

A Report on the 1999 Archaeological Investigations at the Brimstone Hill Fortress National Park, St. Kitts, West Indies

Brimstone Hill Archaeological Project Report No. 17

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Table of Contents

Acknowledgments.....	ii
Introduction.....	1
Objectives.....	1
Excavation and Laboratory Methods.....	3
Stratigraphy.....	4
Features.....	5
Structures	10
Artifacts.....	13
Faunal Remains.....	18
Summary and Conclusion.....	20
References Cited.....	22
Appendix --Excavation Units at BSH 2, 1999.....	25

List of Tables

Table	Page
1 Features recorded at BSH 2.....	5
2 Summary of Material Classes recovered at BSH 1, BSH 2, and BSH 3.....	14
3 Material Classes recovered at BSH 2, 1996-1999.....	14
4 Temporal Period and Ceramic Wares recovered at BSH 2 in 1996-1999.....	15
5 Temporal Period and Ceramic Wares recovered at BSH 1, BSH 2 and BSH 3..	16

List of Figures

Figure	Page
1 Plan of excavations at BSH 2.....	2

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Dr. Gerald F. Schroedl, Professor of Anthropology, University of Tennessee, is the principal investigator and director of archaeological studies at Brimstone Hill, and Mr. Todd M. Ahlman, graduate student in Anthropology and Assistant Project Director is in charge of artifact analysis. Dr. Walter Klippel, Professor of Anthropology, University of Tennessee, is responsible for the identification and analysis of faunal remains recovered at the site. Ms. Ashley McKeown, graduate student in Anthropology, provides analysis of human skeletal remains. In 1999, Ms. Kristen Menke, who was a student worker in 1998, served as graduate student assistant, supervising the

excavations and helping with the artifact analysis. Three students enrolled in the University of Tennessee's archaeological field school participated in the project as did four St. Kitts high school students from the Sandy Point community. The St. Kitts and University students worked especially hard to meet all the goals of the 1999 investigations.

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Introduction

Archaeological investigations began at the Brimstone Hill Fortress in 1996. Work has been conducted in three areas, respectively designated sites BSH 1, BSH 2, and BSH 3. BSH 1 consists of buildings and features associated with the lime kiln located at the north-northwest base of Brimstone Hill. Test excavations were conducted here in 1996 (Schroedl 1997). BSH 2, situated below the curtain wall connecting the Orillon and Magazine Bastions, is where a 1791 military engineers map documents four buildings used by enslaved Africans. Two structures are hospitals, one is a kitchen, and the fourth was used as workshop. Excavations in 1997, 1998, and 1999 concentrated on the workshop building (Structure 2) and one of the hospitals (Structure 1)(Figure 1). Efforts to locate and obtain information on the size, architecture, and use of the other two buildings was unsuccessful. Work conducted at BSH 2 in 1996, 1997 and 1998 was previously summarized by Schroedl (1997, 1998, 1999a). BSH 3 is located above BSH 2 and the curtain wall connecting the Orillon and Magazine Bastions. Four test pits were excavated and a controlled surface collection was made here in 1998 (Schroedl 1999). The purpose of this report is to describe the excavations at BSH 2 carried out in 1999. This work focused primarily on uncovering as much of the workshop building, Structure 2, as possible. An archaeological reconnaissance conducted at the western base of Brimstone Hill in 1999 is reported elsewhere (Schroedl 1999b).

Objectives

In the 1997 and 1998 field seasons Structure 1, one of the hospitals, was completely excavated and mapped. Enough additional work, during these field seasons, was completed to locate Structure 2, the workshop, to determine its width from the excavation of its north wall, and to understand how it was positioned relative to Structure 1. For these reasons, the objectives of excavations at BSH 2 in 1999 were to:

