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# Data Recovery Excavations of the Carriage House, Greenhouse, and Greenhouse/Carriage House Well at Gore Place, Waltham, Massachusetts

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Gore Place, Waltham, Massachusetts**



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## **ABSTRACT**

Excavations and ground penetrating radar at Gore Place in Waltham, Massachusetts, examined the original 1793 carriage house site, the 1806 greenhouse, and the greenhouse/carriage house well, all associated with Christopher and Rebecca Gore. The carriage house was moved in 1968, and its cellar was filled at that time. Mechanical removal of the fill in a portion of the carriage house cellar revealed that the lower portion of at least the rear (north) foundation wall is well preserved along with the cellar floor. Documentary evidence indicated that the carriage house cellar had been used for manure (compost) preparation, while the first floor was used to house horses and to store gardening tools and firewood. Four excavation units set into the cellar floor revealed no evidence of its former use for manure production (such as organic staining) indicating that it had been thoroughly cleaned. The artifacts present in the floor units represent a considerable time period from that of the Gores through to the early 20th century. The majority of objects date to the Gore period, and the wide variety may reflect the incorporation of refuse into manure production.

Investigations north of the structure showed that some of the soil in the parking lot constituting the western portion of Gore's vegetable garden was removed and replaced with a uniform mixture of sand and gravel, probably at the time the carriage house was moved. While the gravel is at least 2 m deep close to the carriage house foundation, its depth lessens with distance northward, since shovel testing in 2004 showed intact dark brown loamy soil beginning at a depth of 35 to 50 cm below driveway gravel and sand bedding at 20 and 40 m north of the carriage house foundation.

Early 19th-century maps indicated that the greenhouse was roughly 60 feet (18 m) long and 15 to 21 feet (up to 6.5 m) wide with a small extension on the west end. Fifty-two square meters were excavated at the west end, uncovering the trapezoidal brick floor of the extension and an associated stone drain, ground surfaces contemporary with the greenhouse, post holes for a fence that separated the greenhouse area from the carriage house, layers relating to the greenhouse's destruction (early 1840s), and later landscaping features including a stone wall and two drains. Documentary, archaeological, and geophysical data suggest that the greenhouse was a formal space intended to grow and display exotic plants and that it was built in the relatively new lean-to style, with a tall back wall and short front wall. The artifact assemblage included architectural elements, tools and small finds related to the greenhouse operation (including the remains of at least 149 planting pots), and bone stockpiled for soil enrichment. The greenhouse was constructed by the Gores during a period of intense interest in agricultural experimentation by members of the Massachusetts commercial and political elite. Scholars have argued that these men used the positive associations of agriculture to offset some of the contemporary negative connotations of commerce. This report examines the greenhouse both as a space for the display of exotic plants in the context of this scientific agricultural movement and posits that Rebecca Gore may have played a significant role in managing it.

## **MANAGEMENT SUMMARY**

A master landscape plan was developed by Halvorson Design Partnership of Boston to restore the house and grounds of Gore Place, the late 18th- and early 19th- century estate of Christopher and Rebecca Gore in Waltham and

Watertown, Massachusetts. Archaeological investigations were recommended by the master plan to determine the location and assess the integrity of landscape features that had the potential to be included in the restoration effort. The Gore Place Society, which owns and maintains the estate, contracted the Fiske Center for Archaeological Research at the University of Massachusetts, Boston in 2004 for preliminary excavations across the property. By 2008 additional investigations were desired by the Society to examine the new carriage house site, which encompassed the original site of the carriage house and the Gore-period greenhouse. These excavations, conducted under State Archaeologist permit #3052, consisted of 52 sq m of contiguous excavation over the west extension of the greenhouse, excavation of the northeast corner of the carriage house cellar, and 2 sq m around the greenhouse/carriage house well.

### ACKNOWLEDGEMENTS

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## CHAPTER 1: BACKGROUND INFORMATION

### Introduction

Since 1935 the Gore Place Society has owned and administered Gore Place, the mansion and estate of Massachusetts Governor and U.S. Senator Christopher Gore and his wife Rebecca from 1791 to 1834. The Gore property, located at 52 Gore Street in the towns of Waltham and Watertown, Massachusetts, is a National Historic Landmark because of its historical connections to the Gore family, its depiction of a Federal-period country estate, the design of the house by French architect, Jacques Guillaume Legrand, and its role in American labor history (Figure 1.1). The mansion with its extant 1793 carriage house and extensive grounds is one of a small number of Federal-period country seats in the greater Boston area that have been preserved for the purpose of public education and enjoyment.

In 2000, the Gore Place Society hired landscape architects Halvorson Design Partnership Inc. of Boston to create a landscape master plan for Gore Place that incorporates the Society's mission of preservation and maintenance of the 1806 mansion, its collections, outbuildings, and grounds. This collaborative effort has as its central focus a unique commitment to use the surrounding landscape to enhance the story of the Gore family. The goal of the landscape master plan is to restore the existing landscape to its early 19th-century form to the extent practicable, and it outlines procedures for preliminary investigation, rehabilitation, and restoration that will occur in a series of phases. Archaeological investigations are included in the plan as an important means of identifying subsurface features that will aid the landscape rehabilitation effort.

Phase one of the plan included a number of tasks, one of which was documentary research that focuses on the identification of known and unknown Gore-period resources. A detailed landscape history was completed by Brockway (2001), and this was followed by archaeological investigations that focused on the identification and assessment of six landscape features consisting of the entrance drive, original carriage house foundation,

early greenhouse, grapery and later greenhouse, vegetable garden, and flower garden (Smith and Dubell 2006). Also included in this phase have been architectural and archaeological investigations within the mansion house itself (Baker et al. 2001, 2002; Smith 2011), as well as exterior restoration work.

Compilation of this work as well as additional and ongoing archival research has revealed an emphasis on Christopher Gore's conception of his home as a working farm (for an account of Gore's political and professional life, see Pinkney 1969). Due to the Society's desire to include an agricultural component in its portrayal of the property, it became necessary to attempt to identify which portions of the grounds were historically associated with agricultural pursuits and which remained visually pleasing yet unproductive landscape. As a result the Gore Place Society contacted the Fiske Center for Archaeological Research at the University of Massachusetts Boston to conduct an archaeological survey to identify areas on the property that were likely to have been farmed during Gore's occupation and landscape features that would have contributed to this agricultural environment and day to day running of the estate. This entailed the search for plow scars indicative of cultivation as well as walks, wells, and cisterns that would have been integral to sustaining a working farm. In the first phase of research, four locations on the estate grounds were chosen for archaeological examination: a field east of the grapery/greenhouse site, the drive circle, the straight walk east of the library, and the south lawn. This phase of investigation identified plowed areas on the south lawn, the borders of the grapery area and later greenhouses, the construction methods employed for Gore-period paths and wells, and numerous Gore-period and later features, including cisterns and drainage features (Smith, Beranek, and Steinberg 2010). A geographic information system (GIS) data storage and mapping component was included in this project to begin accurate mapping and documentation of archaeological finds, utilities and other cultural and natural features to assist with implementation of the landscape master plan as well as with future



Figure 1.1. Gore Place property on USGS Boston South Quadrangle.

planning and interpretation. The second phase of this research, the examination of the sites of the Gore period greenhouse and carriage house, is reported here.

### Scope of Work

This report covers the archaeological data recovery of the original locations of the Gore-period carriage house and greenhouse located near the entrance drive (Figure 1.2), both important elements of Gore’s agricultural and horticultural work on his farm. It also covers the excavation around

the well in the carriage house/greenhouse area. The greenhouse was demolished by the middle of the 19th century, but the 1793 carriage house still stands. It was relocated in 1968 when Gore Street was widened. One of the current proposals for landscape restoration includes moving the carriage house back to as close to its original location as possible. This possibility necessitated the archaeological investigation of the area near the entrance drive to determine what kinds of archaeological resources would be affected by the relocation of this cellared building. To this end, the site exami-



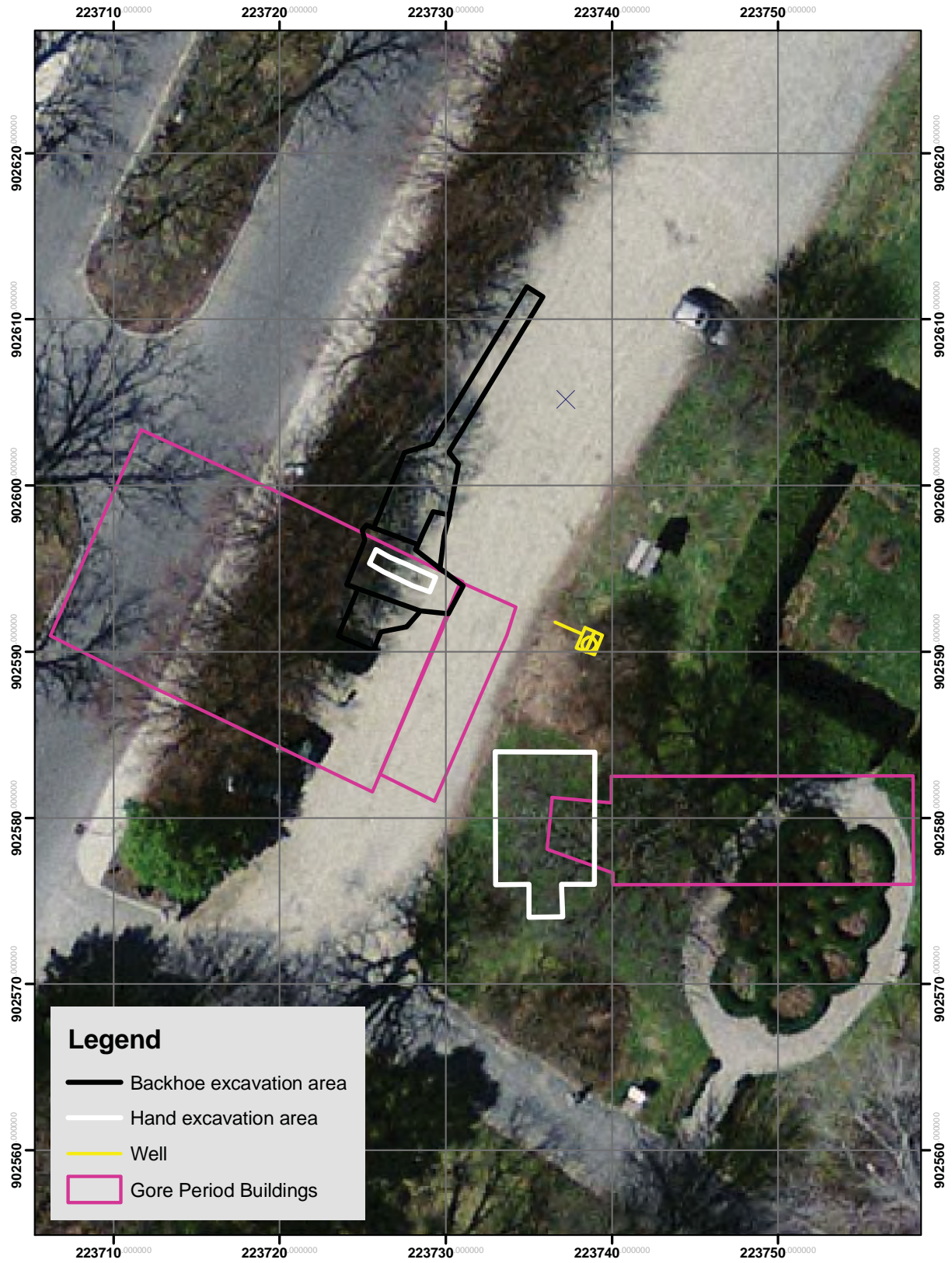


Figure 1.2. Locations of the original site of the Carriage House (to the west), the greenhouse (to the east), and the well near the entrance to the property, with excavation areas overlain.

nation was designed to relocate the original carriage house foundations, to examine the deposits that made up the original floor, and to excavate the area around the greenhouse that would be affected, since 2004 excavations suggested that there were substantial archaeological deposits associated with the greenhouse (Smith and Dubell 2006). A Ground Penetrating Radar (GPR) survey was also carried out over the current parking lot (to detect the carriage house foundations) and to the west of the greenhouse excavations (to trace the continuation of the greenhouse and associated features).

### Research Questions

In addition to relocating the carriage house foundations and assessing the integrity of the greenhouse remains, these excavations hoped to address several research questions. The first was to investigate how the carriage house fit into the system of agricultural labor on Gore's farm. In addition to its agricultural uses, did it serve as residential space for the hired agricultural laborers who worked on the property? Account books give some indication of the number of people who worked on the farm and their wages, but we do not know for certain where the domestic and agricultural laborers were housed, whether on the property or in their own homes in Waltham and Watertown.

Since the greenhouse was only known from its depiction on two maps (the 1834 map created for owner Theodore Lyman and the 1841 map created for owner John Singleton Copley Greene), the research questions for the greenhouse began with basic inquiries into when it was constructed and demolished and how it was laid out, heated, and equipped. The greenhouse advice literature of the period (Hibbert & Buist 1835; Loudon 1805, 1817, 1825, 1860; M'Mahon 1857), excavations at other 19th-century greenhouses (Beaudet 1990; Bescherer, Kratzer; and Goodwin 1990; Pogue 2009), and standing examples, including several greenhouses at the near-by Lyman estate, indicate that there were many variations in form. Moving beyond the construction details, research on the greenhouse addresses the questions of who worked there, whether it was under Mr. or Mrs. Gore's purview, and how the greenhouse operations related to the principles of scientific and experi-

mental agriculture (see Thornton 1989) taking place elsewhere on the property. Finally, what did the greenhouse convey to Gore's contemporaries about the Gores' status and social and political aspiration?

### Field and Laboratory Methods

Prior to any investigations, a grid system was established for the property. The same system was used during the test pit survey of the agricultural periphery (Smith, Beranek, and Steinberg 2010). We established a Massachusetts Mainland State Plane grid using North American Datum of 1983 (NAD83). All of the geophysics and excavation units on the site are accurately located within this projected grid. For instance, all MASSGIS products (<http://www.mass.gov/mgis/massgis.htm>) use this grid. Grid coordinates can be seen on the edges of many of the figures in this report. To establish this grid, we obtained the global positioning system (GPS) coordinates of manhole covers on the surrounding streets from the Town of Waltham. We corrected these points with a Trimble Geo XH with antenna that yielded fairly accurate sub-foot post-processed accuracy. We used these known points (e.g., manhole covers at Winsom and Gore streets and Whitman Road and Main Street) to establish the initial location for the Topcon GPT-9005A robotic total station on the property. From this point, we shot in multiple secondary benchmarks around the property on durable points such as window wells, manhole covers, and drainage grates. During all subsequent excavations, we used these secondary benchmarks to establish the position of the total station, allowing us to survey in a grid for the excavation areas. A list of these points and descriptions are provided in the electronic documentation.

Subsurface investigations consisted primarily of large open areas. The area around the carriage house was opened judgmentally and encompassed roughly 3 × 6 m of the interior of the greenhouse cellar. Four 1 × 1 m excavation units were placed in the cellar floor. The greenhouse area was investigated with 13 contiguous 2 × 2 m units, for a total of 52 sq m. The area around the well was investigated with two adjacent 1 × 1 m units. Specific information on the methods used in

these excavation areas can be found in Chapter 2 (the carriage house and well) and Chapter 4 (the greenhouse). For all excavation areas, each distinct deposit or soil layer was given a context number. Excavation proceeded into the upper portion of the sterile B-horizon or C-horizon except where intact architectural features (such as the greenhouse floor) were present. The upper layers in the carriage house and greenhouse areas were removed mechanically and not screened. In the case of the carriage house, the cellar had been filled when the building was moved in 1968; that fill was removed mechanically until we were near the floor deposits. In the greenhouse area, test excavations in 2004 had established that there were several layers of modern landscaping fill, probably deposited when the parking lot was graded, over the the greenhouse rubble. The topsoil and the uppermost of the landscaping fills were removed mechanically; two deeper landscaping layers were excavated by hand.

All soil excavated by hand was screened through  $\frac{1}{4}$  in mesh hardware cloth to retrieve cultural material. Artifacts were placed in ziplock bags labeled with appropriate provenience information. Bagged artifacts were taken to the archaeological laboratory at the Fiske Center where they were washed, dried, catalogued and rebagged for long term storage at the University of Massachusetts Boston. The artifact catalog was created in FileMaker and can be found in Appendix A.

### **Archaeogeophysics**

Archaeogeophysics, in general, is the application of non-destructive geophysical methods and principles to archaeological settings. More specifically, archaeogeophysics is the interpretation of buried archaeological sites and features based on the results of shallow geophysical investigations. Archaeological features, important subsurface geology, and sometimes artifacts and ecofacts can be located and partially analyzed using geophysical signatures. These surveys have been identified as particularly useful in understanding landscape features such as gardens that cover a large area and cannot be completely excavated (Yentsch and Kratzer 1994). Broad coverage geophysical surveys can also be immensely helpful for investigating settlement patterns.

Archaeogeophysics is not an exact science. We have found that small differences in the environment (e.g., soil moisture, surface cover, changes in ambient temperature) can change the geophysical properties of the near surface, and therefore change the nature and shape of geophysical anomalies. A geophysical anomaly is a general term for any structure that exhibits significantly different geophysical properties from its surrounding environment. Anomalies can be natural (such as a glacial erratic) or artificial (such as a wall). Determining which anomalies are natural and which reflect buried archaeological features can be difficult.

In archaeogeophysics, the choice of equipment, technique, transect direction, transect spacing, and area covered can have as much or more effect on the reliability of the identification of archaeological features as the contrasts between the features and the surrounding matrix. Because the work is non-destructive, surveys can, and usually are, preformed multiple times with slightly different parameters in order to obtain the best results.

In general, interpretations based on archaeogeophysical data are dramatically more accurate when made in the context of archaeological excavations. Even small excavations of targeted anomalies greatly enhance the archaeological interpretation of geophysical anomalies. Along the same lines, using archaeogeophysical evidence as a guide for excavations makes these excavations considerably more efficient. The reflexive use of archaeology and geophysics can establish a geophysical signature of an archaeological feature. That is, when archaeological investigations are in a feedback loop with geophysical surveys we can turn a geophysical anomaly into an archaeological signature.

There are many important archaeological features that do not exhibit geophysical contrasts that are strong enough to be identified with the methods and post-processing applied herein. It is common for important archaeological deposits to be identified in areas without significant anomalies. We generally use multiple geophysical methods that identify different types of anomalies to try to mitigate this problem. In some cases anomalies that show up with one technique may

not show up in another. Sometimes more accurate archaeogeophysical interpretations can be made when an anomaly only manifests itself with one geophysical technique. However, anomalies that manifest themselves in multiple methods are usually substantial.

Archaeological interpretations based only on geophysical tests can be inaccurate. While some anomalies are much more suggestive than others, there are no guarantees of the accuracy for any of them. Nonetheless, even when incorrectly interpreted, the data itself can still provide valuable information especially when reevaluated. Therefore, we make the best interpretations we can, based on the archaeological context, the geophysical context, any previous excavations, and comparisons with similar anomalies where those anomalies have been excavated at other sites. Given these parameters, we make the most accurate and specific archaeogeophysical assessments we can.

### *Ground Penetrating Radar*

Ground Penetrating Radar (GPR) has become The Fiske Center's principal archaeogeophysical method for high-resolution mapping of buried architecture and cultural deposits (Goodman et al. 2008; Goodman et al. 2007). A GPR antenna/receiver unit sends microwaves into the ground. Interfaces that exhibit significant contrasts can reflect some of the microwave energy back to the receiver. The longer it takes for the microwaves to return, the deeper the reflector. The more energy a feature sends back, the stronger the reflector. Buried flat rocks, lying parallel to the ground, are some of the strongest microwave reflectors. Salt water absorbs microwave energy and does not reflect any energy back. Therefore, assuming a body does not absorb all the microwave energy, or an interface does not reflect all of the energy back to the receiver, a GPR microwave pulse has information about reflectors over a variety of depths (Conyers 2005). In general we use the Malå X3M integrated radar control unit with a XV10 Monitor attached. We have at our disposal 250, 500, and 800 MHz antennas, which were all tested at Gore Place and the optimal antenna(s) applied to specific grids and described below.

As the antenna/receiver unit is dragged across

a transect, it sends a microwave pulse every centimeter or so. The strength and time lag of the reflected energy can be plotted to create a pseudo-profile of the intensity of reflectors over the depth. This output is called a radargram or GPR radar profile. A series of these pseudo-profiles can then be "sliced" across the site at a given depth to create a GPR map of the subsurface. For interpretation we primarily use these slices, cross-checked with individual radargrams.

The original goal of the GPR archaeogeophysics at Gore Place was to locate the carriage house foundation. The target location was under a gravel driveway. While radar propagates well through gravel, gravel at the surface can scatter shorter wavelengths, reducing the strength of the signal that penetrates the subsurface. The gravel surface can also scatter the returning radar reflection. Therefore, over the parking lot we opted for an antenna with a longer wavelength, to get more energy through the gravel than we would otherwise use for locating the target carriage house foundation. Normally we would use a 500 MHz antenna for a structure with walls less than 1 m thick and 50 cm below the ground surface. In this case, with the gravel road surface, we opted for a 250 MHz antenna with 50 cm transect spacing.

All things being equal, we like to survey with transects following the orientation and coordinate system of the Massachusetts State Plane system. More importantly, results are best when the target is encountered perpendicular to the transect lines (Neubauer et al. 2007; Pomfret 2006). Because the general orientation of the target carriage house foundation was known, but not its exact location, we opted to use "off-grid" transect orientation. We placed alternating color PVC flags 50 cm apart in parallel lines at each end of the driveway. Each flag was recorded with the total station. The flags' state plane coordinates served as the start and end points of the GPR transect lines (Figure 1.3). Several flags were placed on the edges to fill out the grid with crossing transect lines. In most of the GPR analysis, we use the complete set of GPR transects for the slices (e.g., Figure 2.13). However, crossing transects, can reduce the apparent strength of an anomaly (Goodman 2011). Therefore, we also examined the three groups of parallel

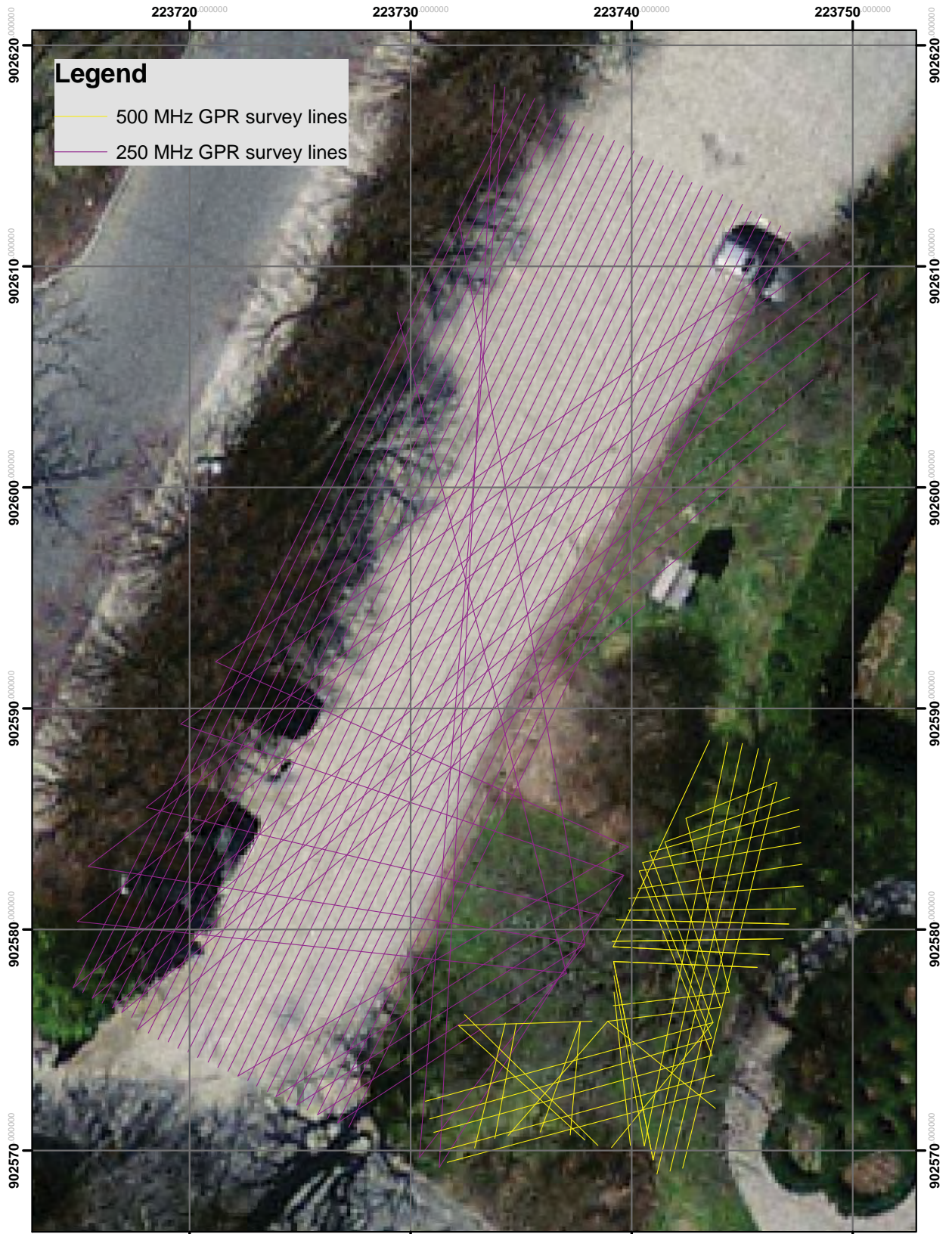


Figure 1.3. GPR transects.



Figure 1.4. Gore Place during the 1920s while the property was used as a golf course. The house is that built by the Gores in 1805-1806. View looking north.

transects separately (one example is used in Figure 4.7). In general, the separate and grouped slices showed the same pattern.

At the greenhouse, we used the 500 MHz antenna that proved much better at resolving fine features than the 250 MHz antenna used in the parking lot. Again, transect endpoints were marked by alternating color PVC flags with State Plane coordinates but at the greenhouse these were arranged around the edge of the excavation. While we attempted to keep transects 50 cm apart, some areas received more survey than others. Slices of groups of parallel transects were not examined separately over the greenhouse.

### **Project Location and Environmental Context**

The Gore Place property is composed of 45 acres situated on the boundary between the towns of Waltham to the west and Watertown to the east in Middlesex County. It is bordered by Main Street (Route 20) on the north, Edward Road on the east, Grove Street on the south and Gore Street on the west. The property is approximately 2600 ft (800 m) north of the Charles River and lies at the geographic boundary between the upper Charles River

flood plain and northern upland. The entire parcel slopes gently southward toward the river. The eastern portion of the property contains a small north-south stream that originates north of Main Street. Although its banks have been altered by 20th-century fill, its general course appears to have been little changed.

Soils in the project area are composed of two types that correspond to the site's topography. The lower Charles River floodplain consists of Hinckley loamy sand with 3-5% slopes (USDA 1995). The Hinckley series ranges from a friable and gravelly or very gravelly sandy loam to a loamy coarse sand, both of which have rapid permeability making them excessively drained. The substratum at 12-30 in. (30-76 cm) consists of stratified sands and gravels. These soils form on gravelly and cobbly, coarse textured glacial outwash plains, terraces, kames, and eskers. Soils that make up the upland portion of the property consist of Canton fine sandy loam with 3-8% slopes. The Canton series soils are characterized as friable fine sandy loam with moderately rapid permeability. The substratum between 18 in. and 36 in. (46-91 cm) is a loamy, coarse sand. Canton soils form on well-drained upland glacial till and are typically stony,

but this characteristic is generally absent from the northwestern upland portion of the property.

### **Occupation History of Gore Place**

A summary history of Gore Place is provided here for a general understanding of the estate's historic context. More detailed information is available in Brockway (2001), Smith and Dubell (2006), Dubell (2007), and Smith (2007).

#### *Gore Occupation ca. 1786-1834*

The history of the Gore family in Waltham began in 1786 when Christopher and Rebecca Gore purchased 50 acres of land from Aaron Dexter. This transfer consisted of a 33-acre parcel known as the "mansion house lot" that contained a mansion house, barn, and other outbuildings, and a separate parcel of 18 acres with no improvements. Additional acreage purchased by the Gores in 1791 included the 34 acre "homestead lot" or "forty acre lot" to the north and the 75-acre "Ward farm" that bordered the Charles River to the south. The acquisition of additional woodlots created a total of 197 acres owned by the Gores by 1834. The mansion house lot and an adjacent 12 acre parcel that was not actually owned by the Gores together make up the present 45-acre Gore Place estate.

European ownership of this land on the north side of the Charles River commenced around 1635. A series of tenants appear to have been early occupants. Improvements made to the property by 1744 included a mansion house, barn, and outbuildings along with 12 acres of agricultural and pasture land. The location of the mansion was most likely on the same site as the present house. A tavern was located at the northwest corner of the property on Main Street close to the intersection with former Cross Street. The widening of Gore Street in the mid-1960s likely impacted the tavern site. The presence of an existing mansion house at the time of Gore's 1786 purchase suggests that he either rehabilitated the old structure for his own mansion or built a new structure.

The older house consisted of a frame, central block with flanking wings, situated on the crest of an upper flood plain terrace of the Charles River. A greenhouse was attached to the end of the east

wing and it was here that a fire started in 1799 that destroyed all of the house but the west wing. Rebecca's brother, William Payne, stayed at the house starting in 1796 when the Gores left for seven years in London. William was living in the house at the time of the 1799 fire and may have remained on the property until the new house was completed. The Gores constructed a new brick mansion on the same site in 1805-1806 that still stands (Figure 1.3). Other improvements on the property by this time included a carriage house constructed in 1793, a greenhouse east of the carriage house, a vegetable garden north of the carriage house, a grapery located approximately 130 m north of the mansion house, an ice house, and other support buildings. In addition, a 10-acre field was present northeast of the house and a twelve-acre field was to its south. The main farm complex including a barn lay across Main Street to the north, leaving much of the grounds immediately surrounding the mansion house to be used for pleasure.

Actual occupation of the property by the Gores was intermittent between 1793 and 1834, during which time they also stayed in Boston, Paris, or London. Major alterations were made in 1816 when they winterized the house so that it could be used year round. Other potential occupants of the property include servants, gardeners, and farm managers. Occupation by Rebecca after the death of Christopher in 1827 is unclear, but by the time of her death in 1834, Judge Charles Jackson was renting the property.

#### *Lyman Occupation ca. 1834-1838*

The parcel containing the "mansion house, stable, vinery, and sheds" was purchased by Theodore Lyman Jr. Like Christopher Gore, Lyman was a member of the Massachusetts Society for Promoting Agriculture (MSPA), and Theodore and his wife, Mary, maintained a keen interest in scientific agriculture and in further developing the pleasure gardens on the property. Changes made during their ownership include redesign of the formal garden north of the house following a modern European style that stressed curves over the earlier rectilinear forms of the 18th century. They also may have improved the greenhouse fa-

cilities and the grapery, and they were responsible for painting the house white. Mary Lyman died in 1836 prompting Theodore to put the property up for auction. Lyman Jr. was the son of the Theodore Lyman who owned the estate The Vale, also in Waltham where Lyman (senior) had built several early greenhouses and a fruit wall.

#### *Greene Occupation ca. 1838-1856*

John Singleton Copley Greene purchased the estate in 1838 and continued to employ a gardener and farm manager who maintained the pleasure garden character of the property. A number of changes were made during his tenure. The greenhouse east of the carriage house was probably removed during Greene's tenure. Greene also had a family tradition of horticulture. His father, Gardiner Greene had owned a property in Boston, described as "the most conspicuous and extensive and elegant garden" of his day with terraced garden, numerous fruit trees, and another early greenhouse (Wilder 1881: 12).

#### *Walker Occupation ca. 1856-1907*

The Greenes sold the mansion house lot in 1856 to Theophilus Walker, who in turn, conveyed it to his nieces, Mary Sophia and Harriet Sarah Walker in 1890. Theophilus Walker must have maintained many of the horticultural features because Marshall P. Wilder (1881: 58), president of the Massachusetts Horticultural Society, described the property as "a place distinguished for numerous glass structures, for the growth of fruits, flowers, and vegetables, and for the excellent condition in which its grounds and their appurtenances are kept by its present owner."

A number of changes appear to have been made to the property during this period that include removal of the vegetable garden north of the carriage house and improvement of the grapery greenhouse with its superior solar exposure. In addition, the 1900 *Atlas of Middlesex County* shows

that the Walkers added an addition to the carriage house and a new barn (see Chapter 2). These are not known from any other sources and seem to have not lasted much longer into the 20th century.

#### *Episcopal Church Ownership ca. 1907-1911*

Mary Sophia Walker bequeathed the property to the Episcopal Church in 1907. The church sold the property after only four years, but not before a company based in Colorado to whom the property had been leased caused considerable damage by removing trees and household furnishings.

#### *Metz Occupation ca. 1911-1921*

The estate was purchased by Charles Metz in 1911 who used the house for office and living space. It was during Metz's ownership that the surrounding neighborhood saw significant change through the development of residential housing and the erection of industrial buildings, some of which were owned by Metz, along the Charles River to the south.

#### *Waltham Country Club Occupation ca. 1921-1935*

In 1921 the estate was sold to Henry Beal and the trustees of the Waltham Country Club. Substantial changes were made to the property during this period as much of the landscape was transformed into a golf course with additional recreational facilities.

#### *Gore Place Society Occupation ca. 1935-present*

The country club went bankrupt in 1935 and the estate was saved from demolition by the newly formed Gore Place Society that has preserved and maintained the estate to the present. Gore Street, on the west side of the property, was widened in 1967, prompting the relocation of the carriage house to a new location north and east of its original site (see Chapter 2).



## CHAPTER 2: THE CARRIAGE HOUSE

### Introduction

The carriage house, also known as the coach house or coach barn, is a large, two-story structure that was originally located on the north side of Gore's entrance drive adjacent to Gore Street (former Cross Road; Figure 2.1). It was built around 1793 of timber frame construction finished with clapboards and relatively high style Federal period detailing. It is one of a small number of such barns to survive intact from the late 18th century in New England and played an important role in the management of the estate. Its construction date is based on its similarity to the carriage barn at the nearby Theodore Lyman estate (The Vale) known to have been built at that time and designed by the accomplished architect, Samuel McIntyre of Salem, Massachusetts. The Gore carriage house measures approximately 70 × 40 ft, and according to Historic American Buildings Survey (HABS) records was set on a full, dry-laid fieldstone (rubble) foundation. The first floor consists of three bays, each with its own access door (Figure 2.2). At present, the western bay or coach room features plastered walls and ceiling with horizontal plank wainscoting. The central bay is formed by wood plank and stud partitions, while the east bay contains a harness or tack room and seven horse stalls. The stalls are constructed of match-board paneling with curved arches and numbered keystones that may have been installed in the mid 19th century. The second floor follows an open plan and is accessed via a wide staircase at the central rear of the building. The cellar was present under the entire structure and was accessed via a ramp and exterior opening in the east foundation wall. The ramp was protected from the weather by a shed addition that is clearly depicted on the Greene estate plan, and the ghosted image of its roofline was documented by the HABS drawings.

### Carriage House History

Apart from the normal function of housing at least some of Gore's horses, tack, feed, and carriages, the structure and its immediate environs

served a variety of additional uses as evidenced from the account book of Jacob Farwell, one of Gore's farm managers between 1810 and 1830. Christopher Gore maintained a keen interest in farming and in the latest developments in farm management and agricultural production. An aspect of this interest was Gore's firm belief that New England soils could be made as productive as any other locality through the addition of compost that increased organic content and improved soil structure. Compost was referred to as manure in the early 19th century and was composed of a variety of ingredients, some of which were experimental. Thus, manure was not limited to animal dung, but consisted largely of decomposed vegetable matter that was frequently brought to the farm from the market in Boston. To this could be added dung, ashes, leaves, pulverized and/or burned bone, and household refuse. Some of these materials were plowed directly into the fields or were combined and allowed to decompose further before application. The coach house cellar appears to have been the primary location for the production of a specific type of manure, which likely made use of animal waste in combination with other ingredients. This mixture, in fact, may have been reserved for particular applications on the estate such as the seasonal planting of fruit trees and potting plants that may have gotten their start in the greenhouse. Evidence of manuring activities is provided in the following sample of Farwell's Farm Journal entries:

- 1820 Aug. 29 carting manure from out of the cellar
- 1820 Aug. 30 carting manure from out of the cellar
- 1820 Nov. 13 carting manure out of the cellar
- 1820 Nov. 14 carting manure out of the cellar
- 1820 Dec. 29 pulling down the heaps of manure in the cellar
- 1821 Jan. 27 pulled down manure in cellar
- 1821 Feb. 5 pulled down manure in cellar
- 1821 Feb. 12 turning manure for Heathcoat



Figure 2.1. Carriage house as it appeared ca. 1937.

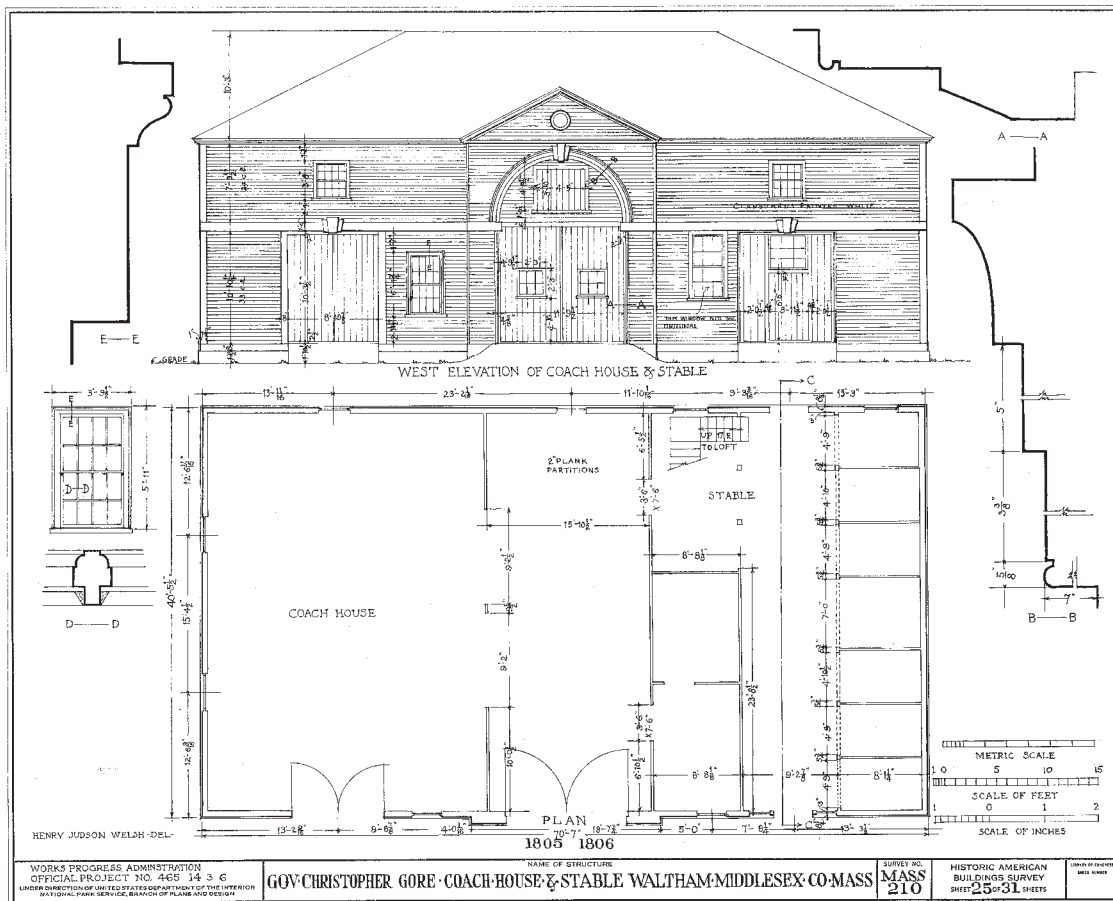


Figure 2.2. First floor plan of carriage house (HABS 1936).

1821 Feb. 19 turning manure  
 1821 Feb. 20 pulling down manure in the cellar  
 1821 Mar. 24 pulling down manure in the coach barn cellar  
 1821 Apr. 18 pulling down manure in the cellar  
 1821 May 11 pulling down manure in the cellar  
 1821 Jun. 9 pulling down manure in the cellar  
 1821 Sep. 24 getting manure out of the cellar  
 1821 Oct. 1 carting manure out of the cellar  
 1821 Oct. 12 carting manure out of the cellar  
 1821 Nov. 1 carting manure out of the cellar  
 1821 Nov. 5 carting manure out of the cellar  
 1821 Nov. 6 carting manure from the cellar  
 1821 Nov. 7 carting manure from the cellar  
 1822 Jan. 2 pulling down the manure in the cellar  
 1822 Jan. 3 pulling down the manure in the cellar

The seasonal nature of manure production and use is indicated by the entries that show manure was loaded into the cellar in the winter and spring and was removed for use in the late summer and fall.

The journal entries also provide evidence of firewood production in association with the carriage house.

1820 Oct. 19 sawing wood by the coach barn  
 1820 Nov. 17 sawing wood at the coach barn  
 1820 Dec. 9 carting wood from the coach barn  
 1821 Feb. 1 sawing wood in cellar and at shed  
 1821 Feb. 12 sawing and splitting wood at the farmhouse and coach barn  
 1821 Feb. 14 sawing wood at the coach barn  
 1821 Mar. 20 carting small wood at the cellar  
 1821 Mar. 23 carting and piling wood in the cellar, piling at the coach barn and farmhouse  
 1821 Mar. 24 piling wood in the cellar and coach barn  
 1821 May 12 carting chips from the coach barn  
 1821 Nov. 1 sawing wood in the cellar  
 1821 Jan. 7 carting wood from the coach barn to the cellar  
 1821 Jan. 8 carting wood from the coach barn at the house and shed and piling the same

These entries demonstrate that firewood was brought to a shed likely located within the farm complex in the area of the present Shell gas station on Route 20 and to the area of the coach barn. Once at these localities the wood, which was probably still in lengths, was cut, split, and stacked in preparation for carting to the cellar of the mansion house. Some wood was clearly stacked inside the coach house to begin seasoning prior to restacking in the house cellar. Small wood likely refers to kindling, while chips probably refer to wood and bark fragments that accumulate from cutting and splitting and may have been used as mulch or burned to produce ash. The fact that firewood production was occurring around and in the carriage house suggests that associated tools and equipment such as saws, axes, wedges as well as a cart, wagon, and/or sled may have been stored in the structure.

The nature of the landscape surrounding the carriage house is also indicated by the series of property plans as well as by some of Farwell's journal entries. Plans clearly show that Gore's formal greenhouse was situated a short distance to the east. It is known from the Lyman estate map of 1834 and Lee map of 1881 that the vegetable garden was located immediately north and may have measured approximately 380 ft long by 230 ft wide (Figures 2.3 and 2.4). Some kind of boundary enclosure around the garden is indicated by the Lyman plan, and this would make sense to prevent intrusion by animals. A cart way was also present on the east side of the carriage house and its extension may have formed the central axis for the vegetable garden as drawn by Lee. The fact that a gate was present on this cart way adjacent to the carriage house is suggested by two of Farwell's journal entries:

1820 Dec. 11 carting away rubbish from the coach barn gate  
 1821 Jun. 1 carting stone from the coach barn gate

It is possible that the gate served as a point of transition from the extended carriage house courtyard to the formal and narrower cruciform walks within and around the vegetable garden. The fact that rubbish (interpreted as dead plant stalks and vegetable matter from the growing season) and



Figure 2.3. Detail of plan of Theodore Lyman Estate ca. 1834-38.

stones accumulated at and were removed from the gate area, suggests that larger farm wagons did not enter the garden area, possibly because they did not fit on narrow garden walks. The close proximity of the garden to the carriage house suggests that gardening tools as well as wheelbarrows also may have been stored in the building.

Farwell's journal entries also reveal that the area south of the carriage house and south of the entrance drive served as an extension of the vegetable garden.

1821 Jun. 16 furrowing, manuring and plowing among the mangel-wurzel [root vegetable for livestock] below the coach barn

1821 Jun. 18 planting corn and beans below the coach barn

1821 Jul. 5 hoeing corn and beans below the coach barn

1821 Jul. 28 plowing and hoeing corn and beans below the coach barn

1821 Aug. 7 plowing, hoeing and sowing a few turnips below the coach barn

Thus, during Gore's ownership, the carriage house was bounded on the west by Cross Street

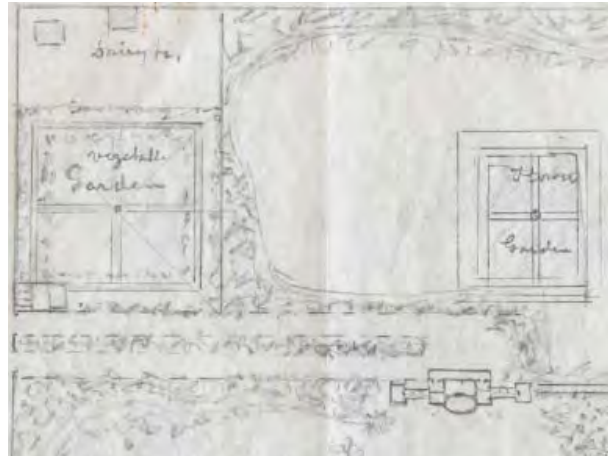


Figure 2.4. A sketch drawn in 1881 by Col. Henry Lee based on his recollection of his 1834 visit to Gore Place. Note that he does not depict the grape wall or either greenhouse.

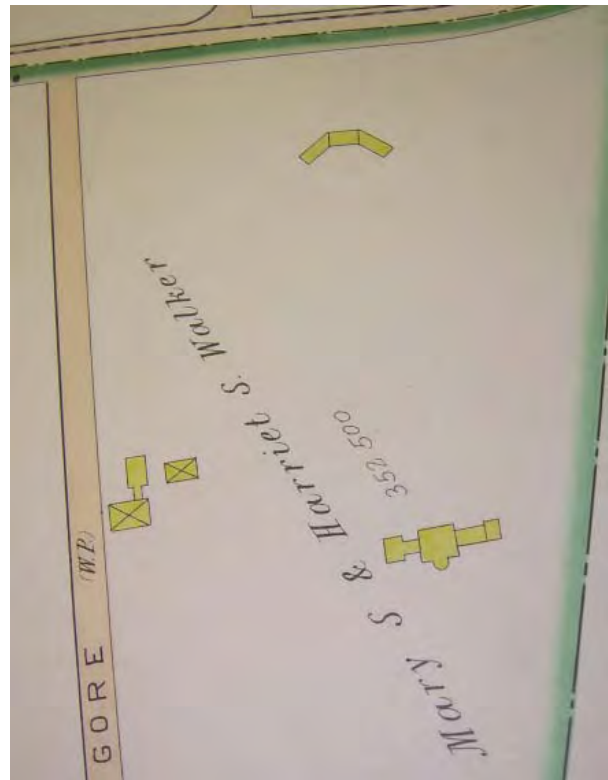


Figure 2.5. Detail of 1900 map from *Atlas of Middlesex County* (Anon. 1900).

(Gore Street), on the north by the formal vegetable garden, on the east by a cart way, well, and the greenhouse, and on the south by the carriage house court yard adjacent to the formal entrance drive (see Figure 1.2). Across the drive, at least for a period of time, was an additional garden. The cel-

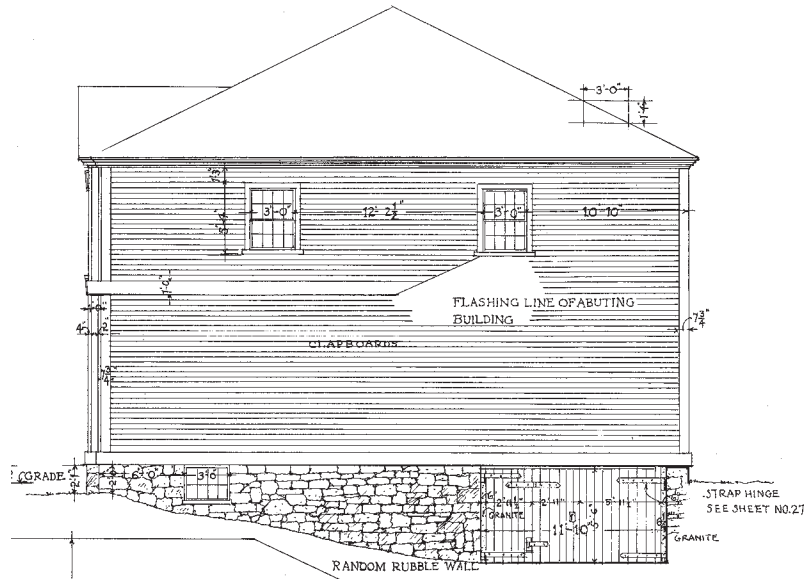


Figure 2.6. A) Detail of the east side of the carriage house; B) photograph showing the ghost image of the roofline (HABS 1936).

lar was clearly used for the production of compost (manure), while the courtyard and structure itself served as a focal point for the continuous care of horses, the storage of carriages, wagons, and farm equipment, and for firewood production.

With the death of the Gores and the sale of the estate to successive owners, no further details of the use of the structure are known. It is likely that manure production here ceased, if not by the time of the Lymans, then by that of the Greenes, potentially making the cellar available for the collection of horse manure and for general storage. The only documented changes to the building in later years were the removal of the shed over the cellar entrance prior to 1900 and construction of an ell or shed off the rear of the building (Figure 2.5). The

same 1900 atlas shows a second barn off the north east corner of the carriage house. The addition and second barn do not appear on later maps, suggesting they were demolished before HABS documented the property in 1935.

When the estate came under the ownership of the Gore Place Society in 1935, repairs were made to the roof of the building as a result of a second floor fire, but the cause of the fire is unknown. In the same year, the carriage house was documented along with the mansion house by HABS. This work provided detailed drawings as well as photographs of the exterior and some interior spaces. Particularly noteworthy was the depiction of the east carriage house foundation wall, ramp, and wooden cellar door (Figures 2.6 and 2.7). Dimen-

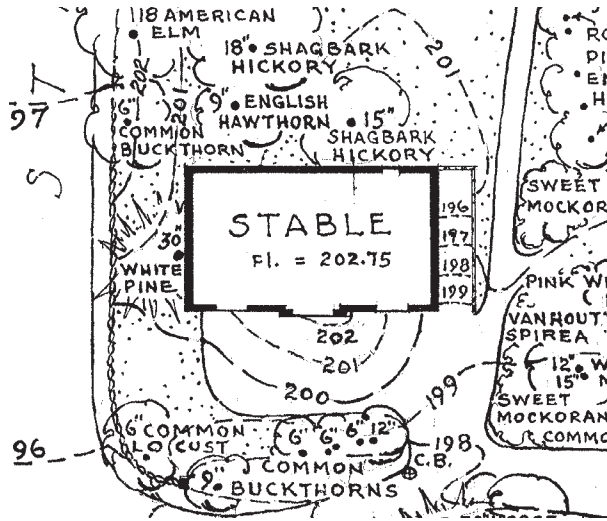


Figure 2.7. HABS plan of the carriage house, showing the slope of the ramp.

sions provided by the drawings reveal that the cellar was approximately 5 ft, 6 in deep, and may have provided slightly more headroom depending on the elevation of the first floor joists. This assumes that the cellar floor lies at the same level as the entrance lintel. This depth certainly would have made the use of the cellar space possible for working manure.

The entrance was a total of 11 ft, 10 in wide, and the door was constructed in three parts. The right or north door was 5 ft, 11 ½ in wide, indicating that the width of the entrance ramp was a minimum of 6 ft. It was hoped that archaeological investigations would reveal the actual width that would have allowed access for a cart or wagon. The south door was double hinged so that the ramp would not impede its opening. The ramp itself appears to have consisted of a soft surface since no pavement was noted in the HABS drawings. This surface may have allowed better purchase for horses while backing and pulling manure-laden wagons.

The drawings, along with the Greene estate plan, provide the most information available for the cellar entrance cover structure (Figure 2.8). While the accuracy of the Greene plan is questionable in some respects, the addition was definitely present and is shown to extend out close to a third of the overall length of the building (east-west) or approximately 26 ft. The addition is also shown

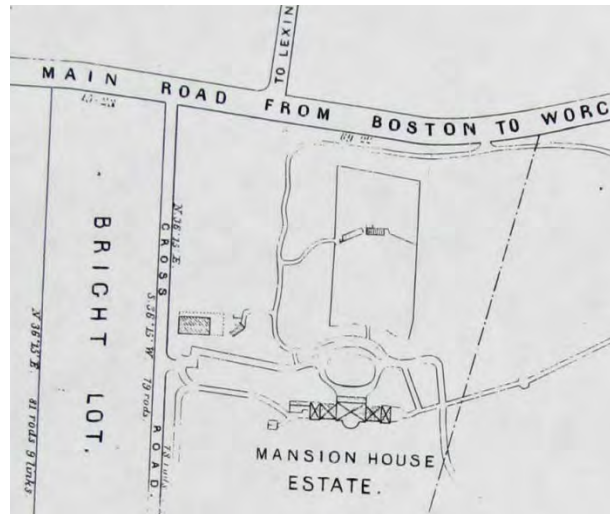


Figure 2.8. Plan drawn in 1841 and used in J. S. Copley Greene's 1853 estate sale. Original on file at Gore Place.

the full depth of the structure (north-south) and extends north and westward to wrap around the entire rear or north wall. Thus, the north-south depth of the addition was probably close to 50 ft. The HABS drawings and photographs show a ghosted gable roofline for this addition that rises to the sill of the northern second floor window (see Figures 2.6 and 2.7). The indicated roof has a pitch similar to that of the carriage house itself and probably followed a hip roof form. If one extends the indicated roofline southward, however, the roof would be too low by the time it reached the front of the building. This observation suggests that the upper portion of the ramp may not have been covered, or the slope of the roof changed toward the front of the building. It was hoped that archaeological investigations would provide some evidence of the addition's support structure, and thus details of its construction, but this area could not be investigated due to the need to maintain access to the parking lot.

By the mid 1960s, construction of new facilities by Raytheon Corporation at the intersection of Seyon and River Streets raised concern for adequate vehicular access by the large number of new employees. The town of Waltham proposed widening Gore Street and expanding the intersection with Route 20 to alleviate congestion. To assist with this effort, the Gore Place Society donated a strip of land along the northwestern bor-

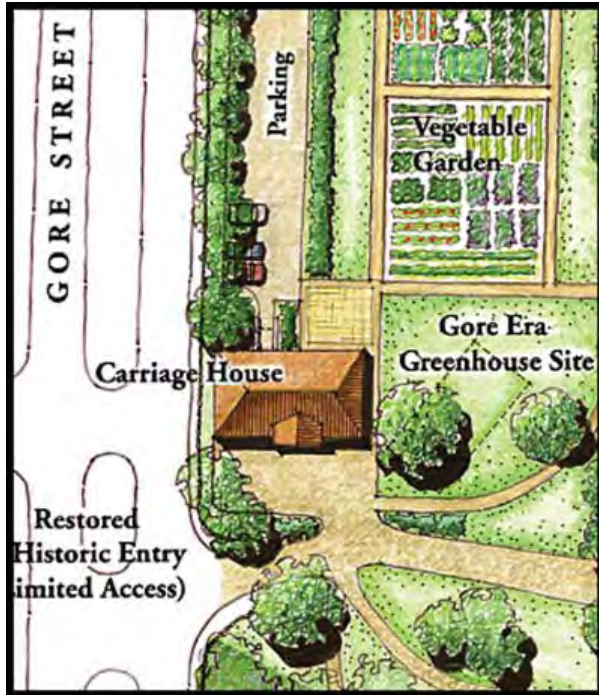


Figure 2.9. Proposed carriage house relocation plan, created prior to archaeological testing. Please note that our suggested relocation, after archaeological testing, is different; see Chapter 6.

der of the estate with the agreement that the town would cover the cost of moving the carriage house since the west portion of the structure extended into the proposed new road. The resulting road plan called for construction of an entirely new lane east of Gore Street, thus forming a boulevard with islands between the two thoroughfares. The Carriage House was moved to its present location at the northwest corner of the property in 1968, and was placed on a foundation of poured concrete and concrete blocks. The new cellar entrance was shifted to the west end of the building. The original cellar was filled and covered over with gravel bedding for the present parking lot.

#### 2004 Archaeological Investigations

The archaeological search for the carriage house began in 2004 as part of a larger intensive survey of the Gore Place grounds to identify Gore-period architectural and landscape features (Smith and Dubell 2006). At the time of this work it was known that the carriage house was moved in the recent past, but exactly when this occurred and



Figure 2.10. Detail of plan of proposed widening of Gore Street ca. 1967.

from where was not known. The goal of the initial survey was to determine the structure's original location and the state of preservation of its foundation. This information was needed to consider the feasibility of returning the structure to or close to its original location as part of the landscape restoration plan (Figure 2.9).

Documentary research began with a review of historic maps and plans that depicted the structure and the entrance drive. This search produced a number of useful sources including the Lyman estate plan (ca. 1834-38), Green estate plan (1841), Lee plan (1881), Eliot Plan (1889), Waltham Country Club plan (ca. 1921), the Historic American Buildings Survey (HABS) plan, drawings and photos (1936) and additional historic photographs. Together these images show the carriage house on the immediate left of the entrance drive, making it the first structure that would have been encountered upon entering the estate. Other nearby landscape features included the vegetable garden to the immediate north and a greenhouse to the east with a cart way present between the structures. As is apparent from historic photographs the building was elevated on the landscape, potentially to provide adequate drainage and headroom in the cellar.

The most useful plans for determining the carriage house's original location were those completed by the HABS and a plan depicting the proposed widening of Gore Street from ca. 1967 (Figure 2.10). Both of these showed the north wall of the structure to be a little south of the center of

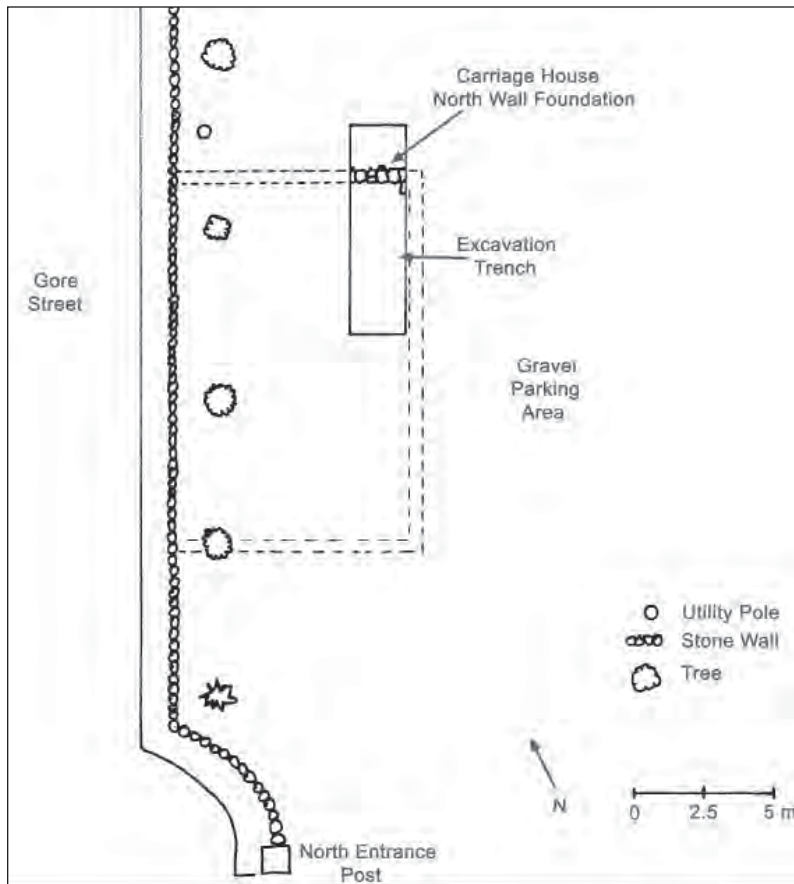


Figure 2.11. Plan of carriage house north wall location as discovered in 2004.

Richgrain Avenue. The street plan showed how the west end of the building extended well into the newly proposed road.

Field investigations began by plotting the approximate carriage house location on the ground based on measurements derived from the maps and plans and the known dimensions of the structure itself. The west and east foundation walls were measured from portions of the original western estate boundary fence (fieldstone wall) still present in the islands in the middle of Gore Street. The north carriage house wall location was estimated to be roughly aligned with the center of Richgrain Avenue. A north/south trench measuring 2 m wide and 7.5 m long was marked out on the parking lot surface. A tractor equipped with a loader was used to scrape away layers of gravel bedding and the underlying fill until the northern stone foundation wall was encountered at a depth of 90 cm (35 in) below the parking lot surface.

The carriage house north foundation wall

was found to lie approximately 23.75 m (77.92 ft) north of the north entrance post and 1.25 m (4.10 ft) south of an electric utility pole (Figure 2.11). The surface of the partially demolished wall lay between 1 m (3.28 ft) and 1.20 m (3.93 ft) below surface. Measurements suggested the east wall was located approximately 9 m (29.5 ft) east of the present stone boundary wall adjacent to Gore Street. The foundation wall was found to be constructed of large rounded boulders and angular field stones held together with mortar. Excavation revealed upper foundation stones to lie out of place on either side of the wall, with most having fallen or been pushed into the cellar's interior. A small section of collapsed brick wall, later determined to be an interior brick support post, was also present in this area. Cellar fill consisted of a loose, medium brown sandy loam that also contained stones and a few pieces of asphalt pavement. A small deposit of artifacts consisting of later 19th-century bottle and some window glass was encountered on





Figure 2.12. Excavation trench and north wall location in 2004 (facing north).

the north side of the foundation wall at an elevation between 70 cm (27.5 in) and 100 cm (39 in) below the parking lot surface (Figure 2.12). After the wall's location was recorded the excavation trench was backfilled.

## 2008 Archaeological Investigations

### *Carriage House*

The carriage house was included in the 2008 investigation of the agricultural periphery to gain a better understanding of the structural remains, potential cellar floor deposits, and the landscape north of the foundation to aid the determination of a new carriage house site as close as possible to its original location. Prior to excavations, the parking lot was covered with a ground penetrating radar survey (GPR). The GPR data were sliced to produce maps of features at different depths below the surface. On the slice in Figure 2.13, the rear wall of the carriage house is visible in light blue. In deeper slices (Figure 2.14), the area of the carriage house cellar and the ramp is visible as a large dark blue space, with no red or yellow reflectors. The former cellar and ramp spaces appear in the negative, essentially, while the undisturbed areas outside the cellar have strong reflectors (red), either from the natural ground stratigraphy or other

historic surfaces. One of the strong surrounding reflectors is the road between the carriage house and the greenhouse (see Chapter 4).

Excavations commenced with opening the initial 2004 excavation trench with a backhoe pulling soil from north to south. As soon as the wall was encountered, the trench was widened to the west and east, passing through a layer of parking lot gravel resting on a bed of yellow sand. Immediately below the sand was mixed fill consisting of yellowish brown sandy silt. The excavation was widened to 4 m and then focused on removing the fill south of the rear stone wall. It was known that the fill was deposited in 1968 so that its mechanical removal was determined to be the most efficient means of exposing a potentially intact surface representing the cellar floor.

