



Archeological Evaluation and Mitigation of Hotel Indigo (220 South Union Street)

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Volume II

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APPENDIX I
Scope of Work

**Scope of Work
for Archeological Evaluation
220 South Union Street
and 210 The Strand
City of Alexandria, Virginia**

A Documentary Study of 220 South Union Street and 210 The Strand was completed by Thunderbird Archeology in June 2014 in anticipation of the planned redevelopment of the properties. Based on our review of the history and archeology of Alexandria's waterfront, it is likely that evidence of 18th and 19th century wharves and portions of the circa 1756 John Carlyle warehouse may be present beneath the property. This Scope of Work is for conducting an **Archeological Evaluation** (Excavations) within the project area.

This scope of work will be implemented in coordination with construction activities on the property and calls for a combination of machine trenching, backhoe stripping of soils, and the excavation of shovel test pits and test units, in order to determine if significant archeological resources are present within the project area. If significant resources are found, a Resource Management Plan will be prepared.

If a significant site or sites are discovered as a result of the fieldwork, the sites must be registered with the Virginia Department of Historic Resources and copies of the site form registration sent to Alexandria Archaeology. Any additional archeological investigations beyond the backhoe trenching and scraping, if required, will be conducted under a separate scope of work.

All personnel must be approved in advance by Alexandria Archaeology. Alexandria Archaeology staff will conduct site inspections throughout the course of the fieldwork. All aspects of this investigation will adhere to OSHA regulations and will comply with the *City of Alexandria Archaeological Standards* dated January 1996 and the *Secretary of the Interior's Standards and Guidelines for Archaeology and Historic Preservation*.

Background

The properties at 220 South Union Street and 210 The Strand are located along the historic waterfront of Alexandria. At the time of the city's founding in 1749, all of the 210 The Strand property and approximately half of the Union Street property lay within the Potomac River; the remaining areas were subject to development as early as 1752. The first confirmed structure within the properties was a public warehouse constructed in 1756 by John Carlyle; documentary evidence confirms other buildings were present on the property by circa 1800, and that the majority of the current Union Street property had been "banked out" and made available for use by that time. Numerous industries, warehouses, businesses, and residences occupied the Union Street property during the

late 18th and 19th centuries, including blacksmiths, carpenters, coopers, grocers, iron foundries, and commission merchants. Late in the 19th century, the fertilizer manufacturing plant of the Bryant Fertilizer Company occupied the entirety of the Union Street property. Several disastrous fires, most notably in 1810 and 1897, destroyed numerous buildings on the block during the 19th century. Today, a brick commercial building is located on the property, which was last in use as rented commercial space and as an art studio.

Remnants of 18th and 19th century buildings may be present beneath the 220 South Union Street property; most notably, the 1756 Carlyle warehouse in the southeast portion of the parcel. Additionally, 18th and 19th century wharves and other structures by which land was created within the original course of the Potomac are almost certainly extant within the property; in Alexandria and elsewhere, these are typically timber structures retaining earth and stone fill. There is also a possibility of encountering sunken canal, river, or ocean-going vessels, the hulls of which may have been used as part of the frame and fill for the “banking out” of land on the waterfront.

Research Goals

The two primary research goals of the initial testing are 1) to examine the cross-site stratigraphic profile in order to understand and interpret the “banking out” process of land creation along the waterfront, and 2) to determine the presence/absence of archeological features at the site. The archeological work at this site can also address several research questions.

- Will the 1756 Carlyle warehouse be present and if so, can this landmark help demarcate the original ca. 1749 shoreline?
- Will the site contain the remnants 18th and 19th century wharves and structures?
- Does the site contain evidence of the 1810 brick building at the corner of Duke and Union Streets?
- Can the series of brick warehouses along the northern edge of the property and the alley be located?
- Will historic resources associated with the Civil War occupation of the waterfront be identified?
- Will the stratigraphic profile reveal evidence of the three fires that devastated this block?
- Can we attribute any historic remains (features or artifacts) to the various industries on the block- blacksmiths, carpenters, coopers, grocers, etc?

Archeological Evaluation Fieldwork – 220 Union Street

The archeological investigations will be conducted in concert with the site construction, as described in the following sequence. The planned location of trenches is shown on Exhibit A.

1. Thunderbird staff will direct the machine excavation of trenches in the western half of the site. The trenches will be initially excavated to a depth of 4-5 feet below current grade.
2. The remainder of the soil (between the trenches) will be removed from the western half of the site under the direction/supervision of Thunderbird staff. At this point the site will be level and ready for the next stage of construction: pre-trenching for steel piles, installation of de-watering points and underpinning
3. Thunderbird staff will archeologically monitor construction trenching/activity around the perimeter of the site (i.e. for the placement of steel piles or underpinning).
4. Concurrent with the underpinning, Thunderbird staff will continue with the machine excavation of trenches across the entire property, including resuming excavation of the trenches in the western half of the site.
5. After all trenches are documented, Thunderbird staff will direct/supervise the remainder of the soil (between the trenches), i.e. excavation is completed in full.

Note: At any point in the sequence described above, the staff archeologist will stop the machine excavation if intact buried surface layers or any features are exposed. Work will temporarily halt in this area until the assessment of the feature's significance is complete but can proceed in other areas. The assessment may require additional work (i.e. the hand excavation of shovel test pits or test units). For investigation of the buried surface and/or features, see below.

If large or extraordinary significant resources are found, a Resource Management Plan and Scope of Work for additional services will be prepared. In the meantime, the horizontal extent of the feature(s) discovered during this process will be documented (photographed and mapped) in preparation for further investigation in the next phase of archeological work. Photogrammetry or laser capture may be used to record the structure of any vessel or large wooden feature exposed during the excavation, but can be budgeted sepl.

Machine Trenching

As described above, machine trenching will be conducted in two stages during the construction process. The trenches will be excavated using a backhoe or similar machine equipped with a flat-bladed, smooth bucket. Trenches will be approximately four feet in width and will total approximately 550 linear feet. (The actual location and length of the trenches may vary due to field conditions or other variables). Trench depth will not exceed the depth of the anticipated impacts of the proposed construction; the final grade

for the site construction will be approximately 8 feet below current grade or xx elevation. If necessary, the excavations will be stepped/ expanded following OSHA guidelines to allow for safe hand excavation and evaluation. It is anticipated that culturally sterile natural soils will be encountered prior to reaching the final grade elevation.

At least one soil strata column profile will be drawn for every trench. Photographs will be taken. No features will be fully excavated at this time, unless necessary to determine the nature or significance of the feature. Decisions regarding the significance of features and the need for additional testing will be made in consultation with Alexandria Archaeology.

Monitoring of Site Leveling and Excavation

At the completion of trench excavations (following documentation of soil profiles and evaluation of features if present), the staff archeologists at Thunderbird will direct and monitor the excavation of the intact soils between each trench. In the event that features or buried ground surfaces are encountered, additional work (hand excavation of shovel test pits or test units) will be needed to assess the significance of the findings (see below). Work must temporarily cease in the area of the discovery until the staff archeologist evaluates the significance of the resource.

