foundation as landfill during the reconstruction.

Test pits adjacent to the exterior and below the level of the plank fragments consisted of several small pits grouped as test 19H2F1 and two larger ones, 19H2F2 and 19H2F3. The 19H2F1 pits produced principally creamware and pearlware ceramic sherds along with several gunflints, wrought nails and an American musket ball. There were, however, six white earthenware sherds. In 19H2F2 the greater variety included a button for the 68th Regiment, two British musket balls, and two square cut nails besides cut lath and wrought nails. The small collection of glass contained one late 19th- or early 20th-century specimen. Creamware ceramics featured many plate rims with brown line decoration, a style used on dinnerware in the early 19th century. Collections from 19H2F3 were sparser, with the ceramics mostly creamware and pearlware, but included two white earthenware and two yellow ware sherds. Of the four musket balls there, all were of different calibres.

From what has been said above and can be seen in the tables, it appears that adjacent to the foundation on the exterior side is a 20th-century deposit lying directly over one from the early 19th century. There were some more
recent artifacts mixed with the latter and this judgement may need qualification, but the general impression gained from the outside test pits was of a post-War of 1812 fill around the foundation, into which many earlier items had found their way. Perhaps the more recent objects may be explained as having occurred in the highest levels of the test pit fill, but of this we cannot be sure. There were no identifiable horizons right around the foundations that would match the circa 1860 and 1882+ occupations which can be documented for this part of the site.

**Interpretation**

The operation 19H2 excavation uncovered a masonry foundation of the proper size for the two-room clapboard house that stands to the northwest and the foundation lay at the location stipulated by Ronald Way and also shown by several maps from the restoration work and earlier. The presence of a fireplace support feature where this was appropriate and of 20th-century fill within the foundation, when viewed with the other evidence leave no doubt but what the excavated foundation supported the present museum, Brock House or 1815 House (as one prefers) until about 1938.

Maps of Fort George made between June 1814 and 1853 showed two structures as persisting through time at the same relative locations. These two were the brick powder magazine that evidently continued into the 20th century and the unit labelled "b" - "Temporary Barracks for Officers" on the June 1814 map. The latter was also the one furthest to the southeast in the row of three along the northeastern side of the parade ground, as indicated in Figure 69. The name "G. Room" [guardroom] written by it on an 1835 map implied that it was used at least that recently. Plans continued to show these two after all of the other units had been dropped. Building "b" on the 1814 map, which was carefully drafted, would measure 16 ft. by 33 ft.

While details about the construction and appearance of the third Fort George are sparse, "The Postwar Barracks" and "Semisubterranean Room" reported the historical and also the archaeological evidence for barrack floors being below ground level. There were no known statements about the construction practices in the three units along the northeastern side, but this chapter has shown that the ground surface there prior to reconstruction lay 2 ft. to 3 ft. higher than the wall bases. What this may mean in terms of wooden floor height inside the foundation is of course not known.

A third line of evidence consists of plotting the 1814 building "b" location with respect to the Fort George grounds of today. The final result of this exercise may be seen in Figure 69, whereon the old house foundation may be projected
by noting its position relative to grid point intersections. When this is done, the excavated foundation stands almost exactly where the smallest structure along the northeast side is shown for the third Fort George buildings.

Unfortunately no good maps of Fort George after 1853 have been found until well into the 20th century. However, a case has been made that building "b" first represented in June 1814 persisted until at least 1853 and is represented by the old house foundation today. No claim would be made for the superstructure being the same. There are two further lines of evidence which bear upon the identification.

These lines are oral history, pursued by the senior author and by David McConnell of the Historical Research Section, and tracing occupancy of the caretaker's residence by means of leases, the latter reported by Desloges. Figure 87 illustrates the caretaker's residence complex prior to 1938. Two present residents of Niagara-on-the-Lake, Mrs. Dorothy Riches and Mrs. Wilfred Buckley, both lived in the caretaker's residence during World War I and afterwards. Their information as to the layout of the old house unit was in agreement and is reproduced here as Figure 88, after Mrs. Riches's data in particular. They made it clear that the two-room clapboard house on the site today was simply the two-room core from the old house after a row of ground-level rooms had been removed from along the northeast and southwest sides. Neither lady knew when the latter rooms had been added. The space beneath the centre two rooms had not been accessible when they lived there. Their information agreed with Ronald Way's statement that "Stripped of its modern lean-to appendages, the obviously early-19th century original building measured 30 ft. 9 in. by 16 ft. 10 in."

Through leases, Desloges had been able to document the residence of a Wright family in the old house between 1882 and circa 1910. He even encountered a 1910 remark by Mrs. Wright that "We really built all this house except two rooms...." The Wright family had departed sometime before the Reid family, of which Mrs. Buckley is a daughter, moved into the dwelling sometime between 1910 and 1914.

At this point we have been able to account for the appearance of the old house before and after the Fort George reconstruction and to establish its existence as far back as 1882. At present we lack the historical evidence for demonstrating the continuity of one structure at the old house location between 1853 (when the map series ceased) and 1882, and thereby of documenting it all the way from 1814 into the 1930s.

We then turn to the archaeological evidence to, it is hoped, furnish the clinching argument as to whether the foundation could be as old as 1814 and built originally for a third Fort George building. The only significant test trench contexts produced artifacts which, with some
qualifications, would support such an age for the building. In the light of all evidence, the most economical explanation of the old house foundation is that it was originally built for a small building erected in 1814, a unit at the third Fort George.

In order to confirm this identification it would probably be necessary to close the informational gap between 1853 and 1882 and to determine archaeologically the type of foundations for the other two buildings along the northeastern front as shown on the 1814 and 1816 Fort George plans.
Miscellaneous Features and Test Excavations

The 1974 testing program encountered a variety of small features that were either quite fragmentary or did not warrant further investigation because they had not been associated with the pre-War of 1812 Fort George. These had nothing distinctive to identify them with any of the military occupations except where the artifacts could point to an early 19th-century deposit of fill. The fort grounds may well contain a large number of similar features in addition to the ones located. A continuing search for remains of this type and more complete excavation of those already located would, in our opinion, probably add nothing significant to our knowledge of Fort George.

Short descriptive accounts of the half-dozen features are included here. Artifacts recovered from them have been listed in the appropriate tables. Also given below are observations concerning the several test trench levels whose artifacts have been listed and the trenches themselves not commented on in earlier chapters. Finally there is a summary of a 1973 testing program outside the fort grounds and a note as to which buildings of the third Fort George we did not attempt to locate.

Feature in Test Trench 19H12A

Several days of excavation by hand revealed part of a pit or semisubterranean room in the southwestern part of a waterline test trench, 19H12A (Figs. 4, 6, 89, 90). The investigation here was restricted to the 2-ft. width of the backhoe trench. This trench had crossed the western corner of a feature with walls (unlined) cut into sterile soil at a vertical or near-vertical angle. Digging proceeded to a low point of 288.65 ft. ASL or more than 5 ft. below the surface, by which level the work had found both the water table and indications of an old wooden floor.

Refuse and construction rubble made up most of the fill (Figs. 89, 90). Artifacts from the rubble layers as well as elsewhere in the trench outside of the room have been listed under level 1. Level 2 includes only materials in the yellow sand. The conclusion after analysis was that the two levels have equal weight as fill associated with this feature. The creamware and pearlware sherds and the military items, and especially the glass decanter pieces that mended with
the decanter from pit 19H7D5, suggested an early 19th-century date. Rubble and bone debris formed such a large proportion of the level 1 fill as to indicate that the pit had ultimately become a refuse dump. Considering its location on the site, the feature might well have been a bastion magazine for the second or third Fort George.

Platform in Test Trench 19H9C

In this water-line trench the upper surface of the dark gray fill stratum, the old ground surface, occurred at 1.7 ft. to 1.8 ft. below the present ground level. At around 2.4 ft. to 2.6 ft. below ground or circa 291.6 ft. ASL was a layer or platform of uncut stones (Fig. 91). There appeared to be but a single layer of stones and they had not been laid as masonry since the relatively wide intervals between them contained no mortar. Length of this platform measured 6.8 ft. and it projected into the trench for 1.5 ft. from the northeast side. Artifacts from this trench were examined only in the field; a predominance of creamware and pearlware ceramic sherds suggested that the stonework belonged with some one of the military occupations. The purpose of this feature is unknown.

Mortar Feature

A fragmentary mortar surface (19H8V4), level on top and with irregular edges, lay 1.9 ft. below the surface or at an absolute elevation of 292.1 ft. ASL (Figs. 38, 92). The surface was a prepared one, 0.25 in. to 0.5 in. thick where best preserved and presumably a remnant of a larger feature. Some evidence of burning remained on the top. A hard sandy fill lay both beneath and around it. Brick fragments around the edges and a small concentration of brick and stone rubble to the southwest may have had no association with the mortar. Since the mortar did extend into the northeast side of this test trench, the extent to which this feature has been preserved is not known. Associated artifacts included a bayonet, which lay directly upon the surface, a plain brass button and creamware-pearlware ceramic sherds. More recent items are listed as well in the artifact tables, but we suspect that this feature may date from one of the military forts.

Brick Feature

At 0.8 ft. below the surface or 293.4 ft. ASL there was a small brick feature (19H18B-19H18D) with two rows in place along the northwest side and possibly some bricks undisturbed in part of another side. The bricks themselves were fragmentary and lay just within a larger feature or disturbed area,
sterile soil being adjacent to the northwest (Figs. 38, 93). No artifacts could be identified as associated with the bricks and the feature's age is unknown. Its appearance was much like that of the fireplace in a semisubterranean room (19H1E2) before that fireplace was excavated. The bricks in operation 19H1B may represent another fireplace.

**Double Channel Feature**

A feature with an unusual profile (19H9G3) had been cut into the undisturbed sand at this base of test trench 19H9G (Figs. 4, 6, 94). Only a section approximately half the width of the water-line test trench was actually excavated by us in order to expose a profile by removing a narrow section of fill through the feature.

Two parallel narrow trenches or depressions appeared. These crossed the larger trench at an angle of about 45 degrees. Overall width of the feature was 5.5 ft. measured perpendicular to its apparent northeast-southwest orientation. The depth ranged from 290.3 ft. to 290.5 ft. ASL at the base of sterile just outside of the narrow trenches to 288.7 ft. ASL at the deepest point inside. The area intermediate between the narrow trenches was rounded over and the outside edges were either vertical with a step-up, or near-vertical.

The sandy fill included brick fragments, animal bones and charcoal, plus more definitive items such as creamware and pearlware ceramics, two fired .75 calibre musket balls, and the lower barrel band from a American model 1795 musket. The last article would place the date of filling as 1813 or later. A somewhat similar impression in test trench 19H8L, close by the rotten log from a barrack wall, suggested that the feature in 19H9G3 may have been dug for a like reason. No wood or any type of lining remained in this case.

**Feature in Test Trench 19H13G (Level 2)**

A feature at the base of the first level extended in part beneath the west corner of the office (Figs. 32, 96). In plan view the outline appeared to be nearly rectangular, 3.5 ft. to 3.8 ft. wide and 6.1 ft. long. The building on one side, a tree on the other, and doubtful relevance of the feature meant that we dug only a section through it.

From where first defined at 293.4 ft. ASL, the feature profile extended to base elevations of 291.7 ft. to 292 ft. ASL. Sides were vertical and had been cut through sterile red sand. The bottom had a slight downslope towards the northeast. Fill was a light brown sand with small amounts of charcoal, brick fragments and artifacts as inclusions. Artifacts consisted mainly of creamware sherds, with fewer pieces of pearlware and also several brownware specimens,
the latter quite rare on the site. These by their age suggested an association with one of the military occupations.

Additional Test Trenches Within the Fort

Included with the tabulations of artifacts are four columns for test trenches 19H9D1; 19H9G, level 2; 19H9H, level 2, and 19H9J1 (Figs. 4, 6). Materials from these particular excavations have not been cited in support of discussions or interpretations in foregoing chapters, but they have associations which students may wish to examine in connection with other problems. The data is included here so that it will be readily accessible.

In the case of the second level of trenches 19H9G and 19H9H, the artifacts came from below the upper surface of the dark gray fill stratum and therefore from beneath the ground surface prior to the fort reconstruction. The date when this level was covered can be fairly well-established. As for the inception and duration of its formation, the artifacts found within may give little aid in determining these. Material from level 3 in test trench 19H6 came from beneath this dark gray fill horizon on another part of the site and there were other examples.

Artifacts reported for test trench 19H9J1 came largely from the vicinity of the privy and have a validity equal to objects recovered from the fill outside of that foundation. Test trench 19H9D1 featured the dark gray fill horizon or old ground surface throughout its profile, with the top of the stratum downsloping from 1.2 ft. below the surface at the southeast end of the trench to 1.5 ft. below at the northwest end. At the northwestern end of this test area, jumbled brick and stones, 2.1 ft. to 3.1 ft. underground, suggested a disturbed foundation. Near the centre of the trench and at a comparable depth (291.3 ft. to 292.2 ft. ASL) were more disturbed bricks and foundation-type stones, with an unexploded 8-in. mortar bomb among them and the bare corner of a masonry wall exposed in the northeast profile. At least two courses of stonework remained. Artifacts from within this water-line test trench have no specific provenience, but the nature of the ceramics and relative abundance of military items suggested that the masonry feature(s) here dated from the early 19th century and one of the military occupations, although maps of the period showed nothing for this area.

Test Trenches in a Parking Lot

An unoccupied area between the Queens Parade and the Niagara Parkway several hundred yards northwest of Fort George, scheduled for conversion to a parking lot, was tested for archaeological remains. The testing proceeded by a series
of ten backhoe trenches cut lengthwise through an area 584 ft. by 310 ft., plus several shorter tests to one side. It was usually not necessary to extend the depth of testing to more than 1.4 ft. to 2.9 ft. below ground surface although pits 5 ft. and 6 ft. in depth were excavated periodically.

The principal finding was that a continuous heavy black sod covered the area and this had evidently never been disturbed. No convincing evidence of archaeological features, prehistoric or historic, came out of this testing. An unusual artifact collection consisted of 11 cast-iron fragments from an 8-in. shell or mortar bomb plus 48 low-quality lead balls, all found within about 2 ft. of one another. The lead balls, presumably of British origin, were consistently off-round in shape and variable in diameter from the nominal carmine calibre to the size for a musket ball (Table 22). We believe that these were remains of early spherical case shot. Ammunition of this type was used at both the Battle of Queenston Heights and the Battle of Fort George, but the specimen from this excavation had nothing in association to suggest its age.

Unlocated Structures Within Fort George

Five structures with dashed outlines, units at the postwar Fort George, have not been mentioned (Fig. 69). The one furthest north and situated by itself was a brick powder magazine for which there are several historic plans, sketches and photographs. Three structures lie along the northeast side of the parade ground, of which the southeasternmost and smallest was the presumed old house foundation that we suspect may be as old as the third Fort George. The two buildings northwest of it in the same row, two others along the northwest side of the parade ground and the brick powder magazine have not been located archaeologically nor were test trenches excavated in search of them. The nature of any remains and their specific locations are therefore not known. If an interest in the third fort should come about through site development programs, investigation of these structures might well be included in an archaeological program, but as long as interpretations of the site is based primarily upon the prewar fort, there would seem to be little point in excavating these postwar features.
Artifacts

A separate discussion of artifacts recovered by the excavations will not be given and this chapter serves only as an introduction to the accompanying artifact tables. It is intended that the tables detail the descriptive categories and the numbers of specimens identified from each significant context of all of the identifiable materials. In the case of coins and tokens (Table 27), the listing is complete for all of the pre-20th-century specimens from the site. For the various classes of buttons, the accoutrements, lead balls and iron shot, the tabulations are nearly complete. All of the gunflints and gunspalls recovered by the 1973 excavations have been included along with those from significant 1974 contexts. In the various chapters the significance which the artifacts have for understanding their contexts has, we hope, been touched upon at sufficient length to give our impressions of what the associations mean.

The volume of artifacts considered in this report is perhaps one-third of the total quantity found during the excavations. The other two-thirds came from what, in our judgement, were disturbed or 20th-century areas of fill at the site.

The tabulated data is intended to be relevant to Fort George, but the degree of significance will of course vary. Perhaps of least value would be the contents of four additional test trenches discussed near the end of "Semisubterranean Room," of the fill below the gravel around the officers' quarters (19H7D2), and of the objects from around the exterior of the privy (19H14A). The absence of table glass from the 19H7D6 utility trench (Table 13) is contradicted by the two bags of such glass included with the listing of field specimens. What happened to this glass we do not know. It would have been more appropriate to study the contents from level 19H8L4 and include these instead of the level 19H8L5 specimens in the "fill" column for the 1814-15 barracks since level 4 lay directly above the floor-level context (19H8L6). Fragments of white clay pipes were ubiquitous and abundant and these have been examined, but, as with the smaller collection of prehistoric materials, the data are not tabulated here.

Several tables are included to make historical data that is potentially useful to archaeologists more accessible.
This is the case with the sizes of lead balls and for the individual shot sizes in case and grape shot loads. The dimensions given here were drawn from military dictionaries of the period or from the specific references cited with the tables, with corrections where appropriate. These tables should be valid for British ordnance (unless qualified otherwise in the tables) from at least the French and Indian War period to perhaps the Crimean War. Comparable statistics for French and American ordnance would be most helpful. The specification of iron shot sizes for different weapons means that these offer the same potential as lead bullets for identifying the weaponry in use.

Table 2, the list of regiments that served at Fort George, is also background. By reference to this, one can easily determine when regimental buttons and accoutrements would have been lost. Fort George is a particularly good site in this respect since most of the regiments there had short terms of service.

The various tables concerning nails principally support the interpretations made in the second part of "The Guardhouse," but the correlations of pennyweight sizes with weights, shaft lengths and board thicknesses should assist anyone who wishes to infer design of the superstructure from a building's archaeological remains, for this same period of time.

Pane glass thicknesses (Table 16) are presented as three ranges of glass thickness. In the end it appeared that nothing had been gained by this approach. By individual measurements the glass fragments seemed to grade completely through the thin and medium ranges and a division at some other point(s) than the ones selected here might be more fruitful. This glass was all aqua in colour and occurred as small pieces; we could think of no way to study it other than by its thickness.

Fort George has been a source of buttons and accoutrements in the past and a variety of interesting recoveries are illustrated by Calver and Bolton. Those authors apparently had an experience comparable to our own where U.S. Regiment of Light Artillery buttons seemed to be quite disproportionate in number when the long list of regiments present are considered. For identifications of British buttons, the volume by Parkyn was indispensible. The plain buttons listed in Table 29 were inferred to have been for militia (American as well as Canadian?) on several grounds, one being the two military tunics on display in the Lundy's Lane Historical Society Museum in Niagara Falls, Ontario. The tunics were inadequately identified but had probably been for militia; one displayed plain, flat brass buttons circa 7/8 in. in diameter and the other featured similar buttons circa 5/8 in. in diameter. For identification of the button attachments and style of bosses the contributions
by Olsen\textsuperscript{3} and Jelks\textsuperscript{4} have been cited in the tables. An important reference for the construction of Table 26 has been the work of Smith.\textsuperscript{5}

Tables 9 through 11 list ceramic sherds except where noted otherwise. We consistently strove to score vessels as opposed to number of fragments from a single vessel, giving a "1" in the table along with a footnote where it was possible to identify pieces as all coming from one specimen. However, it was possible to do this only infrequently. At the time of excavation the ceramics from the 19H7D features and levels seemed to be from restorable vessels and it is these sherds, of all those recovered at the site, which have been mended. The results are given in Table 12 and it indeed appears that we had a broken dinner service.

It is regrettable that none of the creamware and pearlware ceramics from the 19H7D features had maker's marks, a circumstance all too common for these wares. The solitary white earthenware specimen from those contexts, a blue transfer-print vegetable dish, did have an impressed mark. Elsewhere around the site there were five marked creamware and pearlware sherds, of which only the Royal pattern creamware plate fragment from trench 19H12A2, level 2, could be given a more specific identification. All of the marked specimens which by virtue of their ceramic type or context belonged with one of the military occupations are listed below. The maker's names were all impressed marks; the numbered reference is to Godden,\textsuperscript{6} and an entry enclosed by parentheses indicates a symbol.