Material in the upper fill included loose foundation stones, bricks, concrete, an iron pipe that was initially thought to be a gas line, and fragments of wood and asphalt pavement. The lower fill above the floor contained bottle glass, a rubber tire fragment, two pieces of white marble tile similar to those from the greenhouse excavation, and a metal golf course sign from the country club period. As removal of fill continued, two brick support columns were unearthed adjacent to the north stone foundation wall and it was one of these that

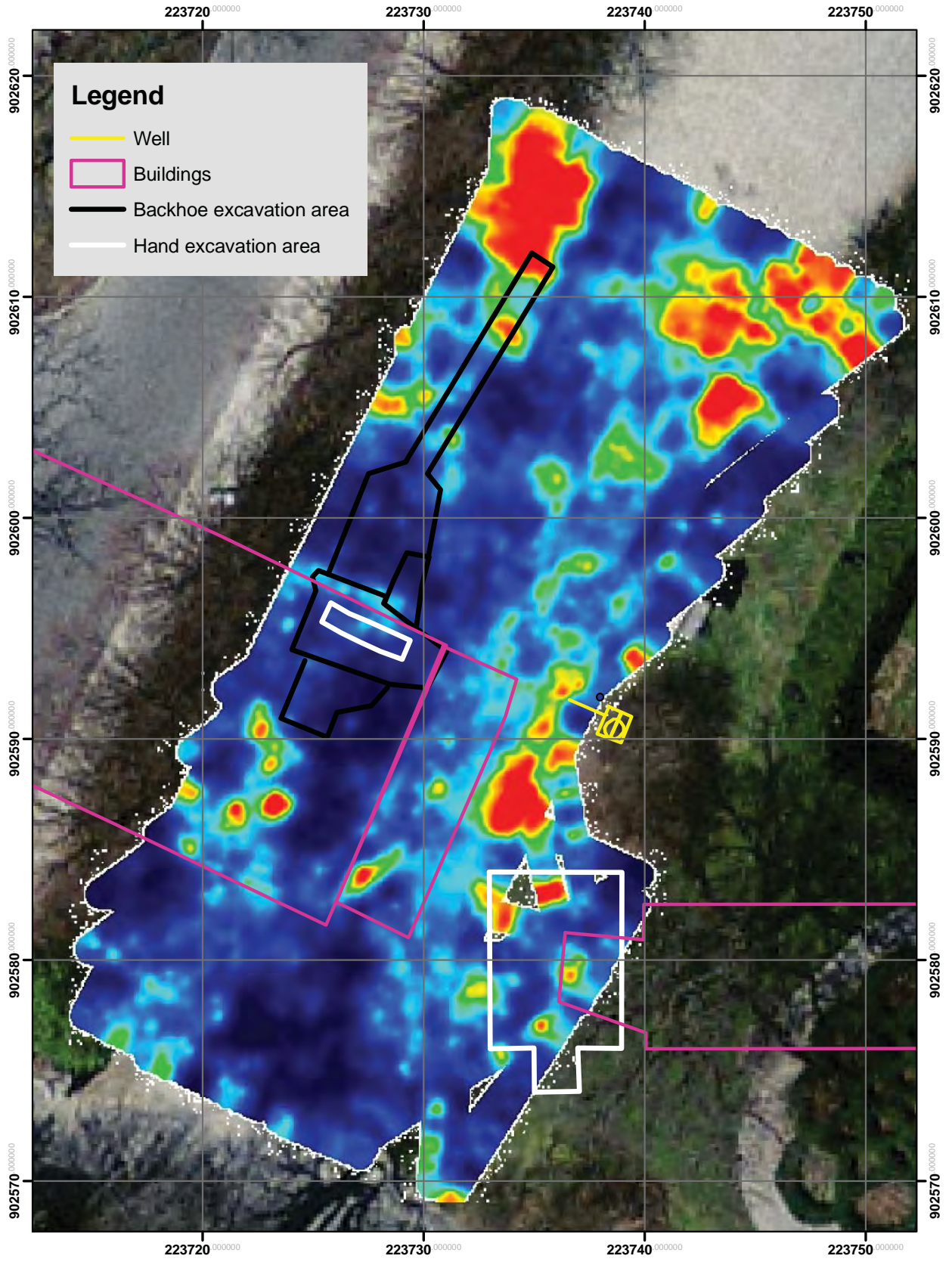


Figure 2.13. GPR slice at 20 cm below the surface. A reflection from the back wall of the carriage house is visible in light blue, and some faint signatures of the front wall are visible as well.

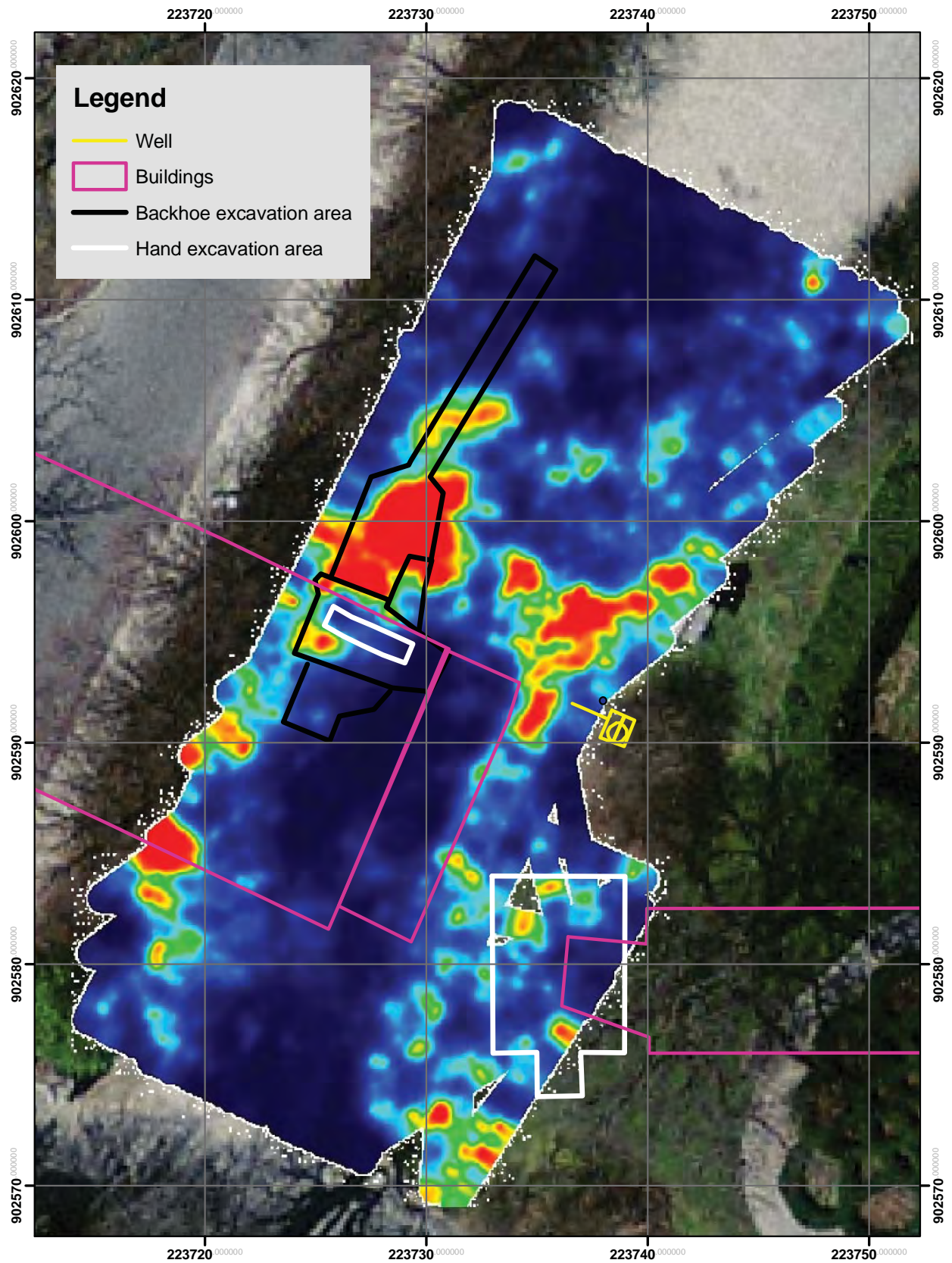


Figure 2.14. GPR slice at 50 cm below the surface showing the absence of reflectors that delimit the area of the carriage house cellar and ramp.



Figure 2.15. Backhoe removing fill from carriage house cellar, facing east.

had been encountered in the 2004 investigation. These were left in place and excavation continued until a galvanized steel water pipe running in an east-west direction was encountered. Mechanical excavation was ceased to determine if the pipe lay on a floor surface. Hand shoveling revealed that the pipe lay approximately 5 cm above a compact uniform sandy surface.

The backhoe was repositioned to the east side of the excavation area to carefully remove remaining cellar fill and to expand the area eastward in hopes of encountering the east foundation wall (Figure 2.15). As soil fill was mechanically removed from west to east just inside the north foundation wall, a split granite post containing an iron pintle was revealed adjacent to the wall. It was immediately recognized that this was a support for the cellar door. Excavation in the area had to be ceased at that point in order to maintain a safe passage for cars to enter the rear portion of the parking lot. Thus, none of the ramp or ramp walls were exposed.

The backhoe was then positioned to the north side of the cellar to search for potentially intact sediments associated with the rear of the building and the adjacent Gore-period vegetable garden. Excavation began outside the eastern end of the wall where parking lot fill layers were first scraped away. It was expected that a buried soil surface would be encountered, but layers of coarse sand



Figure 2.16. East wall profile of Test Trench 1.

and rounded gravel and stones were found instead. Interpreting this to represent possible feature fill, this trench (Test Trench 1) was expanded to 1.2 m in width and 2.5 m long, and was mechanically excavated to a depth of 2 m. This revealed four episodes of sand and gravel fill (Figure 2.16). Given this unexpected finding, the backhoe was repositioned immediately westward to open up a larger area to search for a possible feature border and for a buried ground surface if one still remained intact. Removal of the parking lot fill to a depth of 30 cm bs showed sandy gravel to be present across the entire area. A single trench (Test Trench 2) was extended northward to search for a border of the sand and gravel fill. Excavation proceeded to a depth of 40 cm and the trench was extended 17.5 m north of the rear carriage house foundation wall. Parking lot gravel, yellow sand bedding and sandy gravel fill was present for the entire length of the trench to a depth of 40 cm bs. Archaeological testing in this portion of the parking lot in 2004 showed parking lot gravel and sand bedding to range in depth between 35 and 50 cm.



Figure 2.17. Northeast portion of carriage house cellar with fill removed, facing north.



Figure 2.18. Tobacco pipe bowl found at base of north foundation wall. The number “326” is stamped on the side of the stem. This type dates ca. 1840-1870.

Time did not allow for deeper excavation of Test Trench 2, but it is suspected that deeper excavation would have revealed relatively intact vegetable garden soils below the parking lot fill.

With the completion of mechanical investigations, remaining fill in the cellar was removed by hand to reveal a hard-packed surface of grayish brown loamy sand with gravel (Figure 2.17). As the surface was cleaned of overlying fill, a ball clay tobacco pipe bowl was found at the junction of the floor and the rear foundation wall (Figure 2.18). The bowl displays a “TD” maker’s mark that was produced for much of the 19th century. The bowl shows little evidence of use and may have been deposited with household refuse used in manure production. It also may have been deposited after the Gore period by estate workers. Approximately 12 m<sup>2</sup> of floor surface was exposed by the excavation, bounded on the north by the rubble stone foundation wall, on the east by the cellar entrance, on the south by the galvanized steel water pipe and fill, and on the west by fill.

A series of four contiguous 1 × 1 m excavation units were marked on the cellar floor parallel to the north wall to investigate floor deposits (Figure 2.19). EU 1 to the west, was aligned with the west edge of the western brick pier. The remaining three units extended eastward toward the cellar entrance. Soil profiles in all three units were identical, consisting of two fill layers over a series of seven more layers of C-horizon glacial

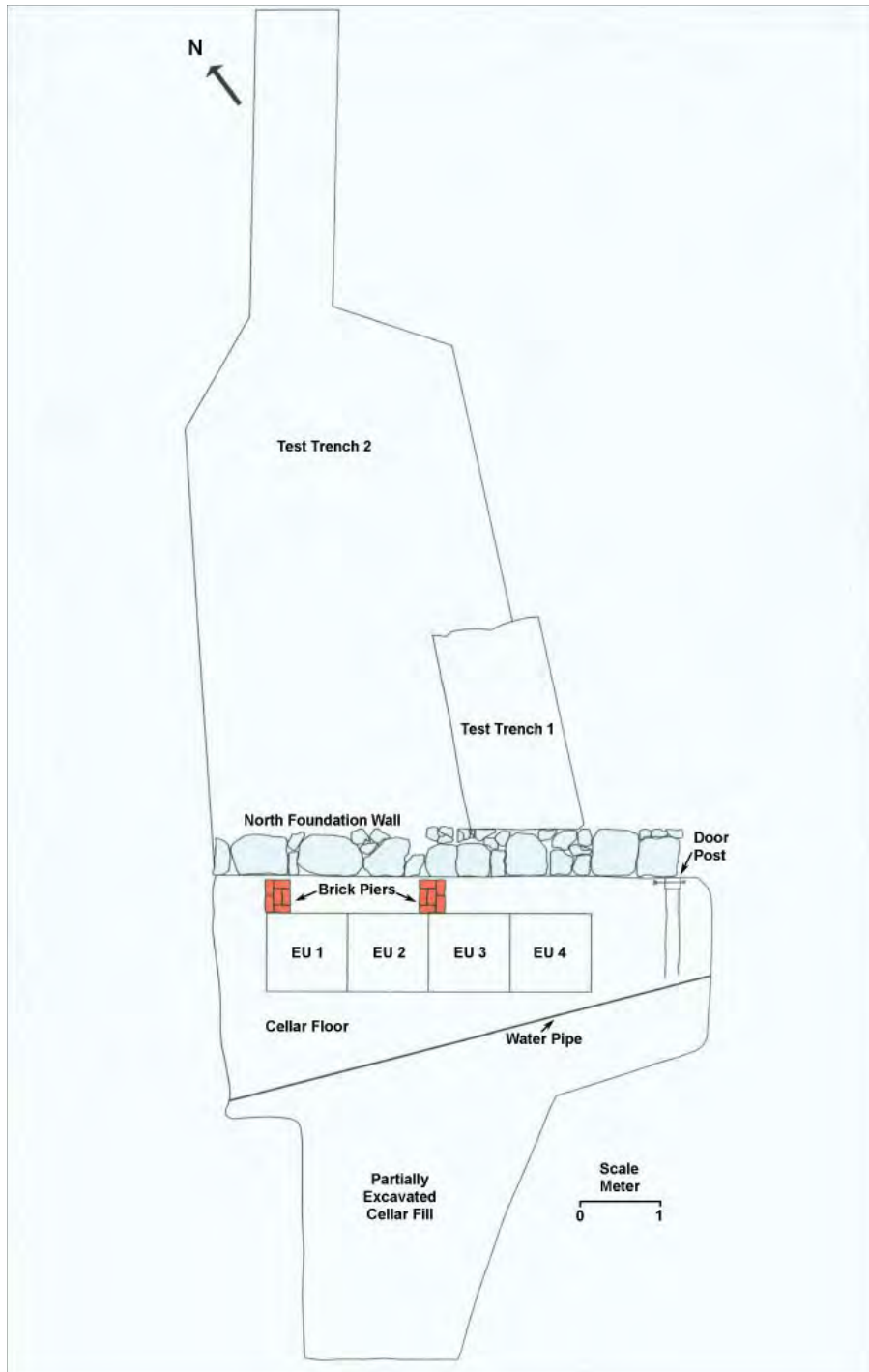


Figure 2.19. Plan of carriage house excavation unit locations.

sand and gravels to a depth of 62 cm below the floor surface (Figure 2.20). The top 10 cm of fill consisted of compacted grayish brown, silty sand and pea gravel. Artifacts in this layer (Figure 2.21) included fragmented window glass, slate roof-

ing tiles, sheet iron, nails, bone, coal, shell, brick and mortar. A variety of ceramics included lead glazed redware, tin glazed earthenware (ca. 1680-1830), pearlware (ca. 1775-1830), Nottingham stoneware (ca. 1638-1810), pieces of a whiteware

0cm	F1-Compact grayish brown silty sand and gravel
10	F2-Yellowish brown coarse sand, gravel
20	C1-Lt. yellowish brown sand and gravel
30	C2-Lt. olive brown sand and gravel
40	C3-Yellowish brown sand and gravel
50	C4-Lt. olive brown sand
60	C5- Lt. yellowish brown sand
	C6-Olive brown sand
	C7-Lt. olive brown sand
	Unexcavated

Figure 2.20. Profile of EU 1 in cellar floor.

teapot (ca. 1820+), yellow ware (ca. 1830-1940) and ironstone (ca. 1842-1930). Also present were a variety of plain and embossed bottle glass and other vessel glass, a shell button, iron hinge, and a cuprous nut (boss) for a handsaw handle with a molded inscription “H. Disston & Sons Phila” with a keystone in the center. This boss style was manufactured by Disston between 1896 and 1917. An iron wall hook with a decorative silver cap was also present and may have been one of a group of similar hooks used to hang horse bridles or other tack on the first floor. The second layer of fill consisted of iron stained, yellowish brown coarse sand with gravel. Only a few artifacts consisting of nails and brick fragments were present. Of the two brick piers present along the stone wall, the one to the west extended two courses below the floor surface and the one to the east extended three and a half courses below. The bottom course of both piers had a larger footprint than the piers themselves.

### *Carriage House/Greenhouse Well*

During the initial 2004 archaeological survey, it was learned that a well was present east of the carriage house and was obscured by a cover of two



Figure 2.21. Representative artifacts from layers 1 and 2 of the cellar excavation units. A) Iron bar; B) coal ash; C) mortar; D) slate; E and I) vessel glass; F and H) whiteware; G) Nottingham stoneware; J) silver-capped iron wall hook; K) shell buttons; L) Disston & Sons boss.

large split granite stones hidden within an elevated thicket on the edge of the parking lot (see Figure 2.13). The location of this well at the junction of the carriage house, greenhouse, and vegetable garden would have made it a vital and much used element of the landscape. The mounded appearance of the area immediately around the well was intriguing for the fact that it was thought to be the



Figure 2.22. Photo of ca. 1927 depicting the two stones that cover the well.

last remaining portion of elevated landscape that once characterized the carriage house courtyard. Since plans of moving the carriage house would have necessitated the removal of the upper portion of the well, it was decided to explore this feature to document its relation to the surrounding landscape as well as method of construction to provide a comparison to the well investigation in the carriage drive circle. No documentary information could be found regarding the well except for a 1927 photograph in which two individuals, possibly a mother and daughter, are shown standing on the stones that cover the well (Figure 2.22). Although Jacob Farwell noted the construction of a well in his journal in 1821, describing how the well was first dug and then stoned, this particular feature was located at the cart barn, likely within the farm complex across Route 20 from the mansion.

Investigation of the well entailed laying out two contiguous 1 x 1 m excavation units extending from the west edge of the cover stones to the east edge of the parking lot (Figure 2.23). The ground surface sloped upward toward the well so excavation began in the higher EU 1. Approximately 6 cm of sandy loam landscaping fill overlay 12-14

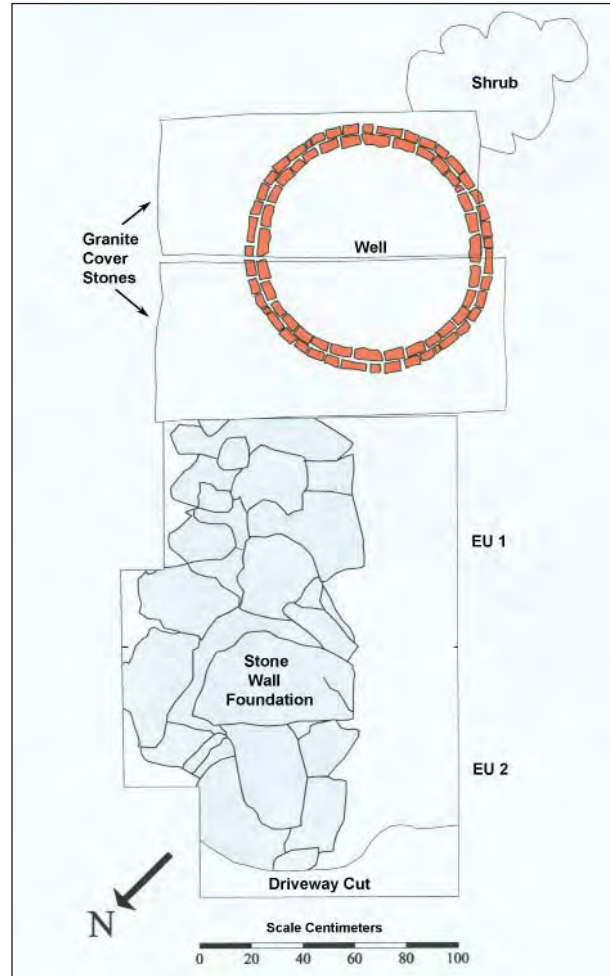


Figure 2.23. Plan of well excavation area.

cm of very dark brown sandy loam fill containing a variety of artifacts including whiteware ceramic (ca. 1820+), planting pot fragments, cut nails and broken window glass. As excavation proceeded it became apparent that the window glass was concentrated in the north half of the unit and that it lay on an uneven surface of gray slate or shale stones held together with small amounts of mortar. The glass consisted of fragmented window panes of varying thicknesses that appeared to have been stacked on the stone surface, potentially with the intention of later retrieval that never occurred. Traces of white paint and ghosted glazing on the pane edges indicated that the panes were used and had been removed from wooden frames.

The stones were present only in the north half of both units and appeared to be the foundation for a wall that would have run along the same line as



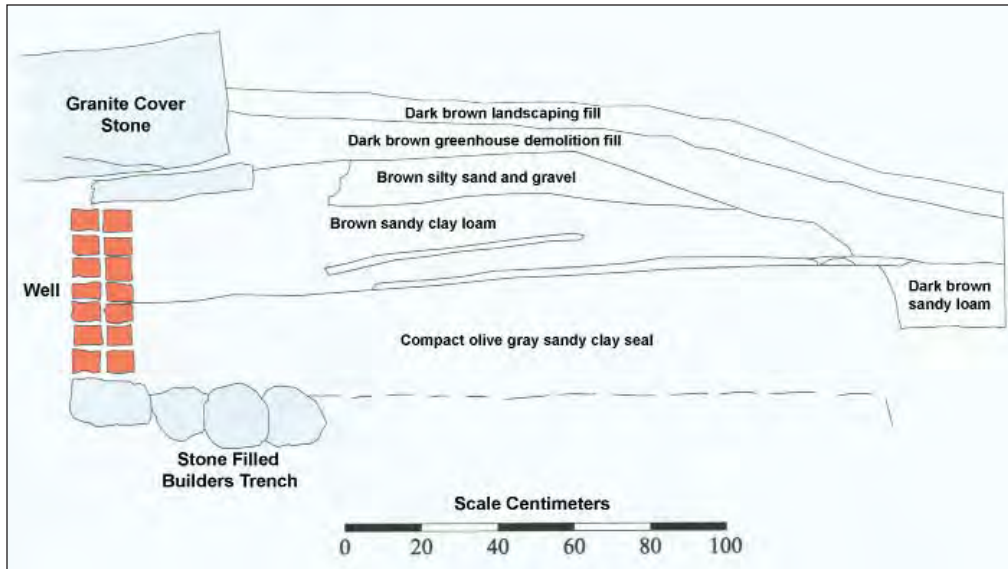


Figure 2.24. South wall profile of well excavation area.



Figure 2.25. Brick wall of well (facing east).

the back wall of the carriage house. The artifact-bearing soil that lay on the wall and approximately 10 cm below it is believed to be associated with demolition of the adjacent greenhouse. Below this demolition layer was approximately 30 cm of dark brown medium and coarse sandy clay loam with lenses of sand and gravel (Figure 2.24). Artifacts within this layer included planting pot fragments, redware ceramic, and one nail. Much of the upper 10 cm of this deposit consisted of medium brown, silty medium sand and gravel very similar to “Gore fill” observed elsewhere on the property. The eastern end of EU1 was extended under the granite well cover until a circular brick wall of the well was encountered (Figure 2.25). A hole in the wall revealed an approximate interior diameter of approximately 80 cm. At the base of the clay loam fill was a thin lens of silty medium and coarse sand and fine gravel that lay on top of compact olive gray medium and coarse sandy clay loam. This latter soil was very similar to the clay seal formed around the well in the carriage drive circle.

In an effort to determine the thickness of this soil, excavation was continued only in a small area extending 40 cm out from the well wall. Twenty-four cm of olive gray clay loam was excavated until a surface of large cobblestones was encountered. Cleaning of the cobble surface revealed these stones to represent a filled builders’ trench



Figure 2.26. Well excavation area showing extent of clay seal.

for the well, identical to construction methods used for the drive circle well. The brick wall of the well, which was constructed of two courses of whole and partial bricks, transitioned to stone at the surface of the cobbles. The only artifact in the clay seal was a single fragment of creamware ceramic (ca. 1762-1820). The clay seal extended out from the well a distance of 1.85 m, again very similar to the drive circle well (Figure 2.26).

Following the well investigation a 1 m × 50 cm excavation unit was laid out 6 m east of the west side of the well to determine if the stone wall

continued on the east side of the well. This unit revealed approximately 14 cm of very dark brown landscaping loam over a dark brown sandy loam buried A-horizon 6 cm in thickness. The B-horizon was a yellowish brown loamy sand and gravel. A rounded feature of dark brown loam was present in the southwest corner of the unit, which cut through the A2 and B horizons. Its termination at a depth of 54 cm bs suggested it may have been a planting hole, particularly given its close proximity to the greenhouse. No evidence of a stone wall was found.

## CHAPTER 3: THE CULTURE OF HORTICULTURE IN EARLY 19TH-CENTURY MASSACHUSETTS

It is a curious fact of history that the same men directly responsible for changing the Massachusetts economy from a farming to a commercial and industrial one—merchants, financiers, manufacturer, and their legal and political advocates—should have endeavored so assiduously to identify themselves with things rural and agrarian. Between the Revolution and the Civil War, many of Boston's elite settled on country estates, took up gentleman farming, and made a stab at horticultural experimentation.

*Cultivating Gentlemen*, Thornton 1989: 1

### Introduction

Although landscaped grounds and horticultural displays have long been associated with elite properties, Thornton's (1989) analysis of the scientific agriculture movement in late 18th and early 19th-century Massachusetts proposes that the forms of cultivation that were practiced and the motivations for doing so during this period were unique. Many Federalist merchants and political leaders owned country properties and joined the Massachusetts Society for Promoting Agriculture (MSPA, founded in 1792), an elite organization whose members were interested in scientific agriculture, such as seeking to improve crop yields through selective propagation or soil enrichment or importing new livestock and plant breeds (Thornton 1989). Field crops, fruit trees, and livestock were some of the major foci of Society members, and some had personal greenhouses for exotic species. Christopher Gore was one of the founding members.

Just as in the Chesapeake, as scholars such as Leone (1984), Yentsch (1990), and Ernstein (2004) have argued, the gardens and greenhouses that members of the MSPA built were more than simple accessories to their grand homes or utilitarian spaces in which to grow foodstuffs. The landscape manipulation and control over nature involved constructing and maintaining them were part of elite self presentation, display, and social cohesion (Leone 1984; Yentsch 1990; Ernstein 2004). This suggests that Gore may have embarked on his farming operations partly for ideological reasons,

although his fields and orchards did generate both food for the household and a profit from the sale of produce (Brockway 2001). In the context of late 18th and early 19th-century Massachusetts, country seats and agricultural experimentation became important for the political and mercantile elite because the virtuous, productive associations of agriculture and rural life offset some of the criticisms of commercial wealth, setting suggestions of self sufficiency and wholesome domestic production against imported luxury, wastefulness, and corruption (Thornton 1989: 2-3). The MSPA's rhetoric presented their activities, all of which required significant financial resources, as a public benefit to the ordinary farmers of Massachusetts. Some of Gore's compatriots specifically described Gore in these terms: "The grounds at Gore Place are not improved merely to gratify personal feelings, or attract observation and receive applause...utility is the main design of the exertions there displayed, and that it is compatible with the highest rank and most exulted mind, to study the convenience and supply the wants of society" (Rev. Ripley, quoted in Thornton 1989: 29-30). Gore's eulogy described him as a "public benefactor," not because of his political role but because of his attempts to bring "a judicious system of agriculture" to Massachusetts (Rev. Greenwood, quoted in Thornton 1989: 30). Descriptions like these were common of the MSPA members, despite the fact that many of their experimental results were only disseminated in private letters (Thornton 1989: 26-30, 61-63), such as those between Gore and his friend and fellow politician Rufus King. Thornton argues that the virtues associated with agriculture and the rhetoric of public benefit were elements that these men used to argue for their fitness to hold positions of political and economic power.

The early 19th century also saw the rise of American botanists and plant collectors, centered on Philadelphia (Leighton 1987: 18-24), and the proliferation of gardening manuals, both English and American (e.g., Hibbert and Buist 1834; M'Mahon 1857 [1806]). Botanical gardens such



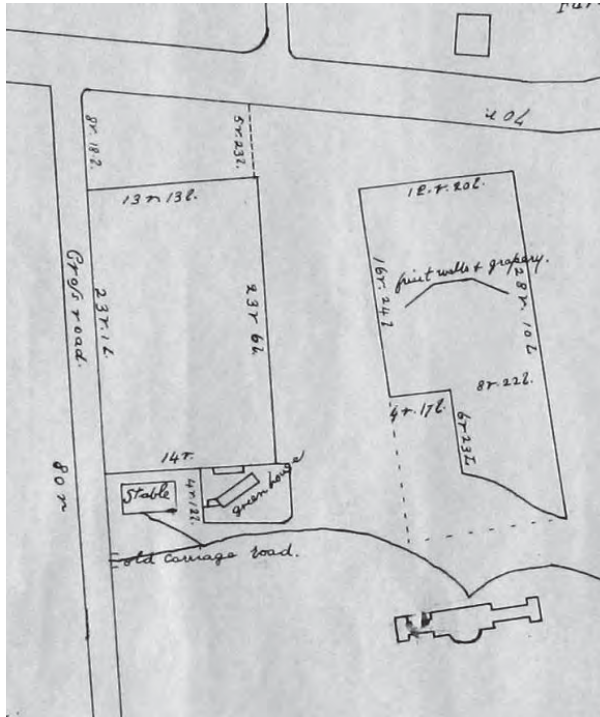


Figure 3.2. An 1834 map of Gore Place made when the property was sold to Theodore Lyman. Original on file at Gore Place.

1811 (Records of the MSPA Box 13, folder 30, documents 26, 28, 31), and visitors could purchase plants. Their lists of customers in the 1820s are a veritable register of the Boston-area political and cultural elite in the early 19th century, including members of the Cabot, Appleton, Ticknor, Boott, Amory, Lowell, Webster, Otis, Lyman, and Gore families (Records of the MSPA, Box 13, Folder 31, Docs. 75, 80, 90, 91, 143). Although the Botanical Garden recorded most sales as simply plants, flowers, shrubs, or seeds, specific listings include gold fish, rhubarb, elm trees, horse chestnuts, phlox, and mulberry trees (Records of the MSPA, Box 13, Folder 31, Docs. 119, 143). The existence of this community also supported professional nurserymen such as John Kenrick, founder of the Kenrick tree nurseries in Newton (Wilder 1881: 48; Grady, Brockway, and Fuhrer 2010), and George Heussler, a German immigrant to Salem (Moore 1988; see also Leighton 1987:67-82 on the professional gardeners on the east coast). Heussler's 1796 advertisement in the *Salem Gazette* (quoted in Moore 1988: 133-134), gives

a sense of the variety of species available locally; he lists 19 varieties of peach trees, 7 of nectarines, 7 of cherries, 9 of plums, 6 of pears, as well as apricots, quince, walnuts, three sorts of mulberries, almonds, other trees, and flower bulbs.

### Agricultural Activities at Gore Place

The level of Gore's investment in this scientific and agrarian lifestyle is demonstrated in his letters to Rufus King, and the scope of his farm activities is documented in the daily journal of one of his farm managers, Jacob Farwell (Farm Journal, Jacob Farwell, manuscript at the Gore Place Society). Gore's letters record measured crop yields, experiences with new varieties, and his experiments with animal feeding techniques and demonstrate his familiarity with similar developments in England. Farwell's farm journal, kept in the 1820s, reveals that Gore's agricultural operations were on a large scale. Research by a Radcliffe seminar reconstructed the layout of these agricultural areas (Figure 3.1), while archaeological testing (Smith, Beranek, and Steinberg 2010) delimited areas near the house that were farmed. In addition to keeping livestock, the farm grew corn, cucumbers, hay, melons, potatoes, several grains, beans, beets, cabbages, celery, lettuce onions, parsnips, radishes, rutabagas, turnips and squash, manglewurzel, strawberries, apples, and grapes. Gore mentions 1600 bunches of grapes from his grapery in one of his letters. Farwell's journal mentions a large project being carried out by "two men from the farm and one from the garden" (Farwell, June 9, 1825), suggesting that the agricultural enterprise was large enough that labor on it was organized into multiple work groups. Farwell routinely went to Boston for manure, which was tended by adding leaves, turned, stored, and eventually carted off to the fields.

In addition to these agricultural components, the Gores probably also maintained a formal garden north of the house and a greenhouse and fruit wall/grapery that appear on early maps of the property. The 1834 map does not show a garden per se, though it does delimit a rectangular area around the fruit wall (Figure 3.2). A formal rectangular garden is shown on a map drawn in 1881 by Henry Lee (see Figure 2.4), as he remembered

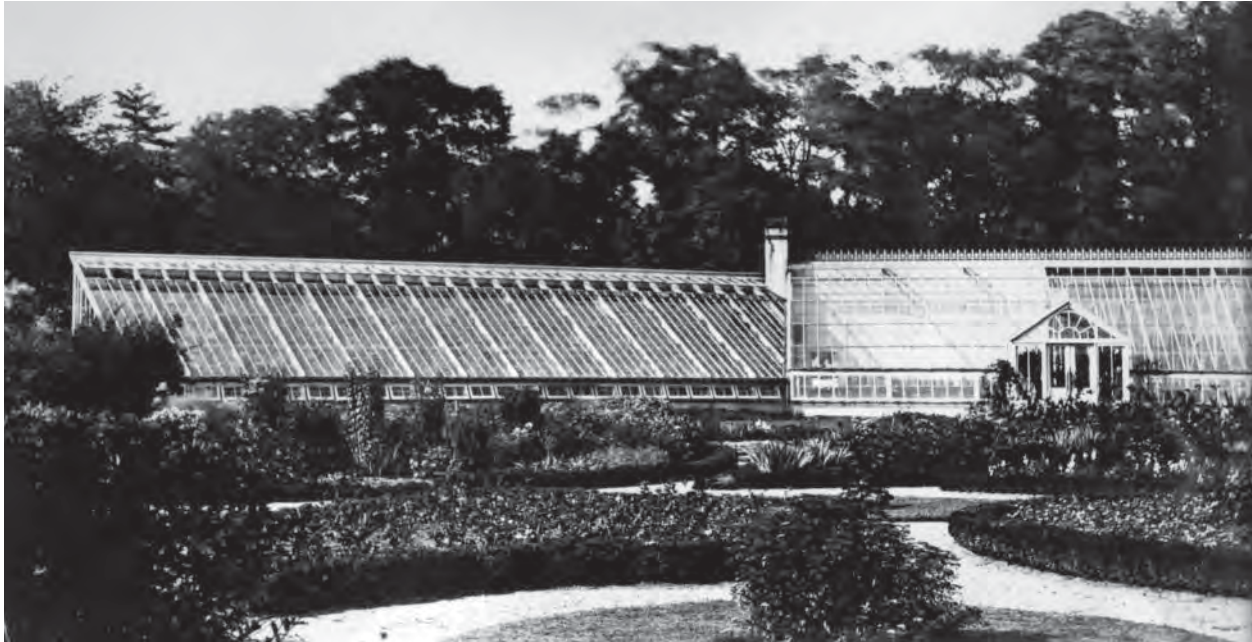


Figure 3.3. The greenhouses along the fruit wall, seen in an early 20th-century photograph. Original on file at Gore Place.

them from an 1834 visit. Lee questions his own memory of the flower gardens (Brockway 2001: 29), and his plan does not show the grapery wall. The later, curvilinear incarnation of the flower garden appears on the HABS maps, and remnants can be seen on the ground today.

The greenhouse excavations described in this report are on the site of the second of three greenhouses on the property. The first greenhouse (about which little is known) was attached to the east wing of the original mansion and was reportedly the source of a 1799 fire that destroyed the house. The excavated greenhouse seems to have been built at the same time that the mansion was reconstructed, completed in 1806. It is first depicted on an 1834 map made when Theodore Lyman purchased the property (Figure 3.2). On this map, the greenhouse (labeled as such) consists of a south-facing main body, to maximize sun exposure, measuring 60 by between 15 and 21 ft (18 by 4.6 to 6.5 m; dimensions vary based on how the map is georeferenced) with a small extension at an angle to the rest of the greenhouse. The extension is aligned with the rest of the buildings on the property. The greenhouse area is enclosed, and there is what has been interpreted as a cold-frame or

hot bed along the rear wall (this location north of the greenhouse is similar to that seen at the oldest greenhouse at the Vale). This greenhouse appears again on an 1841 map used later when J. S. Copley Greene sold the property in 1853 (see Figure 2.8). On the 1841 map, the third greenhouse complex, constructed against the 18th-century fruit wall, is visible. This third complex was elaborated over the course of the century and survived long enough to be photographed (Figure 3.3). Its archaeological remains still exist below the surface of the lawn north of the house (Smith and Dubell 2006; Smith, Beranek, and Steinberg 2010). Both the documentary appearance of these new greenhouses between 1834 and 1841 and the datable ceramics from the second greenhouse suggest that the 1806 greenhouse fell out of use during the late 1830s as new owners took over the property.

Interestingly, while Gore discussed his field crops with King and once described his yield of grapes, he never mentioned the greenhouse in these letters. Documentary references to the greenhouse and the plants grown within are limited to the maps described above and a few textual references. Farwell's journal occasionally records "helping Heathcoat about the hothouse" (January

23 and 24, 1822) or “making hotbeds for Heathcoat” (March 11, 1822). Heathcoat, or Heathcot, was Gore’s gardener; the new species of pear developed at the property is named after Heathcot, and he was presumably responsible for the specialized tending of the greenhouse plants as well. Greenhouses and hotbeds would have provided a place to start plants that would be later planted in outside gardens or brought inside in pots, and were permanent homes for more delicate species. The only other references to the greenhouse or its plants come from descriptions of sales after Rebecca Gore’s death in 1834. One record is for the purchase of “two fine orange trees, three variegated orange, and four limes for which we paid fifty dollars” (quoted in Brockway 2001: 26); the other lists “the flowers in the vinery, a large collection, of roses, geraniums, and other plants” among the contents of the estate sale (quoted in Brockway 2001: 28).

### The Rise of Private Greenhouses

J. C. Loudon, author of the popular English manual *The Green-House Companion*, characterized the progression in people’s taste in potted plants from those that were “choice,” to those that were “rare,” and “from things rare to things rare, foreign, and tender,” some of these needing the specialized climate of a greenhouse (Loudon 1825: 1-2). Loudon described greenhouses as “an appendage to every villa, and to many town residences;—not indeed one of the first necessity, but one which is felt to be appropriate and highly desirable, and which mankind recognize as a mark of elegant and refined enjoyment” (1825: v). To facilitate this refined enjoyment, greenhouse and gardening manuals like Loudon’s expounded on the ideal construction methods and settings, provided lists and descriptions of plants, and cataloged the tasks to be performed during each month of the year (Loudon 1825; see M’Mahon 1857 [1806]; Hibbert and Buist 1834 for American examples). These manuals present detailed instructions and specifications that may be ideals and not reflect the actual practices of greenhouse owners, but they do provide a sense of the range of possibilities in greenhouse construction and maintenance.

Constructed in 1806, Gore’s greenhouse was one of the early private greenhouses built in New England. Specialized structures for sheltering plants spread from Italy through the villas, estates, and palaces of Europe in the 15th century (Woods and Warren 1988: 4-17), with increasing emphasis on providing light through glass beginning in the 17th century (Woods and Warren 1988: 17; Pogue 2009). Wealthy Americans followed suit by the mid 1700s, especially in the Chesapeake and the Philadelphia area, though the structures were still “unusual” in the 1780s (Pogue 2009: 38). A few Massachusetts greenhouses are documented in the late 18th and early 19th centuries, their construction roughly corresponding with the scientific agriculture movement and the founding of the MSPA in 1792. Essex County merchants John Tracy and Elias Haskett Derby had greenhouses by 1782 and 1790, respectively (Moore 1988: 129, 135-136). Gore’s neighbor and fellow MSPA member Theodore Lyman constructed multiple greenhouses and a fruit wall between 1797 and 1810 (Thornton 1989: 22-24). A subcommittee of the MSPA oversaw the construction of the Cambridge Botanical Garden greenhouse between 1810 and 1811 (Records of the MSPA Box 13, folder 30, documents 26, 28, 31). Marshall Wilder’s (1881) history, *The Horticulture of Boston and Vicinity*, lists other properties with greenhouses in the late 18th and early 19th centuries, though without providing specific dates.

Visitors to the private greenhouses commented regularly on the orange and lemon trees (see quotations in Moore 1988) and noted other exotic plants which may have been in the greenhouses such as aloes and prickly pears at the Derby property (Moore 1988: 135). The Lyman greenhouses specialized in growing flowering exotic fruit such as pineapple and citrus and, later, flowers such as roses and camellias (Historic New England).

With no additional descriptions or images of Gore’s 1806 greenhouse, information about design and appearance must be drawn from other contemporary sources and from the archaeological excavations. The documentary and architectural data about other greenhouses of the period is presented here; the archaeological data are presented in Chapters 4 and 5.

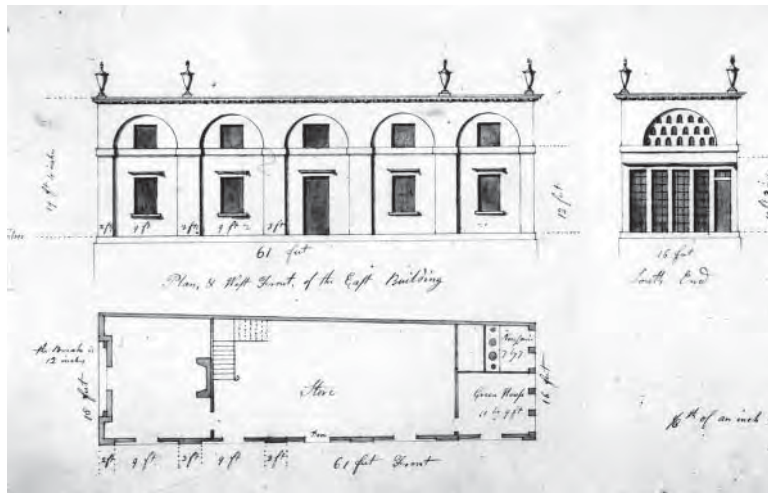


Figure 3.4. Samuel McIntire's drawing of the late 18th-century Derby greenhouse in Salem, Massachusetts (Woods 1988: 85).

### Greenhouse Terminology and Forms by Christa Beranek and Heidi Krofft

American greenhouses of the 18th and early 19th centuries were long rectangular buildings 10 to 20 feet deep and up to 100 feet long. Authors of 19th-century gardening manuals agreed that the greenhouse should be oriented with its long axis facing south for maximum sun exposure, since the importance of sunlight to plant growth was understood by this point, although it had not been considered so important in older manuals (Hix 1996: 22-23; Woods and Warren 1988: 31). The north wall should have few or no windows.

The authors also usually recommended that there be an attached shed for holding tools and to provide a place to repot plants. The shed, which should ideally be out of sight, might also hold the furnace, located behind the greenhouse or at one of its ends. M'Mahon illustrates a greenhouse with a full cellar to house the furnace, cisterns for watering the plants, and tools, so that no unsightly sheds are visible (1857: 518). Loudon's list of necessary supplies makes clear that anyone with a greenhouse would need to also maintain both indoor and outdoor storage space: outdoor space for piles of soil components such as loam, peat, leaf mould, different sorts of dung, and sand; indoor space for pots, saucers, thread and wire for tying up plants, rods for plant props, brushes and sponges for cleaning leaves, mats, watering cans, a syringe, a

thermometer, bell-glasses, naming sticks, and the range of small gardening tools (1825: 151-152). For killing insects, various ingredients and apparatus needed to be at hand including tobacco and fumigating bellows, soap, sulfur, and other ingredients. The extension at the west end of Gore's greenhouse may have served to store such items.

Rectangular greenhouses of the mid- to late 18th and early 19th centuries have two basic profiles, though with any number of variations. One, the earlier form, was an ornamental architectural structure of brick or stone with tall front sash windows between piers. Examples of this type were built at Mt. Clare in Baltimore, Mt. Vernon in Virginia, the Wye Plantation in Maryland, and at the Derby House in Salem, MA, among others (Figure 3.4). M'Mahon describes how a typical greenhouse of this type should be constructed in *The American Gardener's Calendar* (1806: 79). These structures were usually brick or stone buildings with the front almost completely glazed. Sash windows hung between brick or wooden piers and extended almost the entire height of the building. If the piers were made of brick or stone and were sufficiently wide enough, folding shutters could be hung on the inside to fold back against the piers (M'Mahon 1806: 79). M'Mahon also recommends a wide glass door in the middle of the wall to facilitate moving plants in and out of the greenhouse. In addition, a small door at one of the ends would be useful in inclement weather (1806: 79).



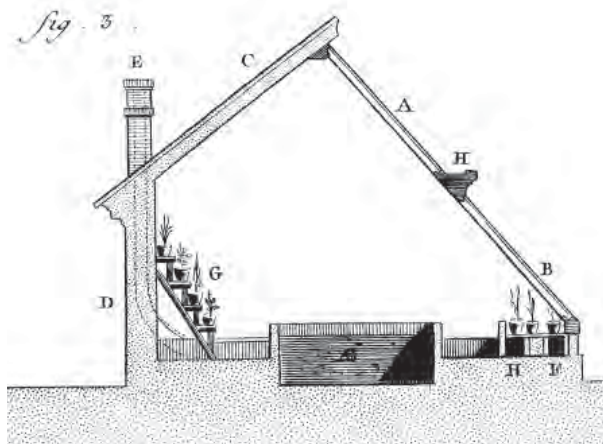


Figure 3.5. A) Profile of a greenhouse with a substantial back wall and short front knee wall from Diderot's *Encyclopedie*; B) Detail of greenhouse at the Vale using this construction method.

The second type, introduced near the end of the 18th century (Pogue 2009) was designed to take more advantage of the sun's energy and had a substantial back wall and a sloped roof and front constructed mostly of glass, resting on a shorter and less substantial knee-wall in front, sometimes called a lean-to style greenhouse (Figure 3.5). Examples of this type were built at the Lyman Estate in Waltham, Massachusetts, and Oatlands Plantation in Virginia. M'Mahon suggests that the piers between the sashes be made of wood to let in more light and that a half to a third of the roof be glazed, the rest roofed in slate (1806: 80).

On the interior, plants could either be planted in built-in beds (as they are in the late 18th-century Lyman greenhouse) or placed in pots on tiered shelves (Loudon 1825: 12) as illustrated in Figure 3.5. A third option was to have a sunken section of the floor, known as a "bark pit" (Figure 3.6). The pit was filled with pieces of bark and plant pots were set into the bark medium so that the decaying bark could provide a moist heat (M'Mahon 1857: 104-109). Jacob Farwell's *Farm Journal* notes that on occasion he hauled loads of oak and cherry tree bark (April 5, 1823); he does not specify whether this is for a bark bed, other aspects of soil preparation, or another purpose, such as tanning hides (possible since Farwell also mention leaching pits, likely also for tanning). On two occasions, he specifically states that he was getting the bark "for Mr. Gore" (March 4, 1823; June 22, 1824).

### Terminology

Early 19th-century authors sometimes, although not consistently, distinguish between greenhouses, as more architectural structures which contain plants in pots and have a fixed roof, and conservatories, as sloping glass roofs and fronts which contain plants in beds and have removable roof panels or skylights (Loudon 1825: 130; M'Mahon 1857 [1806]: 98). M'Mahon states, "A Green-house, is a garden-building fronted with glass, serving as a winter residence, for tender plants from the warmer parts of the world, which require no more artificial heat, than what is barely sufficient to keep off frost, and dispel such damps as may arise in the house" (1806: 78). Trees and plants would be planted in large potting tubs for easy mobility. In the spring, the plants would be brought outside for the summer. Conservatories, on the other hand, would hold plants year round in their beds, so needed to have movable windows or skylights to let in fresh air when the weather was warm enough. During the 18th century, the term "orangerie" was also used because the buildings commonly housed citrus trees. Some authors also used different terms for buildings that needed different degrees of heat; in M'Mahon's scheme, greenhouses were for plants that needed only a little heat in the evenings or mornings, while hot houses or stoves were for more exotic plants that required constant heat (M'Mahon 1857: 103-104).

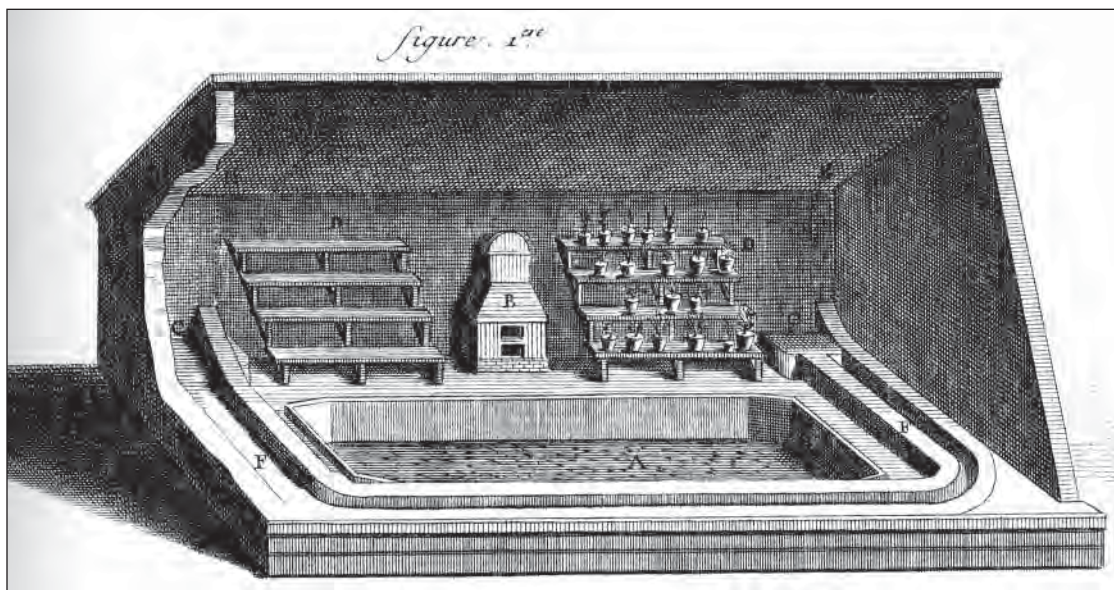


Figure 3.6. An example of sub-floor flues circling the greenhouse interior, from Diderot's *Encyclopedia*.

The Cambridge Botanical Garden originally planned to build two structures: a greenhouse and a hothouse (MSPA Records, Box 13, Folder 30, Doc. 26). Due to the expense of the first structure, only the greenhouse was constructed. Receipts for maintenance to its furnaces and chimneys show that it was heated; in fact an 1816 receipt for “building [a] chimney at [the] west end of the green house” suggests that they may have upgraded the structure’s heating capabilities once it became clear that there would be no separate hothouse (MSPA Records, Box 13, Folder 31, Doc. 43). Jacob Farwell’s accounts refer to helping Heathcot at the “hot house” at Gore Place, establishing that somewhere on the property there was a heated structure for exotic plants. Whether that corresponds to the excavated building or refers to an element of the fruit wall and grapery complex is unclear. Due to this uncertainty and to the fact that 19th-century authors, while sometimes making distinctions between types, seem to have used “greenhouse” as a generic term, that is the term used throughout this report.

#### *Heat and Light: Furnaces, Flues, and Windows*

Nineteenth-century authors were full of

advice, including sample building plans, for constructing, maintaining, and equipping these buildings (see for example Hibbert and Buist 1834; M’Mahon 1857; Loudon 1805, 1825). These published sources were probably important references for people seeking to build greenhouses in New England. The Cambridge Botanical Garden noted that they could not find a builder who would agree to construct the greenhouse for a fixed sum, suggesting that the form was novel and construction costs relatively unknown. In a letter from 1810, the committee noted that they did not have enough data to “enable them to offer or accept any terms” (MSPA Records, Box 13, Folder 30, Doc. 28).

One of the most actively discussed topics was the method of heating the greenhouse. The size of the furnace varied depending on the type of fuel, the size of the building, and the number of returns of the flues which could run under the floor or through the walls (M’Mahon 1806: 86). Exact dimensions for the furnace vary between 2 to 5 feet deep, 18 to 20 inches wide and 18 to 22 inches high (Loudon 1805: 22; M’Mahon 1806: 86). Regardless of the exact size, the furnace consists of a main fuel chamber with an arched ceiling, an iron grate at the floor or bottom of the chamber, and

an ash pit below. There must also be an iron door for the furnace. In some cases the ash pit may also have an iron door (M'Mahon 1806: 86). Loudon goes into great detail on improvements that can be made to furnaces to increase efficiency and heat output (Loudon 1805: 23-30). Furnaces could be fired by wood or coal and could send either hot air, steam, or smoke through the flues to heat the space. M'Mahon advocates heating by running pipes of hot water under the floors and through the walls, rather than using flues (1857: 20), whereas Loudon advises against steam and hot air systems in favor of "smoke flues" (1825: 25).

The size and layout of flues was also a subject of frequent discussion; much of Loudon's 1805 publication is devoted to improved schemes for flues. Flues could run under the greenhouse floor or through the walls, sometimes snaking back and forth in the tall back wall several times (Figure 3.6). Hibbert and Buist advise that if using coal, the flues should be 6 inches wide and 8 inches deep, plastered only on the bottom; if using wood, the flues should be larger by half (1834: 346).

Heat and light were two of the most important factors in the ability to cultivate or house plants in a greenhouse and were obtained through the use of the sun and a furnace. Loudon stresses the importance of glass in the construction of the greenhouse. The best glass should be chosen, "that which is clearest and has fewest inequalities of surface, in order that the light may pass through it as little changed as possible" (Loudon 1825: 158). The adoption of metallic sashes was seen as improvement in the construction of greenhouses (Loudon 1817: 78). Metallic bars, or astragals, of iron, copper, or pewter replaced wood that was used in early greenhouses. Loudon goes into great detail in specifying different materials and methods of construction for sash windows (1817: 78-83).

In either type of greenhouse, a vast majority of the southern wall and sometimes a portion of the roof were constructed of glass. A covering was necessary to retain heat during the nights and during inclement weather (Loudon 1805). As mentioned above, interior shutters were used in greenhouses where only the southern wall was constructed of glass. In greenhouses where the

roof was also constructed of glass, an inner roofing system was created. Loudon describes the inner roof as "simply a collection of curtains of coarse woollen cloth, which are made so as to slide down upon wires, six or eight inches within the glass. These curtains can be drawn up, and let down at pleasure, by means of cords and pulleys" (1805: 63-64).

Other suggestions in the construction of greenhouses were made to help make the most of light and heat from the sun. Gardening manuals instructed that the interior of the greenhouse be finished with plaster and whitewash to maximize the power of the sun (Hibbert and Buist 1834: 300; M'Mahon 1806: 81). These authors also suggest that the floor of the greenhouse should be paved with large paving tiles or flagstone and that the floor should be raised above ground level to help maintain heat and reduce dampness within the greenhouse (M'Mahon 1806: 81; Loudon 1817: 73).

### *Hot Beds*

Hot beds are outdoor pits or raised beds filled with a prepared dung or manure, a source of heat as it decomposed, and topped with dirt with a sloped, glazed frame set over them (M'Mahon 1857: 20-22). M'Mahon advised different sized beds for different plants, but gave a size range of 9 to 12 feet long and roughly 5 feet wide; the frame should be twice as high in the back as the front to allow moisture to run off (1857: 18-19). These semi-permanent structures were used to start plants early in the season (or grow early season vegetables), since the glass enclosure let in sun and kept in the warmth generated by the dung. Seeds were planted in pots in the hot beds; the pots were "plunged" into the dirt layer to be heated by the underlying dung. These plants could later be transplanted elsewhere outdoors. Farwell's journal at Gore Place records that he built hot beds for Heathcot, presumably to be used in conjunction with the greenhouse, and for Isaac Farwell. Isaac's hotbeds were located "in the hog yard" and seem to have been used for starting vegetables since there is one reference to "setting out lettuce in a hotbed in the hog yard (Farwell, March 27, 1822). Jacob Farwell's descriptions of building

the hot beds give a good sense of the process and include, at various times, entries for “fixing a place for the hotbed” (August 15, 1822) “digging a hole for Isaacs hotbed” (August 20, 1822), “carting gravel...to level a place for Isaac’s hotbed” (Jan. 28, 1823), “turning manure for hotbeds” (Feb 11, 1823), and finally, “making hotbeds” (Feb 21 and March 10, 1823). [This is not an exhaustive list of Jacob’s involvement with the hotbeds.]

### **Maintaining a Greenhouse**

Not only were the plants, tools, and the greenhouse itself an expensive addition to a home, but if owners of greenhouses followed the prescriptions set out in the advice manuals, the labor involved in maintaining a greenhouse would have been constant and time consuming. One source gives the cost of maintaining an elaborate greenhouse in the mid-19th-century as \$10,000 per year (Wilder 1881: 39). The authors of advice manuals insist that each plant should be inspected daily to have dead leaves removed and to ensure that it received only the appropriate amount of water. When plants became infested with insects, the greenhouse had to be fumigated with tobacco smoke for several hours every few days over a period of several weeks. For other kinds of pests, every individual leaf of each plant needed to be sponged with a chemical mixture, or have a mixture applied to the stems with a syringe (M’Mahon 1857: 179-184; Hibbert and Buist 1834: 14). Plants needed to be repotted during the course of the year. To admit fresh air, greenhouse windows needed to be opened daily; during the winter only when the weather was fine and only between the hours of 10 a.m. and 2 p.m. In cold or stormy weather, the greenhouse windows would need to be covered. Each day, except in the summer, fires had to be lit in the morning and evening to heat the greenhouse and drive off the chill; in the winter, fires needed to be kept burning overnight and would need to be tended several times, since it was important that they never be too hot (M’Mahon 1857: 103).

Hibbert and Buist recommend repainting, repairing broken glass, inspecting the flues, and whitewashing yearly (1834: 284). The records of the Cambridge Botanical Garden greenhouse are evidence for the types of regular specialized labor

required for the physical upkeep of the greenhouse. While they employed a full time gardener and seasonal labor for the horticultural work, specialists performed other kinds of regular tasks. Their receipts show substantial episodes of masonry repair in 1815, 1823, and 1830 (Massachusetts Historical Society (MHS), MSPA records, box 13) including repairs to the fireplaces, repairing and repointing the masonry, plastering, and whitewashing. Wooden elements such as window frames and water conductors were repaired more frequently, and there are several receipts for repainting. The accounts of the glazier who replaced broken panes of glass show that he visited several times a year (31: 9 for 1815-1816; 31: 50 for 1815-1816; 31: 77 for 1824-1825), and there are also running accounts with a person who made and repaired metal tools such as spades, rakes, hoes, shovels, dung forks, locks and keys, grass shears, water pots, hinges, putting edges on knives and sharpening saws, pick axes, blind hooks, oven boxes, and pruning saws (31: 48 for 1814-1816; 31: 130 for 1821; 32: 117 for 1825-1830). Gore would have had to employ specialists to construct the greenhouse, knowledgeable staff to tend to the plants and the daily routines of heating, cooling, airing, and covering the greenhouse, and specialized labor of the types mentioned above.

Even if the cycle of tasks outlined in the greenhouse manuals represents an ideal rather than a reality, greenhouses were certainly costly, requiring capital, labor, and specialized knowledge to build and maintain. Who was performing the labor on Gore’s greenhouse (the daily physical labor of tending the plants, the intermittent repairs, or the intellectual labor required to acquire and grow exotic plants)? Some greenhouse manuals were explicit that the care of a greenhouse, while overseen by a gentleman or a lady, would involve a gardener or other laborers (Loudon 1825: 2-5). While the three manuals discussed above are all written for general audiences of men and women, some manuals were written expressly for women, including several by J. C. Loudon’s wife (Loudon 1857). Loudon himself writes, “a green-house is in a peculiar degree the care of the female part of a family” (1825: 2); greenhouse management was an appropriate area of expertise for early 19th-century

women. Similarly, William Cobbett, writing in *The American Gardener* (2003 [1821]: 44-45), stated that greenhouses were very beneficial “to the females of a family” since from them they “would receive constant amusement and delight, during a season when they are cut off from almost all other recreation.” Mrs. Gore’s possible role in running the greenhouse will be considered in Chapter 6.

### Sources for Comparison

A number of other late 18th to mid 19th-century North American greenhouses are either still standing or have been excavated. Some of these are referred to throughout the report as sources of comparative information, so are described briefly here. The discussion of the Lyman greenhouses and fruit wall at the Vale is more detailed since those greenhouses were contemporary with the greenhouse at Gore Place. Since they were nearby, Gore was likely familiar with them.

#### *Quebec City*

Excavations in the mid-1980s uncovered two greenhouses built in 1781 and 1815, both of which had attached sheds or lean-tos where planting pots and tools were stored (Beaudet 1990). Tools, a large collection of planting pots, and even a wooden shutter used to cover the windows were recovered during the excavations. Both had stone foundations and were heated by furnaces. The older greenhouse was smaller and interpreted as more utilitarian; it contained a bark pit in addition to shelves for plants. The newer greenhouse was larger (19.75 by 7.95 meters or 65 by 26 feet), comparable to Gore Place, and was interpreted as a more formal space where people could walk between the rows of plants for pleasure.

#### *Maryland and Virginia*

A number of greenhouses of this period are known from Maryland and Virginia including those at Mt. Clare, Mt. Vernon, and the Wye House. Dennis Pogue has conducted excavations at the Mt. Clare greenhouse and pinery (for growing pineapples), some of the details of which are presented in Pogue 2009. The Mt. Clare greenhouse, outside of Baltimore, Maryland, was constructed between 1760 and 1770 (Weber

1996: 34-45), and family correspondence shows that Margaret Carroll was primarily responsible for running it. In fact, George Washington wrote to Mrs. Carroll for advice and a supply of plants when he built his greenhouse in the 1790s (Weber 1996; Pogue 1996). The Mt. Vernon greenhouse in Virginia was excavated in the 1950s and subsequently reconstructed. It included, unusually it seems, slave quarters in the two wings (Pogue 2002: 8-10). The Wye greenhouse, belonging to the Lloyd family on the eastern shore of Maryland was probably built in 1770 and expanded in the 1780s. Here too slaves were possibly housed in an extension of the greenhouse. Both the Mt. Vernon and Wye greenhouses are of the architectural type with a main body and flanking wings; the Wye greenhouse is still standing. Excavations there are currently being conducted by Mark Leone and publications and reports are forthcoming. The Calvert orangerie in Annapolis, Maryland, existed between 1730 and 1765 and stands as an early example of this type of specialized structure in North America (Yentsch 1990). The hypocaust system was excavated by Anne Yentsch and others in the mid-1980s, though little is known of the structure’s above-ground configuration.

#### *Pennsylvania*

The Philadelphia area was a major center of botanists and greenhouses in the late 18th and early 19th centuries. Some of the greenhouses are known from period paintings, such as John Woodside’s painting of Lemon Hill, owned by Henry Pratt and built in 1807 on the banks of Schuylkill River (see Woods and Warren 1988: 87). Excavated examples include the Woodlands Estate, home to William Hamilton (the 18th-century greenhouse is just beginning to be excavated, see Chesney 2009), Andalusia, home of the Biddle family (Kratzer 1995), and the Highlands, home of Anthony Morris (Bescherer, Kratzer, and Goodwin 1990). At Andalusia, Judson Kratzer uncovered remains of the enclosed grapery greenhouses in use between 1835 and 1875, the back walls of which are still standing (Kratzer 1995: 104-133). Interestingly, Kratzer found that Biddle closely followed published specifications and suggestions for grapery construction. The Andalusia grapery-



Figure 3.7. Overview of the Lyman greenhouses at the Vale, Waltham, Massachusetts.

ies were of a lean-to style and consisted of a back wall with multiple furnaces north of the wall and hot air flues running into the greenhouse, probably just above the greenhouse floor. The front wall was supported by piers, and the spaces between the piers allowed the grapes' root systems to spread outside the greenhouse. The front wall supported a sloping glass roof that ran to the top of the back wall. Kratzer also uncovered the prepared planting beds and sub-bed layers for the graperies and an extensive external drainage system. These features provide one example of how the grape wall depicted on the 1834 Lyman map from Gore Place may have functioned, though the standing fruit wall at the Lyman estate is another possible model. At the Lyman estate, portions of the wall were incorporated into greenhouse structures and other sections continued to function only as a sheltering wall.

The greenhouse at Highlands, also outside of Philadelphia, was constructed between 1813 and 1841 and destroyed in 1871 (Bescherer, Kratzer, and Goodwin 1990: 68-91). It was a lean-to style greenhouse with a tall back wall (still standing as of 1990) and shorter front wall with overall dimensions of 68 by 16 feet. The firebox was at the north (back) wall of the greenhouse and flues ran under the floor. There was also a deep pit inside the greenhouse that may have been a bark pit or storage cellar. Architectural artifacts recovered included pulleys for sash windows and window glass from non-rectangular panes (possibly shield and rhomboid shapes). Like Gore Place, artifacts associated with the greenhouse included numerous planting pot fragments and many sections of iron wire that may have served to hold plants or vines to their supports.

## Massachusetts

A number of greenhouses that predate Gore's are known in Massachusetts from documentary sources (Wilder 1881). Tradition ascribes the first greenhouse in Massachusetts (and in America) to Andrew Faneuil between 1710 and 1738, but as Dennis Pogue, an authority on the subject, says, "the evidence [for the existence of the greenhouse] is sketchy" (2009: 40). As described above, Essex County merchants John Tracy and Elias Haskett Derby had greenhouses on their properties by 1782 and 1790, respectively (Moore 1988: 129, 135-136).

Theodore Lyman, a fellow member of the MSPA, built a series of greenhouses and a fruit wall at his Waltham estate, the Vale (now owned by Historic New England). Gore, as a neighbor, would undoubtedly have seen these greenhouses, and they might have served as models for his own. Since Lyman's son (Theodore Lyman Jr.) purchased Gore Place after Rebecca Gore's death, he also had a brief period when he could have directly influenced the greenhouses on the property. The Lyman greenhouses at the Vale still exist, and several have been tested archaeologically (Pinello 1999; Pinello and White 2000). Lyman's first greenhouse was constructed in 1798 and was probably not intended for display purposes. It was constructed at some distance from the house in a kitchen garden and built into the slope of a hill. The walls are brick, and only the roof is glass. It is heated, and flues run the length of the building. The interior consists of a narrow walkway between two raised beds in which plants were planted. Behind (north) of this greenhouse is a cold frame with hinged windows that could be opened in good weather.