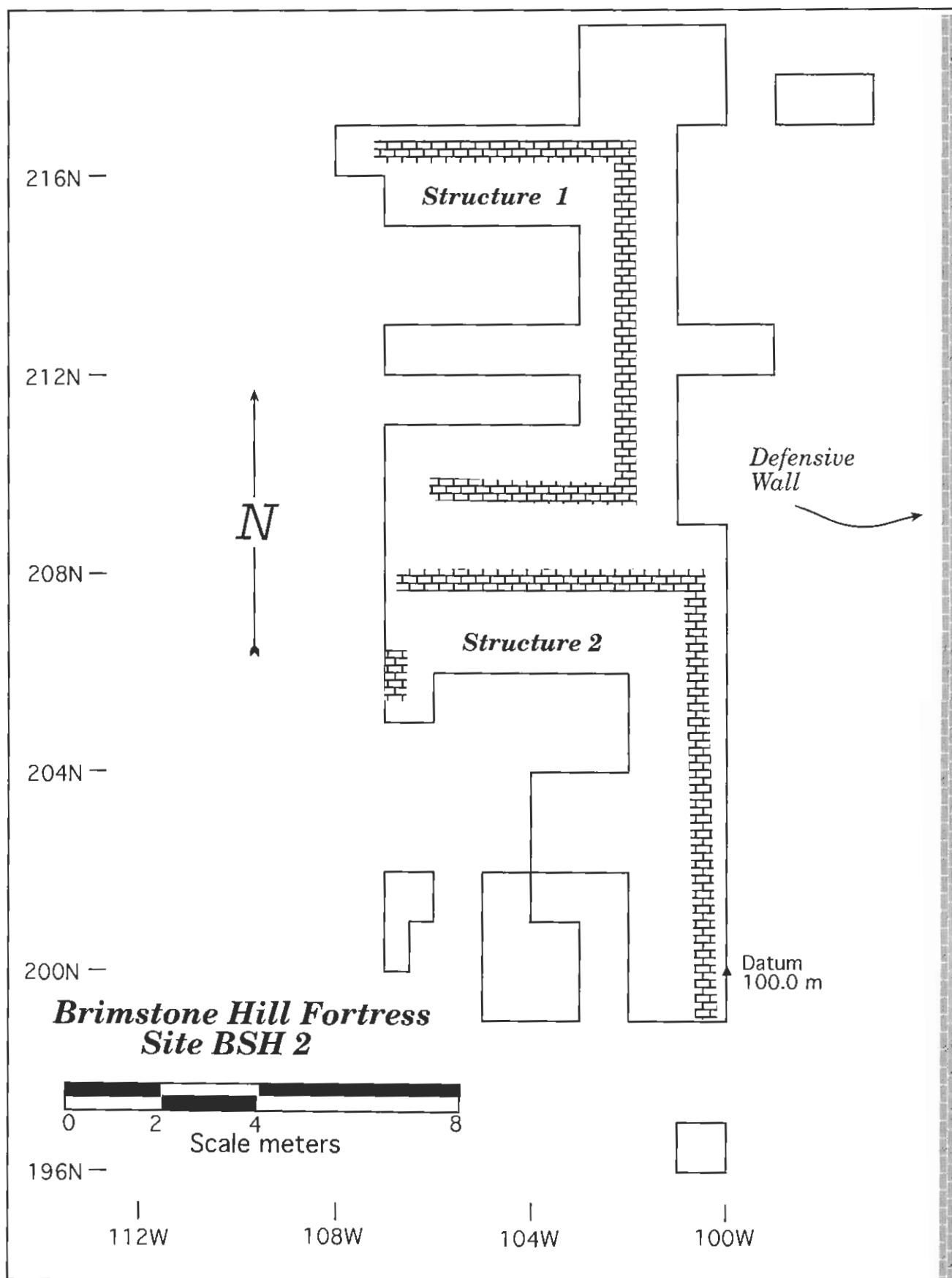


Figure 1. Plan of excavations at BSH 2.

(1) uncover the east wall of Structure 2 in order to determine the architectural characteristics and dimensions of the building; (2) expose a portion of the interior of Structure 2 in order to describe the interior features of the building and, if possible, obtain sufficient information to determine the kinds of activities that were conducted within it; (3) excavate the sediments lying between the south wall of Structure 1 and the north wall of Structure 2 to unambiguously specify the relationship of the two buildings; and (4) time permitting, conduct additional excavations to locate the kitchen building and the other hospital.

Excavation and Laboratory Methods

Since the south wall and two corners of Structure 2 were recorded in 1998, exposure of the east wall was accomplished by excavation of 14 squares between grid coordinates 199N and 206N and 100 and 102W. This included removing 5 additional levels in Unit 204-205N/100-101W which was first opened in 1996. Also opened in 1996 is square 196-197N/100-101W where seven additional levels were excavated in an effort to find the southwest corner of the structure. Additional excavations of four squares encompassing coordinates 202-204N/102-104W were used to investigate a portion of the interior of Structure 2 adjacent to the east wall.

Seven squares defined by coordinates 208-209N/100-107W were used to complete the excavation of the area between Structures 1 and 2. This included removing four additional levels in square 208-209N/100-101W that previously was opened in 1996. Two squares, defined by coordinates 218-219N/100-102W, were used in a further effort to locate the kitchen building shown on the 1791 map of the site. A complete list of all the 1999 excavated squares and levels is found in the appendix.

In all cases excavation procedures were the same as used in previous field seasons. Sediments were removed in 1m by 1m squares using arbitrary 10cm levels

measured from a datum (200N/100W) at an arbitrary elevation of 100m. Where excavation squares straddled the east wall of Structure 2, sediments from inside and outside the building were excavated separately. Each arbitrary level as well as unique occurrences such as walls and burial pits (features) were assigned accession numbers.

All excavated sediments were shifted through 1/4 inch mesh screen, and the recovered artifacts were placed in appropriately labeled bags for transportation and laboratory processing. Artifact cleaning and sorting consisted of washing in water all the objects except the animal bone from which the soil was brushed. The materials were sorted and rebagged according to seven major classes-- ceramics, curved glass, smoking pipes, metal, nails, construction material, and miscellaneous artifacts. Individual artifacts were subsequently identified, described, and coded for computer analysis.

Stratigraphy

Stratigraphic profiles drawn in 1999 document the deposit in the vicinity of Structures 2. The north-south profile at 199-209N/100W, part of which was drawn in 1996 and 1998, records the stratigraphy parallel to the exterior of the east side of Structure 2, lying between the structure and the curtain wall connecting the Orillon and Magazine Bastions. The south end of this exposure, from 199N to about 202N, includes numerous artifacts, indicating that especially large amounts of debris were deposited here not long after Structure 2 was abandoned. A second north-south profile, at coordinates 200-206N/102W, provides the same perspective across the structure's interior, approximately 1.5m from the building's east wall. The profile at 199-200N/101W shows these same sediments 50cm from the wall.