<table>
<thead>
<tr>
<th>Type</th>
<th>Context</th>
<th>Mark</th>
<th>Godden No.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Creamware</td>
<td>19H12A1</td>
<td>Davenport (anchor)</td>
<td>1181</td>
</tr>
<tr>
<td>Creamware</td>
<td>19H12A2</td>
<td>(fragmentary anchor)</td>
<td>1181?</td>
</tr>
<tr>
<td>Creamware</td>
<td>19H13G2</td>
<td>HERCULANEUM</td>
<td>2007</td>
</tr>
<tr>
<td>Pearlware</td>
<td>19H2F1</td>
<td>...port (anchor)</td>
<td>1181</td>
</tr>
<tr>
<td>Pearlware</td>
<td>19H7D4</td>
<td>Wolfe</td>
<td>4228</td>
</tr>
<tr>
<td>White</td>
<td>19H7D2,</td>
<td>HENSHALL &amp; Co.</td>
<td>2005</td>
</tr>
<tr>
<td>earthenware</td>
<td>7D4, 7D6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(see Table 12)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stoneware</td>
<td>19H14A4</td>
<td>ADAMS</td>
<td>18</td>
</tr>
<tr>
<td>(cream-slipped</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bowl)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Foodstuffs and Faunal Remains

Historical references offer some insights into the subsistence situation at Fort George. These data can be useful in exploring the cultural implications of food remains found during the excavations; remains comprised of eggshells, a few bivalve fragments and seeds, and especially the thousands of fragmentary animal bones. This chapter first reviews historical references that pertain to food sources and the supply system, then describes and attempts to gain some understanding of the archaeological findings.

Historical Background

The Niagara frontier already had an established population of farmers and merchants when Fort George was created. Local agricultural products and civilian consumption are not particularly relevant to the military post when the latter subsisted mainly on imported foodstuffs.

However, Mrs. Simcoe's diary, La Rochefoucault-Liancourt's journal and similar sources provide information pertinent to archaeological specimens where the latter suggest something other than the prescribed military rations of the day. Travel literature also furnishes a good overview of Niagara-area food products, at least during the 1790s.

Mrs. Simcoe spoke of 30 May Duke cherry trees and three standard peach trees beside their house at Niagara, elsewhere implying that "standard peach trees" might be a variety name, whence "some produce small fruit, others large quite green but very well flavoured, tho's they look unpromising." The fruit-belt character of the Niagara area thus seems to have been in existence almost from the beginning of the settlement. This early start received at least a temporary setback during the War of 1812:

In the month of July last [1814] after the Americans had taken Fort Erie and there was a probability of their attacking Forts George and Missisauga, I was ordered by M Genl. Riall to cut down all the Orchards in the Town of Niagara, and level all the buildings which would afford cover to an Enemy or intercept a clear view between the two Forts, which I carried into execution accordingly.

Mrs. Simcoe's own peaches "were very small but high flavoured" and the bearing season (cherries too?) was six weeks. Most
striking is the lateness of this season. Local cherries are now available during June and peaches in August, whereas her diary implies that both ripened during autumn and peaches were mentioned specifically on 25 September. The peach stones and cherry pits found by our excavations probably came from fruit whose seasonality was quite different when compared with modern varieties.

Gardening by the soldiers apparently helped to augment their otherwise monotonous diet. In 1795 La Rochefoucault-Liancourt observed at Fort Erie that "The soldiers have a garden, where they cultivate the necessary vegetables, which by any other means they would not be able to procure." A request for some nails came out of Fort George in the fall of 1803, the justification being to complete three necessary improvements undertaken by the soldiers: a root house, "a large piece of ground as a garden" and a ball court. How extensive this gardening became and what plants were grown are not stated.

The soldier's daily ration in 1795 consisted of a pound of flour, a pound of salt pork, four ounces of rice, and a little butter per man; presumably a gill of rum as well and with beef as an alternative to the pork. Nine years later Selkirk asserted when he passed through Fort George that "their rations are more (according to the Officer who shewed me the works) than they can consume except with on particularly severe labour." A 20-year run of the Upper Canada Gazette/ The York Gazette for the period of the first Fort George affords a bit more information.

Solicitations for bids to provision His Majesty's forces at various Upper Canadian posts appeared in this newspaper between 1797 and 1812. Prior to November 1803 two advertisements sought flour and peas and a third called for fresh beef. An April 1798 ad specified only that each barrel of flour was to contain 200 pounds net. A public notice of 23 February 1805 changed this by stating that each barrel of flour was to contain 196 pounds, or 224 pounds net, "of the growth of this Province," first quality, inspected, etc., and the peas "so to be furnished to be White, prime Boilers, and packed in Casks." As of 1799 the flour was stored in small barrels and the peas in large barrels. By 1808 the nature of the rations had evidently not changed from what was listed in 1795 for a committee of inquiry found large amounts of flour, pork, peas, rice, butter and rum on hand in July 1808. Stores captured at Fort George in 1813 included quantities of flour, pork, beef and liquors.

The source of the flour as stipulated in the 1805 notice probably acknowledged a long-standing situation, which of course made good economic sense. As of 1795 a Mr. Green had a grist mill on Forty-Mile Creek where "He grinds
the corn [wheat] for all the military posts in Upper Canada; where General Simcoe has ordered all the flour of a good quality to be purchased, which shall be offered by millers in larger quantities than six bushels."  

Peas too could have been supplied from near-local sources, for again in 1795 "The district of Kingston supplied, last year, the other parts of Canada with large quantities of pease; the culture of which, introduced but two years ago, proves very productive and successful." Yet during the War of 1812 and specifically on the Niagara frontier, one veteran later recalled that the British troops were fed with flour from England and pork and beef from Cork. This may of course have reflected wartime emergency measures.

Salt pork, another staple of the soldiers' mess, would normally have been obtained within Upper Canada. During 1794 Kingston had shipped 1,000 barrels of salt pork, each weighing 208 pounds, to Quebec. This export route for salted meat as well as for flour and other products evidently became a regular one after 1800. In November 1803 the York newspaper carried the first call for supplying the Upper Canada posts with pork, to be delivered in 208-pound barrels, and seven months later the same paper specified 52 pieces of four pounds each, prime mess pork, per barrel. A public notice of 14 September 1805 repeated these weight specifications while indicating the type of salt and other matters. 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 attempt to enforce some quality standards.

Salt pork in this bill of fare poses at least three problems for the archaeologist: did salt pork contain bones; would pig bones in the refuse ever reflect four-pound cuts, and could consumption of fresh pork be disentangled from that of salt pork on the basis of food scraps?

To deal with the last question first, we cannot suggest a way to distinguish bones from salted pork versus those from fresh pork, assuming that both types of meat included bone when prepared for consumption. Historical records may have to be relied upon for deciding in what form pork was furnished. For two British posts from the French and Indian War period there are records of live hogs having been driven there, but only salt pork shows up in available Fort George records. Whether four-pound cuts can be inferred from bone refuse seems highly questionable, at least from the very scrappy samples obtained during the Fort George work. This problem might be investigated at some place where the bones are not so broken up.

As for salt pork containing bones or not, this can be settled at least as regards British Army practice. In reporting the animal remains from Fort Ligonier, Guilday...
has said that salt pork left no archaeologically recoverable trace, thus implying that the meat was boned before it was barreled and that any pig bones found would mean live animals or dressed carcasses. Other people engaged in faunal analyses have considered this problem, but to date Guilday seems to be the only one who has raised it in print. A 1766 document out of the commissary’s office at Quebec stated that:

it is your business to see that there are not too many Hocks among the Pork, four is as many as ought to be in a Barrel, if there are more it is an Imposition upon the poor Soldier, I have acquainted the Contractors people here, that whenever there appeared too great a Number, an addition should be given in Weight.

At this period the meat presumably was being brought from England or Ireland.

In his discussion of food supplies for the British Army during the Revolutionary War, Baker writes that "For wet provisions the most common cause of rejection on initial receipt by the government was the high bone content of the meat delivered." The Navy Board in the autumn of 1780 pressed for a clause in upcoming contracts for "the Pork to be free from Heads and Feet and the Beef from Legs, shins and Marrow Bones." No specific references to Canada have been found until much later, but the above would be expressions of general conditions and not likely to vary much through time or by area. In a post-1828 observation about either Ireland or Canada, the writer said that the boiled meat was divided into portions and the men generally accepted the division if there was not much bone. "If bone prevailed to any alarming extent, & it sometimes did so, another method had to be adopted - chance was to decide as to the bony messes." Still more recently, a Treasury minute of 10 February 1854 instructed the commissariat to purchase meat "of unexceptionable quality, and without an undue proportion of bone." It would seem that not only did the salted pork or other meat come with bones included, but the problem of excessive bone was never effectively resolved.

There is evidence that salted meat with bones included was not unique to Britain or Canada. During excavation of the steamboat Bertrand, which sank in the Missouri River in 1865, a good deal of evidence for badly decomposed meat was found. Some of this came with no associated evidence for containers; other kegs and barrels appeared to contain salted, butchered beef and salted hind quarters and backs of hogs, both with bones and even with bits of rind and hide. One sample of meat turned out to be mutton. Historical research in connection with the Bertrand project indicated that the practice of shipping salt meat which contained bones was not uncommon during the 1860s.
Two further points are of possible relevance for the archaeologist. The literature that touches on economic history, such as how the army was provisioned and what problems arose, caused us to suspect that unscrupulous suppliers might have salted whatever meat they could purchase at the least cost—pork, mutton, or whatever—and sold it to an unwitting (?) commissary agent as salt pork. The presence of one mutton sample in the Bertrand cargo and an occasional fragmentary sheep bone among the Fort George collections may be circumstantial evidence for this kind of substitution. Presumably the soldiers would suffer no more than usual while the purveyor increased his profits by another margin. No one would be the wiser unless by accident some inspection discovered such a practice and a researcher then happened to find a report on the inquiry. Thus far we have only an unconfirmed suspicion, but the implications for a faunal analysis are obvious and should be borne in mind.

Secondly, Lord Selkirk left a remark that may bear on the interpretation of hog bones. Sandwiched among details on a Queenston distillery in his 21 May 1804 diary entry is the note that a Mr. Hamilton "can keep 50 hogs, & taking two sets—successively in the season may fatten 100 each a Barrel of Pork at curing." This implies that contemporary thinking equated one hog at circa 200 pounds dressed weight with a barrel of salt pork. A hog that size might have been unusually large for the time, but even an approximation to such a standard suggests that the barrel of meat (and bone) likely contained any and all bones from snout to tail. This indeed seems to be the pattern among the pig elements in the Fort George faunal remains. If bones from all parts of the hog could occur in salted pork, osteological evidence alone would not be sufficient to distinguish this mode of provisioning from a delivery of dressed carcasses or the keeping and slaughter of live animals.

The first advertisement to furnish fresh beef to the Upper Canada posts appeared in the 11 December 1802 Upper Canada Gazette and similar calls between November 1803 and 1810 stipulated that "The Beef will be received by the Commissary at each Post, by the Quarter...." No references to the delivery of live animals or to salted beef have been found. If the successful contractors followed these requirements, any cattle bones from military contexts should be from the femoral-tibial limb elements with probable vertebrae and ribs, but not from waste parts of the animals. Bone remains which reflect the principal meat portions of a cow might be either butchering debris or food scraps, but greater variety among bone elements could be interpreted as live animals being slaughtered on-site, the presence of non-specification dressed meat (that is, whole carcasses) or bones not deriving from the military occupation at all.

A third meat source, documented by both the historical and archaeological records, was fish from the nearby river.
and lake. Visitors and residents of the Niagara area commented on the availability of fish although their remarks all seem to date from the early 1790s and so do not document Fort George activities. In the late fall of 1792 Mrs. Simcoe\(^3\) praised the dishes made from both whitefish and sturgeon, of which varieties "The 5th Regt. have caught 100 Sturgeon & 600 whitefish in a day in Nets." The next April she wrote that "St. Denis of the 5th caught yesterday at Niagara 500 White Fish & 40 Sturgeon, this is common, the sturgeon one nearly 6 ft. long.\(^3\)

About the same time (1791-92) Captain Alexander Campbell of the 42nd Regiment had commented that "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."\(^3\) An anonymous letter from November 1794 stressed the variety and the year-round aspects of fishing, the whitefish said to be "generally from two to six pounds weight."\(^3\) La Rouchfoucault-Liancourt perhaps left the most explicit record though the fish varieties may not be indicated accurately in the old translation:

> The Niagara river and lake abound with a great variety of fishes. We assisted at a fishing, intended to supply the soldiers with fish; the net was drawn thrice....It is only four feet deep, but one hundred feet in length. Upwards of five hundred fish were caught, among which were about twenty-eight or thirty sturgeons, small pikes, whitings, rock-fish, sun-fish, herrings, a sort of carp, which in point of shape resemble those of Europe, but differ much in flavour, and in the form of their heads, salmon, trouts; in short, all the fish was of a tolerable size.\(^3\)

With the soldiers at Fort Niagara engaging in shallow-water fishing to this extent, fish must have been an important supplement to an otherwise uninspired menu. The significance of fish as time went on is not known though fish remains from the guardhouse in particular show that fishing certainly continued.

About the last listed food item, rice, we have no background information beyond what was cited earlier and we recovered no archaeological evidence for it. Another near-staple would have been alcoholic beverages. Rum, as an item of daily issue, no doubt was kept by the barrel. The variety of liquor available may be indicated in Stephen Jarvis' advertisement of 22 March 1815, dated at York: "a large consignment of high proof Jamaica Spirits and Irish Whisky in Barrels, Madeira Wine, Holland Gin and Cogniac Brandy of the best quality in addition to his other Goods." Ads by Jarvis in the previous week's paper and by merchant
George Duggan the preceding December had also mentioned Teneriffe wine. A cultural preferment of the British troops for rum would be expected, while captured American stores suggest that some American troops favored whiskey (also by the barrel). Some of the barrel straps found archaeologically might have been from liquor barrels as well as from other barrel containers and the dark green 'wine' bottles surely held spirits, but the archaeological evidence alone cannot show what was consumed or how the liquors came packaged.

Other clues to possible osteological remains should be brought up as background information. The Fort George faunal analysis did not turn up any unanticipated animal species that might be explainable as possible pets or as animal hobbies of people at the post, but such activities should be expected and allowed for in interpreting bone remains. At Fort Niagara the wife of the commandant kept two tame raccoons, while a captain there practiced taxidermy with birds. Colonel Landmann documented two bears at least at Fort George as of 1798. One was Landmann's own pet and the other, status unspecified, wound up on the officers' dinner table after being shot while attempting to escape. Edward Walsh's 1805 painting of the Fort George interior featured two bears there, the situation being a contemporary sport, bear-baiting.

Seeds, Bivalves, Egg Shells

These categories each contained specimens from fewer than a dozen contexts. Some 80 carbonized peach stones collected on the guardhouse occupation surface made up the largest single collection. Evidence presented above showed that peaches were grown in the Niagara area even before the establishment of Fort George. These charred stones were all noticeably smaller - less than 1.0 in. in length - than stones in current local peach varieties, though any implications of this size difference will be for future research to work out. Other peach stones collected in the course of excavation came from the guardhouse fill, the test trench to the northwest side of the powder magazine, and the base level of the pit with insloping sides (19H7D8).

Fill of the privy also contained some floral remains: black raspberry seeds from the brick and mortar rubble level and cherry stones in the lower fill zone. The latter resemble Prunus pensylvanica L., pin cherry, but their poor condition makes an accurate identification difficult.

Gastropod valves from five contexts around the site are probably the remains of some small native residents, not foodstuffs or otherwise significant. The bivalves were nearly all small fragments from eroded shells and no attempt
has been made to identify these. Whether these should count as food remains or had importance in some other sense is not known. By provenience there were 19 bivalve fragments from the guardhouse fill and occupation surface, three in the lowest level of a powder magazine test trench, one complete valve and several eroded pieces from the pit with insloping sides (19H7D5, 7D8), three in the privy fill, and only nine more from various test pits and features elsewhere on the site.

Eggshells turned up principally during the 1973 excavations though they might have been recovered elsewhere had we watched for them more closely. The shells were all white and presumably came from chicken eggs. Chickens, or eggs, are not documented historically for Fort George, but their presence would hardly have attracted attention. The pit with insloping sides furnished a good eggshell sample from the fill (19H7D5) and from the base level (19H7D8), the large individual pieces from the latter context suggesting a primary deposition of the shells in that place. Shells with a thickness of 0.7 mm., much greater than for specimens elsewhere, came from test trench 19H9D1.

Faunal Remains

Even though the material from the guardhouse excavation has received the most study, it has not been possible to identify most specimens beyond stating cow-size, sheep-pig size, large mammal, etc., or to tabulate by elements and species, due to a lack of time and also to the scrappy nature of these remains. For the purposes of this report, we do have the most essential information including assurance that the great majority of bones came from domesticated animals.

Consideration of both the historical background and the bones themselves indicates that a model of butchering and food preparation practices as these affect the bones will be helpful. At Fort George, and presumably at other posts, the people who killed and slaughtered the animals were not the ultimate consumers; one to several intervening steps or handlings customarily were involved. Data from studies at prehistoric sites, where it is assumed that the hunters were the consumers and the meat went rather directly into a pot, are not relevant and it is appropriate instead to think of levels within the butchering and consumption process.

In light of the historical sources, there is no reason to expect livestock slaughtering on the site. Therefore one should not expect complete or nearly intact skulls and mandibles or articulated foot bones which are normally not used, at least in fresh condition, as food. The presence of these bones and perhaps of other large elements in complete condition would be seen as evidence for on-site slaughtering.
When the same elements - skull, feet - are present but in the form of small fragments, they may indicate salted provisions.

Below the level of slaughtering debris would be bones discarded in the dissection of dressed carcasses, or quarters, when reducing these to mess- or ration-size portions. This level we call secondary butchering and it should be present in the cattle bones from Fort George if the beef contractors followed the commissary requirements. The delivery of any fresh pork, mutton or other large mammals in similar form should likewise have resulted in butchering debris as that meat was cut up for the mess. What elements to expect, which bones might be complete, and the expectable size range for bone fragments are problems for which we have no present answer. Specific information on butchering practices applying to a fort of this period is needed and perhaps the historical literature or excavation of a butcher shop could furnish the data.

The next step consisted of food preparation. A soldier's mess might number 12 men, one of whom drew and cooked the rations for all in the form of communal soup or stew. The meat at least was boiled in this manner, with vegetables if such were available. Depending upon the portion sizes when the meat was issued, the amount of subdivision before it went into the pot, and how much of the meat boiled away from its bones, one should expect bones identifiable as residue from the cooking process. At this level all bones should have been in fractured form except perhaps for knuckle and phalangeal elements. Bone scraps from salted meat should reflect only this level and the next lower one of consumption. Communal cooking remains might be sought around the soldiers' kitchens. Fort George had one or more such buildings at any given time, but we do not know where they were located. After viewing the bones from various contexts, we felt that collections where the fragments averaged more than 3 in. long were probably either cooking or butchering debris.

The final step was consumption by the individual and the discard of his food scraps. Bones which had not been boiled out of the meat, if beef or pork, together with chicken and fish bones, would be the debris at this level. From the larger mammals all bones except possible knuckle and phalangeal elements should have been quite fragmentary and we assumed an average length of under 3 in. for discards at this fourth level. Much of the bone from salt pork probably went into the trash at this last stage. Whether the provisions came fresh or salted, much of the mammal bone had by now been reduced to such a small size that the analyst could scarcely expect to tell more than the general size of the beast (cow, pig, sheep, goat).
With the above as an outline of expectations, discussion of the faunal remains can proceed and appropriate inferences (if any) may be drawn.

The Guardhouse

The fill and occupation surface produced several thousand fragments of large mammal bones. The majority were not identifiable as to species, but the ones which could be classified derived almost entirely from cattle and hogs with a minority from sheep. To judge by size range, the unidentifiable remains were from the same sizes of animals. The only numerous elements were articulating ends and shaft fragments from long bones, and broken ribs and vertebrae. For cattle and hogs, there were a few bones from almost all parts of the animals including at least one tooth but apparently with no foot bones or skulls. A tooth, several scapulae and limb bones represented sheep. Other identifiable mammals consisted of a common gray squirrel (two bones) and possibly a deer.

Apart from a few knuckles, almost no bones were complete, instead being in fragments seldom more than 3 in. long. Actual butchering had been done by cutting rather than by sawing and the smaller pieces resulted from both cuts and breaks. Absence of shaft cross-sections indicated that no one ate steaks, a cut that would have been unknown in the modern sense.

The species and elements present and the small individual size of large mammal bone refuse from the guardhouse excavations indicated food scraps, the fourth order of discards in the hierarchy proposed above. Only one cow vertebra and one cow-size vertebra had been split or sliced vertically though the fragmentary condition of nearly all vertebrae means that deliberately sectioned ones would rarely be identifiable. If at that period a quarter was literally a quarter of a carcass, including a part of the rib cage and vertebrae as well as one limb, then the archaeological findings for the beef bones are in agreement with the 1805 specifications outlined above. We cannot, however, exclude the possibility of whole sides or complete dressed carcasses having been delivered. The hog bones from the guardhouse would be conformable with bone scraps from consumption of salt pork though we have no means at present to distinguish these from fresh pork similarly cut up and cooked. The proportion of sheep-pig bones that are actually sheep is uncertain, but a few sheep elements have been identified. These could represent an occasional supply of fresh mutton or a substitution of mutton for pork in salted provisions. Wild game in the diet seems to have been virtually nil.