Lyman also constructed a 425 foot long peach wall at the top of the slope behind the house, separating the house from the kitchen gardens and other utilitarian structures. In 1804, he added a lean-to style greenhouse to one end of the wall, incorporating the peach wall into the back wall of the greenhouse. This greenhouse was intended to grow fruits such as pineapples, figs, lemons, limes, and bananas (Historic New England). Furnaces and flues were added to the back wall to provide

additional heat. This greenhouse was later transformed into a grapery, at which point beds were added for the grape vines. The original configuration of the interior is not known. In 1820, Lyman built another lean-to greenhouse along the peach wall, now known as the Camellia house, but apparently originally built to grow peach trees (Historic New England). In 1840, the space between these two greenhouses was filled with a third greenhouse, intended to grow flowers to be cut for use in the house, creating a connected complex (Figure 3.7).

In Newbury, Massachusetts, Mary Beaudry identified a large area of prepared soil at the Spencer-Pierce-Little Farm that may have been

associated with either an open garden bed or an unknown structure (Beaudry 1994). The late 18th or early 19th-century occupants removed the upper layers of soil (A and B horizons) and replaced them with a cobble-rich layer to create a well-drained area similar to some of the grapery bedding at Andalusia (Kratzer 1995). This process of removing natural soil layers and replacing them with specially prepared mixtures has been identified in a number of areas at Gore Place.

The 20th-century greenhouse at The Mount in Lenox has also been tested archaeologically (Binzen and Kelly 2000; Binzen, Barker, and Pinello 2002).





## CHAPTER 4: THE GREENHOUSE EXCAVATIONS

### Introduction

Excavation of the greenhouse took place in the grassy area east of the parking lot, immediately north of the entrance drive, west of the old English oak and the knot garden, and south of a raised bulb bed and the yew hedge. The limits of the current excavation area were determined in part by the existing landscaping (the bulb bed to the north and the oak tree to the east). The area was selected based on information from prior test excavations (Smith and Dubell 2006), the historic maps that depicted a greenhouse in this area (see Figure 3.2), and the need to test the area that would be affected if the carriage house were to be relocated to this site. Smith and Dubell (2006: 33-37) had previously identified greenhouse-related artifacts (such as planting pots), deposits containing abundant architectural rubble, and a stone drain in this area during their excavation of a grid of test pits at 5 meter intervals.

The 2008 excavations consisted of thirteen  $2 \times 2$  m units (a total of 52 sq m), covering a  $6 \times 8$  meter area with one additional unit to the south (Figure 4.1). Units were labeled with the coordinates of their southwest corners. With the exception of unit N576 E733 and parts of N574 E735, all of the units were excavated to subsoil or until architectural features were encountered. Intact architectural features such as the greenhouse floor and the stone drain were left in place; we did excavate all or part of the two French drains in the area, however.

This grassy excavation area was slightly higher in elevation than the adjacent parking lot, and rose to the north. The topsoil and upper level of landscaping fill (which was thickest in the north) were removed mechanically and were not screened. Examination of this fill showed that it consisted of 20th-century landscaping loam and material that had been removed to level the parking lot. After this initial mechanical assistance, all soils were excavated by hand and screened through quarter inch mesh. Each distinct deposit was given a context number; deposits that covered several excavation units were given a separate

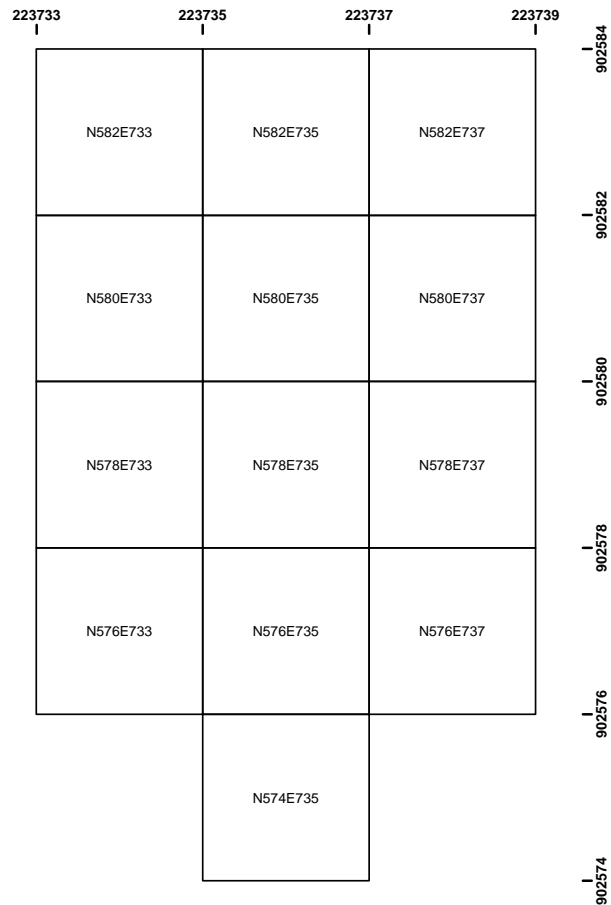


Figure 4.1. Units excavated around the greenhouse extension in 2008. Axes labeled with UTM coordinates.

context number in each unit for better spatial control over the recovered artifacts. Features (Table 4.1) such as post holes, floors, or walls were given a single feature number, even if they crossed multiple units.

The excavation uncovered a roughly  $3 \times 3$  meter trapezoidal brick floor, interpreted as the greenhouse extension depicted on the 1834 Lyman map (Figure 4.2). This floor was surrounded by a prepared ground surface and a number of features that seem to have been contemporary with the operation of the greenhouse, including a roadbed that passed between the greenhouse and the carriage house. A row of large post holes separated

Table 4.1. List of features. Breaks in the sequence represent numbers originally assigned to deposits that were later were incorporated into other deposits or contexts.

Feature	Description	Contexts
1	Planting bed	619, 645
2	French drain (north)	632, 635, 637, 666, 706, 707, 721, 723, 724
3	Linear clay feature (pathway?)	684
4	Gravel capping interior greenhouse destruction debris	654, 659, 661
6	Planting bed, hot bed, or soil preparation area	652, 679, 704, 740
7	Planting hole?	656
8	French drain (south)	657, 663, 677
9	Stone and brick wall base	--
10	Stone lined drain	756
11	Linear deposit of brick (E-W) at north edge of floor	745, 746
13	Irregular post or planting hole or animal burrow	688
14	Builder's trench for stone drain	693
15	Planting hole?	696
16	Rounded rectangular post hole and mold	702
17	Linear deposit of brick (N-S) at west edge of floor	701, 708
18	Possible cobble surface east of brick floor	703
19	Post hole and mold	711
20	Roughly circular post hole and mold	713, 730, 771
21/24	Post mold (F21) and rounded rectangular post hole (F24)	718, 719, 777
22	Irregular oval pit feature	
23/25	Post mold (F23) and post hole (F25)	729, 731
28	Rounded rectangular post hole and post mold	742, 748
29	Small pit feature	
30	Brick floor of the greenhouse extension	

the greenhouse from the road, suggesting that the area had been defined by a substantial wooden fence. Some other features, including two French drains, were added later. When the greenhouse was taken down, probably in the 1840s, destruction rubble covered the inside of the greenhouse and was dumped in several other deposits to the west (outside the greenhouse). Several distinct landscaping fill layers then covered the whole area, more thickly in the north. Although deposits were excavated beginning with the most recent and working back to the oldest, the narrative description of the deposits will begin with the oldest deposits (and the construction of the greenhouse) and move forward in time.

### Greenhouse Architectural Remains and Early Ground Surfaces

The part of the greenhouse extension that we uncovered was a roughly 3 × 3 m trapezoidal red brick floor that continued beyond the eastern edge of the excavation. Just at the edge of the excava-

tion, and now under a large oak tree, was an area of the floor that is void of bricks, which may have been an ash pit. Because it was at the edge of the excavation, not enough of this feature was exposed to determine its size or function. Along the south edge of the brick floor is a small (1 brick wide and 1 brick deep) channel that may have carried away water to a stone drain that began at the southwest corner of the floor (Figures 4.2 and 4.3). Alternatively, the channel may just be a space where bricks were robbed out of the south wall when the greenhouse was demolished, although this seems unlikely since remaining bricks at the east end covered the channel. The northern and southern walls had been removed to just below the level of the floor while one or two courses of brick remained of the western wall. Examination of the area outside the western wall revealed a narrow (5 cm wide) builders' trench (cxt 764). The bricks remaining at this location were four courses thick: two courses above the floor, a course that made up the floor surface, and one course beneath the level



Figure 4.2. The greenhouse area at the end of the 2008 excavation, facing west.



Figure 4.3 Brick channel at the south edge of the greenhouse extension floor, facing east. The fieldstone base of the south wall and the narrow builder's trench are visible at the right.

of the floor (Figure 4.4). The lowest course rested on a bed of mortared stone rubble which extended just slightly beyond the bricks. The mortar on the exterior of the bricks was very rough, suggesting that these courses were below the ground level while the building was in use and were not visible. The southern wall, on the other hand, was built of bricks set in mortar on a fieldstone foundation (see Figure 4.3).

Thus, from available evidence, construction of this end of the greenhouse entailed removal of the A-horizon plowzone and a portion of the B-horizon subsoil. Then a layer of stone rubble and mortar was laid down for bedding. The north and west brick foundation walls were constructed on the bedding, followed by installation of two courses of mortared brick pavement. The south foundation wall was constructed separately of fieldstones topped with brick.

A GPR survey south and east of the excavation area detected a strong (red) linear reflector running

Table 4.2. Contexts associated with the early ground surface around the greenhouse extension.

Context	Description
628, 646, 691, 692, 700, 727	Old ground surfaces.
703, 710, 717, 737	Cobble surfaces or transitional layers between the ground surface and subsoil.
658, 681	Layers over subsoil south of the extension; not clear if they are early ground surfaces or early fills; 681 covers the stone drain, so was an intentional re-deposition over that feature after it was built.
682	Buried truncated A horizon south of extension.



Figure 4.4. West edge of the greenhouse, exterior. Note unfinished mortar joints, as these would have been below grade and not visible.

almost directly east-west, north of the brick floor (Figure 4.5). We interpret this as the remains of the rear wall of the main body of the greenhouse, which would have been more substantial than the south wall. Some more of the brick floor, which covered the whole area of the west extension, can also be seen as a hard reflector (red) in the unexcavated portion of the extension.

The area immediately west of the extension had a particularly heavy deposit of gravel and small cobbles at the upper interface of the subsoil (cxt 757); we considered the possibility that this was a prepared surface, but concluded that it was a characteristic of the subsoil. The narrow builders' trenches on the west and south sides suggest that the builders dug out a shallow area just large enough to lay the pad of brick rubble, the foundation stones, and the brick floor.

The stone drain (Feature 10, cxt 753-756) and its builder's trench (Feature 14, cxt 693) had been discovered during preliminary testing of the area in 2004 (Smith and Dubell 2006). The drain begins at the southwest corner of the brick floor and continues to the southwest beyond the edge of the excavation area. It consists of a cap of large fieldstones that rested on stones of mixed sizes on either side, all unmortared. The space within the drain was still open, and the drain floor was gravel sitting in/on subsoil. The builder's trench for the drain contained a small number of artifacts (16 in total), one of which is an unexplained piece of plastic. The other datable artifacts include a piece of creamware (after 1762) and a piece of polychrome painted pearlware (after 1795). Discounting the plastic, these few artifacts only indicate that the drain was constructed sometime during the life of the greenhouse. It could have been part of the initial construction or added later. The stone drain is also visible in some of the GPR slices (Figure 4.6) as a strong (red) reflector, and it ends just south of the excavation area. The drain either ended just outside the greenhouse, or the rest of it was removed at some later point.

In addition to the excavation that took place to build the brick floor, other areas outside the extension showed evidence that the whole ground surface had been scraped and prepared, as Gore had done at other locations around the Mansion. North and west of the extension, there was a clear old ground surface detected in several units (Table 4.2). This compact, dark yellowish brown layer was 15 to 20 cm thick, and more artifact rich than the layers immediately above, though the artifacts were usually concentrated in the upper part of the deposit. In places, there were clear artifact scatters

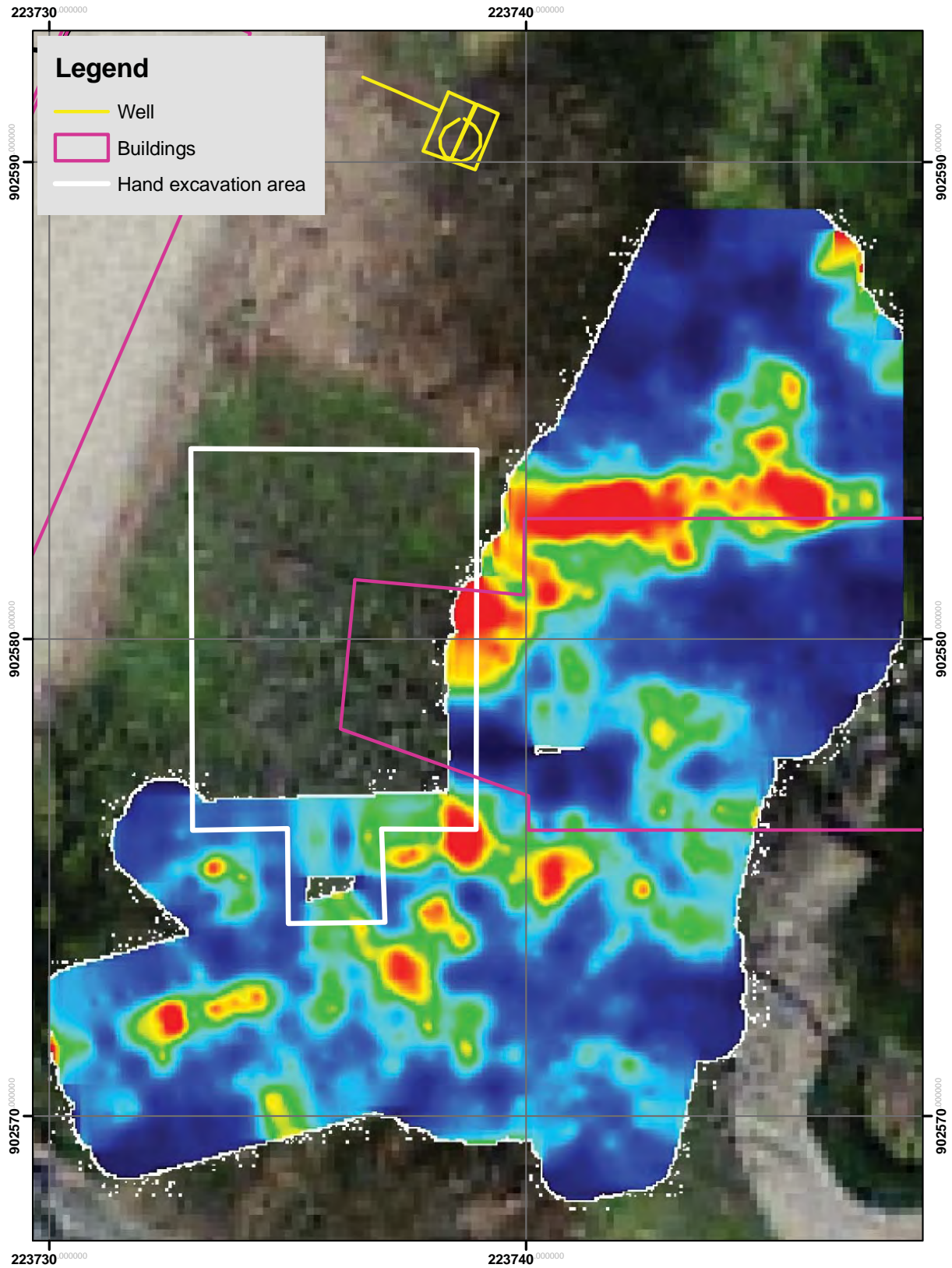


Figure 4.5. GPR slice at 55 cm below the ground surface showing the rear wall of the main body of the greenhouse (strong reflector [red] feature running east-west).

Table 4.3. Contexts associated with the roadway.

Context	Description	Thickness
650	Ceramic cluster on the surface of the organic deposit.	--
686	Organic layer covering road bedding.	2-3 cm
697	Clay road way cap.	3 cm
698	Sand and gravel roadway bedding.	6-7 cm

at its upper interface, such as a number of slate fragments sitting flat, supporting the idea that it had been exposed as a surface for some time and may have been the ground surface at the time of greenhouse construction. A clay pathway (F3, discussed below) sat on top of this stratum, and elsewhere, the tops of post holes and other features became visible at this level. In the northeastern part of the excavation (N582 E 735 and N582 E 737), this layer seemed to transition to subsoil in a natural way, but elsewhere the transition between this old ground surface and the subsoil suggested that Gore had scraped away the existing topsoil, deposited cobbles in some areas and other soils in others, and then resurfaced the area around the greenhouse. In N580 E735, for example, the old ground surface (cxt 700) contains two lumps of redeposited subsoil and sits over some brick rubble relating to greenhouse construction. In N578 E735, the old ground surface sat on top of a dense cobble surface (F18) west of the extension. In N576 E735 and N574 E735, a thin, darker, more artifact free layer just above the subsoil was noted (cxt 682). This was a buried, truncated A horizon, and several of the greenhouse related features either sit on or cut through this level (F9 sits on it; F10 cuts through it), again suggesting that the ground surface was scraped and prepared before construction started.

The ceramics from the early ground surface contexts consist of creamware (after ca. 1760), blue transfer printed pearlware (1783-1830) and green transfer printed whiteware (after 1820), handpainted blue and polychrome pearlware (1795-1830), factory slip decorated pearlware (1795-1840), redware planting pots, glazed redware, porcelain, engine turned red stoneware (1763-1775), and white salt glazed stoneware (1720-1805). These artifacts are almost all in small fragments, as expected from a trampled surface,

and most vessel forms are not identifiable with the exception of some creamware plates, the planting pots, and the engine turned red stoneware, which seems to be a fragment of a tea pot. The glass fragments consist of some olive green bottle glass and a small amount of colorless glass from an undetermined object (possibly table glass), but most of the fragments are of window glass, unsurprisingly given the proximity to the greenhouse. Other artifacts include nails, building materials (brick, slate, pieces of marble floor tiles, and mortar), a utensil handle, a window sash weight, and other iron fragments.

### Deposits Associated with the Roadway

At the far western edge of the excavations area, we encountered deposits associated with a roadway that ran between the greenhouse and the carriage house. These deposits were located at the west edges of units N582 E733 and N580 E733 and consisted of two levels of roadway bedding covered by a thin, dark, organic layer. All of these levels sloped down from the west to the east. There was a clear scatter of trash on the upper surface of this layer, mostly at the low end of the slope, just off the edge of the roadway.

The roadway bedding was composed of an olive gray clay over a medium brown sand and gravel road bed (Table 4.3). The relationship between the road bed and the old ground surface detected in the units to the east had been disrupted by later cuts, so it is not possible to determine how the road related, stratigraphically and in time, to the ground surface around the greenhouse. The use of sand and gravel bedding and a clay cap, however, is consistent with other construction episodes around the property that have been attributed to Christopher Gore. The well in the drive circle, for example, is capped with a similar clay material (Smith, Beranek, and Steinberg 2010).

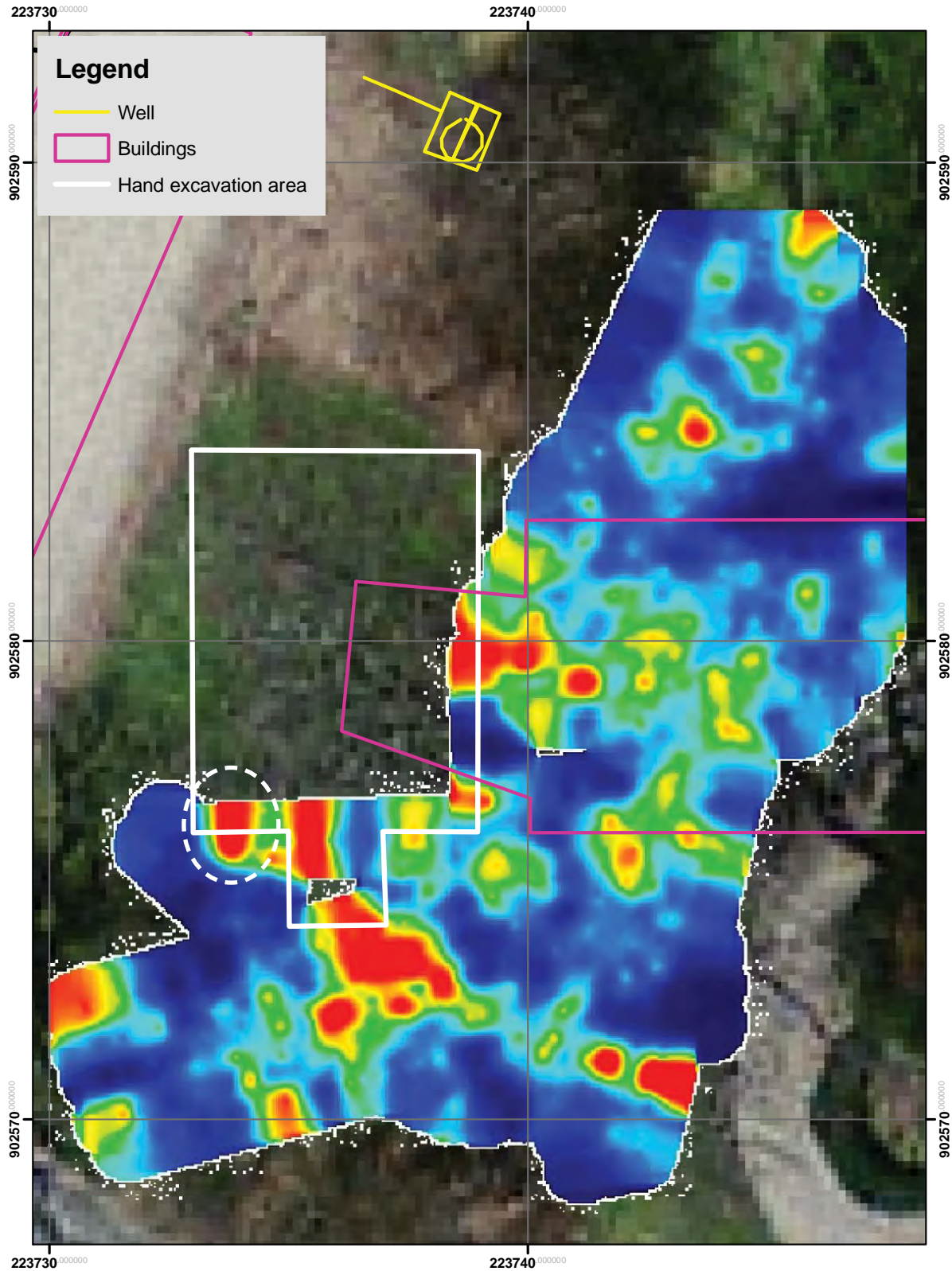


Figure 4.6. GPR slice at 40 cm below the ground surface showing the stone drain (circled) extending from south from the southwest edge of the excavation area. To the right (east) is the curving wall base, discussed below.

The clay cap over the road bedding contained window glass, a few nails, some brick and slate, and 8 ceramic fragments (glazed redware, planting pot, creamware, and blue painted white or pearlware). The sand and gravel bedding contained a similar assortment of material: window glass, nails, brick, slate, and mortar, an ox shoe, bone, and fragments of glazed redware, planting pots, undecorated refined earthenwares, and a fragment of a Chinese Canton porcelain plate (1800-1830).

The road can probably be seen in some GPR slices (Figure 4.7). The 35 cm below ground surface slice shows a strong (red) reflector running southwest to northeast between the carriage house and greenhouse, ending or possibly turning east immediately north of the well (outlined in yellow). The interpretation of this GPR signature is difficult because it is near the edge of the survey area and the roadbed is shallow and parallel to the transects. This interpretation is made less secure by the fact that the angled lines (not used to generate the slice in Figure 4.7) do not bring out this feature. The identification of this feature as the road is our best interpretation of this strong signature; however, other possibilities exist. Note the eastern edge of the GPR slice, which shows alternate areas of red and blue. The source of this varied signal is not clear. It may represent the reflection from the sloping edge of the road, which we encountered in the excavation units. Or it may be that the predominantly blue area along the eastern edge represents the remains of a roadway which ends at the well. North of the well, the reflections are less consistent, and it is not clear if the broken yellow, red, and green area represents a continuation of the roadway or not.

The organic layer covering the road bedding and the low area to the east was a dark brown sandy loam that was 2 to 3 cm thick in most area (up to 5 cm where it had filled in erosional gullies in the clay surface). Multiple cross-mending fragments of a transfer printed pearlware pitcher (vessel 18), a pearlware plate, and fragments of marble floor tile sat at the surface of the deposit (Figure 4.8), along with clusters of articulated animal bones. All of these artifacts on the surface of the layer might have been thrown away when the greenhouse was demolished and the area filled

in. The underlying layer (context 686) as a whole had a moderate density of artifacts, containing fragments of window glass, nails, broken marble floor tiles, mortar, ceramics, and 125 pieces of animal bone. Most of the large fragments sat on the surface of the layer. The presence of marble floor tiles, presumably from the main greenhouse floor, at the surface of this deposit suggests that it remained uncovered until the greenhouse was dismantled. The deposit that covered these roadway layers is full of architectural hardware (discussed below), which further supports the idea that this area was filled in and re-landscaped when the greenhouse was taken down.

### **Features Around the Greenhouse**

This section discusses features around the greenhouse extension that appeared at the level of the old ground surface, either as pits that cut through the old ground surface (but not levels above) or as other paths that sat on top of the old ground surface. For the most part, these are features that seem to be contemporary with the greenhouse, based on their stratigraphic position.

#### *Feature 3: Linear Clay Feature*

Feature 3, excavated as context 684, was a long patch of very compact sandy clay with small angular gravel that ran roughly north-south, just outside the west end of the greenhouse extension (Figure 4.9). It sat directly on the old ground surface. It was preserved for 420 cm of length, was 45 cm wide, and 3 cm thick. It had few artifacts associated with it, with the exception of 31 nails and 16 pieces of window glass, not surprising given its location adjacent to the building. At only 45 cm wide, the feature seems to be a little narrow to have been a walking path; it may have been some form of surface treatment immediately outside the greenhouse to prevent mud from developing along the drip line of the eaves or to prevent grass and weeds from growing close to the building.

#### *Feature 6: Possible Planting or Soil Preparation Bed*

Feature 6 (context 652) was an area of very dark brown loamy sand abutting the north edge of the greenhouse extension and extending roughly



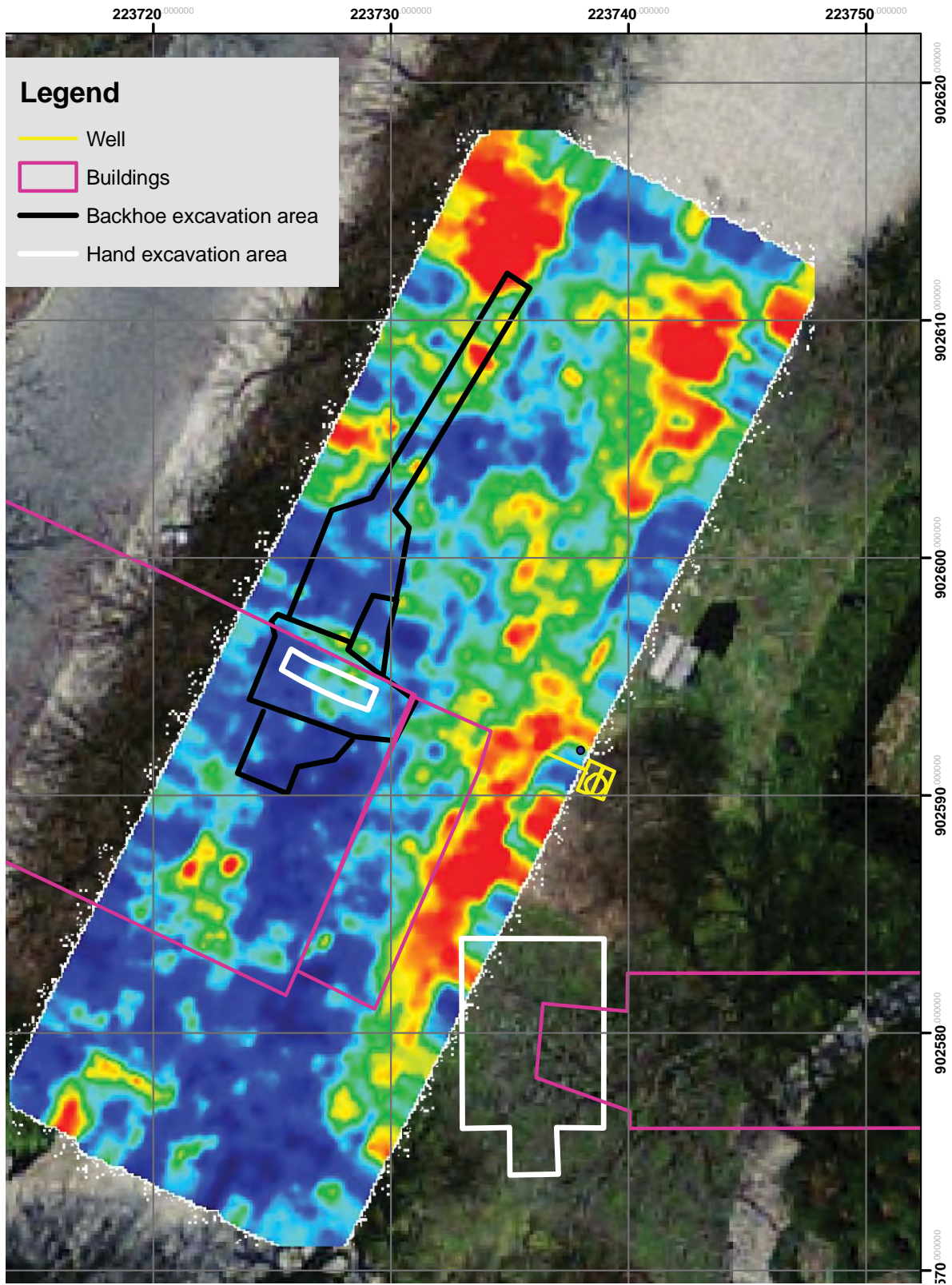


Figure 4.7. GPR slice at 35 cm below the ground surface showing the roadway between the carriage house and greenhouse.



Figure 4.8. The artifact cluster (cxt 650) at the upper surface of the deposit over the roadway (cxt 686); pearlware pitcher, creamware plate, and marble floor tile fragments. North is to the top.

Table 4.4. Post holes and post molds west of the greenhouse extension.

Feature	Description and shape	Dimension of hole	Diameter of mold	Contexts
13	Irregular post or planting hole or animal burrow	D=57 cm at top 22 cm at end of excavation	Possibly 22 cm	688
16	Rounded rectangular post hole and mold	60 by 80 cm, 72 cm deep		702
19	Rounded rectangular post hole and mold	60 by 80 cm, 58 cm deep	24 cm	687, 711
20	Roughly circular post hole and mold	60 by 65 cm, cut by F. 28	20 cm	713, 730, 771
21/24	Rounded rectangular post hole (F24) and mold (F21)	110 by 80 cm, 110 cm deep	30 cm	718, 719
23/25	Post mold (F23) and post hole (F 25)	50 cm by more than 70 cm (intersects N wall of excavation)		729, 731
28	Rounded rectangular post hole and mold	90 by 60 cm, 55 cm deep	20 cm	742, 748, 749

1 meter north. It had been cut by later planting holes on the north and east (Features 1 and 7). The dark color of the soil and the scarcity of artifacts suggest that this was a planting or garden bed of some sort, although it was relatively shallow (not more than c. 20 cm) and its placement on the north side of the greenhouse would have kept it shaded. Rather than being a planting bed, it may have been an area for composting or soil preparation; contemporary greenhouse manuals advised keeping piles of leaves, sand, loam, and other materials near the greenhouse, mixing them in specific proportions, and turning them to prepare a good planting medium (Louden 1825: 143-150). As noted, the artifact density in this feature was low (2 fragments of planting pots, 12 of glass, 5 nails,

and one half of an H hinge). The H hinge could have held a large shutter or a door, both of which would have been found on the greenhouse.

*Post Holes: Features 13, 16, 19, 20, 21/24, 23/25, 28*

A line of post holes and molds (the indication of the post itself) runs in a northeast to southwest direction and divided the greenhouse area from the roadway discussed above and the carriage house (Figure 4.9; Table 4.4). Four of these appear to run in a single line with two in a second line to the west. These two lines might represent a fence and a gate; from the size of the post holes, the fence that they supported would have been substantial with posts 20 to 30 cm (8 to 12 inches) in diam-

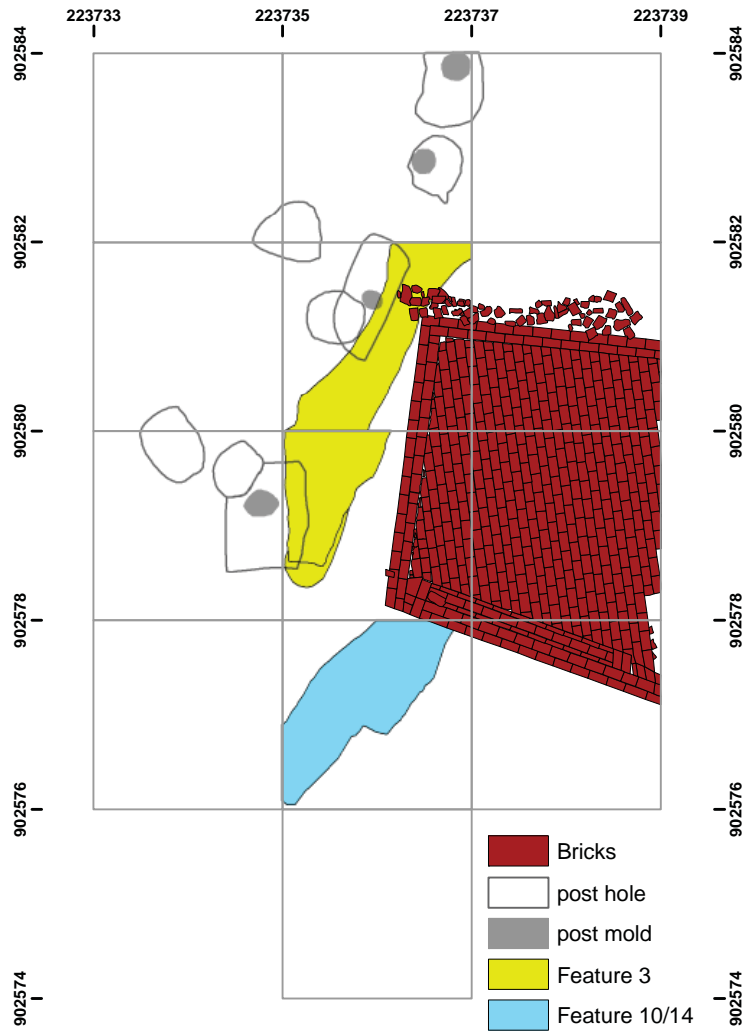


Figure 4.9. Features contemporary with the greenhouse: the brick floor of the extension; Feature 3, a band of compact sandy clay; Features 10/14, the stone drain, and the post holes and post molds.

eter. One (Feature 28) had two post molds visible at the bottom, indicating that the post was replaced at least once. This same post hole also cut through Feature 20, again suggesting that the fence here was maintained over time with new posts and post holes.

The rounded rectangular post holes are roughly the same size (60 by 80 cm, 60 by 90 cm, and 80 by 110 cm) with posts of 20 to 30 cm in diameter. Feature 13, identified as roughly circular, was much more irregular than the other features, but seemed to taper to a 22 cm wide post mold driven into the subsoil. Feature 20 was cut by a later post hole, so its size and shape cannot be determined.

Most of these features appeared at the level of the old ground surface, suggesting that they were contemporary with the earliest use of the space. They all contained greenhouse-related artifacts (planting pots and window glass), however, indicating that they were dug or re-dug while the area was in use. The ceramics in the post holes consisted primarily of planting pot fragments, followed by redware, undecorated creamware (59 sherds), and undecorated pearlware (5). There were single sherds of tin-glazed earthenware, blue shell-edged pearlware, Chinese porcelain, and whiteware (post-1820). There are a relatively small numbers of sherds in the post holes that are diagnostic for

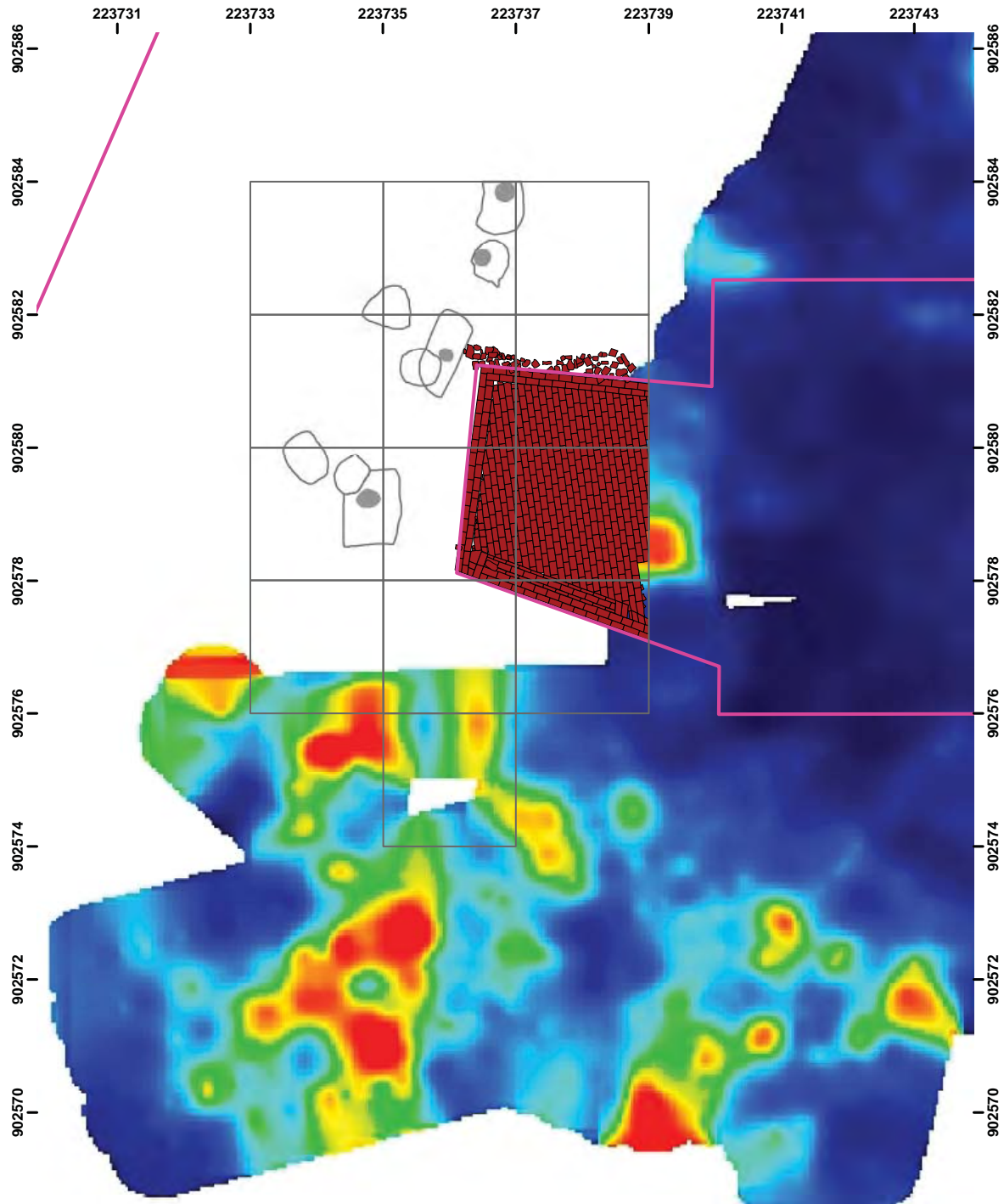


Figure 4.10. Excavated post holes and signatures of possible post holes south of the brick floor, visible in the GPR slice at ca. 90 cm below the surface.

dating. Therefore, it is not clear that the absence of yellowware (post-1835) or blue and green transfer printed pearlwares and the prevalence of creamware (post-1762) are significant or not. If signifi-

cant, the ceramics in the post holes suggest that the posts and the fence or barrier that they supported date to early in the greenhouse's existence. In one instance, a planting pot sherd in Feature 23/25

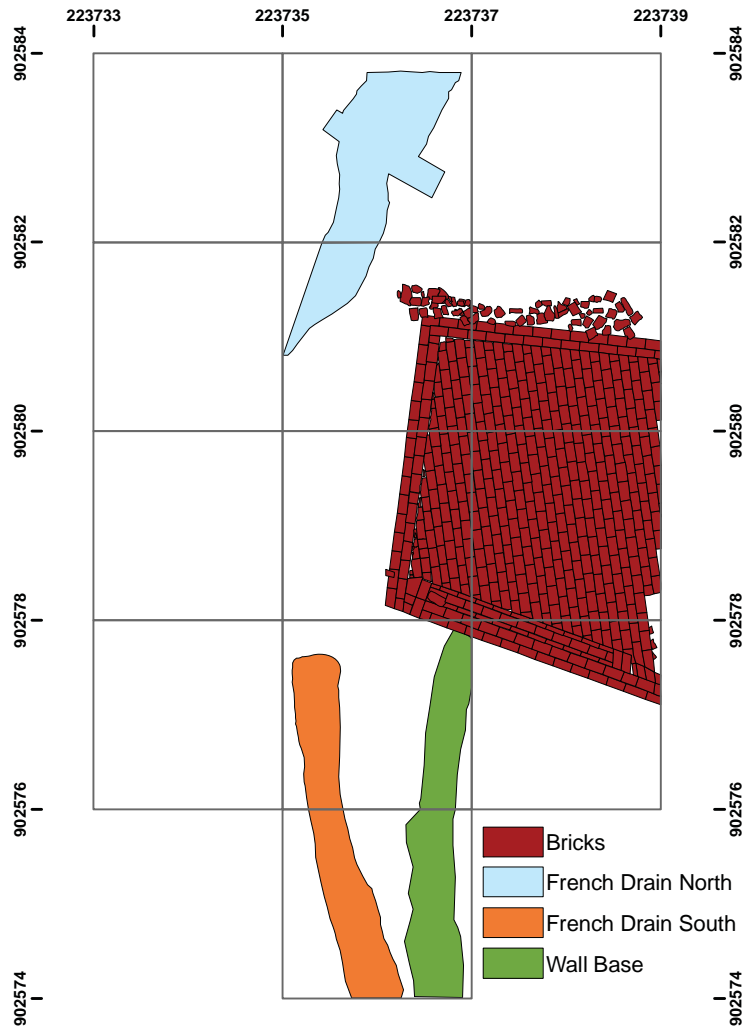


Figure 4.11. Later features around the greenhouse extension: the northern French drain (Feature 2), the southern French drain (Feature 8), and the curving wall base (Feature 9).

mended to fragments found in the destruction rubble above the greenhouse floor, suggesting that the post hole was open after the greenhouse was demolished. This could mean that the fence was torn up at the same time as the greenhouse structure was taken down.

Additional post holes south of the greenhouse extension may be visible in the GPR slice data. These appear as a series of four or five reflective features in a line south of and parallel to the brick floor of the greenhouse, forming a right angle with the existing post holes discovered west of the greenhouse (Figure 4.10). Further excavation is needed to confirm that this GPR signature is, in

fact, coming from post holes rather than another type of feature, but the combination of the GPR and excavation data suggests that the whole greenhouse area may have been enclosed by a wooden fence at one point.

#### *Feature 9: Curving Wall Base*

This curving support for a wall begins at the southwest corner of the greenhouse extension (near the stone drain) and curves away to the south and slightly east (Figures 4.11 and 4.12). The foundation consists of a single course of a rather irregular assortment of stones, bricks, and mortar that is 45 to 50 cm wide. We exposed 3.75 meters



Figure 4.12. Feature 10, the stone drain (left) and Feature 9, the curving wall base (right). North is to the top. See Figures 4.2, 4.9, and 4.11 for the relationship between these features and the greenhouse extension floor which had not yet been uncovered when this photograph was taken).

of it in the excavation; probing and ground penetrating radar (Figure 4.13) indicate that the wall continues for several additional meters to the south east. The irregular construction suggests that it was a foundation for an enclosure or retaining wall. There is a light colored silty sand deposit (contexts 674 and 709) that occurs only inside the wall.

The wall sits on top of a truncated A horizon about 8 cm above the subsoil. The stone drain to the greenhouse cuts through this same truncated A horizon. Unfortunately, in the small area exposed, there were no artifacts recovered to date the A horizon that the wall sits on. The earliest deposit on both sides of the wall is context 681, the same deposit that covers the near-by stone drain (the wall may, in fact, sit on top of this deposit but we did not remove any of the wall to determine this). Context 681 contains white granite or ironstone ceramic fragments, a type developed only after 1813. The remains of the wall were covered by layers of fill, including greenhouse destruction rubble (context 631), indicating that the wall was demolished at the same time as the greenhouse.

The proximity of the stone drain and the wall

suggests that they might be contemporary, as do their similar depositional histories (they both cut through the same remnant A horizon and have context 681 over or adjacent to them). Nothing in the archaeology, however, excludes the possibility that they were constructed at separate times.

The greenhouse yard area is depicted as enclosed on the 1834 Lyman map, though not on the 1841 Greene map of the property (see Figures 3.2 and 3.4). In the 1834 depiction, the southeast corner of the enclosure is curved, but the southwest corner (where the curving wall was uncovered) is depicted as a square corner. The discovery of possible post holes in the GPR data suggests that the southern boundary of the greenhouse area changed over time; whether the post holes or the wall are earlier cannot be determined without excavation to confirm the existence of the post hole and to date them. The shallowness of the wall base, however, suggests that it might have been more recent.

### Later Ground Surfaces and Features

North and south of the greenhouse extension, we uncovered two distinct drains of the type today

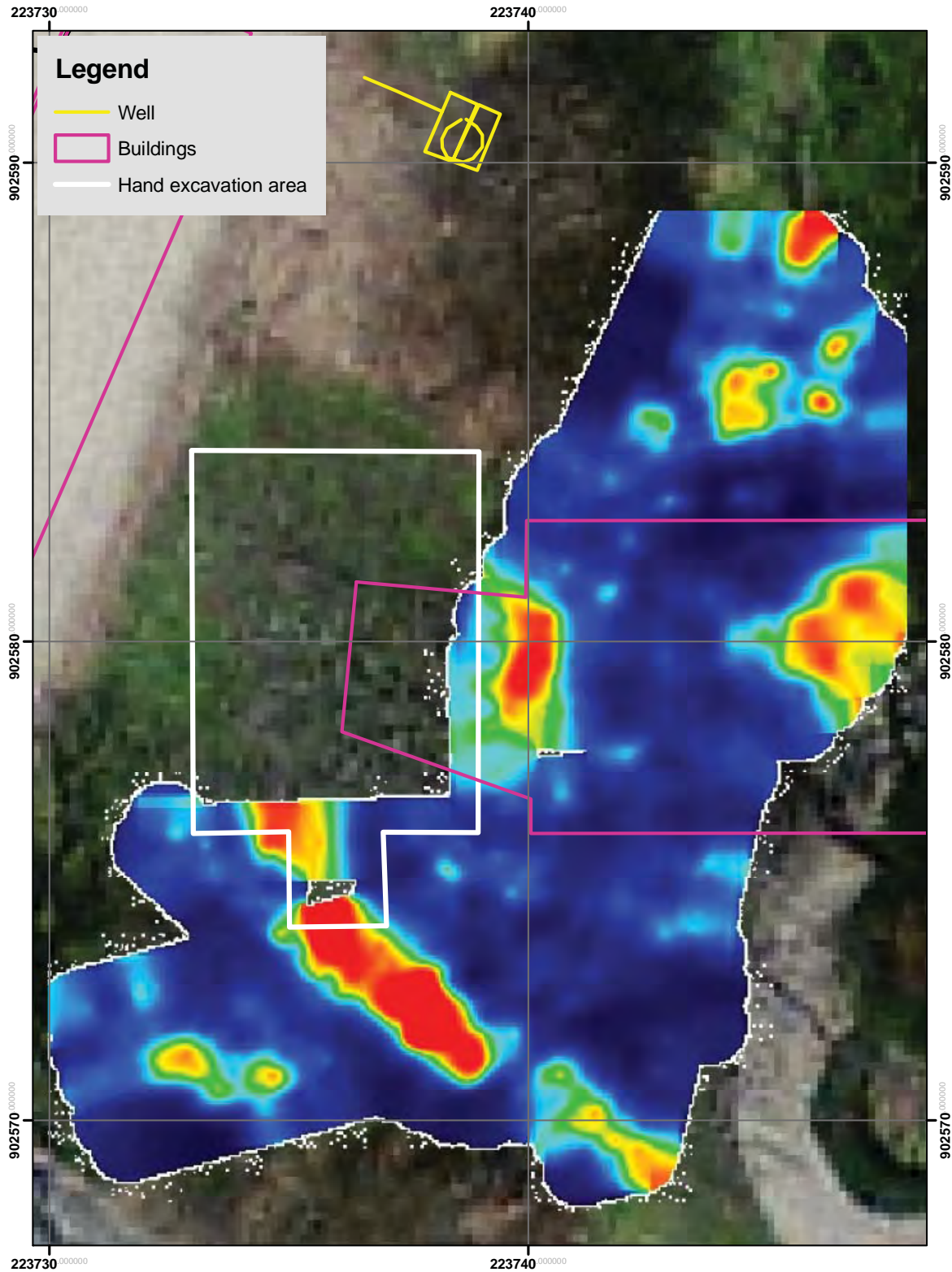


Figure 4.13. Continuation of the curving wall in the GRP-slice data (the curving red feature south of the excavation area). At just 20 cm below the surface, this was the shallowest feature that we detected. The continuation of the brick floor to the east of the excavation area is also visible in this slice.

Table 4.5. Contexts associated with the northern covered French drain, Feature 2, and the ground surfaces that it cuts through.

Context	Description
636, 674, 689, 691	Newer ground surface (buries old ground surface and Feature 3). Feat. 2 cuts through these layers.
632,* 637, 666, 706, 707, 723	Drain fill. *Cxt 632 was a test trench across the feature and includes some artifacts from outside the feature.
721, 724	Clay lining at the bottom of the drain
635	Disturbed drain fill (affected by cutting on the east/south)

called “French drains” (Feature 2 in the north; Feature 8 in the south; see Figure 4.11). Agricultural drainage channels can be divided into three types: open ditches, covered channels (which are filled with a loose material to allow water to percolate through), and hollow channel drains (Baugher 2001-2002). The Gore Place drains are the second type: channels or trenches cut into the surrounding ground surface and filled with large debris to allow water to percolate through them then probably filled back over with dirt. The two drains had very different kinds of material as fill and seem to be unrelated to each other and created at different dates. These drains are more recent than all of the features discussed above because they cut into layers that bury the old ground surface and other features. In the north, a new ground surface built up around the greenhouse extension, burying older landscaping features. The area was then re-landscaped and the northern drain was dug. The southern drain seems to have been installed later, after the curving wall surrounding the greenhouse was taken down. Drains such as these are common on 19th-century agricultural sites, and farm journals and agricultural improvement literature described the methods and benefits of constructing them. Although agricultural drainage was probably employed in the 18th century, covered drains are first mentioned in the advice literature in 1790 (Baughner 2001-2002: 27).

### *Northern Ground Surfaces*

At some point after the greenhouse was constructed, a layer built up or was deposited outside the northwest corner of the greenhouse extension (Table 4.5). This 10 cm thick layer covered Feature 3 and was the upper layer that Feature

2, the northern French drain, was cut in to. This layer was mottled, dark brown sandy silt with a small amount of gravel and contained a moderate number of greenhouse related artifacts (planting pots and construction materials). The few refined earthenwares, which are more diagnostic for dating, mostly came from the interface with the ground surface below.

### *Feature 2: Northern French Drain*

The northern French drain ran roughly north-south through unit N582 E735 into units N580 E733 and E735 (see Figures 4.2 and 4.11). It was located between the edge of the roadway and the line of postholes that delimited the greenhouse area, placing it outside the greenhouse area. It is not clear what it was intended to drain, but it may have carried away water that ran off the roadway, since the edge of the roadway sloped down to the east. The west side and south end of the feature had been disturbed and cut away by later activity associated with the destruction of the greenhouse (see below). The drain cut through layers that had built up over the old ground surface, burying Feature 3, the clay pathway. Therefore, the drain is later than Feature 3, and later than the construction of the greenhouse. The drain was a sloping trench, up to 50 cm deep and 90 cm wide in the north, with a relatively flat bottom that had been lined in places with the same kind of marine clay used on the road bed (described above) and around the Drive Circle well. Its width at the south end cannot be determined because the feature was cut through by later activity at the site. The feature was filled with some large cobbles at the bottom, whole planting pots, large bones, sheets of window glass, and large metal tools including three shovel





Figure 4.14. Objects placed in the fill of the northern drain to allow water to pass through, including shovel blades and planting pots.

blades and a colander, and then covered with a layer of smaller cobbles and broken bricks (Figure 4.14). Other objects in the fill included an ox shoe, lock pieces, nails, bottle glass, slate and marble tile fragments, creamware, pearlware, porcelain, fragments from glass tablewares, and stoneware bottle fragments. While the planting pots, agricultural tools, and other items associated with the greenhouse such as window glass seem to have been deposited in large pieces, the other ceramic fragments of refined earthenware and stoneware were in very small fragments, as if they were incidental or secondary to the fill.

The presence of greenhouse tools, whole planting pots, and architectural material such as the marble tiles, slate, window glass, and locks, suggest that this drain was dug at a time when the greenhouse was undergoing a substantial episode of cleaning and repair or when it was being demolished. The tools and architectural material are discussed in Chapter 5.

The terminus post quem (TPQ, or date after which the deposit was created) for the ceramics in Feature 2 is 1818 based of the presence of a piece of green transfer printed whiteware (Samford 1997). Most of the ceramics in the feature are planting pots, which are not datable at this time. Other ceramics include creamware (after 1760), blue painted pearlware (1775-1815), shell edged pearlware, lead glazed redware, gray stoneware, white salt glazed stoneware (after 1720), and Canton porcelain (1800-1830). Some of these are identifiable as plates or bowls, and there is one gray stoneware bottle fragment.

The feature also contained fragments of four glass bottles. One is represented by a single base fragment, but three are more complete with base, neck, and body pieces present. One of these is a dark green beverage-sized bottle, one is a smaller green bottle with a flanged lip, and one is an aqua vial. Since the large ceramic and metal artifacts were all items associated with the greenhouse, our assumption is that these three or four bottles were also used in the greenhouse for chemicals or pesticides.

In sum, the stratigraphic information and datable artifacts indicate that the northern French drain was installed after the greenhouse had been in use for some time; the ceramic TPQ indicates a date after 1818. The presence of tools and pots in the fill suggests that it was filled with items discarded from the greenhouse, possibly during a major cleaning or repair episode. There is one mend between a planting pot fragment in Feature 2 and a fragment in the upper greenhouse destruction layers (context 620). This mend raises the possibility that Feature 2 was created at the same time as the greenhouse was destroyed. However, it is also possible that fragments of a single broken pot were discarded in multiple areas or that the fragment apparently in Feature 2 is actually from the disturbed western part of the feature (see below).

Sometime after it was constructed, and presumably after it was no longer necessary for drainage, Feature 2 was cut through on the south and west by a later pit. This pit was filled with a very gravel rich deposit that contained a number of pieces of architectural hardware (contexts 651 and 669). Because of the presence of the hardware,

Table 4.6. Contexts associated with Feature 8.

Context	Description
657	Fill in N574 E735
663	Fill in N574 E735
677	Fill in N576 E735



Figure 4.15. The top of the southern French drain, Feature 8 (left), which crosses on top of the curving wall base, Feature 9 (right).

this fill deposit is associated with the destruction of the greenhouse (discussed below). Therefore, the French drain construction may represent an episode of landscape change between the time that the greenhouse was constructed and when it was destroyed, possibly at a point when the property was transferred.

#### *Feature 8: Southern French Drain*

The southern French drain, Feature 8, has a very different type of fill from the northern French drain. Rather than being filled with planting pots and tools, it was filled with cobbles, brick frag-

ments, mortar, bone, and oyster shell (Figures 4.11 and 4.15, Table 4.6). Only a section of it was excavated, yielding only 20 ceramic fragments including small pieces of redware planting pots, blue painted pearlware, and green transfer printed whiteware.

It was uncovered primarily in unit N574 E735 and the unit to the north and was 60 to 70 cm wide and 3.5 m long. It ran over both the curving wall base and the stone drain leading away from the greenhouse, indicating that it was dug after the wall was dismantled, and therefore, presumably after the greenhouse had been taken down. The fact that it did not include the same kinds of specialized greenhouse material as the northern French drain suggests that it was put in at a different time, possibly later, after the greenhouse material had already been disposed of. It also does not have the same clay lining as the northern French drain. The GPR slice data show this drain as a hard (red) reflector running north-south in the southernmost excavation unit and continuing beyond the excavated area to the south and southwest (Figure 4.16).

#### *Greenhouse Destruction Layers*

When the greenhouse was torn down, architectural rubble, building hardware, planting pots, and other artifacts were deposited across the northern three-quarters of the excavation area. These deposits can be broken into those outside the greenhouse and those over the greenhouse floor. Each of these two areas contained multiple, distinct fill episodes which are related to each other by cross mending ceramics and were presumably all created over a relatively short period of time.

The fill deposits outside the greenhouse (Table 4.7) covered the tops of the post holes, suggesting that the fence surrounding the greenhouse was also taken down at this time. The low area off the edge of the roadway at the northern edge of the excavation area was also filled in with a stony, artifact rich deposit that contained several pieces of architectural hardware (discussed in Chapter 5). These deposits contained large pieces of architectural rubble, including nails, slate roofing, marble floor tiles, and mortar fragments. They also contained broken planting pots, very small frag-

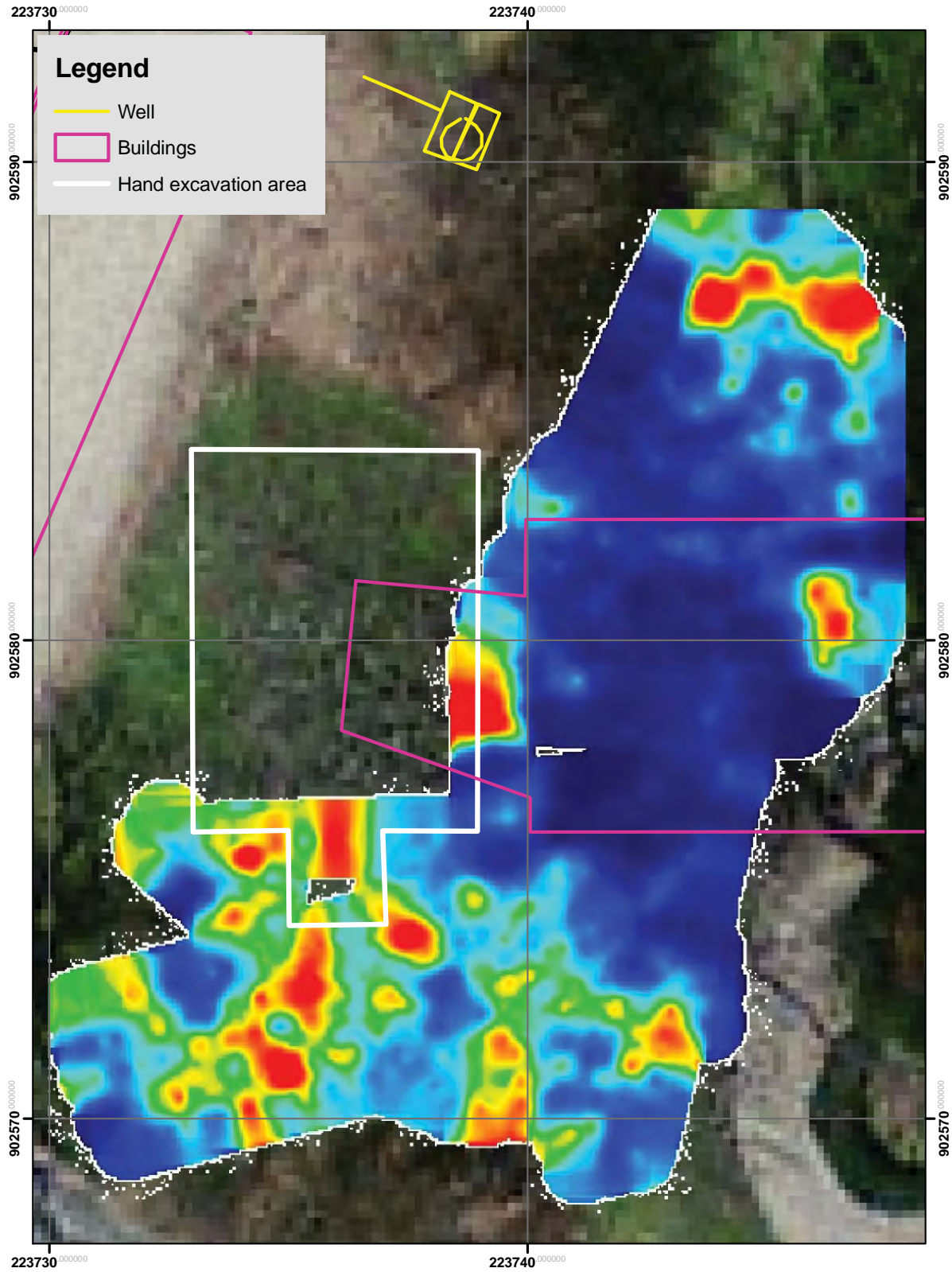


Figure 4.16. The continuation of the southern French drain in the GPR slice data at 90 cm below the surface, seen as the red reflector running N-S in the southernmost excavation unit and continuing south and slightly west.

Table 4.7. Contexts associated with the destruction of the greenhouse found outside the greenhouse structure and covering the greenhouse interior.

Context	Description
<b>Exterior deposits</b>	
633, 669, 651, 676	Very stony fill that fills a cut into Feature 2 and covers contexts 636 and 689, a later ground surface. These contexts are linked by multiple ceramic crossmends.
634, 655, 672, 683	Mottled deposits with high gravel and cobble content. Not equivalent to each other, but possibly multiple loads of fill, some artifact rich.
<b>Interior deposits and deposits associated with the structure</b>	
680, 745	Feature 11, brick rubble deposit along the north wall.
743, 751	Contexts along the north wall of the greenhouse to look for builders' trench (none visible). Contexts span the boundary between Features 6 and 11.
642	Feature 17, rubble deposit along west wall.
746	West wall builders' trench.
654, 659, 660, 661	Feature 4, a gravel layer that capped the interior rubble deposits.
620, 641, 665, 675, 712, 714, 725, 736, 738	Assorted destruction deposits.
726, 732, 733, 739, 744	Deposits dominated by a bulk material such as brick, mortar, or coal.



Figure 4.17. The top of the rubble deposits over the greenhouse extension floor. The line of broken bricks (Feature 11) marks the north edge of the floor. Compare the relatively clean deposit outside the greenhouse (Feature 6, left) with the brick, rubble, and bone laden deposit over the floor (right).

ments of refined earthenwares, and, like Feature 2, larger fragments of dark green bottle glass and the base of another small vial. These deposits also contained some specialized small finds, such as a

thin glass rod and twists of copper and iron wire, possibly for holding plants to stakes.

The brick walls of the greenhouse extension had been removed to the level of the floor or be-



Figure 4.18. Coal deposits immediately on top of the greenhouse extension floor.

low in most places. Along the north wall, a distinct deposit of broken bricks (Feature 11, contexts 680, 745) was left along the line where the wall had once been (Figure 4.17). There was a similar deposit of rubble (Feature 17, context 701, 708) along the west wall boundary. The deposits that covered the brick floor of the greenhouse extension were varied and contained different types of rubble and artifacts (Table 4.7). Some were broad, covering most of the interior area, and others seemed to represent individual bucket loads of fill. There were also large pieces of bone throughout these deposits. The faunal collection is analyzed in Chapter 5. Immediately on top of the brick floor of the extension were dense deposits of coal (Figure 4.18).

### Dating the Demolition of the Greenhouse Extension

The greenhouse and its extension appear clearly on a map drawn in 1834. The greenhouse, but not the extension, appears again on a plan drawn in 1841 and used in an 1853 estate sale. If the map was accurate and drawn based on the existing conditions in 1841, it indicates that the greenhouse stood until at least that time, although not necessarily until 1853. It is not clear whether the extension is not shown on the 1841 map because it was removed before that time or because the scale



Figure 4.19. A small selection of ceramic types from the greenhouse area, left to right: green transfer printed white-ware (after 1818), Canton porcelain (1800-1830), polychrome painted pearlware (1795-1835), and yellowware (after 1830). With the exception of planting pot fragments, most ceramic artifacts are this size or smaller.

was too small to show it. This raises the question of whether the extension was demolished sometime before the main body of the greenhouse. The rubble over the extension floor contains marble floor tiles, which presumably came from the main body of the greenhouse, suggesting that both the greenhouse and the extension were demolished at the same time.