The east-west profile of deposits covering Structure 2 was drawn at 199N/100-101W and 200N/100-102W. These profiles show a cross section of the

sediments that accumulated against the east exterior wall of Structure 2, and how they filled the building interior to this wall. Both profiles also provide a cross section of the structure's east wall. Additional cross section profiles of the structure wall were made at 202N/100-102W and 205N/100-102W. Similar cross sections were also made across the structure's north wall at 206-208N/102W and 206-208N/105W.

Each profile drawing records site deposits distinguished on the basis of color, consistency, compactness, and predominance of associated debris, especially the size and number of rocks, and the occurrence of artifacts, especially glass bottle fragments, ceramics, and pieces of iron. Importantly, the north-south profiles record the intrusion of human burial pits, represented by Features 15, 16, 17, 18, 19; Burials 1, 3, and two other undesignated occurrences.

Features

Fourteen specific occurrences, associated with Structures 1 or 2, were recorded previously as features in 1997 and 1998 (Table 1). Seven of these represent architectural elements or debris associated with Structure 1 (Features 1-6, 9), while six others represent architectural elements of Structure 2 (Features 7, 8, and 10 through 14). Feature 10, located between the two structures, is a probable burial pit. In 1999, five additional burial pits, located within Structure 2 or outside the building's east wall, were designated as features (Features 15 through 19). In 1996 and again in 1997 portions of two human burials, respectively designated Burial 1 and Burial 2 were recovered at the site (McKeown 1997, 1998). In 1999, skeletal remains designated as Burial 3 were excavated.

Following abandonment of the buildings at BSH 2, the area was used for the interment of British soldiers. Based on the placement and orientation of the burial pits identified thus far, the approximate locations of the structures were known at the time

of the burials. A row of burials was established between the east walls of Structures 1 and 2 and the curtain wall connecting the two bastions. The burials are oriented east-west with the heads to the west and at least two burials had plain vertical headstones.

Table 1. Features recorded at BSH 2.

Feature	Description
1	Scattered cobbles at the surface over northwest corner of Structure 1
2	East wall of Structure 1
3	North wall of Structure 1
4	Interior mortar floor of Structure 1
5	Mortar floor exterior to the east wall of Structure 1
6	Mortar floor to the exterior northeast of Structure 1
7	West wall of Structure 2
8	Interior floor segment of Structure 2
9	Square posthole interior to Structure 1
10	Large oval burial pit , between Structures 1 and 2
11	Mortar floor and drain exterior to the east wall of Structure 2
12	East wall of Structure 2
13	North wall of Structure 2
14	Association of rocks and sediments interior to Structure 2
15	Burial pit, exterior to Structure 2
16	Burial pit, interior to Structure 2
17	Burial pit, interior to Structure 2
18	Burial pit, interior to Structure 2
19	Burial pit, interior to Structure 2

The resulting burial placement makes the interments perpendicular to the east walls of Structures 1 and 2. In fact, a segment of the foundation of Structure 2 was removed to inter one of the burials (Feature 15). At least four burials also were interred in the

interior of Structure 2. They are oriented in generally the same manner as the other row of burials, and the rows are about 1 meter apart.

The five features recorded in 1999 are burial pits. Two other burials were identified in the east profile of the excavation, but none was assigned a feature number, and no bones were removed from them. A portion of the skull of another burial was removed and it was designated Burial 3. Three of the burial pits (Features 16,17, and 18), recorded in the interior of Structure 2 in 1999, were partly excavated using 10 cm arbitrary levels (see appendix for a list of these levels). This was done so that the Structure's floor could be investigated without mixing the burial pit fill and floor sediments. No skeletal remains were disturbed by the excavation of these additional levels.

Feature 10

The remainder of Feature 10, part of which was exposed in 1998, was uncovered in 1999. Feature 10 is an oval pit immediately exterior to the south wall of Structure 1 in 208-210N/102-105W. The feature is 230 cm long, 54 cm wide, and about 84 cm deep. The shape, size, and depth of the feature suggest that it was used as a burial pit. The pit was dug through the edge of the limestone outcrop that occurs between Structures 1 and 2. Because the pit intrudes from the same elevation as Structure 1, they are contemporary. For this reason, it was previously suggested that the feature might contain the remains of an African slave rather than a British soldier because available evidence indicates that soldiers were not interred at the site until after the structures were abandoned (Schroedl 1999:13). However, this pit is oriented the same direction as other burial pits and very nearly forms part of the row formed by Features 16, 17, 18, and 19. To make it part of the row, it would have been necessary to remove most of the substantial limestone outcrop between Structures 1 and 2. Consequently, the burial pit was excavated a short distance west where only the edge of the outcrop had to be

penetrated. Despite previous suggestions, it is more likely that this is the grave of a British soldier rather than an enslaved African.

Feature 15

Feature 15, in Unit 203-204N/100-101W, is a rectangular pit that intrudes the east wall of Structure 2. In fact, a small portion of the wall was removed to inter this burial. Wood fragments and small iron nails indicate interment in a coffin. The pit intrudes from elevation 99.60m and was clearly seen in Level 10 at 98.90m. Only 85cm of the pits length was exposed; the pit's width is 60cm. It is oriented east-west, and no skeletal remains were encountered in the excavated portion of the feature.

Feature 16

Feature 16, in Units 205-207N/100-102W, is a rectangular burial pit that intrudes the floor of Structure 2. The pit is oriented east-west and intrudes the west excavation profile. Its recorded dimensions are 122cm long by 55cm wide. The pit is intrusive from 99.00m and was first recorded at 98.82m. Four 10cm arbitrary levels were used to remove a portion of the pit fill. No skeletal material was encountered by the excavations.