Fish is another matter, with a thousand or more fragmentary fish bones from the guardhouse, principally from the
occupation surface north of the balk. Ribs and vertebrae, with a few head bones and possibly other elements, made up this collection. In size the fish probably ranged from less than a pound to several pounds. Varieties of fish present, their relative proportions unknown, included Morone spp. and Micropterus spp. (perch-bass, bass), whitefish, sucker and walleye. These agree with the historical information, but statements about the hundreds of fish being caught in one cast of a net show that recovered fish bones reflect a very small fraction of the fish available and probably eaten.

Bird bones amounted to several dozen specimens only among the guardhouse collections. Two bones were identified from a goose and two from a dove or pigeon, several from ducks and others as various elements from the bodies of chickens. Chicken bones probably represent the largest proportion among the bird remains. Ducks and geese have not been classified as to probable species, but the dove-pigeon elements were most likely from passenger pigeons. Fort George seems to have been on a pigeon flyway and Mrs. Simcoe wrote of both the numbers and ease of taking pigeons.45

Within the whole operation (19H1) connected with the guardhouse excavation, approximately 40 per cent of the mammal bones and nearly all of the fish bone came from the occupation surface north of the balk. Another 20 per cent of the mammal bones derived from the fill above, 30 per cent from the general fill in trenching around the foundation or to the north of it, and about 10 per cent from both fill and occupation surface south of the balk. These are rough estimates of proportions, not based on actual bone counts. The quantity from the occupation surface north of the balk and particularly from the depression there, the latter a great catchall, must mean that bone debris had accumulated prior to destruction of the building. Presumably this type of refuse was swept down through cracks in the floor, under loose boards or where floorboards had rotted.

Very few of the bones from the guardhouse collections, perhaps two dozen in all, showed charring. This was true even for the fish elements. Since the building clearly had burned, the explanation may be that a heavy plank floor did not burn through and protected what lay beneath it. This explanation might also conform with the finding of unmelted bottle glass in occupation surface contexts (that is, bottle glass as refuse deposited prior to burning) whereas much pane glass had been melted by heat. Since the excavations found little wood in any condition, the flooring and anything else usable had probably been ripped up and used to help shore the defences, or even used for firewood, as of late May 1813. Nails and other items on top of the boards would then have dropped through and become mixed with whatever had already accumulated on the occupation surface. Artifacts from the guardhouse fill and occupation surface
showed the same general range of types and time period, and
we presume that the bone refuse is comparable as well.

Powder Magazine

No more than 50 bones, all fragments of large mammal bones,
came from the test trenches around this building. Ribs and
long bone members comprised most of the sample, with several
elements from the lower limbs and pelvi. Nearly all appeared
to have been broken and their size was relatively large,
that is, probably secondary butchering or cooking remains.
Sawn bones were present in the form of two shaft cross-
sections. The small total collection indicates obvious
disturbance as shown by the artifacts and, in any case,
proximity to a powder magazine suggest that bone remains
here may represent only the bone refuse of people who dwelt
in the magazine subsequent to the military occupation.

Officers' Quarters

The burned artifacts in this shallow, irregular feature
(19H7F3) and their probable dating range suggest an association
with the original officers' quarters, as noted earlier in
this report. About 50 bones came from this context and most
were fragments 3 in. or less in length. Scraps of long
bones, vertebrae and ribs, probably from cattle, and verte­
brae from the length of a hog's spinal column comprised most
of the sample. One large catfish spine and a partial radius
from some medium-sized bird rounded out the small collection.
A complex no different from that found in the guardhouse
seems indicated for the officers' quarters too.

Drain Feature

The 25 or so bone scraps from the drain feature (19H7Q2)
were mostly fragments less than 2 in. in length. Cattle
remains consisted of rib and long bone fragments, teeth, a
carpal and a cervical vertebra cut lengthwise, these from at
least one older cow and one younger one. Hogs were repre­
ented by fragmentary limb elements and a calcaneium, with
one piece from a sheep tibia present too. This collection
presents the same kind of food scraps as found in the
guardhouse.

Shallow Rectangular Feature

The several hundred bones from this pit (19H7D4), most of
them fragmentary, gave an entirely different picture.
Although most of the bones were quite small, they derived
from birds and fish. Identified specimens came from one
mature chicken and two young ones (circa two months old), three passenger pigeons, a probable mallard or black duck, one goose, a large walleye, a fresh-water drumfish and perch or bass-type fish (Morone spp.). Apparently no beef or hog bones were present, but there was one cut vertebra and other vertebra and long bone fragments from a sheep. Finally, most of the skeletal elements from someone's pet cat came out of the same pit. Except for this last individual, the bones suggested the remains of a full five-course dinner. Roast beef may have been included in the meal despite the absence of bones since many English beef recipes that would have been appropriate for the time and occasion prescribed removal of the bones prior to cooking. Chickens had yet to become egg factories and laid from spring until fall so the bones from two young chickens imply a summertime deposition here. Bone refuse reinforces the indication of a single event being encapsuled in this pit, as suggested first by the array of ceramics and table glass from this feature and the utility trench (19H7D6) that had cut through it.

Pit with Insloping Sides

The circa 40 bones from this pit (19H7D5) included large fragments as well as small ones and some unidentifiable burned pieces. Cattle remains consisted of a sawn pelvis fragment and a traversely cut vertebra along with scraps of ribs, pelvis, vertebrae and a scapula. There were pelvis and limb pieces from a sheep or goat and two hog pelvis fragments. A dog may have gnawed the distal end of a deer femur before the latter wound up in the pit. Representative of slightly more exotic fauna were a chicken wing, a radius from a mallard-size duck, bones from an unidentified bird and, lastly, some elements from a toad. The significance of this varied assortment is not clear if indeed the remains did not indicate a mixed or disturbed deposit.

Test Trench 19H6

The two test trenches by the southeast side of blockhouse no. 1 produced, from all levels, an estimated 500 bones. Nearly all of these were from cows or cow-sized animals, in fragments large and small, with two bones from the limb of a young sheep and others appropriate for sheep-pig-sized animals. For cattle, the whole animal seemed to be represented - lower jaw teeth, ribs, long bone fragments (fore and hind limbs), tarsals and phalanges. The most common elements consisted of long bone shaft fragments, the articular ends for these, and ribs, with lower limb bones probably outnumbering vertebrae. Few bones except below the knuckle joints were complete and there was little representation of the waste parts of animals. Breakage and cutting had
affected nearly all of the bone separations at all levels in this excavation.

Despite its small volume, level 4 alone provided about 80 per cent of the faunal remains from the two test trenches. A difference noted between this level and those above was the absence of saw marks on level 4 bones. By the associated artifacts and especially the ceramics, level 4 probably derives from the postwar military occupation with articles of earlier date mixed in. Material at all levels showed no charring or burning.

The relatively greater number of large bone fragments here as compared with the guardhouse collection, together with the frequencies of different elements, suggest a combination of cooking remains and food scraps. In view of the element variety, even slaughtering debris might be present and so the interpretation of the lowest level context is not certain. The recent dates for some artifacts in the upper two levels and apparent mixture there mean that animal remains in the same contexts may have been introduced to the site, as remains, from elsewhere.

Fortification Ditch

None of the faunal remains from fortification ditch associations have been given special study. Most obvious was the horse skeleton from the 19H7K test trench, by the north corner of the officers' quarters (Figs. 65, 66). The decapitation of this beast and the cutting off of all four feet find no ready explanation and these displaced parts seemed to have been laid in with the rest of the body. There were no accoutrements with it, not even horseshoes, only the musket ball by a scapula. We therefore cannot say whether the horse belonged to an officer and a gentleman or to a gentleman only. By its proximity to the base of the fortification ditch, the horse must have been put there before the ditch had begun to fill in naturally, but it also postdated the rotting or removal of any pickets set in the deepest part of this ditch. Since this animal was largely articulated, it appears that a rather intriguing list of the uses which the English had for a dead horse, circa 1813, does not apply here.47

The Privy

Bones from the two lowest levels, about 50 in all, were examined briefly. There were at least as many more from the higher levels in this same stratigraphic unit. The remains consisted of both large and small fragments of large mammal bones, some coated with lime and others burned. A large cow was represented from scapula to pelvis, with a few knuckles
and lower limb elements. The rib fragments had been cut and broken slightly less than halfway through their length, from the heads, and the pelvis had been cut lengthwise. A tooth from a fairly young pig and a lower limb bone from the same species came in this context, along with a couple of sturgeon bones, a mallard or black duck long bone and an element from a short squatty duck. The interpretation for the whole assemblage is refuse from the food scrap through secondary butchering levels of butchering and preparation, with the debris all thrown together.

Double Fireplace Base

Only three rib fragments from a medium to large mammal came from the fireplace base directly. Some 20 bones 7 in. or less in length, all broken or cut and derived from medium to large mammals, had an association with the surface outside of the masonry base. From a cow were teeth and fragments of ribs, a scapula and an atlas vertebra. Bones from front and hind limbs and upper jaw teeth indicated one or more sheep. Three sturgeon bones completed this collection. In view of the location and possible use for the building and its fireplaces, it is possible that the bones derive from food preparation. Unfortunately the sample size is too small to contrast with the guardhouse collection.

Semisubterranean Room

The fill from this feature (19H1E2) produced relatively few bones, perhaps 50 in all. These were fragmentary, large and small, and principally from cattle or cow-size animals. Elements included ribs, vertebrae and long bones, some of the latter burned, with an astragalus, metapodial and radius of a cow identifiable specifically. At least five bones belonged to a chicken and three others represented two or more ducks, one of these in the pintail-redhead size range. The significance of this collection is not clear; it could be a mixture from several types of debris or periods of deposition.

Old House, Interior Fill

Although the interior fill (19H2E) of this foundation has been dismissed as a mixture and a 20th-century deposit, the faunal remains constituted the second largest collection from the excavations - several thousand large mammal bone fragments - and were interesting by way of contrast with the guardhouse materials. Some 10 per cent of the faunal assemblage came from the two upper levels of interior fill; 90 per cent was contained in levels 3 and 4 inside and the
fill around the exterior. Charred or burned elements were rare.

The species present appeared to be domesticated animals in the size range from pig-sheep through cattle with the same elements predominant in this collection as in the one from the guardhouse. There were few teeth and, in comparison with the guardhouse materials, a few more mandibular, pelvic and lower limb elements seemed to be included here. Complete bones from higher in the body than the tarsus and carpus level were rare. Again in comparison with the guardhouse collection, fragments were larger. Breakage had produced most bone separations, with evidence also for cutting and sawing. A few shaft cross-sections suggested steaks. A relatively small number of bird and fish bones derived from interior fill levels. Rodent skulls and other complete bones probably came from rats or gophers that died in the ground.

Test trench 19H2F3, proposed as an early 19th-century context, produced a walleye jaw, one bone from a young pig and fragmentary ribs from a cow. Other cattle parts found here comprised two molars and a large patella.

By elements present, their proportions and the relatively large fragment sizes, the old house collection of bone refuse suggests secondary butchering debris. The fresher appearance of the bones and apparent recent date for the interior fill make it probable that this collection was from animals consumed in Niagara-on-the-Lake or its environs somewhere other than at old Fort George.

Feature in 19H12A, Level 2

The several dozen bones from this context included large and small fragments, some of them burned. Domestic animals predominated as usual, but there was at least one deer bone. Specific identifiabes were a suckling pig, elements of sheep-goat size and the fore and hind limbs of a cow. Cattle ribs showed cutting or chop marks part way down their lengths, as if for the separation of the belly meat. The intent may have been to separate the vertebral column and its associated meat from the balance of the carcass. One cow bone featured saw marks. This array apparently represented secondary butchering debris with possible cooking remains.

Summary

By way of summarizing the Fort George faunal remains, a tabulation will show our best estimate of how refuse from the various contexts fits the four levels of bone discard proposed as a model earlier in this section. An entry under
more than one heading means that bone debris derived from
two or more levels may have become intermixed. It should be
evident that the judgements are subjective; we do not have
such statistics as measured fragment lengths or counts by
species and elements, nor in most cases are there positive
identifications for more than a sample from the bone collection.
The focus of interest has been to understand human activities
on the site through a study of the discarded animal bones
and by comparing the latter with pertinent historical data.

<table>
<thead>
<tr>
<th>Slaughtering</th>
<th>Butchering</th>
<th>Cooking</th>
<th>Food</th>
<th>Disturbed, mixed etc.</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>Old house</td>
<td>Double</td>
<td>Scraps</td>
<td>Powder magazine</td>
</tr>
<tr>
<td></td>
<td>interior</td>
<td>fireplace</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>fill.</td>
<td>base?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>19H12A,</td>
<td>Test</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>level 2</td>
<td>trench</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Privy?</td>
<td>19H6,</td>
<td>Drain</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>level 4</td>
<td>feature</td>
<td></td>
<td>Semisubterranean</td>
</tr>
<tr>
<td>Privy?</td>
<td>19H6,</td>
<td>Shallow</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>level 4</td>
<td>rectangular feature</td>
<td>(19H7D4)</td>
<td></td>
</tr>
</tbody>
</table>

Excavated bone samples from military occupation contexts
and historical documentation are in good agreement; beef
indeed seems to have been furnished to the site by quarters
or larger parts of a carcass and the hog bones could easily
all represent salt pork. Two other meat items, mutton and
fish, are expectable though only the fish is mentioned in
contemporary narratives. Identified fish species could all
have been taken by netting in shallow waters and indeed the
fish named in accounts from the 1790s are the same as the
ones present in the archaeological collections.Wild game
other than fish and occasional birds had no part in the diet
here.

Bones had been reduced to fragment size at the first
Fort George by cutting and breaking only, with no use of a
saw. Several of the contexts seemed to consist of actual
food scraps and these remains in turn may represent meat
preparation in the form of soup or stew.
Faunal Remains at Other Military Sites

Quantities of animal bones came from storage basements converted into refuse pits beneath both the French and British-period houses at Michilimackinac. Grimm had this situation at Fort Ligonier in the one house with a storage cellar excavated there, while Olsen's Valley Forge and Morristown samples derived from the fireplaces of wintering huts. Bone refuse was collected in two middens, one British and one American, at Fort Moultrie. Bones from all contexts at Fort Loudoun, another 18th-century British post, were reported as a unit and this was also the case for the 19th-century American site of Fort Fillmore. Faunal remains from all of these sites are assumed to be in association with the military occupations and therefore to be directly comparable with bones from the Fort George guardhouse, officers' quarters, drain and other military-period proveniences.

Presence or absence of bone elements, animal species and the treatment of bones show some quite different patterns among the above sites. Parmalee inferred from the absence of skull and lower limb elements that cattle had been slaughtered elsewhere within the fort area (?) at Fort Fillmore, a situation like that at Fort George. Most or all elements of the cow were recovered at Fort Ligonier and Fort Loudoun, and for both posts a supply of live cattle or the maintenance of herds can be documented. A similar explanation is probable for sheep at Fort Fillmore where again nearly all bones of the animal were found. The elements present were not detailed for sheep at Fort Ligonier or for hogs at Fort Loudoun though the recovered bone totals were next highest to those for cattle at these two sites. An absence of skulls and feet among the Fort George hog bones is one basis for interpreting these as food scraps from salt pork. British salt pork contained bone and no longer is it necessary to postulate live hogs because of pig bones in a collection. At Fort George salt pork was the secondary source of meat, if indeed it was not just as important as fresh beef, and this seems also to have been true at Fort Loudoun. The two posts were similar too in the near-total dependence of their garrisons upon these domesticated animals. Sheep assumed second place (to cattle) at both Fort Ligonier and Fort Fillmore, however. Both midden collections at Fort Moultrie featured cow, deer and pig as dominant with sheep or goat, rabbit, bird and fish of secondary importance. This relative prominence of wild game was also present in the Fort Ligonier material and most of all among the British-period Michilimackinac animal bones. As we have seen, wild mammals were not part of the diet at Fort George though birds and especially fish found favour there.
Another point of comparative interest is the fragmentation of food bones. If the pieces which average 3 in. long or less do represent a British Army soup or stew, as proposed here, what would even more fragmentary bones indicate? This last was apparently the case at Valley Forge and Morristown where nearly all of the fragments also came from areas of the animal usable as soup bones or normally thought of as scrap.54 Extreme fragmentation is reported from the American army midden at Fort Moultrie, in contrast there to the larger bones (still crushed) in the British refuse.55 At this last site the use of bones as tools is suggested, while the Valley Forge and Morristown situation is interpreted in terms of soup. Olsen also points out that the soldiers may have been better nourished eating soup made from such cuts than had they relied upon cuts of lean meat from the scrawny animals available to the commissary.56

In comparison with soldiers' fare at several other posts and camps, British and American, it appears that the Fort George troops ate well. Their cuts were good and came already dressed to the fort kitchens, as would be anticipated for a garrison post. This is our judgment as regards the fresh meat. It would be difficult to say how the messes fared with the salt pork since the pickling and the meat/bone proportions had everything to do with the reception accorded to this. How frequently the troops may have enjoyed fresh meat, as opposed to salted meat or fish, is another question for which no answer is at hand.
Conclusions

Three identifiable units -- the powder magazine, guardhouse foundation, and a remnant of the centre blockhouse foundation -- survive from the first Fort George, the period of 1796-1812. Some smaller features are probably of the same age. The other major buildings from the original fort are gone without a trace.

The principal reason why so little is left of the first establishment is the earthmoving in connection with various past rebuildings. Average ground surface elevation inside the fort today is 294 ft. ASL. To one side of the parade ground the guardhouse foundation lay 1.0 ft. deep and some 365 ft. to the northeast the old centre blockhouse foundation was only 0.8 ft. below ground. Given this evidence for the original ground surface having been approximately the same as the present one, it is remarkable that anything survives from the first fort.

The original guardhouse foundation was nearly intact. This log building had burned and its remains had been covered soon afterwards. A good collection of artifacts was recovered from the old occupation surface inside the masonry foundation. These very fragmentary materials represent debris which accumulated beneath the wooden floor during use of the building as well as whatever was not burned or salvaged following destruction of the guardhouse in May 1813. A special study of nails from the guardhouse excavation established that the proportions among the sizes recovered reflected the sizes and proportions in the original materials list. By further reference to historical records, it was possible to correlate nail sizes with board thicknesses and to offer inferences as to how certain board sizes and nails had been used in the construction. With a simpler building an actual reconstruction might be feasible on this basis, but the guardhouse was complex and only suggestions are made.

The stone masonry powder magazine appeared to be substantially original. The buttresses have been rebuilt at least twice and concrete shorings were found all along the bases of the walls. There was no evidence for accessory structures other than for some impermanent wooden affairs that may be seen in 19th-century photographs and sketches.

The original stone foundation for the two-room clapboard house herein called the old house was located through a
combination of archaeological and historical research. Archaeological evidence alone would have been inconclusive as to the age of the foundation. However, when cartographic and documentary data were also considered, the most economical explanation became that the old house foundation was for a small building erected in 1814 as a unit at the third Fort George.

Three historic forts were on the site of Fort George, all of them with wooden buildings, and the one herein termed the second fort may actually have been two establishments, one British and one American, both used during the War of 1812. The only archaeological feature found that possibly relates to the second fort was the fortification ditch. The third Fort George was begun in 1814-15 and from this a filled-in fortification ditch, the remains of two barracks buildings and other smaller features yet survive. The barracks foundations lay in a large man-made depression and were well-buried. It is probable that other major structures contemporary with them exist also and could be found by projecting locations from maps of the period.

The 1974 excavations provided the information for aligning scaled transparencies of an 1816 and a 1799 map of Fort George once the maps had been reduced to a common scale. The archaeological identification of the fortification ditch and finding where this ditch cut through the wall of a prewar building made it possible to superpose the modern grid system and other archaeological findings as well. This procedure widened the basis for interpreting the archaeological remains and it illustrated the near-coincidence of most present structures, guardhouse excepted, with locations of their original counterparts. It also afforded guidance as to where other features shown on historic maps may be sought and where future utility lines or other subsurface disturbances should be placed for minimum damage to the historic site.

Throughout the field research and analysis, historical sources have been given equal consideration with archaeological findings so that the final report is more of a composite than it is an archaeological record. The information provided by artifacts and artifact associations has been minor aside from a few special situations such as the guardhouse nail collection, dating the privy fill and exploring the implications of the shallow rectangular feature's contents in the 19H7D tests. Documents and maps have been a far more important source. Artifact data presented in tabulated form may indeed be of greater use to others by virtue of the significant contexts which Fort George afforded.

It has also been our intention to focus upon the activities that took place at Fort George and the behaviour of the people there, rather than to provide a chronology of the creation and destruction of buildings.
Endnotes

Introduction
1 United States. National Archives (hereafter cited as USNA), RG77, Dr. 113, Sh. 5-1/2, report by Major C. Van Deventer.
2 Canada. Public Archives (hereafter cited as PAC), MG11, Q Series, Vol. 47, Pt. 1, p. 101 (transcripts), Mann to Lord Dorchester, Quebec, 6 Dec. 1788; RG8, C Series, Vol. 381, p. 25, Royal Engineers' Department, Quebec, 22 Sept. 1789; RG8, C Series, Vol. 381, pp. 47-8, Mann to Lord Dorchester, Quebec, 1 March 1790.