The ceramics in the destruction layers include some whiteware (produced after 1813) and some yellowware (produced after 1830), but lack decorative types such as flow blue (produced after 1845) or painting in chrome colors (used after 1829) (Figure 4.19). Ironstone (also called white granite, produced after 1842) fragments are also absent. Tablewares of the late 18th and early 19th centuries such as creamware, blue transfer printed pearlware, and blue painted pearlware eventually made their way to the greenhouse, but except for the utilitarian yellowware, tablewares of the 1830s and later are not found in the greenhouse area. All of these earlier plates and bowls in refined ware types may have been used in place of saucers, to set plant pots on, or they may have been incorporated into potting soils for drainage. The blue transfer printed pitcher may have been used for watering plants. In either case, refined wares were being repurposed and incorporated into the green-

Table 4.8. Contexts associated with the landscaping fills and modern planting beds.

Context	Description
601-611, 638	Modern landscaping fill.
612, 614, 618, 621-625, 627, 639	Gravelly, historic landscaping fill.
619, 645	Feature 1, modern planting bed.

house area during the Gores' lifetime. This seems to have changed after Mrs. Gore's death in 1834.

The types and relative amounts of ceramics in the collection suggest that the greenhouse had certainly been demolished by the time that Theophilus Walker bought the property in 1856. The presence of yellowware indicates that the greenhouse was not demolished until some time after 1830, in keeping with the documentary evidence. However, the relative scarcity of yellowware (9 fragments from the destruction layers) and the lack of other ware types from the 1830s and later suggest one of two scenarios. The first is that the greenhouse was falling out of use in the 1830s or early 1840s and was demolished sometime shortly after it was drawn on the 1841 map. The second possibility is that the greenhouse stood longer, but that the owners in the 1830s and 1840s (the Lyman family from 1834-1838 and J. S. C. Greene from 1838 to 1856) were not re-purposing any current table ceramics for the greenhouse and, based on the relatively small amount of yellowware, were adding little to the collection of greenhouse vessels. The glass vessels from the destruction layers outside the greenhouse are mostly dip-molded bottles, which do not provide a diagnostic date.

In sum, the greenhouse extension was demolished between 1841 and 1856 and may have had a period during the 1830s and 1840s when it was not as heavily used as it had been earlier. When it was demolished, the area seems to have undergone a significant landscape change. In addition to removing the greenhouse extension (and probably the greenhouse itself), Lyman or Green also took down the fence separating the greenhouse from the carriage house, removed the curving wall that had separated the greenhouse from the entrance drive, and deposited fill over part of the road between the greenhouse and carriage house, possibly to level the area.

## Landscaping Fills

Between the 1850s and the present, the whole area of the greenhouse extension was covered with two layers of landscaping fill (Table 4.8). Some ceramics mend between these two layers and with some of the destruction materials below, suggesting that these layers were mixed, possibly by post-depositional landscaping. The lower of these fill layers was very gravelly and contained many similar ceramics to the greenhouse destruction layers below, as well as more fragments of yellowware, whiteware, and ironstone, all ceramic types commonly available in the mid-19th century. This layer may have been deposited in the 19th century and incorporated many greenhouse materials such as planting pots. The upper, more modern fill material contained many fewer specialty greenhouse materials and yielded some more modern items such as bottle caps, in addition to some historic ceramics. The topmost layers of the modern fill were removed mechanically and not screened. These fill layers were distinct from the deposits below because each was a relatively uniform deposit that covered broad areas, as opposed to the more distinct destruction deposits and features below. The most recent feature in the area was a 20th-century planting bed (Feature 1) at the east side of unit N582 E737.

## CHAPTER 5: SPECIALIST ANALYSES

### Introduction

The 2008 excavations uncovered rich artifact deposits, especially from the contexts associated with the greenhouse destruction and the fill of the French drains. The collection as a whole contains a different range of artifacts than might be found at a domestic site. There is almost no table glassware, for example, and few personal objects such as buttons, buckles, or pipes. This chapter presents the analyses of several classes of artifacts: architectural material, furnace hardware, window glass, faunal remains (and a consideration of whether they were being used to make bone manure), the planting pots, and other specialized objects related to greenhouse activities.

While planting pots, a type clearly associated with the greenhouse, were found in large fragments that often mended together, other ceramic vessels were mostly found in much smaller fragments or did not have identifiable mends. This difference suggests that some of the other ceramics found in the greenhouse area might have been originally broken and deposited elsewhere and came to the greenhouse as a secondary deposit, possibly as an inclusion in planting or landscaping soils. One clear exception is a pearlware pitcher (Figure 5.1), large pieces of which were found at the bottom of a destruction deposit. The pitcher might have been used for watering plants. Sixty-eight different ceramic vessels were identified (in addition to the 150 planting pots) based on rim features or unique bodies and/or decorations. The variety of vessel forms is summarized in Table 5.1. The distribution of ware types and dating inferences drawn from them are presented in the discussions of the different contexts in Chapter 4.

### Architectural Artifacts by Heidi Krofft

Although further excavation will be necessary to determine a more complete architectural rendering of the greenhouse, the combination of documentary evidence, remote sensing, and excavated artifacts provides a partial picture of the greenhouse's appearance. These data are synthesized in Chapter 6. Here, details about the excavated

Table 5.1. Forms of the vessels identified in the greenhouse minimum vessel count.

Vessel form	Number of examples
Bottle	4
Bowl	2
Flatware, indeterminate	8
Hollowware, indeterminate	16
Milk pan	3
Pan	1
Pitcher	1
Plate	11
Saucer	2
Soup plate	1
Tea pot	1
Tile	2
Unidentified	16

architectural artifacts found in the shovel test pits (STPs) in 2005 and the excavations in 2008 are presented.

### *Roofing and Flooring*

The floor of the greenhouse extension that was uncovered in 2008 was paved in brick. Pieces of white marble tiles (and one piece of black slate tile) provide evidence that the floor of the main body of the greenhouse, however, was paved with marble (Figure 5.2) and possibly some slate. Additionally, pieces of mortar with brick and stone rubble aggregate were found with marble tile impressions. This may have been an attempt to lift the floor above ground level as suggested by the historical literature. The difference between the brick floor of the extension and the marble tile believed to have been used in the main body of the greenhouse underscores the difference between the functional work and storage space and the more formal or display oriented main space.

The greenhouse excavations yielded 128 slate fragments of various sizes. Historically, slate was used for both paving and as a roofing material and the fragments suggest that both were present in the greenhouse. Several of the larger fragments of slate possessed nail holes (Figure 5.3), suggesting



Figure 5.1. Blue transfer printed pearlware pitcher, vessel #18. The fragments can be seen in situ in Figure 4.5. Unless noted, artifact photographs in this chapter are by Melody Henkel.



Figure 5.2. Fragments of white marble floor tiles. Scale is in inches. Photograph by Heidi Krofft.

that the roof of the extension and possibly portions of the main structure had slate shingles.

### *Door Hardware and Locks*

Parts from three different locks and several possible latch fragments were found during the excavation (Table 5.2). Door hardware found archaeologically supports the presence of an exterior door to the greenhouse, held closed by one of the surface mounting locks. Based on greenhouse plans described in the advice manuals, it is also



Figure 5.3. Roofing slate with nail holes. Photograph by Heidi Krofft.

likely that there was an interior door from the extension leading into the main greenhouse which may also have been locked.

Hardware was necessary to be able to open the door and to hold it in a closed position. At a minimum, this consisted of a pull of some type and a latch mechanism. A benefit of a latch bar as opposed to other methods of holding doors closed is that it was likely operational from both sides of the door. Several iron fragments possibly from a latch bar indicate the presence of a simple latch mechanism present on the door to hold it closed. Although the pieces of the latch bar are too



Table 5.2. Door hardware and locks.

Context	Unit Number	Level	Object	Material	Comments
655	N2576 E3733	3	keyhole cover	copper alloy	
655	N2576 E3733	3	latch frags. (2)	iron	2.3 cm wide
655	N2576 E3733	3	padlock frag.	iron	6 cm tall; 6.2 cm wide max
706	N2582 E3735	F2	rim lock frags. (5)	iron	
706	N2582 E3735	F2	stock lock frags. (3)	iron	stock lock parts (lock bolt, main ward, spring)
	F6	3 (12-30 cm)	latch	copper alloy	From 2005 test pits.
	E3	2 (5-58cm)	escutcheon	brass	Cast. From 2005 test pits.



Figure 5.4. Rim and stock lock fragments.

fragmented to determine the type of latch, it could have been on either an exterior or an interior door.

In addition to the latch fragments, portions of three different locking mechanisms were recovered: a stock lock, a rim lock, and a padlock. The first two of these acts like a latch to keep the door closed, however, unlike a latch, all three limit access to only those who have a key.

A stock lock consisted of several iron parts creating the lock mechanism and attached to a wooden housing. Stock locks are mounted to the surface of the door and usually consist of only one bolt, the dead bolt. Although stock locks are not often found intact, according to Priess, their parts are distinctive and are not found on other types of locks (2000: 83). Three different parts of a stock lock were recovered: the lock bolt, the main ward,

and the spring. It is also possible that a portion of the tumbler is attached to the lock bolt by iron corrosion.

With a rim lock, another surface-mounted lock, the components of the lock are fastened to an iron main plate with rims or sides to complete the housing. These locks were also attached to the surface of the door and often required keepers or a staple for the bolt to lock into. At the very minimum, a rim lock needed one bolt, a lock bolt or dead bolt, to function and was called a dead lock or a closet lock (Streeter 1974: 67). Often times, rim locks also had latch bolts and sometimes even another lock bolt. The rim lock from the greenhouse excavations is simple in its form and only has one bolt (Figure 5.4).

It is unlikely that the stock lock and the rim lock would have been used contemporaneously, however it is difficult to judge this from their archaeological context. In general, stock locks are an earlier type of lock than the rim lock. While not common in the 19th century, they were still being sold (Priess 2000: 84). It is therefore possible that the rim lock replaced the stock lock if the lock became broken beyond repair. Due to the fact that both of these locks only consist of a dead bolt, a latch mechanism and a handle would be necessary hardware to operate the door.

The padlock (Figure 5.5) is different from the stock lock and the rim lock in that it was portable. The padlock consists of a main housing enclosing the locking mechanism and a curved bow to secure the lock (Priess 2000: 79). The example from the greenhouse excavations is symmetrical with its widest dimension at the top of the lock. It has two lobes at the top to accommodate the bow. The lobe on the right has a hole where a pin would have passed through to attach the bow and to create a



Figure 5.5. Padlock.

pivot point. There is a void in the top of the housing where the opposite end of the bow would have been engaged in the mechanism to secure the lock closed. The general shape of the padlock dates it roughly to the 19th century (Priess 2000: 81). In addition, the presence of a pivoting brass keyhole cover also provides evidence for a date. According to Noël Hume, the brass keyhole covers were not used on iron padlocks until the 19th century with most of them dating after 1840 (1969: 251). Although the keyhole cover is not attached to the padlock, it was recovered from the same context and the two are likely associated with one another.

Padlocks of this size and simplicity would not have been very secure. Because more secure, surface mounted locks were also recovered, it is likely that this padlock was not used on an exterior door. Instead, it could have been used to lock an interior door or a small compartment door, possibly relating to storage.

The 2004-05 survey of the greenhouse area also recovered some more decorative hardware that might also be from doors: a copper alloy latch and escutcheon (Figure 5.6). The latch came from an STP located on the north side of the greenhouse, and was probably discarded after it broke at the point where a small knob would have been



Figure 5.6 Copper alloy latch (top) and escutcheon (bottom) recovered during the 2005 excavations.

present to move it up or down. A second STP yielded a portion of a cast brass escutcheon. It is difficult to determine what type of hardware this fragment is from. It may be an attachment for a drop pull or the top end of a door handle. Regardless, it represents another example of the hardware potentially used in the greenhouse. The escutcheon in particular is one of the more ornamental pieces of hardware found on the greenhouse site. Therefore it is likely that it would have been used in a publicly visible space.

### *Windows*

As discussed above, the gardening manuals often went into great detail as to the construction of the windows in the greenhouse because of the need for light and heat from the sun. Several pieces of hardware that relate to windows were recovered from the excavations (Table 5.3). By the early 19th century, the sash window was quite common and the artifacts indicate that this type of window was present in the greenhouse or its extension.

These windows were made of one or more moveable sashes, termed single-hung or double-hung. Each sash was often composed of six panes of glass held in place by wooden or metal muntin (mullion) bars or astragals. Many fragments of window glass were recovered from the excavation. Out of the numerous fragments of window glass,

Table 5.3. Window hardware.

Context	Unit Number	Level	Object	Material	Comments
605	N2582 E3737	1	shutter tie	iron	
614	N2582 E3737	2	latch hook	iron	6 cm long
633	N2583 E3733	2	ring pull	iron	8 cm diam
651	N2580 E3733	3	pulley casement	iron	
683	N2578 E3733	5	chain	iron	
689	N2580 E3735	6	ring pull	iron	slightly ovoid; approx 5 cm diam
692	N2582 E3735	5	sash weight	iron	6.5 cm long; 2.3 cm; 1 cm; 88.09 g (3.1 oz)
712	N2578 E3737	5	window glass	glass	15.3 cm wide
714	multiple	5, 6	latch eye	iron	5 cm long
714	multiple	5, 6	latch hook	iron	7.5 cm long
718	N2578 E3733	1	window astragal	copper alloy and lead putty	11 mm width; 197 mm long

Table 5.4. Hinges

Context	Unit Number	Level	Object	Material	Comments
651	N2580 E3733	3	hinge pin	iron	10.5 cm long
651	N2580 E3733	3	hinge pin	iron	10.4 cm long
651	N2580 E3733	3	hinge; H-type	iron	16.1 cm long; 2.2 cm wide; joint 4.9 cm long
652	N2582 E3737	4	hinge; H-type	iron	15.8 cm long; 2 cm width; joint 4.8 cm long; 1 nail remains
669	N2580 E3735	5	hinge; H-type	iron	12.4 cm long; 2 cm wide
669	N2580 E3735	5	pintle	iron	15.2 cm long; 5.8 cm tall pin
683	N2578 E3733	5	hinge; snipe	iron	
727	N2582 E3735	5	hinge pin	iron	10 cm long; 6 mm diameter
	STP E2	2 (7-20 cm)	hinge; snipe	iron	

only two mended pieces were able to provide a dimension. The glass pane these fragments represent had one side that measured 15.3 cm (6 inches) wide. In addition to the window glass, a bent piece of a copper alloy astragal was also recovered from the excavations. This piece consists of a thin piece of copper alloy. The back has remnants of lead putty which would have been used to hold the window panes in place. Metal astragals, a relatively new development in the early 19th century, were preferred by the authors of some greenhouse manuals because they were smaller than equivalent wooden parts and could therefore let in more light.

These sashes were housed in a frame. The main window frame contained the mechanism to move the sashes and keep the bottom sash from falling down when it was open. A sash weight was hung on a cord or chain and ran over a pulley at the top of the frame to counterbalance the weight

of the sash. Both a cast iron casement pulley and an iron sash weight were recovered from the excavations. It is unclear from this hardware if this window was single-hung or double-hung. Although it is difficult to tell the exact dimension of this window, the size of the pulley and the sash weight suggest it may not have been a full sized window; it may have been a small window in the extension.

#### *Other Latches and Hinges*

Latches and hinges from the excavations come from shutters and possibly interior cabinets (Tables 5.3 and 5.4). The windows of the main greenhouse structure likely would have had protective canvas tarps or shutters on the inside to provide additional insulation at night or in bad weather. A shutter tie was recovered from the upper level of the excavations and was used to secure the shutter when in its open position. The long shank of this tie shows



Figure 5.7. Two simple iron latches, context 614 and 714.



Figure 5.8. Iron pintle, context 669. Photograph by Heidi Krofft.

that it would have been driven into the masonry work. This tie is identical to those currently in use on the house and was found in the layer of fill that covered the whole area and included modern materials; therefore, it possibly does not relate to the greenhouse.

Hardware from demolition layers, however, may also be part of shutter closing mechanisms. Other hardware was needed to be able to close the shutters and hold them closed when necessary. Two iron rings were recovered. One measured 8 cm (3.1 inches) in diameter and the other measured 5 cm (2 inches) in diameter. Such rings were commonly attached to the shutter with iron staples.

Hardware was also necessary to secure the shutters in a closed position. It is possible that the two latch hooks that were recovered from the excavation could have served this purpose (Figure 5.7). Although both of the latch hooks that were recovered were wrought iron they are in different styles. One of the latch hooks is plain and is about

6 cm (2.5 inches) long. The other hook is about 7.5 cm (3 inches) long and has some ornamentation in the form of several twists along the shank. In the same context as the ornamented latch hook there is a straight shank with an eye. Due to the sizes of the hook and the eye, it is likely that this would have been used as the pivoting end of attachment. A second eye or staple would have been in place to engage the hook.

The different styles and sizes of the latch hooks may represent a difference in use. Latch hooks may also have been used to hold cabinet or small compartment doors closed. Although both latch hooks are hand wrought, their different styles may also represent different periods of use. Although the potentially older hook is not broken and does not show obvious signs of wear, it may have been replaced if the entire door or shutter it was attached to was replaced.

Overall, the excavations of the greenhouse area resulted in the recovery of at least six different hinges of three different types: strap hinge, H-type hinge, and snipe hinge. The strap hinge is represented by a wrought iron pintle (Figure 5.8). An iron strap would be attached to a shutter or door and had a joint that would fit over the pin of the pintle. The pintle would have been driven into the window frame or door frame or directly into the masonry work to fix the hinge in place.

Fragments from at least five different H-type hinges were also recovered, none of them complete (Figure 5.9). These hinges are all made of iron and are hand wrought and represent two different sizes. The fragments provide evidence of at least two hinges of a similar size and may be a pair



Figure 5.9. Strap from an H-hinge, context 669. Photograph by Heidi Krofft.

of hinges from the same door or shutter. The straps measure about 16 cm (6.3 inches) long and about 2.2 cm (1 inch) wide. Both straps have four holes used to affix the hinge to a door or to a doorframe. Both of these examples are the side of the hinge with a single knuckle measuring about 4.9 cm (2 inches) tall. H-type hinges commonly had 3-part joints, so the associated strap would have had two knuckles that straddled this one (Priess 2000: 59). This center knuckle would have carried the weight of the door (Streeter 1973).

In addition to these two hinge straps there were three iron shafts with wrought heads at both ends. Although now separated from their hinges, it is likely that these were hinge pins. They would have been used to hold the knuckles together to form the joint. Heads were welded onto both ends to keep the pin from falling out (Streeter 1973). Two of the hinge pins are 10.4 cm (4.1 inches) long and the third is 10 cm (3.9 inches) long. Based on size, it is likely that these hinge pins were from hinges similar to those discussed above. It is even possible that one of these hinge pins is part of the same hinge as the hinge strap with the broken knuckle.

Another example of an H-type hinge is slightly smaller than the two previously described. The strap measures about 12.4 cm (5 inches) long and 2 cm (0.8 inches) wide. This strap has two smaller knuckles and would have been paired with a strap that had one or three knuckles to form the joint.

H-type hinges were quite versatile in their use depending on their size. Consequently, the



Figure 5.10. Snipe hinge, context 683.

same size hinge might have been used for either a large shutter or a small door. The multiple hinges of similar sizes may have been used for different purposes on both doors and shutters, or they may indicate the presence of multiple doors or windows. It is also possible that the presence of multiple hinges may be evidence of the replacement of a broken hinge and its discard into the surrounding yard.

The final type of hinge that was recovered is a snipe hinge. This consists of two eyes that are connected and form a pivoting point (Figure 5.10). These eyes would be driven into the door edge and the frame. One complete snipe hinge was recovered from the greenhouse excavations. This example shows evidence of clinching on the eye that was driven into the frame. Another snipe hinge was found during the 2005 survey. Only one eye from this hinge remains and due to the lack of clinching most likely represents the eye that was driven into the door. This type of hinge is much smaller than those previously discussed and it is unlikely that it would have held the weight of a full sized door or even a large shutter. It is more likely that this hinge would have been used for a small cabinet or compartment door. The presence of small cabinet or compartment doors indicates a need or desire to organize or separate tools in the workroom.

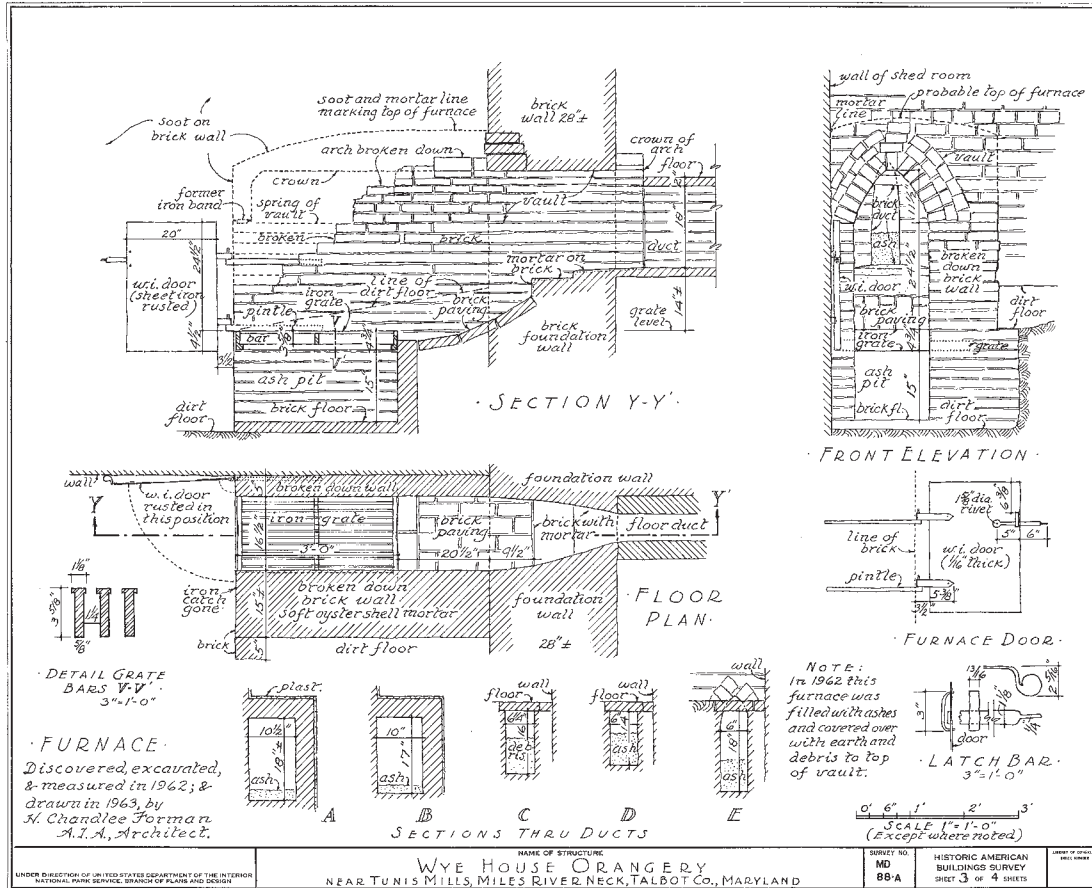


Figure 5.11. Diagrams of the Wye House Orangerie furnace, Maryland. Drawn by the Historic American Buildings Survey.

### Greenhouse Furnaces by Heidi Krofft

Garden manuals of the period stress the importance of the two most important features a greenhouse must provide for the plants it houses: light and heat. Large glass windows provided some amount of heat in addition to light. However, most often, especially in the northeast, it was necessary to provide additional heat through a furnace of some sort. Period gardening manuals describe a number of different heat sources. A stove might be used to heat the greenhouse space directly; a furnace might connect to flues that carried either hot air or hot water through the walls or under the floor of the greenhouse; or a bark pit in the greenhouse could provide heat from the decomposing bark. Standing and excavated greenhouses from the late 18th and early 19th centuries in America indicate that most of them had furnace and flue systems.

The size of the furnace varied depending on the type of fuel, the size of the building, and the number of returns of the flues (M'Mahon 1806: 86). Exact dimensions vary between 2 to 5 feet deep, 18 to 20 inches wide and 18 to 22 inches high (Loudon 1805:22; M'Mahon 1806: 86). Regardless of the exact size, the furnace consists of a main fuel chamber (usually constructed of brick) with an arched ceiling, an iron grate at the floor or bottom of the chamber, and an ash pit below. There must also be an iron door for the furnace. In some cases the ash pit may also have an iron door (M'Mahon 1806: 86). Loudon goes into great detail on improvements that can be made to furnaces to increase efficiency and heat output (Loudon 1805: 23-30). The flues were open channels in the brick walls of the greenhouse (as at the Lyman greenhouses in Waltham, MA), under the floor (as at Mt. Clare, and Mt. Vernon greenhouses in

Table 5.5. Furnace hardware.

Context	Unit Number	Level	Object	Material	Comments
651	N2580 E3733	3	sheet	iron	possible furnace door
651	N2580 E3733	3	sheet with brass fitting	iron and brass	possible furnace door (at least 26 cm tall)
651	N2580 E3733	3	wing nut latch?	brass and iron	



Figure 5.12. Possible furnace door fragments. Compare to the furnace door depicted in Figure 5.11.

Maryland and Virginia), or both (as at the surviving Wye greenhouse in Maryland) which served to carry the hot air and smoke from the furnace away to a chimney and provide indirect, radiant heat by winding around the greenhouse (Pogue 2009). Most flues encountered in American greenhouses have dimensions of at least 10 by 6 inches (Dennis Pogue, personal communication, 2008), and some were larger.

The arrangements of heating systems varied a great deal. An 18th century heating system survives at the Wye orangerie in Maryland (Figure 5.11). The main body of the furnace measures 16.5 inches wide and extends 3 feet deep. At that point it begins to rise and narrows as it becomes a flue. The furnace itself consists of an iron grate roughly at floor level. Below the grate is an ash pit that extends 15 inches into the floor and has a brick floor. This furnace has a wrought iron door that measures 20 inches wide by 29 inches tall.

Authors of these manuals often indicate that one of the functions of an attached shed is to house the furnace (M’Mahon 1806: 90). This shields the plants from the direct, more intense heat of the furnace itself. This trend can be seen in surviving

examples of greenhouses from this time including those at Mount Vernon and the Wye House. Furnaces could also be located just outside the footprint of the main greenhouse and accessed from the outside.

Due to the limited area of the greenhouse and the shed that was excavated, it is difficult to determine the exact construction of the furnace or if indeed there was one in this room. The cold winters in the northeast, however, would have almost necessitated a furnace. Since none of the walls remained standing, we were not able to examine them for the presence of flues.

There is a break in the brick floor in what would be the southeast corner of the extension. Unfortunately this possible feature lies at the very edge of the excavation area and it was not possible to tell if it was related to a furnace. It may have been a sub-floor ash pit, but too little of it was uncovered to determine this. In addition, there were several large pieces of iron sheets recovered from the excavations (Table 5.5, Figure 5.12). One of these pieces has a brass strap that looks as though it would fit over the pin of a pintle and form a hinge. Although these sheets are highly corroded, it is possible that they were once part of a furnace door or ash-pit cleanout door. Some of the rubble deposits immediately on top of the brick floor of the extension included a lot of coal (especially context 744 which was composed primarily of coal), indicating that one of the heat sources was coal-fired. Although this evidence is not conclusive of a furnace, it is almost certain that the greenhouse would have had a heating system of some sort and that it may have been housed in this workroom or extension.

### Window Glass

Earlier in the history of greenhouses, the importance of sunlight was not always clearly understood, and some authors stressed the quality of

the air more than the quality of the light (Yentsch 1990: 177). By the early 19th century, however, the importance of sunlight was known. Greenhouse manuals advised prospective builders to position their greenhouses with a long face to the south (Louden 1825: 11; M’Mahon 1857 [1806]: 99-100), offered designs with more glazed surface area, debated the best angle for sloped glass surfaces to receive the most direct light (Hix 1996: 22-23), and advised people to use the clearest and best quality glass (Loudon 1825: 158).

### *Glass Pane Sizes*

Although a number of edges and corners are present, only one pane of glass is complete enough to provide a measurable dimension. Two fragments from one of the rubble deposits inside the greenhouse (context 712) mended into a pane with one side measuring 6 inches (15.3 cm). Although other glass fragments likely could be mended, we did not undertake this task. Records of the Cambridge Botanical Garden in the MSPA files mention glass panes of 6 by 8 inches, 10 by 8 inches, 7 by 9 inches, 4 by 6 inches, and 4 ½ by 6 inches specifically for the hot beds. Repairing these panes was one of the most common ongoing expenses.

### *Glass Sources*

We do not know the exact source of Christopher Gore’s glass for his greenhouse. Among his accounts of expenses for building the house are two lines for glass in 1806 for a total of \$547 paid to “the proprietors of the Glass House” (Gore Account Book, July 31, 1806 and December 9, 1806). No other details about the quantity of the glass or whether it was intended for the house or the greenhouse are given. Assuming that the order was for window glass, two local manufacturers were in operation in 1806: the Boston Crown Glass Manufactory (1787-1827) of which a John Gore was a proprietor, and the Chelmsford Glassworks (1802-1827) for which Samuel Gore was a proprietor (Wilson 1972: 77, 85). The Chelmsford Glassworks produced window glass using the cylinder method (as opposed to the crown window glass). Gore may have also purchased imported glass, though an 1806 embargo favored domestic products (Wilson 1972: 91). There are three dif-

ferent colors of glass represented from the greenhouse area (see below), suggesting that multiple sources of glass were used at different times. After 1814, imported products once again became affordable, and the local glass industry expanded. Fourteen glasshouses were established between 1812 and 1816, though only eight of these survived for any length of time (Wilson 1972: 91-92). Thus, identifying the source for replacement panes is even more difficult than locating Gore’s original purchase since the Gores and the Lymans may have ordered from several factories over the years.

The Cambridge Botanical Garden’s records, for example, indicate that they purchased glass from several sources. An 1824 and 1825 receipt is for panes from Boston Glass (MSPA Records Box 13, folder 31, document 77); earlier glass repair bills had not mentioned the glass source. They also purchased bell glasses from the New England Glass Company in 1822 and from unnamed sources (MSPA Records Box 13, folder 31, documents 81 and 84; folder 32, document 99). There was also an 1829 bill from the New England Crown Glass Co. (MSPA Records Box 13, folder 32: document 116). Since there were other buildings on the property, not all of this glass was necessarily used for the greenhouse.

### *Glass Colors*

Window or flat glass in the greenhouse area occurs in three colors: aqua, colorless with white surface corrosion, and pale purple caused by the solarization of manganese in the glass. Of the 3053 fragments cataloged as window and flat glass, the majority were aqua (2448 or 80%), 491 (16%) were colorless, and 114 (4%) were solarized (Table 5.6). This variation suggests that Gore was experimenting with materials and sources, trying to find the best glass.

The aqua tint that characterizes much early 19th-century window and container glass is caused by iron impurities in the sand used to make the glass. Solarized glass is formed when the manganese dioxide added to the glass as a decolorant during the manufacturing process is exposed to the sun’s ultraviolet radiation. Over time the glass, which appears colorless at its time of manufacture, takes on a purplish tint (Lockhart 2006). The



Table 5.6. Colors of window and flat glass in the greenhouse area.

Number	Color	Percent
2448	aqua	80.2
114	solarized	3.7
491	colorless	16.1
3053	TOTAL	100

addition of manganese to glass is most commonly associated with glass containers between the late 19th century and World War I (Jones and Sullivan 1989: 13); hence, the discovery of a small collection of solarized window glass sherds from the early 19th century is interesting and unusual. Since the purple tint is a gradual and unintentional development, Gore might have acquired the initially colorless panes for his greenhouse as an alternative to the common aqua tinted glass.

Although manganese was most commonly added to glass to make inexpensive colorless containers in the late 19th and early 20th centuries, it has a longer history as an additive (Lockhart 2006). Bill Lockhart's study of manganese as an additive identified 19th-century scientists who observed and tested the color change due to solarization (2006: 47). He found that solarized English window glass, in particular, had been documented by 1823, and that one later 19th-century commentator noted that this change in flat glass had been observed at the beginning of the century (Lockhart 2006: 49-50). Early 19th-century American glassmakers were also aware of the use of manganese as an additive to produce colorless glass. Jacob Cist, who invested in a number of glass making operations at the turn of the 19th century, was in competition with other glassmakers to secure manganese from landowners in Pennsylvania in 1808 (Jessen and Palmer 2005: 145-146). Although never built, Cist planned a factory at Wilke-Barre, Pennsylvania, near the source of the manganese, that would manufacture window glass, among other products (Jessen and Palmer 2005: 143).

Though it represents the smallest subgroup of the flat glass collection (114 fragments from the greenhouse area), solarized glass appears throughout the deposits; it is present in limited quantities in the level 1 and 2 landscaping fills that cover

the site and in the destruction fills that cover the western edges of the site and occurs in a number of the layers of construction rubble inside the greenhouse, many of the post hole features, and notably in many of the contexts identified as old or prepared ground surfaces around the greenhouse. The fact that solarized glass is found in many of these prepared ground surface deposits suggests that it is not associated strictly with a late phase of the greenhouse, but may have been among Gore's initial materials. Test pits at the Grapery/New Greenhouse area (in 2004-2005 and 2008) yielded an additional 17 pieces of flat, solarized glass. Excavations of hundreds of test pits across the property in 2004-2005 and 2008 produced only two pieces of solarized flat glass that are not from either the old or new greenhouses sites: one from an STP on the South Lawn and one from the Flower Garden area between the house and new greenhouse. The association between solarized flat glass and the greenhouses sites suggests that it was a specialty material procured specifically for greenhouse window panes.

### **“Save All The Bones You Can Lay Hold Of”: Evidence of the Production of Bone Manure At Gore Place by Michelle G. Styger**

Two 19th-century inhabitants of Gore Place in Waltham, Massachusetts—Christopher Gore and Theodore Lyman Jr.—were members of the Massachusetts Society for Promoting Agriculture (see Thornton 1989). Like their English counterparts, members of this local group, which was incorporated in 1792 with Gore as one of its founders, were dedicated to the promotion of agricultural pursuits throughout the state and encouraged experimentation with various technologies (Thornton 1989: 58). Exploring the advantages of using bone manure to fertilize crops was a major component of the agricultural revolutions that occurred in Europe and the United States in the early to mid 19th century (Thompson 1968: 66; 68; see also *The American Agriculturalist* 1849; *The New England Farmer* 1850 and 1851). This study analyzes the animal bones recovered from the archaeological excavations at Gore Place to evaluate whether Gore, Lyman, or other residents of the property



Figure 5.13. Artifacts and faunal remains *in situ* in the interior greenhouse rubble deposit.

engaged in bone manure production as part of their scientific agricultural pursuits.

### *Laboratory Methods*

One of the basic goals of this analysis is to determine whether the faunal assemblages represent the remains of meals consumed by inhabitants of Gore Place or the production of fertilizer in 19th-century Massachusetts. Four archaeological deposits recovered during the 2008 excavations of the property—the northern French drain, deposits associated with the roadway, various destruction layers, and rubble on the interior of the greenhouse—display the highest degree of correlation with the Gore, Lyman, or Greene occupations from the early to mid-19th century. This analysis focuses specifically on the tenures of Christopher and Rebecca Gore (1786-1834) and Theodore Lyman, Jr. and his wife Mary (1834-1838) who demonstrated a commitment to scientific agriculture. The procedures for identifying and cataloging the faunal assemblages from the Gore Place contexts are discussed in detail below.

The portion of the Gore Place property situated near the site of Christopher Gore's demolished greenhouse contained archaeological deposits of well-preserved animal bones and teeth as

well as other refuse associated with the activities of the greenhouse (Figure 5.13). Before considering in depth the bones comprising the 19th-century assemblages, a few quantitative methods are discussed to understand the processes involved in the analysis of the faunal remains from the northern French drain, the deposits associated with the roadway, the destruction layers, and the rubble on the interior of the greenhouse. Standard calculations employed by zooarchaeologists, including NISP (number of individual specimens) and Skeletal Part Representation, were used to move from a summary of raw data to an examination of activities associated with the production of bone manure or fertilizer.

The boxes of faunal material discussed in this analysis are housed in the Zooarchaeology Laboratory of the Andrew Fiske Memorial Center for Archaeological Research at the University of Massachusetts Boston. Since approximately 99% of the identifiable bones (905 specimens) were determined to be the remains of mammals, the next step in the analysis included the sorting and rebagging of bones into different vertebrate taxa—cow (*Bos taurus*), caprine (goat/sheep), and pig (*Sus scrofa*). This was followed by the separation of each class into general body parts. The mammal bones that

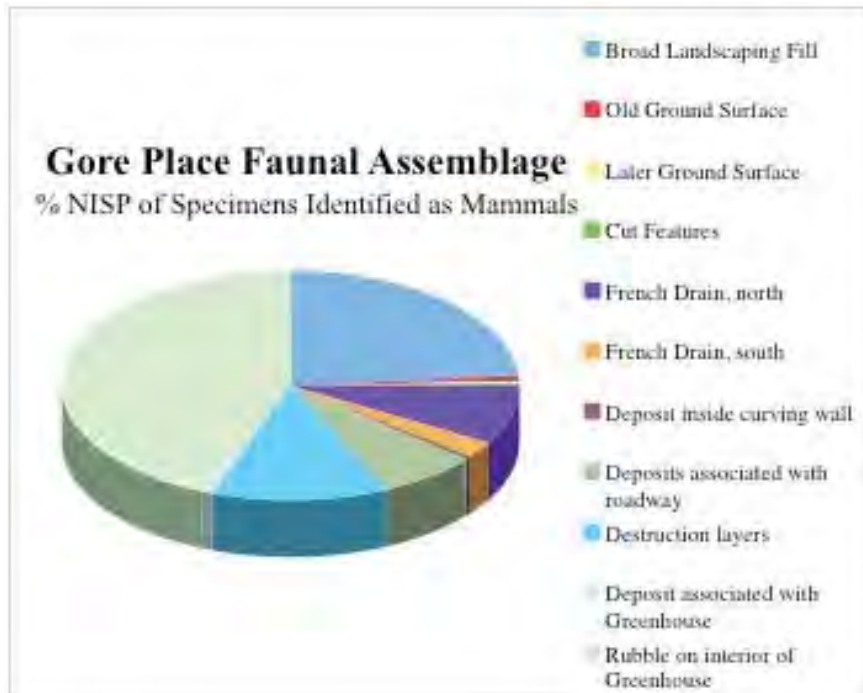


Figure 5.14. Distribution of the identified specimens among the 11 analytical units.

could not be identified to a specific taxon were divided into two size categories: medium (between a rabbit and a pig) and large (larger than a pig). Each specimen was counted, weighed, examined for butchery or chew marks, and entered into an Excel spreadsheet with information about the unit, provenience, and context in which it was found. A complete catalog of the animal bone remains is included in the report at the end of Appendix A.

Following this period of documentation, the faunal assemblage was sorted by context, and associated contexts were combined into the eleven analytical units referred to in the remainder of this analysis. They are as follows: 1) broad landscaping fill; 2) old ground surface; 3) later ground surface; 4) cut features such as postholes; 5) French drain north; 6) French drain south; 7) deposits inside the curving wall; 8) deposits associated with the roadway; 9) destruction layers outside the greenhouse; 10) deposits associated with the greenhouse and; 11) rubble on the interior of the greenhouse.

Standard zooarchaeological methods were used to analyze the faunal assemblage (Reitz and Wing 1999). Number of individual specimens (NISP) provided a raw count of all bones in the collection organized by taxon. These calculations

were used to create pie charts depicting the distribution of mammal bones across the 11 analytical units and to compare the relative frequency of cow, caprine, and pig bones in the four significant contexts. Finally, individual body parts were grouped into two categories, head/feet and body/limbs bones, and these were compared to the expected body part representations in complete animals. This information was used to determine whether the bones represented the remains of animals that had been raised, killed, or deceased on site or individual body parts purchased from local distributors for the production of manure.

### *Gore Place Faunal Assemblage*

The faunal remains from the 11 analytical units, which included 1067 specimens, represent various time periods, household occupations, and activities in the history of the Gore Place property. Figure 5.14 shows the percentages of bones comprising each unit with the five largest assemblages found in the layers of broad landscaping fill, the French drain north, the deposits associated with the roadway, the destruction layers, and the rubble on the interior of the greenhouse.

Since the broad layers of landscaping fill are

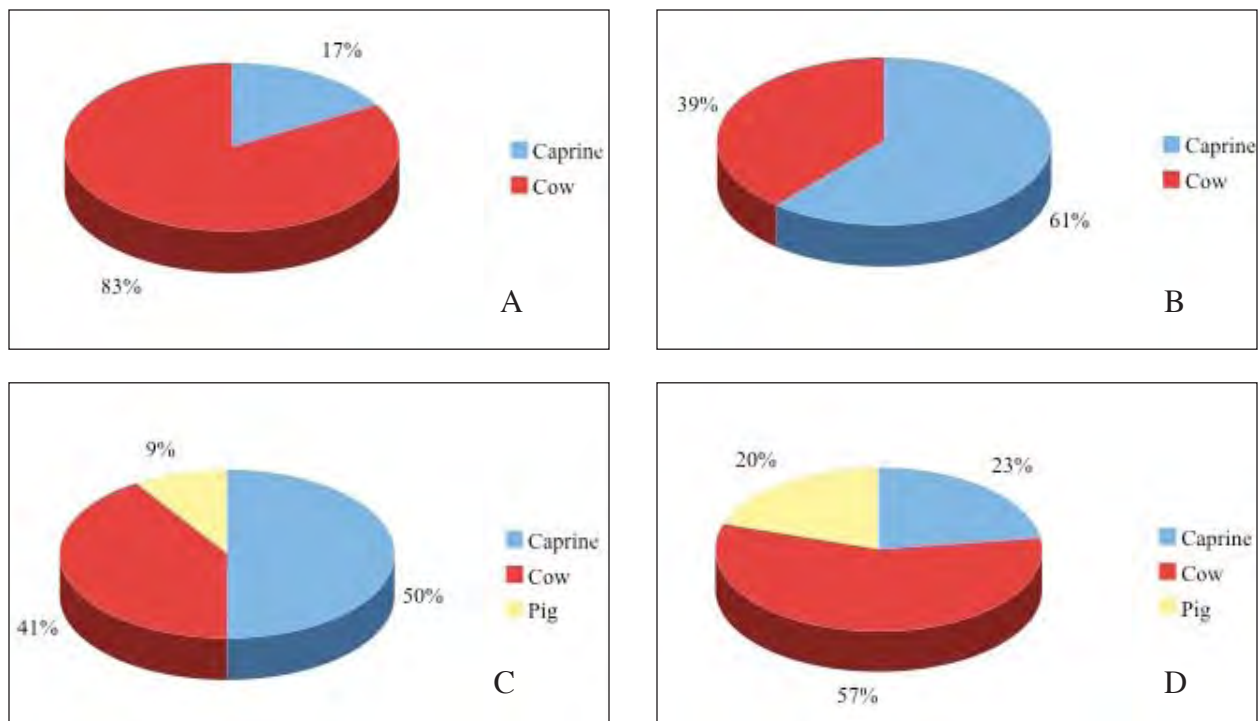


Figure 5.15. Percentages of cow and caprine bones in the different deposits. A) Northern French drain; B) deposits associated with the roadway; C) destruction deposits outside the greenhouse; D) destruction deposits over the greenhouse floor.

likely modern contexts based on the presence of 20th-century artifacts, only data from the four remaining 19th-century units are examined for evidence of manure manufacturing as a part of scientific agriculture. A detailed discussion of the species comprising these assemblages provides the baseline for interpreting how and why Gore, Lyman, or Greene produced bone manure.

Preliminary analyses of the French drain and its associated material culture suggest that the drain may have been in use while the greenhouse was in operation or possibly afterward since it was filled with pieces of discarded flower pots and shovels. The northern French drain faunal assemblage included 70 animal bones. Within this count, 46 of the bones were so fragmented that they could not be identified beyond their taxonomic class. These bones, which account for approximately 66% of the total assemblage, may have been placed in this feature along with the broken planting pots and shovels to facilitate drainage shortly after the greenhouse fell out of use.

The vertebrate taxa found in the northern French drain included two caprine and ten cow bones (Figure 5.15a). The caprine bones were identified as two nearly complete right astragali. The identifiable cow bones in the collection included two complete carpals, one complete atlas, four ilia, one radius fragment, the proximal end of a tibia, and a piece of a sacrum. Minor butchery marks were noted on four of the ten cow bones. It is difficult to draw any specific conclusions from the small collection of bones in this context.

The deposits associated with the roadway contained 59 specimens identified as mammals, two described as birds, and an additional 74 bones recognized only as the remains of vertebrates. The two bird bones, which were the only bird remains found in the entire Gore Place assemblage, were identified as the proximal and distal ends of chicken humeri. Caprine bones comprised 61% of the mammal bones identifiable to class (11 specimens) (Figure 5.15b). These included one astragalus, one calcaneus, one carpal, three femur fragments, two

innominate bones, one proximal metatarsal, and two tibia fragments. The identifiable cattle bones included a distal humerus, a broken tooth, and five sacrum pieces.

A total of 109 bones were found in the destruction layers associated with the greenhouse demolition sometime after 1841 (Figure 5.15c). The assemblage contained 11 caprine bones, including one complete astragalus, one calcaneus, one metatarsal, one complete tarsal, a distal and proximal tibia, one proximal femur, the shaft of a humerus, one pubis, a complete calcaneus, and a fragmented ischium. Additionally, nine cow bones were found in these layers. The bones were identified as the fragment of an axis, a distal humerus, two tibia pieces, three tooth fragments, and one ilium. Pig bones were also present in this context and included a right proximal femur and a proximal metapodial.

The rubble layers found on the interior of the greenhouse contained the largest assemblage of faunal remains with 376 bones identified as mammal and seven bones described as the remains of vertebrates. A total of 195 bones or approximately 52% of the mammal remains were cataloged as unidentifiable bones. The rubble layers yielded a total of 17 caprine bones constituting various skeletal parts, including one innominate, one complete right femur, two distal femurs, a fragmented femur shaft, one complete phalange, four ischium fragments, a proximal metatarsal, two pubes, the shaft of a right radius, a right proximal tibia, one fragmented scapula, and one piece of a right ulna (Figure 5.15d).

The collection of cow bones in the rubble layers (43 specimens) represented mainly body and limb bones. Common cattle bones included atlases, carpals, tibias, astragali, axes, calcanei, radii, and tibias. Signs of butchery were visible on 18 of the specimens with the fragment of a pelvis containing 14 cut marks. Pig bones were also found in this assemblage (15 specimens), including two femur fragments, the remains of 12 metapodials, and the shaft of a left femur.

### Discussion

The four analytical units related to the late-18th and 19th-century occupations of the Gore

Place property yielded a total of 614 bones identified as the remains of mammals and an additional two chicken bones. The combined assemblages accounted for approximately 68% of all faunal material recovered during the 2008 excavations of Gore Place. The emphasis on domestic mammal bones in the 19th-century layers, particularly the remains of caprines and cows, suggests that the Gores, Lymans, or Greenes selectively deposited the bones of medium and large mammals within the vicinity of the Gore era greenhouse. The absence of wild or domesticated bird bones and fish or shellfish remains supports the conclusion that the faunal assemblage represents activities related to manure production rather than the diversity of taxa expected in the diet of a 19th-century household. The bones of cows, caprines, and pigs would have been the ideal choices for manure production due to their larger sizes and densities when compared with the remains of birds, fish, and smaller mammals.

### SKELETAL PART REPRESENTATION

The data for cow, caprine, and pig bones from the French drain north, the deposits associated with the roadway, the destruction layers, and the rubble in the interior of the greenhouse were grouped into two categories: head/feet and body/limbs. Results were compared to the proportions of body parts expected in the skeletons of complete animals (Figure 5.16). The percentages of body parts in the four Gore Place assemblages show a preference for body and limb bones, particularly those of cows and caprines (Figure 5.17). Since the percentages are so different from the expected ratios for complete animals, these assemblages probably do not represent the carcasses of dead animals from the Gore Place farm. Farmers were known to use the carcasses of dead animals from their properties to produce manure and the 1861 edition of the *American Agriculturalist* suggested cutting up dead animals into small pieces and “stack[ing them] in the corner of some field or backyard” (*American Agriculturalist* 1861: 168). I would argue that Gore, Lyman, or Greene stockpiled body and limb bones of domestic mammals because they are the largest bones in the skeleton (when compared to head and feet bones)

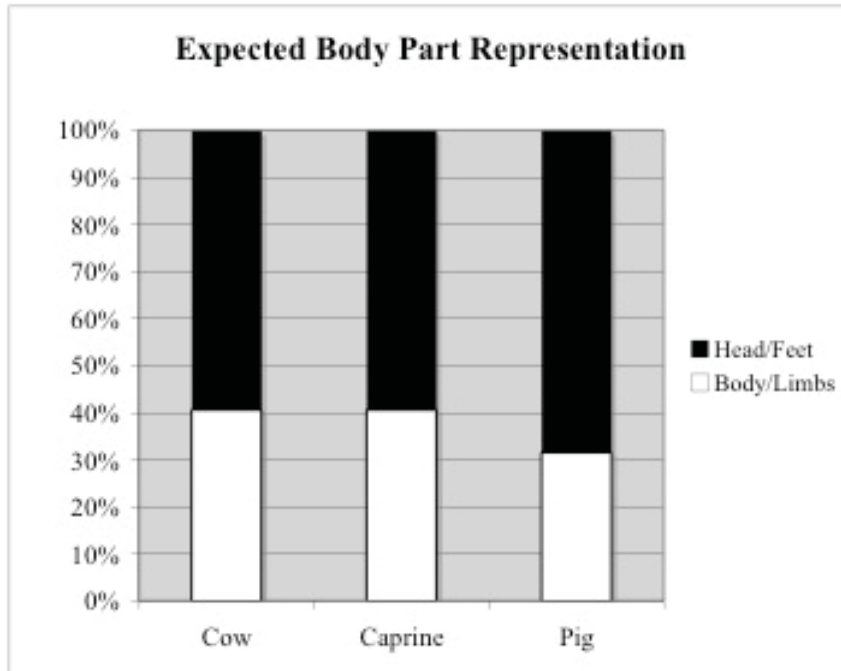


Figure 5.16. Expected anatomical proportions for complete skeletons of cows, caprines, and pigs.

and, therefore, the bones would have yielded the largest quantities of bone dust or manure. The faunal assemblages could be the refuse from meals consumed by the occupants of the property or they could have been purchased from a supplier or from markets in Boston for the purpose of eventually making bone manure.

#### ANIMAL BONES AS FERTILIZER

By the 1860s, most American farmers agreed that, “bones [made] one of the best fertilizers accessible to farmers and fruit-growers [but that] the great objection to their use [was] the cost of reducing them” (*American Agriculturist* 1861: 168). William Cobbett, in his 1821 publication for American gardeners recommended adding “bones reduced to powder” to compost that was being prepared (Cobbett 2003 [1821]: 12). When farmers began to experiment with bone manure in New England in the late 1830s, they applied the new fertilizer to numerous crops, including grasses, corn, potatoes, and other vegetables (*Norfolk Democrat* 3 August 1839). As early as the 1840s in Massachusetts bone manure could be purchased as barrels of already ground or milled bone dust from

Nahum Ward’s Manufactory in Roxbury (*Boston Daily Courier* 5 August 1839). In 1842, a Mr. Hutchins from Concord commented on the affordability and success rate of using the bone manure that cost a little less than \$2 and was delivered to his home by Ward’s Manufactory the previous year (*Pittsfield Sun* 15 December 1842). The company probably delivered barrels of bone manure throughout the Boston area and, according to an 1843 advertisement, charged 25 cents per bushel of bones (*Boston Daily Courier* 12 January 1843). Farmers could save money by manually breaking down pieces of bone with hammers, but this was considered an extremely laborious job that did not make the bones small enough for effective use as manure. Instead, farmers employed a variety of other means to break down bones. Nineteenth-century agricultural journals and newspaper articles list at least four methods for properly grinding bones to produce manure.

#### 1. USING STEAM TO PULVERIZE BONES

The 1849 edition of the *American Agriculturist* mentioned a new mode to prepare bones for manure. The author described the method as the

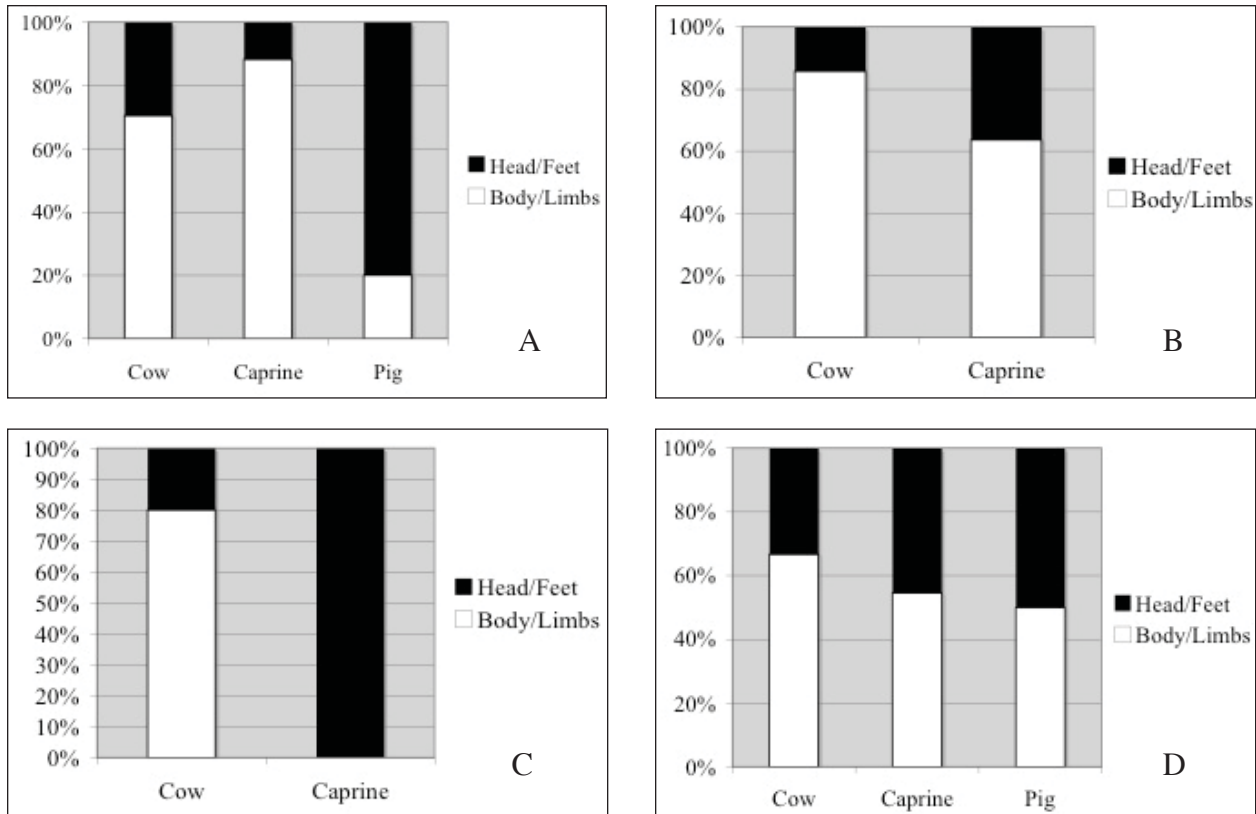


Figure 5.17. Body part distribution in the different deposits. A) Destruction deposits over the greenhouse floor; B) roadway; C) northern French drain; D) destruction deposits outside the greenhouse.

“cheapest and best mode yet thought of” (*American Agriculturalist* 1849: 244). For those who could not afford the expense of a mill, the author suggested using steam to break down the bones. In the 1851 volume of *The New England Farmer*, O.A. Hill from Yarmouth, ME, requested information on the steaming method used to turn bones into manure. Hill was particularly interested in the amount of steam pressure required to pulverize bones and the equipment needed to collect the processed animal remains. In their response, the editors discussed various methods, including some rather costly techniques used to reduce bones to a pulp or a powder, and alluded to the expensive machines developed to assist in this process. To appeal to the everyday farmer, the editors also listed economical ways to produce bone manure at individual farms, including using a common boilerplate made of iron to collect as much as 800-900 lbs of pulverized bones. In order to thoroughly grind the bones, they recommended applying

steam to the collection for at least 24 hours. “With this steaming,” the editors stated, “[bones] are easily crushed to a coarse powder as they are taken from the boiler” (*The New England Farmer* 1851: 413).

## 2. REDUCING BONES BY FERMENTATION

Agricultural journals and newspaper articles mention fermentation as another technique used to break down animal bones into manure (*Barre Gazette* 16 August 1861; *Lowell Daily Citizen* 2 May 1863). A description of this method can be found in the June 7 and August 16, 1850 editions of *The New England Farmer*. The process, which was considered the cheapest and most convenient, involved dissolving animal bones in sulfuric acid. Fermentation also involved putting bones into a pile, filling the intervening spaces with sand, ash, loam, muck, or any fine-grained material, and then saturating the pile with stale urine or “dung heap liquor.” The stockpiled bones reduced more

quickly if they were first crushed with a sledgehammer. The following is an excerpt from an 1861 article in *The American Agriculturalist* (1861: 168) that details the fermentation process:

in forming a heap, a layer of muck, or good loam a foot thick, should be put at the bottom. Then scatter on a layer of bones a few inches in thickness, and put on just enough of the ashes, saw-dust, or other fine matter to fill all the interstices. The object is to bring the bones as closely together as possible, and to make the pile compact. When this is done, wet the whole with urine, or barn-yard liquor, and cover a foot thick with muck or loam, to absorb the ammonia that will escape from the fermenting mass.

During warmer months, the heaps of fermenting bones rapidly decomposed within two to six weeks. According to an 1863 newspaper article, farmers should “save all the bones [they] can lay hold of” (*Lowell Daily Citizen* 2 May 1863). Once a large pile of bones had accumulated, farmers should place the bones in a kettle and cover them with solution of lye (spelled “ley” in the article), which reduces the bones to “a soft pulpy mass.” This fermentation process ends with the addition of water to produce usable manure.

### 3. MAKING BONE DUST HEAPS BY COVERING THEM WITH SAW DUST

Other 19th-century articles mention heaps of bones processed into dust without the application of acids or urine to the piles. According to an article from the third volume of *The New England Farmer*, Mr. Miles from the Royal Agricultural Society of England discovered a method for preparing bones for manure without the use of acids; “and, instead of sand, ashes, or earth, he uses saw-dust as the material for covering up the heaps, double the amount of heat being evolved, and the disintegration being effected much more rapidly and effectually” (*The New England Farmer* 1851: 413). When using this technique, farmers piled bones into heaps, thoroughly moistened the remains with water, and then covered them with two or three inches of saw dust. This was described as the most cost-effective way to “speedily convert [animal bones] into manure” (*The New England Farmer* 1851: 413).

### 4. BRINGING BONES TO TOWN TO HAVE THEM GROUND AT A MILL

A correspondent in the 1861 edition of *American Agriculturalist* questioned whether it was cost effective to carry his animal bones to the town market to have them ground at a plaster mill. The response read, “that will depend somewhat upon the charge for grinding [but] those in the immediate vicinity of a good bone-mill should have all the bones ground that they can command, if the toll is reasonable” (*American Agriculturalist* 1861: 168). Some Massachusetts’s residents were definitely using this method to acquire bone dust and manure. An 1863 article in the *Lowell Daily Citizen*, which was written by the owner of a bone mill, stated, “those sending their own bones to be ground will be attended to with punctuality and dispatch” (*Lowell Daily Citizen* 3 November 1863).

### Conclusion

Christopher Gore stated in a February 1820 letter that he did not own a bone mill, but was interested in seeing such an implement (Letter to Rufus King, February 29, 1820). At this time, Gore was unaware if a bone mill even existed in the United States. Perhaps he acquired a mill shortly thereafter and the four bone assemblages from Gore Place represent stockpiled bones waiting to be ground. Gore, who died in 1827, was extremely progressive in his agricultural interests and burned bone was found throughout his agricultural fields tested in 2008. Extensive experimentation in the production and use of bone manure in Massachusetts occurred only after Gore’s lifetime, in the 1830s. Although the advantages of using bone manure were realized in Great Britain in the first decades of the 19th century, as late as 1843 American farmers discussed how “crushed bones as a manure are but little known by the farmers of the United States” (Thompson 1968: 66; *Pittsfield Sun* 5 January 1843).

The four assemblages discussed in detail above could relate to the activities of the Theodore Lyman Jr. or John Singleton Copley Greene households, later occupants of the Gore property. Articles from local Massachusetts’s newspapers show that people began to discuss the advantages of bone manure in New York and Maryland in





Figure 5.18. Reconstructed planting pots; left to right, vessels 41, 50, 36, and 35.

the early 1830s, but the first references to New England farmers using bone manure date to the late 1830s (*Gloucester Telegraph* 11 June 1834; *Norfolk Advertiser* 16 August 1834; *New Bedford Mercury* 9 February 1838; *Norfolk Advertiser* 16 June 1838). By 1839, Nahum Ward was selling barrels of bone dust from his manufactory in Roxbury, MA (*Boston Daily Courier* 5 August 1839). Gore's interest in bone milling as early as the 1820s is a clear example of his progressive attitude towards the scientific agriculture movement.

The first method of producing bone manure, which involved using steam to pulverize bones, could explain why a large percentage of the Gore Place faunal assemblage was recovered in the rubble on the interior of the greenhouse and the destruction layers nearby. Perhaps during the Gore occupation and before the greenhouse fell out of use, the structure functioned as a sort of "hot-house" for slowly steaming animal bones into manure. This could also explain why the greenhouse, rather than another outbuilding or an exterior location, was the repository for animal bones.

Additionally, animal bones may have been associated with the greenhouse if the structure's secondary function (prior to being torn down in the early 1840s) was as a place to stockpile bones before they were processed using other methods. Obviously, the faunal assemblages from Gore Place do not represent barrels of bone dust purchased from Ward's Manufactory since the majority of the remains are nearly intact. Although

I am unsure whether Lyman or Greene owned a bone mill, perhaps they pulverized animal bones into manure by fermenting, heaping, or manually crushing them. In this case, the animal bones could have been temporarily stored in the greenhouse extension or in refuse piles behind the greenhouse.

Although not a method mentioned by the agricultural journals, Gore may have been processing his bone by burning since fragments of calcined bone have been found across the estate in areas that Gore used as farm fields. This is especially evident on the south lawn where manuring was the only explanation for the wide distribution of Gore-period artifacts and bone. It is very likely that one of the bone sources was the regularly frequented Boston market. Stockpiling bone at the greenhouse may indicate that the bone was burned in the greenhouse furnace where it would have been mixed with ash. On the other hand, Gore may have treated his bone elsewhere, and the bone stockpiled at the greenhouse could represent Lyman or Greene's activities.

### Planting Pots by Rita A. DeForest

The 2008 excavations yielded 2083 planting pot sherds from at least 149 separate redware pots which constitute a large collection of a common yet little studied artifact type (Figure 5.18). The fragments from the 2005 STP survey are not included in these counts. Based on both archaeological and documentary evidence, the greenhouse seems to have fallen out of use in early 1840s. The

Table 5.7. Breakdown of the identified vessels by rim type.

Rim type	Collared	Double	Flanged	Rolled	Ruffled	Straight	Total
Count	73	4	22	30	1	19	149
Percent	48%	3%	15%	20%	<1%	13%	

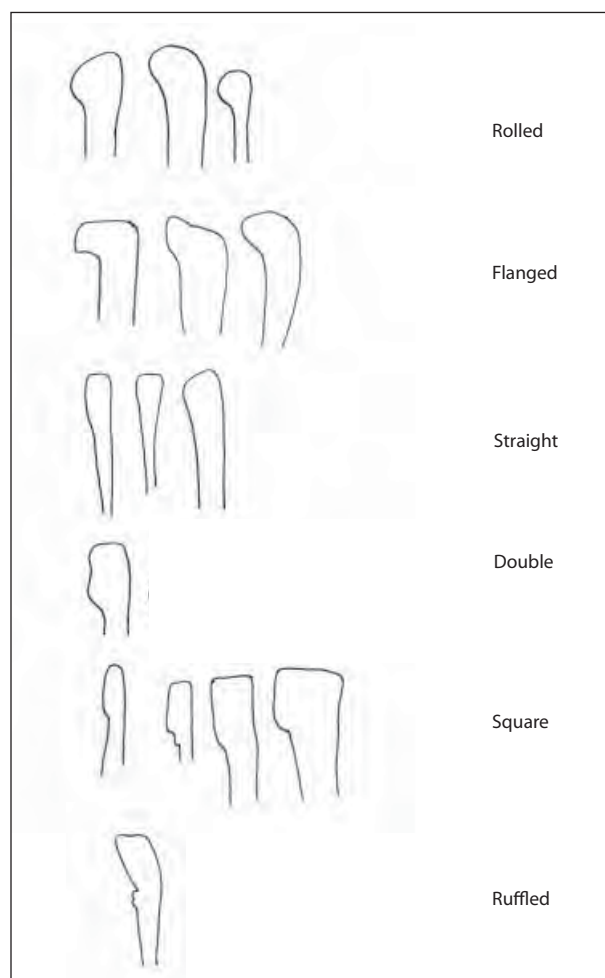


Figure 5.19. Representative planting pot rim profiles.

planting pots, therefore, probably date to the end of the period of Gore ownership (1786-1834) or to the brief period when Theodore Lyman Jr. owned the property (1834-1838). A fuller presentation of the material in this section can be found in DeForest 2010.