Shovel Test Pit Excavations

If a buried ground surface is identified during the machine stripping or trenching within the site, Thunderbird staff will first make a determination of the presence/absence of archeological resources within this surface. Shovel test pits (STPs) will be excavated within the buried surface at 20-foot intervals to identify the extent of any archeological resources. STPs will measure at least 15 inches (38.1 cm) in diameter and will be excavated by natural soil levels. All soils within the test pits will be screened through 1/4-inch mesh hardware cloth screens and artifacts will be bagged and labeled by unit number and by soil horizon. Soil profiles will be made of representative units, with soil descriptions noted in standard soil terminology (A, Ap, B, C, etc.). Soil colors will be described using the Munsell Soil Color Chart designations. The location of each shovel test pit will be mapped and documented with field notes.

Test Unit Excavations

The hand excavation of 3 x 3 foot test units may be required to test and evaluate potentially significant archeological features or buried ground surfaces that are located during archeological stripping or trenching. The need for test unit excavation will be at the discretion of the Thunderbird staff archeologist, but in consultation with Alexandria Archaeology staff. The test units will be excavated stratigraphically by natural or cultural levels or by arbitrary sub levels. All soils will be screened through 1/4-inch mesh hardware cloth. Representative soil profiles will be drawn using the

Munsell Soil Color Chart designation. All work will be documented by field notes, sketch plans and photographs.

Additional Archeological Monitoring

In addition to the *Archeological Evaluation Fieldwork*, Thunderbird staff will archeologically monitor any ground-disturbing activities within the site area including the removal of building foundations and grading, and all construction trenching/activity around the perimeter of the site (i.e. for the placement of steel piles or underpinning).

Archeological Monitoring –210 the Strand

The property at 210 The Strand was not dry land until sometime in the mid-20th century. From the 1880s until 1922, the clubhouse of the Old Dominion Boat Club stood on piers in the location, accessed by a wooden foot bridge from The Strand. The clubhouse was destroyed by fire several times in the 19th and 20th centuries before the club moved to its current location near the foot of King Street. A small building resting on a concrete slab foundation is currently located on the property.

An archeologist shall monitor all ground-disturbing activities within the property including the removal of building foundations, grading, and underground utilities installation or removal. Particular attention will be made to the removal of the concrete slab building foundations and the removal of any subsurface architectural elements of the building. The archeological monitoring will be conducted in concert with the development construction schedule.

The goal of the archeological monitoring will be to determine the presence or absence of significant archeological features. If features are found, work must stop in the area of these finds until the archeologist evaluates their significance, in consultation with Alexandria Archaeology. All features will be recorded, mapped and photographed.

Laboratory Work and Curation

Archeological artifacts recovered from significant soil layers within the project area will be retained, cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archaeological Standards*. Organic materials that may require conservation may be recovered; however, the cost proposal will not include conservation services. Conservation may be added as an additional service.

Archeological collections recovered as a result of the Alexandria Archaeology Resource Protection Code must be curated at a facility which meets Federal standards for archeological curation and collections management as described by 36CFR Part 79. The Alexandria Archaeology Storage Facility meets these standards, and the property owner

is encouraged to donate the artifact collection to the City for curation. The archeological consultant is responsible for arranging for the donation of the artifacts with the owner and will deliver the artifacts and signed forms to the appropriate storage facility.

At the conclusion of the project, all images, field notes and forms and other field records will be submitted in digital format on a CD. In addition, the artifacts, if they are to be donated to the City, will be delivered to Alexandria Archaeology.

Archeological Evaluation Report and Resource Management Plan

The *Archeological Evaluation* Report will include the following: a public summary; a map of the project area; a map with trench locations and significant features; a summary of the procedures; results of the field investigation and artifact analysis, including a distribution map or other graphics which indicate potentially significant archeological areas; an integration of the field and analysis data with the historical record; and recommendations for additional work, if needed. The Resource Management Plan will present any further preservation measures which may be necessary on the site.

When the fieldwork is completed, two draft copies of the full *Archeological Evaluation* Report will be submitted to Alexandria Archaeology, as is required by Alexandria Archaeology. Once the report is approved by the City Archaeologist, revisions will be made, and four copies of it, one unbound with original graphics, will be submitted to Alexandria Archaeology. The report will also be submitted on a CD. All site maps and drawings will be inked or computer-generated so as to produce sharp and clear images that will result in clear photocopies or microfilms.

Public Interpretation

The *City of Alexandria Archeological Standards* require that a public summary be prepared as part of an *Archeological Evaluation* Report. The public summary will be approximately 4 to 8 pages long with a few color illustrations. This should be prepared in a style and format that is reproducible for public distribution and use on the City's web site. Examples of these can be seen on the Alexandria Archaeology Museum website.

A draft of the summary should be submitted to Alexandria Archaeology for review along with the draft of the *Archeological Evaluation* Report¹. Upon approval, a master copy (hard copy as well as on CD or computer disk) will be submitted to Alexandria Archaeology. The summary and graphics should also be e-mailed to Alexandria Archaeology for publication on our web site.

¹ If additional archeological work is required, production of these public documents can be delayed until the completion of all archeological investigations.

Thunderbird will also supply the written text and graphics for any required historic interpretation, but will coordinate with the City Archaeologist before writing the text and selecting images. The text should be up to 200 words in length with a paragraph on the historical significance of the site and a paragraph on findings from the documentary study and archeological evaluation. The graphics (minimally four, with captions) need to be high-quality copies (scanned at a minimum of 600 dpi and saved separately as jpeg or tiff files) of line drawings (e.g., site maps, feature drawings), historic photographs and maps, or other illustrations (e.g., site or artifact photos) in black and white or color. All copyright releases need to have been obtained and credit provided for each graphic. The text and graphics must be submitted to Alexandria Archaeology on a CD.

Tasks

The following is a summary of the tasks to be completed:

1. Meet with Alexandria Archaeology staff to finalize the field strategy based on the results of the Documentary Study.
2. Notify Alexandria Archaeology of the demolition monitoring start date. Conduct the field monitoring, trench excavation and stripping to identify and expose features. Note that an **Archeological Certification** will not be needed, as the site will be under active construction.
3. If significant finds are made, produce a Resource Management Plan that will include an executive summary of fieldwork, to-scale maps showing features and excavated areas and a scope of work for the next phase of fieldwork. Meet with Alexandria Archaeology to present the results.
4. Register all sites with VDHR and submit copy of the registration forms to Alexandria Archaeology.

