

# Manitoba Archaeological Quarterly

*Ex Libris  
Hugh Syme*



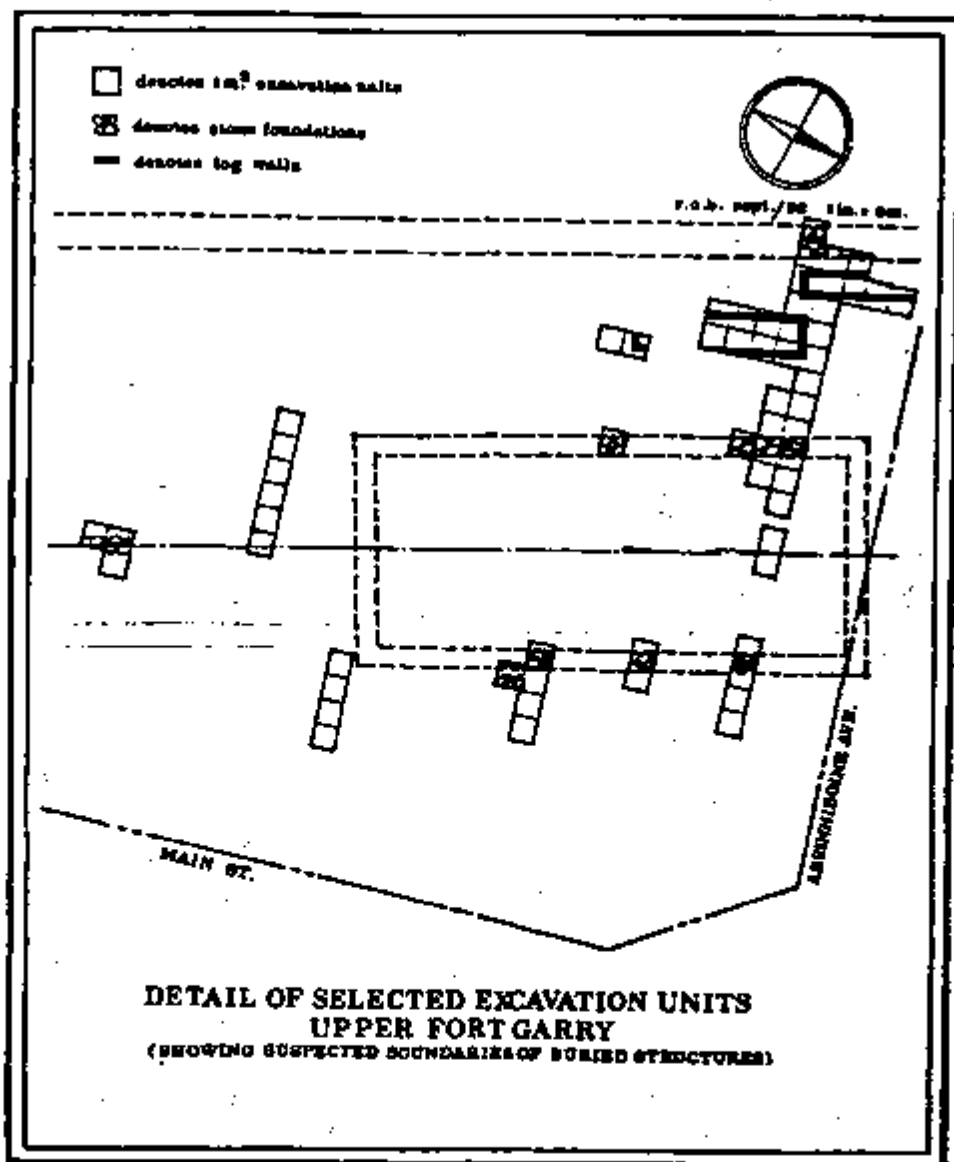
*"Archaeology To-day"*

Volume 7 Number 4

October 1983

ISSN 0705 - 2669

Postmaster: Return Requested



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## Reports

### PRELIMINARY REPORT ON ARCHAEOLOGICAL INVESTIGATIONS IN BONNYCASTLE PARK (UPPER FORT GARRY), 1982

by  
Gregory G. Monks

#### Introduction

This report covers the period May 1, 1982 until April 30, 1983. It is a continuation of the published report (Monks 1982) that deals with the previous year. By April 30, 1982, all 1981 excavated materials had been cleaned, catalogued, labelled, and except for faunal remains and wood, had been coded for computer entry. Coding involved the precise identification, description, and quantification of the materials. A shortfall of funds and labor prevented the wood and faunal remains from being coded, as well as the actual data entry taking place. In addition, objects that required special study still required examination.

#### The 1982 Field Season

Work began in Bonnycastle Park in the first week of May. The sealed excavation units were reopened by a small crew in preparation for excavations. Beginning in the second week of May, a small addition was made to the crew. It was further augmented by the Tri-University Archaeological Field School, under this author's instructorship. At the end of the field school on June 25, a number of field school students were hired for the July and August period. Most crew members terminated their employment at the end of August, but a few continued closing down operations until the end of the first week in September. At that time, fieldwork ceased, and the winter analysis program began.

The objectives of the 1982 fieldwork were twofold: 1) to locate and expose portions of residential/storage buildings reported to have stood inside the west wall of the fort, and 2) to test the deposits inside the log wall. The overall purpose was to assess the location, condition, function, and identity of buildings inside the fort. In addition, it was hoped that the age of the log structure, and hence its cultural affiliation, could also be determined. It was anticipated that, once this information was in hand, relevant archaeological problems could be identified and a

research design formulated to address them. In summary, the objectives and rationale for the 1982 fieldwork centered on preliminary exploration, which has been called the discovery phase of archaeological research.

As in 1981, the excavations were confined to the northeast corner of Bonnycastle Park at the junction of Main Street and Assiniboine Avenue, City of Winnipeg. The southwestern corner of Upper Fort Garry lies within this portion of the park, and it was a continued interest in the material remains of this part of the fort that prompted the 1982 excavations.

The three-dimensional grid reference system employed in 1981 was used again in 1982. To recapitulate, all horizontal measurements were taken from the City of Winnipeg's Special Survey pin on the south side of Assiniboine Avenue at the foot of Fort Street. This pin was assigned the location N100 m, E100 m so that all measurements on the site were taken in terms of north and east coordinates. Vertical control was again established in metres above sea level according to the 232.203 m above sea level elevation on the brass Geodesic Survey plug in the pumphouse foundation in the southeast corner of the park. Discussion with the City of Winnipeg's Lands and Surveys Department revealed that an error of one metre had been incorporated in our previous east measurements, making it necessary to subtract one metre from all east co-ordinates established in 1981.