### *Description of the Collection*

All of the planting pots recovered from Gore Place are made of unglazed red earthenware. Using the Munsell color values, most are reddish

yellow or yellowish red with no inclusions visible to the naked eye. Based on variations in rim style and diameter, there are at least 149 pots represented (see Appendix B). There are six different basic rim profiles, but significant variation within each of those categories (Table 5.7; Figure 5.19). The pots range in diameter from 2 to 30 cm with most of the intervening values represented by at least one pot (Figure 5.20). Twelve of the 149 identified vessels are decorated (Figure 5.21): 11 with tooled or engine-turned bands of straight and/or wavy lines (none in identical patterns, however) and 1 with texturing that seems to have been created by sponging the exterior. Additional fragments not associated with one of the 149 distinct rims are also decorated, most with similar combed patterns. One unassociated sherd, however, is painted with white and black slip; the fragment contains part of a white circle, surrounded by black dots, with a white band at the top (Figure 5.22). One vessel had a combination of letters, numbers, and symbols scratched onto the exterior, presumably during its use-life (Figure 5.23). Another shard from a different vessel is scratched with an X. The meaning of these scratches is not clear, but they may have recorded information about the plant, as advised by gardening manuals.

Fifty-nine distinct bases were identified from 261 base sherds; all that extend to the center (32 vessels) have a central drainage hole. Most of the drainage holes are 2 cm in diameter, but they range from 0.5 to 4 cm with one example at each extreme. None of the sherds has holes at other locations (on the sides or on other parts of the base), despite references in period literature to such pots. Like the 18th-century planting pots found at Mt. Vernon (Goodwin and Breen 2005:5), none of the pots have footrings. The collection also did not include any redware saucers, though fragments of refined earthenware plates that might have served this purpose were found in the greenhouse destruction debris. Some contemporary authors

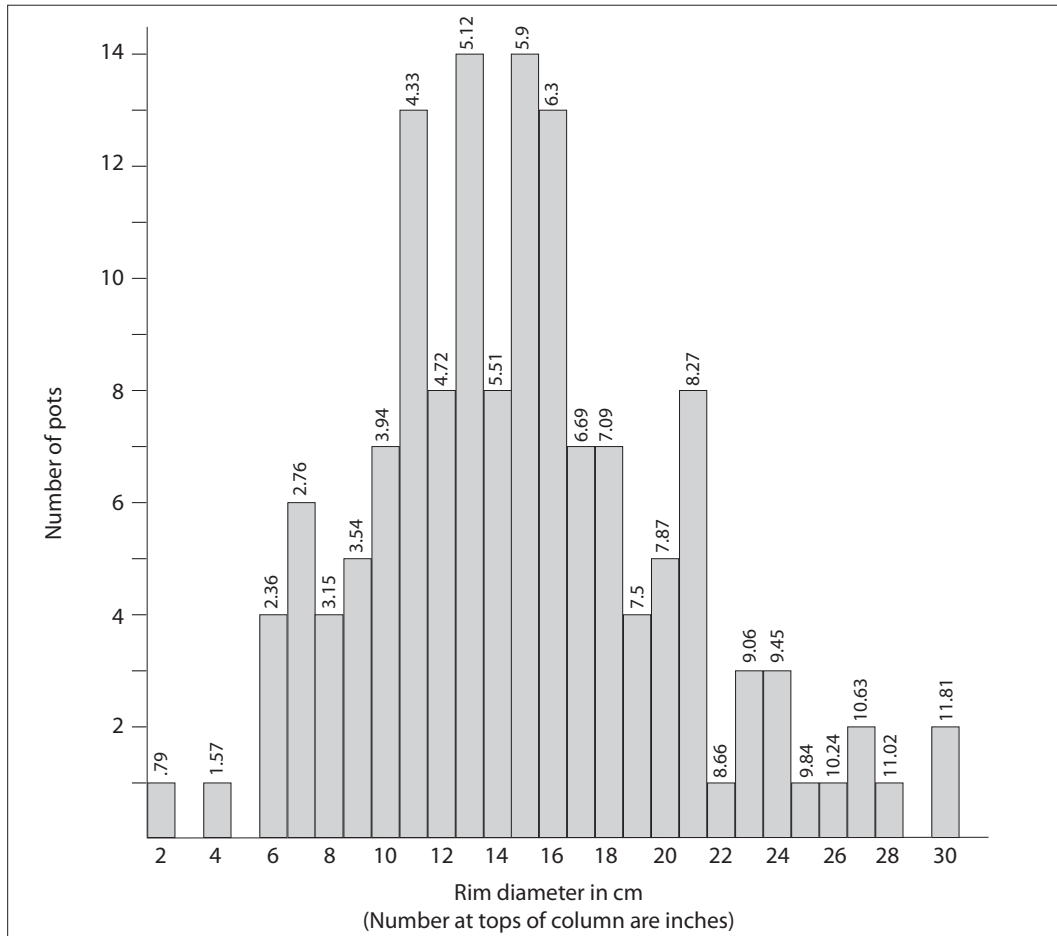


Figure 5.20. Planting pot rim diameters.

advised against using saucers in the greenhouse because they inhibited drainage and held stagnant water (Louden 1857: 81). Saucers, or plant trays, were numerous in the collection from greenhouses around the Château Saint-Louis in Quebec City, however (Duguay 1990: 112-115).

### *Manufacture*

All of the pots from Gore Place were handmade and thrown on a wheel; they predate the invention of the flower pot molding machine by William Linton in 1861. Because they are handmade, the pots display individual variation in rim profile, decoration, and diameter. The similarity of the decoration on the 11 tool-decorated pots suggests that they, at least, all came from one pottery workshop, but the manufacturer has not been identified. Scholars in both England (Currie 1993) and North America (Lathrop 2000: 3; Duguay 1990) have

noted the longevity of the general flower pot form and the difficulty of dating or sourcing individual examples. Like other redwares, our assumption is that flowerpots were acquired from one of the region's local potters prior to the industrialization of the flower pot industry after 1861. Flowerpots were occasionally shipped internationally, however, as an advertisement in a Quebec newspaper for flowerpots imported from England makes apparent (Duguay 1990: 113).

Early 19th-century potters did not necessarily specialize in flowerpots. Hervey Brooks of Goshen, Connecticut, for example, was a farmer-potter who produced assorted redwares between 1795 and 1867, including flower pots which are mentioned only in some of his later lists of wares (Worrell 1985). John Worrell's study (1985: 168) of Brooks' immediate neighborhood identified seven individuals who occasionally made and



Figure 5.21. Detail of tooled decoration, vessel 39. Another style of tooling is visible on vessel 41 in Figure 5.18.



Figure 5.22. Slip decorated fragment. This piece is the sole example of this type of decoration in the collection.

sold pottery between 1790 and 1810, only two of whom had been previously identified by scholars, and none of whom were identified primarily as potters in period sources. This near invisibility of rural redware potters suggests that identifying the source of these pots will be very difficult without

some mention in Gore, Lyman, or Greene's personal papers.

Other southern New England potters who are known to have produced planting pots include Benjamin Ingalls of Taunton, MA (Lathrop 2000: 45; Watkins 1950: 43-47), Stephen Bradford of Kingston, MA (1771-1837; Watkins 1950: 43-47), several generations of the Hews family of Weston and North Cambridge, MA (Hews 1901; Teller 1985), and John Runey of Charlestown, MA (Watkins 1950: 29; MHS MSPA records, box 13). Of these potters, the Hews company is the best documented, since it continued into the mid-20th century (Teller 1985). Flowerpots became the company's primary product but were mentioned in the company records as early as 1807 (Hews 1901: 1423). Examination of pots attributed to Hews owned by the Weston Historical Society did not detect any diagnostic similarities between those and the pots from Gore Place (DeForest 2010: 29-31). John Runey of Charlestown sold pots to the MSPA's Botanical Garden, and Gore, as a founding member of the MSPA and visitor to the Botanical Garden, may have been aware of Runey as a source of supply. However, no attributed Runey



Figure 5.23. Scratched letters and numbers on vessel 35. The scratches include an X and a sequence which may read “1716g.”

pots are known to the authors (Runey receipts: All Box 13: Folder 31, Doc. 54, 55, 62, 90, 91, 99; Folder 32, Doc. 77, 105). The Central Artery excavations initially believed that they had located the site of the Runey pottery but excavation did not produce any evidence of a pottery site in the project area (Gallagher and Ritchie 1992).

### *Pot Sizes and Uses*

Pot sizes were variously described by contemporary sources by the cost of the pot, the number of pots of the size made from a set amount of clay, or by rim diameter. Several 19th-century gardening treatises attempted to create a standard terminology to describe pot sizes (Hovey 1839; Loudon 1860), but none of these seemed to gain widespread acceptance.

Most of the pots in the Gore Place collection were between 10 and 21 cm (roughly 4 to 8 inches) in diameter at the rim, with the biggest concentration between 12 and 16 cm (or 4.3 to 6.3 inches). Having a range of mid-size pots was important for proper re-potting; 19th-century gardening manuals recommended constant repotting into gradually, incrementally larger pots as a process integral to plant health (e.g. Henderson 1884: 61).

The range of pot sizes on hand in the greenhouse, therefore, speaks to not the Gores' or Lyman's initial investment in the plants, but to the continued investment in their care and display. Caring for greenhouse plants involved specialized labor, professional English gardeners in the Gores' case, construction and maintenance of the greenhouse, and continual upkeep of the plants such as watering, applying pesticides, removing dead leaves, and repotting.

Additionally, some of the largest and smallest of the pots speak to the level of intensity and specialization of the horticultural enterprise at Gore Place. The smallest pots were called thumb or thimble pots and include two pots with rim diameters of 2 or 4 cm and seven bases of 5 cm in diameter. These small pots were used for propagating plants from seeds or clippings, and indicate that the Gores or Lyman were not only purchasing mature plants but raising new ones, a more intensive activity. C. M. Hovey, who tried to institute a standard, numerical system for pot sizes did not include thumb pots, since “little use is made of [them], except by propagators” (1839: 48). Likewise, Hovey did not include pots of larger than 9 inches (23 cm) in diameter in his scheme, instead

calling them “Extras,” as “[t]hey are scarcely ever made by the manufacturers, unless expressly ordered by persons who desire such for particular purposes” (1839: 49). The Gore Place collection includes six pots with rim diameters of 10 inches or larger (26-30 cm), again suggesting that the Gores or Lymans were ordering specialty pots to meet their particular needs. These 30 cm pots are the smallest size useful for potted fruit trees and could also be used for shrubs. Trees could also be grown in wooden tubs which had the advantage of being less fragile.

### *Other Studies of Planting Pots*

Other greenhouse and garden excavations have encountered planting pot fragments. Lathrop (2000) and Currie (1993) examine flowerpots primarily through the documentary record. Duguay (1990) characterizes the 548 pots and 176 saucers from five periods between 1740 and 1854 from the Château Saint-Louis in Quebec City. The rim types from this collection were similar to the types found at Gore Place, from earlier rounded rims, straight rims, and flanged rims, to the later “col-lared” rim style found to this day (Duguay 1990: 119). The most striking difference between the two collections is the frequency of the double rim type in the Chateau Saint-Louis collection, 23 examples, while the Gore Place collection only has four examples (Duguay 1990: 120). Duguay, however, characterizes this as a decorative technique, rather than as a rim type. The double rim pots in the Chateau Saint-Louis collection are associated with artifacts with dates from 1740 to 1789 (Duguay 1990: 120). The Chateau Saint-Louis pots with “incised linear decorations,” the most common type of decoration at Gore Place, are associated with artifacts dating within a period spanning from 1780 to 1815 (Duguay 1990: 120), a period which overlaps the Gore Place occupation.

Goodwin and Breen (2005) cover 87 pots and 2 saucers from Mt. Vernon in Virginia dating between 1775 and the modern period. Their investigation identified four rim types: rolled rim, double-rim, straight-rim and square-collared (Goodwin and Breen 2005: 4, 5). Goodwin (2005: 5) says of the square-collared rim type that, “[in] the 20th century, [the] traditional straight-rim style

was replaced by machine-made vessels with raised collars around the rim,” though we know from the archaeology of Gore Place that this style was already being used in early 19th century greenhouses. The rim diameters of the Mount Vernon pots range from 1.96 to 16.92 inches with an average rim diameter of 6.06 inches, though the author declares that their almost 17 inch pot may actually be smaller due to the difficulty of obtaining an accurate measurement from a rim fragment (Goodwin and Breen 2005:12). The flowerpot sherds from Mount Vernon reflect about 250 years of occupation compared to the discrete period the Gore Place greenhouse was in use, yet Gore Place has more rim types and decorative types represented within the short period (Goodwin and Breen 2005: 6, 7).

Pittman and Hunter (2002) found 18 almost complete pots from the John Page House in Virginia from the early 18th century. The pots from the Page cellar are of three sizes: 5 small (6 <sup>7</sup>/<sub>8</sub>”-7 <sup>1</sup>/<sub>2</sub>”), 9 medium (11”-12 <sup>1</sup>/<sub>2</sub>”), and 3 large (12 <sup>7</sup>/<sub>8</sub>”-13 <sup>1</sup>/<sub>2</sub>”) (Pittman and Hunter 2002: 211). The majority of the John Page pots are larger than anything from Gore Place and all the rims are rolled and slightly flanged. It is interesting to note that the five smaller pots from the John Page collection have a single central drainage hole and the rest, except for one, have three side drainage holes evenly spaced (Pittman and Hunter 2002: 211). The pots from the Gore Place collection, from what can be seen, all have a single central drainage hole.

The Gore Place planting pot collection represents a variety of planting pot sizes and forms from a unique greenhouse context given the high concentration of pot sherds contained within a discrete period of time.

### **Other Specialty Materials**

Other than window glass, almost all of the glass from the greenhouse area is bottle glass, primarily necks and bases (Figure 5.24). There is one globe from a lamp represented, but no table glassware such as tumblers or stemware. Among the bottles are at least two small vials (base diameter = 2.5 cm) with flanged lips of the type that commonly held liquid medicines. Here,



Figure 5.24. Glass bottle fragments from the northern French drain, Feature 2. These are the only large fragments of vessel glass recovered during the 2008 excavations.



Figure 5.25. Glass bell jar fragments recovered in 2005. Photograph by Leith Smith.

they might have been used to hold chemicals for pesticides. There were also a number of large dark green beverage bottles that may have been reused in the greenhouse to hold chemical solutions. We

postulate a greenhouse-related function for these because of the large pieces that are present; in the ceramic collection, only large pieces of planting pots (related to the greenhouse function) survived, while other vessels were much more fragmentary. In the 2005 text excavations, a fragmentary bell jar was recovered from the mouth of the stone lined drain (Figure 5.25). Bell jars protected delicate plants in pots or planted outside.

There were also a number of small finds that may have had a greenhouse related function. Twists of wire may have been used to hold plant stalks to wooden supports; many pieces of wire were found, some ferrous and some copper. Some of these were twisted into loops. Numerous pieces of iron wire were found during the excavation of the mid-19th-century Highlands greenhouse, and the excavators there also suggested that the wire served to support plants or vines (Bescherer, Kratzer, and Goodwin 1990: 89). There were also two pierced, rectangular lead tags, one with a number “3” impressed on it (Figure 5.26). These may have been used to identify specific plants or even bottles of chemicals. The small pierced holes would have allowed the tags to be fastened to wooden racks or shelving that held specific plants or to be attached to a bottle with a string or wire loop. Period gardening manuals advised people to label their plants, especially if they were conducting propagation experiments. One of the suggested labeling methods was to paint the names of plants



Figure 5.26. Lead tags from contexts 627 and 628.



Figure 5.27. The three more complete knife blades; contexts 633, 634, and 799.

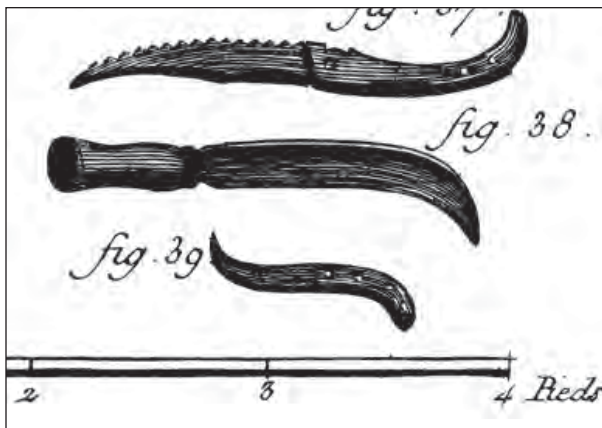


Figure 5.28. Pruning knives, illustrated in Diderot's late 18th-century *Encyclopedia*.



Figure 5.29. Iron spades from the northern French drain fill.



on small wooden sticks that could be stuck in each pot. One fragment of a colorless glass rod was also recovered which may have been part of a piece of scientific glassware. The South Boston Flint Glassworks (1811-1847), for example, specialized in colorless chemical and apothecary glassware (Kaiser 2009: 9-10). Some 19th-century syringes were made of glass with glass rods as plungers (Kaiser 2009: figs. 195-196).

Four partial (Figure 5.27) knife blades were also recovered from the greenhouse area. One is represented only by a blade tip (and may in fact come from a pair of scissors or shears); three are comprised of a partial blade and tang. All of these would have had wooden or bone handles, now decomposed, surrounding the metal tang. Table knives of the early 19th century typically had broad, slightly curved blades with rounded ends. Unfortunately, these are not complete enough to determine their shape; the three that are most complete lack their tips, and the single tip fragment is pointed rather than rounded. They may have served as pruning knives, though they lack the distinctive backwards curve of the pruning knife (French: *serpette*) blade shown in Diderot's encyclopedia (Figure 5.28) and other period publications. No forks or spoons were recovered, which lends some support to the idea that the knives had a function in the greenhouse and were not simply domestic utensils redeposited here.

The fill of the northern French drain contained a number of large items, presumably placed there to promote drainage. In addition to several almost intact planting pots, there were three iron spades and a colander in the fill. These spades may not have been used in the greenhouse itself, but might have been used to turn soil or composting piles nearby. The greenhouse extension might have served as general purpose storage space for garden tools used in the area, though other general-purpose garden and farm tools such as hoes, rakes, and scythes were not found in the greenhouse area. Two of the spades were rectangular; one was rounded (Figure 5.29). The rounded example is the most complete and consists of two iron plates that are worked together for the blade of the spade, but which separate as they move towards the handle. The triangular iron plates that formed the top edge

of the shovel are intact, as is the beginning of the iron fitting that would have surrounded the wooden handle. The blade is 26 cm long and 19 cm wide at the top, tapering to a gently rounded point. Only the blades of the square spades survive. They are also both formed from two plates that separate near the handle. The top components are partially present on one example and missing on the other. Neither has a preserved handle attachment. These blades are 27 cm long, 21 cm wide at the top, and about 18 cm wide at the bottom.



## CHAPTER 6: DISCUSSION AND INTERPRETATIONS

### Recursive Use of GPR, Excavation, and Historical Maps

Establishing a Geographic Information System (GIS) database for the project allows archaeological data, geophysical information, historic maps, and air photographs to be layered, creating composite images. The process of taking a historic map and adding spatial data so that it appears at the correct spatial coordinates is known as georeferencing. This is a very useful technique, especially for a project such as this one where one of the major goals is to be able to provide information about the locations of features that are depicted on older maps. However, georeferencing is not always a straightforward procedure when using historic maps, and there are sometimes several choices about what points to use to tie the map to known features on the ground which result in several alternate versions. Examining the different possible outcomes raises important points about the accuracy and inaccuracy of various maps and, most importantly, about what the most salient features of a map are. A map that intends primarily to show property boundaries, for instance, might depict structures within those boundaries without regard for their exact scale or location.

We have found that we can better interpret the historic maps when they are examined in conjunction with ground penetrating radar (GPR) and excavation data, in a recursive process. We used an initial GPR survey to guide our excavation. Then, using the GPR-slice images and data from the excavations, a series of historical maps were re-georeferenced, allowing for much better interpretation of the GPR-slice images. Interpreting GPR, excavation, and documentary data in this integrated, sequential package yields more information with less excavation than traditional methods. This section presents a series of different possible georeferences of the Lyman map, leading to what we feel is the most accurate projection of the orientation and dimensions of the unexcavated portion of the greenhouse.

While the 1834 Lyman map could be georeferenced to the whole property (Figure 6.1), with

GPR and excavation data in hand, it was possible to locally re-georeference the small section of the map showing the carriage house and the greenhouse. The Lyman map is both accurate and inaccurate, and the various georeferences force us to think about what the salient features were that the map's author saw when he drew the buildings.

Examining the Lyman map on its own and the property-wide georeference of the map, the following points are apparent:

- The land plot and most buildings are oriented SSW.
- The greenhouse was drawn at a different angle to all of the other built features on the property, oriented south for maximum southern sun exposure. How accurate, however, was the map's author in drawing this angle?
- The greenhouse extension, on the other hand, is flush with the front of the stable, creating a uniform façade of buildings as visitors entered the property.
- The map's author drew the greenhouse extension as rectangular, yet we know from excavation that the floor was trapezoidal, probably due to the problem of making the differently oriented buildings meet.

The location of the corners of the greenhouse extension and the northeast corner of the carriage house were uncovered during excavation, so are available to use as points to georeference the map. In the GPR data, we have interpreted the strong east-west reflector to the north and east of the extension as the north wall of the main body of the greenhouse, which would have been more substantial and could contain furnace flues. Combinations of these known features were used for the different georeferences of the Lyman map.

In Figure 6.2, the Lyman map was georeferenced using the northeast corner of the carriage house and the southwest corner of the brick floor of the greenhouse addition. This projection shifts the greenhouse south of the east-west geophysical anomaly interpreted as the north wall. It does, however, have the fronts of the stable and greenhouse extension flush with each other. In Figure



Figure 6.1. Property-wide georeference of the 1834 Lyman map. See Figure 2.3 for a detail.

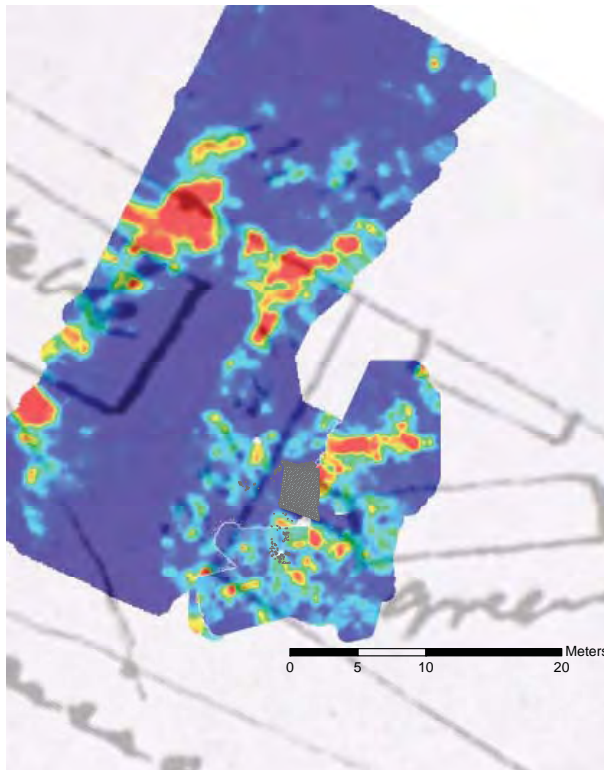


Figure 6.2. The 1834 Lyman map, GPR slice, and excavated brick floor.

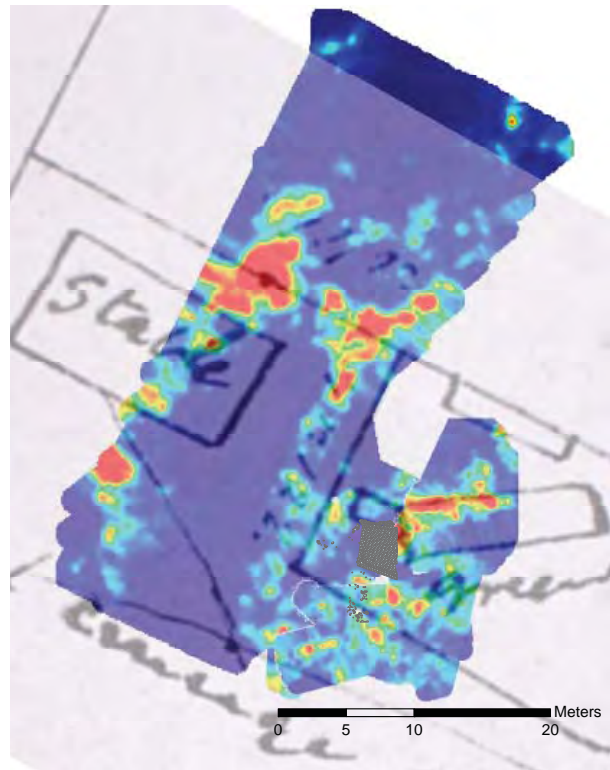


Figure 6.4. The 1834 Lyman map, GPR slice, and excavated brick floor.

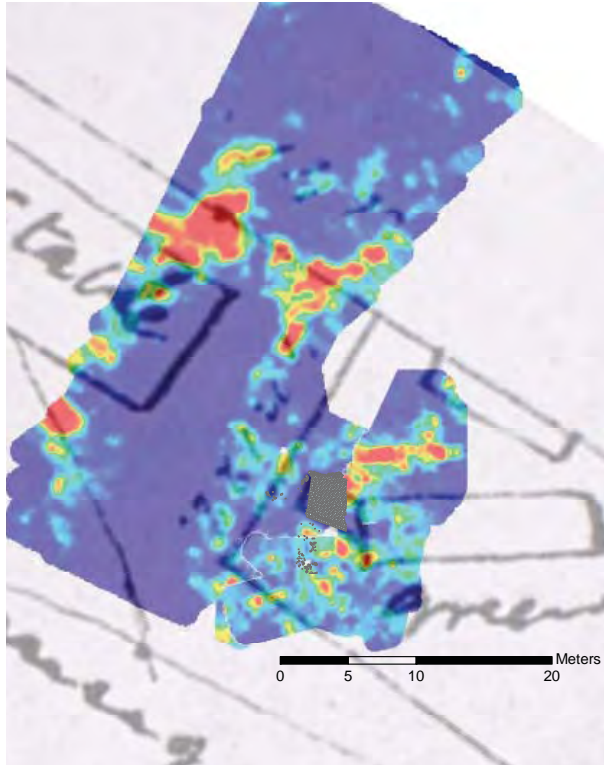


Figure 6.3. The 1834 Lyman map, GPR slice, and excavated brick floor.

6.3, the georeferencing used the northeast corner of the stable and the northwest corner of the brick floor. This projection again shifts the greenhouse south of the east-west geophysical anomaly interpreted as the north wall. It also shrinks the buildings so that they appear approximately 86% of their real size. (This is based on the known size of the carriage house, and assumes that rendering the buildings using a consistent scale was important to the map's author.) In Figure 6.4 the map was georeferenced using the northeast corner of the stable and aligning the east-west geophysical anomaly with the north wall of the greenhouse. This version also shrinks the buildings substantially, and it takes the fronts of the stable and the greenhouse extension out of flush alignment.

Finally, we created a reconstruction using elements of multiple georeferences that represents our best estimate of the location of the carriage house and of the unexcavated portion of the greenhouse (Figure 6.5). It uses the true size of the carriage house, the geophysical void for placement of the carriage house ramp and basement, the brick

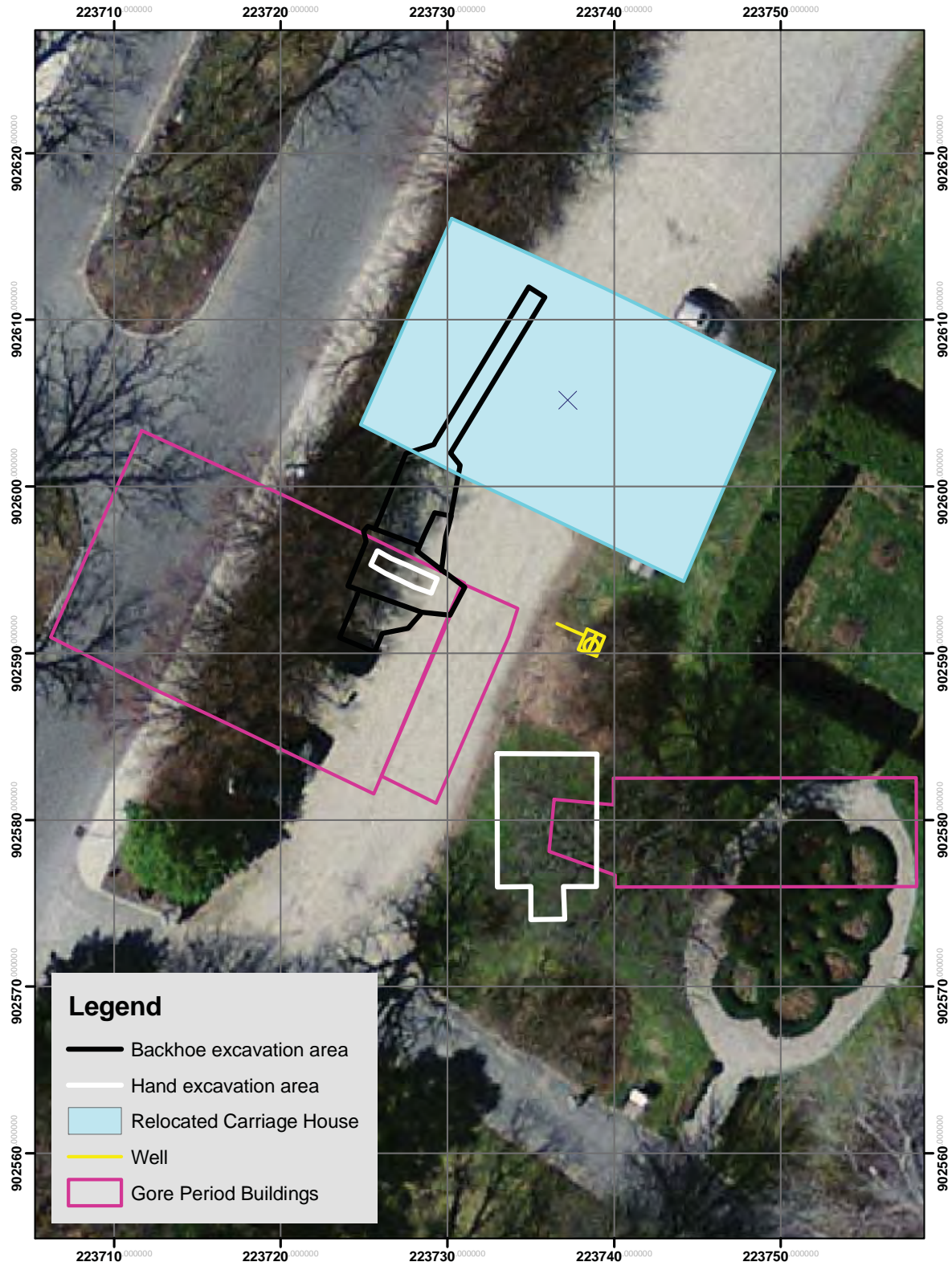


Figure 6.5. Reconstruction using elements of multiple georeferences. This figure also shows our proposed carriage house relocation that will minimize impacts to known Gore-period archaeological features.

floor for the location of the greenhouse extension, and the east-west reflector as the north wall of the greenhouse. This model has the advantage of keeping the carriage house flush with the greenhouse extension, as the author of the Lyman map observed. Furthermore, it maintains the south-south-west orientation of the greenhouse extension, following the rest of the buildings on the lot, with the exception of the greenhouse which is oriented with one long face to the south, to maximize exposure to the sun. The combined result of these factors is that the greenhouse appears to be wider than depicted on the 1834 map. (Here, the main body of the structure is 18 m [59 ft] east-west by 6.5 m [21 ft] north-south, while on the Lyman map the east-west dimension is roughly the same (60 ft), but the north-south dimension is 15 feet.) This model produced the building orientations, sizes, and locations used in figures throughout the report.

### The Carriage House

Excavation of a portion of the carriage house cellar revealed the lower portion of at least the rear (north) foundation wall to be well preserved along with the cellar floor. The wall is constructed of large and small rubble or field stones mortared in place. Wall height ranged between 55 and 85 cm above the floor surface, indicating that at least 80 cm of wall was missing from the highest preserved portion. The rear wall is approximately 60 cm (2 ft) in thickness and probably extended eastward past the granite door support post to form the north and east walls of the entrance ramp. The opening for the cellar entrance was defined by the split granite post directly against the stone wall (Figure 6.6). Although the top half of the post was missing, the lower portion was dug into the cellar floor and retained an iron pintle that passed through the post. The exterior portion of the pintle would have held the door hinge, while the interior portion was fitted with a nut and washer that indicated a wooden post was once present against the interior side of the granite post, and probably served as part of the door framework. The door sill consisted of concrete with fragmented brick that appeared to fill the space of a former wooden sill. Below the concrete was fieldstone that the wood sill would have rested on. The presence of the brick



Figure 6.6. Granite door post for carriage house cellar entrance

piers adjacent to the foundation wall indicates that additional support of the first floor was felt to be needed. It is unclear when the piers were added, but indications in the cellar floor and similarities in the bricks and mortar of the mansion house suggest they could have been added at the time the house was constructed in 1805/06. The addition of these may also have been in preparation for using portions of the structure for storage of heavy firewood around 1816 when the Gores began to use the mansion as a year-round residence. The exterior access ramp could not be excavated so details of its construction are not known.

The cellar floor revealed no evidence of its former use for manure production (such as organic staining) and clearly had been thoroughly cleaned. The artifacts present in the upper two layers of sand and gravel, however, represent a considerable time period from that of the Gores through to the early 20th century. The majority of objects date to the Gore period and the wide variety may reflect the incorporation of refuse into manure produc-

tion. The Disston saw boss may date to the period of the Walkers (1856-1907) or later. Artifacts potentially associated with the structure itself included nails, pieces of roofing slate, window glass, and what is interpreted to be an iron tack hook. The presence of the iron sign identical to some in the mansion house cellar and known to have been used by the Waltham Country Club, suggests the carriage house cellar served a storage function by the 1920s.

Investigations north of the structure showed that some of the soil in the parking lot constituting the western portion of Gore's vegetable garden was removed to a significant depth and was replaced with a uniform mixture of sand and gravel. This material differs significantly from the finely stratified layers of glacial sand and gravel under the cellar floor, and from the eastern portion of Gore's vegetable garden where deep planting soil remains intact. The deposition of the sand and gravel likely coincided with the moving of the carriage house to create a solid surface to lift the structure off its foundation and roll it to its present location. While the gravel is at least 2 m deep close to the carriage house foundation, its depth may lessen with distance northward, since shovel testing in 2004 showed intact dark brown loamy soil beginning at a depth of 35 to 50 cm below driveway gravel and sand bedding at distances of approximately 20 and 40 m north of the carriage house foundation.

### **Carriage House/Greenhouse Well**

Investigation of the well revealed construction methods that were essentially identical to those used for the carriage drive circle well (Smith, Beranek, and Steinberg 2010). Large boulders were used to fill the builder's trench and these were then covered over with a thick layer of olive gray sandy clay, potentially to prevent contaminated water from seeping into the well from above. The major difference in construction is the fact that the brick portion of the carriage house/greenhouse well is round rather than square. This difference may very well have been stylistic so the form of the drive circle well matched the rectilinear layout of what may have been a square or rectangular drive island and adjacent flower garden. Such styling may not

have been necessary in the context of a working part of the estate adjacent to the carriage house and greenhouse.

The stone wall that adjoins the well from the west is aligned with the back wall of the carriage house and does not directly correspond to the linear features depicted on the Lyman map that separate the vegetable garden from the greenhouse yard. This wall might have held the coach house gate referenced by Farwell. The panes of window glass that were found on the base of the wall are believed to be directly associated with recycling efforts at the time of the greenhouse demolition. It is clear from the greenhouse excavation that useable materials, particularly whole bricks, were carefully removed from the structure, and there is no reason why window panes would not have been saved as well. It is possible that the base of the stone wall adjacent to the well was viewed as a safe place for temporary storage of panes. The presence of the panes at this location indicates that the stone wall had already been demolished, potentially as part of the removal of the greenhouse and a broader attempt at clearing and leveling the landscape in this area. The panes were definitely present at the top of a layer of greenhouse associated demolition fill. Why this fill was added to the immediate well area is unclear, but it may have been to help hide the exposed brick well wall if the cover stones were laid in place at the time of demolition activities. The search for a continuation of the stone wall on the east side of the well revealed no such feature to be present. It is possible, however, that a wooden fence continued on the east side that would have been more in keeping with the wooden fence found archaeologically to have bordered the west side of the greenhouse.

### **The Greenhouse**

#### *Date*

This report argues that the greenhouse that stood along the entrance drive was constructed in 1806, at the same time as the main house was rebuilt, based primarily on the presence of marble floor tiles in both the main house and the greenhouse. The predominance of late 18th and early 19th-century ceramic types in the old ground



surfaces around the greenhouse also suggests that the greenhouse was built during the Gore period. It seems to have fallen out of use in the early 1840s and was probably demolished before the end of the Greene occupation in 1856; it is depicted on an 1841 map, but few artifacts in the destruction layers date to later than the mid-1830s.

This greenhouse was not the earliest on the property; the first greenhouse was in a wing of the main house and reportedly the source of the 1799 fire that destroyed the house. The date of the other horticultural feature on the property, the fruit wall and grapery, is not known. The fact that the alignment of the fruit wall is off center in relation to the present mansion house, suggests the wall was present prior to 1805/06. It clearly existed by 1834, and probably much earlier given Gore's references to his grapes in an 1816 letter to Rufus King. The fruit wall was eventually incorporated into a large greenhouse complex that existed into the early 20th century. These structures were part of a much larger program of landscape manipulation that included cultivated fields and flower and vegetable gardens.

### *Appearance*

When the Massachusetts Society for Promoting Agriculture formed a committee to secure plans for their greenhouse buildings in 1810, they were unable to fix a budget because there were no builders with sufficient experience with this sort of structure who would undertake the project for a set fee (MSPA Records, Folder 30, Doc. 28). This uncertainty indicates the degree to which greenhouses were still a novel, unfamiliar, and individually designed building type at this time. Yet Christopher Gore, in commissioning his new greenhouse, was likely not working without knowledge of local and international examples. His time in England in the 1790s may have made him familiar with the latest greenhouse designs there, and we know he visited the estates of prominent agricultural improvers (Thornton 1989: 29). He could have also viewed local examples such as Theodore Lyman's greenhouses at the Vale (see Chapter 3), which would have been just a few years old, or the late 18th-century greenhouses of the Essex County merchants.

Using information from the 1834 Lyman map, ground penetrating radar results, archaeological information, and comparative sources, we can reconstruct or postulate a good deal about the appearance of the greenhouse which was situated on the property's entrance drive between the street and the house (see Figure 6.5). The main body of the greenhouse, which has not been excavated, was a rectangular structure measuring 60 by 15 to 21 feet (or 18 by up to 6.5 m) oriented to face south and, therefore, not aligned with the other buildings on the property. It had a small (roughly 3 by 3 meter or almost 10 by 10 foot) trapezoidal extension on the west end, most of which has been excavated. The extension was aligned so that it was oriented with the carriage house and the entrance drive, and the south face of the extension may have been flush with the south face of the carriage house. The extension had a brick floor, while white marble tiles recovered from the destruction debris suggest that the floor of the main greenhouse was marble or white marble and black slate. The GPR investigations did not detect a uniform reflection from the floor of the main body of the greenhouse, although some reflections from closer to the center of the floor are visible in Figure 4.13 (at the far right). Is this because the floor, which may have been elevated above the ground surface, was completely removed when the greenhouse was demolished? Or were there beds or bark pits around the edges of the greenhouse that limited the floor surface?

The presumed marble versus brick floorings underscore the functional differences between the two spaces: the main body of the greenhouse was a place not only for raising but for displaying exotic plants, while the addition was the functional appendage recommended by gardening manuals for storing tools and repotting plants. At other sites, small extensions have also functioned as specialized growing spaces where the heat could be more closely controlled; Dennis Pogue (personal communication 2008) has suggested that a brick-floored addition to the Mt. Clare greenhouse in Maryland was a pinery (for growing pineapples). We do not interpret the Gore Place extension in this way, based on the hypothesis that additional growing space would have been oriented to the south as the main body of the greenhouse is.

The details of the greenhouse's heating system are still not known, although the amount of coal in the deposits immediately on top of the floor of the extension strongly suggest that the last furnace, at least, was coal fired. It may have been located in the extension or maybe behind the north wall of the greenhouse, both common locations for greenhouse furnaces. A small area at the far eastern edge of the excavation that was void of bricks may be related to the furnace's ash pit or a connection to a sub-floor flue system. Since, however, only the edge of this feature was uncovered, its function is not known. We also do not know if the greenhouse had sub-floor flues or flues in the walls, but it likely had a chimney to carry away the smoke from the furnace. The chimney may have been at the east end of the greenhouse or part of the wall that divided the greenhouse from the extension. Future excavation may help determine details of the heating system, such as this one.

Ground penetrating radar (GPR) shows a strong reflector that we interpret as the rear wall of the greenhouse continuing away from the extension (see Figure 4.5). Although not conclusive, the single linear strong reflector in the GPR data suggests that this greenhouse may have had a substantial back wall, sloping glass front, and a less substantial front knee wall (see Figure 3.7), similar to the contemporary greenhouses at the near-by Lyman estate. This form, sometimes referred to as the lean-to style, was introduced near the end of the 18th century (Pogue 2009) and was designed to take more advantage of the sun's energy. In using this form, Gore would have been choosing the most contemporary type of greenhouse plan. The layout of the main body has not been tested with excavation, however, and the GPR signal may indicate how the greenhouse was dismantled, not its configuration while in use. The back wall of the greenhouse may also be more substantial because it was where the flues for the heating system were located since, facing north, that wall frequently did not contain windows or doors.

Architectural hardware recovered from the excavation indicates that some part of the structure had a slate roof, sash windows, and locked doors and compartments. The number of planting pots recovered suggest that plants were placed

in pots on stages, though without excavating the main body of the greenhouse the presence of beds for vines or a central bark bed for heat cannot be eliminated.

We do not know much about what was being grown in the greenhouse, with the exception of citrus trees, geraniums, and roses that were mentioned at Rebecca Gore's death (Brockway 2001: 26, 28). The sizes of the planting pots, which range from thumb pots to those large enough for small trees or shrubs, suggest that the greenhouse was used for starting plants from seeds and cuttings as well as for mature plants. Lists of greenhouse plants shown at the earliest Massachusetts Horticultural Society exhibitions in the early 1830s provide some possibilities for plants that might have been present during the final years of the Gore occupation, however. The 1831 exhibition was the first to include greenhouse plants, and camellias, *Musa coccinea* (ornamental or scarlet bananas), *Hoya carnosa* (the wax plant, native to Asia and Australia), and *Maranta zebra* (a tropical plant with ornamental foliage) are mentioned by name (Wilder 1879: 7). (Please note that these are the scientific names used by Wilder in 1879 and do not correspond to current scientific names.)

The greenhouse area was physically and visually set off from the rest of the property, as depicted on the Lyman map (see Figure 2.3). This separation could be for practical and aesthetic reasons. Numerous locks and latches suggest that greenhouse doors and compartments were secured. Large holes for posts indicate that the greenhouse was separated from the carriage house by a wooden fence. Greenhouse plants could be expensive and rare, so access to the greenhouse would have been more limited than access to other agricultural spaces. A substantial fence may have also served to visually separate the ornamental greenhouse from the working carriage house, which was the site of such practical activities as compost and firewood production. The GPR data suggest that at one point, the fence continued between the greenhouse and the entrance drive. At some point, possibly post-dating the fence, the greenhouse was separated from the entrance drive by a curving wall. The wall base was irregular and not particularly wide, suggesting that the wall was low and

served to visually set the greenhouse area apart, not to restrict access per se. (In fact, the wall may have existed after the greenhouse was no longer in use.) Since the southern face of the greenhouse needed to catch as much sunlight as possible, the southern barrier would probably have been short enough to not shade the greenhouse too much.

The Lyman map (see Figure 2.3) also depicts another long narrow structure against the north wall of the greenhouse enclosure, which we have interpreted as a possible hot bed. Hot beds were prepared soil beds that were covered with glass frames for starting outside plants early in the season or for protecting delicate plants. No excavations have confirmed this identification, however. The area inside the greenhouse enclosure may have also been a location for stockpiling soil preparation ingredients, such as bone, shell, sand, and compost. These activities probably took place north of the greenhouse, out of public view. A shallow pit feature just north of the greenhouse extension may have been a soil preparation bed. The large number of animal bones in the destruction debris may have been stored here prior to being turned into bone manure. Michelle Styger (see Chapter 5) suggests that since the production of bone manure required heat, this may have been one of the last functions of the greenhouse's furnace. Several of the STPs in the area of the main body of the greenhouse excavated in 2005 yielded large numbers of shells, which may have also been collected as a soil additive.

We still do not know very much about the water supply for the greenhouse. There was a well located to the northwest. The greenhouse plants would have needed to be watered daily, however, so there might have been a closer cistern or water tank fed by the well. Such engineering would not be out of place on the property, given Gore's close attention to water supply systems in his house. The presence of the stone-lined drain off the southwest corner of the greenhouse extension demonstrates that efforts were made to encourage excess water to flow away from the structure.

### *The Greenhouse as part of a System of Labor at Gore Place*

One of the major interpretive questions of the

Gore Place greenhouse is who oversaw and carried out the work there. The amount of daily labor and periodic specialized maintenance described in the greenhouse manuals and reflected in the receipts of the Cambridge Botanical Society greenhouse (MSPA Records) makes it clear that maintaining a greenhouse was a multi-person task involving both skilled oversight and continual manual labor. If the prescriptions set out in greenhouse manuals were followed, the labor involved in maintaining a greenhouse would have been constant and time consuming. It included daily and seasonally varied care of the plants themselves (watering, repotting, pruning, application of pesticide); careful regulation of the building's climate such as opening, closing, or covering windows and fueling furnaces (throughout the night when necessary); and regular repair and maintenance of the structure and equipment which ranged from sharpening tools to replacing panes of glass to painting, cleaning, and whitewashing the structure. Even if the cycle of tasks outlined in the greenhouse manuals represents an ideal rather than a reality, greenhouses were certainly costly, requiring money, labor, and specialized knowledge to build and maintain.

Loudon is explicit that his manual gives a lady or gentleman the specialized knowledge so that they can dispense with a "regularly bred and skillful gardener," but the work will still require the "assistance of a footman or common labourer" (Loudon 1825: 5). The ladies and gentlemen to whom Loudon refers may have overseen the work, but probably did not carry much of it out. We know that the Gores did not choose to undertake this work without a gardener; at least two professional gardeners worked at Gore Place during the family's tenure, Robert Toohey and William Heathcot. The Gores would have had to employ specialists to construct the greenhouse, knowledgeable staff to tend to the plants and the daily routines of heating, cooling, airing, and covering the greenhouse, and possibly hire specialized workmen for repairs of the types mentioned above.

The people who worked in the greenhouse were just one part of a much larger system of domestic and agricultural labor that took place at Gore Place. In addition to the gardeners, Gore employed at least one farm manager (Jacob Farwell),

if not several. Jacob Farwell's journal also refers to Isaac Farwell, who tended hotbeds for starting delicate crops like lettuce. The household staff were managed by butler Robert Roberts. Some of the full-time domestic and agricultural staff probably lived on the property, but others lived in Waltham and worked seasonally or as day-laborers.

One of the hopes of the excavations around the greenhouse and adjacent carriage house or stable was that we would uncover domestic deposits relating to the people who worked on Gore's property. The upper story of the carriage house was a possible residential location for such supporting staff, and there are sites, such as Mt. Vernon (Pogue 2002: 8-10) and the Wye House where laborers (enslaved, in these cases) lived in ancillary greenhouse spaces. The Gore Place greenhouse assemblage contained little personal or domestic material, suggesting this was not a residential location, and the carriage house remained in use until the 1960s, at which point the area was heavily graded, so no 19th-century deposits were located there either.

### *Cultivating Gentlemen?*

Tamara Platkins Thornton, a historian who studied the Massachusetts scientific agriculture movement, titled her book "Cultivating Gentlemen." While it is clear that these male politicians and merchants were directly involved in horticultural activities, Rebecca Gore's involvement in the management of the greenhouse should also be considered. Rebecca Gore was one of only three women elected as honorary members of the Massachusetts Horticultural Society in 1830, one year after it was founded. (Women were not, at the time, permitted to be regular members). These women were elected because of "their zeal in forwarding the objects of the society" (Wilder 1879: 9), indicating that Rebecca was interested in horticulture and possibly one of the most influential women in the Boston area in the horticultural sphere.

Loudon, writing in England in 1825, stated that "a green-house is in a peculiar degree the care of the female part of a family" (1825: 2), although his book is addressed to both men and women. Carmen Weber's research on 18th-century Maryland greenhouses argues that many of them were

overseen by women (1996). Christopher Gore's correspondence with Rufus King never mentions the greenhouse, although he does discuss his fruit trees, vegetables, grapes, and field crops regularly. This absence raises questions of his involvement, though does not demonstrate that Rebecca Gore was the primary person overseeing the greenhouse. [There is only one known letter from Rebecca Gore.] Rebecca Gore does appear on lists of people who purchased plants from the Cambridge Botanical Garden. Either Rebecca or her tenants maintained the greenhouse after Christopher's death in 1827 because sales records at Rebecca's death in 1834 list orange, variegated orange, and lime trees (specifically identified as belonging to Mrs. Gore) and roses, geraniums, and other plants "in the vinery" [presumably implying that the new greenhouse at the grape wall was functioning at this time, and possibly that the older one was already out of use, though it is depicted on the 1834 plan] (Brockway 2001: 26, 28). In sum, Rebecca Gore appears to have been active and possibly influential in the Boston area horticultural community. While we do not know that she supervised the greenhouse directly, her potential association with this aspect of scientific agriculture suggests the need to broaden our idea of the group that has been, to date, referred to as "Cultivating Gentlemen" (Thornton 1989).

### *The Greenhouse and Scientific Agriculture*

Elite Massachusetts merchants and statesmen cultivated ornamental plants and fruit trees, scientifically or not, since the decade after the Revolution, as Thornton points out (1989: 147-148). Gore, however, was a founding member of the MSPA and a practitioner of what became known as scientific or experimental agriculture (see Chapter 3), so it makes sense to consider what aspects of that movement might also have found expression in the greenhouse. In some respects, the greenhouse is an ideal experimental laboratory because the climate could be controlled and the soil conditions in each individual pot carefully regulated. The evidence of the thumb pots, which allowed plants to be grown from seed or from clippings, points to desire for full control over the growing process. Gore certainly used the carriage house

to store and age compost (manure), and he or a later owner may have used the greenhouse area to further prepare soil or stock-pile bone and shell for processing. The lead tags suggest that something was being labeled, potentially plant pots, shelving, or bottles. The three different colors of window glass indicate that Gore may have experimented with materials to provide the best light for the plants.

### *An Element of Display*

Scholars have also argued that the control over nature showcased in a greenhouse was part of 18th and early 19th-century elite self presentation (Leone 1984). As good manners demonstrated personal worth by exhibiting control over the body, cultivated exotic plants demonstrated control over nature. In Massachusetts in particular, country seats and agricultural experimentation became important for the political and mercantile elite because the virtuous, productive associations of agriculture and rural life offset some of the criticisms of commercial wealth, setting suggestions of self sufficiency and wholesome domestic production against imported luxury, wastefulness, and corruption (Thornton 1989: 2-3).

A greenhouse, however, was not wholly scientific; it also had a social function. Greenhouses were expensive to build, and even more so to maintain. Unlike field crops, which provided food for the family and money through sale, a private greenhouse of this size would probably not provide a significant amount of food or produce for the market. They could produce some citrus or other tropical fruits, but not dietary staples. (In fact, since we know that the garden had its own hotbeds for starting lettuces and other spring crops, it is doubtful that the greenhouse served this function.) Greenhouses were elements of display, to a great extent. The white marble flooring, extensive display of expensive pane glass, elements of copper alloy hardware, and the prominent location on the entrance drive suggest that there were aspects of the greenhouse that were intended for public view. The fence that separated the greenhouse from the carriage house and vegetable garden reinforced the difference between the two spaces.

In fact, contemporary accounts suggest that greenhouses and orchards of exotic fruit trees played an important role in the social round of the period. Visitors to the homes of Essex County merchants wrote of being shown the gardens and fruit trees, sometimes by the gardener himself (see descriptions quoted in Moore 1988). They marveled at the quality, size, and variety of fruits and at exotic specimens. Well-stocked greenhouses and orchards were destinations in themselves, for both male and female visitors. A young woman from New York, for example, wrote this description in 1802:

In the afternoon rode out to Hasket Derby's farm, about 3 miles from Salem, a most delightful place,—the gardens superior to any I have ever seen of the kind; cherries in perfection! We really feasted!...We visited the greenhouse, where we saw oranges and lemons in perfection; in one orange tree there were green ones, ripe ones, and blossoms; every plant and shrub which was beautiful and rare was collected here.

Quoted in Moore 1988: 136.

Gardens and greenhouses provided important spaces for socializing: to walk, to admire the view of a well laid-out estate, and to see (and sometimes taste) exotic and unusual plants. The views from someone's gardens, the abundance of their fruit trees, and the taste and skills of their gardener were measures on which people were compared among the social elite. Possessing these things allowed the Gores to offer a particular kind of hospitality.

### **Carriage House Relocation**

We recommend that the carriage house be sited approximately 20 ft north of its original location and as close to Gore Street as is feasible (see Figure 6.5). This location would place the north wall of the carriage house roughly even with the north edge of the yew hedge, and the southwest corner just east of the information kiosk bordering the parking lot. This placement ensures preservation of the archaeological remains of Gore's early greenhouse, yard and possible hot bed, features that one day may figure prominently in the restoration and interpretation of the estate. It also preserves the carriage house/greenhouse well that was

an important component of this working portion of the estate. While preservation of the original carriage house foundation was not intended, this placement, nevertheless, also preserves this feature in its entirety. In fact, the only portion of the estate that will be impacted by the proposed location will be a portion of Gore's vegetable garden which can be interpreted north of the greenhouse and possibly in other areas based on documentary evidence from Farwell's farm journal.

### **Potential for Future Archaeological Excavations**

The 2008 excavations demonstrated that portions of the carriage house foundation and cellar floor remain intact below the present parking lot. Although, the cellar floor was thoroughly cleaned of organics associated with compost (manure) production, it contains archaeological deposits stretching from the Gore period to the early 20th century. The Gore-period ground surfaces and garden soils immediately north of the carriage house were replaced with a compact sand and gravel, possibly when the carriage house was moved. These deposits remain intact, however, further north of the original carriage house site, so this area should be protected from subsurface impacts.

In the greenhouse area, the excavations revealed that many of the features related to the greenhouse were buried and are therefore preserved under early and more recent landscaping deposits. This suggests that further investigations of the main body of the greenhouse would be productive and might definitively answer questions about the greenhouse's architecture that we have only been able to infer here. A wide trench across the body of the greenhouse, for example, could investigate the nature of the walls and floor, and look for evidence of flues and bark pits. Test units north of the greenhouse and greenhouse extension might clarify the nature of the feature depicted on the Lyman map and confirm the hypothesis that this area was used to store resource piles of soil components. This area might also contain evidence of a water management system. Formal access to the greenhouse area might have been from the entrance drive or from the east end and might be identified with more work around the main

body of the greenhouse. In any event, the area that comprised the former greenhouse enclosure should be protected from any construction or other subsurface impacts since it has a high potential of containing important greenhouse-related deposits. This area includes the knot garden, the area between the knot garden and the yew hedge, and the southern part of the area enclosed by the yew hedge (see Figure 6.5).

## BIBLIOGRAPHY

- Allen, A. B., and R. L. Allen, eds.  
1849 *The American Agriculturalist: Designed to Improve the Planter, Farmer, the Stock Breeder, and the Horticulturalist*. New York: C. M. Saxton.
- Anonymous  
1900 *Atlas of Middlesex County, Massachusetts*. Volume 1. Boston: George W. Stanley and Co.
- Baker, Jeffrey, and John I. Mesick  
2001 Cellar Study of Gore Place, Waltham, Massachusetts. Mesick, Cohen, Wilson, Baker Architects. Albany, New York.
- Baker, Jeffrey, John I. Mesick, and Elizabeth Martin  
2002 Cellar Study of Gore Place, Waltham, Massachusetts, Phase II. Mesick, Cohen, Wilson, Baker Architects. Albany, New York.
- Barre Gazette*  
1861 "Home-made Bone Manure," published on August 16, 1861.
- Baughner, Sherene  
2001-2002 "What Is It? Archaeological Evidence of Nineteenth-Century Agricultural Drainage Systems," *Northeast Historical Archaeology* 30-31: 23-40.
- Beaudet, Pierre, editor  
1990 *Under the Boardwalk in Quebec City: Archaeology in the Courtyard and Gardens of the Chateau Saint-Louis*. Quebec: Septentrion.
- Beaudry, Mary C.  
1994 Archaeology of the Spencer-Pierce-Little Farm, Newbury, Massachusetts. Interim Report No. 4. Results of Testing in Proposed Location for a Dry Well, August, 1994. On file at the Massachusetts Historical Commission as 25-1404.
- Bescherer, Karen, Judson Kratzer, and Conrad M. Goodwin  
1990 The Highlands Gardens: Fort Washington, Pennsylvania. 1989 Archaeological Explorations. Landscape Archaeology Report No. 3: Morven Research Group. Report prepared for the Highlands Historical Society, Fort Washington, PA.
- Binzen, Timothy, and Margaret Kelly  
2000 Archaeological Site Reconnaissance and Intensive (Locational) Survey for the Proposed Utilities Corridor and Parking Area and for Construction and Restoration at the Forecourt, Lime Walk, and Greenhouse, The Mount, Lenox, Massachusetts. On file at the Massachusetts Historical Commission as 25-1920.
- Binzen, Timothy L., F. Timothy Barker, and Martha Pinello  
2002 Results of an Archaeological Site Examination in 2000 for Historic Landscape Restorations at The Mount, Lenox, Massachusetts. On file at the Massachusetts Historical Commission as 25-2192.
- Boston Daily Courier*  
1839 "Bone Manure," published on August 5, 1839.  
1843 "For Sale at Nahum Ward's Manufactory," published on January 12, 1843.
- Brockway, Lucinda A.  
2001 Landscape History, Gore Place, Waltham, MA. Report by Past Designs for The Halvorson Group.
- Chesney, Sarah J.  
2009 "Come All Ye Future Botanists: Landscape Design and Management at the Woodlands Estate," paper presented at the Annual Meeting of the Council for Northeast Historical Archaeology, Quebec City.
- Cobbett, William  
2003 [1821] *The American Gardener*. New York: Modern Library.
- Cole, Samuel W., ed.  
1850 *The New England Farmer: A Semi-Monthly Journal Devoted to Agriculture, Horticultural*

- ture, and their Kindred Arts and Sciences.*  
Boston: J. Nourse.
- Cole, Samuel W., and Simon Brown, eds.  
1851 *The New England Farmer: A Semi-Monthly Journal Devoted to Agriculture, Horticulture, and their Kindred Arts and Sciences.*  
Boston: Raynolds and Nourse.
- Conyers, Lawrence B.  
2005 *Ground-Penetrating Radar for Archaeology.* Lanham, MD: Altamira Press.
- Currie, C. K.  
1993 "The Archaeology of the Flowerpot in England and Wales, circa 1650-1950," *Garden History* 21 (2): 227-246.
- DeForest, Rita A.  
2010 "A Good Sized Pot": Early 19th-Century Planting Pots from Gore Place, Waltham, Massachusetts. MA Thesis, University of Massachusetts, Boston.
- Dubell, Gregory R.  
2007 *Visions of Grandeur: An Archaeological Investigation of Landscape Organization and Transformation at Gore Place, Waltham, Massachusetts.* MA Thesis, University of Massachusetts, Boston.
- Duguay, Genevieve  
1990 "Utensils for the Growing of Plants," in Pierre Beaudet, ed., in *Under the Boardwalk in Quebec City: Archaeology in the Courtyard and Gardens of the Chateau Saint-Louis.* Septentrion, Quebec, 109-121.
- Ernstein, Julie H.  
2004 *Constructing context: historical archaeology and the pleasure garden in Prince George's County, Maryland, 1740-1790.* Ph.D. dissertation, Boston University.
- Gallagher, Joan and Duncan Ritchie  
1992 *Archaeological Data Recovery Synthesis Volume, Central Artery North Reconstruction Project, Charlestown, Massachusetts. Vol. VIII.* On file at the Massachusetts Historical Commission as report number 25-1517.
- Gloucester Telegraph*  
1834 "Bone Manure," published on June 11, 1834.
- Goodman, Dean  
2011 *GPR-Slice v7.0 Users Manual.* Woodland Hills: GPR-Slice.
- Goodman, Dean, et al.  
2007 "GPR Imaging of Archaeological Sites," in L. Wilson, P. Dickinson, and J. Jeandron, eds., *Reconstructing Human-Landscape Interactions, Dig 2005 Conference, Developing International Geoarchaeology.* Cambridge: Cambridge Scholars Publishing, 202-217.
- Goodman, Dean, et al.  
2008 "GPR Archaeometry," in H. Jol, ed., *Ground Penetrating Radar Theory and Applications.* New York: Elsevier, 479-508.
- Goodwin, James and Eleanor Breen  
2005 Flowerpots of Mount Vernon's Upper Garden: 44FX762/43. Mount Vernon Archaeology Department. Available online at [http://www.mountvernon.org/learn/pres\\_arch/](http://www.mountvernon.org/learn/pres_arch/)
- Grady, Anne A, Lucinda Brockway, and Mary Fuhrer  
2010 *Durant-Kenrick House Historic Structure Report.* On file, Historic Newton, Newton, Massachusetts.
- Henderson, Peter  
1884 *Gardening for Pleasure. A Guide to the Amateur in the Fruit, Vegetable, and Flower Garden with full Directions for the Greenhouse, Conservatory, and Window Garden.* New York: Orange Judd Co.
- Hews, A. H.  
1901 "Pots," in *Cyclopedia of American Horticulture*, 7th edn., L. H. Bailey and Wilhelm Miller, eds. New York: The Macmillan Company, 1423-1424.
- Hibbert & Buist  
1834 *The American Flower Garden Directory.* Philadelphia: E. L. Carey and A. Hart.
- Historic New England  
Lyman Estate Greenhouse History. Online at <http://www.historicnewengland.org/historic-properties/homes/lyman-estate-greenhouses/lyman-estate-greenhouses-history>. Accessed 19 November 2010.