If no significant finds are made complete the following tasks:

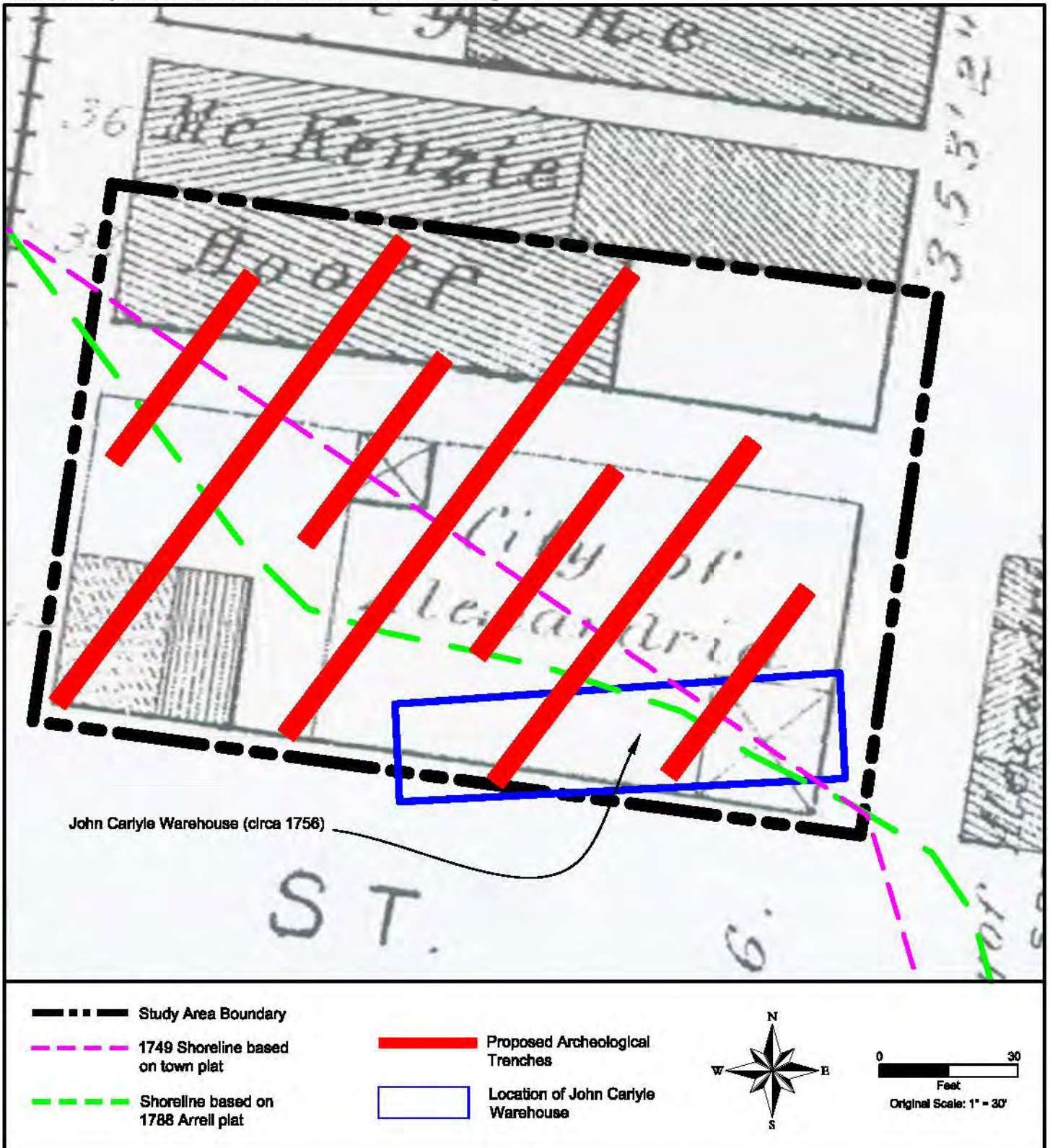
1. Process all significant artifacts and complete the analysis.
2. Produce and submit two draft copies of the Archaeological Evaluation Report to Alexandria Archaeology, including the public summary document and the text and graphics for the historic marker, if warranted.
3. Deliver to Alexandria Archaeology four copies (including one unbound copy) and CD of the final report, final versions and CDs of the public summary and historic marker text and graphics, plus all field notes, copies of historic documents, photographs, slides, digital images, cassette tapes, transcriptions, forms and associated records. In addition, arrange for the donation and delivery of the

artifacts to an appropriate storage facility. Alexandria Archaeology is the preferred repository and requires a City of Alexandria Deed of Gift form.

Formats for Digital Deliverables:

- | | |
|--------------------------------|--|
| 1. Photographs: | .jpg. |
| 2. Line Drawings: | .gif or .jpg as appropriate. |
| 3. Final Report/Public Summary | Word, PageMaker and/or PDF |
| 4. Oral History | Word |
| 5. Catalogue: | Word, Access or Excel |
| 6. Other Written material: | Word, Access, Excel, PageMaker or PDF as appropriate |

L:\22000s\22300\22392.01\Admin\03-ARCH\Scope of Fieldwork\2014-06-16 SOW.docx



--- Study Area Boundary

- - - 1749 Shoreline based on town plat

- - - Shoreline based on 1788 Arrell plat

█ Proposed Archeological Trenches

▭ Location of John Carlyle Warehouse



0 30
Feet
Original Scale: 1" = 30'

Exhibit A Proposed Trench Locations on 1877 Hopkins Map Overlay



Appendix II
Resource Management Plans



**RESOURCE MANAGEMENT PLAN
FOR BULKHEAD WHARF, SUBMERGED VESSEL
AND ASSOCIATED FEATURES
220 SOUTH UNION STREET (INDIGO HOTEL)
CITY OF ALEXANDRIA, VIRGINIA**

DECEMBER 15, 2015

On December 11, 2015, WSSI staff archeologists identified the remains of a submerged/scuttled vessel abutting a section of a previously undiscovered bulkhead wharf in the northeast quadrant of the site. The features were evaluated in consultation with Alexandria Archaeology and were found to be significant, as this is the first archeological evidence of the “banking out” process within or adjacent to Point Lumley. Decisions regarding the significance of the features and the level of documentation required for mitigation were made in consultation with Alexandria Archaeology: Phase III archeological data recovery investigations were required.

The ultimate goal of the Phase III data recovery is to make a record of the feature prior to its destruction and to recover sufficient data from the site to address defined research questions. Fieldwork, and report contents associated with the Phase III data recovery will conform to the guidelines set forth by Alexandria Archaeology. Archeological collections recovered as a result of the Alexandria Archaeology Resource Protection Code must be curated at a facility which meets Federal standards for archeological curation and collections management as described by 36CFR Part 79. The Alexandria Archaeology Storage Facility meets these standards, and the property owner is encouraged to donate the artifact collection to the City for curation. The archeological consultant is responsible for arranging for the donation of the artifacts with the owner and will deliver the artifacts and signed forms to the appropriate storage facility.