The Research Program
8 See note 4 above, Also, Marianne McLean, pers., com., and Margaret Coleman, "Fort George and the Americans
during the War of 1812," manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa, 1974.

Historical Background
1 Yvon Desloges, op. cit., Fig. 10; PAC, National Map Collection (hereafter cited as NMC), V1/440-Niagara-1810.
2 Yvon Desloges, op. cit., pp. 4-60.
8 John Brannan, comp., Official Letters of the Military and Naval Officers of the United States, During the War with Great Britain in the Years of 1812, 13, 14, & 15 (Washington: Way & Gideon, 1823), p. 166.
12 USNA, RG77, Dr. 113, Sh. 5-1/2, map and report by Major C. Van Deventer; Michigan. University. William L. Clements Library of American History, Christopher Van Deventer Papers, Vol. 1, Amos Stoddard to Van Deventer, Washington, 28 June 1812; Yvon Desloges, op. cit., Fig.
17.  
13 Yvon Desloges, op. cit., Fig. 19; PAC, NMC, H4/450-Niagara-1814.  
15 Yvon Desloges, op. cit., pp. 61-4, 69, Fig. 17.  
16 USNA, RG77, Dr. 113, Sh. 5-1/2, report by Major C. Van Deventer.  
19 Ibid., Vol. 3, p. 304.  
23 Yvon Desloges, op. cit., Fig. 20; PAC, NMC, V3/440-Niagara-1816; Ernest Alexander Cruikshank, ed., Documentary History, Vol. 5, pp. 97-8.  
24 James Mann, op. cit., p. 91.  
29 PAC, NMC, H1/440-Niagara-1818.  
32 James Mann, op. cit., p. 65.
The Guardhouse

1 H. Van der Putten, comp., Interim Guide for Measuring, Recording & Drawing of Historic Structures (Ottawa: Dept. of Indian Affairs and Northern Development, 1967), Appendix II.
2 Elizabeth Vincent, op. cit., p. 33.
3 Benson J. Lossing, Pictorial Field-Book, p. 418.
5 Elizabeth Vincent, op. cit., p. 84.
6 Ibid., pp. 29-34.
7 Ibid., Fig. 1; PAC, RG8, C Series, Vol. 382, pp. 63-63a, Maj. Shank to Capt. Green, Niagara, 30 Sept. 1796.
8 Ibid., p. 29.
9 Ibid., p. 33.
10 USNA, RG59, Miscellaneous Intercepted Correspondence, 1789-1814, Quebec, 1804.
11 Elizabeth Vincent, op. cit., Figs. 6, 7.
16 Lee H. Nelson, op. cit.
18 Elizabeth Vincent, op. cit., p. 10.
19 Ibid.; Carol Whitfield, pers. com.

24 Lee H. Nelson, op. cit.


26 See note 13.


28 William Claus, op. cit., p. 25.


30 Ibid., p. 166.


32 Thomas Douglas, 5th Earl of Selkirk, op. cit., p. 139.


36 Ibid., p. 73.


38 Isaac Weld, op. cit., p. 62.

39 Elizabeth Vincent, op. cit., p. 85.


42 Elizabeth Vincent, op. cit., pp. 95-6.

43 Yvon Desloges, op. cit., pp. 139-40.

44 Also R. Peck, pers. com.


Blockhouse No. 2
1 Yvon Desloges, op. cit., Fig. 1.
3 Karlis Karklins, pers. com.

The Powder Magazine
1 Yvon Desloges, op. cit., Fig. 5.
2 Benson J. Lossing, *Pictorial Field-Book*, p. 418; Yvon Desloges, op. cit., Fig. 24; PAC, NMC, H4/450-Niagara-1823, Pl. 1.


4 PAC, RG8, C Series, Vol. 1433, Memoranda...Regulations for Nails and Spikes, Halifax, Office of Ordnance, 17 March 1813.

5 Peter Priess, pers. com.


8 Yvon Desloges, op. cit., p. 105.


10 Ibid.

11 Dorothy Griffiths, pers. com.


13 Yvon Desloges, op. cit., p. 104.

**Test Trenches, Southeast Part of Fort George**

1 Elizabeth Vincent, op. cit., Fig. 1.

2 Olive Jones, pers. com.


4 Olive Jones, pers. com.


**Test Trenches, Blockhouses Nos. 1 and 3 and Other Prewar Buildings**

1 Yvon Desloges, op. cit., Fig. 10; PAC, NMC, V1/440-Niagara-1810.


4 Yvon Desloges, op. cit., Figs. 2, 6, 7, 10; PAC, NMC, V1/440-Niagara-1799, 1810; V2/440-Niagara-1799, and H1/440-Niagara-1793.


**The Fortification Ditch and Alignment of the First and Third Forts George**

1 USNA, RG77, Dr. 113, Sh. 5-1/2, report by Major C. Van Deventer.

2 Yvon Desloges, op. cit., Fig. 19; PAC, NMC, H4/450-Niagara-1814.

3 Yvon Desloges, op. cit., Fig. 12; PAC, NMC, V1/440-Niagara-1799.

The Postwar Barracks
1 PAC, NMC, V3/440-Niagara-1816.
2 Ibid.
3 Yvon Desloges, op. cit., Fig. 23.
4 Ibid., pp. 88, 90, 93-4, 97.
5 PAC, NMC, H4/450-Niagara-1823, Pl. 1.

The Privy
1 Yvon Desloges, op. cit., pp. 90, 96, 98.
2 Ibid., pp. 54, 76, 84.
4 James Mann, Medical Sketches, pp. 65-6.
5 PAC, RG8, C Series, Vol. 583, p. 258.
7 Ibid., Vol. 401, pp. 25-6.
9 Yvon Desloges, op. cit., Fig. 10; PAC, NMC, V1/440-Niagara-1810.
10 Yvon Desloges, op. cit., Fig. 17; USNA, RG77, Dr. 113, Sh. 5-1/2, map and report by Major C. Van Deventer.

The Double Fireplace Base
1 Karlis Karklins, pers. com.
2 Yvon Desloges, op. cit., Figs. 1, 8.
6 Yvon Desloges, op. cit., pp. 16-8, 26-7, 42-3.
7 PAC, NMC, H1/440-Niagara-1818.
8 Ibid., V3/440-Niagara-1816.

Semisubterranean Room
2 PAC, NMC, H3/440-Niagara-1850.
3 Ibid., H3/440-Niagara-1853.
The Old House
2 Ibid.
3 Ibid.
4 H. Van der Putten, op. cit., Appendix II.
5 Geoffrey A. Godden, op. cit., p. 539.
8 Ibid., Fig. 19; PAC, NMC, H4/450-Niagara-1814.

Artifacts
6 Geoffrey A. Godden, op. cit.

Foodstuffs and Faunal Remains
1 Elizabeth Posthuma Simcoe (Mrs. John Graves), Diary, ed. Mary Quayle Innis (Toronto: MacMillan, 1965).
2 François Alexandre Frédéric, duc de La Rochefoucauld-Liancourt, op. cit.
5 Elizabeth Posthuma Simcoe (Mrs. John Graves), op. cit., p. 97.
6 Ibid., pp. 167-8.
7 François Alexandre Frédéric, duc de La Rouchefoucauld-Liancourt, op. cit., p. 17.
8 PAC, RG8, C Series, Vol. 547, pp. 87-8, Fort George, 1 Oct. 1803.
9 François Alexandre Frédéric, duc de La Rochefoucauld-Liancourt, op. cit., p. 17.
11 Upper Canada Gazette/York Gazette (Niagara; York), 1795-1815.
12 PAC, RG8, C Series, Vol. 109, p. 85.
13 Yvon Desloges, op. cit., p. 54.
14 Niles' Weekly Register, 19 June 1813, p. 260.
15 François Alexandre Frédéric, duc de La Rochefoucauld-Liancourt, op. cit., p. 54.
16 Ibid., p. 71.
17 William Dunlop, Recollections of the War of 1812...., 2nd ed. (Toronto: Historical Publishing Co., 1908), p. 35.
18 François Alexandre Frédéric, duc de La Rochefoucauld-Liancourt, op. cit., p. 71.
20 Upper Canada Gazette (York), 12 Nov. 1803, p. 4; ibid., 30 June 1804, p. 4.
21 PAC, RG8, C Series, Vol. 109, p. 86.
23 John E. Guilday, op. cit., pp. 183, 186.
27 PAC, MG29, El, p. 18.
31 Upper Canada Gazette (York), 11 Dec. 1802, p. 3; ibid., 12 Nov. 1803, p. 4; York Gazette, 4 Aug. 1810, p. 2.
32 Elizabeth Posthuma Simcoe (Mrs. John Graves), op. cit., pp. 80-1.
33 Ibid., p. 92.
36 François Alexandre Frédéric, duc de La Rochefoucauld-Liancourt, op. cit., p. 49.
37 York Gazette, 1 April 1815, p. 4; ibid., 24 Dec. 1814, p. 4.
39 Elizabeth Posthuma Simcoe (Mrs. John Graves), op. cit., pp. 78, 82.
41 Elizabeth Vincent, op. cit., Fig. 1.
42 Information on flora is from Dr. Vera Reynolds, Seed Biology Laboratory, Agriculture Canada, to Dr. Henri Têtu, Director, National Historic Parks and Sites Branch, Ottawa, 21 Feb. 1975.
43 Ibid.
44 Carol Whitfield, pers. com.
45 Elizabeth Posthuma Simcoe (Mrs. John Graves), op. cit., p. 111.
53 Paul W. Parmalee, "Fort Fillmore," p. 43.
References Cited

Acton, Eliza
1974

Allen, Robert S.
1974

Baker, Norman
1971

Bernhard, Karl, Duke of Saxe-Weimar-Eisenach
1828

Brannan, John, comp.
1823
Official Letters of the Military and Naval Officers of the United States, during the War With Great Britain in the Years of 1812, 13, 14, & 15.... Way & Gideon, Washington.

The British Military Library, or, Journal
1799

The Builder's Practical Director....
1860
J. Hagger, London.

Calver, William Louis and Reginald Pelham Bolton
1950
Campbell, Alexander
1903

Canada. Public Archives.
MG11, Q series, Vol. 47
MG29, El, T. Wiley, "Visit of the Prince of Wales to Canada in 1860"
RG8, C Series, British Military and Naval Records
RG8, 2, Ordnance Records

H1/440-Niagara-1818, 1853
H3/440-Niagara-1850, 1852, 1853
H4/450-Niagara-1814, 1823, Ft. George, Pl. 1
V1/440-Niagara-1810, 1819, 1831, 1835
V3/440-Niagara-1816

Charlton, J.E.
1973

Claus, William
1902

Cleland, Charles E.
1970

Coffin, William Foster
1864

Coke, Edward Thomas
1833
Coleman, Margaret
1974
"Fort George and the Americans during the War of 1812."
Manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa.

Cooper, Thomas
1971
'The Uses for a Dead Horse, 1813.' Reprint of 1813 excerpt.

Cruikshank, Ernest Alexander, ed.
1896-1908
The Documentary History of the Campaign upon the Niagara Frontier in the Years 1812-14. Lundy's Lane Historical Society, Welland. 9 vols. Vol. 1.

Desloges, Yvon
1973
"Structural History of Fort George." Translation of manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa. (Now available in History and Archaeology/Histoire et archéologie No. 3, under the title "Historique structural du fort George.")

Dunlop, William
1908
Recollections of the War of 1812.... 2nd ed. Historical Publishing Co., Toronto.

Flemming, David
1971

Fontana, Bernard L. and J. Cameron Greenleaf
1962

Godden, Geoffrey A.
1964

Gooding, S. James
1965
Great Britain. Public Record Office.
WO60, Vol. 106, List of Iron, of various Descriptions, both
British and Foreign Manufacture, Required for the Service of
the Office of Ordnance, 1803/04.

Grimm, Jacob L.
1970
Vol. 42.

Guilday, John E.
1970
"Animal Remains from Archaeological Excavations at Fort
Ligonier." In Jacob L. Grimm, Archaeological Investigation

Haxby, J.A. and R.C. Willey
1972

Herbert, Luke
1836-37
The Engineer's and Mechanic's Encyclopaedia. T. Kelly,

Henderson, James R.
1970
"Fort George: Field Records." Records on file, National
Historic Parks and Sites Branch, Parks Canada, Ottawa.

Heriot, George
1971
Travels Through The Canadas.... Reprint of 1807 ed. M.G.
Hurtig, Edmonton.

James, Charles
1816
An Universal Military Dictionary, in England and French; in
which are explained the Terms of the Principle Sciences that
are necessary for the Information of an Officer. 4th ed.
T. Egerton, London.

Jelks, Edward B.
1973
"Archaeological Explorations at Signal Hill, Newfoundland,
1965-1966." Canadian Historic Sites: Occasional Papers in
Archaeology and History, No. 7. Ottawa
Kilbourn, William
1960
The Elements Combined; A History of the Steel Company of Canada. Clarke, Irwin, Toronto.

Kunkel, Peter H.
1960

Landmann, George T.
1852

La Rochefoucauld-Liancourt, François Alexandre Frédéric, duc de
1917

Lewis, Berkeley R.
1956

Lossing, Benson J.
1863
1869

McConnell, David
1975

Mann, James
1816
Medical Sketches of the Campaigns of 1812, 13, 14.... H. Mann and Co., Dedham, Mass.
Mercer, Henry C.
1923

Mercer, Henry C.
1923

Merritt, William Hamilton
1902
"Personal Narrative." In Ernest Alexander Cruikshank, ed.,

Michigan Pioneer and Historical Society
1903
Collections, Vol. 32. Lansing.

Christopher Van Deventer Papers
Gage Papers, American Series

Muller, John
1965

Munsell Color Company
1960

Nelson, Lee H.
1968
"Nail Chronology As An Aid to Dating Old Buildings."

Niagara Historical Society
1903

Niles' Weekly Register
1813. Baltimore.
1808  
Pocket Companion for the Non-Commissioned Officers of the  
-----Detachment of Royal-----in Canada. Quebec.

Ogden, John C.  
1799  

Olsen, Stanley J.  
1963  
"Dating Early Plain Buttons By Their Form."  

1964  

Orton, Vrest  
1969  
Observations on the Forgotten Art of Building a Good Fireplace; The Story of Sir Benjamin Thompson, Count Rumford ...& his Principles of Fireplace Design.... Yankee, Dublin, N.H.

Parkyn, Harry Gordon  
1956  
Shoulder-Belt Plates and Buttons. Gale & Polden, Aldershot.

Parmalee, Paul W.  
1967  
"Food Animals Utilized by the Garrison Stationed at Fort Fillmore, New Mexico, 1851-1862." El Palacio, Vol. 74, No. 2 (Summer), pp. 43-5. Santa Fe.

1960  

Peterson, Harold Leslie  
1969  

Ritchie, William Augustus  
1961  
Reinfeld, Fred
[1971]
by Burton Hobson. Doubleday, Garden City, N.Y.
1965

Rogers, Hugh Cuthbert Basset
1960

Scott, Winfield
1864

Selkirk, Thomas Douglas, 5th Earl of
1958

Simcoe, Elizabeth Posthuma (Mrs. John Graves)
1965

Smith, Carlyle S., trans. and ed.
1960

Smith, E.
1968
The Compleat Housewife; or, Accomplish'd Gentlewoman's Companion. Fac. of 1753 and 1773 eds. Literary Services Production, London.

Spearman, V. Morton
1828
The British Gunner. N.p., Woolwich.

Spinning Wheel
1967

Stephenson, Robert L.
1974
"A Note on the Bone Refuse From the British and American
Middens at Fort Moultrie." In Stanley South, comp.,
Palmetto Parapets: Exploratory Archaeology at Fort Moultrie,
South Carolina, 38CH50. Institute of Archaeology and
Anthropology, Univ. of South Carolina, Columbia.

Swannack, Jervis D., ed.
1973
"National Historic Sites Service Archaeological Excavation
Branch, Parks Canada, Ottawa.

Upper Canada Gazette (Niagara)
1795-98.

Upper Canada Gazette (York)
1802-03.

York Gazette
1810, 1814-15.

United States. Congress.
1832
American State Papers... Class V, Military Affairs. Gales

United States. National Archives.
RG59, General Records of the Department of State, War of
1812 Papers
RG77, Records of the Office of the Chief of Engineers,
Fortifications Map File
RG107, Records of the Office of the Secretary of War,
Letters Sent, Military Affairs

Van der Putten, H., comp.
1968
Interim Guide for Measuring, Recording & Drawing of Historic
Structures. Dept. of Indian Affairs and Northern
Development, Ottawa.

Vincent, Elizabeth
1973
119. Parks Canada.

Waite, Diana S.
1971
Nineteenth Century Tin Roofing and its Use at Hyde Hall.
New York State Historic Trust, Albany.
Weld Isaac
1807

White, Anita M.
1963

White, Marian E.
1972

William Trow Associates (Hamilton)
1973
"Investigation of Fill Conditions, Fort George, Niagara-on-the-Lake, Ontario." Manuscript on file, National Historic Parks and Sites Branch, Parks Canada, Ottawa.

Wilson, John P
1974

1920-28
Table 1. Correspondence of pennyweight sizes, weights and shaft lengths for wrought iron nails, for the period of the first Fort George (1796-1813)

<table>
<thead>
<tr>
<th></th>
<th>1803/04 List of Iron*</th>
<th>1813 Memoranda†</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Rose:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>d.</td>
<td>Weight per Cwt.</td>
<td>d.‡‡ Weight</td>
</tr>
<tr>
<td>40 (long drawn)</td>
<td>per Cwt.</td>
<td>40</td>
</tr>
<tr>
<td>40</td>
<td>per Cwt.</td>
<td>36 lbs./1000</td>
</tr>
<tr>
<td>30</td>
<td>per Cwt.</td>
<td>32 lbs./1000</td>
</tr>
<tr>
<td>24</td>
<td></td>
<td>28 lbs./1000</td>
</tr>
<tr>
<td>20</td>
<td>20 lbs./1000</td>
<td>20 large</td>
</tr>
<tr>
<td>20</td>
<td>20 lbs./1000</td>
<td>20 lbs./1000</td>
</tr>
<tr>
<td>12</td>
<td>16 lbs./1000</td>
<td>10 lbs./1000</td>
</tr>
<tr>
<td>13</td>
<td>13 lbs./1000</td>
<td>10 lbs./1000</td>
</tr>
<tr>
<td>10</td>
<td>12 lbs./1000</td>
<td>12 lbs./1000</td>
</tr>
<tr>
<td>8</td>
<td>10 lbs./1000</td>
<td>10 lbs./1000</td>
</tr>
<tr>
<td>6</td>
<td>7 lbs./1000</td>
<td>7 lbs./1000</td>
</tr>
<tr>
<td>4</td>
<td>4 lbs./1000</td>
<td>4 lbs./1000</td>
</tr>
<tr>
<td>3</td>
<td>3 lbs./1000</td>
<td>3 lbs./1000</td>
</tr>
<tr>
<td>2</td>
<td>2 lbs./1000</td>
<td>2 lbs./1000</td>
</tr>
<tr>
<td>1½</td>
<td>1½ lbs./1000</td>
<td>1½ lbs./1000</td>
</tr>
<tr>
<td><strong>Lathing:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat points</td>
<td>7 lbs./1000</td>
<td>7 lbs./1000</td>
</tr>
<tr>
<td>4d</td>
<td>4 lbs./1000</td>
<td>4 lbs./1000</td>
</tr>
</tbody>
</table>

† PAC, RG8, C, Vol. 1433, Memoranda...Regulations for Nails and Spikes, Halifax, Office of Ordnance, 17 March 1813.
‡‡ Pennyweights have been written in by hand.
§ Inconsistent illustration format for the heads and therefore a range of possible error (1-16 in. to 1/4 in.) in measurement of shank lengths, which increases as the nail length increases.
Table 2. The Regiments at Fort George

<table>
<thead>
<tr>
<th>Units</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>British</td>
<td></td>
</tr>
<tr>
<td>5th Regiment, Royal Artillery,</td>
<td>1796 – May 1798</td>
</tr>
<tr>
<td>Queen's Rangers</td>
<td></td>
</tr>
<tr>
<td>Royal Canadian Volunteers</td>
<td>May 1798 – 29 August 1802</td>
</tr>
<tr>
<td>41st Regiment</td>
<td>30 August 1802 – 25 May 1803</td>
</tr>
<tr>
<td>49th Regiment</td>
<td>26 May 1803 – 24 June 1805</td>
</tr>
<tr>
<td>41st Regiment</td>
<td>25 June 1805 – August 1809</td>
</tr>
<tr>
<td>100th Regiment</td>
<td>August 1809 – August 1811</td>
</tr>
<tr>
<td>41st Regiment</td>
<td>August 1811 –</td>
</tr>
<tr>
<td>41st Regiment</td>
<td>1812(^3)</td>
</tr>
<tr>
<td>Flank companies of 49th Regiment</td>
<td></td>
</tr>
<tr>
<td>Detachments Royal Newfoundland Regiment</td>
<td></td>
</tr>
<tr>
<td>Royal Artillery</td>
<td></td>
</tr>
<tr>
<td>8th (King's) Regiment</td>
<td>January – May 1813;</td>
</tr>
<tr>
<td></td>
<td>December 1813</td>
</tr>
<tr>
<td>41st Regiment</td>
<td></td>
</tr>
<tr>
<td>49th Regiment</td>
<td></td>
</tr>
<tr>
<td>100th Regiment</td>
<td></td>
</tr>
<tr>
<td>1st Royal Scots</td>
<td></td>
</tr>
<tr>
<td>19th Light Dragoons</td>
<td></td>
</tr>
<tr>
<td>Glengarry Light Infantry</td>
<td></td>
</tr>
<tr>
<td>Royal Newfoundland Regiment</td>
<td></td>
</tr>
<tr>
<td>Royal Artillery</td>
<td></td>
</tr>
<tr>
<td>1st and 4th Lincoln (militia)</td>
<td></td>
</tr>
<tr>
<td>(perhaps not in the fort)</td>
<td></td>
</tr>
</tbody>
</table>