These excavation units were located judgmentally (Figure 1, Table 1) where it was thought they were most likely to intercept material remains bearing on the dual aims of the research. Additionally, several small excavation units were opened to clear up slumpage that had occurred during the 1981-82 winter along the south edge of the 1981 trench. During the course of excavations, information became available that enabled still further judgmentally located excavation units to be opened.

Invariably, strata A, B, and C (topsoil, recent historic fill, and streetcar road grade) lay on top of the deposits containing the fort and its associated remains. These upper three strata were removed incrementally, using broad, straight-ended shovels. Once the surface of stratum D (the old topsoil stratum on and in which the fur trade remains were deposited) was approached, trowels and finer implements, were used. In all cases, excavation proceeded in 5 cm levels within natural strata.

A different approach to arbitrary levels was taken in 1982 compared to 1981. Instead of measuring levels below ground surface, as was done in 1981, the levels in 1982 were assigned numbers, each number representing a fixed 5 cm interval at a known distance above sea level. The shift from one system of levels to the other (summarized in Table 2) was necessitated by the potential for minor elevational differences in unstandardized level elevations in the 1981 system and need for finer vertical control in the deposits.

All excavated matrix was screened through  $\frac{1}{8}$ " wire mesh. In cases where the matrix was too wet to screen immediately after excavation, it was left in piles according to unit, level, and stratum to dry, prior to screening. In some instances, the matrix was sufficiently wet that it could easily be pushed through the screen.

Each unit was documented by stratum and level on level record sheets supplied by the Province of Manitoba. Floor plans were drawn at the end of each arbitrary level and at the boundary of natural strata in addition to the written information required by the sheets. Stratigraphic profiles of each wall of each unit were drawn when the unit was fully excavated. A photographic record of profiles, features, floor plans, and artifacts was also kept.

All material cultural remains from the site were treated as equally important. Consequently, artifacts and refuse items were assigned catalogue numbers and were recorded as to three-dimensional provenience and stratum. In addition, extensive judgmental sampling of selected deposits provided a list of matrix samples (Table 3) that have been, and are currently being, examined for viruses, bacteria, plant micro-fossil remains, insect remains, and chemical constituents. The samples have been frozen for storage and, over the course of the 1982-83 winter, been the subject of water-screening and analysis by Dr. Tom Shay and an assistant.

Laboratory analysis proceeded throughout the field season. The laboratory was first housed at the University of Winnipeg and later in the office trailer behind 100 Main Street, which was provided by the City of Winnipeg. Materials entering the laboratory were cleaned, catalogued, labeled and stored. In the case of perishable artifacts they were catalogued and frozen or kept in water until they could be transferred to better facilities at the Manitoba Museum of Man and Nature.

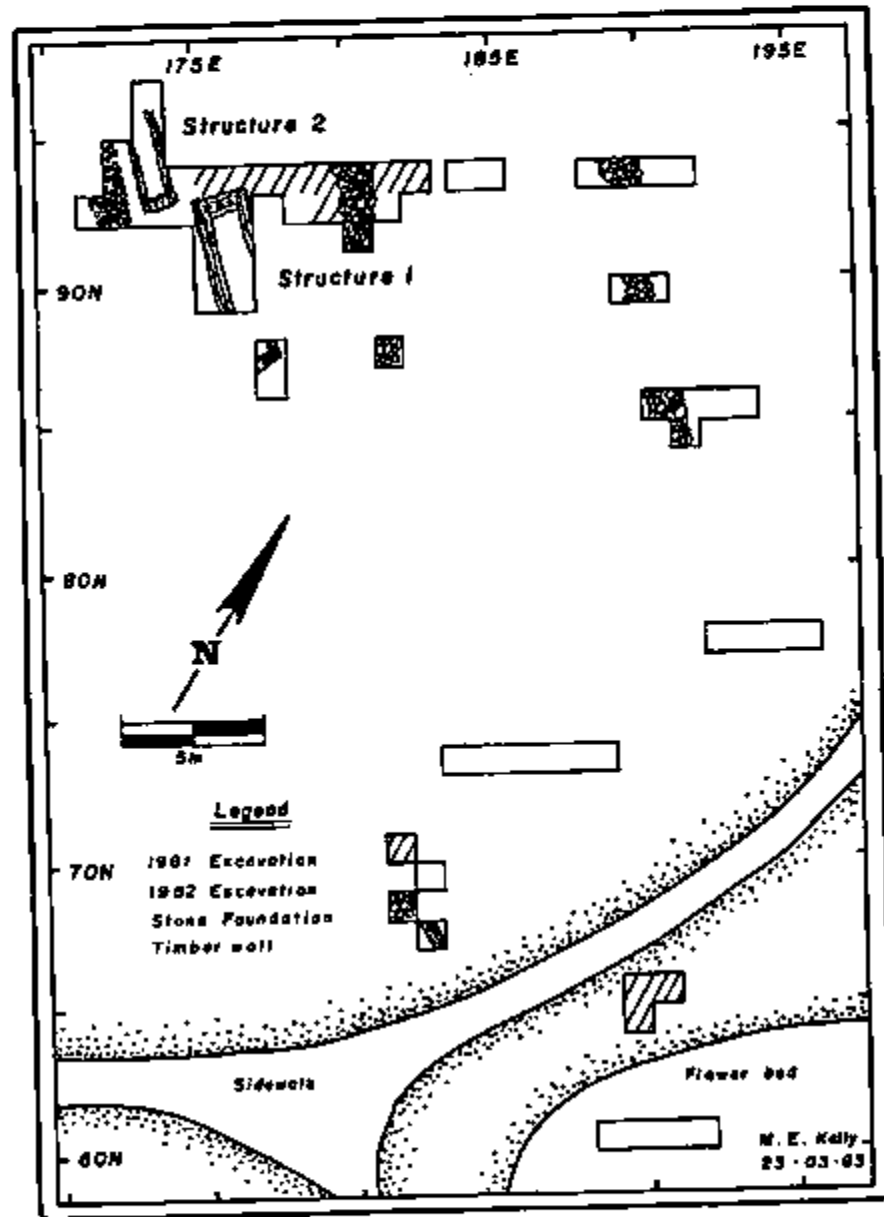


Figure 1: Map of the northwest portion of Bonnycastle Park showing excavation units, year in which they were opened, and major features