Background

The “banking out” process of land creation may have begun shortly after the creation of the town and accelerated after the Town Trustees permitted waterfront landowners to extend their lots into the river “as far as they shall think proper” and retain ownership of the newly created land. The high bluffs overlooking the Potomac were cut and leveled and the earth was spread out in the shallow water to create this land. The bulkhead wharf and submerged/derelict vessel are the first archeological evidence of this process on the private land north of Point Lumley

Research Questions

1. Buildings were present on the lot fronting Union Street containing the bulkhead as early as 1798 according to documentary research. What is the estimated date of construction for the bulkhead?

2. How was the bulkhead constructed? Is it similar to the one found at Ford's Landing? How far above and below the waterline did the bulkhead extend? Did it extend across the entire property?
3. What was the process of infilling? Can the sediments on either side of the bulkhead reveal natural sedimentation versus human agency?
4. Was the submerged/derelict vessel intentionally used to create artificial land? What can analysis tell us about use and function?
5. Can the artifact assemblage tell us about the socio-economic status of the occupants of site? Of potential activity areas on the site?

Field Investigations

The field investigations are summarized in the bullet points, but are explained in greater detail in the following text.

Bulkhead wharf

- Expose entire feature, photograph and prepare a scaled drawing with survey located points and elevations.
 - Excavate four test units (or a total of 4 cubic yards) within interior/exterior of the bulkhead wharf to sample for artifacts and features.
 - All faunal material recovered will also be submitted to a qualified sub consultant for analysis; no more than 250 bone or bone fragments are anticipated.
 - Collect samples for dendroarcheological dating and wood identification by a qualified sub consultant.
-
- Required consultation with Maritime/Shipbuilding experts.
 - Expose entire feature, photograph and prepare a scaled drawing and profiles.
 - Produce a 3D model of the vessel using a series of laser scans.
 - Excavate four test units (or a total of 4 cubic yards) within interior/exterior of the vessel to sample for artifacts and features, to determine the nature of the sediments surrounding and underneath the vessel and to examine the process of infilling on the river side of the bulkhead.
 - All faunal material recovered will also be submitted to a qualified sub consultant for analysis; no more than 250 bone or bone fragments are anticipated.
 - Collect samples for dendroarcheological dating and wood identification by a qualified sub consultant.

Associated Features (Wooden Barrel and Box Feature)

- Expose entire feature, excavate interior, photograph and prepare a scaled drawing and profiles.
- Collect soils samples from the interior soils for flotation and macro-botanical analysis.

The entire bulkhead wharf and boat feature will be exposed and documented with notes, photographs and drawings. The features will be survey located and elevations will be recorded. Four test units (or a total of 4 cubic yards) within interior/exterior of the bulkhead wharf to sample for artifacts and features and four test units (or a total of 4 cubic yards) within interior/exterior of the boat to sample for artifacts and features, to determine the nature of the sediments surrounding and underneath the vessel and explore the sediment fills associated with the “banking out” process in this immediate area.

Note: If cultural sediments are encountered that are too deep for safe hand excavation; mechanical excavation may be needed, but within the limitations of the construction shoring and dewatering capabilities.

All test units will be three-foot square and vertical excavation will be by natural/cultural soil levels. Excavation will be halted when gleyed soils, gravel, water, or well-developed B horizons too old for human occupation are reached. Soil horizons will be classified according to standard pedological designations (A, Ap, B, C, etc.) and described using the Munsell Soil Color Chart designations and soil textures will be described using the United States Department of Agriculture soil texture triangle. All soil will be screened through 1/4-inch mesh hardware cloth screens; artifacts will be bagged and labeled by unit number and by soil horizon.

Laboratory

Archeological artifacts recovered from the test units and from the general collection from the surrounding soils will be retained, cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archaeological Standards*. No more than 500 artifacts are anticipated.

All faunal remains will be submitted to a qualified sub consultant for analysis. Faunal analysis is useful in the determination of economic and subsistence patterns of the site’s inhabitants. The raw data obtained will include species present and estimated minimum number of individuals of each species present. No more than 500 bone or bone fragments are anticipated.

Additional Research and Reporting

The results of the archeological mitigation, artifact evaluation, and any specialized analyses will be integrated into the *Archeological Evaluation Report*. Additional archival and historic research will be needed to place the ship and wharf into its historic context.

Conservation of Wood Structural System

Given the significance of the features, the City of Alexandria may wish to conserve the wood timbers for later display and use. Alexandria Archaeology will bring in conservationists from the Maryland Archaeological Conservation Lab to assess the condition of the wood and determine whether conservation is feasible and appropriate.

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**RESOURCE MANAGEMENT PLAN
FOR LARGE PRIVY, BULKHEAD WHARF (and ASSOCIATED
BARREL FEATURE) & ABANDONED/DERELICT SHIP**

**220 SOUTH UNION STREET (INDIGO HOTEL)
CITY OF ALEXANDRIA, VIRGINIA**

DECEMBER 23, 2015

On December 11, 2015, WSSI staff archeologists identified the remains of an abandoned/scuttled vessel abutting a section of a previously undiscovered bulkhead wharf in the northeast quadrant of the site. Subsequently, a large privy feature was located on December 15, 2015. All features were evaluated in consultation with Alexandria Archaeology and were found to be significant; the bulkhead and the ship represent the first concrete archeological evidence of the “banking out” process within or adjacent to Point Lumley. Decisions regarding the significance of the features and the level of documentation required for mitigation were made in consultation with Alexandria Archaeology: Phase III archeological data recovery investigations were required.

The ultimate goal of the Phase III data recovery is to make a record of the feature prior to its destruction and to recover sufficient data from the site to address defined research questions. Fieldwork, and report contents associated with the Phase III data recovery will conform to the guidelines set forth by Alexandria Archaeology. Archeological collections recovered as a result of the Alexandria Archaeology Resource Protection Code must be curated at a facility which meets Federal standards for archeological curation and collections management as described by 36CFR Part 79. The Alexandria Archaeology Storage Facility meets these standards, and the property owner is encouraged to donate the artifact collection to the City for curation. The archeological consultant is responsible for arranging for the donation of the artifacts with the owner and will deliver the artifacts and signed forms to the appropriate storage facility.

Large Privy

Feature 56 is a rectangular wood-lined privy shaft that measures roughly six feet in length by four feet in width, and is estimated to be three feet deep.

Research Questions

1. Was the privy associated with the Carlyle Warehouse or a private residence?
2. What was the period of use for the privy? How does this compare to the other privies found on the site?
3. What can the artifact assemblage tell us about the occupants of the site? Of potential activity areas on the site?

Field Investigations

The feature will be documented with photographs, notes, and will be survey located. The feature will be bisected and a representative profile will be drawn. The privy feature will be excavated in either arbitrary or stratigraphic levels. Approximately 50% of the soils will be screened through 1/4" hardware mesh cloth; the other half will be water-screened on-site through 1/16" window mesh cloth (to recover small finds).

Laboratory

Archeological artifacts will be cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archaeological Standards*. No more than 500 artifacts are anticipated.