1 Royal Artillery was probably at Fort George most of the time, to 1836.
2 Information is imprecise, but detachments of these regiments were in the vicinity.
3 The War of 1812 period becomes quite confusing, with detachments coming and going. The regiments (British and American) that appeared sometime during each year are listed.
Table 2 continued

<table>
<thead>
<tr>
<th>Units</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coloured Company (militia)</td>
<td></td>
</tr>
<tr>
<td>American</td>
<td></td>
</tr>
<tr>
<td>4th, 5th, 6th, 9th, 13th, 14th,</td>
<td>25 May - 10 December 1813</td>
</tr>
<tr>
<td>15th, 16th, 18th, 22nd, 23rd,</td>
<td></td>
</tr>
<tr>
<td>24th, 25th U.S. Infantry</td>
<td></td>
</tr>
<tr>
<td>2nd Regiment Light Dragoons</td>
<td></td>
</tr>
<tr>
<td>Regiment of Riflemen</td>
<td></td>
</tr>
<tr>
<td>Regiment of Light Artillery</td>
<td></td>
</tr>
<tr>
<td>1st, 2nd, 3rd Regiment U.S. Artillery</td>
<td></td>
</tr>
<tr>
<td>New York Volunteers</td>
<td></td>
</tr>
<tr>
<td>New York militia</td>
<td></td>
</tr>
<tr>
<td>British</td>
<td></td>
</tr>
<tr>
<td>8th (King's) Regiment</td>
<td>1814</td>
</tr>
<tr>
<td>100th Regiment</td>
<td></td>
</tr>
<tr>
<td>103rd Regiment</td>
<td></td>
</tr>
<tr>
<td>1st Royal Scots</td>
<td></td>
</tr>
<tr>
<td>19th Light Dragoons</td>
<td></td>
</tr>
<tr>
<td>Royal Artillery &amp; Royal Artillery</td>
<td></td>
</tr>
<tr>
<td>Drivers</td>
<td></td>
</tr>
<tr>
<td>Royal Marine Artillery</td>
<td></td>
</tr>
<tr>
<td>Royal Sappers and Miners</td>
<td></td>
</tr>
<tr>
<td>Provincial Dragoons (militia)</td>
<td></td>
</tr>
<tr>
<td>Incorporated Militia</td>
<td></td>
</tr>
<tr>
<td>Coloured Company (militia)</td>
<td></td>
</tr>
<tr>
<td>Regiment de Watteville²</td>
<td>October 1814 - 7 May 1815</td>
</tr>
<tr>
<td>90th Regiment</td>
<td>8 May 1815 - 13 June 1815</td>
</tr>
<tr>
<td>Canadian Fencible Regiment</td>
<td>14 June 1815 - 7 (10?)</td>
</tr>
<tr>
<td></td>
<td>July 1816</td>
</tr>
<tr>
<td>37th Regiment</td>
<td>11 July 1816 - 30 (31?)</td>
</tr>
<tr>
<td></td>
<td>August 1816</td>
</tr>
<tr>
<td>99th Regiment³</td>
<td>By 25 August 1816 - 30</td>
</tr>
<tr>
<td></td>
<td>April 1817</td>
</tr>
<tr>
<td>70th Regiment</td>
<td>1 May 1817 - 4 July 1819</td>
</tr>
<tr>
<td>68th Regiment</td>
<td>5 July 1819 - May 1822</td>
</tr>
</tbody>
</table>

1 See note 3, preceding page.
2 The dates for the 1815-20 period are based on the returns of command money paid to the lieut. colonels for commanding at Fort George, and on the estimates for the regiments.
3 The old 100th Regiment had been redesignated the 99th Regiment sometime between 25 March and 25 April 1816.
Table 2 continued

<table>
<thead>
<tr>
<th>Units</th>
<th>Period</th>
</tr>
</thead>
<tbody>
<tr>
<td>66th Regiment</td>
<td>By 1 October 1832 - 31 May 1834</td>
</tr>
<tr>
<td>15th Regiment</td>
<td>By 1 June 1834 - 30 September 1836</td>
</tr>
<tr>
<td>76th Regiment</td>
<td>May 1822 - 1826</td>
</tr>
</tbody>
</table>
Table 3. Forms and Lengths of Nails from the Guardhouse Occupation Surface, Complete and Broken Specimens. Grand Total (Less Shanks Only) - 1,908 Specimens Recovered

<table>
<thead>
<tr>
<th>Shank Length (inches)</th>
<th>Shank only</th>
<th>Head and point forms</th>
<th>Cutf</th>
<th>Wire</th>
<th>Totals, wrought nails only.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Rose spear</td>
<td>Rose flat</td>
<td>Rose</td>
<td>Flat</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2/8</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3/8</td>
<td>36</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5/8</td>
<td>37</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6/8</td>
<td>28</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7/8</td>
<td>23</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>2</td>
<td>2</td>
</tr>
<tr>
<td>1/8</td>
<td>33</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3</td>
<td>37</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>4</td>
<td>27</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5</td>
<td>21</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>6</td>
<td>15</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7/8</td>
<td>9</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3/8</td>
<td>13</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1</td>
<td>22</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1/8</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>3/8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>1/8</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>2/8</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>5/8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>7/8</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Broken shanks</td>
<td>621</td>
<td>20</td>
<td>5</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Corroded (not measured)</td>
<td>21b</td>
<td>22</td>
<td>22</td>
<td>660</td>
<td></td>
</tr>
</tbody>
</table>

a 7-in. spikes  
b shanks only; not added into total
Table 4. Forms and Lengths of Nails from the Guardhouse Fill (Interior and Exterior), Complete and Broken Specimens. Total (Less Shanks, Unidentified, Wire) - 1,003 Specimens

<table>
<thead>
<tr>
<th>Head and point forms</th>
<th>No. of specimens complete / broken</th>
<th>Shank lengths (complete only)</th>
</tr>
</thead>
<tbody>
<tr>
<td>A. Wrought</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rose sharp</td>
<td>308 / 434</td>
<td>1 1/4 - 4 3/8 in.</td>
</tr>
<tr>
<td>Rose spear</td>
<td>29 / -</td>
<td>1 5/8 - 2 &quot;</td>
</tr>
<tr>
<td>Squared sharp</td>
<td>5 / 2</td>
<td>1 3/4 - 1 7/8 &quot;</td>
</tr>
<tr>
<td>T-head sharp</td>
<td>16 / 30</td>
<td>1 1/4 - 4 &quot;</td>
</tr>
<tr>
<td>Clasp bevelled, flat</td>
<td>3 / 3</td>
<td>4 3/8 - 4 3/4 &quot;</td>
</tr>
<tr>
<td>Clasp</td>
<td>/ 1</td>
<td></td>
</tr>
<tr>
<td>Round flat</td>
<td>/ 5</td>
<td></td>
</tr>
<tr>
<td>Flathead, bevelled corners</td>
<td>/ 1</td>
<td></td>
</tr>
<tr>
<td>Unknown head (complete)</td>
<td>51 /</td>
<td></td>
</tr>
<tr>
<td>Broken shanks</td>
<td>/ 171</td>
<td></td>
</tr>
<tr>
<td>Unidentifiable</td>
<td>94</td>
<td></td>
</tr>
<tr>
<td>B. Cut</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Irregular, &quot;lath&quot;, sharp</td>
<td>90 / 25</td>
<td>1 1/4 - 2 in.</td>
</tr>
<tr>
<td>C. Wire</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat, sharp</td>
<td>25 /</td>
<td></td>
</tr>
</tbody>
</table>

Table 5. Numbers of the Nail Types from the Guardhouse Fill and Occupation Surface; Totals for Wrought and Cut Nails Only

<table>
<thead>
<tr>
<th>Context:</th>
<th>WROUGHT</th>
<th>CUT</th>
<th>WIRE</th>
<th>Totals:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Occupation surface</td>
<td>1747</td>
<td>160</td>
<td>(1)</td>
<td>1907</td>
</tr>
<tr>
<td>Fill</td>
<td>888</td>
<td>115</td>
<td>(26)</td>
<td>1003</td>
</tr>
<tr>
<td>Totals:</td>
<td>2635</td>
<td>275</td>
<td>(27)</td>
<td>2910</td>
</tr>
</tbody>
</table>
Table 6. Size-Frequency Distribution of Nails Listed in the Guardhouse Construction Estimate, with Pennyweight to Length Correlations from Contemporary Data
Table 7. Size-Frequency Distribution of Complete Wrought and Cut Nails from the Guardhouse Occupation Surface
Table 8. Clenched Nails from the Guardhouse Occupation Surface

<table>
<thead>
<tr>
<th>Type of nail and clenched length (inches)</th>
<th>Original lengths (inches)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Rose head, sharp point:</td>
<td>1</td>
</tr>
<tr>
<td>Clenched at 9/16</td>
<td></td>
</tr>
<tr>
<td>3/16</td>
<td></td>
</tr>
<tr>
<td>13/16</td>
<td></td>
</tr>
<tr>
<td>1 1/16</td>
<td></td>
</tr>
<tr>
<td>1 1/8</td>
<td></td>
</tr>
<tr>
<td>1 1/2</td>
<td></td>
</tr>
<tr>
<td>1 5/8</td>
<td></td>
</tr>
<tr>
<td>1 11/16</td>
<td></td>
</tr>
<tr>
<td>1 13/16</td>
<td></td>
</tr>
<tr>
<td>2 3/16</td>
<td></td>
</tr>
<tr>
<td>2 1/16</td>
<td></td>
</tr>
<tr>
<td>2 5/16</td>
<td></td>
</tr>
<tr>
<td>T-head, sharp point:</td>
<td></td>
</tr>
<tr>
<td>Clenched at 2 1/4</td>
<td></td>
</tr>
</tbody>
</table>
Table 9. Ceramic Sherds from Significant Contexts

| Decoration Type | Unclassified/plain | Plain Sherd | Blue Transfer print | Blue Transfer | Plain | Other decorated | Molding | Bottleform | Other | Snow Ware | Blue Transfer print | Other decorated | Blueil Transfer
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hollow Ware</td>
<td>51</td>
<td>2</td>
<td>3</td>
<td>4</td>
<td>6</td>
<td>1</td>
<td>5</td>
<td>2</td>
<td>4</td>
<td>10</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>B. Molded</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 10. Ceramic Sherds from Significant Contexts

<table>
<thead>
<tr>
<th>Culture</th>
<th>Porcelain</th>
<th>Earthenware</th>
<th>Other</th>
<th>Unknown/plain</th>
<th>Molded Decoration</th>
<th>Declassified/plain</th>
<th>Burned Ceramics</th>
<th>Inlaid Base</th>
<th>Plain Sherd</th>
<th>Brown Line Decoration</th>
<th>Blue Hand Painted</th>
<th>Blue Transfer Print</th>
<th>Green Shell-edge</th>
<th>Blue Shell-edge</th>
<th>Pink Base</th>
<th>Blue Willow</th>
<th>Blue Transfer Print</th>
<th>Blue Spatter</th>
<th>Blue Hand Painted</th>
<th>Form? Blue Transfer Print</th>
<th>Other</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>118</td>
</tr>
<tr>
<td>Hollow</td>
<td>0</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Flat</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. Includes 5 sherds of 1 vessel
B. Maker's marks "10", impressed
C. 13 sherds of flower bowls
D. 1 sherd, probably MNB ware
E. Maker's marks "1", impressed
F. Includes 8 sherds of 1 bowl
### Table 11. Ceramic Sherds from Significant Contexts

<table>
<thead>
<tr>
<th>Category</th>
<th>Description</th>
<th>Test Trench 1</th>
<th>Test Trench 2</th>
<th>Feature in 1972A</th>
<th>Feature in 1972B</th>
<th>Feature in 1972C</th>
<th>Feature in 1972D</th>
</tr>
</thead>
<tbody>
<tr>
<td>Unclassified/plain</td>
<td>Plain Shards</td>
<td>32</td>
<td>6</td>
<td>4</td>
<td>19</td>
<td>14</td>
<td>10</td>
</tr>
<tr>
<td></td>
<td>Brown-line dec.</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ring-foot base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rounded base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Other</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat Ware</td>
<td>Plain Shards</td>
<td>11A</td>
<td>3</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bath Pattern</td>
<td>4</td>
<td>3</td>
<td>1</td>
<td>2</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Royal Pattern</td>
<td>1</td>
<td>2J</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plain Pattern</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inset base</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td></td>
<td>Ring-foot base</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rounded base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Molding decoration</td>
<td>Unclassified/plain</td>
<td>4</td>
<td>7</td>
<td>9</td>
<td>3</td>
<td>3</td>
<td>20</td>
</tr>
<tr>
<td></td>
<td>Plain Shards</td>
<td>23C</td>
<td>7</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blue transfer print</td>
<td>16</td>
<td>4</td>
<td>7</td>
<td>1</td>
<td>7</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Blue hand painted</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tean shell-edge</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Polychrome</td>
<td>5</td>
<td>1L</td>
<td>2</td>
<td>4</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td></td>
<td>Overglaze blue rim</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inset base</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ring-foot base</td>
<td>3</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Plain sherd</td>
<td>5D</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat Ware</td>
<td>Blue transfer print</td>
<td>3E</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blue shell-edge</td>
<td>15</td>
<td></td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Green shell-edge</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bead base</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Inset base</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Ring-foot base</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Rounded base</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Porcelain</td>
<td>Unclassified/plain</td>
<td>1F</td>
<td>1K</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>White</td>
<td>Hollowware</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Earthenware</td>
<td>Polychrome</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat Ware</td>
<td>Plain Shards</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Blue Transfer Print</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Red Transfer Print</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mason's Ironstone, blue transfer print</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mocha Ware</td>
<td>Plain, ring foot</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bone China</td>
<td>Hollow Ware</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brown Ware</td>
<td>Bottle forms</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Stoneware</td>
<td>Other</td>
<td>16</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>5</td>
<td>9</td>
</tr>
<tr>
<td>Redware</td>
<td>Drain tile</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Vessel form</td>
<td>11</td>
<td>1</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burned Ceramics</td>
<td>Vessel form</td>
<td>18</td>
<td>1</td>
<td>1</td>
<td>19</td>
<td>2</td>
<td></td>
</tr>
</tbody>
</table>

**A.** Maker's marks: \\
- impressed

**B.** Molded decoration on rim

**C.** 3 sherds of 1 chocolate cup

**D.** 11 rim sherds from 1 plain plate

**E.** 3 sherds of 1 vessel

**F.** Molded band decoration on exterior surface

**G.** 4 sherds of lome vessel

**H.** Maker's marks: WB/LQUD/4.5.T., MAR..., CHARENG.../CREW..., TITLE; Lipu...: impressed

**J.** Maker's mark: 1 impressed

**K.** Gold underglaze pattern, molded decoration on exterior surface

**L.** 3 sherds of 1 vessel

**M.** Maker's marks: HERCULANEUM

**N.** 5 sherds of 1 vessel

**O.** 6 sherds of 1 vessel

**P.** 6 sherds of 1 small dish

**Q.** Maker's mark: BL... impressed

**R.** Maker's mark: RL... impressed
Table 12. Restored and Partially Restored Ceramics from 19H7D Features

<table>
<thead>
<tr>
<th>Lots Represented</th>
<th>19H7D2</th>
<th>19H7D3</th>
<th>19H7D4</th>
<th>19H7D5</th>
<th>19H7D6</th>
<th>19H7D7</th>
<th>19H7D8</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Creamware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hollow Ware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11-3/4-in. mixing bowl; plain, heavy bead rim, ring foot, restored</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10-in. mixing bowl, 4-1/2 in. high; plain, round folded rim, ring foot, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chamber pot; plain, flat or everted rim, partially restored</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Flat Ware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 10-in. dinner plates; green shell-edge, bead foot base, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dinner plate; green shell-edge, bead foot, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Soup plate; plain, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-1/4-in. small plate; Royal pattern, scratching on base exterior (writing), rounded base, partially restored</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ca.-5-in. small plate; Bath pattern, bead foot, partially restored</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Pearlware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Hollow Ware</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-1/2-in. butter tub; green shell-edge, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 12 continued

<table>
<thead>
<tr>
<th>Lots Represented</th>
<th>19H7D2</th>
<th>19H7D3</th>
<th>19H7D4</th>
<th>19H7D5</th>
<th>19H7D6</th>
<th>19H7D7</th>
<th>19H7D8</th>
</tr>
</thead>
<tbody>
<tr>
<td>ca.-9-1/2-in. oval bowl, fluted sides; green shell-edge, ring foot, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>sauce boat; green shell-edge, partially restored</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>oval lid; green shell-edge, partially restored</td>
<td></td>
<td></td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-3/8-in. (dia.) chocolate cup; blue hand-painted, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2 6-1/4-in. saucers; blue hand-painted, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6-3/8-in. bowl, 1-3/4 in. high; blue hand-painted, partially restored</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7-1/4-in. bowl; blue hand-painted, partially restored</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4-3/4-in. bowl, 3 in. high; blue hand-painted, ring foot, partially restored</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>bowl, 1-1/2 in. high; blue transfer print, partially restored</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>bowl; blue transfer print, ring foot, partially restored</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>large cup; blue transfer print, partially restored</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>ca.-4-in. bowl or cup; plain, ring foot, partially restored</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>
Table 12 continued

<table>
<thead>
<tr>
<th>Lots Represented</th>
<th>Flat Ware</th>
</tr>
</thead>
<tbody>
<tr>
<td>19H7D2</td>
<td>x</td>
</tr>
<tr>
<td>19H7D3</td>
<td>x</td>
</tr>
<tr>
<td>19H7D4</td>
<td>x</td>
</tr>
<tr>
<td>19H7D5</td>
<td>x</td>
</tr>
<tr>
<td>19H7D6</td>
<td></td>
</tr>
<tr>
<td>19H7D7</td>
<td></td>
</tr>
<tr>
<td>19H7D8</td>
<td></td>
</tr>
</tbody>
</table>

ca.-8-3/8-in. chamber pot; scratch blue and gray-blue enamelled band decoration, flat rim, inset base, partially restored

Flat Ware

- large platter, ca.-9-in.-wide base; green shell-edge, rounded base, partially restored
  - Lots Represented: X X X
- 14-in. platter, ca.-7-in.-wide base; green shell-edge, rounded base, partially restored
  - Lots Represented: X X X
- platter, 9 in. base length; green shell-edge, rounded base, partially restored
  - Lots Represented: X X X
- platter; green shell-edge, rounded base, partially restored
  - Lots Represented: X X X
- 3 ca.-10-in. dinner plates; green shell-edge, rounded base, partially restored
  - Lots Represented: X X
- 9-1/2-in. dinner plate; green shell-edge, rounded base, partially restored
  - Lots Represented: X
- 2 dinner plates; green shell-edge, partially restored
  - Lots Represented: X X X
- 9-3/4-in. plates; green shell-edge, rounded base, partially restored
  - Lots Represented: X X
- 3 ca.-6-3/4-in. plates; green shell-edge partially restored
  - Lots Represented: X X
- ca.-6-3/4-in. plate; green shell-edge, bead foot, partially restored
  - Lots Represented: X X
<table>
<thead>
<tr>
<th>Lots Represented</th>
</tr>
</thead>
<tbody>
<tr>
<td>19H7D2</td>
</tr>
<tr>
<td>19H7D3</td>
</tr>
<tr>
<td>19H7D4</td>
</tr>
<tr>
<td>19H7D5</td>
</tr>
<tr>
<td>19H7D6</td>
</tr>
<tr>
<td>19H7D7</td>
</tr>
<tr>
<td>19H7D8</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Table 12 continued</th>
</tr>
</thead>
<tbody>
<tr>
<td>ca.-6-3/4-in. plate; green shell-edge, rounded base, partially restored</td>
</tr>
<tr>
<td>small plate; green shell-edge, rounded base, partially restored</td>
</tr>
<tr>
<td>ca.-8-in. dinner plate; blue shell-edge, partially restored</td>
</tr>
</tbody>
</table>