Table 1: Coordinates (in metres) of Excavation Units in Bonnycastle Park

<u>NORTH</u>	<u>EAST</u>	<u>YEAR OPENED</u>
60-61	188-190	1982
60-61	190-192	1982
64-65	189-190	1981
65-66	189-191	1981
73-74	183-185	1982
73-74	185-187	1982
73-74	187-189	1982
77-78	192-194	1982
77-78	194-196	1982
84-85	191-192	1982
85-86	190-192	1982
85-86	192-194	1982
86-87	177-178	1982
87-88	177-178	1982
87-88	181-182	1982
89-90	175-177	1982
89-90	189-191	1982
90-91	175-177	1982
91-92	175-177	1982
91-92	180-181	1982
92-93	171-172	1982
92-93	172-174	1982
92-93	174-175	1982
92-93	175-177	1981
92-93	178-179	1982
92-93	179-181	1981
92-93	181-182	1982
93-94	172-173	1982
93-94	173-174	1982
93-94	174-175	1982
93-94	175-176	1981
93-94	176-177	1981
93-94	177-179	1981
93-94	179-181	1981
93-94	181-183	1981
93-94	183.5-185.5	1982
93-94	188-190	1982
93-94	190-192	1982
94-95	172-173	1982
94-95	173-174	1982
95-96	173-174	1982
96-97	173-174	1982

Table 2: Example Conversion Chart Between 1981 and 1982 Levels with Reference to Elevation in Metres Above Sea Level Excavation Unit N93-94 m, E181-183 m

<u>1981 Levels</u>	<u>Metres A.S.L.</u>	<u>1982 Levels</u>
1	232.30-232.25	13
	232.25-232.20	14
2	232.20-232.15	15
	232.15-232.10	16
3	232.10-232.05	17
	232.05-232.00	18
4	232.00-231.95	19
	231.95-231.90	20
5	231.90-231.85	21
	231.85-231.80	22
6	231.80-231.75	23
	231.75-231.70	24
7	231.70-231.65	25
	231.65-231.60	26
8	231.60-231.55	27
	231.55-231.50	28
9	231.50-231.45	29
	231.45-231.40	30
10	231.40-231.35	31
	231.35-231.30	32
11	231.30-231.25	33
	231.25-231.20	34
	231.20-231.15	35



Table 3: Location of Matrix Samples from D11g-21, 1982  
(all coordinates in metres)

Unit		Level	Elevation A.S.L.	Provenience	
N	E			N	E
96	174	31	231.40-231.35	94.40	173.40
90	177	39	231.01-230.97	89.00-89.20	176.81-177.00
91	177	43	231.79-231.75	90.00-90.20	176.80-177.00
91	177	41	231.90-231.85	90.80	176.90
93	177	22	217 cm DBS*	92.79	175.99
90	177	40	230.95-230.90	89.00-89.20	176.00-176.20
93	177	14	140 cm DBS	92.00	176.73
94	174	39	230.95	93.60	173.19
93	177	16	156 cm DBS	92.40	175.90
92	177	47	230.56	91.00	176.28
93	177	14	135 cm DBS	92.00	176.76
91	177	42	230.85-230.80	90.20	176.55
91	177	42	230.85-230.80	92.60	176.80
91	176	41	230.85	90.30	175.60
91	177	42	230.80	90.45	176.70
93	177	17	165 cm DBS	92.05	175.45
91	177	42	230.85-230.80	90.90	176.60
93	177	18	176 cm DBS	92.10	176.26
93	177	16	151-154 cm DBS	92.60	176.70
93	177	16	153 cm DBS		176.00
93	177	25	240 cm DBS	192.65	175.30
93	177	16	152 cm DBS	92.30	175.90
93	177	24	232 cm DBS	92.65	175.30
93	177	23	224 cm DBS	92.10	175.63
93	177	16	157 cm DBS	92.30	176.76
91	177	40	230.92	90.90	176.95
93	177	13	125 cm DBS	92.00-92.90	176.70
91	177	42	230.80	90.50	176.30
91	177	39	231.00-230.95	90.75	176.95
93	177	16	158 cm DBS	92.48	176.43
93	177	16	158 cm DBS	92.30	176.30
91	176	42	230.85-230.80	90.20	175.80
91	177	42	230.85-230.80	90.90	176.77
92	177	54	230.25-230.20	91.29	176.50
91	177	43	230.75	90.52	176.45
90	177	41	230.90-230.85	89.50	176.80
90	177	43	230.85-230.80	89.50	176.50
96	177	32	231.30	94.85	173.15
92	177	54	230.22	91.10	176.70
90	177	42	230.80	89.85	176.38
90	177	42	230.82	89.40	176.13
90	177	42	230.82	89.72	176.08

Table 3: continued

Unit		Level	Elevation A.S.L.	Provenience	
N	E			N	E
91	177	43	230.75	90.63	176.75
96	174	32	231.31	94.05	173.10
91	176	43	230.80-230.75	90.93	175.71
93	177	14	130 cm DBS	92.00	176.73
93	177	16	146 cm DBS	92.40	175.90
94	174	39	230.95	93.60	173.19
93	177	14	125 cm DBS	92.00	176.76
92	177	47	250.56	91.00	176.28
93	177	17	153 cm DBS	92.60	176.70
93	177	16	145 cm DBS	92.15	175.50
93	177	17	155 cm DBS	92.60	176.50
93	177	14	130 cm DBS	92.62	175.85
93	177	14	128 cm DBS	92.35	175.65
93	177	17	160 cm DBS	92.35	175.90
92	177	38	231.05-231.01	91.50	175.30
93	177	17	156 cm DBS	92.20	175.90
92	177	37	231.08	91.15	176.87

\*DBS : Depth Below Surface

### Recoveries

The search for building remains inside the fort wall was well rewarded. A cobble and mortar alignment was detected in units N94 m E190 m, N90 m E191 m, and N86 m E192 m. This alignment was over 1 m wide and consisted of limestone and granite cobbles held together by a lime-mortar. In N86 m, E192 m the surface of this alignment appeared to have been finished using a pavement of horizontal limestone slabs. The alignment, when vertically exposed, was found to consist of three layers of cobbles and mortar. The thickness of the alignment varied from 50 cm to 75 cm, and it was set in a trench dug through stratum D and into stratum E. The trench was barely wider than the alignment and had almost vertical walls.

It seemed unusual that the cobble and mortar alignment, exposed in 1981 and interpreted then as the fort's west wall foundation, should be only one layer of cobbles thick when the rock alignment exposed in 1982, and tentatively interpreted as a building foundation, was three layers thick. Accordingly, the alignment found in 1981 was re-examined by more fully exposing it in profile. It also turned out to be composed of three layers of cobble and mortar. Excavation units to the south of the 1982 alignment failed to encounter similar features of the expected south wall and southwest bastion.

To the west, initial excavation focussed on N93 m, which had previously begun to explore the area inside of the log structure. In order to follow the north wall of the structure, a 1 m by 1 m unit, N93 m E175 m was excavated. It revealed the northwest corner of the log structure and the southwest corner of a second log structure.