Feature 17

Feature 17, in Units 204-206N/100-101W, is a rectangular burial pit that intrudes the floor of Structure 2. The pit, which is oriented east-west, also intrudes the west excavation profile and has a maximum recorded length of 86cm and a width of 95cm. The pit originates at elevation 99.10m and was first observed at 98.84m. Three 10cm arbitrary levels were removed from the pit's interior. No skeletal remains were encountered by the excavation.

Feature 18

Feature 18 is a complete burial pit oriented east-west in three units within coordinates 203-204N/101-104W. The feature is 195cm long with a maximum width of 70cm. The pit is intrusive from 99.10m and was first defined at 98.90m. The portion of the pit in Unit 203-204N/101-102W was excavated in three 10cm levels to 98.60m. No skeletal remains were encountered by the excavation.

Feature 19

The plan of Feature 19 is almost completely exposed in five excavation units, including those within coordinates 202-203N/101-102W and 203-204N/101-104W. There is a large rock representing an unmarked headstone at the west end of the feature. This pit is 2.20m long, with a maximum record width of 1.02m. It originates at 99.10m and was first record at 98.90m. No skeletal remains were disturbed by the excavation.

Burial 3

Skull fragments from a single individual were recovered from the east profile of Unit 201-202N/100-101. As revealed in the profile, the burial pit originates at about 99.70m and is approximately 90cm deep. The remainder of the burial intrudes the adjacent sediments. Cutmarks on the skull fragments suggest that the individual was subject to a medical procedure or more likely post mortem examination of the brain. The orientation of the individual with the head to the west is consistent with all the other skeletal remains recorded at BSH 2. Two iron nails and attached wood fragments indicate probable interment in a coffin.

In 1996, skeletal remains, designated Burial 1, were recovered under similar circumstances from the east profile of Unit 204-205N/100-101W (McKeown 1997; Schroedl 1997)

Undesignated Burials and Burial Pits

The skulls of two other individuals were exposed in the 199-209N/100W profile. Unlike Burial 3, however, none of the remains were recovered. One of these occurrences was first recorded in 1998. This skull occurs in the east profile of Unit 207-208N/100-101W. The burial pit profile is incompletely revealed in the excavation wall because of the angle at which they intersect. The profile of the second burial occurs in Unit 199-200N/100-101W. When this unit was excavated a large triangular balk was left to prevent removing the datum at 200N/100W. This burial is directly beneath the site datum. The pit originates at 99.80m and is about 90cm deep.

Structures

Structure 1 (Hospital Building)

Excavations of Structure 1, one of two hospital buildings shown on the 1791 map of the site, were completed during the 1998 field season. The 1999 excavations, particularly of the sediments lying between this structure and Structure 2 to the south, established the spatial relationship of the two buildings.

Structure 1 measures 6.5 m (21 ft) long and approximately 5 m (16 ft) wide. It consists of a narrow mortar and rubble stone foundation 20-30cm wide. There is a carefully constructed 30 cm wide exterior mortar sill running the length of the east wall. The sill also is present on a segment of the south wall but was not observed on the north wall. No wall openings were detected in the excavated portion of the building. The west wall and as much as 50 percent or more of the building's floor on the downslope or west side has been lost to erosion. The structure floor is hard-packed mortar which was directly placed on indurated mortar and mortar rubble which served to level the area for construction of the building. Excavations suggest that this deposit is a meter or more thick. There is a single square postmold (Feature 9) equidistant from the north and

south walls and 65cm from the east wall. This suggests that a second postmold, now lost by erosion, may have occurred in a similar relationship to the west wall. Adjacent to the exterior of the south wall is an oval burial pit (Feature 10).

The structure's foundation is nearly level with the floor and a portion of the wall, mortar sill, and mortar floor is missing at the southeast corner. At this location there is a large limestone outcrop that was slightly modified to accommodate the building's foundation. The mortar floor exterior to the building's east wall covers the lower 5 to 10cm of the outcrop.

Stone rubble scattered across the northwest corner of the structure may have come from the building's demolition, or more likely the collapse of the adjacent kitchen. Stratigraphic evidence and artifact distributions suggest that some debris accumulated in the building before its destruction, and that debris discarded over the defensive wall accumulated between it and the structure's east wall. Within a meter of the structure's northeast corner is another mortar floor which is distinguished by color and compactness. This floor may be associated with the kitchen building shown on the 1791, although no associated architectural features were discovered by further excavations. Similarly test excavations further north did not encounter the ruins of the second hospital building and the steep slope suggests that much of this structure may have been lost to erosion (Schroedl 1999a).

Structure 2 (Workshop Building)

The workshop building is located approximately 2m south of the hospital building (Structure 1). Excavations in 1998 exposed the poorly preserved remnants of the west wall (Feature 7), the north wall (Feature 13), and a segment of the east wall (Feature 12) forming the northeast corner of the building. When the 1999 work was begun, the building's length was estimated from previous investigations of the damaged

and incomplete west wall. As work proceeded, however, it became clear that the east wall and the building's overall length was much longer than estimated. In 1998, Feature 14 was interpreted as a poorly preserved segment of the south wall. The 1999 work makes it clear that this feature lies well within the structure and cannot be the building's south wall.