- Hix, John  
1996 *The Glasshouse*. London: Phaidon.
- Hovey, C. M.  
1839 "Some Remarks on the sizes of Flower Pots usually employed for Plants, with hints upon the importance of having some standard for classifying the various sizes," in C. M. Hovey, ed., *The Magazine of Horticulture, Botany and all useful discoveries and improvements in Rural Affairs*, Vol. 5. Boston: Hovey and Co., 46-50.
- Jessen, Lawrence, and Arlene Palmer  
2005 "Fresh Insights into Early American Glass Manufacturing: The Jacob Cist Papers," *Journal of Glass Studies* 47: 137-175.
- Jones, Olive, and Catherine Sullivan  
1989 *The Parks Canada Glass Glossary*. Ottawa: Canadian Parks Service.
- Judd, Orange, ed.  
1861 *The American Agriculturalist: For Farm, Garden, and Household*. New York: Orange Judd.
- Kaiser, Joan E.  
2009 *The Glass Industry in South Boston*. Hanover: University Press of New England.
- Kratzer, Judson M.  
1995 The Graperies of Andalusia: An Archaeological Study of a Bygone Agricultural Phenomenon. MA Thesis, Armstrong State College, Georgia.
- Lathrop, Hazel H.  
2000 The Culture of Flowerpots. MA Thesis, University of Massachusetts, Boston, Department of Anthropology.
- Leighton, Ann  
1987 *American Gardens of the Nineteenth Century, "For Comfort and Affluence."* Amherst: University of Massachusetts Press.
- Leone, Mark P.  
1984 "Interpreting Ideology in Historical Archaeology: Using the Rules of Perspective in the William Paca Garden in Annapolis, Maryland," in Daniel Miller and Christopher Tilley, eds., *Ideology, Power, and Prehistory*. Cambridge: Cambridge University Press, 25-35.
- Lockhart, Bill  
2006 "The Color Purple: Dating Solarized Amethyst Container Glass," *Historical Archaeology* 40(2): 45-56.
- Loudon, J. C.  
1805 *A Short Treatise on Several Improvements Recently Made in Hot-Houses*. Edinburgh: John Turnbull, printer.  
1817 *Remarks on the Construction of Hothouses*. London: J. Taylor, printer.  
1825 *The Green-House Companion; Comprising a General Course of Green-House and Conservatory Practice Throughout the Year*. 2nd edn. London: Richard Taylor, printer.  
1860 *The Horticulturist; or, an attempt to teach the science and practice of The Culture and Management of the kitchen, fruit, and forcing garden to those who have had no previous knowledge or practice in these departments of gardening*. Covent Garden, UK: Henry G. Bohn.
- Loudon, Jane  
1857 *Gardening for Ladies; and Companion to the Flower-Garden*, Second American, from the Third London Edition. A.J. Downing, editor. Wiley & Halsted, New York, NY.
- Lowell Daily Citizen*  
1863 "Bone Manure," published on May 2, 1863.  
1863 Advertisement by the proprietor of a bone mill published on November 3, 1863.
- M'Mahon, Bernard  
1806 *The American Gardener's Calendar, Adapted to the Climate and Seasons of the United States*. Philadelphia: B. Graves.  
1857 [1806] *The American Gardener's Calendar, Adapted to the Climate and Seasons of the United States*. Eleventh edn. Philadelphia: J. B. Lippincott.
- Moore, Margaret B.  
1988 "'The Laudable Art of Gardening': The Contribution of Salem's George Heussler," *Essex Institute Historical Collections* 124 (2): 125-141.
- Neubauer, W., et al.  
2007 "Georadar in the Roman civil town Carnuntum, Austria; An approach for archaeological

- interpretation of GPR data,” *Archaeological Prospection* 9: 135-156.
- New Bedford Mercury*  
1838 “Agriculture in Massachusetts,” published on February 9, 1838.
- Noël Hume, Ivor  
1969 *Guide to Artifacts of Colonial America*. New York: Knopf.
- Norfolk Advertiser*  
1834 “Bone Manure,” published on August 16, 1834.  
1838 “Bone Manure,” (from the New England Farmer) published on June 16, 1838.
- Norfolk Democrat*  
1839 “Bone Manure,” published on August 3, 1839.
- Pinello, Martha  
1999 An Archaeological Site Examination of the Peach Wall at the Vale, The Lyman Estate, Waltham, Massachusetts. Report prepared for the Society for the Preservation of New England Antiquities (now Historic New England). On file at the Massachusetts Historical Commission as 25-1814.
- Pinello, Martha E., and Carolyn White  
2000 An Archaeological Site Examination for the Historic Plant Nursery at The Vale, the Lyman Estate, Waltham, Massachusetts. On file at the Massachusetts Historical Commission as 25-1952.
- Pinkney, Helen R.  
1969 *Christopher Gore, Federalist of Massachusetts, 1758-1827*. Waltham, MA: Gore Place Society.
- Pittman, William, and Robert Hunter  
2002 “A Cache of Eighteenth-Century Flowerpots in Williamsburg,” in Robert Hunter, ed., *Ceramics in America 2002*. Hanover: University Press of New England for the Chipstone Foundation, 209-213.
- Pittsfield Sun*  
1842 “Poudrette and Bone Manure,” published on December 15, 1842.  
1843 “Bone Manure and Turnip Culture,” published on January 5, 1843.
- Pogue, Dennis J.  
1996 “Giant in the Earth: George Washington, Landscape Designer,” in Rebecca Yamin and Karen Bescherer Metheny, eds., *Landscape Archaeology: Reading and Interpreting the American Historical Landscape*. Knoxville: University of Tennessee Press, 52-69.  
2002 “The Domestic Architecture of Slavery at George Washington’s Mount Vernon,” *Winterthur Portfolio* 37 (1): 3-22.  
2009 “A Glassy Penthouse of Ignoble Form,” *Early American Life* 40 (1): 38-45.
- Pomfret, J.  
2006 “Ground-penetrating radar profile spacing and orientation for subsurface resolution of linear features,” *Archaeological Prospection* 13(2): 151-153.
- Priess, Peter J.  
2000 “Historic Door Hardware” in Karlis Karklins, ed., *Studies in Material Culture Research*. California, PA: Society for Historical Archaeology, 46-95.
- Reitz, Elizabeth J., and Elizabeth S. Wing  
1999 *Zooarchaeology*. Cambridge: Cambridge University Press.
- Samford, Patricia M.  
1997 “Response to a Market: Dating English Underglaze Transfer-Printed Wares,” *Historical Archaeology* 31 (2): 1-30.
- Smith, Leith  
2011 The Archaeological Site Examination of the Cistern Room, Furnace Room and Blower Unit Locations in the Mansion House Cellar at Gore Place, Waltham, Massachusetts. Fiske Center for Archaeological Research Cultural Resources Management Study No. 39.
- Smith, J. N. Leith, and Gregory Dubell  
2006 Report on the Archaeological Site Examination of the Entrance Drive, Carriage House, Greenhouse, Vegetable Garden, Flower Garden, and Grapery at Gore Place, Waltham, Massachusetts. Fiske Center for Archaeological Research, University of Massachusetts Boston, Cultural Resources Management Study No. 17.

- Smith, Leith, Christa M. Beranek, and John Steinberg  
2010 Archaeological Site Examination of the Field East of the Grapery/Greenhouse, Drive Circle, Straight Walk, and South Lawn at Gore Place, Waltham, Massachusetts. Fiske Center for Archaeological Research Cultural Resources Management Study No. 36.
- Streeter, Donald  
1973 "Early American Wrought Iron Hardware: H and HL Hinges, Together with Mention of Dovetails and Cast Iron Butt Hinges," *Association for Preservation Technology Bulletin* 3(4): 12-30.  
1974 "Early American Wrought Iron Hardware English Iron Rim Locks: Late 18th and Early 19th Century Forms," *Association for Preservation Technology Bulletin* 6(1): 41-67.
- Teller, Barbara Gorely  
1985 "The Founding of a Dynastic Family Industry: The Hew, Redware Potters of Massachusetts," in Sarah Peabody Turnbaugh, ed., *Domestic Pottery of the Northeastern United States, 1625-1850*. Orlando: Academic Press, 249-263.
- Thompson, F. M. L.  
1968 "The Second Agricultural Revolution," *The Economic History Review* 21(1): 62-77.
- Thornton, Tamara Plakins  
1989 *Cultivating Gentlemen: The Meaning of Country Life among the Boston Elite, 1785-1860*. New Haven: Yale University Press.
- USDA  
1995 *Soil Survey of Middlesex County, Massachusetts*. USDA Soil Conservation Service.
- Watkins, Lura Woodside  
1950 *Early New England Potters and Their Wares*. Cambridge: Harvard University Press.
- Weber, Carmen A.  
1996 "The Greenhouse Effect: Gender-Related Traditions in Eighteenth-Century Gardening," in Rebecca Yamin and Karen Bescherer Metheny, eds., *Landscape Archaeology: Reading and Interpreting the American Historical Landscape*. Knoxville: University of Tennessee Press, 32-51.
- Wilder, Marshall P.  
1879 *Address Delivered at the Semi-Centennial Anniversary of the Massachusetts Horticultural Society, Sept. 12, 1879*. Boston: Franklin Press; Rand, Avery, and Co.  
1881 *The Horticulture of Boston and Vicinity*. Boston: Tolman and White, printers.
- Wilson, Kenneth M.  
1972 *New England Glass and Glassmaking*. New York: Thomas Y. Crowell Company.
- Woods, May, and Arete Swartz Warren  
1988 *Glass Houses: A History of Greenhouses, Orangeries, and Conservatories*. New York: Rizzoli.
- Worrell, John  
1985 "Ceramic Production in the Exchange Network of an Agricultural Neighborhood," in Sarah Peabody Turnbaugh, ed., *Domestic Pottery of the Northeastern United States, 1625-1850*. Orlando: Academic Press, 153-169.
- Yentsch, Anne E.  
1990 "The Calvert Orangery in Annapolis, Maryland: A Horticultural Symbol of Power and Prestige in an Early Eighteenth-Century Community," in William M. Kelso and Rachel Most, eds., *Earth Patterns: Essays in Landscape Archaeology*. Charlottesville: University Press of Virginia, 169-188.
- Yentsch, Anne E., and Judson M. Kratzer  
1994 "Techniques for Excavating and Analyzing Buried Eighteenth-Century Garden Landscapes," in N. F. Miller and K. L. Gleason, eds., *The Archaeology of Garden and Field*. Philadelphia: University of Pennsylvania Press, 168-201.

#### Manuscript Sources

- Farwell, Jacob  
Farm Journal, 1822-1826. Manuscript and transcript on file at Gore Place.

Gore, Christopher

Account Book. Manuscript from the collection of the Baker Library at Harvard; copy and typescript at Gore Place were examined for this report.

Greene, John Singleton Copley

1853 Plan of the Mansion House, Estate, Farm, and Grounds belonging to J. S. Copley Greene, Esq. Drawn 1841. To be sold at auction 1853. Original owned by the Gore Place Society.

Lee, Col. Henry

1881 Sketch of the Gore Place property in 1834; drawn from memory in 1881. Original owned by the Gore Place Society.

Lyman, Theodore

1834 Map of the estate of Theodore Lyman in Waltham (Gore Place). Original owned by the Gore Place Society.

Massachusetts Society for Promoting Agriculture  
Records

Massachusetts Historical Society, Ms. N-517; Box 13: Folder 30, doc. #s 28, 31-34; Folders 31, 32, 33

Rufus King Papers

Letters from Christopher Gore to Rufus King.  
On file at the New York Historical Society (copies of letters referenced in this report were obtained from the Gore Place Society).

## **APPENDICES**

**APPENDIX A: ARTIFACT CATALOG, INCLUDING FAUNAL DATA**

**APPENDIX B: PLANTING POT VESSEL CATALOG**

Ceramics from GOR

Ves. #

Context	Unit	Level	Area	Ves. #
<b>Context: 601</b>	<b>Unit: N2580 E3737</b>	<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 1				
1	Refined Creamware	Body		
Porcelain 1				
1	Hollow ware	Chinese Underglaze painted Blue	Body	
<b>Context: 602</b>	<b>Unit: N2578 E3737</b>	<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Flower pot	Redware	Unglazed	Body	
<b>Context: 603</b>	<b>Unit: N2578 E3773</b>	<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 9				
2	Flower pot	Coarse Redware	Unglazed	Body
2	Hollow ware	Coarse Redware	Lead-glazed	Body
1	Pan	Coarse Redware	Lead-glazed	Rim
1		Refined Creamware		Body
1		Refined Whiteware		Body
2		Refined Ironstone (White Granite)	Overglaze painted	Body
				Tile with blue underglaze paint and faint overglaze painting traces, see also 610,
20				
Porcelain 2				
2	Plate	Indeterminate	Undecorated	Body
Stoneware 5				
2	Hollow ware	Refined British Brown (Fulham)		Body
2	Bottle	Coarse Brown Stoneware (German)		Body
1	Bottle	Coarse Brown Stoneware (German)	Tan incised/stamped	Body
				-S- in circle/ -HUM NASS-
15				
<b>Context: 604</b>	<b>Unit: N2578 E3735</b>	<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 7				
5	Flower pot	Coarse Redware	Unglazed	Body
2		Refined Whiteware		Body
Stoneware 2				
2	Bottle	Coarse American Brown Gray	Salt-glazed	Body
				Int and ext brown - light Albany slip int?
2				
<b>Context: 605</b>	<b>Unit: N2582 E3737</b>	<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 17				
10	Flower pot	Coarse Redware	Unglazed	Body

## Ceramics from GOR

						<b>Ves. #</b>
1	Flower pot	Coarse Redware	Unglazed	Rim		173
2	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Base	with central drainage hole	
2		Refined Creamware		Body		
1		Refined Whiteware	Transfer printed Blue	Body		
<b>Context: 606</b>		<b>Unit: N2576 E3735</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 10						
2	Flower pot	Coarse Redware	Unglazed	Base		mend
2	Flower pot	Coarse Redware	Unglazed	Body		
1	Hollow ware	Coarse Redware	Lead-glazed	Body		
5	Flat ware	Refined Creamware		Body		
Porcelain 9						
1	Plate	Chinese	Underglaze painted Blue	Canton	Base	1
2	Plate	Chinese	Underglaze painted Blue	Canton	Body	1
2	Plate	Chinese	Molded Underglaze painted Blue	Canton	Rim	slightly scalloped rim 186
1			Underglaze painted Blue		Body	design on int and ext
2	Plate	Chinese	Underglaze painted Blue	Canton	Base	
1	Plate	Chinese	Underglaze painted Blue		Body	184
<b>Context: 607</b>		<b>Unit: N2580 E3735</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 1						
1	Hollow ware	Coarse Redware	Lead-glazed	Body		
<b>Context: 608</b>		<b>Unit: N2582 E3733</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 12						
2	Flower pot	Coarse Redware	Unglazed	Body		
1	Flower pot	Coarse Redware	Unglazed	Rim		172
2		Coarse Redware	Lead-glazed	Body		
1		Refined Pearlware		Body		
1		Refined Whiteware		Base		
4	Flat ware	Refined Whiteware	Transfer printed Blue	Rim		31
1	Flat ware	Refined Whiteware	Transfer printed Blue	Rim		190
<b>Context: 609</b>		<b>Unit: N2582 E735</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 8						
4	Flower pot	Coarse Redware	Unglazed	Body		

## Ceramics from GOR

Ves. #

2	Flower pot	Coarse Redware	Unglazed	Rim		
2		Refined Whiteware	Transfer printed Blue	Body		
Porcelain 1						
1	Bowl	Undecorated	Base			
<b>Context: 610</b>		<b>Unit: N2576 E3731</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 6						
1		Refined Ironstone (White Granite)	Overglaze painted	Body	Tile, see also cxt 603, 621, blue underglaze paint and faint overglaze paint traces	20
1		Refined Creamware	Body			
1		Refined Yellow Glazed	Body			
2		Refined Whiteware	Body			
1		Refined Ironstone (White Granite)	Overglaze painted	Body	Tile, see also cxt 603, 621, blue underglaze paint and faint overglaze paint traces	25
Stoneware 2						
2	Bottle	Coarse Brown Stoneware (German) Buff	Salt-glazed	Body	pale brown exterior, heavy potting rings	15
<b>Context: 611</b>		<b>Unit: N2580 E3733</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 1						
1		Refined Creamware	Body			
<b>Context: 612</b>		<b>Unit: N2578 E3737</b>		<b>Level: 2</b>	<b>Area: Greenhouse</b>	
Earthenware 13						
10	Flower pot	Coarse Redware	Unglazed	Body		
1	Flower pot	Coarse Redware	Unglazed	Rim		
1		Refined Creamware	Body			
1		Refined Pearlware	Body			
<b>Context: 613</b>		<b>Unit: N2574 E3735</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 6						
2	Flower pot	Coarse Redware	Unglazed	Body		
1	Flat ware	Refined Pearlware	Transfer printed Blue	Body		26
1		Refined Pearlware	Body			
1		Refined Creamware	Body			
1		Refined Creamware	Base			
Porcelain 1						
1	Plate	Underglaze painted Blue	Canton	Body		
<b>Context: 614</b>		<b>Unit: N2582 E3737</b>		<b>Level: 2</b>	<b>Area: Greenhouse</b>	



## Ceramics from GOR

Ves. #

### Earthenware 51

27	Flower pot	Coarse Redware	Unglazed	Body	
2	Flower pot	Coarse Redware	Unglazed	Rim	
2	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	
1	Hollow ware	Coarse Redware	Unglazed	Base	
2	Hollow ware	Coarse Redware	Lead-glazed	Body	
4	Hollow ware	Refined Yellow Ware		Body	
1		Refined Creamware		Body	
8		Refined Whiteware		Body	
1	Hollow ware	Refined Yellow Glazed	Underglaze painted Blue	Body	
1		Refined Pearlware	Transfer printed Blue	Body	
1		Refined Pearlware	Transfer printed Blue	Rim	

212

**Context:** 616

**Unit:** N2582 E3735

**Level:** 1

**Area:** Greenhouse

### Earthenware 35

10	Flower pot	Coarse Redware	Unglazed	Body	
2	Hollow ware	Coarse Redware	Unglazed	Base	
17	Flower pot	Coarse Redware	Unglazed	Body	
1	Flower pot	Coarse Redware	Incised Unglazed	Body	
2	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Body	
1	Flower pot	Coarse Redware	Unglazed	Base	

buff exterior, wash?  
buff ext, mend, base d 25 cm. Base or large lid?

bands of combed decoration  
mend

hand incised "M" or intersecting triangles  
base d = 12 cm

172

### Porcelain 1

1		Underglaze painted Blue		Body	
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**Context:** 618

**Unit:** N2580 E3737

**Level:** 2

**Area:** Greenhouse

### Earthenware 18

12	Flower pot	Coarse Redware	Unglazed	Body	
1	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	
1		Refined Yellow Ware	Missing glaze	Body	
1	Hollow ware	Refined Creamware	Underglaze painted Polychrome	Body	
1	Hollow ware	Refined Yellow Ware	Underglaze painted Blue	Body	
1	Hollow ware	Coarse Redware	Lead-glazed	Body	

## Ceramics from GOR

Ves. #

**Context:** 619      **Unit:** N2582 E3737      **Level:** 1      **Area:** Greenhouse

Earthenware 13

4	Flower pot	Coarse Redware	Unglazed	Body	
1	Flower pot	Coarse Redware	Unglazed	Base	
1	Flower pot	Coarse Redware	Unglazed	Rim	
1		Tin Glazed	Missing glaze	Body	
2		Refined Creamware		Body	
2	Flat ware	Refined Pearlware	Underglaze painted Blue	Body	
1	Flat ware	Refined Pearlware	Shell-edge Blue	Rim	
1	Hollow ware	Coarse Redware	Lead-glazed	Body	

**Context:** 620      **Unit:** N2578 E3737      **Level:** 3      **Area:** Greenhouse

Earthenware 448

334	Flower pot	Coarse Redware	Unglazed	Body	
8	Flower pot	Coarse Redware	Incised Unglazed	Body	incised wavy or straight parallel lines, several vessels represented
28	Flower pot	Coarse Redware	Unglazed	Rim	too small to meas d
1	Flower pot	Coarse Redware	Unglazed	Rim	
4	Flower pot	Coarse Redware	Unglazed	Rim	
2	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	
2	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	
3	Flower pot	Coarse Redware	Unglazed	Rim	
8	Flower pot	Coarse Redware	Unglazed	Rim	
12	Flower pot	Coarse Redware	Unglazed	Base	
2	Flower pot	Coarse Redware	Unglazed	Base	7 cm d, mend
1	Flower pot	Coarse Redware	Unglazed	Base	6 cm d
1	Flower pot	Coarse Redware	Unglazed	Base	10 cm d
1	Flower pot	Coarse Redware	Unglazed	Base	11 cm d
1	Flower pot	Coarse Redware	Unglazed	Base	13 cm d
1	Flower pot	Coarse Redware	Unglazed	Base	14 cm d
1	Flower pot	Coarse Redware	Unglazed	Base	15 cm d
1	Flower pot	Coarse Redware	Unglazed	Base	20 cm d
7		Coarse Redware	Unglazed	Body	buff ext., slip? 1 lg frag - possible lid?
9	Hollow ware	Coarse Redware	Unglazed	Body	
1	Hollow ware	Coarse Redware	Unglazed	Rim	
5		Coarse Redware	Lead-glazed	Body	

## Ceramics from GOR

						Ves. #
5		Refined Pearlware	Body			
2	Hollow ware	Refined Pearlware	Rim			
4		Refined Creamware	Body			
1		Refined Whiteware	Transfer printed Blue	Body		
1	Mug	Refined Staffordshire Slipware	Banded	Body	classic Manganese mottled w cordons	
<b>Porcelain 4</b>						
2	Plate	Chinese	Underglaze painted Blue	Canton	Body	
1	Plate	Chinese	Underglaze painted Blue	Canton	Rim	225
1	Flat ware	Indeterminate	Undecorated	Rim		13
<b>Stoneware 1</b>						
1	Hollow ware	Coarse American Brown	Body		Whieldon?	224
<b>Context: 621</b>		<b>Unit: N2578 E3735</b>		<b>Level: 2</b>		<b>Area: Greenhouse</b>
<b>Earthenware 14</b>						
1	Hollow ware	Coarse Redware	Unglazed	Body		
6	Flower pot	Coarse Redware	Unglazed	Body		
1	Flower pot	Coarse Redware	Unglazed	Rim		
2	Flower pot	Coarse Redware	Unglazed	Body		
1		Refined Ironstone (White Granite)	Overglaze painted	Body	tile, underglaze painted in blue, overglaze traces now gone, see cxts 603, 610	25
2		Refined Pearlware	Body			
1	Hollow ware	Refined Pearlware	Base		base d=11cm	
<b>Porcelain 1</b>						
1	Hollow ware	Undecorated	Base			
<b>Stoneware 8</b>						
1	Hollow ware	Coarse American gray	Albany slip	Body		
2	Bottle	Coarse Brown Stoneware (German)	Gray incised/stamped	Body	stamped mark, but illegible, paste is very pale, almost white	15
5	Jug	Coarse American Brown	gray/buff/pink	Body		2
<b>Context: 622</b>		<b>Unit: N2578 E3733</b>		<b>Level: 2</b>		<b>Area: Greenhouse</b>
<b>Earthenware 8</b>						
1	Milk Pan	Coarse Redware	Lead-glazed	Body	mends w below	
1	Milk Pan	Coarse Redware	Lead-glazed	Rim	mends	
3	Hollow ware	Refined Yellow Ware	Banded	Body	pale blue bands, mend	21
2		Refined Whiteware	Body			
1		Refined Whiteware	Rim			

## Ceramics from GOR

Ves. #

### Porcelain 2

2 Undecorated Body

**Context:** 623

**Unit:** N2580 E3737

**Level:** 3

**Area:** Greenhouse

### Earthenware 172

2	Flower pot	Coarse Redware	Unglazed	Base		1 burned
4	Flower pot	Coarse Redware	Unglazed	Rim		
68	Flower pot	Coarse Redware	Unglazed	Body		
3		Refined Indeterminate	Missing glaze	Body		
7		Refined Creamware		Body		
7		Refined Whiteware		Body		
3		Refined Pearlware		Body		
1		Refined Pearlware	Transfer printed Blue	Body		
1		Refined Pearlware	Shell-edge Blue	Rim		
1		Refined Yellow Ware	Banded	Body		pale blue and white bands
20	Milk Pan	Coarse Redware	Lead-glazed	Rim		many mends between the milk pan frags - single vessel? 29
5	Milk Pan	Coarse Redware	Lead-glazed	Base		29
43	Milk Pan	Coarse Redware	Lead-glazed	Body		29
7	Milk Pan	Coarse Redware	Missing glaze			29

### Stoneware 1

1 Refined White Salt Glazed Base foot rim

**Context:** 624

**Unit:** N2582 E3735

**Level:** 2

**Area:** Greenhouse

### Earthenware 53

26	Flower pot	Coarse Redware	Unglazed	Body		
2	Flower pot	Coarse Redware	Incised	Unglazed	Body	incised parallel lines
2	Flower pot	Coarse Redware	Unglazed	Base		
2	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Body		small spot of glaze on ext
1	Flower pot	Coarse Redware	Unglazed	Body		burned
2	Flower pot	Coarse Redware	Unglazed	Base		light colored slip or wash on ext
6	Flower pot	Coarse Redware	Unglazed	Body		light colored slip or wash on ext
1	Flower pot	Coarse Redware	Unglazed	Rim		
1	Hollow ware	Coarse Indeterminate Buff		Body		coarse sandy paste and opaque green and white glaze
1		Refined Creamware		Body		
7		Refined Pearlware		Body		
1		Refined Pearlware	Transfer printed Brown	Body		

199

## Ceramics from GOR

Ves. #

**Context:** 625                      **Unit:** N2580 E3735                      **Level:** 2                      **Area:** Greenhouse

Earthenware 19

1		Refined Creamware	Body	
1		Refined Pearlware	Transfer printed Blue	Body
10	Flower pot	Coarse Redware	Unglazed	Body
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Hollow ware	Coarse Redware	Lead-glazed	Body

**Context:** 626                      **Unit:** N2580 E3737                      **Level:** 4                      **Area:** Greenhouse

Earthenware 27

1		Refined Pearlware	Body	
5		Refined Creamware	Body	
13	Flower pot	Coarse Redware	Unglazed	Body
1	Flower pot	Coarse Redware	Unglazed	Rim
1	Milk Pan	Coarse Redware	Lead-glazed	Base
6	Milk Pan	Coarse Redware	Lead-glazed	Body

**Context:** 627                      **Unit:** N2580 E3733                      **Level:** 2                      **Area:** Greenhouse

Earthenware 55

4	Flower pot	Coarse Redware	Unglazed	Base	one large base frag
4	Flower pot	Coarse Redware	Unglazed	Rim	
16	Flower pot	Coarse Redware	Unglazed	Body	
1	Flower pot	Coarse Redware	Unglazed	Body	burned
1	Hollow ware	Coarse Redware	Lead-glazed	Body	
1		Coarse Redware	Lead-glazed	Body	
1		Coarse Redware	Lead-glazed	Body	
1	Flower pot	Coarse Redware	Incised Unglazed	Body	incised parallel lines and crimped or cog wheel band
5		Refined Pearlware	Body		
1		Refined Pearlware	Underglaze painted Polychrome	Body	
9		Refined Creamware	Body		
1	Plate	Refined Creamware	Rim		very slightly scalloped rim
1		Coarse Staffordshire Slipware	slip decorated Brown	Body	191

## Ceramics from GOR

					Ves. #
2		Refined Whiteware	Transfer printed Blue	Body	mend, geometric pattern; could be white or pearl
1	Hollow ware	Refined Pearlware	Transfer printed Blue	Body	possibly pitcher/ ewer, floral pattern
1		Refined Pearlware	Transfer printed Blue	Body	landscape pattern
2		Refined Pearlware	Transfer printed Blue	Body	
1		Refined Whiteware	Transfer printed Blue	Rim	could be pearl or whiteware
1	Hollow ware	Refined Pearlware	factory-made slipware (dipt ware)	Banded Body	
1	Tile	Tin Glazed	Body		tile? pale blue
<b>Porcelain 1</b>					
1		Undecorated	Body		
<b>Stoneware 1</b>					
1	Bottle	Coarse British Brown (Fulham)	Rim		195
<b>Context: 628</b>		<b>Unit: N2582 E3737</b>		<b>Level: 3</b>	
<b>Area: Greenhouse</b>					
<b>Earthenware 117</b>					
2		Coarse Redware	Unglazed	Rim	large lid? light red body and pale ext surface. Martha Sulya says possibly
11		Coarse Redware	Unglazed	Body	light red body and pale surface
5		Coarse Redware	Missing glaze	Body	
16	Flower pot	Coarse Redware	Unglazed	Body	
1	Flower pot	Coarse Redware	Incised Unglazed	Body	incised parallel lines
2	Flower pot	Coarse Redware	Unglazed	Body	finger prints
1	Flower pot	Coarse Redware	Unglazed	Base	
3	Flower pot	Coarse Redware	Unglazed	Rim	mend
1	Flower pot	Coarse Redware	Unglazed	Rim	
11		Coarse Redware	Lead-glazed	Body	
1		Coarse Redware	Lead-glazed	Body	
1		Coarse Redware	Lead-glazed	Body	
2		Refined Indeterminate	Missing glaze	Body	
50		Refined Creamware	Body		
3		Refined Pearlware	Body		
1		Refined Pearlware	Body		orig cat as whiteware, but could not locate on 2nd look
2		Refined Pearlware	Transfer printed Blue	Body	
1		Refined Pearlware	Underglaze painted Blue	Rim	
1		Refined Pearlware	factory-made slipware (dipt ware)	Blue Body	
2	Cup	Refined Pearlware	Underglaze painted Blue	Handle	mend
<b>Stoneware 1</b>					
1	Hollow ware	Refined White Salt Glazed	Debased scratch blue	Blue Body	

## Ceramics from GOR

Ves. #

**Context:** 629

**Unit:** N2578 E3735

**Level:** 3

**Area:** Greenhouse

Earthenware 26

8		Refined Creamware	Body		
6		Refined Pearlware	Body		
3		Refined Pearlware	Transfer printed Blue	Body	
2		Coarse Redware	Lead-glazed	Body	
2		Coarse Redware	Unglazed	Body	
2	Flower pot	Coarse Redware	Molded Unglazed	Rim	mend, fluted rim, incised collar, and incised parallel bands
1	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	
1	Flower pot	Coarse Redware	Unglazed	Rim	

Porcelain 1

1		Undecorated	Rim		17
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**Context:** 630

**Unit:** N2580 E3735

**Level:** 3

**Area:** Greenhouse

Earthenware 29

9	Flower pot	Coarse Redware	Unglazed	Body	
2		Coarse Redware	Lead-glazed	Body	
1	Flower pot	Coarse Redware	Unglazed	Body	band of white paint or wash
9		Refined Pearlware	Transfer printed Blue	Body	
7		Refined Creamware	Body		
1	Flower pot	Coarse Redware	Unglazed	Rim	

Porcelain 1

1		Chinese	Underglaze painted Blue	Body	
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**Context:** 631

**Unit:** N2576 E3735

**Level:** 2

**Area:** Greenhouse

Earthenware 29

4		Refined Creamware	Body		
1		Refined Pearlware	factory-made slipware (dipt ware)	Banded Blue	Body
2	Flower pot	Coarse Redware	Unglazed	Base	
2	Flower pot	Coarse Redware	Unglazed	Rim	
13	Flower pot	Coarse Redware	Unglazed	Body	
6		Coarse Redware	Missing glaze	Body	
1		Coarse Redware	Lead-glazed		

## Ceramics from GOR

				Ves. #
Porcelain 2				
1	Plate	Chinese	Underglaze painted Blue	Body
1		Chinese	Underglaze painted Blue	Body
<b>Context: 632</b>		<b>Unit: N2582 E3735</b>		<b>Level:</b>
				<b>Area: Greenhouse</b>
Earthenware 20				
3	Flower pot	Coarse Redware	Unglazed	Rim
13	Flower pot	Coarse Redware	Unglazed	Body
3		Refined Creamware		Body
1		Refined Pearlware	Underglaze painted Blue	Body
Stoneware 3				
2		Coarse Indeterminate Gray		Rim
1		Coarse Indeterminate Gray		Body
<b>Context: 633</b>		<b>Unit: N2583 E3733</b>		<b>Level: 2</b>
				<b>Area: Greenhouse</b>
Earthenware 112				
5	Flower pot	Coarse Redware	Unglazed	Base
11	Flower pot	Coarse Redware	Unglazed	Rim
50	Flower pot	Coarse Redware	Unglazed	Body
1	Flower pot	Coarse Redware	Incised Unglazed	Body
1	Flower pot	Coarse Redware	Unglazed	Body
6	Flower pot?	Coarse Redware	Unglazed	Body
1	Hollow ware	Coarse Redware	Lead-glazed	Rim
1	Hollow ware	Coarse Redware	Lead-glazed	Body
1	Hollow ware	Coarse Redware	Lead-glazed	Body
1	Hollow ware	Coarse Redware	Lead-glazed	Body
1	Tile	Coarse Tin Glazed Buff		
4		Coarse Indeterminate		Body
1		Refined Indeterminate	Missing glaze	Body
1		Refined Yellow Ware		Body
1	Flat ware	Refined Whiteware	Transfer printed Blue	Base
4		Refined Creamware		Body
2		Refined Creamware		Rim
1	Plate	Refined Creamware		Base
4		Refined Whiteware		Body
1		Refined Whiteware		Rim
9		Refined Pearlware		Body

1 w incised decoration, 3 burned

incised parallel lines

thick

burned

tile w. edge

burned

mends with context 669 220

15



## Ceramics from GOR

						Ves. #
2	Plate	Refined Pearlware	Base			mend
1		Refined Pearlware	Rim			
2	Bowl	Refined Indeterminate-factory-made	Banded Brown	Rim		mend 193
<b>Context: 634</b>		<b>Unit: N2578 E3733</b>		<b>Level: 3</b>	<b>Area: Greenhouse</b>	
Earthenware 20						
8	Flower pot	Coarse Redware	Unglazed	Body		
1		Coarse Redware	Lead-glazed	Body		
1		Refined Indeterminate	Body			burned
3		Refined Creamware	Rim			
1	Hollow ware	Refined Pearlware	Rim			
1	Flat ware	Refined Whiteware	Underglaze painted Blue	Base		small flowers
1	Hollow ware	Refined Yellow Ware	Banded Banded Blue	Body		21
3		Coarse Redware	Unglazed	Body		
1		Refined Whiteware	Body			
<b>Context: 635</b>		<b>Unit: N2580 E3735</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>	
Earthenware 10						
7	Flower pot	Coarse Redware	Unglazed	Body		
3	Flower pot	Coarse Redware	Unglazed	Base		
Porcelain 1						
1		Gilded	Rim			10
<b>Context: 636</b>		<b>Unit: N2580 E3735</b>		<b>Level: 4</b>	<b>Area: Greenhouse</b>	
Earthenware 9						
3	Flower pot	Coarse Redware	Unglazed	Body		
1		Refined Pearlware	Body			
4		Refined Creamware	Body			
1		Refined Indeterminate	Missing glaze	Body		
Porcelain 1						
1	Flat ware	Chinese	Underglaze painted Blue	Canton	Body	
<b>Context: 637</b>		<b>Unit: N2582 E3735</b>		<b>Level:</b>	<b>Area: Greenhouse</b>	
Earthenware 334						
1	Bowl	Refined Pearlware	Underglaze painted Blue	Base		
1	Plate	Refined Pearlware	Shell-edge (scalloped rim)	Underglaze painted Blue	Rim	210
1	Hollow ware	Refined Pearlware	Underglaze painted Blue	Body		

## Ceramics from GOR

					Ves. #
1		Refined Pearlware	Body		
1		Refined Creamware	Transfer printed Green	Body	same design/vessel as frag in 691? No mend, but style/pattern same.
1		Refined Creamware	Body		
1		Refined Creamware	Body		
1		Refined Creamware	Overglaze painted Red	Body	
1		Refined Indeterminate	Body		burned
2		Coarse Indeterminate White	Body		sandy white paste, gray-green glaze
4	Flower pot	Coarse Redware	Incised Unglazed	Rim	linear designs, 2 mends
3	Flower pot	Coarse Redware	Incised Unglazed	Rim	linear designs, all mend, 1 vessel
19	Flower pot	Coarse Redware	Unglazed	Rim	no mends identified
8	Flower pot	Coarse Redware	Unglazed	Base	2 mend
10	Flower pot	Coarse Redware	Incised Unglazed	Body	linear design, no mends identified
139	Flower pot	Coarse Redware	Unglazed	Body	
1		Coarse Redware	Lead-glazed	Body	
3	Flower pot?	Coarse Redware	Body		burned
1	Flower pot	Coarse Redware	Unglazed	Rim	light tan int + ext surfaces
1	Flower pot	Coarse Redware	Unglazed	Body	light tan int + ext surfaces
3	Flower pot	Coarse Redware	Incised Unglazed	Rim	linear design, all mend
2	Flower pot	Coarse Redware	Unglazed	Body	bagged w associated sherds
1	Flower pot	Coarse Redware	Incised Unglazed	Rim	bagged w associated sherds
1	Flower pot	Coarse Redware	Incised Unglazed	Body	bagged w associated sherds
1	Flower pot	Coarse Redware	Unglazed	Rim	bagged w associated sherds
4	Flower pot	Coarse Redware	Unglazed	Body	Vessel 1, see field map; scratched marks ext.
2	Flower pot	Coarse Redware	Unglazed	Rim	Vessel 1, see field map; scratched marks ext.
1	Flower pot	Coarse Redware	Unglazed	Base	Vessel 1, see field map
1	Flower pot	Coarse Redware	Unglazed	Complete profile	Vessel 1, see field map; scratched marks ext.
4	Flower pot	Coarse Redware	Unglazed	Body	Vessel 1, see field map
2	Flower pot	Coarse Redware	Incised Unglazed	Body	Vessel 1, see field map; linear design
13	Flower pot	Coarse Redware	Unglazed	Base	Vessel 2, see field map; mend
2	Flower pot	Coarse Redware	Unglazed	Rim	Vessel 2, see field map; mend
16	Flower pot	Coarse Redware	Unglazed	Body	Vessel 2, see field map; many mends
2	Flower pot	Coarse Redware	Unglazed	Base	bagged as Vessel 2, see field map, but separate vessel than others
1	Flower pot	Coarse Redware	Unglazed	Base	Vessel 3, see field map
4	Flower pot	Coarse Redware	Incised Unglazed	Rim	Vessel 3, see field map; linear designs, mends
14	Flower pot	Coarse Redware	Incised Unglazed	Body	Vessel 3, see field map; linear designs, 2 mends
1	Flower pot	Coarse Redware	Incised Unglazed	Rim	Vessel 4, see field map; linear designs
4	Flower pot	Coarse Redware	Unglazed	Base	Vessel 4, see field map, all mend

## Ceramics from GOR

							<b>Ves. #</b>
12	Flower pot	Coarse Redware	Incised	Unglazed	Body		
						Vessel 4, see field map, linear designs, many mends	
2	Flower pot	Coarse Redware	Unglazed	Body		bagged as Vessel 4, see field map, but too thin to be associated w other sherds	
4	Flower pot	Coarse Redware	Unglazed	Body		Vessel 6, see field map	
7	Flower pot	Coarse Redware	Unglazed	Base		Vessel 6, see field map	
5	Flower pot	Coarse Redware	Unglazed	Base		Vessel 5, see field map	
6	Flower pot	Coarse Redware	Incised	Unglazed	Rim	Vessel 5, see field map, linear designs	
7	Flower pot	Coarse Redware	Unglazed	Body		Vessel 5, see field map, frags w int surface only	
10	Flower pot	Coarse Redware	Incised	Unglazed	Body	Vessel 5, see field map, frags w ext surface only, linear design	
2	Flower pot	Coarse Redware	Incised	Unglazed	Body	bagged as Vessel 5, see field map, but possibly separate vessel	
<b>Porcelain 1</b>							
1	Soup plate	Chinese	Underglaze painted Blue	Canton	Rim		185
<b>Stoneware 3</b>							
1	Hollow ware	Coarse Indeterminate Red			Body	badly burned, ext glazed, possibly local	
1	Hollow ware	Refined White Salt Glazed			Base		
1	Hollow ware	Refined White Salt Glazed			Body	orange discoloration	
<b>Context: 639</b>		<b>Unit: N2576 E3737</b>		<b>Level: 2</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 9</b>							
1		Refined Pearlware			Rim		
1		Refined Creamware			Rim		
2		Refined Creamware			Body		
1	Flower pot	Coarse Redware	Unglazed		Body		
1	Flower pot	Coarse Redware	Unglazed		Rim		
1	Flower pot	Coarse Redware	Unglazed		Rim		
2	Hollow ware	Coarse Redware	Lead-glazed		Body		
<b>Porcelain 1</b>							
1		Chinese	Underglaze painted Blue		Body		
<b>Context: 640</b>		<b>Unit: N2576 E3737</b>		<b>Level: 3</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 92</b>							
7		Refined Pearlware			Body		
35		Refined Creamware			Body		
1		Refined Pearlware	Underglaze painted Polychrome		Body		22
1		Tin Glazed Buff	Overglaze painted Blue		Body	Glz on both sides, only tiny amt of decoration remains.	
1	Bowl	Coarse Staffordshire Slipware	Agate (red and white mixed)	Banded	Brown	Rim	205
1		Coarse Redware	Lead-glazed		Body		

## Ceramics from GOR

							Ves. #
1	Flower pot	Coarse Redware	Unglazed	Base			base d=15 cm
24	Flower pot	Coarse Redware	Unglazed	Body			
11	Hollow ware	Coarse Redware	Lead-glazed	Body			
1	Flower pot	Coarse Redware	Unglazed	Rim			
2		Coarse Redware		Body			
7		Coarse Redware	Lead-glazed	Body			
<b>Porcelain 8</b>							
2	Plate	Chinese	Underglaze painted Blue	Canton	Body		
1	Plate	Chinese	Underglaze painted Blue	Canton	Rim		186
1	Hollow ware	Chinese	Underglaze painted Blue		Rim	brown edge of rim, decoration on int	203
1		Chinese	Underglaze painted Blue		Body	decoration on int+ext	
2	Flat ware	Chinese	Underglaze painted Blue	Canton	Body		
1	Plate	Chinese	Underglaze painted Blue		Rim		184
<b>Stoneware 4</b>							
1	Hollow ware	Coarse Rhenish Gray			Body	chatter marks?	198
2	Hollow ware	Coarse Rhenish Gray	incised/stamped manganese/cobalt infill Blue		Body		198
1	Hollow ware	Refined Nottingham Gray			Body		
<b>Context: 641</b>		<b>Unit: N2576 E3737</b>		<b>Level: 4</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 6</b>							
1	Flower pot	Coarse Redware	Unglazed		Body		
1	Flower pot	Coarse Redware	Unglazed		Rim		
1		Refined Pearlware			Rim		
1		Refined Pearlware			Body		
1		Refined Creamware			Body		
1	Hollow ware	Coarse Staffordshire Slipware			Body	Manganese mottled type	
<b>Context: 642</b>		<b>Unit: N2578 E3735</b>		<b>Level: 4</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 17</b>							
4	Flower pot	Coarse Redware	Unglazed		Body		
8		Refined Creamware			Body		
1		Refined Pearlware			Body		
3		Refined Creamware			Body	orig cat as whiteware, but appear light cream?	
1		Refined Indeterminate	Underglaze painted Blue		Body	slightly burned	
<b>Context: 643</b>		<b>Unit: N2582 E3735</b>		<b>Level: cleanup</b>		<b>Area: Greenhouse</b>	

## Ceramics from GOR

Ves. #

### Earthenware 5

1	Flower pot	Coarse Redware	Unglazed	Rim
1	Flower pot	Coarse Redware	Unglazed	Base
2	Flower pot	Coarse Redware	Body	
1		Refined Creamware	Body	

**Context:** 644

**Unit:** N2576 E3733

**Level:** 2

**Area:** Greenhouse

### Earthenware 29

10	Flower pot	Coarse Redware	Unglazed	Body
1		Refined Indeterminate	Body	
7		Refined Creamware	Body	
9		Refined Pearlware	Body	
2		Refined Pearlware	Transfer printed Blue	Body

26

### Porcelain 2

1	Hollow ware	Underglaze painted Blue	Body
1		Undecorated	Body

large vessel decorated on both sides, possible ewer? 226

### Stoneware 2

1	Hollow ware	Coarse American gray	Albany slip	Body
1	Hollow ware	Coarse English Gray	Body	

**Context:** 645

**Unit:** N2582 E3737

**Level:** lower fill

**Area:** Greenhouse

### Earthenware 14

7		Coarse Redware	Body
2	Flower pot	Coarse Redware	Unglazed Base
1	Flower pot	Coarse Redware	Unglazed Rim
1		Refined Indeterminate	Missing glaze Body
1		Refined Pearlware	Banded Green Body
1	Hollow ware	Coarse Redware	Lead-glazed Body
1	Flower pot	Coarse Redware	Unglazed Body

**Context:** 646

**Unit:** N2583 E3737

**Level:** 4

**Area:** Greenhouse

### Earthenware 25

10	Flower pot	Coarse Redware	Unglazed	Body
1	Flower pot	Coarse Redware	Unglazed	Rim
13		Refined Creamware	Body	
1		Refined Pearlware		

## Ceramics from GOR

Ves. #

### Porcelain 1

1 Undecorated Body

**Context: 647                      Unit: N2576 E3737                      Level: 3                      Area: Greenhouse**

### Earthenware 25

17 Flower pot Coarse Redware Unglazed Body

1 Flower pot Coarse Redware Unglazed Base

1 Flower pot Coarse Redware Unglazed Rim

1 Flower pot Coarse Redware Unglazed Rim

1 Hollow ware Coarse Redware Lead-glazed Rim

2 Refined Creamware Body

1 Refined Pearlware Body

1 Hollow ware Refined Pearlware Underglaze painted Blue Body

**Context: 648                      Unit: 1                      Level: 1                      Area: Carriage House**

### Earthenware 21

2 Hollow ware Coarse Redware Lead-glazed Body

2 Refined Yellow Ware Banded White/yellow Body

14 Refined Pearlware Body

1 Refined Pearlware Base

2 Saucer Refined Pearlware Rim

### Stoneware 2

2 Coarse water/sewer pipe frags

**Context: 649                      Unit: N2582 E3733                      Level: 3                      Area: Greenhouse**

### Earthenware 18

14 Flower pot Coarse Redware Unglazed Body

2 Flower pot Coarse Redware Unglazed Body crossmend

1 Flower pot Coarse Redware Unglazed Base

1 Flower pot? Coarse Redware Unglazed Body burned int?

**Context: 650                      Unit: N2582 E3733                      Level: 4                      Area: Greenhouse**

### Earthenware 49

3 Plate Refined Pearlware Rim all 7 plate fragments mend 30

3 Plate Refined Pearlware Base

1 Plate Refined Pearlware Body

2 Pitcher Refined Pearlware Body 18

## Ceramics from GOR

						Ves. #
14	Pitcher	Refined Pearlware	Transfer printed Blue	Body		18
1	Pitcher	Refined Pearlware	Transfer printed Blue	Base		18
10	Pitcher	Refined Pearlware	Transfer printed Blue	Handle		18
2	Pitcher	Refined Pearlware	Transfer printed Blue	Rim		18
2		Refined Pearlware	Transfer printed Blue	Body		
9		Refined Pearlware	Body			
2		Refined Indeterminate	Missing glaze	Body		

**Context:** 651

**Unit:** N2580 E3733

**Level:** 3

**Area:** Greenhouse

### Earthenware 122

10	Flower pot	Coarse Redware	Unglazed	Base		
1	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Rim		
2	Flower pot	Coarse Redware	Unglazed	Rim		
1	Flower pot	Coarse Redware	Unglazed	Rim		
70	Flower pot	Coarse Redware	Unglazed	Body		
1	Flower pot?	Coarse Redware	Unglazed	Body	poorly fired? one surface white-ish	
1		Coarse Redware	Lead-glazed	Rim		207
1	Flower pot	Coarse Redware	Unglazed	Base	dull white wash(?) ext	
1		Coarse Redware	Lead-glazed	Body		
1		Coarse Redware	Lead-glazed	Body		
1	Hollow ware	Refined Indeterminate	White	Body		burned
1		Refined Pearlware	Body		light greenish hue	
1		Refined Pearlware	Rim		light greenish hue	
12	Hollow ware	Refined Creamware	Body			
13		Refined Pearlware	Body			
1		Refined Pearlware	Transfer printed Blue	Body		

### Porcelain 1

1	Plate	Chinese	Underglaze painted Blue	Canton	Body
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### Stoneware 2

1	Hollow ware	Coarse American Buff	Salt-glazed	Body
1	Hollow ware	Coarse British Brown (Fulham)	Rim	

**Context:** 652

**Unit:** N2582 E3737

**Level:** 4

**Area:** Greenhouse

## Ceramics from GOR

Ves. #

Earthenware 2					
2	Flower pot	Coarse Redware	Unglazed	Body	
<b>Context: 653</b>		<b>Unit: 3</b>		<b>Level: 1</b>	<b>Area: Carriage House</b>
Earthenware 14					
3		Tin Glazed	Missing glaze	Body	
8		Refined Whiteware		Body	
2		Refined Whiteware		Rim	
1	Bowl	Refined Whiteware		Base	214
Stoneware 1					
1		Refined Nottingham		Body	
<b>Context: 654</b>		<b>Unit: N2578 E3735</b>		<b>Level: 1</b>	<b>Area: Greenhouse</b>
Earthenware 5					
3	Flower pot	Coarse Redware	Unglazed	Body	
1		Refined Pearlware	Transfer printed Green	Rim	same pattern as ext 659 33
1		Refined Pearlware	Transfer printed Green	Rim	
<b>Context: 655</b>		<b>Unit: N2576 E3733</b>		<b>Level: 3</b>	<b>Area: Greenhouse</b>
Earthenware 219					
5		Refined Indeterminate	Missing glaze	Body	
2		Coarse Tin Glazed	Tin-glaze	Body	
1		Coarse Tin Glazed	Tin-glaze	Body	
1		Coarse Tin Glazed	Tin-glaze	Rim	
2		Coarse Redware	Lead-glazed	Body	
2	Hollow ware	Coarse Redware	Lead-glazed	Rim	mend
14	Flower pot	Coarse Redware		Body	
1	Flower pot	Coarse Redware		Rim	
1	Flower pot	Coarse Redware		Rim	
1	Flower pot	Coarse Redware		Rim	
87		Refined Creamware		Body	
4		Refined Creamware		Body	burnt
2		Refined Creamware		Base	mend
8		Refined Creamware		Rim	
2		Refined Pearlware		Rim	
4		Refined Pearlware		Foot rim	
38		Refined Pearlware		Body	



## Ceramics from GOR

				Ves. #
1		Refined Pearlware	Body	burnt
1		Refined Pearlware	slip decorated Blue Body	annular 34
1		Refined Pearlware	slip decorated Polychrome Body	annular 32
1		Refined Pearlware	Underglaze painted Polychrome Body	floral motif
32		Refined Pearlware	Transfer printed Blue Body	26
1	Hollow ware	Refined Creamware	Overglaze painted Black Rim	mends with 2 body sherds
7	Hollow ware	Refined Creamware	Overglaze painted Black Body	floral motif with text 27
<b>Stoneware 4</b>				
4	Hollow ware	British Brown (Fulham)	Salt-glazed Body	3
<b>Context: 656</b>		<b>Unit: N2582 E3737</b>		<b>Level:</b>
<b>Area: Greenhouse</b>				
<b>Earthenware 16</b>				
6	Flower pot	Coarse Redware	Unglazed Body	
1	Flower pot	Coarse Redware	Unglazed Rim	
1		Coarse Redware	Lead-glazed Body	
1		Refined Pearlware	Body	
1		Refined Pearlware	Underglaze painted Blue Body	
1	Pitcher	Refined Pearlware	Underglaze painted Blue Handle	
2		Refined Creamware	Body	
2		Refined Yellow Ware	Banded White/yellow Body	
1		Refined Yellow Ware	Banded White/yellow Rim	
<b>Context: 658</b>		<b>Unit: N2576 E3737</b>		<b>Level: 4</b>
<b>Area: Greenhouse</b>				
<b>Earthenware 26</b>				
3	Flower pot	Coarse Redware	Unglazed Body	
1	Flower pot	Coarse Redware	Unglazed Rim	
1	Flower pot	Coarse Redware	Unglazed Rim	
1		Coarse Redware	Lead-glazed Body	
10		Refined Creamware	Body	
4		Refined Creamware	Base	mend, thick
1	Plate	Refined Creamware	Rim	scalloped 223
3		Refined Pearlware	Body	
1	Hollow ware	Refined Pearlware	Underglaze painted Polychrome Rim	colors green and orange
1		Refined Indeterminate	Transfer printed Green Body	burned
<b>Stoneware 1</b>				
1	Tea Pot	Refined Astbury	Engine Turned Rim	would hold an lid 8 cm diameter 16

## Ceramics from GOR

				Ves. #
<b>Context:</b> 659	<b>Unit:</b> N2578 E3737	<b>Level:</b>	<b>Area:</b> Greenhouse	
Earthenware 52				
29	Flower pot	Coarse Redware Unglazed Body		
2	Flower pot	Coarse Redware Incised Unglazed Rim		
1	Milk Pan	Coarse Redware Lead-glazed Rim		188
16	Milk Pan	Coarse Redware Lead-glazed Body		
1		Refined Pearlware Body		
1		Refined Creamware Body		
1		Refined Pearlware Transfer printed Green Rim	same pattern as 654	33
1		Refined Pearlware Transfer printed Green Body	same pattern as 654	
<b>Context:</b> 661	<b>Unit:</b> N2580 E3737	<b>Level:</b>	<b>Area:</b> Greenhouse	
Earthenware 1				
1	Flower pot	Coarse Redware Unglazed Body		
<b>Context:</b> 662	<b>Unit:</b> N2574 E3735	<b>Level:</b> 2	<b>Area:</b> Greenhouse	
Earthenware 16				
7	Flower pot	Coarse Redware Body		
1	Hollow ware	Coarse Redware Lead-glazed Base		
6	Indeterminate	Refined Creamware Body		
1		Refined Pearlware Foot rim		
1		Refined Pearlware Shell-edge painted Blue Rim		
Stoneware 1				
1	Indeterminate	Refined White Salt Glazed Body		
<b>Context:</b> 663	<b>Unit:</b> N2574 E3735	<b>Level:</b>	<b>Area:</b> Greenhouse	
Earthenware 5				
2	Flower pot	Coarse Redware Body		
1	Indeterminate	Refined Indeterminate Body		
1	Hollow ware	Refined Pearlware Underglaze painted Blue Body		
1		Refined Pearlware Transfer printed Green Body		
<b>Context:</b> 665	<b>Unit:</b> N2578 E3737	<b>Level:</b> 4	<b>Area:</b> Greenhouse	
Earthenware 28				
19	Flower pot	Coarse Redware Body		
1	Flower pot	Coarse Redware Rim		

## Ceramics from GOR

Ves. #

1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Rim	
1	Hollow ware	Coarse Redware	Unglazed	Body
1	Indeterminate	Coarse Redware	Body	
1	Indeterminate	Refined Indeterminate	Missing glaze	Body
2	Indeterminate	Refined Creamware	Body	
1	Indeterminate	Refined Creamware	Rim	

### Stoneware 2

2	Bottle	Coarse American Brown	Salt-glazed Albany slip	Rim	
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mend

**Context:** 666

**Unit:** N2582 E3735

**Level:** west wall

**Area:** Greenhouse

### Earthenware 24

13	Flower pot	Coarse Redware	Body	
4	Flower pot	Coarse Redware	Base	
3	Flower pot	Coarse Redware	Incised	Body
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Incised	Rim
1	Flower pot	Coarse Redware	Rim	

burnt

**Context:** 668

**Unit:** Cellar Fill

**Level:**

**Area:** Carriage House

### Earthenware 11

1		Coarse Redware	Base	
1		Coarse Redware	Lead-glazed	Body
4	Bowl	Refined Ironstone (White Granite)	Body	
1	Bowl	Refined Ironstone (White Granite)	Base	
1	Bowl	Refined Ironstone (White Granite)	Rim	
1		Refined Creamware	Body	
1		Refined Whiteware	Body	
1		Refined Indeterminate	Body	

215

cream colored, highly vitrified

### Porcelain 3

1		Chinese	Underglaze painted Dark Blue	Canton	Rim	
1	Flat ware		Rim			
1	Hollow ware	Over-glaze enamel	Polychrome	Rim		

6

8

9

**Context:** 669

**Unit:** N2580 E3735

**Level:** 5

**Area:** Greenhouse

## Ceramics from GOR

Ves. #

### Earthenware 124

70	Flower pot	Coarse Redware	Body		
9	Flower pot	Coarse Redware	Base		
1	Flower pot	Coarse Redware	Rim		
1	Flower pot	Coarse Redware	Rim		
2	Flower pot	Coarse Redware	Rim		
5	Flower pot	Coarse Redware	Rim		
1	Flower pot	Coarse Redware	Rim		
2	Flower pot	Coarse Redware	Rim		
5	Flower pot	Coarse Redware	Rim		
1	Flower pot	Coarse Redware	Rim		
8	Flower pot	Coarse Redware	Rim		
3	Indeterminate	Refined Indeterminate	Missing glaze	Body	
2	Indeterminate	Refined Indeterminate	Body		burnt
2		Refined Creamware	Foot rim		
1		Refined Creamware	Rim		mends with context 633
1		Refined Creamware	Rim		220
4		Refined Creamware	Body		
2		Coarse Redware	Lead-glazed	Body	
1	Hollow ware	Coarse Tin Glazed Red	Tin-glaze	French (Faience)	white-glaze int. and ext.
1		Refined Yellow Ware	Body		204
1		Refined Pearlware	Body		
1		Refined Pearlware	Painted Blue	Body	

### Porcelain 3

1	Plate	Chinese	Underglaze painted Dark Blue	Canton	Complete profile	mends with other porcelain from this context	4
2	Plate	Chinese	Underglaze painted Dark Blue	Canton	Foot rim	mends with other porcelain from this context	4

### Stoneware 1

1	Hollow ware	Coarse American gray	Salt-glazed Albany slip	Rim		208
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**Context: 670**

**Unit: 2**

**Level: 1**

**Area: Carriage House Cellar floor**

### Earthenware 37

1		Refined Whiteware	Rim		
15	Tea Pot	Refined Whiteware	Body		3 mend with bases; possibly all from tea pot
2	Tea Pot	Refined Whiteware	Base		19
4	Tea Pot	Refined Whiteware	Handle		mend 19
1		Refined Yellow Ware	Body		

## Ceramics from GOR

Ves. #

1	Coarse Redware	Lead-glazed	Base
10	Refined Ironstone (White Granite)		Body
1	Refined Ironstone (White Granite)		Base
1	Refined Ironstone (White Granite)		Rim
1	Refined Ironstone (White Granite)		Rim

**Context: 671**                      **Unit: 4**                                      **Level: 1**                                      **Area: Carriage House Cellar**

Earthenware 3

2	Tin Glazed	Missing glaze	Body
1	Refined Ironstone (White Granite)		Body

**Context: 672**                      **Unit: N2578 E3733**                                      **Level: 4**                                      **Area: Greenhouse**

Earthenware 38

18	Flower pot	Coarse Redware	Body
2	Flower pot	Coarse Redware	Base
2	Flower pot	Coarse Redware	Incised      Body
1	Hollow ware	Coarse Redware	Lead-glazed      Body
1	Hollow ware	Coarse Redware	Lead-glazed      Body
1		Refined Pearlware	Body
1		Refined Pearlware	slip decorated Blue      Body
2		Refined Yellow Ware	Rim
9		Refined Creamware	Body
1		Refined Creamware	Rim

mend

Stoneware 1

1	Hollow ware	Coarse British Brown (Fulham)	Salt-glazed      Body
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**Context: 673**                      **Unit: N2580 E3733**                                      **Level: 3**                                      **Area: Greenhouse**

Earthenware 4

2	Flower pot	Coarse Redware	Body
1		Coarse Redware	Lead-glazed      Body
1	Flat ware	Refined Pearlware	Shell-edge painted Blue      Rim

mends with context 702 209

Porcelain 1

1	English	Body
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**Context: 674**                      **Unit: N2582 E3735**                                      **Level: 3**                                      **Area: Greenhouse**

Earthenware 107

23	Flower pot	Coarse Redware	Body
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## Ceramics from GOR

						Ves. #
2	Flower pot	Coarse Redware	Rim			
1	Flower pot	Coarse Redware	Rim			
1	Flower pot	Coarse Redware	Rim			
2	Hollow ware	Coarse Redware	Lead-glazed	Body		
2	Hollow ware	Coarse Redware	Incised	Body	salt-glazed ext., mend	23
62		Refined Creamware	Body			
3		Refined Creamware	Rim		mends with context 731	219
6	Hollow ware	Refined Creamware	Rim		mend, huge diam.	
1	Plate	Refined Creamware	Rim			
2		Refined Indeterminate	Missing glaze	Body		
1		Refined Indeterminate	Body		burnt	
1	Flat ware	Refined Pearlware	Shell-edge painted Blue	Rim		211

**Context: 675**

**Unit: N2580 E3737**

**Level: 5**

**Area: Greenhouse**

Earthenware 5

1		Refined Indeterminate	Missing glaze	Body	
1		Refined Pearlware	Painted Blue	Foot rim	
2		Refined Creamware	Body		
1		Refined Creamware	Body		

orig cat as whiteware, but think it's light cream

**Context: 676**

**Unit: N2580 E3735**

**Level: 3**

**Area: Greenhouse**

Earthenware 32

1	Flower pot	Coarse Redware	Rim		
1	Flower pot	Coarse Redware	Rim		
2	Flower pot	Coarse Redware	Rim		
1	Flower pot	Coarse Redware	Rim		
2	Flower pot	Coarse Redware	Rim		
11	Flower pot	Coarse Redware	Body		
2	Flower pot	Coarse Redware	Base		
1	Flower pot	Coarse Redware	Incised	Body	
2	Hollow ware	Coarse Redware	Lead-glazed	Body	
1	Hollow ware	Coarse Redware	Lead-glazed	Rim	
3		Coarse Redware	Lead-glazed	Body	
1		Coarse Redware	Lead-glazed	Body	
1	Hollow ware	Coarse Redware	Lead-glazed	Body	
1		Refined Creamware	Body		
1		Refined Creamware	Rim		
1		Refined Pearlware	Body		

## Ceramics from GOR

Ves. #

**Context:** 677                      **Unit:** N2576 E3735                      **Level:** 3                      **Area:** Greenhouse

Earthenware 15

11	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Incised	Body
1	Flower pot	Coarse Redware	Base	
1		Coarse Redware	Lead-glazed	Rim
1	Hollow ware	Refined Pearlware	Painted Blue	Body

**Context:** 678                      **Unit:** N2574 E3735                      **Level:** 3                      **Area:** Greenhouse

Earthenware 16

11	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Rim	
2	Hollow ware	Coarse Redware	Lead-glazed	Base
1		Refined Pearlware	Body	
1		Refined Creamware	Foot rim	

**Context:** 679                      **Unit:** N2582 E3737                      **Level:** 1                      **Area:** Greenhouse

Earthenware 12

6	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Incised	Body
1		Coarse Redware	Lead-glazed	Rim
2		Refined Creamware	Body	
1		Refined Pearlware	Painted Blue	Body
1	Hollow ware	Refined Creamware	Annular painted (rim) Brown	Rim

188

189

Stoneware 1

1		White Salt Glazed	Foot rim	
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**Context:** 681                      **Unit:** N576 E735                      **Level:** 4                      **Area:** Greenhouse

Earthenware 78

3	Flower pot	Coarse Redware	Base	
21	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Rim	
9		Coarse Redware	Lead-glazed	Body
1		Coarse Redware	Lead-glazed	Rim
11		Coarse Redware		
1		Coarse Redware	Lead-glazed	Body

resembles North Devon, possibly local

some possibly flower pot

## Ceramics from GOR

				Ves. #
1		Refined Pearlware	Underglaze painted Polychrome Body	22
1		Refined Pearlware	Underglaze painted Polychrome Rim	
3		Refined Pearlware	Body	
5		Refined Ironstone (White Granite)	Body	
20		Refined Creamware	Body	
1		Refined Indeterminate	Missing glaze Body	
<b>Porcelain 2</b>				
1	Saucer	English	Underglaze painted Blue Rim	5
1	Saucer	English	Underglaze painted Blue Body	
<b>Stoneware 2</b>				
1		Refined Red Stoneware	Lead-glazed Body	16
1		Coarse Indeterminate Gray	Salt-glazed Body	
<b>Context: 682</b>		<b>Unit: N2574 E3735</b>		<b>Level: 4</b>
<b>Area: Greenhouse</b>				
<b>Earthenware 3</b>				
1	Flower pot	Coarse Redware	Base	
1		Coarse Redware	Lead-glazed Body	
1	Hollow ware	Refined Creamware	Body	
<b>Context: 683</b>		<b>Unit: N578 E733</b>		<b>Level: 5</b>
<b>Area: Greenhouse</b>				
<b>Earthenware 130</b>				
14		Refined Creamware	Body	
2		Refined Creamware	Rim	
3		Refined Pearlware	Body	
1		Refined Pearlware	Molded Underglaze painted Blue Body	
1		Refined Pearlware	Transfer printed Blue Body	
2		Refined Pearlware	Annular painted (rim) Blue Body	34
1		Refined Pearlware	Annular painted (rim) Brown Rim	213
95		Coarse Redware	Lead-glazed Body	many are darkened paste from heat
1		Coarse Redware	Lead-glazed	
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Base	
8	Flower pot	Coarse Redware	Body	
<b>Porcelain 2</b>				
1	Saucer	English	Underglaze painted Blue Rim	12
1		Chinese	Body	



Ceramics from GOR

Ves. #

**Context:** 684                      **Unit:**                      **Level:** 1                      **Area:** Greenhouse

Earthenware 5

3		Refined Creamware	Body
1		Refined Pearlware	Body
1	Flower pot	Coarse Redware	Body

Stoneware 1

1		Refined White Salt Glazed	Body
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**Context:** 686                      **Unit:** N2580 E3733                      **Level:** 4, 5                      **Area:** Greenhouse

Earthenware 24

15	Flower pot	Coarse Redware	Body
2	Flower pot	Coarse Redware Incised	Body
3	Flower pot	Coarse Redware	Base
1		Refined Creamware	Body
1		Refined Pearlware	Body
2		Refined Pearlware Transfer printed Blue	Body

Porcelain 1

1			Body
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Stoneware 1

1		Refined White Salt Glazed	Body
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**Context:** 688                      **Unit:**                      **Level:** 1                      **Area:** Greenhouse

Earthenware 27

23	Flower pot	Coarse Redware	Body
1	Flower pot	Coarse Redware	Rim
2	Flower pot	Coarse Redware	Rim
1		Coarse Tin Glazed	Body

**Context:** 689                      **Unit:** N2580 E3735                      **Level:** 6                      **Area:** Greenhouse

Earthenware 5

1	Flower pot	Coarse Redware	Body
1	Flower pot	Coarse Redware	Rim
3		Refined Creamware	Body

**Context:** 689.1                      **Unit:** N2580 E3735                      **Level:** 6                      **Area:** Greenhouse