The first log structure was eventually revealed to be approximately 6 m by 2 m by 1.7 m deep. It was identified as the cribbing for a privy/refuse pit that contained water-saturated deposits. Because of these anaerobic conditions, it contained not only many durable objects normally recovered by archaeologists, but also a large number of diverse, well preserved, organic materials.

There were two major strata within the first structure. The upper stratum was a dense grey clay, and the lower one was a dense brown organic matrix. Within the lower layer there was probably both human and animal waste. Irregular lenses of a whitish substance were found in the brown organic deposit which may have been additions of ash or lime that were put in the pit to control odor. In

addition, there were several more discrete lenses of various materials. The stratification inside the first log structure is shown in Figure 2, and the strata and lenses are described in Table 4.

The second log structure was also a privy/refuse pit. Unlike the first, the second one was shallow. Three courses of squared timbers formed the cribbing of this pit, the top of which began ca. 50 cm below ground surface, and the bottom of which reached ca. 1.25 m below surface. Inside the pit a thin layer of stratum D lay on top of 10-20 cm of grey clay. This in turn rested on 30 to 40 cm of dense brown organic material. The moisture content of the clay and the brown matrix was again very high, resulting in the preservation of organic, as well as inorganic, artifacts and refuse. The density of the cultural remains in this structure exceeds that in the first structure. Figure 3 and Table 4 present the stratigraphic information inside this structure.

Excavations to determine the width of the second log structure revealed that a large, limestone block had dislodged the top logs at the southwest corner of the structure. Further excavation quickly uncovered yet another limestone and mortar alignment immediately to the west of the second privy/refuse pit (Figure 4). While previous alignments were generally made of rounded, natural cobbles, the newly exposed rocks were roughly rectangular and in some cases, appeared to have been crudely hewn. These discoveries were made during the last week of the field season, when time limitations made it impossible to determine the length or thickness of this alignment, although its width was found to be approximately 1 m.

#### The 1982-83 Laboratory Season

The thrust of this laboratory season was to complete the cataloguing, washing, and labelling of the recovered materials; to identify, describe, and quantify them in a computer format and to enter this data onto computer files. In addition, conservation procedures were to be applied to the perishable remains that had been temporarily stabilized by either freezing or soaking.

The catalogue of portable material cultural items is synthesized as shown in Table 5. The number of items is approximate because the identification, quantification, and description of the materials is only partially complete at this writing. The ceramics are finished except for problem items that must be re-examined. The faunal study is in

progress and so is the glass. The metal is almost complete. In addition, there are approximately 100-500 items remaining to be washed, catalogued and labelled.

Large amounts of time and money have been spent on treatment of the perishable materials. Cathy Collins, Assistant Conservator at the Manitoba Museum of Man and Nature, has provided invaluable assistance in the treatment of wet wood, leather, and composite items. The leather items were impregnated with Glycerol then freeze-dried at the University of Manitoba's Human Ecology facility. The wet wood was saturated with Polyethelene Glycol 400 and also freeze-dried at the same facility. The composite items listed in Table 6 have been sent to the Canadian Conservation Institute in Ottawa for the sophisticated conservation procedures that these artifacts require.

Frozen matrix containing cloth and leather fragments has been thawed, one sample at a time to be washed and stretched to dry. This procedure is now almost complete. Hence, leather, wood and cloth will shortly be available for identification, quantification, and description.

Paper fragments still remain frozen, but they will be cleaned, dried, and preserved on completion of the cloth items. They, too, will then be ready for coding.

Matrix samples from the first privy/refuse pit have been the subject of analysis by Dr. Tom Shay. He and his assistants have used water screens to separate the matrix from its contents, and have sorted, identified, and counted the remains. This process is still underway, but to date the list of plant macrofossils already identified appear in Table 7.

In addition to the 1982 materials that have been treated, the fauna from 1981 has been coded, and the wood from 1981 will soon be coded. The remaining 1981 data have been completely coded and entered into computer files pending detailed analysis. There are some items from 1981 that require final identification and description, and this will be accomplished in conjunction with the 1982 materials.

Funding for the project has been a continuous problem. The personnel have not been available to deal with the 1982 materials as quickly as one would wish due to insufficient and intermittent funding. Consequently, the project is behind schedule, and more effort will have to be placed on reducing the 1982 backlog before and during the early part of the 1983 field season.