Structure 2, based on the north wall measures approximately 6.3m or 21ft wide. The buildings length is undetermined. The excavated length of the the east wall is 8.2m or 27ft . Excavations as far south as coordinate 199N, however, did not find the end of the wall nor the structure's southeast corner. Since the wall was not found 2m further south in sqaure 196-197N/100-101W, this means that Structure 2 is no more than 10.2m or 33 ft long. Structure 2 thus covers approximately twice the area as Structure 1.

The walls of Structure 2 are stone rubble measuring approximately 60cm thick and there is a mortar sill, similar to the one associated with the hospital building, at the northeast corner extending along the north wall for 1.1 m and running along the excavated portion (8.2m) of the east wall. A mortar floor occurs on the buildings east exterior side, and there is a narrow drain at the base of the foundation (Feature 11). The drain runs along the base of the foundation for about 2m, while the mortar floor follows the east wall from the buildings northeast corner for about 5.4 m. The drain continues along a segment of the north wall where a limestone out crop was partly removed to accommodate the structure's wall and the drain. The structure's floor is poorly defined, consisting of packed small, angular pebbles and hard pieces of mortar. Not enough of the building has been excavated to determine if the structure contains any interior posts, partitions or other features, or if there are any wall openings. Feature 15, a burial pit, was cut through the east wall, and Features 16, 17, 18, and 19, all representing human interments, intrude the interior floor of Structure 2.

While only a small portion of the interior of Structure 2 was excavated, the number of artifacts recovered from it suggest that the building's floor was kept comparatively free of debris. In contrast, abundant artifacts, particularly bone discs and the debris from their manufacture, were recovered adjacent to the exterior base of the building's east wall. This suggests that much of the processing of bone and manufacturing activities occurred outside the building. One reason for this is that this area would have been shaded most of the day, first by the fortress curtain wall early in the day and then by the east wall of the building in the afternoon.

Other Buildings

Despite efforts in 1998 and 1999 directed specifically at locating the second hospital building and kitchen building no unambiguous evidence of either structure was detected

Artifacts

Investigations at sites BSH 1, BSH 2, and BSH 3 have produced an artifact sample totaling 94,633 specimens (Table 2). Most artifacts come from BSH 2 where 6,764, 22,383, 23,043, and 37,189 finds respectively were excavated and analyzed over the course of four field seasons (1996-1999). The excavation at BSH 1 recovered just over 3,100 specimens, while surface collections and test excavations at BSH 3 in 1998 produced about 2,100 artifacts. By far the most frequent artifact class, represented by over 42,000 specimens, is curved glass, consisting mostly of rum, wine, and gin bottle fragments (Table 3). The second most frequently recovered artifact class is ceramics, with 26,366 pieces analyzed from the excavations. Except for the miscellaneous class, with 605 examples, the remaining artifact classes, constituting smoking pipes, metal, nails, and construction materials, each have between 3,200 and 7,700 artifacts.

Table 2. Summary of Material Classes recovered at BSH 1, BSH 2, and BSH 3.

Material Class	BSH 1	BSH 2	BSH 3	Total
Ceramics	156	25257	823	26236
Curved Glass	419	42296	598	43313
Smoking Pipes	47	3221	97	3365
Metal	583	5702	95	6380
Nails	356	7712	134	8202
Construction Material	1584	4586	339	6509
Miscellaneous	15	605	8	628
Total	3162	89379	2094	94633

Table 3. Material Classes recovered at BSH 2, 1996-1999

Material Class	1996	1997	1998	1999	Total
Ceramics	1328	6858	7214	9857	25257
Curved Glass	1981	10534	9974	19807	42296
Smoking Pipes	200	632	883	1506	3221
Metal	249	1388	1773	2292	5702
Nails	617	2004	2200	2891	7712
Construction Material	2384	824	809	569	4586
Miscellaneous	5	143	190	267	605
Total	6764	22383	23043	37189	89379

Ceramics

Ten specific ceramic wares, including whiteware, pearlware, creamware, Chinese export porcelain, British bone porcelain, stoneware, redware, earthenware, yellowware, and Afro-Caribbean ware are represented by 25,257 specimens. Among

these creamware, pearlware, stoneware, and redware are the most abundant. These types are determined by differences in paste and manufacturing techniques that change through time. However, many of these wares have been used for hundreds of years and it is the decorative techniques that are used to determine a more precise period of manufacture. Table 4 lists the different wares recovered at BSH 2 and their associated temporal period, while comparable data for BSH 1 and BSH 3 are provided in Table 5.

Significantly, among the ceramics are 439 Afro-Caribbean ware sherds, attesting to the presence of enslaved Africans. Vessel forms include small jars and bowls, and many of the sherds are smudged with charcoal indicating their use in food preparation activities (Ahlman et al. 1998). Furthermore, there are 155 European ceramic sherds modified with scratched "X", initials, or geometric patterns on the vessel base. These undoubtedly represent religious marks or personal identifications and some are surely attributable to African slaves (Schroedl and Ahlman 1999).

Table 4. Temporal Period and Ceramic Wares recovered at BSH 2 in 1996-1999.

Ware	Date Range	1996	1997	1998	1999	Total
Creamware	1761-1820	726	3648	3891	5618	13883
Pearlware	1780-1830	380	1869	2004	2777	7030
Whiteware	1830-present	15	121	172	54	362
Stoneware	16th century to present	66	289	306	458	1119
Redware	16th century to present	51	445	400	392	1288
Chinese export porcelain	1660-1800	15	59	58	69	201
British bone porcelain	1745-1795	8	10	15	26	59
Earthenware	1580-1795	34	151	105	234	524
Yellowware	18th century to present	9	86	84	121	300
Afro-Caribbean	17th to 19th century	20	174	155	90	439
Miscellaneous ceramics		4	6	24	18	52
Total Ceramics		1328	6858	7214	9857	25257

Table 5. Temporal Period and Ceramic Wares recovered at BSH 1, BSH 2 and BSH 3.