Samples (approximately two gallon-sized ziplock bags) of the soils will be retained for flotation. The samples will be floated for heavy and light fractions, and the fractions hand-examined for the presence/absence of diagnostic artifacts and small finds. A portion of each flotation sample from each feature will be retained for soil chemistry, pollen, phytoliths and macro-botanicals analyses conducted by qualified sub-consultants.

All faunal remains will be submitted to a qualified sub consultant for analysis. Faunal analysis is useful in the determination of economic and subsistence patterns of the site's inhabitants. The raw data obtained will include species present and estimated minimum number of individuals of each species present. No more than 750 bone or bone fragments are anticipated.

Additional Research and Reporting

Additional archival and historic research may be needed to place feature into its historic context. The results of the privy excavation, artifact evaluation, and any specialized analyses will be integrated into one combined report describing the results of the *Archeological Evaluation* (Phase I/II Archeological Investigation) and the results of all *Data Recovery Mitigation* (Phase III Archeological Investigation) conducted at the site.

Bulkhead Wharf

Background

The “banking out” process of land creation may have begun shortly after the creation of the town and accelerated after the Town Trustees permitted waterfront landowners to extend their lots into the river “as far as they shall think proper” and retain ownership of the newly created land. The high bluffs overlooking the Potomac were cut and leveled and the earth was spread out in the shallow water to create this land. The bulkhead wharf and submerged/abandoned vessel are the first archeological evidence of this process on the private land north of Point Lumley.

Research Questions

1. Buildings were present on the lot fronting Union Street containing the bulkhead as early as 1798 according to documentary research. What is the estimated date of construction for the bulkhead?
2. How was the bulkhead constructed? Is it similar to the one found at Ford’s Landing? Did it extend across the entire property? How far above and below the waterline did the bulkhead extend?
3. What was the process of infilling? How do the sediments on either side of the bulkhead compare? Is there a difference between the two infilling episodes and can they be temporally separated?

Field Investigations

The field investigations are summarized in the bullet points, but are explained in greater detail in the following text.

- Expose entire feature, photograph and prepare a scaled drawing with survey located points and elevations.
- Excavate two test units and up to 6 shovel test pits (STPs) within the interior/exterior of the bulkhead wharf to sample for artifacts and document stratigraphy.
- All faunal material recovered will also be submitted to a qualified sub-consultant for analysis; no more than 250 bone or bone fragments are anticipated.
- Collect samples for dendroarcheological dating and wood identification by a qualified sub-consultant.

The entire bulkhead wharf will be exposed and documented with notes, photographs and drawings. Machine excavation of soils on the east side of the feature will be warranted to expedite the investigation. The feature will be survey located and elevations will be recorded. Two test units and up to six STPs will be excavated within interior/exterior of the bulkhead wharf to sample for artifacts, features and examine the cultural fills associated with the “banking out” process in this immediate area. **Note:** If cultural sediments are encountered that are too deep for safe hand excavation; mechanical

excavation may be needed, but within the limitations of the construction shoring and dewatering capabilities.

All test units will be three-foot square and all shovel test pits will be at least 15-inches in diameter. Vertical excavation will be by natural/cultural soil levels. Excavation will be halted when gleyed soils, gravel, water, or well-developed B horizons too old for human occupation are reached. Soil horizons will be classified according to standard pedological designations (A, Ap, B, C, etc.) and described using the Munsell Soil Color Chart designations and soil textures will be described using the United States Department of Agriculture soil texture triangle. All soil will be screened through 1/4-inch mesh hardware cloth screens; artifacts will be bagged and labeled by unit number and by soil horizon.

Associated Feature (Wooden Barrel)

- Expose entire feature, excavate interior for artifacts, photograph and prepare a scaled drawing and profiles.

Laboratory

Archeological artifacts will be cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archaeological Standards*. No more than 500 artifacts are anticipated.

Additional Research and Reporting

Additional archival and historic research may be needed to place feature into its historic context. The results of the privy excavation, artifact evaluation, and any specialized analyses will be integrated into one combined report describing the results of the *Archeological Evaluation* (Phase I/II Archeological Investigation) and the results of all *Data Recovery Mitigation* (Phase III Archeological Investigation) conducted at the site.

Abandoned/Derelict Ship

Archeologists from Wetland Studies and Solutions, Inc. discovered the remains of a large ship; the remnants of the port side of the hull measure approximately 50 feet in length by 10 feet in width. Portions of the framing have been purposefully removed, as evidenced by the axe marks. Surviving portions of the hull consist of ceiling planks, framing, a keel and potentially part of a stern post. Based on available information, the ship dates to the late 18th century and may have purposely been placed in this location for the purpose of expanding the shoreline.

Research Questions

1. Was the submerged/derelict vessel intentionally used to create artificial land and how?
2. What can analysis tell us about its origin, date of construction, use and function? What the ship originally to haul heavy cargo? Or was this a military ship?
3. What evidence do we have that the ship was purposely dismantled and can we tell why?

Field Investigations

The field investigations are summarized in the bullet points, but are explained in greater detail in the following text.

- Expose entire feature, photograph and prepare a scaled drawing and profiles.
- A specialist in maritime history and archaeology, with expertise with ship-building techniques, will be present on-site during the dismantling and removal of the framing and futtocks.
- An outside subconsultant will perform a series of 3D scans of the ship from sufficient vantage points to capture the entire feature. Three scans are anticipated.
- Collect samples for dendroarcheological dating and wood identification by a qualified sub consultant.
- Collect up to ten (10) soils samples from sealed contexts on the ship for flotation, soil chemistry, pollen, phytoliths, and macro-botanicals, as warranted.
- Excavate up to four (4) shovel test pits (STPs) around the ship to sample for artifacts and to examine the nature of the sediments surrounding and underneath the vessel.
- All faunal material recovered will also be submitted to a qualified sub-consultant for analysis; no more than 250 bone or bone fragments are anticipated.

The remnants of the ship will be exposed in its entirety and documented with notes, photographs and drawings. The feature will be survey located and elevations will be recorded.

3D Scanning and Photogrammetry

A series of 3D laser scans will be conducted on the ship from sufficient vantage points to capture the entire feature. Subsequent series of scans will be conducted after each layer of wood is removed (i.e. base scan: entire ship; second scan: after ceiling planks are removed, showing framing details; third scan: after framing and futtocks are removed, showing outer planks). **A specialist in maritime history and archaeology, with expertise with ship-building techniques, will be present on-site during/or just following the second series of scans for the removal of the framing.** The data will be processed and registered in a 3D point cloud; an electronic copy of the point cloud can be later used for public interpretation. 2D drawings will be prepared from the 3D data for use by in the *Archaeological Evaluation and Data Recovery Mitigation Report*. Color imagery will also be captured during the scanning.

Excavations

The soils underneath the ceiling planks and between frames will be archeologically excavated and screened for artifacts, using a horizontal grid for horizontal and vertical control.