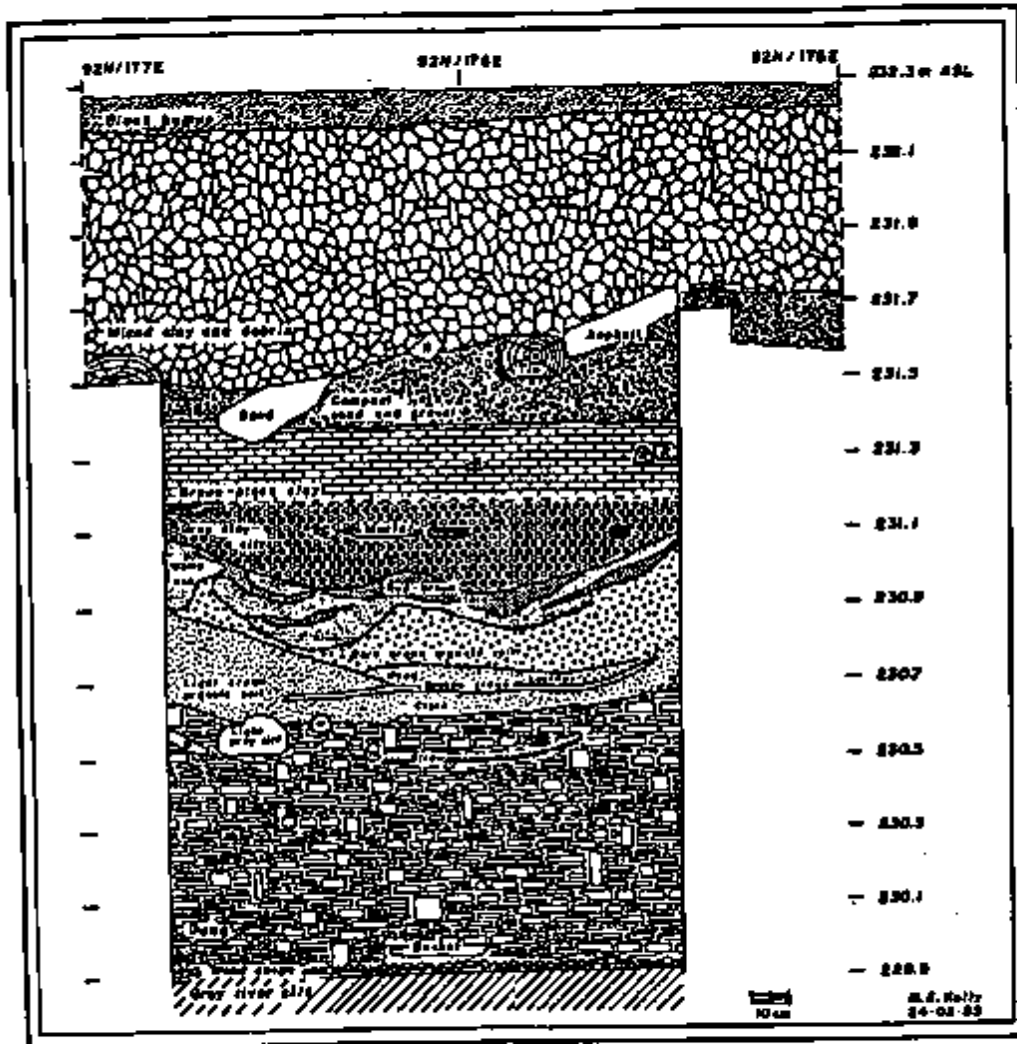


Figure 2: Stratigraphic profile of the N92 m wall in excavation unit N93 m E177 m

Table 4: Description of Strata in Profiles from Bonnycastle Park
























<u>Code</u>	<u>Symbol</u>	<u>Description</u>	<u>Structure</u>	<u>Stratum</u>
01		Black Humus (sod zone)		A
02		Mixed clay & Debris (landscape fill)		B
03		Compact Sand & Gravel (streetcar level)		C
04		Brown Black Clay with Artifacts & Organic Debris	1	
05		Grey Clay-silt	1	
06		Red Brown Stain	1	
07		White Ash with Red-Brown Stain	1	
08		Dark Brown Organic Soil	1	
09		Wood, Leather & Cloth	1	
10		Broken Glass	1	
11		Light Brown Organic	1	
12		Dung	1	
13		Straw	1	
14		Wood Chips	1	

Table 4: continued

<u>Code</u>	<u>Symbol</u>	<u>Description</u>	<u>Structure</u>	<u>Stratum</u>
15		Grey River Silt		E
16		Paleosol (old dark topsoil)	2	
17		Dark Grey Silt	2	
18		Organic Material	2	
19		Yellow Ash	2	
		Bone		
		Horn		
		Rock		
		Metal		
		Charcoal		
		Wood		