**White Earthenware**  
**Hollow Ware**  
ca.-8-1/2-in.-wide vegetable dish; blue transfer print, impressed maker's mark (HENSHELL & CO), partially restored | X | X | X |  

**Bone China**  
**Hollow Ware**  
4-in. cup, 2-3/4 in. high; overglaze gold leaf decoration, outflaring rim, ring foot, restorable | X |  

**Flat Ware**  
7-1/2-in. plate; overglaze gold leaf decoration, ring foot, restorable | X |  

**Redware**  
**Hollow Ware**  
ca.-12-in. bowl; interior clear glaze with underglaze trailed yellow design, outflaring rim, partially restored | X | X | X | X |  
| bowl; Albany slip interior, thickened rim, rounded base, partially restored | X | X | X |  

Table 13. Container and Table Glass from Significant Contexts

<table>
<thead>
<tr>
<th>Containers</th>
<th>Cylindrical Glass</th>
<th>Liquor Bottles</th>
<th>Colourless</th>
<th>Unclassified</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dark Blue</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Dark green</td>
<td>21</td>
<td>13</td>
<td>3</td>
<td>2</td>
</tr>
<tr>
<td>Brown/amber</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Aqua</td>
<td>31</td>
<td>13</td>
<td>1</td>
<td>29</td>
</tr>
<tr>
<td>Colourless</td>
<td>22</td>
<td>14</td>
<td>3</td>
<td>18</td>
</tr>
<tr>
<td>Other</td>
<td>2</td>
<td></td>
<td></td>
<td>5</td>
</tr>
<tr>
<td>Unclassified</td>
<td>9</td>
<td></td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

**Wine Bottle**

<table>
<thead>
<tr>
<th>(cylindrical, dark green)</th>
<th>25</th>
<th>10</th>
<th>5</th>
<th>2</th>
<th>2</th>
<th>158</th>
<th>3</th>
<th>103</th>
<th>1</th>
<th>9</th>
<th>4</th>
<th>11</th>
<th>13</th>
<th>7</th>
</tr>
</thead>
<tbody>
<tr>
<td>Group 1</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 4</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 5</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Beer (brown)**

| Dark blue | 1 |
| Aqua      |   |
| Colourless| 2 |
| Other     |   |

**Rectangular/square**

| Medicine/vial | 5 |
|              | 3 |

| Fruit jar | 1A |
| Decanter  | 1  |

**Unidentifiable (rim, body)**

| Plain bases | 1 |
| Tumbler Fluted bases | 1 |
| Rims, body | 2 |
| Stemware    | 8 |
| Other       | 1 |

| Slag | 2 |
| Burned/Aqua | 68 |
| Other | 5 |

A. 1 partially restorable jar [15] + 37 sherds from same or similar jar
B. Late 19th century - early 20th century
C. Club sauce; machine made
D. 2 restorable wine bottles; diam. 3 3/8", heights: ca. 11", ca. 10 1/4", dip molded
E. 1 partially restorable bottle
F. Includes 1 restorable wine bottle, diam. 3 7/8", height 9 1/4", dip molded
G. 2 partially restorable bottles
H. Includes 1 hexagonal base
I. Partially restorable
Table 14. Container and Table Glass from Significant Contexts

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Unidentifiable</td>
<td>Dark green</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td></td>
<td>Colourless</td>
<td></td>
<td>2</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>2</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Unidentified</td>
<td>Wine bottle (cylindrical, dark green)</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td>11</td>
<td>3</td>
<td>12</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 4:</td>
<td>Case bottle</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>3</td>
<td>8</td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Aqua</td>
<td></td>
<td>5A</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Colourless</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>1</td>
<td>D</td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Violet</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Rectangular/square [aqua]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Medicine/vial [aqua]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Unidentifiable (rims/body)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>2</td>
<td>1D</td>
<td></td>
</tr>
<tr>
<td>Table Glass</td>
<td>Tumblers</td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td>(colourless)</td>
<td>Stemware</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td>Other</td>
<td>Other Stopper</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1D</td>
</tr>
<tr>
<td></td>
<td>Burned/Aqua</td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
</tr>
</tbody>
</table>

A. Fruit jar?
B. Includes 1 restorable wine bottle, 3 7/8" diam., height 8 7/8", dip molded
C. 1 partially restorable glass
D. Late 19th - early 20th century
Table 15. Container and Table Glass from Significant Contexts

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Wine bottle (cylindrical, dark green)</td>
<td>6</td>
<td>3</td>
<td>8</td>
<td>3</td>
<td>2</td>
<td>4</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Group 4: Cylindrical Bottles</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beer bottle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cylindrical</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Beer bottle</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Colorless</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rectangular/square [aqua]</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Recent (20th cent. soda, etc.)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Oval bottle [colourless]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Decanter</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tumblers Plain bases</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stems/body</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stemware</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stopper</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Misc</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Burned/ Aqua melted</td>
<td>3</td>
<td>3</td>
<td>1</td>
<td>1</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. 2 sherds mend with those in 19H7D5
Table 16. Pane Glass

<table>
<thead>
<tr>
<th>Category</th>
<th>Thin (1.1 mm.-1.4 mm.)</th>
<th>Medium (1.5 mm.-1.8 mm.)</th>
<th>Thick (1.9 mm.-2.3 mm.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guardhouse: fill (19H1A1, 1B1-1B3, 1C1-1C3)</td>
<td>446</td>
<td>292</td>
<td>61</td>
</tr>
<tr>
<td>Guardhouse: occupation surface (19H1C4, 1C5, 1C7, 1C8)</td>
<td>197</td>
<td>275</td>
<td>48</td>
</tr>
<tr>
<td>Blockhouse no. 2 (19H8X2-8X4)</td>
<td>7</td>
<td>4</td>
<td>13</td>
</tr>
<tr>
<td>Powder magazine: NW side test trench (19H3A1-3A3)</td>
<td>6</td>
<td>12</td>
<td>5</td>
</tr>
<tr>
<td>Powder magazine: NE side test trench (19H3B1-3B3)</td>
<td>15</td>
<td>17</td>
<td>8</td>
</tr>
<tr>
<td>Powder magazine: SE side test trench (19H3C2)</td>
<td></td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Officer's quarters: 19H7F3 feature</td>
<td>11</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Drain feature (19H7A3, 7E5)</td>
<td>6</td>
<td>4</td>
<td>1</td>
</tr>
<tr>
<td>Fill below gravel (19H7D2)</td>
<td>4</td>
<td>4</td>
<td>2</td>
</tr>
<tr>
<td>Deep rectangular feature (19H7D3)</td>
<td>4</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td>Shallow rectangular feature (19H7D4)</td>
<td>22</td>
<td>32</td>
<td></td>
</tr>
</tbody>
</table>
Table 16 continued

<table>
<thead>
<tr>
<th>Description</th>
<th>Thin (1.1 mm.- 1.4 mm.)</th>
<th>Medium (1.5 mm.- 1.8 mm.)</th>
<th>Thick (1.9 mm.- 2.3 mm.)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Utility trench 19H7D6</td>
<td>7</td>
<td>23</td>
<td></td>
</tr>
<tr>
<td>Pit with insloping sides (19H7D5)</td>
<td>5</td>
<td>6</td>
<td></td>
</tr>
<tr>
<td>Operation 19H6 test trench, level 3</td>
<td>1</td>
<td>2</td>
<td>3(^1)</td>
</tr>
<tr>
<td>Operation 19H6 test trench, level 4</td>
<td>16</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>Fortification ditch (19H7K4, 8H2)</td>
<td>1</td>
<td>2</td>
<td>1</td>
</tr>
<tr>
<td>Test trench 19H8E, level 4</td>
<td>4</td>
<td>1</td>
<td>0(^2)</td>
</tr>
<tr>
<td>Test trench 19H8L, level 5</td>
<td>25</td>
<td>10</td>
<td></td>
</tr>
<tr>
<td>1814-15 barracks: floor (19H8L6)</td>
<td>21</td>
<td>32</td>
<td></td>
</tr>
<tr>
<td>Privy: fill around exterior (19H14A2, 14A4)</td>
<td>46</td>
<td>26</td>
<td></td>
</tr>
<tr>
<td>Privy: fill above rubble (19H14B3-14B5)</td>
<td>3</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Privy: brick and mortar rubble (19H14B6)</td>
<td>7</td>
<td>6</td>
<td>1</td>
</tr>
<tr>
<td>Privy: fill below rubble (19H14B7-14B9)</td>
<td>66</td>
<td>46</td>
<td>6(^3)</td>
</tr>
</tbody>
</table>

1  + 1, 3.7 mm. thick  
2  3 partial panes, 3.2 mm. thick, one side textured  
3  + 2, 3.2 mm. thick
Table 16 continued

<table>
<thead>
<tr>
<th>Thin</th>
<th>Medium</th>
<th>Thick</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1.1 mm.- 1.4 mm.)</td>
<td>(1.5 mm.- 1.8 mm.)</td>
<td>(1.9 mm.- 2.3 mm.)</td>
</tr>
</tbody>
</table>

Fireplace base: mortar level, occupation surface (19H1E2)  
1 4

Semisubterranean room (19H1E2)  
5 6 3

Test trench 19H17A, Levels 5 & 7  
3 3 2

Old house: test trench (19H2F1)  
12 4

Old house: test trench (19H2F2)  
50 35 2

Old house: test trench (19H2F3)  
10 5

Test trench 19H12A, level 1  
56 45 4

Feature in 19H12A, level 2  
5 5

Mortar feature (19H8V4)  
3 1

Double channel feature (19H9G3)  
2 1

Feature in 19H13G, level 2  
1 1 0

Test trench 19H8B, level 5  
1 1 5

Test trench 19H9D1  
28 10

1 melted  
2 +1, 2.9 mm. thick  
3 +1, 2.9 mm. thick
<table>
<thead>
<tr>
<th>Test trench 19H9H, level 2</th>
<th>Thin (1.1 mm.- 1.4 mm.)</th>
<th>Medium (1.5 mm.- 1.8 mm.)</th>
<th>Thick (1.9 mm.- 2.3 mm.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>6</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Test trench 19H9J1</th>
<th>Thin (1.1 mm.- 1.4 mm.)</th>
<th>Medium (1.5 mm.- 1.8 mm.)</th>
<th>Thick (1.9 mm.- 2.3 mm.)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>1</td>
<td>4</td>
<td></td>
</tr>
</tbody>
</table>
Table 17. Building Hardware

<table>
<thead>
<tr>
<th>Item</th>
<th>Observation Note</th>
<th>Quantity</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hinges:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H-hinge, fragmentary</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>H-L hinge, fragmentary</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Strap hinge, fragmentary</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Latches:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latch bolt from a rim lock</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Latch-bar catch</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td><strong>Padlocks:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cast brass</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Riveted sheet iron</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Staples:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Square</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td><strong>Nails:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrought</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rose-head</td>
<td></td>
<td>27</td>
</tr>
<tr>
<td>T-head</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clasp-head, bevelled corners</td>
<td></td>
<td>2</td>
</tr>
<tr>
<td>Flat-head, 4 bevelled corners</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cut</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Lath</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Square cut</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Wire</td>
<td></td>
<td>13+</td>
</tr>
<tr>
<td>Brass: square shank</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Brass: round shank, flat round head</td>
<td></td>
<td>3+</td>
</tr>
<tr>
<td><strong>Tacks:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass: Large</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Small</td>
<td></td>
<td>5</td>
</tr>
<tr>
<td><strong>Bolt:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Spikes:</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dome-head</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Wood Screws</td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Tin or terneplate, fragmentary (roofing?)</td>
<td></td>
<td>1</td>
</tr>
</tbody>
</table>

A. nailed with 3 rose-head, wrought nails
B. rose-head
C. 1 in brass sheeting fragment
D. CHAMBER 6-LEVER
X. represented in context
<table>
<thead>
<tr>
<th>Table 18. Building Hardware</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinges:</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td></td>
</tr>
</tbody>
</table>
Table 19. Building Hardware

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Hinges:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H hinge, fragmentary</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>H-L hinge, fragmentary</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Butt hinge, fragmentary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strap hinge (L-bent) fragmentary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latches:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Latch-bar catch</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Door hook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Staples:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Square</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nails:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wrought:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rose-head</td>
<td>48</td>
<td>13</td>
<td>7</td>
<td>4</td>
<td>2</td>
<td>5</td>
<td>17</td>
<td>18</td>
</tr>
<tr>
<td>T-head</td>
<td>4</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clasp-head, bevelled corners</td>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clasp-head</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flat-head, 4 bevelled corners</td>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cut:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Lath</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Square cut</td>
<td>4</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wire:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tack:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brass: Large (1&quot; dia. head)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Bolts, fragmentary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spikes:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Die-head</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dome-head</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 20. Household and Kitchen Utensils

<table>
<thead>
<tr>
<th>Category</th>
<th>Items</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tableware</td>
<td>Cutlery: iron</td>
<td>Guardhouse fill</td>
</tr>
<tr>
<td></td>
<td>Knives: fragmentary</td>
<td>Guardhouse: occupation-surface</td>
</tr>
<tr>
<td></td>
<td>Table: bone handled 1, 2</td>
<td>Blockhouse No. 2</td>
</tr>
<tr>
<td></td>
<td>carving: bone handled 2</td>
<td>Powder Magazine: N.W. side test trench</td>
</tr>
<tr>
<td></td>
<td>Forks: fragmentary</td>
<td>Powder Magazine: N.W. side test trench</td>
</tr>
<tr>
<td></td>
<td>Spoons: tea 1, table 1</td>
<td>Drain feature</td>
</tr>
<tr>
<td></td>
<td>Handles: iron 1, bone 1</td>
<td>Fill below gravel</td>
</tr>
<tr>
<td></td>
<td>Cutlery: pewter</td>
<td>Shallow rectangular feature</td>
</tr>
<tr>
<td></td>
<td>teaspoons: 1</td>
<td>Utility trench</td>
</tr>
<tr>
<td></td>
<td>table spoons: 1</td>
<td>Pit with insloping sides</td>
</tr>
<tr>
<td></td>
<td>Cutlery: tablespoon brass 1</td>
<td>&quot;Vulcanization&quot; ditch</td>
</tr>
<tr>
<td></td>
<td>Scissors 1</td>
<td>Test trench</td>
</tr>
<tr>
<td></td>
<td>Thimble: brass 1</td>
<td>Privy: fill between exterior</td>
</tr>
<tr>
<td></td>
<td>Straight pins: brass 6</td>
<td>Privy: brick and mortar rubble</td>
</tr>
<tr>
<td></td>
<td>Spigot: brass, locking 1</td>
<td>Privy: fill below rubble</td>
</tr>
<tr>
<td></td>
<td>Tack: brass, dome-head (thumbtack?)</td>
<td>Fireplace base: mortar level, occupation surface</td>
</tr>
<tr>
<td></td>
<td>Containers: fragments</td>
<td>Semi-subterranean room: fill</td>
</tr>
<tr>
<td></td>
<td>cast iron (kettle?) 2</td>
<td>Old House: interior fill</td>
</tr>
<tr>
<td></td>
<td>thin sheet iron (can?) X</td>
<td>Old House: test trench</td>
</tr>
</tbody>
</table>

A. Maker's mark, impressed, originally gold plated
B. Partial initials, IL-
C. Tin plated
X Present in context
Table 21. Corrected Diameters of Lead Balls (Bullets); From 1 to 39 per Pound

<table>
<thead>
<tr>
<th>Units</th>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>0.776</td>
<td>0.751</td>
<td>0.730</td>
<td>0.711</td>
<td>0.693</td>
<td>0.677</td>
<td>0.663</td>
<td>0.650</td>
<td>0.637</td>
<td>0.626</td>
</tr>
<tr>
<td>20</td>
<td>0.615</td>
<td>0.605</td>
<td>0.596</td>
<td>0.587</td>
<td>0.579</td>
<td>0.571</td>
<td>0.564</td>
<td>0.557</td>
<td>0.550</td>
<td>0.544</td>
</tr>
<tr>
<td>30</td>
<td>0.538</td>
<td>0.532</td>
<td>0.526</td>
<td>0.521</td>
<td>0.517</td>
<td>0.511</td>
<td>0.506</td>
<td>0.501</td>
<td>0.497</td>
<td>0.493</td>
</tr>
</tbody>
</table>

Notes: Official ball size for British musket - 14½/lb., diameter 0.685 inches. Official ball size for British carbine - 20/lb., diameter 0.615 inches. Official ball sizes for British pistols same as musket and carbine calibers, plus a ball size of 34/lb., diameter 0.517 inches. Official ball size for U.S. musket - 18/lb., diameter 0.64 inches.
Table 22. Lead Balls ( B u l l e t s ) ; Descriptions, D i s t r i b u t i o n s and Appropriate Weapons

°0
c_>

~

i_i f->
H
oo
" '
r H ^ - . O ' H O m

Contemporary
1

Appropriate Weapon or
.immunition Type

Observed
Diameter
finches)

J

Specifications
B a l l s / l b . Diameter
(inches)

Cruelles.

crue

_j m

H

IM ( J
,-1

«M

W
O

1

W

- * * ' * '
rH
c s : ^
wo

»
m

1

-

M
O6

w

CJ

<

r

S
,
i
. _
"^

-rl OS
H .H
3 H £ _,
N ^ - ( c r > < u c f > a i : ' H

O

R

" T

'

£

~
H l '

*«
U

5T
—
•••riB)
0

i

y

-^
rt

I-I w

*->

*J

" ^
CJ U,

<" _ ,
41 en

*~-

<—»

m

*crX

ro

a
[
CO

d

re

^ U v£>
to «a •—i

H ^
M vo

d °,
-H 1-4

nj
-H >
00 e
«
O O C i J C
2 o .
5 ;
gg
00
c- w

w > ^ J
&o =:
^CJ^S
5 2
j ^ ' U r a ' - l ' ^
° . § J
S~
g g 2 g
o. S
a w o o
o «s

--J
2 £
0
^
Ï S
i? 2
-M jn

ncrs
"° 5 2
Ui-t
S g ~
& 2 .2
w > w

n j
* S
so
3 3
-iS
td 6

>M M
" S
u
2 S *,
* I S
-coco

U N
" K
Os
S-1
" g
-ou

U b
etc
H
w
A
" ~
52
,^
e e w r H o c o
o
J
S3
S "
S
g
g
=2
2 5
2 g
„ g
u 2
-ou
00
u n
v> >
»>

(Te*

O se

p. w

o

M P
O H

nH O O
P n r H (0

P H
H e

*H M *-l
O W es

rH W
O *J

H M
OC»

M

C W
Oe>

"SOI
Q H

OUI
Q e

=*
c * , r H

a

"cj
ùM
U)
o u =
P -H

w

^ °
g 0.

a.
o
CO

"re
oi &
U) r-l
pi
J=
DH

O

ij £
O CO
a r ^ x i - c r

)

m O
Ce e

P O
H P

»
,-1

O O
H H

,_<
o
CTi

„

e >
Oh
r s r c
»
r-<

-

O.
in
M

*

u o
g
g
^
u
M
en >
O
H

O O
H J

,_)
>
ON

re

0>
rH

•*
o
g
o
en
O
H

BRITISH:
Pistol
Carbine or Baker
rifle
Spherical case
shot ( b a l l s )
Musket

0.505

0.615
Ayjj.0.629
to
0.680
0'.675 -

3'.

0.517

j

20

0.615

j

14* or
20
14*

0.685 or
0.615

1

4 8

H

0.685

kO

0.700

2

1

1

1

,,

6

1

3

8

2

1

2

*

1

UNITED STATES:
Buckshot

0.31

180

0.297

2

Buckshot

0.325

180

0.297

1

180

0.297

32

0.525

0.645

18

0.64

0.665

?

?

?

?

?

?

Buckshot

0.335

M1804 R i f l e or
Harper's Ferry P i s t o l

0.535 0.540

Musket

0.635 -

Unknown
Fired b u l l e t s
(musket?)