## Ceramics from GOR

				Ves. #
Earthenware 4				
2	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Base	mend
1		Coarse Redware	Lead-glazed Rim	
<b>Context: 691</b>		<b>Unit: N582 E735+733</b>		
		<b>Level: 4 (west)</b>		<b>Area: Greenhouse</b>
Earthenware 52				
1		Refined Creamware	Transfer printed Green Rim	187
2		Refined Creamware	Body	
3	Flower pot	Coarse Redware	Molded Rim	
4	Flower pot	Coarse Redware	Rim	
3	Flower pot	Coarse Redware	Base	
2	Flower pot	Coarse Redware	Incised Body	wave design
3	Flower pot	Coarse Redware	Body	partially blackened
34	Flower pot	Coarse Redware	Body	
Stoneware 1				
1		Refined White Salt Glazed	Body	
<b>Context: 692</b>		<b>Unit: N582 E735</b>		
		<b>Level: 5</b>		<b>Area: Greenhouse</b>
Earthenware 60				
47		Refined Creamware	Body	
1		Refined Pearlware	Body	
7	Flower pot	Coarse Redware	Body	
2		Refined Creamware	Rim	mend
1	Plate	Refined Creamware	Rim	222
1		Refined Creamware	Foot rim	
1		Refined Pearlware	Underglaze painted Blue Body	
<b>Context: 693</b>		<b>Unit: N2576 E3735</b>		
		<b>Level: 1</b>		<b>Area: Greenhouse</b>
Earthenware 4				
2		Refined Creamware	Body	
1		Refined Pearlware	Underglaze painted Polychrome Body	floral motif 22
1		Coarse Redware	Lead-glazed Body	
<b>Context: 695</b>		<b>Unit: N578 E735</b>		
		<b>Level: 5</b>		<b>Area: Greenhouse</b>
Earthenware 23				
6	Flower pot	Coarse Redware	Body	

## Ceramics from GOR

				Ves. #
3	Refined Creamware	Body		
7	Refined Pearlware	Body		
1	Refined Pearlware	Underglaze painted Blue	Body	floral motif
1	Refined Pearlware	Underglaze painted Blue	Base	floral motif 202
1	Refined Pearlware	Base		202
1	Refined Creamware	Rim		
1	Refined Pearlware	Annular painted (rim) Blue	Body	34
1	Refined Pearlware	Annular painted (rim) Polychrome	Body	32
1	Refined Pearlware	painted Brown	Rim	painted on rim 201
<b>Context: 696</b>	<b>Unit: N2580 E3733</b>	<b>Level: 4</b>	<b>Area: Greenhouse</b>	
Earthenware 2				
1	Flower pot	Coarse Redware	Body	fingerprint on exterior
1		Coarse Redware	Lead-glazed Body	
<b>Context: 697</b>	<b>Unit: N580 E733</b>	<b>Level: 4</b>	<b>Area: Greenhouse</b>	
Earthenware 8				
1	Flower pot	Coarse Redware	Body	
1		Coarse Redware	Lead-glazed Body	
3		Refined Creamware	Body	
2		Refined Pearlware	Body	
1		Refined Pearlware	Underglaze painted Blue Body	
<b>Context: 698</b>	<b>Unit: N582 E733</b>	<b>Level: 7</b>	<b>Area: Greenhouse</b>	
Earthenware 7				
2	Flower pot	Coarse Redware	Body	
1		Coarse Redware	Rim	
1		Coarse Redware	Lead-glazed Body	
1		Refined Indeterminate	Missing glaze Body	
1		Refined Creamware	Body	
1		Refined Pearlware	Body	
Porcelain 2				
2		Chinese	Underglaze painted Dark Blue Canton Rim	mend 11
<b>Context: 699</b>	<b>Unit: N2582 E3735</b>	<b>Level: SE nail</b>	<b>Area: Greenhouse</b>	
Porcelain 1				
1		Body		

## Ceramics from GOR

Ves. #

<b>Context: 700</b>	<b>Unit: N578 E735</b>	<b>Level: 5</b>	<b>Area: Greenhouse</b>	
Earthenware 35				
2	Refined Indeterminate	Missing glaze	Body	
1	Plate	Refined Creamware	Base	
1		Refined Pearlware	Underglaze painted Blue	Body
20		Refined Creamware	Body	
1		Refined Pearlware	Body	
2		Refined Pearlware	Annular painted (rim) Polychrome	Body
1	Hollow ware	Refined Pearlware	Underglaze painted Polychrome	Body
2	Flower pot	Coarse Redware	Body	Floral Motif 22
1	Hollow ware	Coarse Redware	Lead-glazed	Body
2	Hollow ware	Coarse Redware	Lead-glazed	Rim
2		Coarse Redware	Lead-glazed	Body
Stoneware 2				
2		Refined White Salt Glazed	Base	mend
<b>Context: 701</b>	<b>Unit: N2578 E3735</b>	<b>Level:</b>	<b>Area: Greenhouse</b>	
Earthenware 4				
4	Flower pot	Coarse Redware	Body	
Stoneware 1				
1		British Brown (Fulham)	Salt-glazed	Body
<b>Context: 702</b>	<b>Unit: N2580 E3738</b>	<b>Level:</b>	<b>Area: Greenhouse</b>	
Earthenware 8				
3		Coarse Redware	Lead-glazed	Body
2		Coarse Redware	Lead-glazed	Body
1	Flower pot	Coarse Redware	Body	
1		Refined Creamware	Body	
1	Flat ware	Refined Pearlware	Shell-edge painted Blue	Rim
				mends with context 673 209
<b>Context: 704</b>	<b>Unit: N2580 E3735</b>	<b>Level:</b>	<b>Area: Greenhouse</b>	
Earthenware 4				
2		Refined Creamware	Body	
1		Refined Creamware	Rim	
1		Refined Creamware	Base	

Ceramics from GOR

Ves. #

**Context:** 705                      **Unit:** M2580 E3733                      **Level:** 5                      **Area:** Greenhouse

Earthenware 3

1	Flower pot	Coarse Redware	Body	
1		Refined Pearlware	Base	
1		Refined Pearlware	Underglaze painted Blue	Body

**Context:** 706                      **Unit:** N2582 E3735                      **Level:**                      **Area:** Greenhouse

Earthenware 39

14	Flower pot	Coarse Redware	Body	
4	Flower pot	Coarse Redware	Incised	Body
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Base	
1		Coarse Redware	Lead-glazed	Rim
4		Refined Pearlware	Body	
1		Refined Pearlware	Underglaze painted Blue	Foot rim
13		Refined Creamware	Body	

Stoneware 1

1	Bottle	American gray	Salt-glazed	Body
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14

**Context:** 707                      **Unit:** N2582 E3735                      **Level:**                      **Area:** Greenhouse

Earthenware 11

10	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Incised	Body

**Context:** 708                      **Unit:** N2580 E3735                      **Level:** 1/5                      **Area:** Greenhouse

Earthenware 2

1		Refined Indeterminate	Missing glaze	Body
1		Coarse Redware	Lead-glazed	Body

**Context:** 709                      **Unit:** N2576 E3735                      **Level:** 5                      **Area:** Greenhouse

Earthenware 1

1	Flower pot	Coarse Redware	Body	
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**Context:** 710                      **Unit:** N2578 E3733                      **Level:** 7                      **Area:** Greenhouse

Earthenware 10

3	Flower pot	Coarse Redware	Body	
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## Ceramics from GOR

				Ves. #
2	Flower pot	Coarse Redware	Base	
4		Coarse Redware	Lead-glazed Body	200
1		Refined Indeterminate	Body	burnt
<b>Context: 711</b>		<b>Unit: N2582 E3735</b>		
<b>Level:</b>				
<b>Area: Greenhouse</b>				
Earthenware 11				
5	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Lead-glazed Rim	
1		Coarse Redware	Lead-glazed Body	
1		Refined Creamware	Body	
2		Refined Indeterminate	Body	
<b>Context: 712</b>		<b>Unit: N2578 E3737</b>		
<b>Level: 5</b>				
<b>Area: Greenhouse</b>				
Earthenware 105				
87	Flower pot	Coarse Redware	Body	
1	Flower pot	Coarse Redware	Rim	
2	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Rim	
1	Flower pot	Coarse Redware	Rim	
7	Flower pot	Coarse Redware	Rim	
2	Flower pot	Coarse Redware	Base	
1		Refined Indeterminate	Missing glaze Body	
1	Hollow ware	Refined Pearlware	Transfer printed Blue Body	
<b>Context: 713</b>		<b>Unit: N2580 E3735</b>		
<b>Level: 1</b>				
<b>Area: Greenhouse</b>				
Earthenware 3				
1	Flower pot	Coarse Redware	Body	
1	Hollow ware	Coarse Redware	Lead-glazed Body	
1		Coarse Redware	Lead-glazed Body	
<b>Context: 714</b>		<b>Unit: multiple</b>		
<b>Level: 5, 6</b>				
<b>Area: Greenhouse</b>				
Earthenware 192				
4		Refined Yellow Ware	Body	
2		Refined Pearlware	Transfer printed Blue Body	
1		Refined Pearlware	Body	

## Ceramics from GOR

							<b>Ves. #</b>
1		Refined Pearlware	factory-made slipware (dipt ware)	slip decorated Blue	Body		34
4	Flower pot	Coarse Redware	Base				
1	Flower pot	Coarse Redware	Rim				
15	Flower pot	Coarse Redware	Body				
18	Milk Pan	Coarse Redware	Lead-glazed	Base		some frags mend	24
24	Milk Pan	Coarse Redware	Lead-glazed	Rim		some frags mend	24
86	Milk Pan	Coarse Redware	Lead-glazed	Body		some frags mend	24
33		Coarse Redware	Missing glaze	Body			
1		Coarse Redware	Lead-glazed	Body			
2	Milk Pan	Coarse Redware	Lead-glazed	Rim			188
<b>Stoneware 2</b>							
2	Bottle	Coarse American Brown	Salt-glazed Albany slip	Body		ginger bottle	3
<b>Context: 716</b>		<b>Unit: N2580 E3733</b>		<b>Level: 5</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 1</b>							
1		Refined Pearlware	Underglaze painted Blue	Body			
<b>Context: 717</b>		<b>Unit: N2578/80 E3735</b>		<b>Level: 5</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 62</b>							
6	Flower pot	Coarse Redware	Body				
1	Flower pot	Coarse Redware	Rim				207
1		Coarse Redware	Lead-glazed	Base			
45		Coarse Indeterminate	Body				
1		Refined Indeterminate	Missing glaze	Body			
5		Refined Creamware	Body				
1		Refined Creamware	Base				
2		Refined Pearlware	Body				
<b>Context: 718</b>		<b>Unit: N2578 E3733</b>		<b>Level: 1</b>		<b>Area: Greenhouse</b>	
<b>Earthenware 23</b>							
1	Flower pot	Coarse Redware	Base			complete base	
12	Flower pot	Coarse Redware	Body				
2	Flower pot	Coarse Redware	Base				
2	Flower pot	Coarse Redware	Rim				
1	Flower pot	Coarse Redware	Rim				
1	Flower pot	Coarse Redware	Rim				
1		Coarse Redware	Lead-glazed	Body			

## Ceramics from GOR

				Ves. #
1		Refined Creamware	Body	
1		Refined Pearlware	Body	
1		Refined Whiteware	Transfer printed Blue Body	could be pw - CMB
<b>Context: 719</b>		<b>Unit: N2578 E3733</b>	<b>Level: 1</b>	<b>Area: Greenhouse</b>
Earthenware 3				
2	Lid	Refined Pearlware	Lid	mend
1	Flower pot	Coarse Redware	Body	
<b>Context: 721</b>		<b>Unit: N2582 E3735</b>	<b>Level:</b>	<b>Area: Greenhouse</b>
Earthenware 1				
1		Refined Creamware	Body	
<b>Context: 724</b>		<b>Unit: N2580 E3733/35</b>	<b>Level: 5</b>	<b>Area: Greenhouse</b>
Earthenware 4				
2	Flower pot	Coarse Redware	Body	
1		Coarse Redware	Lead-glazed Body	
1	Flat ware	Refined Pearlware	Shell-edge painted Blue Rim	209
<b>Context: 725</b>		<b>Unit: N2580 E3737</b>	<b>Level: 7</b>	<b>Area: Greenhouse</b>
Earthenware 1				
1		Refined Staffordshire Slipware	Body	
<b>Context: 726</b>		<b>Unit: N2578 E3737</b>	<b>Level: 6</b>	<b>Area: Greenhouse</b>
Earthenware 24				
1		Refined Creamware	Body	
17	Flower pot	Coarse Redware	Body	
3	Flower pot	Coarse Redware	Base	
1	Flower pot	Coarse Redware	Rim	
1	Hollow ware	Coarse Redware	Unglazed White slip Base	
1	Hollow ware	Coarse Redware	Unglazed White slip Rim	
<b>Context: 727</b>		<b>Unit: N582 E735</b>	<b>Level: 5 West</b>	<b>Area: Greenhouse</b>
Earthenware 24				
2	Flower pot	Coarse Redware	Rim	
4	Flower pot	Coarse Redware	Base	
12	Flower pot	Coarse Redware	Body	
1		Coarse Redware	Body	burned



## Ceramics from GOR

					Ves. #
1	Coarse Redware	Base			burned
3	Refined Creamware	Body			1 piece burned
1	Refined Pearlware	Body			
<b>Context: 728</b>	<b>Unit: N2580 E3733</b>	<b>Level: 5</b>	<b>Area: Greenhouse</b>		
Earthenware 2					
1	Flower pot	Coarse Redware	Incised	Body	
1		Coarse Redware	Lead-glazed	Body	
<b>Context: 729</b>	<b>Unit: N2582 E3733/35</b>	<b>Level:</b>	<b>Area: Greenhouse</b>		
Porcelain 1					
1		Chinese	Underglaze painted Blue	Canton	7
<b>Context: 730</b>	<b>Unit: N2580 E3735</b>	<b>Level: 2</b>	<b>Area: Greenhouse</b>		
Earthenware 1					
1		Coarse Redware	Brown	Body	
<b>Context: 731</b>	<b>Unit: N2582 E3735/37</b>	<b>Level:</b>	<b>Area: Greenhouse</b>		
Earthenware 58					
37		Refined Creamware		Body	
15		Refined Creamware		Foot rim	mends
1		Refined Creamware		Rim	mends with context 674 219
1		Refined Pearlware		Body	
2	Flower pot	Coarse Redware		Body	
2	Flower pot	Coarse Redware		Rim	
<b>Context: 732</b>	<b>Unit: N2578 E3737</b>	<b>Level: 7</b>	<b>Area: Greenhouse</b>		
Earthenware 15					
1		Refined Pearlware	Transfer printed Brown	Body	199
10	Flower pot	Coarse Redware		Body	
1	Flower pot	Coarse Redware		Rim	
3	Flower pot	Coarse Redware		Base	
<b>Context: 733</b>	<b>Unit: N578 E735</b>	<b>Level: 6</b>	<b>Area: Greenhouse</b>		
Earthenware 4					
1	Flower pot	Coarse Redware	Incised	Body	
2	Flower pot	Coarse Redware		Body	
1		Coarse Redware	Lead-glazed	Rim	

Ceramics from GOR

Ves. #

**Context:** 736                      **Unit:** N2576 E3737                      **Level:** 5                      **Area:** Greenhouse

Earthenware 8

2	Flower pot	Coarse Redware	Base
1	Flower pot	Coarse Redware	Body
1		Coarse Redware	Lead-glazed Body
3		Refined Creamware	Body
1		Refined Pearlware	Body

**Context:** 737                      **Unit:** N2580 E3735                      **Level:** 10                      **Area:** Greenhouse

Earthenware 2

1	Hollow ware	Coarse Redware	Lead-glazed Base
1		Refined Pearlware	Annular painted (rim) Polychrome Body

**Context:** 739                      **Unit:** N580 E735-37                      **Level:** 8                      **Area:** Greenhouse

Earthenware 5

3	Flower pot	Coarse Redware	Body
1	Flower pot	Coarse Redware	Rim
1		Refined Creamware	Body

**Context:** 740                      **Unit:** N2580/2 E3737                      **Level:** 2                      **Area:** Greenhouse

Earthenware 9

2	Flower pot	Coarse Redware	Body
2	Flower pot	Coarse Redware	Rim
1	Flower pot	Coarse Redware	Rim
2		Refined Pearlware	Body
1	Hollow ware	Refined Pearlware	Rim
1	Hollow ware	Refined Pearlware	Underglaze painted Blue Base

highly burnt

221

**Context:** 741                      **Unit:** N2580 E3735                      **Level:** 10                      **Area:** Greenhouse

Earthenware 3

3	Flower pot	Coarse Redware	Body
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**Context:** 742                      **Unit:** N2580 E3735                      **Level:**                      **Area:** Greenhouse

Earthenware 1

1		Refined Pearlware	Body
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**Context:** 746                      **Unit:** N2580 E3737                      **Level:** 6                      **Area:** Greenhouse

## Ceramics from GOR

Ves. #

### Earthenware 4

1	Flower pot	Coarse Redware	Base	
2	Flower pot	Coarse Redware	Body	
1		Refined Creamware	Body	

**Context:** 747                      **Unit:** N2578-80 E3735                      **Level:** 6                      **Area:** Greenhouse

### Earthenware 4

1	Flower pot	Coarse Redware	Body	
1		Refined Creamware	Body	
1		Refined Pearlware	Body	
1		Refined Pearlware	Transfer printed Blue	Base

**Context:** 748                      **Unit:** N2580 E3735                      **Level:**                      **Area:** Greenhouse

### Earthenware 3

1		Coarse Redware	Lead-glazed	Body
2		Refined Creamware	Body	

**Context:** 750                      **Unit:** N2576 E3737                      **Level:** wall clean-                      **Area:** Greenhouse

### Earthenware 2

1	Flower pot	Coarse Redware	Base	
1		Coarse Redware	Lead-glazed	Rim

only small amount of glaze left

### Stoneware 1

1	Hollow ware	Refined Jackfield Type	Lead-glazed	Body
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197

**Context:** 756                      **Unit:**                      **Level:**                      **Area:** Greenhouse

### Earthenware 5

2	Flower pot	Coarse Redware	Base	
2		Coarse Redware	Body	
1		Coarse Redware	Lead-glazed	Body

mend

**Context:** 758                      **Unit:** N576-578 E737                      **Level:** cleaning                      **Area:** Greenhouse

### Earthenware 6

4	Flower pot	Coarse Redware	Body	
2		Refined Creamware	Body	

**Context:** 760                      **Unit:** N578 E735                      **Level:**                      **Area:** Greenhouse

## Ceramics from GOR

Ves. #

Stoneware 1				
1	Hollow ware	Coarse British Brown (Fulham)	Salt-glazed	Body
<b>Context:</b>	762	<b>Unit:</b> N582 E737	<b>Level:</b>	<b>Area:</b> Greenhouse
Earthenware 6				
2	Flower pot	Coarse Redware	Body	
4		Refined Creamware	Body	
<b>Context:</b>	763	<b>Unit:</b> N2580 E3737	<b>Level:</b> East Wall	<b>Area:</b> Greenhouse
Earthenware 1				
1	Flower pot	Coarse Redware	Incised	Rim
<b>Context:</b>	765	<b>Unit:</b> N582 E733	<b>Level:</b>	<b>Area:</b> Greenhouse
Earthenware 2				
1		Refined Creamware	Body	
1	Hollow ware	Refined Pearlware	Transfer printed Blue	Body
<b>Context:</b>	766	<b>Unit:</b> N582 E735	<b>Level:</b> Wall Clean-	<b>Area:</b> Greenhouse
Earthenware 3				
3	Flower pot	Coarse Redware	Body	
<b>Context:</b>	767	<b>Unit:</b> N578 E733	<b>Level:</b> west wall	<b>Area:</b> Greenhouse
Earthenware 2				
1		Refined Creamware	Body	
1		Refined Creamware	Rim	
<b>Context:</b>	768	<b>Unit:</b> N576 E733	<b>Level:</b> west wall	<b>Area:</b> Greenhouse
Earthenware 1				
1		Refined Whiteware	Body	
<b>Context:</b>	769	<b>Unit:</b> N580 E733	<b>Level:</b> west wall	<b>Area:</b> Greenhouse
Earthenware 1				
1		Refined Pearlware	slip decorated Blue	Body
<b>Context:</b>	770	<b>Unit:</b> N582 E733	<b>Level:</b> west wall	<b>Area:</b> Greenhouse
Earthenware 2				
2	Flower pot	Coarse Redware	Body	

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## Ceramics from GOR

Ves. #

<b>Context:</b> 771	<b>Unit:</b> N580 E735	<b>Level:</b>	<b>Area:</b> Greenhouse	
Earthenware 4				
1	Milk Pan	Coarse Redware Lead-glazed Rim		
1	Flower pot	Coarse Redware Body		
1		Coarse Redware painted Polychrome Unglazed Body		white flower center with black dots for petals
1		Refined Creamware Body		
<b>Context:</b> 772	<b>Unit:</b> West trench Unit 1	<b>Level:</b> 10-20 cm	<b>Area:</b> Greenhouse/Carriage house well	
Earthenware 2				
1	Hollow ware	Refined Whiteware Rim		
1		Refined Whiteware Body		
Stoneware 1				
1	Hollow ware	Coarse British Brown (Fulham) Body		2
<b>Context:</b> 773	<b>Unit:</b> West trench Unit 2	<b>Level:</b> fill over	<b>Area:</b> Greenhouse/Carriage house well	
Earthenware 1				
1	Flower pot	Coarse Redware Base		
<b>Context:</b> 774	<b>Unit:</b> Gore fill over hard packed	<b>Level:</b>	<b>Area:</b> Greenhouse/Carriage house well	
Earthenware 3				
2	Flower pot	Coarse Redware Body		
1	Hollow ware	Coarse Redware Lead-glazed Body		
<b>Context:</b> 775	<b>Unit:</b> west trench-unit 1 S half	<b>Level:</b> 15-30 cm bs	<b>Area:</b> Greenhouse/Carriage house well	
Earthenware 5				
1		Refined Yellow Ware Body		
2	Hollow ware	Refined Whiteware Rim		mends with context 655 216
2	Hollow ware	Refined Whiteware Body		most likely same vessel as rim sherds 216
<b>Context:</b> 776	<b>Unit:</b> 1m X 50cm STP E of Well	<b>Level:</b>	<b>Area:</b> Greenhouse/Carriage house well	
Earthenware 5				
1	Hollow ware	Coarse Redware Lead-glazed Body		
2	Flower pot	Coarse Redware Body		
1		Refined Creamware Body		
1		Refined Creamware Rim		
<b>Context:</b> 777	<b>Unit:</b> N578 E733	<b>Level:</b>	<b>Area:</b> Greenhouse	

## Ceramics from GOR

Ves. #

### Earthenware 9

2	Hollow ware	Refined Creamware	Body
4	Flower pot	Coarse Redware	Body
2	Flower pot	Coarse Redware	Rim
1	Flower pot	Coarse Redware	Rim

splattered with black paint post breakage  
splattered with black paint post breakage

**Context:** 778

**Unit:** N2582 E3735

**Level:** N wall

**Area:** Greenhouse

### Earthenware 6

3	Flower pot	Coarse Redware	Body
1	Flower pot	Coarse Redware	Rim
1	Hollow ware	Refined Creamware	Body
1	Hollow ware	Refined Creamware	Base

**Grand Total: 4264**

## Glass from GOR

Object	Portion/ Color/ Mfr. method/ Style/ Comments
<b>Context: 601</b>	<b>Count: 4</b>
2	bottle, wine                      body olive green dip-molded
1	curved, undetermined          base colorless mold blown
1	curved, undetermined          body colorless undetermined
<b>Context: 602</b>	<b>Count: 18</b>
1	bottle                                  body aqua mold blown
1	bottle                                  body amber machine made
1	bottle                                  base amber machine made embossed
1	bottle                                  body colorless mold blown embossed U
1	curved, undetermined          body colorless undetermined
1	curved, undetermined          body pressed/press molded    pale orange carnival glass
2	curved, undetermined          body pressed/press molded    pale orange carnival glass
5	flat, undetermined              body aqua undetermined      very thick
2	window                                aqua undetermined      thick
2	window                                aqua undetermined
1	window                                colorless undetermined      white from lead
<b>Context: 603</b>	<b>Count: 9</b>
1	flask                                  body light green pattern molded    soft repeating diamond pattern
1	flat, undetermined              body colorless undetermined    thick
3	window                                colorless undetermined      white from lead?
1	window                                edge (window pane) colorless undetermined    white from lead?
3	window                                aqua undetermined
<b>Context: 604</b>	<b>Count: 14</b>
1	bottle                                  body colorless mold blown embossed B
8	flat, undetermined              body aqua undetermined      very thick
5	flat, undetermined              body aqua undetermined      thick
<b>Context: 605</b>	<b>Count: 6</b>
1	bottle                                  finish colorless machine made    possibly solarized
1	curved, undetermined          body cobalt blue undetermined
1	flat, undetermined              body colorless undetermined
2	window                                aqua undetermined
1	window                                colorless undetermined      white from lead
<b>Context: 606</b>	<b>Count: 13</b>
3	bottle                                  body olive green undetermined
1	bottle                                  body amber undetermined
1	curved, undetermined          body solarized undetermined
1	curved, undetermined          body pressed/press molded    pale orange carnival glass?
1	curved, undetermined          body colorless undetermined
1	flat, undetermined              body aqua undetermined      thick
5	window                                aqua undetermined
<b>Context: 607</b>	<b>Count: 3</b>
1	flat, undetermined              body aqua undetermined      thick
2	window                                colorless undetermined
<b>Context: 608</b>	<b>Count: 3</b>
1	curved, undetermined          body colorless mold blown embossed
1	flat, undetermined              body aqua undetermined embossed    parallel lines - safety or headlight glass?
1	window                                aqua undetermined

## Glass from GOR

Object	Portion/ Color/ Mfr. method/ Style/ Comments
<b>Context: 609</b>	<b>Count: 3</b>
1 bottle, wine	base olive green undetermined some pontil marks present
1 bottle, wine	body olive green dip-molded
1 curved, indet.	body colorless undetermined
<b>Context: 610</b>	<b>Count: 8</b>
1	aqua undetermined
3 bottle	body olive green undetermined
1 curved, indet.	body colorless undiagnostic
2 flat, undetermined	body aqua undetermined very thick
1 window	colorless undetermined white from lead?
<b>Context: 611</b>	<b>Count: 7</b>
4 bottle, wine	body olive green dip-molded
1 window	aqua undetermined
1 window	colorless undetermined white from lead
1 window	colorless undetermined
<b>Context: 612</b>	<b>Count: 2</b>
2 window	aqua undetermined
<b>Context: 613</b>	<b>Count: 22</b>
2 bottle	body amber mold blown
1 bottle, wine	body olive green dip-molded
1 curved, undetermined	body colorless undetermined
8 window	aqua undetermined
10 window	aqua undetermined white from lead?
<b>Context: 614</b>	<b>Count: 5</b>
2 bottle, wine	body olive green dip-molded
1 window	solarized undetermined
1 window	aqua undetermined
1 window	colorless undetermined
<b>Context: 615</b>	<b>Count: 1</b>
1 window	aqua check this - 1 flat side, 1 curved. Thickness uneven.
<b>Context: 618</b>	<b>Count: 7</b>
1 bottle	body aqua undetermined
2 bottle, wine	body olive green undetermined
1 bottle, wine	body olive green dip-molded
2 window	aqua undetermined
1 window	colorless undetermined white from lead
<b>Context: 619</b>	<b>Count: 24</b>
1 bottle	body colorless mold blown embossed -ON-/ LIQ[U]-
7 bottle	body colorless undetermined
1 curved, undetermined	body undetermined deep purple
1 curved, undetermined	body colorless machine made
7 window	aqua undetermined
2 window	aqua undetermined thick
2 window	colorless undetermined
2 window	colorless undetermined white - lead
1 window	solarized undetermined
<b>Context: 620</b>	<b>Count: 77</b>
4 bottle, wine	body olive green undetermined



## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
1	bottle, wine	base olive green mold blown marked RICKETTS & C.o GLASSWORK BRISTOL. Prob. 1821-1853. See H. Ricketts in
3	curved, undetermined	body colorless undetermined
1	flat, undetermined	body aqua undetermined
5	flat, undetermined	body aqua undetermined thick
31	window	aqua undetermined
23	window	aqua undetermined clouded surface from lead?
7	window	colorless undetermined white from lead?
1	window	edge (window pane) colorless undetermined white from lead?
1	window	solarized undetermined
<b>Context: 621</b>		<b>Count: 4</b>
1	bottle, wine	body olive green undetermined
1	bottle, wine	finish olive green undetermined
1	curved, undetermined	body colorless mold blown mold seam
1	window	aqua undetermined
<b>Context: 622</b>		<b>Count: 6</b>
5	window	aqua
1	window	colorless white from lead?
<b>Context: 623</b>		<b>Count: 32</b>
3	bottle, wine	body olive green undiagnostic
2	curved, indet.	body aqua
1	curved, indet.	body colorless
9	window	colorless possibly plate glass
14	window	aqua crown or cylinder
3	window	colorless white from lead?
<b>Context: 624</b>		<b>Count: 17</b>
4	window	aqua undetermined
1	window	edge (window pane) colorless undetermined lead?
12	window	colorless undetermined lead?
<b>Context: 625</b>		<b>Count: 5</b>
1	curved, undetermined	body aqua undetermined
1	curved, undetermined	body aqua undetermined
2	window	edge (window pane) colorless undetermined white from lead?
1	window	aqua undetermined
<b>Context: 626</b>		<b>Count: 7</b>
2	bottle	body olive green undetermined
1	curved, undetermined	body colorless undetermined
3	window	colorless undetermined white from lead?
1	window	aqua undetermined
<b>Context: 627</b>		<b>Count: 51</b>
2	bottle	body aqua mold blown
1	bottle	body olive green undetermined
1	curved, indet.	aqua undiagnostic burned/melted
2	curved, undetermined	body colorless undetermined
45	window	aqua undetermined
<b>Context: 628</b>		<b>Count: 130</b>
1	bottle	body olive green dip-molded
1	curved, undetermined	body colorless mold blown orange peel type surface pattern
99	window	aqua undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
22	window	aqua undetermined corroded surface
2	window	colorless undetermined corroded surface
1	window	colorless undetermined white from lead?
4	window	solarized undetermined
<b>Context: 629</b>		<b>Count: 53</b>
1	bottle	lip olive green undetermined flanged
6	bottle, wine	body olive green undetermined
6	curved, undetermined	body colorless undetermined
8	curved, undetermined	body aqua undetermined
11	window	colorless undetermined white from lead?
21	window	aqua undetermined
<b>Context: 630</b>		<b>Count: 27</b>
1	curved, undetermined	body olive green undetermined
10	window	aqua undetermined
16	window	colorless undetermined incl 1 edge piece
<b>Context: 631</b>		<b>Count: 49</b>
4	bottle, wine	body olive green undetermined
1	curved, indet.	body amber mold blown rippled surface
6	curved, undetermined	body colorless undetermined
1	curved, undetermined	body aqua undetermined
1	curved, undetermined	body colorless mold blown
1	curved, undetermined	body colorless mold blown fluted
1	curved, undetermined	body colorless mold blown paneled
14	flat, undetermined	aqua undetermined
19	window	aqua undetermined
1	window	edge (window pane) aqua undetermined
<b>Context: 632</b>		<b>Count: 22</b>
1	bottle, wine	body olive green mold blown
9	window	aqua undetermined
12	window	colorless undetermined
<b>Context: 633</b>		<b>Count: 15</b>
1	curved, undetermined	body colorless undetermined
12	window	aqua undetermined
2	window	colorless undetermined
<b>Context: 634</b>		<b>Count: 38</b>
7	bottle, wine	body olive green undetermined
8	bottle, wine	body olive green dip-molded thinner
2	curved, undetermined	body aqua undetermined
3	curved, undetermined	body colorless undetermined
3	flat, undetermined	body colorless undetermined
14	window	aqua undetermined
1	window	edge (window pane) aqua undetermined
<b>Context: 635</b>		<b>Count: 26</b>
1	flat, undetermined	body light green undetermined
25	window	aqua undetermined 2 pcs have etched parallel lines
<b>Context: 636</b>		<b>Count: 11</b>
1	curved, undetermined	body colorless undetermined
1	flat, undetermined	body colorless undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
7	window	aqua undetermined
2	window	aqua undetermined corroded
<b>Context: 637</b>		<b>Count: 192</b>
6	bottle, medicine	body aqua mold blown circular mends
1	bottle, medicine	base aqua mold blown circular empontilled
2	bottle, medicine	neck aqua mold blown circular mends, hand finished tapered out neck
2	bottle, wine	push-up olive green mold blown mend
10	bottle, wine	push-up olive green mold blown
3	curved, indet.	body colorless undiagnostic
1	curved, indet.	colorless undiagnostic melted
1	flask	shoulder olive green mold blown embossed line vert on body
5	window	edge (window pane) colorless mend
5	window	colorless
1	window	edge (window pane) colorless
55	window	aqua clouded
2	window	edge (window pane) aqua mend
88	window	aqua
3	window	light green
7	window	light blue
<b>Context: 639</b>		<b>Count: 33</b>
1	curved, indet.	body colorless undiagnostic melted
1	curved, indet.	olive green undiagnostic melted/ glassy slag
2	curved, indet.	body pressed/press molded Carnival glass w pale orange surface
2	curved, undetermined	base colorless undetermined
1	flat, undetermined	body colorless undetermined
1	window	edge (window pane) colorless undetermined corner of pane
21	window	colorless undetermined some w white from lead
4	window	solarized undetermined
<b>Context: 640</b>		<b>Count: 218</b>
25	bottle, wine	body olive green undetermined
1	bottle, wine	neck olive green undetermined
2	curved, indet.	body aqua undiagnostic burned
1	curved, undetermined	body colorless undetermined
4	curved, undetermined	body aqua undetermined
2	tableware	base colorless undetermined paneled cruet or castor?, base d=4 cm
1	tableware	body colorless undetermined paneled cruet or castor?
2	window	edge (window pane) solarized 1 corner
10	window	solarized
52	window	aqua undetermined white from lead?
1	window	edge (window pane) aqua undetermined white from lead?
59	window	colorless undetermined white from lead?
9	window	colorless undetermined
1	window	light green undetermined
48	window	aqua undetermined
<b>Context: 641</b>		<b>Count: 24</b>
2	bottle, wine	neck olive green undetermined neck has gouges and twisting marks left from mfr
2	flat, undetermined	body colorless undetermined
2	flat, undetermined	body aqua undetermined crizzled
9	window	colorless undetermined some w lead

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
	7 window	aqua undetermined
	2 window	solarized undetermined
<b>Context: 642</b>		<b>Count: 13</b>
	2 bottle, wine	body olive green undetermined
	1 flat, undetermined	body colorless undetermined
	8 window	aqua undetermined
	2 window	solarized undetermined
<b>Context: 643</b>		<b>Count: 5</b>
	5 window	colorless undetermined
<b>Context: 644</b>		<b>Count: 44</b>
	8 bottle, wine	body olive green undetermined
	1 curved, indet.	body colorless burned/melted
	2 window	solarized undetermined
	15 window	aqua
	8 window	aqua white corrosion from lead?
	7 window	colorless white corrosion from lead?
	3 window	colorless
<b>Context: 645</b>		<b>Count: 27</b>
	1 bottle	body olive green undetermined
	1 curved, indet.	body colorless undetermined
	7 curved, undetermined	body colorless mold blown all over textured pattern
	2 curved, undetermined	body colorless undetermined crizzled, chunks w teeth
	8 flat, undetermined	body colorless undetermined
	8 window	aqua undetermined
<b>Context: 646</b>		<b>Count: 27</b>
	2 bottle	body olive green undetermined relatively flat, maybe case bottle
	1 curved, undetermined	body light green undetermined
	11 window	aqua undetermined
	2 window	colorless undetermined
	11 window	colorless undetermined white from lead?
<b>Context: 647</b>		<b>Count: 23</b>
	1 bottle	base colorless undetermined pontil mark, no mold seams, base d=4.5 cm
	2 bottle, wine	body olive green dip-molded
	1 curved, undetermined	body aqua free blown very thin, lamp chimney?
	17 window	aqua undetermined
	2 window	solarized undetermined
<b>Context: 648</b>		<b>Count: 88</b>
	1 curved, undetermined	body amber undiagnostic
	2 curved, undetermined	body light blue undiagnostic
	1 curved, undetermined	body colorless undiagnostic
	1 curved, undetermined	body colorless mold blown paneled thick
	6 curved, undetermined	body colorless undetermined
	2 flat, undetermined	body aqua undiagnostic
	51 window	aqua undetermined
	24 window	colorless undetermined some solarized
<b>Context: 649</b>		<b>Count: 7</b>
	5 window	aqua undetermined
	2 window	aqua undetermined mend

## Glass from GOR

Object	Portion/ Color/ Mfr. method/ Style/ Comments
<b>Context: 651</b>	<b>Count: 245</b>
6	bottle, wine            body olive green undetermined
2	bottle, wine            base olive green undetermined
1	curved, indet.           olive green undiagnostic    melted
9	curved, undetermined   body aqua undetermined
2	curved, undetermined   body aqua undiagnostic
1	curved, undetermined   body colorless undiagnostic
70	window                    aqua undetermined    white/chalky appearance from lead?
144	window                    aqua undetermined
9	window                    colorless undetermined
1	window                    edge (window pane) aqua undetermined
<b>Context: 652</b>	<b>Count: 12</b>
1	bottle                    body olive green undetermined
5	window                    colorless undetermined    2 mend
1	window                    solarized undetermined
5	window                    aqua undetermined
<b>Context: 653</b>	<b>Count: 166</b>
1	bottle                    body olive green undetermined
8	bottle                    body colorless mold blown
2	bottle                    body colorless mold blown embossed    "M" "PI"
1	bottle                    body aqua mold blown embossed    N'S
1	curved, undetermined   body aqua undetermined
153	window                    colorless undetermined    clouded
<b>Context: 654</b>	<b>Count: 11</b>
2	bottle, wine            body olive green dip-molded
1	curved, undetermined   body olive green undetermined
1	curved, undetermined   body light blue undetermined
4	window                    aqua undetermined
2	window                    colorless undetermined
1	window                    solarized undetermined
<b>Context: 655</b>	<b>Count: 124</b>
38	bottle                    body olive green undetermined pontil mark
1	container                rim aqua undetermined
1	container                body colorless undetermined
3	curved, undetermined   body colorless undetermined
16	flat, undetermined    body aqua undetermined
11	flat, undetermined    body solarized undetermined
1	vial                        base colorless undetermined
53	window                    aqua undetermined
<b>Context: 656</b>	<b>Count: 10</b>
2	curved, undetermined   body colorless undetermined
1	curved, undetermined   body colorless undetermined    thin
4	window                    aqua undetermined
3	window                    colorless undetermined
<b>Context: 658</b>	<b>Count: 48</b>
2	bottle                    body olive green undetermined
1	curved, indet.           body aqua undiagnostic    melted
3	curved, undetermined   body colorless undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
1	curved, undetermined	body aqua undetermined very thin
3	window	solarized undetermined
1	window	edge (window pane) aqua undetermined corner of square/rectangular pane
28	window	aqua undetermined
9	window	colorless undetermined oxidized
<b>Context: 659</b>		<b>Count: 8</b>
1	curved, undetermined	body colorless undetermined
4	window	aqua undetermined
3	window	colorless undetermined
<b>Context: 661</b>		<b>Count: 5</b>
1	bottle	body olive green undetermined
1	curved, undetermined	body colorless mold blown
3	window	aqua undetermined
<b>Context: 662</b>		<b>Count: 26</b>
7	bottle	body olive green undetermined
1	curved, undetermined	body colorless undetermined
1	curved, undetermined	rim colorless undetermined
2	flat, undetermined	body colorless undetermined
1	flat, undetermined	body solarized undetermined
14	window	aqua undetermined
<b>Context: 663</b>		<b>Count: 6</b>
1	bottle	body olive green undetermined
1	flat, undetermined	body colorless undetermined
4	window	aqua undetermined
<b>Context: 665</b>		<b>Count: 19</b>
3	curved, indet.	body colorless undetermined
2	flat, undetermined	body colorless undetermined
2	flat, undetermined	body solarized undetermined
1	flat, undetermined	body colorless undetermined thin
1	flat, undetermined	aqua undetermined thick
10	window	aqua undetermined
<b>Context: 666</b>		<b>Count: 58</b>
2	bottle	base olive green mold blown pontil mark mend
3	bottle	body olive green mold blown mend
23	bottle	body olive green mold blown
1	bottle	lip ,
1	flat, undetermined	body colorless undetermined
5	window	edge (window pane) aqua undetermined
23	window	aqua undetermined
<b>Context: 668</b>		<b>Count: 37</b>
4	bottle	body amber undetermined
1	bottle	base amber mold blown
5	bottle	body olive green undetermined
1	bottle	base olive green free blown pontil mark
1	bottle	finish olive green free blown V-tooled
1	bottle	body green (7-up) machine made
1	bottle	body colorless undetermined
1	bottle	body aqua mold blown

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
1	bottle	body colorless pressed/press molded embossed 'OME'
1	bottle	base aqua mold blown rectangular
1	bottle	base aqua mold blown ovoid with flat sides 'C/AYER/17'
1	container	body colorless undetermined
3	container	body aqua undetermined
2	flat, undetermined	body colorless undetermined
1	flat, undetermined	body dark green undetermined
11	window	aqua undetermined
1	window	edge (window pane) aqua undetermined
<b>Context: 669</b>		<b>Count: 60</b>
7	bottle	body olive green undetermined
2	flat, undetermined	body solarized undetermined
5	flat, undetermined	body colorless undetermined
46	window	aqua undetermined
<b>Context: 670</b>		<b>Count: 150</b>
1	bottle	lip colorless machine made
1	bottle	body aqua pressed/press molded
1	container	base colorless undetermined
2	container	body colorless undetermined
1	container	body colorless pattern molded triangular cuts
3	curved, undetermined	body colorless undetermined
27	flat, undetermined	body colorless undetermined
114	window	aqua undetermined
<b>Context: 671</b>		<b>Count: 7</b>
6	flat, undetermined	body aqua undetermined
1	flat, undetermined	body colorless undetermined
<b>Context: 672</b>		<b>Count: 44</b>
1		handle colorless undetermined
13	bottle	body olive green mold blown
1	bottle	base aqua undetermined pontil mark
3	flat, undetermined	body solarized undetermined
1	flat, undetermined	body aqua undetermined
4	flat, undetermined	body colorless undetermined
13	flat, undetermined	colorless undetermined lead?
8	window	aqua undetermined
<b>Context: 673</b>		<b>Count: 2</b>
1	flat, undetermined	body colorless undetermined
1	window	aqua undetermined
<b>Context: 674</b>		<b>Count: 67</b>
1	bottle	body olive green mold blown
1	bottle	base olive green mold blown
4	flat, undetermined	body colorless undetermined
1	flat, undetermined	body solarized undetermined
28	window	aqua undetermined
32	window	aqua undetermined lead
<b>Context: 675</b>		<b>Count: 6</b>
1	flat, undetermined	body aqua undetermined
1	flat, undetermined	body solarized undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
4	window	aqua undetermined
<b>Context: 676</b>		<b>Count: 82</b>
1	bottle	lip olive green undetermined string rim
3	bottle	body olive green undetermined
1	bottle	base olive green undetermined
1	bottle	base olive green dip-molded
2	curved, undetermined	body
2	curved, undetermined	body colorless undetermined
29	flat, undetermined	body colorless undetermined lead?
43	window	aqua undetermined
<b>Context: 677</b>		<b>Count: 10</b>
1	bottle	body olive green undetermined
1	curved, undetermined	body colorless undetermined
4	flat, undetermined	body colorless undetermined
4	window	aqua undetermined
<b>Context: 678</b>		<b>Count: 6</b>
1	bottle	body olive green undetermined
5	window	aqua undetermined
<b>Context: 679</b>		<b>Count: 13</b>
1	bottle	body olive green undetermined
1	curved, undetermined	body colorless undetermined
3	flat, undetermined	body colorless undetermined
1	flat, undetermined	body aqua undetermined
7	window	aqua undetermined
<b>Context: 681</b>		<b>Count: 108</b>
3	bottle	body light green undetermined
6	bottle, wine	body olive green undetermined
5	container	base colorless undetermined several mends
56	curved, undetermined	body colorless undetermined
1	curved, undetermined	body aqua undetermined
2	flat, undetermined	body solarized undetermined
5	flat, undetermined	body colorless undetermined
30	window	aqua undetermined
<b>Context: 682</b>		<b>Count: 1</b>
1	bottle	body olive green undetermined
<b>Context: 683</b>		<b>Count: 315</b>
2		aqua undetermined melted
12	bottle, wine	body olive green undetermined
4	curved, undetermined	body olive green undetermined
22	curved, undetermined	body aqua undetermined
3	curved, undetermined	body colorless undetermined frosted
2	flat, undetermined	body solarized undetermined
72	flat, undetermined	aqua undetermined frosted
34	flat, undetermined	aqua undetermined
164	flat, undetermined	light blue undetermined aqua?
<b>Context: 684</b>		<b>Count: 20</b>
1	bottle, wine	body olive green undetermined
3	curved, undetermined	body aqua undetermined



## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
16	flat, undetermined	aqua undetermined
<b>Context: 686</b>		<b>Count: 25</b>
2	bottle	body olive green undetermined
14	window	aqua undetermined
2	window	edge (window pane) aqua undetermined
7	window	aqua undetermined lead
<b>Context: 687</b>		<b>Count: 3</b>
3	window	aqua undetermined
<b>Context: 688</b>		<b>Count: 10</b>
7	flat, undetermined	body aqua undetermined
1	flat, undetermined	body amber undetermined
2	window	aqua undetermined
<b>Context: 689</b>		<b>Count: 4</b>
1	flat, undetermined	body colorless undetermined
3	window	aqua undetermined
<b>Context: 689.1</b>		<b>Count: 25</b>
2	bottle	body olive green dip-molded
1	bottle	base olive green dip-molded pontil mark
3	flat, undetermined	aqua undetermined
10	flat, undetermined	body colorless undetermined
9	window	aqua undetermined
<b>Context: 691</b>		<b>Count: 13</b>
1	bottle	base light green undetermined case bottle?, flat-sided
1	curved, undetermined	body colorless undetermined
1	flat, undetermined	solarized undetermined
1	flat, undetermined	colorless undetermined
9	window	aqua undetermined
<b>Context: 692</b>		<b>Count: 205</b>
4	bottle, wine	body olive green undetermined
10	flat, undetermined	solarized undetermined
17	window	colorless undetermined lead?
149	window	aqua undetermined
25	window	aqua undetermined lead?
<b>Context: 693</b>		<b>Count: 6</b>
1	bottle	body olive green undetermined
1	bottle	body colorless cut Piece either cut or molded - small, but single corner facet present.
1	flat, undetermined	body solarized undetermined
1	flat, undetermined	body light blue undetermined lead?
2	flat, undetermined	body aqua undetermined
<b>Context: 694</b>		<b>Count: 21</b>
7	flat, undetermined	aqua undetermined lead
2	flat, undetermined	colorless undetermined
2	flat, undetermined	light green undetermined
1	flat, undetermined	light blue undetermined crazed
9	window	aqua undetermined
<b>Context: 695</b>		<b>Count: 63</b>
7	bottle, wine	body olive green undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
1	container	body blue undetermined
26	curved, undetermined	body colorless undetermined
2	flat, undetermined	solarized undetermined
11	window	aqua undetermined
3	window	colorless undetermined lead
13	window	aqua undetermined lead
<b>Context: 696</b>		<b>Count: 4</b>
2	flat, undetermined	body colorless undetermined lead
2	window	aqua undetermined
<b>Context: 697</b>		<b>Count: 9</b>
3		aqua undetermined
1	curved, undetermined	body colorless undetermined
2	window	colorless undetermined lead
1	window	aqua undetermined lead
2	window	colorless undetermined lead
<b>Context: 698</b>		<b>Count: 17</b>
1	window	edge (window pane) aqua undetermined lead
4	window	aqua undetermined lead
8	window	colorless undetermined lead
4	window	colorless undetermined
<b>Context: 699</b>		<b>Count: 20</b>
20	window	aqua undetermined
<b>Context: 700</b>		<b>Count: 111</b>
1	bottle, wine	body olive green free blown
2	bottle, wine	body olive green undetermined
2	curved, undetermined	body colorless undetermined
2	flat, undetermined	body solarized undetermined
2	window	colorless undetermined lead
4	window	aqua undetermined lead
98	window	aqua undetermined
<b>Context: 701</b>		<b>Count: 13</b>
1		light blue undetermined melted
4	bottle	body olive green undetermined
1	bottle	base colorless undetermined
1	flat, undetermined	body solarized undetermined
6	flat, undetermined	aqua undetermined
<b>Context: 702</b>		<b>Count: 3</b>
1	bottle	body olive green mold blown
1	flat, undetermined	body aqua undetermined lead
1	window	aqua undetermined
<b>Context: 703</b>		<b>Count: 2</b>
1	bottle	body olive green undetermined
1	window	aqua undetermined
<b>Context: 704</b>		<b>Count: 28</b>
1	flat, undetermined	body colorless undetermined
27	window	aqua undetermined
<b>Context: 705</b>		<b>Count: 4</b>
1	flat, undetermined	body solarized undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
1	flat, undetermined	body colorless undetermined
2	window	aqua undetermined
<b>Context: 706</b>		<b>Count: 43</b>
5	bottle	body olive green free blown 1 frag mends to base
1	bottle	base olive green free blown pontil mark
1	bottle	finish olive green free blown V-shaped
1	curved, undetermined	base colorless undetermined
1	flat, undetermined	body solarized undetermined
2	flat, undetermined	colorless undetermined
32	window	aqua undetermined
<b>Context: 707</b>		<b>Count: 50</b>
1	bottle, wine	base olive green undetermined
49	window	aqua undetermined
<b>Context: 708</b>		<b>Count: 11</b>
4	bottle, wine	base olive green free blown mend
4	bottle, wine	body olive green undetermined
3	window	aqua undetermined
<b>Context: 710</b>		<b>Count: 10</b>
1	bottle	body olive green undetermined
1	curved, undetermined	body aqua undetermined
2	flat, undetermined	body solarized undetermined
2	flat, undetermined	aqua undetermined lead
4	window	aqua undetermined
<b>Context: 711</b>		<b>Count: 61</b>
3	bottle	body olive green undetermined
2	flat, undetermined	body solarized undetermined
2	flat, undetermined	body colorless undetermined frosted
2	flat, undetermined	body colorless undetermined
52	window	aqua undetermined
<b>Context: 712</b>		<b>Count: 34</b>
1	bottle	body olive green undetermined
1	bottle	body colorless pressed/press molded "CO./RTERS/NCTONS/TON"
2	curved, undetermined	body colorless undetermined
6	flat, undetermined	body colorless undetermined
3	flat, undetermined	body aqua undetermined lead
21	window	aqua undetermined
<b>Context: 713</b>		<b>Count: 3</b>
2	flat, undetermined	body solarized undetermined
1	window	aqua undetermined
<b>Context: 714</b>		<b>Count: 31</b>
1	bottle	body olive green dip-molded
2	curved, undetermined	body colorless undetermined
1	window	edge (window pane) colorless
3	window	colorless
24	window	aqua
<b>Context: 716</b>		<b>Count: 7</b>
1	flat, undetermined	body light green undetermined
6	window	aqua undetermined

## Glass from GOR

Object	Portion/ Color/ Mfr. method/ Style/ Comments
<b>Context: 717</b>	<b>Count: 35</b>
1 bottle	base olive green free blown
9 bottle	body olive green undetermined
3 flat, undetermined	body solarized undetermined
1 flat, undetermined	body colorless undetermined
21 window	aqua undetermined
<b>Context: 718</b>	<b>Count: 11</b>
2 bottle	body olive green undetermined
1 flat, undetermined	body solarized undetermined
1 flat, undetermined	colorless undetermined
1 stemware	fragment colorless undetermined chip from larger piece
1 stemware	stem colorless undetermined pontil mark
4 window	aqua undetermined
1 window	aqua undetermined twisted
<b>Context: 719</b>	<b>Count: 1</b>
1 bottle	body aqua mold blown paneled
<b>Context: 723</b>	<b>Count: 1</b>
1 flat, undetermined	body colorless undetermined white paint
<b>Context: 724</b>	<b>Count: 6</b>
1 flat, undetermined	body aqua undetermined lead
5 window	aqua undetermined
<b>Context: 725</b>	<b>Count: 2</b>
2 window	aqua undetermined
<b>Context: 726</b>	<b>Count: 12</b>
1 flat, undetermined	body solarized undetermined
8 window	aqua undetermined lead
3 window	aqua undetermined
<b>Context: 727</b>	<b>Count: 22</b>
2 bottle	body olive green undetermined
1 curved, undetermined	body colorless undetermined
1 curved, undetermined	body colorless undetermined lamp?, metal afixed to base, appears to match lamp in ctx 739
4 window	edge (window pane) aqua undetermined
14 window	aqua undetermined
<b>Context: 730</b>	<b>Count: 2</b>
2 bottle	body olive green undetermined
<b>Context: 731</b>	<b>Count: 26</b>
2 flat, undetermined	body colorless undetermined
24 window	aqua undetermined
<b>Context: 732</b>	<b>Count: 15</b>
9 flat, undetermined	body colorless undetermined
6 window	aqua undetermined
<b>Context: 733</b>	<b>Count: 6</b>
1 flat, undetermined	body aqua undetermined
5 window	colorless undetermined
<b>Context: 736</b>	<b>Count: 28</b>
1 bottle	body olive green undetermined
7 flat, undetermined	body colorless undetermined
4 flat, undetermined	body solarized undetermined

## Glass from GOR

	Object	Portion/ Color/ Mfr. method/ Style/ Comments
16	window	aqua undetermined
<b>Context: 737</b>		<b>Count: 116</b>
1	curved, indet.	body light green undetermined
4	flat, undetermined	body solarized undetermined
1	flat, undetermined	base colorless undetermined
110	window	aqua undetermined
<b>Context: 739</b>		<b>Count: 32</b>
1	lamp	base colorless undetermined with metal band in conservation
1	lamp	rim colorless undetermined
21	lamp	body colorless undetermined
1	window	colorless undetermined
6	window	aqua undetermined
2	window	colorless undetermined leaded?
<b>Context: 740</b>		<b>Count: 33</b>
2	bottle	body olive green undetermined
1	container	rim light green undetermined slightly melted
3	flat, undetermined	body colorless undetermined
2	flat, undetermined	body solarized undetermined
25	window	aqua undetermined
<b>Context: 741</b>		<b>Count: 11</b>
3	flat, undetermined	body colorless undetermined
4	flat, undetermined	body solarized undetermined
4	window	aqua undetermined
<b>Context: 742</b>		<b>Count: 7</b>
3	bottle	body olive green undetermined
4	window	aqua undetermined
<b>Context: 743</b>		<b>Count: 2</b>
1	bottle	body olive green dip-molded
1	window	aqua undetermined
<b>Context: 744</b>		<b>Count: 16</b>
1	flat, undetermined	body colorless undetermined
2	lamp	base colorless undetermined mend
13	lamp	body colorless undetermined
<b>Context: 745</b>		<b>Count: 6</b>
1	bottle	body olive green undetermined
1	curved, undetermined	body colorless undetermined
1	curved, undetermined	colorless undetermined burnt/melted
1	flat, undetermined	body colorless undetermined
2	window	aqua undetermined
<b>Context: 746</b>		<b>Count: 1</b>
1	flat, undetermined	body aqua undetermined
<b>Context: 747</b>		<b>Count: 32</b>
2	bottle	body olive green undetermined
9	flat, undetermined	body solarized undetermined
5	window	colorless undetermined
13	window	aqua undetermined
3	window	edge (window pane) aqua undetermined mend

## Glass from GOR

Object	Portion/ Color/ Mfr. method/ Style/ Comments
<b>Context: 748</b>	<b>Count: 18</b>
10 bottle	body olive green dip-molded
8 window	aqua undetermined
<b>Context: 750</b>	<b>Count: 3</b>
2 window	colorless undetermined leaded?
1 window	aqua undetermined
<b>Context: 751</b>	<b>Count: 5</b>
2 bottle	body olive green undetermined
2 window	colorless undetermined leaded?
1 window	aqua undetermined
<b>Context: 756</b>	<b>Count: 2</b>
1 bottle	body olive green dip-molded
1 window	aqua undetermined
<b>Context: 758</b>	<b>Count: 2</b>
2 window	
<b>Context: 762</b>	<b>Count: 1</b>
1 curved, undetermined	body colorless undetermined
<b>Context: 763</b>	<b>Count: 1</b>
1 window	colorless undetermined
<b>Context: 765</b>	<b>Count: 2</b>
1 flat, undetermined	body colorless undetermined
1 window	aqua undetermined
<b>Context: 766</b>	<b>Count: 4</b>
1 window	edge (window pane) colorless undetermined
3 window	colorless undetermined
<b>Context: 767</b>	<b>Count: 1</b>
1 window	colorless undetermined
<b>Context: 769</b>	<b>Count: 3</b>
1 bottle	body olive green dip-molded
2 window	aqua undetermined
<b>Context: 771</b>	<b>Count: 8</b>
1 bottle	body olive green dip-molded
2 window	colorless undetermined
1 window	edge (window pane) colorless undetermined corner piece
4 window	aqua undetermined
<b>Context: 772</b>	<b>Count: 187</b>
58 window	aqua undetermined
126 window	colorless undetermined
3 window	edge (window pane) colorless undetermined
<b>Context: 773</b>	<b>Count: 1</b>
1 bottle	body olive green dip-molded
<b>Grand Total:4583</b>	

## Other materials from GOR

### Context: 602

Architectural	Total: 1
1 brick,	
Fuel and Furnace	Total: 2
2 slag,	
Metal	Total: 3
1 ferrous object, bottle cap	
1 ferrous other, strap, curved	
1 nonferrous other, wire	
Small finds	Total: 1
1 other, bead glass, iridescent, oval, 1 flat side (not pierced)	

### Context: 603

Architectural	Total: 2
1 stone, slate	
1 stone, marble	

### Context: 604

Architectural	Total: 4
4 brick,	

### Context: 605

Architectural	Total: 7
7 brick, 1 almost whole	
Metal	Total: 4
1 ferrous object, can base	
3 ferrous other,	
Organic	Total: 4
4 wood,	
Utensils/tools/hardware	Total: 2
1 other, hardware mounting plate and swiveling arm	
1 architectural hardware, shutter tie	

### Context: 606

Architectural	Total: 3
1 stone, marble tile frag	
2 stone, slate	

### Context: 607

Architectural	Total: 3
3 brick,	

### Context: 608

Fuel and furnace	Total: 1
1 coal,	
Metal	Total: 8
8 ferrous other,	
Organic	Total: 1
1 wood,	

### Context: 609

Architectural	Total: 2
2 stone, slate	
Fuel and furnace	Total: 1
1 coal,	

## Other materials from GOR

### Context: 610

	Total:	
		,
Metal	Total: 2	
1		nonferrous object, bottle cap
1		nonferrous object, ring washer? not adornment

### Context: 611

Architectural	Total: 1	
1		stone, slate

### Context: 612

Architectural	Total: 13	
8		brick, 1 burned on 1 end
1		mortar,
4		stone, marble
Fuel and furnace	Total: 2	
2		slag,
Metal	Total: 1	
1		ferrous other, wire w loop at one end

### Context: 613

Architectural	Total: 10	
7		brick, fire brick check ID
3		stone, slate
Fuel and furnace	Total: 4	
4		coal,
Lithic	Total: 1	
1		non-architectural stone, quartzite?

### Context: 614

Architectural	Total: 1	
1		stone, slate
Lithic	Total: 1	
1		non-architectural stone, quartzite
Metal	Total: 1	
1		ferrous other, wire
Utensils/tools/hardware	Total: 1	
1		architectural hardware, latch hook iron; 6cm long

### Context: 615

Architectural	Total: 7	
7		stone, marble very decayed

### Context: 617

Fuel and furnace	Total: 1	
1		coal,

### Context: 618

Architectural	Total: 53	
43		brick,
8		mortar,
2		stone, slate
Fuel and furnace	Total: 5	
2		coal,



## Other materials from GOR

2	slag,	
1	charcoal,	
Organic		Total: 1
1	wood,	

### Context: 619

Architectural		Total: 1
1	brick,	
Fuel and furnace		Total: 5
5	slag,	
Metal		Total: 16
1	nonferrous object, washer or tab - one side seems to have broken off something	
3	ferrous object, can	
2	ferrous other, wire	
10	ferrous other,	
Synthetic		Total: 1
1	other, unknown bright yellow	

### Context: 620

Architectural		Total: 36
21	brick,	
11	mortar,	
4	plaster, w mortar	
Fuel and furnace		Total: 3
1	slag,	
2	coal,	
Metal		Total: 27
26	ferrous other,	
1	nonferrous other, lead scrap lead	
Utensils/tools/hardware		Total: 3
1	architectural hardware, unknown ferrous, strap w hole for attaching to surface and hook	
1	animal hardware, unknown ferrous, possible horse or ox shoe frag	
1	other, unknown ferrous, wide ring w nail/screw attachment	

### Context: 621

Architectural		Total: 1
1	stone, slate	
Fuel and furnace		Total: 1
1	slag,	
Organic		Total: 1
1	wood,	

### Context: 622

Architectural		Total: 1
1	mortar,	
Metal		Total: 1
1	ferrous object, wire doubled and shaped into an S hook	

### Context: 623

Architectural		Total: 73
18	brick,	
50	mortar,	

## Other materials from GOR

3	stone, marble	
2	stone, slate	
Fuel and furnace		Total: 8
8	charcoal,	
Small finds		Total: 1
1	adornment, buckle ferrous	

### Context: 624

Architectural		Total: 12
5	brick,	
4	mortar,	
3	stone, marble	
Fuel and furnace		Total: 2
2	coal and furnace products, unseparated,	
Metal		Total: 1
1	ferrous other,	

### Context: 625

Architectural		Total: 4
3	brick,	
1	stone, slate	
Fuel and furnace		Total: 8
8	coal and furnace products, unseparated,	
Utensils/tools/hardware		Total: 1
1	other, hook iron	

### Context: 626

Architectural		Total: 8
3	brick,	
3	mortar,	
1	stone, slate	
1	stone, granite small frag	
Fuel and furnace		Total: 1
1	coal and furnace products, unseparated,	

### Context: 627

Architectural		Total: 20
8	brick,	
9	stone, marble	
3	stone, slate	
Fuel and furnace		Total: 9
9	coal and furnace products, unseparated,	
Metal		Total: 5
4	nonferrous object, sheets, pierced copper	
1	nonferrous object, tag, pierced lead, rectangular tag fragment	
Organic		Total: 1
1	wood,	

### Context: 628

Architectural		Total: 1
1	mortar,	

## Other materials from GOR

Fuel and furnace		Total: 20	coal and furnace products, unseparated,
	20		
Lithic		Total: 14	
	14		non-architectural stone, non-architectural stone frags, sandstone, 1 quartzite
Metal		Total: 6	
	6		ferrous other,
Small finds		Total: 1	
	1		other, tag lead, "3," rectangular w hole at either end, ferrous nail frag remains in one

### Context: 629

Architectural		Total: 3	stone, slate
	2		
	1		mortar,
Arms and amunition		Total: 1	
	1		gun flint,
Fuel and furnace		Total: 6	
	6		coal and furnace products, unseparated,
Metal		Total: 1	
	1		ferrous other, strap

### Context: 630

Architectural		Total: 19	brick,
	10		
	9		mortar,
Fuel and furnace		Total: 16	
	16		charcoal,
Small finds		Total: 1	
	1		adornment, buckle

### Context: 631

Architectural		Total: 1	mortar,
	1		
Utensils/tools/hardware		Total: 1	
	1		other, unidentified hardware ferrous, pulled to conservation box, check for description

### Context: 632

Architectural		Total: 4	stone, slate
	2		
	2		mortar,
Utensils/tools/hardware		Total: 10	
	8		tools, shovel ferrous fragments, conserved
	1		tools, shovel blade ferrous, conserved
	1		tools, shovel blade and handle ferrous, conserved

### Context: 633

Architectural		Total: 33	brick,
	1		
	32		mortar,
Fuel and furnace		Total: 3	
	3		coal,
Metal		Total: 2	
	2		ferrous other,



## Other materials from GOR

Metal		Total: 149	
	99		ferrous object, colender
	45		ferrous object, colender probably
	1		nonferrous other, lead flat frag
	4		ferrous other,
Organic		Total: 2	
	2		wood, w green paint
Utensils/tools/hardware		Total: 2	
	1		architectural hardware, latch part? ferrous, bar
	1		tools, paint brush bristles and band, w paint

### Context: 639

Architectural		Total: 3	
	3		stone, slate
Lithic		Total: 1	
	1		non-architectural stone, quartz
Metal		Total: 2	
	1		nonferrous other, lead sheet frag lead
	1		ferrous other, wire

### Context: 640

Architectural		Total: 30	
	9		brick,
	21		mortar,
Fuel and furnace		Total: 18	
	9		coal and furnace products, unseparated,
	9		charcoal,
Metal		Total: 1	
	1		ferrous object, unknown frag of rectangular block, solid iron, removed to cons box
Utensils/tools/hardware		Total: 1	
	1		tools, blade frag? ferrous, thick blade or machine tooth frag?