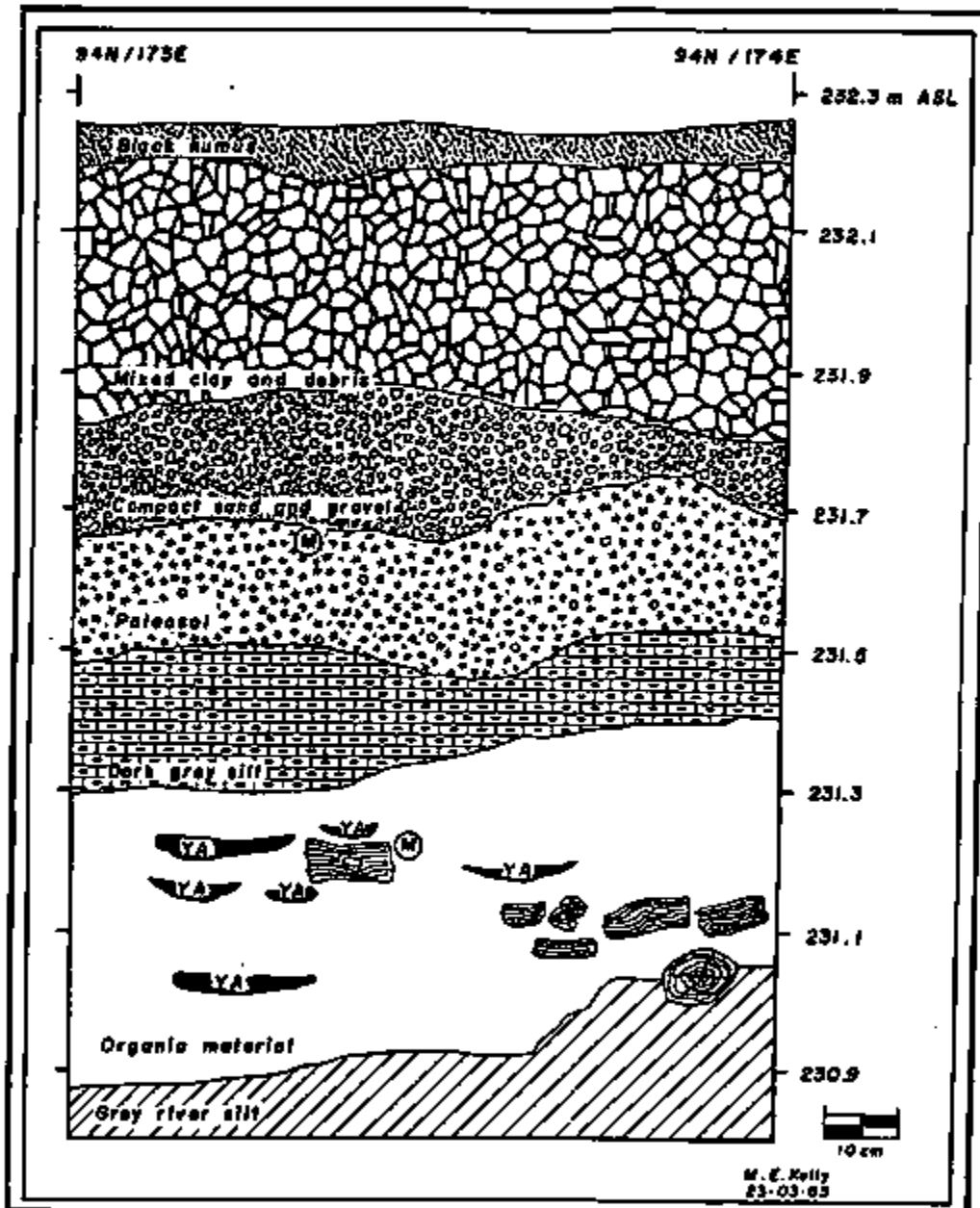


Figure 3: Stratigraphic profile of N94 m wall in excavation unit N94 m E174 m

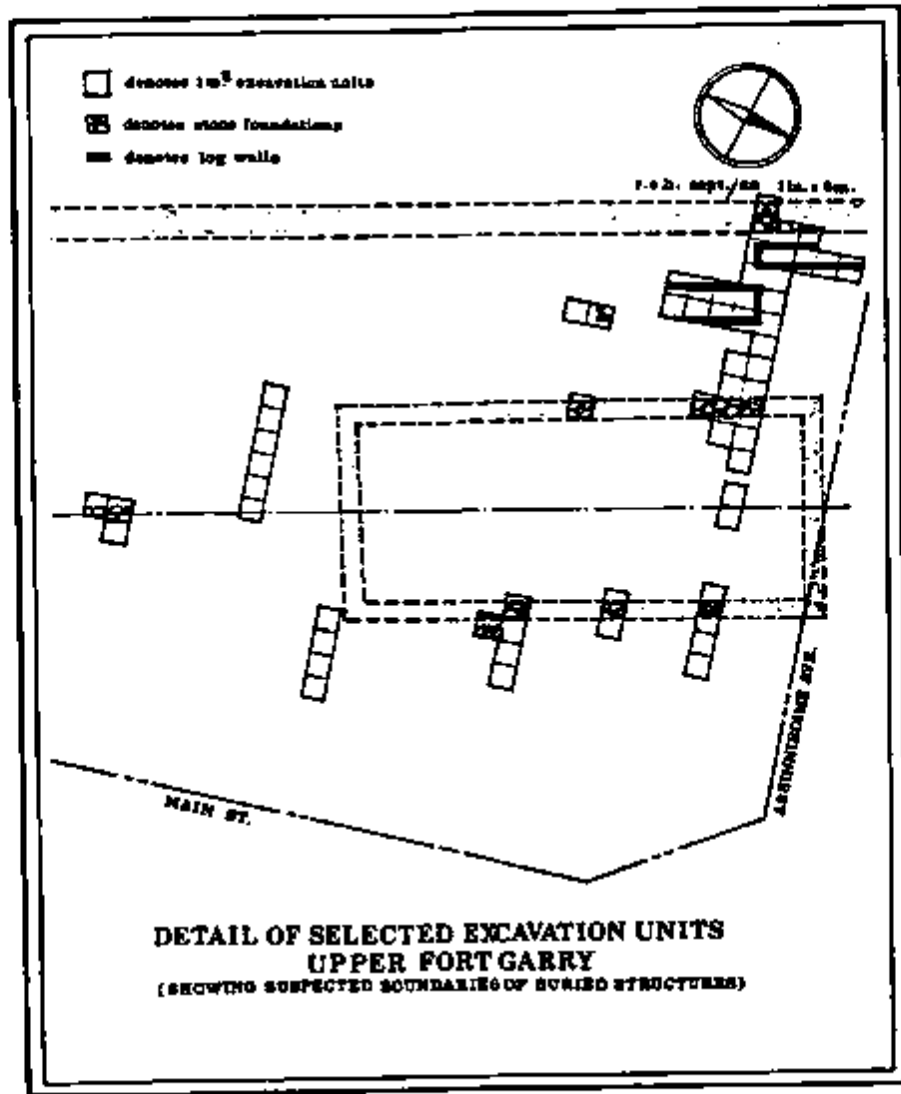


Figure 4: Hypothetical plan of fort in relation to excavated features (after an original by Mr. Ralph Baker)

Table 5: Preliminary Inventory of Material Categories Recovered in Bonnycastle Park in 1982\*

Ceramics	1,053	1,439 <sup>c</sup>
Glass	970	2,272
Stone/Brick	92	98
Wax	17	19
Plastic	41	44
Rubber	11	13
Metal	1,269	1,838
Organic		
Bone	535	798
Wood/Cork	256	512
Cloth	210	4,200 <sup>d</sup>
Leather	62	66
Paper	33	34 <sup>e</sup>
Hair/Fur	11	12
Feathers	5	8
Miscellaneous <sup>f</sup>	<u>297</u>	<u>467</u>
<b>TOTAL</b>	<b>5,862</b>	<b>13,819</b>

- a. This is a preliminary tabulation because not all artifacts have yet been cleaned and numbered nor has final inventory been tabulated.
- b. These are estimates.
- c. Many of the figures in this column are estimates. Where the catalogue entry was listed as "frags.", it was listed as 2 items, and where it was listed as "assorted frags." it was counted as 3 artifacts. The actual numbers are probably considerably higher.
- d. A number of these classes of organic materials are based on average figures. Individual bags contained from 1 to 64 cloth fragments, including wool, silk, cotton, and other materials.
- e. Refers to "clumps" of paper, much of which has not yet been handled.
- f. The category "Miscellaneous", contains catalogue entries where the material is not specified plus a variety of materials such as seeds, tar paper, porcupine quills, buttons, oyster and clam shells, horn, coral, combs, etc.

\* After a table compiled by E.L. Syms with information from G. Monks and C. Collins.

Table 6: Composite Artifacts Presently Stored at Canadian Conservation Institute

<u>Catalogue Number</u>	<u>Description</u>
6082	scrub brush
6084	scrub brush
5929	scrub brush
6107	child's potty seat and lid
6050	wooden plant
5630	shovel handle
5652	woven wooden basket
5635	bucket made from wooden barrel
5636	worked wooden object
5637	wooden broom
5912	broom

Table 7: Preliminary List of Plant Remains Identified to Date from Bonnycastle Park\*

<u>Taxon</u>	<u>Common Name</u>
<u>Corylus</u>	hazel nut
<u>Juglans</u>	walnut
<u>Prunus dulcis</u>	almond
<u>Bertholletia excelsa</u>	brazil nut
<u>Carya</u>	pecan
<u>Prunus</u>	plum
<u>Prunus</u>	wild cherry
<u>Rubus</u>	raspberry
<u>Fragaria</u>	strawberry
<u>Crataegus</u>	hawthorn
<u>Amelanchier</u>	saskatoon berry
<u>Vitis vinifera</u>	grape
<u>Vaccinium</u>	blueberry/cranberry
<u>Citrullus</u>	melon
<u>Viburnum</u>	high bush cranberry
<u>Symphoricarpos</u>	snowberry
<u>Lycopersicon</u>	tomato
<u>Polygonum</u>	knotweed
<u>Chenopodium</u>	goosefoot
<u>Iva</u>	marsh elder
<u>Bidens</u>	beggar-ticks
<u>Anethum</u>	dill
<u>Carum</u>	caraway
<u>Rosa</u>	rose
<u>Potentilla</u>	cinquefoil

\*source: Dr. T. Shay, pers. comm.

### Interpretations

To date, analysis is incomplete and final pronouncements are unwarranted. Nevertheless, the broad outline of what is being recovered in Bonnycastle Park is emerging.