Additionally several STPs will be excavated around the ship to sample for artifacts and to examine the nature of the sediments surrounding and underneath the vessel. **Note:** If cultural sediments are encountered that are too deep for safe hand excavation; mechanical excavation may be needed, but within the limitations of the construction shoring and dewatering capabilities.

Laboratory

Archeological artifacts will be cleaned, stabilized (if necessary), cataloged, labeled and packaged in accordance with the guidelines set forth in the *City of Alexandria Archaeological Standards*. No more than 500 artifacts are anticipated. All faunal remains will be submitted to a qualified sub-consultant for analysis. Faunal analysis is useful in the determination of economic and subsistence patterns of the site's inhabitants. The raw data obtained will include species present and estimated minimum number of individuals of each species present. No more than 500 bone or bone fragments are anticipated.

Additionally up to ten samples will be taken from the soils within sealed contexts of the ship (i.e. beneath the ceiling planks). The analysis will include studies of soil chemistry, pollen, phytoliths, and macro-botanicals, as warranted. These analyses will be conducted by qualified sub-consultants.

Additional Research and Reporting

Additional archival and historic research will be needed to place feature into its historic context. The results of the privy excavation, artifact evaluation, and any specialized

analyses will be integrated into one combined report describing the results of the *Archeological Evaluation* (Phase I/II Archeological Investigation) and the results of all *Data Recovery Mitigation* (Phase III Archeological Investigation) conducted at the site.

Conservation of Ship Remnants

Given the significance of the ship, the City of Alexandria wishes to conserve the wood timbers for later display and use. Carr City Centers will provide machinery and machine operators to move the wood to a transport vehicle supplied by the City. WSSI and City staff will provide the labor for mapping, tagging and removing the wood.

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APPENDIX III
Chain of Title



Chain of Title—220 South Union Street

1963 July 30

Cummings Investment
Associates Inc.

Carlyle R. Boguess
Virginia A. Boguess
T. P. Boguess
Ella B. Boguess

Deed—City of Alexandria Deed Book 581:231

1945 January 30

Carlyle R. Boguess
T. P. Boguess

Edward G. Schmidt,
Receiver of the Sales Corporation

Deed—City of Alexandria Deed Book 214:204

1899 May 17

Bryant Fertilizer Co.

J. C. Herbert Bryant

*Transferred ownership of the City Tract, Marsteller Tract, Violet Tract, Lyles Tract, and enclosed alley, in addition to other parcels, to the Bryant Fertilizer Company

Deed—City of Alexandria Deed Book 42:512

1892 October 15

J. C. Herbert Bryant

City of Alexandria

“City Parcel”

Deed—City of Alexandria Deed Book 28:384

1892 April 2

J. C. Herbert Bryant

William S. Moore

“Marsteller Parcel”

Deed—City of Alexandria Deed Book 28:27

1891 October 29

J. C. Herbert Bryant

Anthony W. Armstrong,
Special Commissioner

“Muncaster/Violet
Parcel”

*Property sold by decree in chancery suit *Amanda M. Violet v. William A. Kramer et. al.*
Court records indicate that a brick warehouse stood on the property at time of sale.

Deed—City of Alexandria Deed Book 26:422

1891 October 14

J. C. Herbert Bryant

Joanna Lyles,
widow of Enoch H. Lyles

“Arell/Lowe Parcel”

Deed—City of Alexandria Deed Book 26:404

Arell Parcel

1891 October 14

J. C. Herbert Bryant

Joanna Lyles,
widow of Enoch H. Lyles

70' by 56'1" lot,
corner Duke and Union

Deed—City of Alexandria Deed Book 26:404

Circa 1880

Joanna Lyles

Enoch H. Lyles

70' by 56'1" lot,
corner Duke and Union

Will—City of Alexandria Will Book 1:228

1868 May 18

Enoch H. Lyles

William H. Bacon

35' by 56'1" lot,
corner Duke and Union

Deed—City of Alexandria Deed Book Y3:415

1851 June 20

Ebenezer Bacon

Nehemiah Hicks

Susan (Bayne) Bacon

Betsey (Bayne) Hicks

35' by 56'1" lot,
corner Duke and Union

Deed—City of Alexandria Deed Book O3:110

1826 n.d.

Susan Bayne

Henry Bayne

Betsey Bayne

35' by 56'1" lot,
corner Duke and Union

Will—City of Alexandria Will Book 3:220

1819 June 4

Henry Bayne

Richard Arell(II)

35' by 56'1" lot,
corner Duke and Union

Deed—City of Alexandria Deed Book K2:56

Circa 1800

Richard Arell (II)

Richard Arell (I)

35' by 56' 1" lot,
corner Duke and Union

Division of Estate—Document Not Located

Lowe Parcel

1891 October 14

J. C. Herbert Bryant

Joanna Lyles,
widow of Enoch H. Lyles

70' by 56' 1" lot,
corner Duke and Union

Deed—City of Alexandria Deed Book 26:404

Circa 1880

Joanna Lyles

Enoch H. Lyles

70' by 56' 1" lot,
corner Duke and Union

Will—City of Alexandria Will Book 1:228

1873 June 2

Enoch H. Lyles

Richard Windsor et. al.
(heirs of Christiana A. Lowe)

35' by 56' 1" lot,
35' north of Duke

Deed—City of Alexandria Deed Book 3:92

Circa 1800

Christiana Lowe

Richard Arell (I)

35' by 56' 1" lot,
35' north of Duke

Division of Estate—Document Not Located

Muncaster/Violett Parcel

1891 October 29

J. C. Herbert Bryant

Anthony W. Armstrong,
Special Commissioner

30' frontage on Union,
120' east toward river

*Property sold by decree in chancery suit *Amanda M. Violett v. William A. Kramer et. al.*

Court records indicate that a brick warehouse stood on the property at time of sale.

Deed—City of Alexandria Deed Book 26:422

Prior to 1853

Robert G. Violett

Elizabeth Muncaster

30' frontage on Union,
120' east toward river

*Prior to 1853, the Muncasters and Marstellers divided the parcel, and Robert G. Violett purchased the Muncaster's portion.

Document Not Located

Circa 1800

Elizabeth Muncaster
Christiana Marsteller

Richard Arell (I)

30' frontage on Union to river

Estate Division—Document Not Located

Marsteller Parcel

1892 April 2

J. C. Herbert Bryant

William S. Moore

30' by 60' parcel between
Muncaster/Violett and Strand

Deed—City of Alexandria Deed Book 28:27

1892 April 2

William S. Moore

Old Dominion Boat Club 30' by 60' parcel between
Muncaster/Violett and Strand

Anne S. Moore

*Moore receives full title to the property west of Strand in exchange for rights to property east of Strand.