Flattened bullet

0.595-0.680
0.607-0.655

0.375 x
0.682

* Sprue attached; bad casting

'Both fired

2

j

1

9

4

j_

j

l

1

t

1

2

1

1

*

1



<table>
<thead>
<tr>
<th>Ordnance</th>
<th>No. of balls</th>
<th>Weight of each ball</th>
<th>Ball diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 Pdr. Heavy Case</td>
<td>41</td>
<td>6 oz. 7½ dr.</td>
<td>1.417 in.</td>
</tr>
<tr>
<td>Light Case</td>
<td>126</td>
<td>2 oz.</td>
<td>0.962 in.</td>
</tr>
<tr>
<td>9 Pdr. Heavy Case</td>
<td>41</td>
<td>5 oz.</td>
<td>1.305 in.</td>
</tr>
<tr>
<td>Light Case</td>
<td>126</td>
<td>1 oz. 8 dr.</td>
<td>0.875 in.</td>
</tr>
<tr>
<td>6 Pdr. Heavy Case</td>
<td>41</td>
<td>3 oz. 5+2/3 dr.</td>
<td>1.144 in.</td>
</tr>
<tr>
<td>Light Case</td>
<td>85</td>
<td>1 oz. 8 dr.</td>
<td>0.875 in.</td>
</tr>
<tr>
<td>3 Pdr. Case</td>
<td>41</td>
<td>1 oz. 8 dr.</td>
<td>0.875 in.</td>
</tr>
<tr>
<td>8 Inch Howitzer</td>
<td>258</td>
<td>2 oz.</td>
<td>0.962 in.</td>
</tr>
<tr>
<td>5½ Inch Howitzer</td>
<td>100</td>
<td>2 oz.</td>
<td>0.962 in.</td>
</tr>
<tr>
<td>4 2/5 Inch Howitzer</td>
<td>55</td>
<td>2 oz.</td>
<td>0.962 in.</td>
</tr>
</tbody>
</table>
Table 24. Weights and Diameters for Iron Balls Used in British Grape Shot, War of 1812 Period and Later (Shot-Weight to Ordnance Size Correlations from V. Morton Spearman, The British Gunner [Woolwich: n.p., 1828], pp. 232-3; Ball Diameters are Calculated or are from John Muller, A Treatise of Artillery [Ottawa: Museum Restoration Service, 1965], p. 12)

<table>
<thead>
<tr>
<th>Ordnance</th>
<th>No. of balls</th>
<th>Weight of each ball lb, oz, dr.</th>
<th>Ball diameter</th>
</tr>
</thead>
<tbody>
<tr>
<td>New Pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>32 Pdr.</td>
<td>9</td>
<td>3</td>
<td>2.775 in.</td>
</tr>
<tr>
<td>2½ Pdr.</td>
<td>9</td>
<td>2</td>
<td>2.423 in.</td>
</tr>
<tr>
<td>18 Pdr.</td>
<td>9</td>
<td>1 8</td>
<td>2.201 in.</td>
</tr>
<tr>
<td>12 Pdr.</td>
<td>9</td>
<td>1</td>
<td>1.923 in.</td>
</tr>
<tr>
<td>9 Pdr.</td>
<td>9</td>
<td>13 2</td>
<td>1.80 in.</td>
</tr>
<tr>
<td>6 Pdr.</td>
<td>9</td>
<td>8</td>
<td>1.526 in.</td>
</tr>
<tr>
<td>Old Pattern</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>42 Pdr.</td>
<td>9</td>
<td>4</td>
<td>3.053 in.</td>
</tr>
<tr>
<td>32 Pdr.</td>
<td>9</td>
<td>3</td>
<td>2.775 in.</td>
</tr>
<tr>
<td>2½ Pdr.</td>
<td>9</td>
<td>2</td>
<td>2.423 in.</td>
</tr>
<tr>
<td>18 Pdr.</td>
<td>9</td>
<td>1 8</td>
<td>2.201 in.</td>
</tr>
<tr>
<td>12 Pdr.</td>
<td>9</td>
<td>1</td>
<td>1.923 in.</td>
</tr>
<tr>
<td>9 Pdr.</td>
<td>9</td>
<td>13 2</td>
<td>1.80 in.</td>
</tr>
<tr>
<td>6 Pdr.</td>
<td>9</td>
<td>8</td>
<td>1.526 in.</td>
</tr>
<tr>
<td>4 Pdr.</td>
<td>9</td>
<td>6</td>
<td>1.387 in.</td>
</tr>
<tr>
<td>3 Pdr.</td>
<td>9</td>
<td>4</td>
<td>1.209 in.</td>
</tr>
</tbody>
</table>
Table 25. Iron Shot; Descriptions, Distributions and Appropriate Ammunition Type

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>BRITISH:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3 pdr. case</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 pdr. light case</td>
<td>0.83-0.89</td>
<td>1½ oz.</td>
<td>0.875</td>
<td>1</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 pdr. light case</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 pdr. light case</td>
<td>0.96-0.975</td>
<td>2 oz.</td>
<td>0.962</td>
<td>1</td>
<td>1</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4.4, 5½, 6-inch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>howitzers</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 pdr. heavy case</td>
<td>1.14</td>
<td>3 oz.</td>
<td>1.144</td>
<td>1</td>
<td>2</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5/2 dram</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9 pdr. heavy case</td>
<td>1.26</td>
<td>5 oz.</td>
<td>1.305</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4 pdr. grape</td>
<td>1.35</td>
<td>6 oz.</td>
<td>1.387</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 pdr. heavy case</td>
<td>1.410</td>
<td>6 oz.</td>
<td>1.417</td>
<td>1</td>
<td>1</td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7½ drams</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18 pdr. grape</td>
<td>2.20</td>
<td>1½ lbs.</td>
<td>2.201</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UNITED STATES: (?)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 pdr. case</td>
<td>1.225</td>
<td>4.4 oz. (7?)</td>
<td>1.25</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Affiliation Not Known:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.81</td>
<td>1½ oz. (7?)</td>
<td>0.82 (7?)</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.92</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.05-1.085</td>
<td>3 oz. (7?)</td>
<td>1.10 (7?)</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.875</td>
<td>?</td>
<td>?</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6 pdr. solid shot</td>
<td>3.5</td>
<td>6 lbs.</td>
<td>3.498</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12 pdr. solid shot</td>
<td>4.4</td>
<td>12 lbs.</td>
<td>4.403</td>
<td>1</td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
### Table 26. Gunflints and Gunspalls; From all 1973 and Significant 1974 Contexts

<table>
<thead>
<tr>
<th>Length (cm)</th>
<th>Width (cm)</th>
<th>Thickness (cm)</th>
<th>MATERIAL</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>English:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musket:</td>
<td>3.16-2.70</td>
<td>3.37-2.52</td>
<td>1.16-0.62</td>
</tr>
<tr>
<td>Complete</td>
<td>2.15</td>
<td>4.3</td>
<td>1</td>
</tr>
<tr>
<td>Fragmentary</td>
<td>15</td>
<td>4</td>
<td>3</td>
</tr>
<tr>
<td>Carbine:</td>
<td>2.47</td>
<td>2.39-2.76</td>
<td>0.56-0.50</td>
</tr>
<tr>
<td>Complete</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rifle:</td>
<td>2.37-2.30</td>
<td>1.87-1.92</td>
<td>0.66-0.61</td>
</tr>
<tr>
<td>Complete</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fragmentary</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>French:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Musket:</td>
<td>2.49</td>
<td>2.86</td>
<td>0.83</td>
</tr>
<tr>
<td>Complete</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fragmentary</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Unknown:</strong></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Complete</td>
<td>2.94-3.14</td>
<td>3.37-2.95</td>
<td>1.18-0.74</td>
</tr>
<tr>
<td>Fragmentary</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pistols:</td>
<td>1</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Cartouche Ordinaire*
Table 27. Coins and Tokens

<table>
<thead>
<tr>
<th>Short Description</th>
<th>Provenience</th>
<th>Catalogue Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 1803 penny, United States</td>
<td>Guardhouse: occupation surface (19H1C4)</td>
<td>-</td>
</tr>
<tr>
<td>2 1806 penny or half-penny, George III (British)</td>
<td>1814-15 barracks: floor (19H8L6)</td>
<td>Reinfeld 1971: No. 204 or 205.</td>
</tr>
<tr>
<td>3 1816 Brock token</td>
<td></td>
<td>Haxby &amp; Willey 1972: No. 262; Charlton 1973: No. 105.</td>
</tr>
<tr>
<td>4 1816 Brock token</td>
<td></td>
<td>Haxby &amp; Willey 1972: No. 263; Charlton 1973: No. 106.</td>
</tr>
<tr>
<td>5 1816 Wellington token</td>
<td></td>
<td>Haxby &amp; Willey 1972: No. 127; Charlton 1973: No. 216a.</td>
</tr>
<tr>
<td>6 1814 British token (COM...RCE; ...EAT B.I.. + Britannia with sheaves)</td>
<td>Privy: fill above rubble (19H14B5)</td>
<td>Not identified; probably specimen of 1811-15 private issues of token money.</td>
</tr>
</tbody>
</table>
Table 27 continued

<table>
<thead>
<tr>
<th>Short Description</th>
<th>Provenience</th>
<th>Catalogue Identification</th>
</tr>
</thead>
<tbody>
<tr>
<td>9 1816 Brock token</td>
<td></td>
<td>Haxby &amp; Willey 1972: No. 263;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charlton 1973: No. 106.</td>
</tr>
<tr>
<td>10 halfpenny (1837) Habitant token</td>
<td>Old house: interior fill (19H2E),</td>
<td>Haxby &amp; Willey 1972: No. 234;</td>
</tr>
<tr>
<td>(Bank of Montreal)</td>
<td>level 3</td>
<td>Charlton 1973: No. 19b.</td>
</tr>
<tr>
<td>11 halfpenny (1842) Bank of Montreal token</td>
<td></td>
<td>Haxby &amp; Willey 1972: No. 279;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charlton 1973: No. 23a.</td>
</tr>
<tr>
<td>12 halfpenny (1857) St. George token (Bank of U.C.)*</td>
<td></td>
<td>Haxby &amp; Willey 1972: No. 289;</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Charlton 1973: No. 102d.</td>
</tr>
<tr>
<td>13 Badly eroded half-penny (1770-75) or farthing (1771-75), George III.</td>
<td>Test trench 19H7E, level 2</td>
<td>Reinfeld 1971: No. 196 or 196.</td>
</tr>
<tr>
<td>14 1731 halfpenny or farthing, George II (young head)</td>
<td>Test trench 19H8B, level 3</td>
<td>Reinfeld 1971: No. 178 or 180.</td>
</tr>
<tr>
<td>15 Eroded 18_ (1813-15) halfpenny Britannia-eagle token</td>
<td>Test trench 19H9H, level 2</td>
<td>Haxby &amp; Willey 1972: No. 131,</td>
</tr>
<tr>
<td></td>
<td></td>
<td>132 or 133; Charlton 1973: No. 230.</td>
</tr>
</tbody>
</table>

* Lost
Table 28. Regimental Buttons; Descriptions and Distributions

<table>
<thead>
<tr>
<th>Military unit or battalion</th>
<th>Face design</th>
<th>Back design</th>
<th>Material/ profile</th>
<th>Fitting</th>
<th>Diameter</th>
<th>Type of attachment</th>
<th>Date in use</th>
<th>Notes/ Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>24th Regiment of Foot</td>
<td>Profile</td>
<td>Profile</td>
<td>Whitewash disc</td>
<td>Screw</td>
<td>1.06 cm</td>
<td>Back missing</td>
<td>1815-1821</td>
<td>1</td>
</tr>
</tbody>
</table>

**Notes:**
- **201:**
- **Table 28:** Regimental Buttons; Descriptions and Distributions
- **Canadian Militia:**
  - 24th Regiment of Foot
    - Face design: Profile
    - Back design: Profile
    - Material/ profile: Whitewash disc
    - Fitting: Screw
    - Diameter: 1.06 cm
    - Type of attachment: Back missing
    - Date in use: 1815-1821

**Regimental Buttons:**
- **201:**
- **Table 28:** Regimental Buttons; Descriptions and Distributions
- **Canadian Militia:**
  - 24th Regiment of Foot
    - Face design: Profile
    - Back design: Profile
    - Material/ profile: Whitewash disc
    - Fitting: Screw
    - Diameter: 1.06 cm
    - Type of attachment: Back missing
    - Date in use: 1815-1821

**Notes:**
- **201:**
- **Table 28:** Regimental Buttons; Descriptions and Distributions
- **Canadian Militia:**
  - 24th Regiment of Foot
    - Face design: Profile
    - Back design: Profile
    - Material/ profile: Whitewash disc
    - Fitting: Screw
    - Diameter: 1.06 cm
    - Type of attachment: Back missing
    - Date in use: 1815-1821

**Regimental Buttons:**
- **201:**
- **Table 28:** Regimental Buttons; Descriptions and Distributions
- **Canadian Militia:**
  - 24th Regiment of Foot
    - Face design: Profile
    - Back design: Profile
    - Material/ profile: Whitewash disc
    - Fitting: Screw
    - Diameter: 1.06 cm
    - Type of attachment: Back missing
    - Date in use: 1815-1821
Table 29. Plain Brass and Ferrous Buttons, Descriptions and Distributions (for Canadian Militia?)

<table>
<thead>
<tr>
<th>Material/Profile</th>
<th>Plating</th>
<th>Back Design</th>
<th>Diameter</th>
<th>Eye</th>
<th>Type of attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ferrous disc</td>
<td>Brass/copper</td>
<td>1.21 cm. Brass</td>
<td>Conical ferrous boss; spun</td>
<td>2</td>
<td></td>
</tr>
<tr>
<td>Brass disc</td>
<td>Silver (front) PLATED (recessed)</td>
<td>1.30 cm. Copper? Olsen Fig. 1g</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrous disc</td>
<td>Copper/brass</td>
<td>1.32 cm. Brass</td>
<td>Conical ferrous boss; spun</td>
<td>1</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.33 cm. Olsen Fig. 1g</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.35 cm. Iron; Conical ferrous boss; missing solder boss</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.36 cm. Iron; Solder boss</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gilt over copper plating DOUBLE GILT (recessed)</td>
<td>1.36 cm. Braided wire ring</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.38 cm. ca. Iron; Conical solder boss; missing Olsen Fig. 1g or 1h</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass disc</td>
<td>Copper</td>
<td>1.36 cm. Brass (1) Solder boss (2) Olsen Fig. 1g (1)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>1.40 cm. Iron; Conical brass missing boss; spun</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>BEST QUALITY (recessed)</td>
<td>1.44 cm. Copper Olsen Fig. 1g</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>(corroded)</td>
<td>1.45 cm. Missing Olsen Fig. 1g</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrous disc</td>
<td>Brass</td>
<td>1.34 cm. Olsen Fig. 1d</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass disc</td>
<td>Brass (1) Olsen Fig. 1d</td>
<td>1.56 cm. Iron (1) Olsen Fig. 1d</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Olsen Fig. 1d</td>
<td>1.58 cm. Drilled (1) Olsen Fig. 1a</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>1.86 cm. Missing Olsen Fig. 1g</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silver PLATED (recessed)</td>
<td>1.90 cm. Brass</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Recoiled center, 2.105 cm. Wreath in relief</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Silver/dark purple-brown coat</td>
<td>2.12 cm. Iron</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Dark purple brown coating</td>
<td>BEST COLOUR LONDON (recessed)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Tin</td>
<td>2.06 cm.</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ferrous disc</td>
<td>Copper/brass; copper</td>
<td>2.36 cm. Iron (1) Olsen Fig. 1g</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Gilt over copper plating Encircling wreath, 2.35 cm. Missing Unknown</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass, 2-party;</td>
<td>Brass</td>
<td>1.305 cm. Brass Olsen Fig. 1f</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>plain convex front</td>
<td></td>
<td>1.03 cm. Copper soldered to inside front of shell</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass; ball button</td>
<td>Brass</td>
<td>1.16 cm. Missing Unknown</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Iron ball button</td>
<td>Brass</td>
<td>1.16 cm. Iron</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Cooper disc</td>
<td>4* stars (1)</td>
<td>2.03 cm. Missing Olsen Fig. 1g (1)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Bronze</td>
<td>2.37 cm.</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 30. Incomplete and Non-Military Buttons, Descriptions and Distributions

| Possible unit identification or condition | Material/Profile | Face Design | Back Design | Diameter | Eye   | Type of attachment | Coarseware fill | Groundwater occupation fill | Ponder? Magazine fill | M. Button Fill | M. Fill 1.60 cm | M. Fill 1.5 cm | M. Fill 1.4 cm | M. Fill 1.3 cm |
|------------------------------------------|-----------------|-------------|-------------|----------|-------|---------------------|----------------|--------------------------|---------------------|---------------|----------------|----------------|----------------|----------------|----------------|
| Corroded; frag.                          | Whitmetal disc  |              |             | ca.1.36- 1.60 cm | missing | Eye cast in low conical boss? 1 |                |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | ca.1.2- 2.13 cm. | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | ca.1.20 cm. | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | ca.1.93 cm. | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
| 4th Regiment of Foot! (eroded)           | Whitmetal, slightly convex | 8-pt star (relief) | French scroll | ca.1.55 cm. | Missing(1) | Eye cast in low conical boss? 1 |                |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | ca.1.55 cm. | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | ca.1.55 cm. | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
|                                          | Whitmetal, convex |              |             | ...NONE... 1.72 cm. | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | 1.88 cm. 38 | Missing(1) |                          | 2 |                         |                     |               |                |                |                |                |
| Corroded; frag.                          | Whitmetal, slightly convex |              |             | 2 cm.a | Missing(1) | Eye cast in conical boss? 1 |                |                         |                     |               |                |                |                |                |
| Corroded                                | Whitmetal; convex | front, flat back |             | 0.92 cm. | White-metal | Eye cast integral with button body 1 |                |                         |                     |               |                |                |                |                |
| Complete                                |                 |              |             | ca.0.32 cm. | Brass | Foot of eye in button body 1 |                |                         |                     |               |                |                |                |                |
| Button body?                            | Ferrous; slightly convex |              |             | 1.45 cm. | Incomplete specimens |                        |                |                         |                     |               |                |                |                |                |
| Non-military                            | Brass disc | Reversed center; plant & flower in relief |             | 2.40 cm. | Brass | Probably Olsen fig. 1g |                |                         |                     |               |                |                |                |                |
| "British crest button"                  |                 |              |             | 2.63 cm. | Copper | Jaekel Type C |                |                         |                     |               |                |                |                |                |
| Non-military (gilt in recess)           | Feather head- GILT plus dress; circles a wreath (relief) |             |             | 1.48 cm. | Copper | Olsen fig. 1g |                |                         |                     |               |                |                |                |                |
| Non-military                            | Bone; slightly recessed circle |              |             | 1.18 cm. |              | 4 holes |                |                         |                     |               |                |                |                |                |
|                                          | Bone; convex |              |             | 1.72 cm. |              | 4 holes |                |                         |                     |               |                |                |                |                |
| Button back (frag.)                     | Bone disc |              |             | 1.08 cm. |              | 3 holes |                |                         |                     |               |                |                |                |                |
| Button backs                            | Bone disc |              |             | ca.1.6 cm. |              | Single hole in center |                |                         |                     |               |                |                |                |                |
|                                          |                 |              |             | ca.1.78 cm. |              |                    |                |                         |                     |               |                |                |                |                |
Table 31. Accoutrements

<table>
<thead>
<tr>
<th>Description</th>
<th>Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shako Plates (stamped brass sheeting):</strong></td>
<td></td>
</tr>
<tr>
<td>1 1 fragment, plain.</td>
<td>Guardhouse: fill (19H1C1)</td>
</tr>
<tr>
<td>2 1 fragment showing a portion of the royal cipher, 1811-16 style.</td>
<td>Old house: test trench (19H2F1)</td>
</tr>
<tr>
<td>3 1 accoutrement pin fastener.</td>
<td>Test trench 19H9D1</td>
</tr>
<tr>
<td>4 2 fragments, royal cipher complete, 2 partial rows of holes in lower body.</td>
<td>Test trench 19H9D1</td>
</tr>
<tr>
<td></td>
<td>Matches edge contour for a 99th Regiment plate.</td>
</tr>
<tr>
<td>5 1 fragment showing a portion of the royal cipher.</td>
<td>Test trench 19H9J1</td>
</tr>
<tr>
<td>6 1 fragment showing complete royal cipher, no regiment number.</td>
<td>Test trench 19H9J1</td>
</tr>
<tr>
<td>7 Partially restorable 100th Regiment plate, body complete with royal cipher and 100 below.</td>
<td>Privy: fill around exterior (19H14A2)</td>
</tr>
<tr>
<td>8 1 fragment, crown with top broken. Similar to 100th Regiment style, does not mend with other plate fragments.</td>
<td>Privy: brick &amp; mortar (19H14B6)</td>
</tr>
<tr>
<td>9 4 fragments, showing sections of royal cipher, not mendable.</td>
<td>Privy: brick &amp; mortar rubble (19H14B6)</td>
</tr>
<tr>
<td>10 1 fragment, 70th Regiment plate, lower portion of Royal cipher and 70 below.</td>
<td>Privy: fill below rubble (19H14B7)</td>
</tr>
</tbody>
</table>
Table 31 continued

<table>
<thead>
<tr>
<th>Description</th>
<th>Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td>11 3 fragments, portions of royal cipher, edge contour, and crown with top broken.</td>
<td>Privy: fill below (19H14B7)</td>
</tr>
<tr>
<td>12 body (crown missing), gilded royal cipher with GLASGOW LOWLAND above, 70 below.</td>
<td>Test trench 19H17A, level 2</td>
</tr>
<tr>
<td>Other:</td>
<td></td>
</tr>
<tr>
<td>13 1 fragment, cast white metal arch. PENINSU... in relief, 2 mounting brackets on reverse side.</td>
<td>1814-15 barracks: (19H8L6)</td>
</tr>
</tbody>
</table>
Table 32. Wearing Apparel and Personal Effects