### Context: 641

Architectural		Total: 2	
	2		stone, slate
Metal		Total: 9	
	1		nonferrous other, wire Cu alloy, twisted into a loop
	8		ferrous other,

### Context: 642

Architectural		Total: 2	
	1		brick, burned
	1		brick, molded/shaped?
Metal		Total: 1	
	1		nonferrous object, cap or valve? cu alloy screw cap w hole for fitting
Utensils/tools/hardware		Total: 2	
	1		cutlery, handle? bone w bored hole, 1 flat side
	1		cutlery, handle? bone shaft w metal cap

### Context: 643

Fuel and furnace		Total: 2	
	1		coal,

## Other materials from GOR

1 slag,

### Context: 644

Architectural Total: 29  
26 brick,

2 brick, fire brick

1 stone, slate

Fuel and furnace Total: 17  
17 coal,

Metal Total: 1

1 nonferrous object, tube, rubber cement Goodyear Cold Patching Cement (Rubber Cement)

### Context: 645

Fuel and furnace Total: 7  
7 coal and furnace products, unseparated,

Synthetic Total: 1  
1 plastic, thin rigid white frag

### Context: 646

Architectural Total: 1  
1 stone, marble

Fuel and furnace Total: 7  
1 coal and furnace products, unseparated,  
6 charcoal,

Utensils/tools/hardware Total: 1  
1 other, unknown long, oblong, concave, slightly wider at one end w a hole pierced at the other

### Context: 647

Architectural Total: 12  
6 brick,

6 stone, slate

### Context: 648

Architectural Total: 3  
2 mortar,

1 stone, slate

Fuel and furnace Total: 6  
2 slag,

4 coal,

Organic Total: 2  
2 wood,

### Context: 651

Architectural Total: 10  
5 brick, fire brick

3 stone, slate one piece has a nail hole

2 stone, marble

Metal Total: 13  
10 ferrous other, sheet

1 ferrous other, wire

2 ferrous other, sheet large

Utensils/tools/hardware Total: 6  
1 architectural hardware, hinge; H-type iron; 16.1cm long, 2.2cm wide; removed to conservation box

## Other materials from GOR

1		architectural hardware, window hardware ferrous, held pulley for casement window, removed to conservation
1		architectural hardware, unknown ferrous sheet w brass fitting, door+latch?, removed to conservation
1		architectural hardware, unknown brass wing handle a ferrous latch/mechanism, removed to conservation
2		architectural hardware, hinge pin 10.4cm long

### Context: 652

Architectural		Total: 4	
4			brick,
Fuel and furnace		Total: 1	
1			coal,
Utensils/tools/hardware		Total: 1	
1			architectural hardware, hinge; H-type ferrous, w one nail remaining; 15.8cm long, 2cm wide

### Context: 653

Architectural		Total: 41	
39			mortar,
2			stone, slate
Fuel and furnace		Total: 4	
4			coal and furnace products, unseparated,
Metal		Total: 4	
2			ferrous other, strapping
2			ferrous other, heavy bar/ ingots?
Utensils/tools/hardware		Total: 2	
1			architectural hardware, spike w decorative silver cap ferrous spike, with cap, silver colored over copper alloy
1			tools, saw boss Cu alloy, "H Disston & Sons Phila" with a keystone in center. This boss 1896-1917

### Context: 654

Architectural		Total: 1	
1			stone, marble
Fuel and furnace		Total: 3	
3			coal,
Lithic		Total: 1	
1			non-architectural stone, mica
Organic		Total: 1	
1			leather, lace/tie?

### Context: 655

Architectural		Total: 41	
4			brick,
19			mortar,
18			stone, slate
Fuel and furnace		Total: 15	
12			coal,
3			slag,
Lithic		Total: 4	
1			non-architectural stone, quartz
3			non-architectural stone, green mottled stone frags
Organic		Total: 3	
1			wood,
2			other, brush bundles of hair/fibers

## Other materials from GOR

Small finds                                  Total: 1  
1                  adornment, flat button with shank copper alloy, 14mm diam.

Utensils/tools/hardware                  Total: 5  
1                  other, keyhole cover copper alloy  
2                  architectural hardware, latch fragments 2.3cm wide  
1                  architectural hardware, padlock fragment iron  
1                  furniture hardware, tack wrought

### Context: 656

Architectural                                  Total: 2  
1                  mortar,  
1                  stone, slate  
Fuel and furnace                              Total: 6  
2                  coal,  
4                  slag,

### Context: 658

Architectural                                  Total: 5  
4                  stone, slate  
1                  stone, marble  
Fuel and furnace                              Total: 1  
1                  charcoal,

### Context: 659

Architectural                                  Total: 2  
2                  stone, marble  
Fuel and furnace                              Total: 7  
6                  coal,  
1                  furnace scale,  
Metal    Total: 1  
1                  nonferrous other, nail/ wire stock lead

### Context: 662

Architectural                                  Total: 24  
6                  brick, burnt, 1 piece possible coal/furnace  
2                  brick,  
1                  brick, burnt, glazed, corner  
15                  mortar,  
Fuel and furnace                              Total: 1  
1                  charcoal,

### Context: 663

Architectural                                  Total: 6  
2                  brick,  
4                  mortar, 1 large piece, brick embedded in matrix  
Fuel and furnace                              Total: 2  
2                  coal,

### Context: 665

Architectural                                  Total: 2  
1                  plaster,  
1                  stone, marble



## Other materials from GOR

Fuel and furnace		Total: 3
3	slag,	
Metal		Total: 6
4	ferrous other, highly corroded	
1	ferrous object, undetermined curved	
1	nonferrous other, lead	

### Context: 666

Architectural		Total: 1
1	stone, marble	
Lithic		Total: 1
1	non-architectural stone,	

### Context: 668

Architectural		Total: 5
1	brick, underfired	
1	mortar,	
3	stone, marble	
Metal		Total: 1
1	nonferrous other, sheet copper	

### Context: 669

Architectural		Total: 14
2	brick, mend	
12	mortar,	
Fuel and furnace		Total: 12
10	coal,	
2	slag,	
Lithic		Total: 2
1	non-architectural stone, sandstone slab	
1	non-architectural stone, slate	
Metal		Total: 1
1	ferrous other, sheet	
Utensils/tools/hardware		Total: 3
1	architectural hardware, shutter pintle	
1	architectural hardware, hinge; H-type iron; 12.4cm long, 2cm wide	
1	tools, saw blade nose iron	

### Context: 670

Architectural		Total: 8
1	brick, glazed	
7	mortar,	
Organic		Total: 8
8	other, shell, button blanks	
Small finds		Total: 2
2	adornment, button shell, 2 holes, 2 1/2 cm diam.	
Utensils/tools/hardware		Total: 2
2	architectural hardware, hinge iron, both pieces have nail frags which were used to attach hinge	

### Context: 671

Architectural		Total: 11
2	brick, glazed and burnt	

## Other materials from GOR

9	mortar,	
Fuel and furnace		Total: 2
2	coal,	
Metal		Total: 2
2	ferrous other, strap	

### Context: 672

Architectural		Total: 4
2	brick,	
1	brick, burnt	
1	mortar,	
Fuel and furnace		Total: 9
9	coal,	
Lithic		Total: 4
3	non-architectural stone, sandstone	
1	non-architectural stone, slate	
Small finds		Total: 1
1	other, ring copper, curtain ring?	
Utensils/tools/hardware		Total: 1
1	furniture hardware, tack copper	

### Context: 673

Fuel and furnace		Total: 6
6	charcoal,	

### Context: 674

Architectural		Total: 2
1	brick, glazed	
1	mortar,	
Fuel and furnace		Total: 1
1	charcoal,	
Lithic		Total: 2
2	non-architectural stone, slate	

### Context: 675

Fuel and furnace		Total: 1
1	coal,	
Metal		Total: 1
1	ferrous object, undetermined	

### Context: 676

Architectural		Total: 6
6	mortar,	
Fuel and furnace		Total: 2
2	charcoal,	
Metal		Total: 1
1	ferrous other, sheet	
Small finds		Total: 1
1	needlework and sewing, thimble	

### Context: 678

		Total: 2
2	,	

## Other materials from GOR

Metal	Total:
	nonferrous other, sheet copper

### Context: 679

Architectural	Total: 2
2	brick,
Lithic	Total: 1
1	non-architectural stone, shaped?
Metal	Total: 2
2	ferrous other, unidentified

### Context: 681

Architectural	Total: 1
1	brick,
Lithic	Total: 1
1	non-architectural stone, slate
Metal	Total: 1
1	ferrous other, indeterminate flat iron fragment

### Context: 683

Architectural	Total: 2
2	mortar,
Lithic	Total: 2
2	non-architectural stone, slate
Metal	Total: 3
2	ferrous other, sheet
1	ferrous other, strap
Utensils/tools/hardware	Total: 2
1	other, chain iron
1	architectural hardware, hinge; snipe iron

### Context: 684

Lithic	Total: 1
1	non-architectural stone, slate

### Context: 686

Architectural	Total: 27
20	mortar,
7	stone, marble 1 attached to plaster
Fuel and furnace	Total: 16
5	coal,
11	charcoal,
Metal	Total: 3
2	ferrous other, flat fragments
1	nonferrous object, lead

### Context: 687

Architectural	Total: 2
2	brick,

### Context: 688

	Total:
	,
Architectural	Total: 2
2	mortar, 2 large chunks

## Other materials from GOR

### Context: 689

Architectural	Total: 3
1	brick,
1	plaster,
1	stone, marble
Metal	Total: 1
1	ferrous object, ring 5cm diam

### Context: 689.1

Lithic	Total: 1
1	non-architectural stone, flint, shatter
Metal	Total: 1
1	nonferrous object, copper, wire

### Context: 690

Architectural	Total: 2
2	brick,

### Context: 691

Architectural	Total: 1
1	stone, slate with mortar
Fuel and furnace	Total: 5
3	coal,
2	charcoal,
Utensils/tools/hardware	Total: 1
1	cutlery, wood and iron, handle

### Context: 692

Architectural	Total: 30
2	mortar,
28	stone, slate several pieces have nail holes
Fuel and furnace	Total: 4
4	coal,
Utensils/tools/hardware	Total: 1
1	architectural hardware, window sash weight? iron; 88.09g

### Context: 693

Synthetic	Total: 1
1	plastic, milky white, flat

### Context: 694

Metal	Total: 1
1	ferrous other, sheet
Organic	Total: 1
1	plant matter, seed, burnt

### Context: 695

Architectural	Total: 1
1	brick,
Fuel and furnace	Total: 1
1	coal,
Small finds	Total: 1
1	other, possibly burnt bone

### Context: 696

## Other materials from GOR

Fuel and furnace	Total: 3
3 charcoal,	

### Context: 697

Architectural	Total: 4
1 brick,	
1 stone, slate	
2 mortar,	

### Context: 698

Architectural	Total: 4
2 brick,	
1 stone, slate	
1 mortar,	

Fuel and furnace	Total: 6
6 charcoal,	

Utensils/tools/hardware	Total: 1
1 animal hardware, ox shoe conserved	

### Context: 699

Architectural	Total: 1
1 brick, glazed, burnt	

Metal	Total: 1
1 nonferrous object, lead	

### Context: 700

	Total:
	,

Architectural	Total: 5
3 stone, slate	

2 brick, glazed, burnt	
------------------------	--

Metal	Total: 1
1 nonferrous other, lead melted	

### Context: 701

Architectural	Total: 23
2 brick, 1 piece glazed, burnt	

2 mortar,	
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19 stone, marble	
------------------	--

Fuel and furnace	Total: 22
16 coal and furnace products, unseparated,	

6 coal,	
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### Context: 702

Architectural	Total: 2
1 brick,	

1 mortar,	
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Fuel and furnace	Total: 2
2 slag,	

### Context: 704

Architectural	Total: 3
3 mortar,	

### Context: 705

## Other materials from GOR

Architectural	Total: 3
2	brick,
1	mortar,
Fuel and furnace	Total: 1
1	charcoal,

### Context: 706

Fuel and furnace	Total: 5
5	charcoal,
Lithic	Total: 5
1	non-architectural stone, quartz
1	non-architectural stone, shatter
3	non-architectural stone, schist?
Metal	Total: 2
2	ferrous other, sheet
Utensils/tools/hardware	Total: 11
1	animal hardware, ox shoe iron
7	architectural hardware, rim lock fragments conserved
3	architectural hardware, stock lock parts conserved; lock bolt, main ward, spring

### Context: 707

Architectural	Total: 1
1	brick,
Metal	Total: 4
1	ferrous other, strap
3	ferrous other, unidentified

### Context: 708

Architectural	Total: 16
16	mortar,

### Context: 710

Architectural	Total: 1
1	stone, slate

### Context: 711

Architectural	Total: 6
3	brick,
1	mortar, brick inclusions
2	stone, slate
Fuel and furnace	Total: 3
1	slag,
2	charcoal,

### Context: 712

Architectural	Total: 26
1	mortar,
25	stone, marble
Fuel and furnace	Total: 8
8	coal,
Metal	Total: 1
1	ferrous object, unidentified curved

### Context: 714

## Other materials from GOR

Architectural		Total: 14
6	brick,	
1	mortar,	
5	stone, marble	
2	stone, slate	
Fuel and furnace		Total: 1
1	coal,	
Metal		Total: 21
14	ferrous other, strap	
7	ferrous other, unidentified	
Organic		Total: 5
5	wood, contains 2 cut nails	
Utensils/tools/hardware		Total: 3
1	architectural hardware, latch hook iron; 7.5cm long; twisted ornamentation	
1	architectural hardware, pull Cu with silver plating	
1	architectural hardware, latch eye iron	

### Context: 716

Fuel and furnace		Total: 5
5	charcoal,	

### Context: 717

Metal		Total: 1
1	nonferrous other, strap	
Utensils/tools/hardware		Total: 1
1	tools, hook attached to concrete/mortar	

### Context: 718

Architectural		Total: 1
1	stone, slate	
Fuel and furnace		Total: 1
1	coal,	
Utensils/tools/hardware		Total: 78
77	tools, bucket	
1	architectural hardware, window astragal lead/copper; 11mm wide, 197mm long	

### Context: 721

Fuel and furnace		Total: 13
13	charcoal,	
Lithic		Total: 1
1	non-architectural stone,	

### Context: 723

Architectural		Total: 10
1	brick,	
9	mortar,	
Fuel and furnace		Total: 1
1	charcoal,	

### Context: 724

Architectural		Total: 14
10	mortar,	
1	stone, slate	

## Other materials from GOR

1	plaster,	
2	other, clay	
Fuel and furnace		Total: 6
6	charcoal,	
Metal		Total: 1
1	ferrous other, sheet	
Utensils/tools/hardware		Total: 1
1	other, knife blade tip	

### Context: 726

Architectural		Total: 30
2	brick, plaster attached	
27	plaster,	
1	stone, marble	
Organic		Total: 1
1	wood,	

### Context: 727

Architectural		Total: 3
3	mortar,	
Fuel and furnace		Total: 8
5	charcoal,	
2	furnace scale,	
1	slag,	
Metal		Total: 1
1	ferrous other, unidentified	
Synthetic		Total: 40
40	other, paint?	
Utensils/tools/hardware		Total: 1
1	architectural hardware, hinge pin iron; 10cm long	

### Context: 729

Architectural		Total: 5
2	brick,	
3	mortar,	
Fuel and furnace		Total: 1
1	charcoal, 1 3X5 bag full	

### Context: 730

Metal		Total: 1
1	ferrous other, unidentified thin and flat	

### Context: 731

Architectural		Total: 1
1	mortar,	

### Context: 732

Metal		Total: 1
1	nonferrous other, lead, sheet	

### Context: 733

Architectural		Total: 11
1	brick,	
2	mortar,	



## Other materials from GOR

	8	stone, marble	
Fuel and furnace		Total: 23	
	18	coal,	
	4	charcoal,	
	1	furnace scale,	
Metal		Total: 32	
	17	ferrous object, wire lattice	
	15	ferrous other, corrosion lumps probably more wire	

### Context: 736

	2	stone, marble mortar attached	Total: 2
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### Context: 737

	2	stone, slate	Total: 2
Metal		Total: 2	
	2	ferrous other, sheet	

### Context: 738

	4	coal,	Total: 4
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### Context: 739

	2	brick,	Total: 58
	1	brick, glazed	
	55	mortar, some pieces likely attached to brick	
Fuel and furnace		Total: 25	
	25	coal,	
Metal		Total: 1	
	1	ferrous object, thick arc with 5 holes for attachment (1 hole open, 1 has nail through it)	
Organic		Total: 1	
	1	wood,	
Utensils/tools/hardware		Total: 23	
	6	tools, saw blade iron, 2 rivets to attach handle, can see wood grain marks from handle	
	17	tools, lamp base iron, band around glass lamp globe	

### Context: 740

	1	coal,	Total: 1
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### Context: 742

	4	stone, slate	Total: 4
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### Context: 744

	1	, glass patina flakes	Total: 1
Fuel and furnace		Total: 13	
	13	coal,	
Lithic		Total: 1	
	1	non-architectural stone, small stone, chipped?	

### Context: 745

## Other materials from GOR

Architectural		Total: 3
1	brick,	
2	stone, slate	

**Context: 746**

Architectural		Total: 14
14	mortar,	
Fuel and furnace		Total: 2
2	coal,	

**Context: 747**

Architectural		Total: 1
1	stone, slate	

**Context: 748**

Architectural		Total: 1
1	brick, burnt	

**Context: 750**

Fuel and furnace		Total: 1
1	slag,	

**Context: 756**

Architectural		Total: 5
1	brick,	
4	stone, slate	

**Context: 758**

Architectural		Total: 1
1	brick,	
Fuel and furnace		Total: 2
2	coal and furnace products, unseparated,	
Organic		Total: 9
9	wood,	

**Context: 763**

Metal		Total: 2
2	ferrous other, sheet	

**Context: 765**

Architectural		Total: 2
2	stone, marble	

**Context: 771**

Architectural		Total: 2
1	brick,	
1	stone, slate	
Fuel and furnace		Total: 1
1	furnace scale,	

**Context: 772**

Architectural		Total: 32
1	brick,	
31	mortar, burnt, some pieces possibly plaster	

**Context: 773**

Architectural		Total: 1
1	brick, 2 measurable sides	

**Context: 776**

## Other materials from GOR

Architectural	Total: 4
4	brick,

### Context: 777

Metal	Total: 4
3	ferrous other,
1	nonferrous object, melted lead

### Context: 779

Utensils/tools/hardware	Total: 1
1	tools, iron, blade

**Grand total:** 2150

## Smoking Pipes from GOR

<b>Context:</b> 604	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 stem	4/64 white pipe clay	
<b>Context:</b> 606	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 bowl		
<b>Context:</b> 610	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 stem	4/64 white pipe clay	
<b>Context:</b> 620	<b>Count:</b> 2	<b>Area:</b> Greenhouse
1 bowl	white pipe clay raised ribs	
1 stem		
<b>Context:</b> 623	<b>Count:</b> 5	<b>Area:</b> Greenhouse
2 bowl		
3 stem	5/64	
<b>Context:</b> 629	<b>Count:</b> 3	<b>Area:</b> Greenhouse
1 bowl		
1 bowl	fluted	
1 stem		
<b>Context:</b> 630	<b>Count:</b> 2	<b>Area:</b> Greenhouse
1 bowl		
1 bowl	parallel impressed lines, running around edge of bowl	
<b>Context:</b> 631	<b>Count:</b> 2	<b>Area:</b> Greenhouse
1 bowl		
1 stem	5/64 white pipe clay heart over T/ heart over D on either side of heel	
<b>Context:</b> 637	<b>Count:</b> 3	<b>Area:</b> Greenhouse
3 bowl		
<b>Context:</b> 640	<b>Count:</b> 8	<b>Area:</b> Greenhouse
8 bowl		
<b>Context:</b> 644	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 bowl	ribbing/fluting	
<b>Context:</b> 651	<b>Count:</b> 5	<b>Area:</b> Greenhouse
5 bowl	burned	
<b>Context:</b> 655	<b>Count:</b> 2	<b>Area:</b> Greenhouse
1 bowl	small amount of molding	
1 stem	broken, no bore diameter	
<b>Context:</b> 657	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 stem	6/64 white pipe clay Curved stem, raised decoration. Bands around stem, rows of circles along stem, 2 areas of text: 16.18.2-/NE- and -ARD'S/-CG	
<b>Context:</b> 659	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 stem	6/64	
<b>Context:</b> 667	<b>Count:</b> 1	<b>Area:</b> Carriage House Cellar
1 bowl	5/64 "T" "D" on bowl; "326" on side of stem	
<b>Context:</b> 712	<b>Count:</b> 1	<b>Area:</b> Greenhouse
1 stem	5/64	
<b>Context:</b> 714	<b>Count:</b> 2	<b>Area:</b> Greenhouse
2 stem	6/64	

## Smoking Pipes from GOR

**Context:** 744    **Count:** 1  
1    bowl    molded

**Area:** Greenhouse

**Context:** 748    **Count:** 1  
1    stem    5/64

**Area:** Greenhouse

**Grand Total:** 44

## Nails and Fasteners from GOR

**Context: 601**      **Count: 6**

3      Nails              wrought  
3      Nails              too corroded to ID

**Context: 602**      **Count: 7**

1      Nails              wire  
3      Nails              too corroded to ID  
2      Screw  
1      Spike              wrought

**Context: 603**      **Count: 6**

1      Nails              wire  
1      Nails              cut  
2      Nails              wire  
2      Nails              too corroded to ID

**Context: 604**      **Count: 3**

1      Nails              wrought  
1      Nails              cut  
1      Washer

**Context: 605**      **Count: 76**

5      Nails              wrought  
50     Nails              cut  
21     Nails              too corroded to ID

**Context: 606**      **Count: 7**

2      Nails              wrought  
1      Nails              cut  
4      Nails              too corroded to ID

**Context: 607**      **Count: 3**

2      Nails              cut  
1      Nails              wire

**Context: 608**      **Count: 4**

2      Nails              cut  
1      Nails              too corroded to ID  
1      Spike              ferrous

**Context: 609**      **Count: 4**

1      Nails              wrought  
1      Nails              wire  
2      Nails              too corroded to ID

**Context: 610**      **Count: 11**

1      Bolt              Fe bolt w brass fitting stamped DOT  
3      Nails              wrought  
5      Nails              cut  
2      Nails              wire

**Context: 611**      **Count: 2**

2      Nails              cut

**Context: 612**      **Count: 6**

4      Nails              wrought  
1      Nails              cut  
1      Nails              wire

**Context: 613**      **Count: 5**

1      Nails              cut  
4      Nails              too corroded to ID

## Nails and Fasteners from GOR

<b>Context:</b> 614	<b>Count:</b> 14
4	Nails wrought
7	Nails cut
1	Nails too corroded to ID
2	Spike ferrous
<b>Context:</b> 615	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 616	<b>Count:</b> 5
4	Nails wrought
1	Nails too corroded to ID
<b>Context:</b> 617	<b>Count:</b> 2
1	Nails wrought
1	Nails too corroded to ID
<b>Context:</b> 618	<b>Count:</b> 22
10	Nails wrought
12	Nails cut
<b>Context:</b> 619	<b>Count:</b> 12
3	Nails wrought
4	Nails cut
5	Nails too corroded to ID
<b>Context:</b> 620	<b>Count:</b> 83
1	Bolt ferrous hexagonal head
32	Nails wrought
15	Nails cut
33	Nails too corroded to ID
2	Spike wrought
<b>Context:</b> 621	<b>Count:</b> 9
3	Nails wrought
1	Nails cut
5	Nails too corroded to ID
<b>Context:</b> 622	<b>Count:</b> 19
1	Nails wrought
4	Nails cut
13	Nails too corroded to ID
1	Spike cut
<b>Context:</b> 623	<b>Count:</b> 53
3	Nails wrought
16	Nails cut
34	Nails too corroded to ID
<b>Context:</b> 624	<b>Count:</b> 10
9	Nails cut
1	Spike
<b>Context:</b> 625	<b>Count:</b> 24
1	Nails wrought
4	Nails cast
19	Nails too corroded to ID
<b>Context:</b> 626	<b>Count:</b> 14
3	Nails wrought
5	Nails cut
6	Nails too corroded to ID

## Nails and Fasteners from GOR

**Context: 627**      **Count: 23**  
8      Nails              wrought  
6      Nails              cut  
9      Nails              too corroded to ID

**Context: 628**      **Count: 37**  
4      Nails              wrought  
9      Nails              cut  
24     Nails              too corroded to ID

**Context: 629**      **Count: 98**  
15     Nails              wrought  
10     Nails              cut  
73     Nails              too corroded to ID

**Context: 630**      **Count: 35**  
7      Nails              wrought  
3      Nails              cut  
25     Nails              too corroded to ID

**Context: 631**      **Count: 43**  
2      Nails              wrought  
10     Nails              cut  
30     Nails              too corroded to ID  
1      Screw

**Context: 632**      **Count: 6**  
3      Nails              cut  
3      Nails              too corroded to ID

**Context: 633**      **Count: 48**  
6      Nails              wrought  
5      Nails              cut  
2      Nails              wire  
32     Nails              too corroded to ID  
2      Screw  
1      Spike

**Context: 634**      **Count: 31**  
10     Nails              wrought  
3      Nails              cut  
17     Nails              too corroded to ID  
1      Spike

**Context: 635**      **Count: 3**  
3      Nails              too corroded to ID

**Context: 636**      **Count: 10**  
2      Nails              wrought  
2      Nails              cut  
6      Nails              too corroded to ID

**Context: 637**      **Count: 135**  
11     Nails              wrought  
29     Nails              cut  
93     Nails              too corroded to ID  
2      Nails              cut wrought head

**Context: 639**      **Count: 22**  
2      Nails              wrought  
3      Nails              cut  
17     Nails              too corroded to ID



## Nails and Fasteners from GOR

<b>Context:</b> 640	<b>Count:</b> 142	
15	Nails	wrought
20	Nails	cut
107	Nails	too corroded to ID
<b>Context:</b> 641	<b>Count:</b> 18	
3	Nails	cut
15	Nails	too corroded to ID
<b>Context:</b> 642	<b>Count:</b> 32	
2	Nails	wrought
5	Nails	cast
25	Nails	too corroded to ID
<b>Context:</b> 643	<b>Count:</b> 4	
4	Nails	too corroded to ID
<b>Context:</b> 644	<b>Count:</b> 52	
10	Nails	wrought
17	Nails	cut
24	Nails	too corroded to ID
1	Spike	
<b>Context:</b> 645	<b>Count:</b> 15	
15	Nails	too corroded to ID
<b>Context:</b> 646	<b>Count:</b> 6	
5	Nails	wrought
1	Nails	cut
<b>Context:</b> 647	<b>Count:</b> 8	
8	Nails	too corroded to ID
<b>Context:</b> 648	<b>Count:</b> 24	
24	Nails	too corroded to ID
<b>Context:</b> 649	<b>Count:</b> 5	
1	Nails	cut
4	Nails	too corroded to ID
<b>Context:</b> 651	<b>Count:</b> 124	
5	Nails	wrought
12	Nails	cut
98	Nails	too corroded to ID
9	Spike	
<b>Context:</b> 652	<b>Count:</b> 5	
1	Nails	cut
4	Nails	too corroded to ID
<b>Context:</b> 653	<b>Count:</b> 59	
59	Nails	too corroded to ID
<b>Context:</b> 654	<b>Count:</b> 15	
5	Nails	wrought
1	Nails	cut
9	Nails	too corroded to ID
<b>Context:</b> 655	<b>Count:</b> 73	
40	Nails	too corroded to ID
6	Nails	wrought
21	Nails	cut
6	Nails	wrought or cut
<b>Context:</b> 656	<b>Count:</b> 9	
9	Nails	too corroded to ID

## Nails and Fasteners from GOR

<b>Context:</b> 657	<b>Count:</b> 1
1 Nails	cut
<b>Context:</b> 658	<b>Count:</b> 19
4 Nails	cut
15 Nails	too corroded to ID
<b>Context:</b> 659	<b>Count:</b> 11
3 Nails	wrought
8 Nails	too corroded to ID
<b>Context:</b> 661	<b>Count:</b> 5
3 Nails	wrought
2 Nails	cut
<b>Context:</b> 662	<b>Count:</b> 10
1 Nails	cut
9 Nails	too corroded to ID
<b>Context:</b> 663	<b>Count:</b> 9
5 Nails	cut
4 Nails	too corroded to ID
<b>Context:</b> 665	<b>Count:</b> 8
2 Nails	too corroded to ID
3 Nails	wire
3 Nails	cut
<b>Context:</b> 666	<b>Count:</b> 10
2 Nails	cut
7 Nails	too corroded to ID
1 Spike	
<b>Context:</b> 668	<b>Count:</b> 5
3 Nails	too corroded to ID
2 Spike	
<b>Context:</b> 669	<b>Count:</b> 82
3 Nails	wrought
20 Nails	cut
59 Nails	too corroded to ID
<b>Context:</b> 670	<b>Count:</b> 11
11 Nails	too corroded to ID
<b>Context:</b> 671	<b>Count:</b> 20
19 Nails	too corroded to ID
1 Spike	
<b>Context:</b> 672	<b>Count:</b> 135
25 Nails	wrought
28 Nails	cut
82 Nails	too corroded to ID
<b>Context:</b> 673	<b>Count:</b> 13
3 Nails	cut
10 Nails	too corroded to ID
<b>Context:</b> 674	<b>Count:</b> 36
2 Nails	wrought
2 Nails	cut
32 Nails	too corroded to ID
<b>Context:</b> 675	<b>Count:</b> 7
2 Nails	wrought

## Nails and Fasteners from GOR

4	Nails	cut
1	Nails	too corroded to ID
<b>Context: 676</b>	<b>Count: 47</b>	
13	Nails	wrought
5	Nails	cut
29	Nails	too corroded to ID
<b>Context: 677</b>	<b>Count: 4</b>	
2	Nails	cut
2	Nails	too corroded to ID
<b>Context: 678</b>	<b>Count: 10</b>	
2	Nails	wrought
7	Nails	too corroded to ID
1	Screw	wire
<b>Context: 679</b>	<b>Count: 2</b>	
1	Nails	wrought
1	Nails	too corroded to ID
<b>Context: 681</b>	<b>Count: 107</b>	
16	Nails	cut several double struck, hand-headed
91	Nails	too corroded to ID
<b>Context: 682</b>	<b>Count: 1</b>	
1	Nails	too corroded to ID
<b>Context: 683</b>	<b>Count: 93</b>	
4	Nails	wrought
21	Nails	cut
68	Nails	too corroded to ID
<b>Context: 684</b>	<b>Count: 31</b>	
3	Nails	wrought
8	Nails	cut some reddened, heat
20	Nails	too corroded to ID
<b>Context: 686</b>	<b>Count: 28</b>	
2	Nails	cut
26	Nails	too corroded to ID
<b>Context: 687</b>	<b>Count: 1</b>	
1	Nails	too corroded to ID
<b>Context: 688</b>	<b>Count: 9</b>	
8	Nails	too corroded to ID
1	Spike	iron
<b>Context: 689</b>	<b>Count: 16</b>	
7	Nails	wrought
1	Nails	cut
8	Nails	too corroded to ID
<b>Context: 689.1</b>	<b>Count: 10</b>	
2	Nails	wrought
1	Nails	cut
7	Nails	too corroded to ID
<b>Context: 690</b>	<b>Count: 2</b>	
1	Nails	wrought
1	Nails	too corroded to ID
<b>Context: 691</b>	<b>Count: 9</b>	
2	Nails	cut
7	Nails	too corroded to ID

## Nails and Fasteners from GOR

<b>Context:</b> 692	<b>Count:</b> 13
3	Nails wrought
4	Nails cut
6	Nails too corroded to ID
<b>Context:</b> 693	<b>Count:</b> 5
5	Nails too corroded to ID
<b>Context:</b> 694	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 695	<b>Count:</b> 109
28	Nails wrought
21	Nails cut
60	Nails too corroded to ID
<b>Context:</b> 696	<b>Count:</b> 2
2	Nails wrought
<b>Context:</b> 697	<b>Count:</b> 8
8	Nails too corroded to ID
<b>Context:</b> 698	<b>Count:</b> 17
1	Nails wrought
16	Nails too corroded to ID
<b>Context:</b> 700	<b>Count:</b> 16
1	Nails wrought
2	Nails cut
13	Nails too corroded to ID
<b>Context:</b> 701	<b>Count:</b> 27
8	Nails wrought
9	Nails cut
10	Nails too corroded to ID
<b>Context:</b> 702	<b>Count:</b> 3
3	Nails too corroded to ID
<b>Context:</b> 703	<b>Count:</b> 5
1	Nails wrought
4	Nails too corroded to ID
<b>Context:</b> 705	<b>Count:</b> 5
3	Nails wrought
1	Nails cut
1	Nails too corroded to ID
<b>Context:</b> 706	<b>Count:</b> 36
1	Nails cut
35	Nails too corroded to ID
<b>Context:</b> 707	<b>Count:</b> 6
6	Nails too corroded to ID
<b>Context:</b> 708	<b>Count:</b> 4
4	Nails cut
<b>Context:</b> 709	<b>Count:</b> 1
1	Nails too corroded to ID
<b>Context:</b> 710	<b>Count:</b> 46
2	Nails wrought
4	Nails cut
40	Nails too corroded to ID
<b>Context:</b> 711	<b>Count:</b> 9
1	Nails cut

## Nails and Fasteners from GOR

8	Nails	too corroded to ID
<b>Context: 712</b>	<b>Count: 13</b>	
2	Nails	wrought
2	Nails	cut
9	Nails	too corroded to ID
<b>Context: 713</b>	<b>Count: 3</b>	
3	Nails	too corroded to ID
<b>Context: 714</b>	<b>Count: 34</b>	
31	Nails	cut
2	Nails	too corroded to ID
1	Screw	
<b>Context: 716</b>	<b>Count: 1</b>	
1	Nails	too corroded to ID
<b>Context: 717</b>	<b>Count: 6</b>	
3	Nails	wrought
3	Nails	too corroded to ID
<b>Context: 718</b>	<b>Count: 20</b>	
1	Nails	wrought
19	Nails	too corroded to ID
<b>Context: 719</b>	<b>Count: 6</b>	
6	Nails	too corroded to ID
<b>Context: 724</b>	<b>Count: 5</b>	
5	Nails	too corroded to ID
<b>Context: 725</b>	<b>Count: 2</b>	
2	Nails	too corroded to ID
<b>Context: 726</b>	<b>Count: 25</b>	
8	Nails	wrought
11	Nails	cut
6	Nails	too corroded to ID
<b>Context: 727</b>	<b>Count: 14</b>	
14	Nails	cut
<b>Context: 730</b>	<b>Count: 2</b>	
1	Nails	wrought
1	Nails	too corroded to ID
<b>Context: 731</b>	<b>Count: 7</b>	
7	Nails	too corroded to ID
<b>Context: 732</b>	<b>Count: 12</b>	
7	Nails	cut
5	Nails	too corroded to ID
<b>Context: 733</b>	<b>Count: 6</b>	
4	Nails	cut 1 is attached to wire lattice
1	Nails	too corroded to ID
1	Spike	wire
<b>Context: 734</b>	<b>Count: 1</b>	
1	Nails	cut
<b>Context: 736</b>	<b>Count: 11</b>	
1	Nails	wrought
1	Nails	cut
9	Nails	too corroded to ID
<b>Context: 737</b>	<b>Count: 9</b>	
9	Nails	too corroded to ID

## Nails and Fasteners from GOR

<b>Context:</b> 738	<b>Count:</b> 12
10	Nails cut
1	Nails too corroded to ID
1	Spike cut
<b>Context:</b> 739	<b>Count:</b> 75
75	Nails cut
<b>Context:</b> 740	<b>Count:</b> 6
2	Nails wrought
4	Nails too corroded to ID
<b>Context:</b> 741	<b>Count:</b> 5
5	Nails too corroded to ID
<b>Context:</b> 742	<b>Count:</b> 3
3	Nails too corroded to ID
<b>Context:</b> 743	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 744	<b>Count:</b> 10
10	Nails cut
<b>Context:</b> 745	<b>Count:</b> 15
13	Nails cut
2	Nails wire
<b>Context:</b> 746	<b>Count:</b> 7
7	Nails cut
<b>Context:</b> 747	<b>Count:</b> 4
4	Nails cut
<b>Context:</b> 748	<b>Count:</b> 2
2	Nails too corroded to ID
<b>Context:</b> 750	<b>Count:</b> 2
2	Nails cut
<b>Context:</b> 756	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 758	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 762	<b>Count:</b> 3
3	Nails cut
<b>Context:</b> 763	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 765	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 768	<b>Count:</b> 1
1	Nails cut
<b>Context:</b> 769	<b>Count:</b> 2
2	Nails cut
<b>Context:</b> 770	<b>Count:</b> 1
1	Nails too corroded to ID
<b>Context:</b> 771	<b>Count:</b> 8
8	Nails cut
<b>Context:</b> 772	<b>Count:</b> 12
11	Nails cut
1	Nails too corroded to ID

## Nails and Fasteners from GOR

**Context: 773**      **Count: 5**

4	Nails	cut
1	Nails	too corroded to ID

**Context: 774**      **Count: 1**

1	Nails	cut
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**Context: 775**      **Count: 1**

1	Screw	wire flat head
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**Context: 776**      **Count: 2**

2	Nails	too corroded to ID mend
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**Context: 777**      **Count: 5**

3	Nails	cut
2	Nails	too corroded to ID

**Context: 778**      **Count: 1**

1	Nails	too corroded to ID
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**Grand total: 2920**

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
<b>Context: 601</b>		<b>Total: 3</b>					
156	1	M	caprine	FEM	sh	7	
157	1	M	medium	LBN	sh	4	
158	1	M	large	VRT	fr	17	
<b>Context: 603</b>		<b>Total: 2</b>					
133	2	M	medium	LBN	sh	3	
<b>Context: 604</b>		<b>Total: 1</b>					
142	1	M	large	RIB		3	
<b>Context: 605</b>		<b>Total: 5</b>					
140	4	V		NID		.5	
141	1	M	medium	LBN	sh	2	
<b>Context: 607</b>		<b>Total: 15</b>					
231	1	M	caprine	TIB	sh	26	
232	1	M	caprine	TIB	px	5	
233	1	M	large	LBN	sh	37	sawn on both ends
234	12	V		NID		5	
<b>Context: 608</b>		<b>Total: 1</b>					
154	1	M		NID		5	
<b>Context: 610</b>		<b>Total: 1</b>					
139	1	M	caprine	FEM	sh	11	
<b>Context: 613</b>		<b>Total: 2</b>					
135	1	M	large	RIB	fr	2	
136	1	M		NID		.5	
<b>Context: 615</b>		<b>Total: 3</b>					
222	1	M	large	LBN	sh	11	
223	2	M		NID		31	
<b>Context: 616</b>		<b>Total: 17</b>					
203	15	M		ATL		108	very broken
204	2	M	large	HUM	ds	106	mend, new break
<b>Context: 617</b>		<b>Total: 2</b>					
155	2	M	large	ISC		23	mend, new break



## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
<b>Context: 618</b>		<b>Total: 15</b>					
160	1	M	caprine	TIB	sh	27	
161	1	M	caprine	FEM	psh	14	
162	2	M	caprine	FEM	sh	19	
164	10	M	medium	LBN		20	
165	1	M		NID		6	
<b>Context: 620</b>		<b>Total: 39</b>					
171	2	M	large	RIB		59	
172	2	M	cow	CAR	co	37	mend
173	1	M	caprine	INN		20	
174	1	M	cow	TIB	px	59	
175	2	M	cow	ATL		164	
176	2	M	large	LBN	sh	80	
177	25	M		NID		55	
178	1	M	pig	FEM	dsh	20	
179	1	M	cow	TIB	px	58	
180	2	M	large	LUM	fr	41	
<b>Context: 621</b>		<b>Total: 3</b>					
137	2	M	medium	LBN	fr	2	
138	1	M		NID		1	
<b>Context: 622</b>		<b>Total: 3</b>					
159	3	M	cow	ATL		162	mend, new break
<b>Context: 623</b>		<b>Total: 19</b>					
124	1	M	caprine	FEM	psh	50	
125	9	M		NID		3	
126	9	P	oyster?	shl		12	
<b>Context: 624</b>		<b>Total: 43</b>					
181	1	M	cow	RAD	psh	368	
182	2	M	medium	LBN	sh	9	
183	1	M	cow	TTH	fr	23	
184	37	M		NID		35	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
185	1	M	large	VRT	ep	1	
186	1	M	large	CER	hfl	53	
<b>Context: 625</b>		<b>Total: 6</b>					
117	1	M	cow	CAR	co	7	
118	2	V		NID		1	
119	1	M	cow	TTH	fr	.5	incisor
120	1	M	cow	TTH	fr	10	molar, maybe M1
121	1	M	large	PHA2	px	4	
<b>Context: 626</b>		<b>Total: 2</b>					
114	1	M	cow	CAR	co	11	
115	1	V		NID		.5	
<b>Context: 627</b>		<b>Total: 4</b>					
122	2	M	large	RIB		42	
123	2	M		NID		3	
<b>Context: 628</b>		<b>Total: 25</b>					
134	5	V		NID		3	
163	20	V		NID		3	
<b>Context: 629</b>		<b>Total: 9</b>					
129	3	M	medium	LUM	fr	3	all three pieces mend, one likely a new break, the other the
130	4	V		NID		1	
131	1	M	cow	AXI	fr	7	
132	1	M	large	RIB		18	
<b>Context: 630</b>		<b>Total: 3</b>					
311	3	M		NID		6	
<b>Context: 633</b>		<b>Total: 40</b>					
205	1	M	caprine	MT	psh	9	
206	1	M	caprine	TIB	dsh	22	
207	1	M	caprine	AST	co	6	
208	1	M	caprine	TAR	co	3	likely caprine because fits with #207 and 209
209	1	M	caprine	CAL		5	
210	1	M	large	VRT	ep	3	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
211	4	M	large	LBN	sh	64	
212	1	M	medium	TIB	sh	23	
213	1	M	medium	LUM	fr	3	
214	1	M	medium	RIB	fr	1	
215	2	M	medium	LBN	sh	3	
216	1	M	medium	VRT	fr	3	
217	20	M		NID		43	
218	1	M	caprine	TIB	px	7	
242	1	M	cow	AXI	fr	49	spinous process chopped off
243	1	M	cow	TIB	sh	201	
244	1	M	cow	HUM	dsh	207	

**Context: 634      Total: 18**

187	1	M	cow	ULN	psh	193	
188	14	M		NID		21	
189	1	M	large	LBN	sh	7	
190	1	M	cow	HUM	px	20	
191	1	M	medium	ILL	fr	12	

**Context: 635      Total: 2**

221	2	M		NID		9	
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**Context: 636      Total: 1**

113	1	M	horse	MC	co	225	
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**Context: 637      Total: 26**

7	1	M	cow	ILL		223	
8	1	M	cow	ATL	co	160.1	
9	1	M	cow	TIB	px	274	
10	1	M	cow	CAR	co	54.1	
11	1	M	cow	RAD	ep	27.2	
12	1	M	cow	CAR	co	9.5	
13	14	M		NID		36	
14	3	M	large	RIB	fr	40.9	
15	1	M		VRT	ep	2.7	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
16	1	M	medium	LUM	hfl	4	
17	1	M	large	LBN	fr	40	
<b>Context: 639</b>		<b>Total: 5</b>					
152	1	M	medium	MET	psh	4	
153	4	V		NID		2	
<b>Context: 640</b>		<b>Total: 6</b>					
166	1	M	large	THO	fr	11	
167	1	M	cow	FEM	ds	18	
168	1	M	medium	FEM	sh	14	
169	2	M		NID		16	
170	1	M	medium	RAD	px	1	
<b>Context: 641</b>		<b>Total: 5</b>					
116	5	V		NID		1	
<b>Context: 644</b>		<b>Total: 10</b>					
219	8	M		NID		5	
220	2			LBN		3	
<b>Context: 645</b>		<b>Total: 2</b>					
227	1	M	medium	RAD	sh	5	
228	1	M	cow	TTH	fr	3	
<b>Context: 647</b>		<b>Total: 5</b>					
240	4	M		NID		4	
241	1	M	large	SAC	fr	29	
<b>Context: 651</b>		<b>Total: 34</b>					
192	1	M	cow	TIB	ds	84	
193	2	M	large	LUM	fr	39	
194	1	M	caprine	FEM	px	2	
195	1	M	pig	FEM	psh	12	
196	23	M		NID		47	
197	1	M	pig	MET	psh	7	
198	1	M	medium	CER	fr	2	
199	1	M	caprine	HUM	sh	3	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
200	1	M	large	FEM	sh	133	
201	1	M	large	VRT	fr	17	
202	1	M		NID		7	
<b>Context: 652</b>		<b>Total: 1</b>					
127	1	M	medium	LBN	sh	1	
<b>Context: 653</b>		<b>Total: 2</b>					
229	1	M	medium	LBN	sh	1	
230	1	M	medium	ILL	fr	8	
<b>Context: 654</b>		<b>Total: 7</b>					
143	6	M		NID		9	
144	1	M	large	CAR	fr	2	
<b>Context: 655</b>		<b>Total: 29</b>					
248	2	M	medium	LBN	sh	3	
249	26	M		NID		8	
250	1	M	large	VRT	fr	22	
<b>Context: 658</b>		<b>Total: 4</b>					
150	3	V		NID		.3	
151	1	M	medium	CER	fr	1	
<b>Context: 659</b>		<b>Total: 7</b>					
147	4	M		NID		10	
148	2	M	medium	LBN	sh	2	mend, new break
149	1	M	cow	AST		18	almost complete, but very fragile
<b>Context: 661</b>		<b>Total: 8</b>					
326	8	M		NID		12	
<b>Context: 662</b>		<b>Total: 1</b>					
128	1	V		NID		.5	
<b>Context: 663</b>		<b>Total: 16</b>					
25	2	M	cow	ATL		413	
26	1	M	cow	ILL		244	
27	1	M	cow	MET		23	
28	1	M	large	LUM	hfl	32	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
29	10	M		NID		18	
30	1	M	large	RIB		7	
<b>Context: 665</b>		<b>Total: 14</b>					
297	1	M	large	RIB		37	
298	2	M	large	LUM		43	
299	1	M	large	VRT	fr	19	
300	9	M		NID		16	
301	1	M	medium	TIB	sh	17	
<b>Context: 666</b>		<b>Total: 8</b>					
19	1	M	cow	ILL		200	
20	6	M		NID		7	
21	1	M	large	ILL	fr	76	
<b>Context: 669</b>		<b>Total: 11</b>					
235	1	M	caprine	PUB		2	
236	1	M	large	SCP	fr	9	
237	3	M	cow	TTH	fr	7	
238	1	M	medium	LBN	sh	4	
239	5	M		NID		8	
<b>Context: 672</b>		<b>Total: 19</b>					
302	14	M		NID		23	
303	5	M	cow	ATL	fr	120	very broken
<b>Context: 673</b>		<b>Total: 2</b>					
18	2	M	large	RIB		29	
<b>Context: 674</b>		<b>Total: 2</b>					
23	1	M	large	HUM	psh	330	
24	1	M	cow	ILL		94	
<b>Context: 675</b>		<b>Total: 7</b>					
224	5	M	medium	LBN	sh	6	
225	1	M	caprine	FEM	ds	5	
226	1	M	large	VRT	fr	7	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
<b>Context: 676</b>		<b>Total: 24</b>					
261	1	M	caprine	CAL	co	8	
262	1	M	calf	FEM	ds	36	
263	1	M	caprine	ISC		4	
264	1	M	large	LUM	hfl	81	
265	4	M	large	VRT	fr	34	
266	1	M	cow	ILL		204	
267	1	M	medium	FIB	fr	1	
268	14	M		NID		25	
<b>Context: 677</b>		<b>Total: 3</b>					
329	3	M		NID		5	
<b>Context: 679</b>		<b>Total: 1</b>					
247	1	M	pig	TTH		1	canine
<b>Context: 683</b>		<b>Total: 26</b>					
290	1	M	caprine	FEM	psh	27	
291	1	M	caprine	HUM	dsh	7	
292	1	M	large	VRT	ep	2	
293	5	M	medium	LBN	sh	9	
294	2	M	large	VRT	fr	30	
295	15	M		NID		11	
296	1	M	large	LUM		54	
<b>Context: 686</b>		<b>Total: 120</b>					
269	1	M	caprine	FEM	psh	32	
270	2	M	large	VRT	ep	6	
271	1	M	caprine	CAL	co	6	
272	1	M	caprine	TIB	dsh	18	
273	1	M	caprine	MT	psh	13	
274	2	M	caprine	INN		32	mend, new break
275	1	M	caprine	TIB	psh	38	
276	1	M	cow	HUM	ds	241	
277	2	M	caprine	FEM	ds	9	mend, new break

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
278	1	M	caprine	AST	co	6	fits with #280
279	1	M	caprine	CAR	co	3	fits with #279
280	5	M	large	LUM		114	
281	3	M	large	VRT	fr	60	
282	8	M		NID		36	
283	1	M	large	LUM	fr	13	
284	1	M	large	VRT	fr	12	
285	4	M	medium	LUM	fr	15	
286	1	M	medium	VRT	fr	2	
304	5	M	medium	VRT	ep	2	
305	2	M	medium	CAR	co	1	
306	67	V		NID		28	
307	2	B	chicken	HUM	px,ds	5	
308	5	M	medium	LUM	fr	4	
309	1	M	medium	VRT		2	
310	1	M	large	LUM	fr	1	
<b>Context: 689</b>		<b>Total: 4</b>					
145	2	M	medium	LUM	hfl	2	mend, new break
146	1	M	large	RIB	fr	4	
245	1	M	cow	SAC	fr	125	
<b>Context: 697</b>		<b>Total: 1</b>					
42	1	M	cow	TTH	fr	5	
<b>Context: 698</b>		<b>Total: 12</b>					
251	5	M	cow	SAC		67	
252	7	V		NID		1	
<b>Context: 700</b>		<b>Total: 1</b>					
36	1	M	medium	RIB		3	
<b>Context: 701</b>		<b>Total: 6</b>					
1	1	M	cow	FEM	ds	399	
2	1	M	cow	HUM	ds	298	
3	1	M	caprine	TIB	sh	16	



## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
4	1	M	cow	ATL	co	206.3	
5	1	M		LBN	sh	.9	
6	1	M	cow	RAD/ULN	px	146.2	both bones still fused
<b>Context: 705</b>		<b>Total: 1</b>					
22	1	M	calf	FEM	px	14	
<b>Context: 706</b>		<b>Total: 29</b>					
287	2	M	caprine	AST	co/fr	5	
288	25	M		NID		46	
289	2	M	cow	ILL		350	
<b>Context: 708</b>		<b>Total: 2</b>					
323	1	M	large	HUM	px	9	
324	1	V		NID		.5	
<b>Context: 712</b>		<b>Total: 31</b>					
253	5	M	medium	LBN	sh	15	
254	2	M	large	LBN	sh	53	
255	19	M		NID		13	
256	1	M	caprine	FEM	co	61	
257	1	M	medium	RIB	fr	1	
258	1	M	pig	MET	co	6	
259	1	M	cow	INN		165	
260	1	M	caprine	PHA	co	1	
<b>Context: 714</b>		<b>Total: 217</b>					
44	1	M	caprine	TIB	psh	42	
45	1	M	caprine	MT	psh	10	
46	1	M	caprine	FEM	dsh	32	
47	1	M	cow	CAR	co	19	
48	2	M	cow	ATL	fr	54	mend, new break
49	2	M	cow	CAR	co	46	
50	1	M	cow	AST	co	101	
51	1	M	cow	CAR	co	65	
52	1	M	cow	ATL	fr	45	

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
53	1	M	cow	INN		169	
54	1	M	cow	TIB	px	154	
55	1	M	caprine	ISC	fr	17	
56	1	M	pig	FEM	sh	18	
57	1	M	pig	TIB	sh	29	
58	1	M	cow	RAD	psh	50	
59	1	M	medium	LBN	sh	13	
60	3	M	cow	AXI		236	all chopped at the same place; spinous process chopped off
61	2	M	cow	ATL		192	mend, new break
62	1	M	large	VRT	fr	8	
63	1	M		NID		15	
64	1	M	large	CER	hfl	46	
65	1	M	cow	SAC	fr	103	
66	1	M	cow	CAR	co	79	
67	1	M	cow	ATL	co	240	
68	1	M	cow	ATL	fr	106	
69	1	M	cow	ATL	fr	96	
70	1	M	large	ATL	fr	51	
71	2	M	large	VRT	fr	68	
72	1	M	large	THO	hfl	27	
73	1	M	cow	SAC	fr	25	
74	1	M	cow	CAL	co	114	
75	1	M	cow	RAD	dsh	334	
76	1	M	cow	TIB	dsh	274	
77	1	M	cow	RAD	dsh	208	
78	1	M	cow	TIB	ds	197	
79	1	M	large	RAD	sh	161	
80	1	M	cow	TIB	psh	281	
81	5	M	large	TIB	sh	933	one is definitely a left
82	1	M	cow	AXI	fr	66	spinous process chopped off
83	1	M	cow	AXI	fr	92	spinous process chopped off

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
84	2	M	large	THO	fr	69	
85	1	M	large	LBN	sh	26	
86	1	M	caprine	ISC		10	
87	1	M	caprine	PUB		3	
88	1	M	caprine	ISC		11	
89	12	M	large	RIB		361	
90	12	M		NID		55	
91	1	M		NID		.5	
92	1	M	cow	CAL		120	
93	1	M	caprine	FEM	sh	29	
94	1	M	large	RIB		46	
95	2	M	cow	CAR	co	40	
96	1	M	caprine	RAD	sh	8	
97	4	M	large	RIB	ep	6	
98	102	M		NID		52	
99	3	M	large	COS	fr	5	
100	1	M	caprine	ULN	sh	1	
101	1	M	caprine	ISC		5	
102	1	M	caprine	PUB		3	
103	1	M	medium	THO		1	
104	1	M	medium	FEM	px	2	
105	1	M	medium	HUM	sh	3	
106	1	M	medium	ULN	fr	.3	
107	4	M	large	LBN	sh	34	
108	4	M	medium	LBN	sh	3	
109	3	M	large	VRT	fr	29	
110	1	M	medium	LUM	fr	2	
111	1	M	large	LUM	fr	4	
112	1	M	medium	LBN	fr	10	

**Context: 717      Total: 3**

334	1	M	medium	LUM	hfl	2	
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## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
335	1	V		NID		.5	
336	1	B		LBN	sh	3	looks bird like, but hard to tell
<b>Context: 718</b>		<b>Total: 1</b>					
38	1	M	caprine	TIB	psh	13	
<b>Context: 724</b>		<b>Total: 1</b>					
37	1	M		NID		.3	
<b>Context: 725</b>		<b>Total: 6</b>					
330	1	M	large	THO		11	
331	1	M	medium	LBN	sh	1	
332	3	M	large	VRT	fr	9	
333	1	V		NID		.5	
<b>Context: 727</b>		<b>Total: 2</b>					
246	2	M	large	LUM	hfl	126	many pieces have broken off
<b>Context: 728</b>		<b>Total: 1</b>					
32	1	M	caprine	TIB	dsh	28	
<b>Context: 732</b>		<b>Total: 1</b>					
325	1	M	large	VRT		31	
<b>Context: 733</b>		<b>Total: 5</b>					
39	1	M	cow	TIB	ep	51	mends with 40; Rubble on Greenhouse Floor
40	1	M	cow	TIB	psh	247	mends with 39; Rubble on Greenhouse Floor
41	3	M		NID		17	
<b>Context: 736</b>		<b>Total: 3</b>					
337	1	M	medium	CER	hfl	9	
338	2	M		NID		1	one is definitely an ep
<b>Context: 738</b>		<b>Total: 4</b>					
327	3	M	large	VRT	ep	1	
328	1	M	deer?	PHA2		4	
<b>Context: 739</b>		<b>Total: 14</b>					
312	9	M	pig	MET		40	mostly complete
313	1	V		NID		1	
314	4	M	medium	PHA		12	probably caprine and pig

## Bone from GOR

Sample #	Count	Class	Taxon	Skeletal part	Portion	Weight	Comments
<b>Context: 740</b>		<b>Total: 2</b>					
43	2	M	caprine	ISC		2	new break
<b>Context: 744</b>		<b>Total: 13</b>					
315	3	M		NID		1	
316	1	M	medium	RIB		1	
317	2	M	pig	MET	co	5	
318	5	M	medium	PHA 1,2,3		12	mostly complete, probably caprine and pig, one mends
319	1	M	medium	CAR	co	4	
320	1	M	caprine	SCP	ds	2	
<b>Context: 746</b>		<b>Total: 5</b>					
35	5	M		NID		.6	
<b>Context: 747</b>		<b>Total: 1</b>					
34	1	M	caprine	RAD	dsh	13	
<b>Context: 750</b>		<b>Total: 1</b>					
322	1	M	large	VRT	fr	16	
<b>Context: 752</b>		<b>Total: 1</b>					
33	1	M	pig	MET	co	11	
<b>Context: 766</b>		<b>Total: 1</b>					
31	1	M	cow	ISC	fr	48	

## APPENDIX B

Rita A. DeForest

Table B.1: Planting pot vessel list

VESSEL #	RIM TYPE	RIM DIA. (cm)	HEIGHT (cm)	BASE DIA. (cm)	BASE HOLE DIA. (cm)	DECORATION
35	Flange	21	17	13	2	Incised letters & numbers
36	Straight	15	14	11.5	2	-
37	Ruffled	10	-	-	-	Beaded, incised lines
38	Flange	20	-	-	-	Incised, wavy, figure 8
39	Rolled	30	26	21	-	Incised, wavy, figure 8
40	Rolled	22	-	-	-	Incised band of lines
41	Flange	13	11	7.5	2	Incised wavy, band of lines
42	Flange	30	-	-	-	Incised band of lines
43	Rolled	20	-	-	-	Incised band of lines
44	Square	28	-	-	-	-
45	Flange	21	-	-	-	Lead glaze spots
46	Flange	27	-	-	-	Incised, wavy
47	Rolled	27	-	-	-	-
48	Rolled	15.5	-	-	-	-
49	Double	13	-	-	-	-
50	Rolled	1.5	18	12	2.5	-
51	Flange	26	-	-	-	-
52	Flange	21	-	-	-	-
53	Rolled	21	-	-	-	Incised band of lines

VESSEL #	RIM TYPE	RIM DIA. (cm)	HEIGHT (cm)	BASE DIA. (cm)	BASE HOLE DIA. (cm)	DECORATION
54	Flange	21	-	-	-	-
55	Rolled	16	-	-	-	-
56	Square	12	-	-	-	-
57	Rolled	19	-	-	-	-
58	Square	18	-	-	-	-
59	Square	17	-	-	-	-
60	Square	17	-	-	-	-
61	Square	23	-	-	-	-
62	Square	17	-	-	-	-
63	Rolled	24	-	-	-	Incised band of lines
64	Square	18	-	-	-	-
65	Rolled	23	-	-	-	-
66	Square	19	-	-	-	-
67	Straight	4 TL	-	-	-	Incised band of lines
68	Straight	6	-	-	-	-
69	Square	9	-	-	-	-
70	Straight	10	-	-	-	-
71	Straight	9	-	-	-	-
72	Square	10	-	-	-	-
73	Straight	5	-	-	-	-
74	Square	6	-	-	-	-
75	Square	18	-	-	-	-
76	Square	15	-	-	-	-
77	Square	11 TL	-	-	-	-
78	Straight	6	-	-	-	-
79	Square	17	-	-	-	-
80	Square	14	-	-	-	-
81	Rolled	>35	-	19	-	-
82	Straight	7	-	-	-	-
83	Square	12	-	-	-	-
84	Square	12 TL	-	-	-	-
85	Square	10	-	-	-	-
86	Square	11	-	-	-	-
87	Square	11	-	-	-	-
88	Square	16	-	-	-	-
89	Square	11	-	-	-	-
90	Square	16	-	-	-	-
91	Square	8	-	-	-	-

VESSEL #	RIM TYPE	RIM DIA. (cm)	HEIGHT (cm)	BASE DIA. (cm)	BASE HOLE DIA. (cm)	DECORATION
92	Square	10	-	-	-	-
93	Square	16	-	-	-	-
94	Square	6	-	-	-	-
95	Square	7	-	-	-	-
96	Square	16	-	-	-	-
97	Square	>10	-	-	-	-
98	Square	8	-	-	-	-
99	Square	12	-	-	-	Band bottom is double
100	Square	16	-	-	-	-
101	Square	15	-	-	-	-
102	Square	16	-	-	-	-
103	Square	13	-	-	-	-
104	Square	14	-	-	-	Bottom of band has a v space
105	Square	13	-	-	-	-
106	Square	24	-	-	-	-
107	Square	7	-	-	-	-
108	Square	TL	-	-	-	-
109	Square	12	-	-	-	-
110	Square	13	-	-	-	-
111	Square	15	-	-	-	-
112	Square	16	-	-	-	-
113	Square	13	-	-	-	-
114	Square	15	-	-	-	-
115	Square	16	-	-	-	-
116	Square	14	-	-	-	-
117	Square	9	-	-	-	-
118	Square	15	-	-	-	-
119	Square	10	-	-	-	-
120	Square	14	-	-	-	-
121	Square	13	-	-	-	-
122	Square	11	-	-	-	-
123	Square	13	-	-	-	Rim has triple bottom
124	Square	10	-	-	-	-
125	Square	TL	-	-	-	-
126	Square	11	-	-	-	-
127	Square	11	-	-	-	-
128	Square	8	-	-	-	-



VESSEL #	RIM TYPE	RIM DIA. (cm)	HEIGHT (cm)	BASE DIA. (cm)	BASE HOLE DIA. (cm)	DECORATION
129	Square	24	-	-	-	-
130	Square	20	-	-	-	-
131	Square	8	-	-	-	-
132	Square	9	-	-	-	-
133	Square	7	-	-	-	-
134	Double	18	-	-	-	-
135	Double	TL	-	-	-	-
136	Straight	17	-	-	-	-
137	Rolled	13	-	-	-	-
138	Flange	14	-	-	-	-
139	Straight	13	-	-	-	-
140	Flange	12	-	-	-	-
141	Flange	15	-	-	-	Washed, checked texture
142	Rolled	11	-	-	-	-
143	Square	11	-	-	-	-
144	Rolled	11	-	-	-	-
145	Rolled	15	-	-	-	-
146	Double	18	-	-	-	-
147	Rolled	13	-	-	-	-
148	Rolled	16	-	-	-	-
149	Rolled	14	-	-	-	-
150	Rolled	15	-	-	-	-
151	Rolled	25	-	-	-	-
152	Flange	18	-	-	-	-
153	Flange	15	-	-	-	-
154	Flange	11	-	-	-	-
155	Flange	18	-	-	-	-
156	Flange	21	-	-	-	Ridge on top of rim
157	Square	14	-	-	-	-
158	Rolled	23	-	-	-	-
159	Straight	7	-	-	-	-
160	Rolled	13	-	-	-	-
161	Flange	13	-	-	-	-
162	Rolled	17 TL	-	-	-	-
163	Flange	19	-	-	-	-
164	Rolled	15	-	-	-	-
165	Straight	16	-	-	-	-
166	Straight	13	-	-	-	Band at rim

VESSEL #	RIM TYPE	RIM DIA. (cm)	HEIGHT (cm)	BASE DIA. (cm)	BASE HOLE DIA. (cm)	DECORATION
167	Straight	>11	-	-	-	-
168	Straight	11	-	-	-	Incised line
169	Straight	21	-	-	-	Line under band
170	Straight	21	-	-	-	-
171	Rolled	21	-	-	-	-
172	Rolled	15	-	-	-	-
173	Rolled	16	-	-	-	-
174	Rolled	20	-	-	-	-
175	Rolled	20	-	-	-	-
176	Flange	17	-	-	-	-
177	Straight	15	-	-	-	-
178	Straight	11	-	-	-	-
179	Flange	21	-	-	-	-
180	Straight	12	-	-	-	-
181	Square	15	-	-	-	-
182	Square	7	-	-	-	-
183	Rolled	30	7.5	-	-	Incised, wavy, figure 8
184	Square	14	-	-	-	Band bottom is double

TL= Too little of the rim fragment exists to get a good measurement.

Table B.2: Context information for vesselized planting pots.

VES #	CONTEXT
35	637
36	637
37	629,695,627
38	637
39	637
40	637
41	620,659
42	637
43	666
44	616
45	777
46	637
47	676,637,689.1
48	676,651
49	674,628
50	718
51	777,718
52	637
53	643
54	676,637
55	628
56	691
57	676
58	618,620
59	627
60	624
61	691
62	620
63	621
64	620,674
65	678
66	614,620
67	665
68	623
69	637,625

VES #	CONTEXT
70	669,633
71	669,633
72	633,669,688
73	633,669
74	614
75	625
76	712
77	637
78	639
79	651
80	620
81	637
82	627
83	727
84	634
85	637
86	669
87	712
88	637
89	620
90	620
91	665
92	651
93	620
94	688
95	674
96	620
97	614
98	609
99	665,620
100	712
101	623
102	612
103	620,637
104	620

VES #	CONTEXT
105	714
106	631
107	620
108	688
109	712
110	625
111	620
112	669
113	614
114	633
115	637
116	712
117	620
118	669
119	712
120	712
121	618
122	620
123	620
124	669
125	712
126	620
127	666
128	712
129	651
130	732
131	651
132	620
133	712
134	712
135	625
136	630

VES #	CONTEXT
137	646
138	645
139	637
140	691
141	647
142	658
143	658
144	718,777
145	656
146	669
147	640
148	676
149	740
150	651
151	637
152	658
153	689
154	628
155	629
156	651
157	633
158	718
159	691
160	727
161	632
162	646
163	651
164	651
165	669
166	669
167	669
168	627
169	681
170	624
171	731,739
172	616,608
173	605
174	669
175	631
176	711
177	625
178	605

VES #	CONTEXT
179	632
180	676
181	626
182	623
183	637
184	691