Ware	Date Range	BSH1	BSH2	BSH3	Total
Creamware	1761-1820	41	13883	290	14214
Pearlware	1780-1830	45	7030	222	7297
Whiteware	1830-present	27	362	175	564
Stoneware	16th century to present	10	1119	46	1175
Redware	16th century to present	4	1288	22	1314
Chinese export porcelain	1660-1800	2	201	9	212
British bone porcelain	1745-1795	1	59	10	70
Earthenware	1580-1795	25	524	21	570
Yellowware	18th century to present	0	300	12	312
Afro-Caribbean	17th to 19th century	1	439	5	445
Miscellaneous ceramics		0	52	11	63
Total Ceramics		156	25257	823	26236

Curved Glass

A total of 19,807 pieces of curved glass, or nearly double the number of pieces found in 1996-1998, were recovered at BSH 2 in 1999. Most pieces are liquor bottle fragments, and most of these, including one complete bottle, were associated with the sediments densely laden with artifacts outside the east wall of Structure 2. The attributes recorded for curved glass artifacts are similar to ceramics. The date of manufacture for the majority of the glass sherds, however, can not be as closely identified as the ceramic artifacts. The majority of the glass containers in the artifact sample from BSH 2 were manufactured during the eighteenth and early nineteenth centuries.

Smoking Pipes

A total of 1,506 smoking pipe fragments, represented by pipestems and pipebowls, were recovered at BSH 2 in 1999, bringing the site total to over 3,200 specimens. All of the specimens are kaolin clay. No stoneware, redware, or terra cotta smoking pipes were found. Pipes are especially useful for site chronology studies based on decorative motifs (Sudbury 1980, 1983) and stem diameter which change regularly over time (Harrington 1954; Binford 1962; Walker 1965). Studies have shown, however, that pipestem samples dating after about 1760 produce unreliable dates because the bore diameters do not consistently change after this date. Pipe stem dating at BSH 2, as a result, has not produced expected dates in the 1780s to 1800s (Amy Hill, personal communication 2000).

Metal

The metal category contains non-ferrous and ferrous metals not assigned to the nail or miscellaneous categories. At BSH 2, 2,292 pieces of metal were recovered in 1999. This group includes items such as tools, horse or mule tack, fragments of barrel hoops, unidentifiable metal objects, and other miscellaneous metal objects. Barrel hoops are especially abundant in the BSH 2 collection. The analysis of the metal involved a general description of the item plus any specific characteristics of the item like size or possible function.

Nails

Nails are analyzed as a separate category from construction materials because of the different analytical techniques employed. The variables recorded during the nail analysis are type, condition, state, size, and general notes. There were 2,891 nails recovered from the 1999 excavations at BSH 2.

Construction Materials

The construction materials, totaling 569 specimens, recovered at BSH 2 in 1999 include roofing slate, bricks, floor and roof tiles, and flat window glass. Other construction materials noted in the field but not collected or quantified are mortar and foundation stones.

Miscellaneous Artifacts

The miscellaneous category consists of those items that fit no other group and are primarily personal items like buttons and personal adornments (Savage and Schroedl 1999; Schroedl and Ahlman 1998). In addition, gun flints, chert flakes from gun flints, and musket balls are considered part of this category since very few armaments have been found even though this is a military site. The attributes recorded for this category include a general description of the item and any distinguishing characteristics. A total of 267 such artifacts was recovered at BSH 2 in 1999. The recent publication (Friedrichs 1999) listing the British regiments stationed at Brimstone Hill will help identify the military units represented by buttons and military accouterments found at the site.

Faunal Remains

Identification and compilation of the faunal remains recovered in 1999 is incomplete. Preliminary assessment of the materials indicate no significant differences in the kinds or frequencies of animals from those recovered in previous field seasons. The single exception is that sea turtle cranial elements from at least one animal were recovered in 1999. None is represented in previously excavated samples. Bone from the extremities (i.e. legs) do not occur in the sample.

Further studies of the marine mollusks previously recovered from the site indicate that most are West Indian Top Shell and Green Star Shell. As evidence by "removal holes" on more complete specimens, it is likely that enslaved Africans utilized the mollusks as a food source that could be obtained while fishing. The distribution of shells suggests that, when discarded, most accumulated between Structures 1 and 2 (Patterson and Klippel 1999).

Additional research (Klippel 2000) on the vertebrate fauna has used stable carbon isotope analysis to determine whether livestock, particularly bovids, consumed at the site represent animals raised on St. Kitts or shipped to St. Kitts as preserved meat from England or North America. Carbon isotopes from animals fed with tropical grasses can be distinguished from those raised on cool temperate grasses. Analysis of bones representing six different cows (*Bos taurus*) showed that two were probably raised locally in St. Kitts while the other four animals were imported from more temperate climates. Analysis shows that a sheep (*Ovis* sp.) and a goat (*Capra* sp.) were both raised in St. Kitts. The carbon isotope analysis is an important means for investigating the diet of both British soldiers and enslaved Africans at the site.