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Buckles:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>oval, iron</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rectangular: iron</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>brass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Clasp knife: fragmentary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Pocket knife</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Straight razors: fragmentary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Wire ring: brass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Brass wire: gold plated</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fabric: 1 over, 1 under weave</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Fish hooks: iron, fragmentary</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A. wreath design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Table 33. Military Hardware

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Button cover, brass: plain</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chin strap leaves, brass</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Flap peg, brass</td>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keyhole plate, brass</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Scabbard: clip/belt hook, brass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Chape, brass</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Strap fasteners, brass: latch</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>hook</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Stamped ornaments, brass:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Two thistle blooms &amp; leaves</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>rising from a 3-loop bow</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Rossette disc, raised central</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>design</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

A. "9" in relief, 49th Regiment (?)
B. British, 1796 model Infantry officer's sword scabbard
C. 1 gilded
Table 34. Gunparts and Shells

<table>
<thead>
<tr>
<th>Description</th>
<th>Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Gunparts</strong></td>
<td></td>
</tr>
<tr>
<td><strong>Bayonets</strong></td>
<td></td>
</tr>
<tr>
<td>1 2 blade segments, probably</td>
<td>Guardhouse: occupation surface (19H1C4)</td>
</tr>
<tr>
<td>British &quot;Brown Bess&quot;</td>
<td></td>
</tr>
<tr>
<td>2 British &quot;Brown Bess&quot;</td>
<td>Operation 19H6 test trench, level 4</td>
</tr>
<tr>
<td>3 Blade segment, possibly British</td>
<td>Fortification ditch (19H7K4)</td>
</tr>
<tr>
<td>&quot;Brown Bess&quot;</td>
<td></td>
</tr>
<tr>
<td>4 British &quot;Brown Bess,&quot; tip broken</td>
<td>Mortar feature (19H8V4)</td>
</tr>
<tr>
<td>5 British &quot;Brown Bess&quot;</td>
<td>Test trench 19H9D1</td>
</tr>
<tr>
<td>6 Tip segment</td>
<td>Test trench 19H9D1</td>
</tr>
<tr>
<td><strong>Gunflint Protectors</strong></td>
<td></td>
</tr>
<tr>
<td>7 Scrap sheet brass, semicircular</td>
<td>Guardhouse: occupation surface (19H1C7)</td>
</tr>
<tr>
<td>outline, serrated front edge,</td>
<td></td>
</tr>
<tr>
<td>triangular notch</td>
<td></td>
</tr>
<tr>
<td>8 Possible white metal fragment,</td>
<td>Operation 19H6 test trench, level 3</td>
</tr>
<tr>
<td>semicircular outline, large</td>
<td></td>
</tr>
<tr>
<td>rectangular notch</td>
<td></td>
</tr>
<tr>
<td>9 Lead, semicircular outline,</td>
<td>Operation 19H6 test trench, level 4</td>
</tr>
<tr>
<td>crude rectangular notch, tightening</td>
<td></td>
</tr>
<tr>
<td>marks on one surface</td>
<td></td>
</tr>
<tr>
<td>10 White metal, ovoid, irregular</td>
<td>Test trench 19H12A, level 1</td>
</tr>
<tr>
<td>notch, tightening marks on one</td>
<td></td>
</tr>
<tr>
<td>surface</td>
<td></td>
</tr>
<tr>
<td><strong>Top Jaw</strong></td>
<td></td>
</tr>
<tr>
<td>11 Short Land or India Pattern</td>
<td>Guardhouse: fill (19H1B1)</td>
</tr>
<tr>
<td>musket (British)</td>
<td></td>
</tr>
</tbody>
</table>
Table 34 continued

<table>
<thead>
<tr>
<th>Description</th>
<th>Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Description</strong></td>
<td><strong>Provenience</strong></td>
</tr>
<tr>
<td>12 Screw, threads broken, probably for No. 11</td>
<td>Guardhouse: fill (19H1B1)</td>
</tr>
<tr>
<td><strong>Other</strong></td>
<td></td>
</tr>
<tr>
<td>13 Butt plate fragment, iron, probably for U.S. Model 1795 musket or contract version thereof</td>
<td>Officers quarters (19H7F3)</td>
</tr>
<tr>
<td>14 Butt plate fragment, brass, probably for India Pattern musket (British)</td>
<td>Test trench (19H9D1)</td>
</tr>
<tr>
<td>15 Ramrod guide, brass, probably for Long Land or Short Land, New Pattern (Type 1)</td>
<td>Test trench 19H8B, level 5</td>
</tr>
<tr>
<td>16 Lower barrel band, iron, for U.S. Model 1795 musket or contract version thereof</td>
<td>Double channel feature (19H9G3)</td>
</tr>
<tr>
<td>17 Combination tool, Y-shaped, iron, for flintlock musket (British)</td>
<td>Test trench 19H9J1</td>
</tr>
<tr>
<td>18 Gun barrel segment, one end hammered closed. Interior diam. ca. 0.7 in., exterior 15/16-1 in. O.D. Probably from a U.S. Model 1795 musket.</td>
<td>Privy: fill below rubble (19H14B9)</td>
</tr>
<tr>
<td><strong>Shell Fragments</strong></td>
<td></td>
</tr>
<tr>
<td>1 10 in. mortar bomb, 1 fragment, internal mould seam</td>
<td>Guardhouse: fill (19H1C2)</td>
</tr>
<tr>
<td>2 8 in. mortar or howitzer, 11 fragments, associated with 48 low quality musket balls. Spherical case shot?</td>
<td>Test trench 19H4H1</td>
</tr>
<tr>
<td>3 6 pdr., complete, no fuse</td>
<td>Fortification ditch (19H7K4)</td>
</tr>
<tr>
<td>4 10 in. mortar bomb, 1 fragment, liner on interior</td>
<td>Test trench 19H9G, level 2</td>
</tr>
<tr>
<td>5 10 in. mortar bomb, 2 mendable fragments, liner on interior</td>
<td>Test trench 19H9K1</td>
</tr>
</tbody>
</table>
Table 34 continued

<table>
<thead>
<tr>
<th>Description</th>
<th>Provenience</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Shotgun shells</strong></td>
<td></td>
</tr>
<tr>
<td>Ferrous base</td>
<td></td>
</tr>
<tr>
<td>1 1 - 16 gauge, steel rim, brass base, paper body. Probably fired.</td>
<td>Old house: interior fill 19H2E, level 3</td>
</tr>
<tr>
<td>2 2 - 20 gauge, steel rim, brass base. One fired, one probably fired.</td>
<td>Test trench 19H4K1</td>
</tr>
<tr>
<td>3 1 - 20 gauge, steel rim, brass base. Fired.</td>
<td>Test trench 19H4L1</td>
</tr>
<tr>
<td><strong>Brass base</strong></td>
<td></td>
</tr>
<tr>
<td>5 1 - 10 gauge, brass rim. Markings: &quot;L.X.L. _10&quot; and a toothed circle impressed design. Fired.</td>
<td>Powder magazine: NE side test trench (19H3B3)</td>
</tr>
<tr>
<td>7 1 - 20 gauge, brass rim. No markings. Fired.</td>
<td>Mortar feature (19H8V4)</td>
</tr>
<tr>
<td><strong>Metallic Cartridges, fired</strong></td>
<td></td>
</tr>
<tr>
<td>1 1 - .32 long, brass. Markings: raised &quot;US&quot; in recessed area, rectangular firing pin impression.</td>
<td>Old house: interior fill 19H2E, level 2</td>
</tr>
<tr>
<td>2 1 - .22 short, brass. Rectangular firing pin impression (rimfire).</td>
<td>Old house: interior fill 19H2E, level 3</td>
</tr>
<tr>
<td>3 1 - .303 British, brass. Markings: &quot;DA 19 21 VII,&quot; broad arrow ordnance stamp.</td>
<td>Operation 19H6, test trench, level 2</td>
</tr>
<tr>
<td>4 1 - .303 British brass. Markings: &quot;DA 19 14 VII,&quot; broad arrow ordnance stamp.</td>
<td>Fill above gravel (19H7D2)</td>
</tr>
</tbody>
</table>
Table 34 continued

<table>
<thead>
<tr>
<th>Percussion Cap</th>
<th>Old house: interior fill 19H2E, level 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 - musket, fired</td>
<td></td>
</tr>
</tbody>
</table>
ILLUSTRATIONS
SYMBOLS AND ABBREVIATIONS

brick

--- limits of excavation

stone

--- --- sterile-fill soil division

wood

--- --- feature limits

post holes

--- --- soil division

mortar (cement)

--- --- concentration area limits

utility trench

+ --- grid point intersection

ground surface

○ --- A.S.L. elevation points

sloping depression

× --- datum

vertical depression

Soil Texture

ASH ash
C clay
G gravel
R rubble
S sand
SILT silt
ST sod and topsoil

Soil Colour

b brown
bl black
g grey
lb light brown
m mottled
ob orange brown
r red
rb red brown
w white
y yellow
yb yellow brown
1 Principal military posts and settlements in Upper Canada and adjacent United States, War of 1812 period.

2 Looking north from Flag Bastion. Fort Niagara in the distance.
3 Plan of present site and locations of major 1973-74 excavations.

4 Layout of the 100-ft.-interval grid coordinates and schematic plan of the operations 19H9-19H12 test trenches.
5 Test trenches across the parade ground; 19H9H in foreground. Looking east-southeast.

6 Features in operations 19H9-19H12 test trenches.
Profiles, east sides of test trenches 19H10J, 19H10K, and 19H10L; north sides of test trenches 19H10G and 19H10H. Note 1, telephone cable.
8 Profiles, north sides of test trenches 19H10B, 19H10D and 19H10F. Note 1, water pipe; 2, sawdust.

9 Profiles, north sides of test trenches 19H10A, 19H10C and 19H10E.
10 Reconstructed guardhouse prior to excavations. Looking north.

11 Original guardhouse foundation. Note 1, bayonet; 2, test pits; 3, coin; 4, H-hinge; 5, staple (latch-keeper); 6, staple; 7, shallow intrusive trenches; 8, latch bar, spike and nail conc.
12 Original guardhouse foundation, excavated to old occupation surface. Looking southeast.

13 East corner of guardhouse foundation, including two pedestals. Note intrusive trench along exterior. Looking southeast.

14 Northeast wall of guardhouse foundation and profile of clearance trench, showing gravel stratum. Looking west.
15 Brick and mortar feature on guardhouse occupation surface, near southeastern end, with intrusive trench. Looking southeast.

16 Wrought nails (one-half actual size): 1, 7-in. spike, square-head, flat point; 2, clasp-head with bevelled corners, flat point; 3, rose-head, sharp point; 4, T-head, sharp point (from rose-head); 5, rose-head, clenched; 6, folded-head.
17 Wrought nails (two-thirds actual size): 7, rose-head, sharp point (thick shank); 8, flat-head with bevelled corners, sharp point; 9, rose-head, "spear"-like point; 10, rose-head, sharp point; 11, T-head, sharp point; 12, rose-head, sharp point.

18 Cut nails (two-thirds actual size): 13, lath nail, cut point; 14, lath nail, rear view, cut point; 15, 16, 17, lath nails, sharp points; 18, lath nail, sharp point (trapezoidal cross-section).
19 Remnant of original blockhouse no. 2 foundation (19H8X). Looking southeast.

20 Remnant of original blockhouse no. 2 foundation, showing proximity to present surface. Looking southeast.
21 Original blockhouse no. 2 foundation. Note 1, rear wall of reconstructed blockhouse no. 2; 2, burn area; 3, fortification ditch (unexcavated); 4, 12.1 ft. to north corner of reconstructed blockhouse no. 2.

22 Profiles and sections, original blockhouse no. 2 foundation.
23 Northeast and northwest sides of the powder magazine, prior to excavation. Looking south.

24 Powder magazine excavations. Stone material is rubble only. Note 1, builder's trench; 2, creosoted beam stub; 3, pattern of decayed board fragments just below surface; 4, wire nail (in place); 5, utility pipe.
Plan, profile and sections of powder magazine foundations. Note 1, wire nail; 2, builder's trench.

Northwest side of the powder magazine, excavations completed. Looking northeast.
27 Powder magazine during stabilization, circa 1938. Looking south-southeast.

28 Unobscured angle between north-west wall and southwest buttress of the powder magazine, showing stone foundation, probably original. Looking south.
29 Powder magazine excavations, test trench 19H3A profiles. Note 1, intrusive feature; 2, builder's trench.

30 Powder magazine excavations, test trench 19H3B and 19H3C profiles. Note 1, builder's trench.
31 Pattern of decayed board fragments by northeast wall of the powder magazine. Looking southwest.

32 Test trenches, southeast part of Fort George grounds. Note 1, drain feature; 2, fortification ditch; 3, telephone cable.
Test trenches adjacent to blockhouse no. 1 (19H6). Note 1, 12-lb. cannonball; 2, 6-lb. cannonball; 3, bayonet; 4, utility line; 5, electricity cables.

Profiles, test trench 19H6A. Note 1, utility line.
35 Profiles, test trench 19H6B. Note 1, electricity cables; 2, utility pipe; 3, animal burrow; 4, bottle.

36 Profile, northwest side of test trench 19H6B. Looking north.
37. Disturbed bricks in level 4 of test trench 19H6A. Looking southeast.

38. 1974 test trenches, Fort George parade ground and around blockhouses nos. 1 to 3. Note 1, fortification ditch; 2, unexcavated fill adjacent to sterile.
39 Drain feature and adjacent excavations, by southwest end of officers' quarters. Top is to the southeast.

40 Drain feature by southwest end of officers' quarters.
41 Profiles and sections of drain feature by southwest end of officers' quarters.

42 Plan and profiles of drain feature exposed in test trench 19H7Q-19H7S.
43 Stone-lined drain feature where exposed at southwest end of officers' quarters (19H7A3). Looking southeast.

44 Stone lining and lower part of original excavation side; drain feature at southwest end of officers' quarters (19H7A3). Looking northeast.

45 Stone-lined lateral, tributary to the main drain feature (19H7E5). By southwest end of officers' quarters. Looking west.
46 Juncture of lateral with main drain feature, by southwest end of officers' quarters. Looking southeast.

47 Shallow, irregular feature at southwest end of officers' quarters (19H7F3), with western extremity of lateral drain adjoining. Looking northeast.

48 Features between officers' quarters and kitchen (19H7D). Looking southeast.
49 Features between officers' quarters and kitchen (19H7D). Note 1, utility pipe; 2, wood-stained layer; 3, iron grate.

50 Deep (19H7D3) and shallow (19H7D4) rectangular features, with utility line (19H7D6) intrusive through latter, situated by northwestern end of kitchen. Looking southwest.
51 Shallow rectangular feature (19H7D4) with intrusive utility line, by northwest end of kitchen. Looking west.

52 Pit with insloping sides (19H7D5, 7D7, 7D8), by northwest end of kitchen. Looking southeast.

53 Privy foundation (19H14). Top is to the southeast.
54 Privy foundation (19H14).

55 Interior of privy foundation, with lower fill southeast from balk line removed (19H14). Looking northeast.
56 Interior of privy foundation, excavated to brick and mortar rubble horizon (19H14). Looking southwest.

57 Double fireplace base (19H16). Note 1, charcoal.
58 Double fireplace base (19H16). Looking west.

59 View of balk profile showing mortar layer (19H16). Looking northeast.

60 Double fireplace base and wood beams running parallel (19H16). Looking west.

62 Section of fortification ditch (19H8D) exposed in front of blockhouse no. 2. Looking northeast.

63 Corner and section of fortification ditch (19H8H) exposed southwest from blockhouse no. 2. Looking southeast.
64 Ten-foot segment of fortification ditch (19H8H), southwest side exposed. Apparent "ledge" was an accidental removal of undisturbed sand. Looking southeast.

65 Horse skeleton in fill of fortification ditch, by north corner of officers' quarters (19H7K). Looking southwest.
66 Fortification ditch, test trench 19H7K. Note 1, barrel hoop.

67 Section of fortification ditch, showing horizontal log(s) and deeper trench along the bottom. By north corner of officers' quarters (19H7K). Looking west.
68 Looking north along the deeper trench, in the bottom of the fortification ditch (19H7K).

69 Superposition of pre- and postwar Fort George.
Barrack Walls Exposed in Test Trench 19H9H

Profile, South Side Test Trench 19H9H

Barrack Wall and Rising Ground to SE, Profile, SW Side Test Exposed in Test Trench 19H8L

70 Barrack walls and profiles in test trenches 19H8L and 19H9H. Note 1, floor remnant; 2, charcoal pit.

71 Rear wall (log) from 1814-15 barracks, exposed in test trench 19H8L. Looking south-east.
72 North corner of guardhouse and top of brick fireplace associated with intrusive semisubterranean room (19H1E2). Top is to the southwest.

73 Semisubterranean room with fireplace, intrusive into north corner area of original guardhouse foundation.
74 Semisubterranean room (19H1E2) intrusive into north corner area of guardhouse foundation; view showing internal features and relative location. Looking northwest.

75 Same as Figure 74, view looking southeast.

76 Remnant of brick accessory feature in pit wall south of fireplace, 19H1E2 room. Note relatively shallow depth of brick features. Looking south.
Test trench (19H17A) by northeast side of reconstructed guardhouse. Note 1, charcoal horizon; 2, concentration, cultural debris.

Area behind blockhouse no. 1 where old house foundation was excavated. Looking west-northwest.
Old house foundation, excavation completed (19H2). Looking southeast.

Old house foundation and related test trenches. Note 1, upright timber; 2, wall interior finished (heavy line); 3, water pipes; 4, iron grill.
81 Brick and stone rubble (intentional fill) exposed in test trench 19H2D. Looking southwest.

82 Section views, old house foundation. Note 1, water pipe.
83 Fireplace support feature at northwest end of old house foundation. Looking west.

84 Old house foundation, fireplace support feature. Note 1, iron grill.

86 Old house foundation in foreground; house superstructure in background. Looking northwest.

87 Caretaker's residence and outbuildings at Fort George, prior to reconstruction. Tracing from "John's map" (undated topographical map held in Fort George park superintendent's office).
Internal layout and room functions in old-house part of caretaker's residence, based on information from Mrs. Dorothy Riches, Niagara-on-the-Lake, September 1973.

Pit or semisubterranean room in test trench 19H12A; section excavated near west corner of room. Note rubble fill. Looking south.
90 Southwest part of test trench 19H12A.

91 Stone platform and alignment in test trench 19H9C. Looking northwest.
92  Mortar feature exposed near bottom of test trench 19H8V4. Looking southeast.

93  Disturbed brick feature (fireplace?) in test trenches 19H18B-19H18D. Looking northwest.

94  Unlined double channel feature cut into native silt at base of test trench 19H9G. Excavated for one-half of trench width only. Looking east-southeast.
Profile, northeast side of test trench 19H8B (beneath front wall of blockhouse no. 2). Looking northeast.

Test trenches by south corner (19H13F) and west corner (19H13G) of office. Note 1, bricks and rocks; 2, telephone cable.
HISTORY AND ARCHAEOLOGY/HISTOIRE ET ARCHEOLOGIE

Publications available from Printing and Publishing, Supply and Services Canada, Ottawa, Ontario K1A 0S9, Canada.

1 Inventaire des marchés de construction des archives civiles de Québec, 1800-1870, by Geneviève G. Bastien, Doris D. Dubé and Christina Southam. 1975. 3 vols. $20.00; $24.00 outside Canada.

2 Histoire économique et sociale de Saint-Lin, 1805-1883, et l'importance de la famille Laurier, by Réal Bélanger. 1975. $4.00; $4.80 outside Canada.

3 Historique structural du fort George, by Yvon Desloges. 1975. $5.00; $6.00 outside Canada.

4 Plans de l'architecture domestique inventoriés aux Archives Nationales du Québec à Montréal; Plans de l'architecture commerciale et industrielle inventoriés aux Archives Nationales du Québec à Montréal; Plans de l'architecture publique, de l'architecture religieuse et du génie mécanique inventoriés aux Archives Nationales du Québec à Montréal, by André Giroux, Nicole Cloutier and Rodrigue Bédard. 1975. 3 vols. $11.00; $13.20 outside Canada.

5 A Report on a West Coast Whaling Canoe Reconstructed at Port Renfrew, B.C., by E.Y. Arima. 1975. $5.50; $6.50 outside Canada.

6 Louisbourg and the Indians: A Study in Imperial Race Relations, 1713-1760, by Olive Patricia Dickason; Surgeons and Surgery in Île Royale, by Linda M. Hoad. 1976. $10.50; $12.60 outside Canada.

7 Archaeology and the Fur Trade: The Excavation of Sturgeon Fort, Saskatchewan, by Norman F. and Anne Barka. 1976. $6.25; $7.50 outside Canada.
8 Navy Hall, Niagara-on-the-Lake, by David Flemming; Fort Wellington: A Structural History, by David Lee; The Battle of the Windmill: November 1838, by David Lee. 1976. $5.75; $6.90 outside Canada.