The rock and mortar alignments must be accounted for as structures within the fort. The two rock alignments at E181 m and E189 m have characteristics not shared by the alignment at E172 m. The former two have three layers of primarily natural cobbles while the westernmost alignment contained primarily sub-rectangular blocks, and its depth is not yet ascertained. Mr. Ralph Baker, of the City's Environmental Planning Department, suggested that the westernmost alignment may be the fort's west wall foundation and that the two easterly alignments were the west and east wall foundations of a building inside the fort. Considering that the two privy/refuse pits are located between the two westernmost alignments, this hypothesis deserves further scrutiny. An alternate hypothesis, which emerged as a result of the 1981 excavations, stated that the alignment at E181 m was the west wall foundation of the fort. If this were the case, the two privy/refuse pits would lie outside the fort wall, and the westernmost alignment would remain unexplained.

The evidence required to evaluate Mr. Baker's hypothesis will need to be gathered during further excavations. A preliminary test can be applied now using available historical and archaeological information. Historical records indicate that Lieutenants Warre and Vavasour, two engineers assigned to assess the military defensibility of Upper Fort Garry, record the following buildings and dimensions inside the fort:

3 buildings, each 70 ft. by 30 ft.

1 two-storey house with basement, 70 ft. by 35 ft.

2 two-storey dwelling houses, each 42 ft. by 24 ft.

Col. Crofton, commanding officer of the 6th Regiment of Foot records the dimensions of his men's barracks inside the west wall of the fort as two storerooms, each 70 ft. by 36 ft. (Guinn 1980: 75). Guinn (1980: 76) thinks that the engineers dimensions are more likely to be accurate. The archaeological record shows that the two alignments are 8 m (26 ft.) apart, centre to centre or 9 m (29 ft. 3 in.) from outside to outside. If the engineers dimensions are assumed to be correct, and if the three buildings of 70 ft. by 30 ft. are indeed the storerooms along the west wall that were converted to barracks, then this comparison of expected to observed dimensions lends some support to Mr. Baker's hypothesis. His illustration of the spatial and contextual relationships of the structures exposed during 1982 is shown

in Figure 4.

If Mr. Baker's hypothesis eventually proves to be correct, the rock alignment to the west of the two privy/refuse pits is likely to be the west wall foundation of the fort. Two lines of evidence favor this interpretation. First, if the two log structures are indeed privy/refuse pits, it is more reasonable to find them located inside the fort wall between it and the residential building than it is to find them outside the fort flanked by an unrecorded stone wall. Second, photographs of the fort walls suggest that rough-hewn sub-rectangular to rectangular blocks of stone were used in their construction. Further excavation of this alignment should show it to be 1 m wide, at least as thick as the other two alignments, and terminated at the south end by a bastion.

The two log structures are interpreted as privy/refuse pits. The remains of privy seats have been found in the first structure along with the centre parts that were cut out to create holes in the seat. Also, a child's potty seat has been recovered in the same structure. The brown organic matrix in both structures is unquestionably manure, and several tests with trisodium phosphate, following the method described by Bryant (1974: 8), indicate that some of it is human (Kroker 1982: pers. comm.).

The function of refuse pits can also be assigned to these two structures because of the quantity of cultural items that have been found inside them. While such items as seeds, clay pipe fragments, and newspaper could accumulate in a privy as a result of its normal use, the presence of many ceramic vessels, window glass, fence pickets, brooms, shoes, bird, mammal, and fish bones, nails, shingles, barrel staves, buckets, baskets, cloth fragments, and egg shells is unlikely to occur unless garbage was also being deposited there.

The contents of the two pits were particularly exciting for two reasons. First, the abundance and diversity of remains were considerable, as one might expect of a centralized refuse disposal facility. Second, a high moisture content in the soil, beginning at or near the top of the first log structure (231.50 m a.s.l.), provided an anaerobic environment in which normally perishable organic remains remained preserved. Consequently, a rich and rare array of organic cultural remains were recovered in addition to the inorganic materials.

Organic remains are seldom recovered by archaeologists. When such remains are found, they may be dessicated, waterlogged, or frozen. In Canada, dessication is unlikely and has not, to this writer's knowledge, been reported in the literature. Waterlogged sites are rare in Canada and include Pitt River, (Patenaude and Broderick 1981), Little Qualicum River, (Bernick 1976), and Musqueam (Borden 1976), all prehistoric sites on the west coast. An historic underwater and watersaturated site at Red Bay in Labrador is presently being investigated. In the arctic, permafrost acts as a preservative, accounting for excellent bone preservation. In the subarctic, a combination of permafrost overlain by seasonally thawed, watersaturated soil also acts as an agent of organic preservation. The latter conditions were noted for a shallow refuse pit containing some organic material at York Factory (Adams 1982: per. comm.).

This brief review makes clear the rarity of sites where organic preservation is comparable to the watersaturated deposits at Upper Fort Garry. These deposits are the only ones known so far that belong to the fur trade period and that are outside the boreal forest. Indeed, the fort and its archaeological deposits lie in the aspen parkland, a relatively narrow environmental zone between the grasslands to the south and boreal forest to the north (cf. Rowe 1972). Further, the fort was located at the junction of two major transportation routes, the Red and Assiniboine Rivers, which drained the northern plains and flowed into the boreal forest. In this position, the fort acted as a focal point for resources from all three environmental zones.

The organic and inorganic materials in the privy/refuse pits indicate the date of their construction and use, the identity and composition of the group that used them and for whom they were constructed, and the dietary and personal habits of group members.

The age of the privy/refuse pits and the identity of the group from whom they were constructed are closely linked. The group in question is the 6th Regiment of Foot (Royal Warwickshire Regiment) which was headquartered at Upper Fort Garry from September 1846 until early summer 1848. Pieces of cloth and a brass medallion with 6th Regiment markings provide this indication. Further evidence is found in pieces of newspaper dated to 1845 and 1846 and a coin in mint condition dated 1846. Ceramic manufacturers' marks also show a shift from "Copeland and Garret" to "Copeland" and "Copeland late Spode". This shift is known to have occurred in 1847. This shift occurs in the first privy/refuse pit, but only the later manufacturers' marks

are found in the second pit. Indeed, the "Ruins" pattern was registered with the "Copeland" mark for the first time on September 15, 1848 and could not have arrived at the fort in time to be used by the 6th Regiment. It is therefore inferred that the second pit post-dated the first and was used for a short time after the 6th Regiment returned to England.

The composition of the group using the two pits is clear in some ways and obscure in others. Historical records indicate that wives and children of some soldiers accompanied them from England. A child's shoe, a child's potty seat, and fine cloth, including silk, suggest that some of these women and children were using pits at Upper Fort Garry. Who were the soldiers to whom these women and children were related? Were they officers or enlisted men? Or did the garbage from all ranks get deposited in the same dump? At the present stage of this analysis, these questions cannot be resolved, but it is interesting to note that eggs, bird remains, medium and large mammal remains and fruit and spice seeds were recovered from the two pits. Fresh meat and eggs are recorded historically as more commonly distributed to gentlemen of the Hudson's Bay Company than to the Company's servants (Livermore 1976: 129), and the same distribution pattern may have existed within the military. Therefore it is suggested that refuse of the higher military ranks may have been discarded in these pits.