At BSH 2 there is an abundance of artifacts and waste from the manufacture of bone discs, indicating that it was a primary activity at the site (Klippel and Schroedl 1999). Because so much of this material was found, it has been possible to reconstruct with great precision the specific manner in which the discs were made. The contribution of this analysis to the study of enslaved Africans at Brimstone Hill is obvious, but this also represents a major addition to colonial era studies in general because small numbers of identical bone discs are found at sites of this time period elsewhere in the Caribbean and throughout eastern North America.

Summary and Conclusion

The primary objective of the 1999 excavations at BSH 2 was to complete the excavation of Structure 2 in order to determine its size and architectural characteristics. The structure, as revealed by the excavations, is longer than originally thought, and measures between 8.2 and 10.2m long. The building foundation is very similar to Structure 1, consisting of mortared cobbles and small boulders with a mortar sill. Both buildings, as suggested by the Lieutenant James Lee watercolor of Brimstone Hill made in the mid 1790s, probably were post and timber construction (Schroedl 1999a). Unlike Structure 1, which has a mortar floor, the floor of Structure 2 is packed small, angular pebbles and hard pieces of mortar.

A second important goal of the 1999 excavations was to obtain additional artifact samples in order to better define the kinds of activities that occurred within the building and its immediate surrounding area. Few artifacts were recovered from limited excavations of the building's interior, suggesting that it was kept comparatively free of debris. In contrast, the accumulation of artifacts, particularly bone discs and their manufacturing waste, outside the structure at the base of the east wall indicates that this was a primary work area. It was probably favored because of the shade provided by the fortress wall and the east wall of the building. Structure 1 does not exhibit the same degree of use along its east wall. Excavation on the east side of both structures, however, produced large amounts of material that was discarded over the defensive wall after the structures were abandoned.

While the focus of excavations has been the structures utilized by enslaved Africans, significant information was obtained regarding British military mortuary patterning. There are at least two rows of burials that parallel the defensive wall. Individuals were interred no more than about a meter from one another, and the two rows are no more than about a meter apart. All the burials are approximately the same depth,

and, where completely exposed in plan view (e.g. Features 10 and 19) are 2.2 to 2.3m long and 50 to 60cm wide. Evidence shows that some bodies were placed in coffins, that some, but not all graves, were marked, and that at least one individual was subject to post mortem medical examination. Where unavoidable some skeletal remains were removed during the excavation, but most of the burials were undisturbed.

Four field seasons at BSH 2 produced nearly 90,000 artifacts, most of which represent objects manufactured in Great Britain for use by the British military stationed at Brimstone Hill. Although the primary objective of excavations at BSH 2 has been the archaeological study of enslaved Africans, the importance of the recovered artifacts to the examination of British colonial military material culture, and its patterns of acquisition, distribution, and use are significant. Among the artifacts directly related to enslaved Africans at the site, the most important are Afro-Caribbean ceramics; bone discs and their manufacturing debris, and British made ceramics that have been modified with scratched designs. The Afro-Caribbean ceramics represent a tradition of ceramic manufacture and use found throughout much of the New World. The BSH 2 ceramics are evidence that enslaved Africans carried out food preparation and other domestic activities at the site. The ceramics are of further importance to the study of the manufacture, use and distribution of Afro-Caribbean wares on St. Kitts and adjacent islands. The analysis of bone discs and their manufacturing debris recovered at BSH 2 are a major contribution to the description of this technology, and shows its importance in the context of the British military at Brimstone Hill. These materials also indicate that enslaved Africans, in addition to their role in the fort's maintenance and construction, also contributed to craft production at the fort in an important manner. British made ceramics with scratched designs surely relate to the maintenance of individual and ethnic identity among enslaved Africans. Heretofore, the documentation of these patterns has been infrequent in the archaeological record of the colonial period.

Archaeological studies at BSH 2 successfully identified habitation areas attributed to enslaved Africans. Two structures, a hospital (Structure 1) and a workshop building (Structure 2) provide important evidence of Afro-Caribbean occupation that is not document in the context of the British Colonial military at any other site.

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Appendix--Excavation Units and Levels at BSH2, 1999

Unit	Level No.	Beginning Elevation	Final Elevation
196-197N	1 to 5 excavated 1996		
100-101W	6	99.60	99.50
	7	99.50	99.40
	8	99.40	99.30
	9	99.30	99.20
	10	99.20	99.10
	11	99.10	99.00
	12	99.00	98.90
199-200N	1	100.00	99.80
100-101W	2	99.80	99.70
	3	99.70	99.60
	4	99.60	99.50
	5	99.50	99.40
	6	99.40	99.30
	7	99.30	99.20
	8	99.20	99.10
	9	99.10	99.00
	10	99.00	98.90
	11 (exterior)	98.90	98.70
	12 (exterior)	98.70	98.60
	13 (exterior)	98.60	98.50
	14 (exterior)	98.50	98.40
	15 (exterior)	98.40	98.30
200-201N	1	100.00	99.80
100-101W	2	99.80	99.70
	3	99.70	99.60
	4	99.60	99.50
	5	99.50	99.40
	6	99.40	99.30
	7	99.30	99.20
	8	99.20	99.10
	9	99.10	99.00
	10	99.00	98.90
	11	98.90	98.80
	12	98.80	98.70
200-201N	1	99.84	99.60
101-102W	2	99.60	99.50
	3	99.50	99.40
	4	99.40	99.30
	5	99.30	99.20
	6	99.20	99.10
	7	99.10	99.00
	8	99.00	98.90
	9	98.90	98.80
	10	98.80	98.70
	11	98.70	98.60
	12	98.60	98.50