Deed of Partition—City of Alexandria Deed Book 28:30

1891 January 21

William S. Moore

Lewis McKenzie

undivided ½ interest

Deed—City of Alexandria Deed Book 25:109

1853 July 6

Benjamin H. Lambert

Christopher Neale,

30' by 60' parcel between

Lewis McKenzie

Commissioner

Muncaster/Violett and river

*Parcel sold by decree during the chancery suit *Cyrus C. Marsteller V. Marsteller et. al*

Deed—City of Alexandria Deed Book P3:101

Prior to 1853

Christina Marsteller

Elizabeth Muncaster

30' by 60' parcel between
Muncaster/Violett and river

*Prior to 1853, the Muncasters and Marstellers divided the parcel, Marsteller receiving the eastern portion.

Document Not Located

Chain of Title--Lot 69 in the 18th Century

Ca. 1800

Christiana Lowe

Richard Arell (I)

Lot 69

Richard Arell (II)

Elizabeth Muncaster

Christiana Marsteller

*Richard Arell (I)'s estate is divided among many heirs—the above four received property within the study area

Division of Estate—Document Not Located

1775

Richard Arell
Deed—Fairfax County Deed Book M:33

Nathaniel Harrison

Lot 69

1752

Nathaniel Harrison
*George Fairfax, having failed to develop the lot per the purchase agreement, lost the lot
which was resold to Harrison
Deed—Fairfax County Deed Book C:312

Trustees of Alexandria

Lot 69

1749

Col. George Fairfax
Grant—City of Alexandria

Trustees of Alexandria

Lot 69

Chain of Title—210 The Strand

2006 May 17

City of Alexandria
Deed—City of Alexandria Instrument #060013597

Russell S. Crenshaw, Jr.
Flavienne G. Crenshaw

30' wide parcel from
Strand to river

1974 February 28

Russell S. Crenshaw, Jr.
Flavienne G. Crenshaw
Deed—City of Alexandria Deed Book 772:859

heirs of William Lawson Davis
(17 individuals)

30' wide parcel from
Strand to river

1928 January 10

William L. Davis
Deed—City of Alexandria Deed Book 93:100

Old Dominion Boat Club
and Trustees

30' wide parcel from
Strand into river

1896 January 16

Lycurgus E. Uhler et. al.
Trustees of the Old Dominion
Boat Club
Deed—City of Alexandria Deed Book 36:4

Israel C. Oneal, Trustee

30' wide parcel from
Strand into river

1892 June 9

Israel C. Oneal
Deed of Trust—City of Alexandria Deed Book 27:533 (Deed Book Missing)

Old Dominion Boat Club
and Trustees

30' wide parcel from
Strand into river

1892 April 2

Old Dominion Boat Club

William S. Moore

30' wide parcel from

Anne S. Moore Strand into river
*ODBC exchanges full title to the property east of Strand in exchange for rights to property west of Strand.

Deed of Partition—City of Alexandria Deed Book 28:30

1892 April 2

Old Dominion Boat Club J. C. Herbert Bryant Northern half of alley

*ODBC and Bryant agree to split the 18' 4" alley east of Strand

Deed of Partition—City of Alexandria Deed Book 28:28

1891 January 21

William S. Moore Lewis McKenzie undivided ½ interest

Deed—City of Alexandria Deed Book 25:109

1883 August 28

Old Dominion Boat Club William H. Lambert, et. al. undivided ½ interest
(nine heirs of Benjamin Lambert)

Deed—City of Alexandria Deed Book 13:203

1853 July 6

Benjamin H. Lambert Christopher Neale, 30' by 60' parcel between
Lewis McKenzie Commissioner Muncaster/Violet and river

*Parcel sold by decree during the chancery suit *Cyrus C. Marsteller V. Marsteller et. al*

Deed—City of Alexandria Deed Book P3:101

Appendix IV
Results of Trenching and Archeological Evaluation - Thunderbird Archeology



All work followed a Scope of Work approved by Alexandria Archaeology. The scope sequence consisted of the excavation of initial trenches to a depth of 4-5 feet (1.2-1.5 meters) below grade, followed by the removal of all soils between the trenches in shallow increments or lifts, until the site was leveled. The trench excavation and site leveling resumed across the site a second time until the final construction grade was reached. Finally, construction activity - underpinning of the adjacent building and a perimeter trench for the placement of steel piles - was also monitored. When features were encountered, those features were documented and mapped within the safety parameters governing the types of trenches. Alexandria Archaeology was consulted when potentially significant features or artifacts were encountered during monitoring. The technical results of the initial machine test trenching, site leveling activity, and construction/utility monitoring are presented in this appendix.

Two separate rounds of mechanized trenches were excavated diagonally across the project area using a backhoe equipped with a flat-bladed, smooth bucket. Each set of trenches was excavated prior to a site-wide leveling or removal of soil, which was also done with the archaeologist present and directing the excavations. The trenches were approximately four feet (1.2 meters) in width and totaled approximately 30-95 linear feet (9.1-29 meters) per round. Trench depth did not exceed the depth of the anticipated impacts of the proposed construction. All mechanical trenching followed OSHA guidelines to allow for safe hand excavation and evaluation. Trench placement was based on the Documentary Study, as well as unforeseen circumstances such as large spoil piles of contaminated soils, construction changes, and the presence of archaeological features. Deep trenches along the perimeter of the project area for the piles more than 8 feet below the grade of the first site leveling were also monitored and truncated in the case of archaeological discoveries. Utility trenches were excavated during the construction process in Duke Street, Union Street, and the Strand. The archaeologists were required to monitor all activities.

In the first phase of this investigation, eight trenches of varying length were mechanically excavated across the property at approximately 30-foot (9.1 meters) intervals (Figure 1). Eleven features were identified during this phase, ranging from the 18th/late 20th century. The second phase of investigations included the removal of approximately six feet (1.8 meters) of soil across the project area systematically with a flat-edged bucket. The site was leveled to 6 feet (1.8 meters) above sea level (a.s.l.), uncovering a total of 30 features. After all of the features were documented a second phase of mechanized trenches was undertaken including the perimeter piling trenches. The piling trenches were excavated along the entire perimeter of the project to an approximate depth of 12 feet (3.7 meters) below the new grade and monitored by Thunderbird archaeologists. The additional mechanized trenches during this phase were placed in the approximate locations of the previous trenches, but several were moved due to construction activities and the mitigation of Feature 41. Some of the trenches reached sterile subsoil at approximately 5 feet (1.5 meters) below the new grade, though many were inundated with ground water by that point. Finally, another site leveling removed approximately six more feet (1.8 meters) of soil and was monitored in the same fashion as the previous activity, bringing the area down to a total depth of approximately -3 feet (-0.91 meters) a.s.l.

Figure 1: Locations of Trenches and Features

At least one soil strata column profile was drawn for every trench, except for the piling trenches due to safety concerns. Photographs were taken of the trenches and features. Trenches were backfilled after recordation of the soil profiles. Decisions regarding the significance of features and the need for additional testing were made in consultation with Alexandria Archaeology. Multiple features were identified during trench excavations and site levelling. The features ranged in date from the 18th through the late 20th century, based on the identified materials and artifacts recovered from the associated fills. The identification of every uncovered feature is discussed in further detail below. The artifacts recovered during the trench, site leveling, and feature excavation phases of the investigations are summarized in the discussion below and a detailed inventory of the artifacts is presented in Appendix V.