The dietary habits of the users of the refuse pits have already been mentioned. They ate eggs, birds, fish, and a variety of mammals. The vegetative remains indicate that they enjoyed a variety of fruit in addition to nuts and spices. Alcohol was consumed, to judge from the numerous bottles. In this regard, the barrel staves may have been parts of rum or beer kegs, but further research is required on this point since eggs and china were also stored and shipped in barrels.

The personal habits of the group members who used the refuse pits are revealed to some extent by the remains. A large variety of cloth fragments, from coarse woolen fabric to silk and ribbons, has been recovered. Much of the cloth is lightweight cotton, and most pieces are plain. Several outstanding pieces are light printed cottons, and one piece of cloth appears to be a delicate brocade. A circular piece of cloth is stamped with a maker's mark. The piece may have been a plate separator, or it may have been the top of the lining inside the regimental headdress. Another piece of plain cotton is stamped, "W. Stokes, 6th Reg."



Members of the 6th Regiment were smokers. Numerous clay pipes have been recovered, and a cigar box from structure 2 still smells of cigars. Regimental members were also readers. Col. Crofton encouraged the establishment of a library and urged the men to read to improve themselves and to relieve winter boredom. Many newspaper fragments were recovered from the two pits, and some of the papers appear to have been sewn and bound in cloth. Curiously, no books appear to be represented in the refuse. Some snippets of information from the papers have been traced. One item reports on a group of horses and their owners. It seems that these horses competed in a race, known as the Ludlow or Shropshire Stakes, on July 1, 1846, just four days after the 6th Regiment had sailed. This indicates not only that there was a communication line between the 6th Regiment and their support network in England, but also that an urban-based newspaper carried news of interest to people from Warwickshire and its environs. One suspects the newspapers of Birmingham and Coventry as the sources of these fragments.

The group that used these refuse pits also utilized co-ordinated, elegant tableware. Sets of plates and bowls were used, and service appears to have been formal to judge from the presence of a large tureen lid. Brown and green transfer printed patterns are found in addition to the more common blue ones. Ceramics decorated with blue patterns were the standard ware purchased by the Hudson's Bay Company. Undecorated ceramics cost less than the blue ones, and colors other than blue cost more (Hamilton 1982: 54-55). Wine or dessert was consumed from glass stemware on which the stems were faceted.

The people were also well shod. Remains of leather ankle boots have been recovered along with similar footwear in a child's size. Moccasins were found which may be the same as those issued to the regiment when it landed at York Factory (Morrison 1971: 169, 172, 173). Interestingly, no women's shoes have been positively identified to date.

In 1982, the Upper Fort Garry Project again fulfilled more than an academic purpose. Public education has been an important component of the project from its beginning, and this component was served in 1982 through a variety of outlets. Apart from substantial local and national newspaper coverage, the site was toured by school classes, a Manitoba Museum of Man and Nature group, contestants in CBC's Reach for the Top national finals, and the University of Manitoba's Mini-University Program groups. The Manitoba Archaeological Society produced a half-hour television program on the excavations for its Archaeology in Manitoba

series, and the Department of Education incorporated the project into an audiovisual presentation entitled "History in the Making" for use in the Province's Grade 9 social studies curriculum.

#### Future Plans

The test excavations of 1981 and 1982 have revealed the locations of three rock alignments and two refuse pits. The objective of the 1983 excavations will therefore be to clearly establish the extent, configuration, and interrelationship of these structures. Further, the 1983 excavations will attempt to expose and test additional structures in this portion of the fort that have not already been detected. It is hoped that further water-saturated deposits from a different time period and a different set of social and economic circumstances can be located.

The method proposed to meet this objective is wide-area excavation. The sod and fill layers will be removed down to the surface of the streetcar level (stratum C). This will provide a 10-20 cm cushion of soil between the excavation machinery and the remains of the fort in stratum D. Strata C and D will then be removed by trowel to expose the fort's remains as they rest in the original ground surface.

Much of the artifact inventory in 1981 and 1982 was composed of recent historic materials from the disturbed stratum B. Mechanical removal of this overburden will reduce the number of items already in secondary context.

In the two privy/refuse pits, excavation will continue only in order to complete the units that have already been opened. No new units will be opened here because excavation is difficult, a large enough sample will have been recovered, and the conservation and analysis requirements of even a small number of units here are vast.

Experience in 1982 has shown that an advanced laboratory operation must be in full and continuous operation while excavations are in progress. The volume and complexity of the materials recovered last year meant that the basic cleaning, cataloguing, labelling and sorting operation had to be expanded and elaborated on the spot. In 1983, the laboratory operation will serve those basic functions in more appropriate facilities for storing and conserving organic materials. Further, a group of experienced artifact analysts now exists, and these people will identify,

describe, quantify and code the excavated materials as they are brought through the laboratory. A concerted effort will be made this year to have all the excavated materials ready for detailed analysis by the end of the field season.

The 1983 field season is anticipated to be the last. A sufficient body of information should be on hand by September to provide a clear picture of the fort's remains as they exist under Bonnycastle Park. The following two years are to be consumed with analysis, interpretation and preparation of a final report. This report will take the form of a substantial monograph targeted for completion by September 1, 1985. Individual papers on specific aspects of the project may also be published both before and after the monograph's release. Indeed, it is hoped that the work at Upper Fort Garry will be the starting point in a comprehensive analysis of fur trade archaeology in the Hudson's Bay Company's Northern Department.

#### Acknowledgements

The Upper Fort Garry Archaeological Project owes its existence to a vast array of people and organizations. Without funds, nothing would have happened, and deep gratitude is expressed to those groups that assisted the project in 1982: The Winnipeg Foundation, the Mrs. James A. Richardson Foundation, the Canada Council Explorations Program, Heritage Winnipeg, the Manitoba Archaeological Society, Canada Employment and Immigration's Summer Canada '82 Program and Work Study Program, the University of Manitoba Research Grants Committee, and the University of Manitoba SSHRC Fund Committee.

Thanks are extended to the City of Winnipeg; the Province of Manitoba, Historical Resources Branch; the Department of Anthropology, University of Winnipeg; the Manitoba Museum of Man and Nature, especially Cathy Collins and Leigh Syms, the Canadian Conservation Institute; the University of Manitoba, Department of Anthropology, the Institute for Social and Economic Research, the Department of Foods and Nutrition; Tom Shay, R. Swan, D. Harris, R. Copeland, L. Sussman, R. Jones, W. Stackiw, S. Keen, and J. Hamilton; and especially my field and lab crews.

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