201-202N	1	100.00	99.80
100-101W	2	99.80	99.70
	3	99.70	99.60
	4	99.60	99.50
	5	99.50	99.40
	6	99.40	99.30
	7	99.30	99.20
	8 (20 cm level)	99.20	99.00
	9	99.00	98.90
	10	98.90	98.80
	11	98.80	98.70
	12 (exterior)	98.70	98.60
	13 (exterior)	98.60	98.50
201-202N	1	99.84	99.60
101-102W	2	99.60	99.50
	3	99.50	99.40
	4	99.40	99.30
	5	99.30	99.20
	6	99.20	99.10
	7	99.10	99.00
	8	99.00	98.90
201-202N	9	98.90	98.80
101-101.33	10	98.80	98.70
202-203N	1	100.05	99.70
100-101W	2	99.70	99.60
	3	99.60	99.50
	4	99.50	99.40
	5	99.40	99.30
	6	99.30	99.20
	7	99.20	99.10
	8	99.10	99.00
	9	99.00	98.90
	10	98.90	98.80
	11	98.80	98.70
	12 (exterior)	98.70	98.60
	13 (exterior)	98.60	98.50
202-203N	1	99.73	99.50
101-102W	2	99.50	99.40
	3	99.40	99.30
	4	99.30	99.20
	5	99.20	99.10
	6	99.10	99.00
	7	99.00	98.90
202-203N	8	98.90	98.80
101-101.30	9	98.80	98.70
202-203N	1	99.42	99.20
102-103W	2	99.20	99.10
	3	99.10	99.00
	4	99.00	98.90
202-203N	1	99.31	99.10
103-104W	2	99.10	99.00
	3	99.00	98.90
	4	98.90	98.80

203-204N	1	99.94	99.70
100-101W	2	99.70	99.60
	3	99.60	99.50
	4	99.50	99.40
	5	99.40	99.30
	6	99.30	99.20
	7	99.20	99.10
	8	99.10	99.00
	9	99.00	98.90
	10	98.90	98.80
	11 (interior)	98.80	98.70
203-204N	1	99.70	99.50
101-102W	2	99.50	99.40
	3	99.40	99.30
	4	99.30	99.20
	5	99.20	99.10
	6	99.10	99.00
	7	99.00	98.90
	8	98.90	98.80
	9	98.80	98.70
203-204N	1	99.42	99.20
102-103	2	99.20	99.10
	3	99.10	99.00
	4	99.00	98.90
203-204N	1	99.18	99.00
103-104W	2	99.00	98.90
	3	98.90	98.80
	4	98.80	98.70
204-205N	1 to 8 excavated 1996		
100-101	9 (exterior)	99.00	98.90
	10	98.90	98.80
	11	98.80	98.70
	12 (exterior)	98.70	98.60
	13 (exterior)	98.60	98.50
204-205N	1	99.65	99.40
101-102W	2	99.40	99.30
	3	99.30	99.20
	4	99.20	99.10
	5	99.10	99.00
	6	99.00	98.90
	7	98.90	98.80
	8	98.80	98.70
205-206N	1	99.80	99.60
100-101W	2	99.60	99.50
	3	99.50	99.40
	4	99.40	99.20
	5	99.20	99.10
	6	99.10	99.00
	7	99.00	98.90
	8	98.90	98.90
	9	98.90	98.80
	10 (exterior)	98.80	98.70

205-206N100- 100-101W cont	10 (interior)	98.80	98.70
	11 (exterior)	98.70	98.60
	12 (exterior)	98.60	98.50
205-206N 101-102W	1	99.60	99.30
	2	99.30	99.20
	3	99.20	99.10
	4	99.10	99.00
	5	99.00	98.90
	6	98.90	98.80
	7	98.80	98.70
208-209N 100-101W	1to 4 excavated 1996		
	5	99.00	98.90
	6	98.90	98.80
	7	98.80	98.70
	8	98.70	98.60
208-209N 101-102W	1	99.46	99.20
	2 (20 cm)	99.20	99.00
	3	99.00	98.90
	4	98.90	98.80
	5	98.80	98.70
	6	98.70	98.60
208-209N 102-103W	1	99.21	98.90
	2	98.90	98.80
	3	98.80	98.70
	4	98.70	98.60
	5	98.60	98.50
	6	98.50	98.40
	7	98.40	98.30
208-209N 103-104W	1	98.97	98.80
	2	98.80	98.70
	3	98.70	98.60
	4	98.60	98.50
	5	98.50	98.40
	6	98.40	98.30
208-209N 104-105W	1	98.73	98.50
	2	98.50	98.40
	3	98.40	98.30
	4	98.30	98.20
208-209N 105-106W	1	98.50	98.30
	2	98.30	98.20
208-209N 106-107W	1	98.24	98.00
	2	98.00	97.90
	3	97.90	97.80
218-219N 100-101W	1	98.85	98.70
	2	98.70	98.60
	3	98.60	98.50
	4	98.50	98.40
	5	98.40	98.30
	6	98.30	98.20
	7	98.20	98.10
218-219N 101-102W	1	98.68	98.50

Feature 16	1	98.82	98.70
	2	98.70	98.60
	3	98.60	98.50
	4	98.50	98.40
Feature 17	1	98.84	98.70
	2	98.70	98.60
	3	98.60	98.50
Feature 18	1	98.90	98.80
	2	98.80	98.70
	3	98.70	98.60