Trenching Phase 1

In the initial phase of this investigation, eight trenches of varying length were mechanically excavated across the property at approximately 30-foot (9.1 meters) intervals. The original location of each trench was established in consultation with Alexandria Archaeology staff and took into account information gathered from the Documentary Study. However, some of the trench locations were moved based on data gathered from previous trenches and logistical changes encountered due to ongoing construction.

The initial trenching revealed deep historic fill deposits and did not encounter sterile subsoil. No intact buried plow zones or buried A horizons were encountered; however, it is likely that some of the fill horizons may have served as living surfaces. A total of 11 features were identified in the first round of sample trenches. The features ranged in date from the 18th through the late 20th century, based on the identified materials and artifacts recovered from the associated fills.

Trench 1

Trench 1 was placed in the northwest corner of the project area. The trench measured 46 feet (14.0 meters) in length and was excavated to a depth of 4.8 feet (1.46 meters) below ground surface after the existing building was demolished and the concrete pad removed. The trench profile consisted of five undulating fill deposits that partially overlay sandy subsoil in the southern end of the trench (Figure 2):

- Fill 1 horizon: 0- 1.1 feet (0- 0.34 meters) below surface – [10YR 5/8] yellowish brown silty loam mixed with construction debris (brick, mortar, concrete)
- Fill 2 horizon: 1.1- 2.1 feet (0.34- 0.64 meters) below surface - [10YR 5/1] gray loam mixed with construction debris (brick, mortar, concrete)
- Fill 3 horizon: 2.1- 3.0 feet (0.64- 0.91 meters) below surface – [10YR 2/1] black silty loam mixed with some brick fragments
- Fill 4 horizon: 3.0- 4.5 feet (0.91- 1.37 meters) below surface - [10YR 3/4] dark yellowish brown sandy clay loam mixed with small patches of oyster shell and small brick bits
- Fill 5 horizon: 4- 4.3 feet (1.22- 1.31 meters) below surface – [10YR 7/4] very pale brown sand
- BC horizon: 2.5- 5.0 feet (0.76- 1.52 meters) below surface – [10YR 6/4] light brown sand



Figure 2: Trench 1, East Wall Profile

The first three levels consist of construction and destruction debris from the late 19th century and into the modern era (Fill 1, Fill 2, and Fill 3). Fill 3 contains similar construction/destruction debris that appears to be burned and may be associated with a late 19th-century fire that consumed the area (Carroll and Mullen 2014). Feature 1, described later, can be observed in the profile just below the 20th century fills. Fill 4 and Fill 5 are sandy fills that may be associated with the original infilling of the tidal mud flats prior to 1800. Finally, Fill 6 (B or C horizon), which is only present on the south end of the trench past Feature 2, is likely the original shoreline mapped in the mid-18th century maps. During the site leveling the difference between the historic fills and the sandy BC horizon was evident in the western portion of the site and was survey located.

Two shovel test pits (STPs) were excavated at the base of Trench 1. STP 1 exhibited approximately 2 feet (0.61 meters) of soil similar to the Fill 5 horizon underlain by approximately one foot of [10YR 5/1] grey sand before giving way to water. STP 2 was excavated in the southern portion of the trench and exhibited three more feet of the BC horizon sand mixed with some wood bits.

A total of 18 artifacts were recorded during the excavation of Trench 1, all of which were recovered from Fill 3 immediately above Feature 1 (Appendix V). The temporally diagnostic artifacts included two sherds of tin glazed earthenware (1700-1800), clear glass bottle shard with duraglas stippling (1940-present), four automatic bottle machine glass shards (1910-present), one bottle fragment from Maywood Glass Company (1930-1959), and two fragments of a Coca-Cola bottle (1951-1958) (Lindsey 2017; Lockhart and Porter 2010).

Two features were found within Trench 1 including a large brick pad (Feature 1) and a solid conglomerate of asphalt, tar, and architectural material (Feature 2) that might be related to an alley way that split the property in the 19th century.

Trench 2

Trench 2 was placed in the northwest corner of the project area approximately 25 feet (7.62 meters) southeast of Trench 1. The trench measured 68 feet (20.7 meters) in length and was excavated to a depth of 4.8 feet (1.46 meters) below ground surface after the existing building was demolished and the concrete pad removed. The trench was truncated due to the presence of Feature 6 (discussed later in this section). The trench profile consisted of five undulating fill deposits that partially lay atop sandy subsoil in the southern end of the trench (Figure 3):

- Fill 1 horizon: 0- 1.3 feet (0- 0.40 meters) below surface – [10YR 5/8] yellowish brown silty loam mixed with construction debris (brick, mortar, concrete)
- Fill 2 horizon: 1.3- 2.3 feet (0.40- 0.70 meters) below surface - [10YR 5/1] gray loam mixed with construction debris (brick, mortar, concrete)
- Fill 3 horizon: 2.3- 4.0 feet (0.70- 1.22 meters) below surface – [10YR 2/1] black silty loam mixed with some brick fragments
- Fill 4 horizon: 2.3- 4.8 feet (0.70 – 1.46 meters) below surface - [10YR 5/6] yellowish brown sandy loam mixed with brick and mortar
- Fill 5 horizon: 3.8- 4.3 feet (1.16- 1.31 meters) below surface – [7.5YR 5/8] strong brown sandy clay
- BC horizon: 3.0- 4.8 feet (0.91- 1.46 meters) below surface - [10YR 8/2] very pale brown sand

The first three levels consist of construction and destruction debris from the late 19th century into the modern era (Fill 1, Fill 2, and Fill 3). Fill 3 contains similar construction/destruction debris that appears to be burned and may be associated with a late 19th century fire. Fill 4 and Fill 5 are sandy fills that may be associated with the original infilling of the tidal mud flats around 1800. Finally, Fill 6 (B or C horizon), which is only present on the south end of the trench is likely the original shoreline mapped in the mid-18th century maps. During the site leveling the difference between the historic fills and the sandy BC horizon was evident in the western portion of the site and was survey located.



Figure 3: Trench 2, East Wall Profile

Four features were found within Trench 2 including two post molds (Feature 3 and 4) and one cinder block, brick, and concrete footer (Feature 5). Feature 6 is located at the southern end of Trench 2 directly beneath the concrete pad and consists of a series of concrete footers and two iron rail lines.

Trench 3

Trench 3 was placed in the center of the project area approximately 45 feet (13.7 meters) southeast of Trench 2. The trench measured 95 feet (29 meters) in length and was excavated to a depth of 4.4 feet (1.34 meters) below ground surface after the existing building was demolished and the concrete pad removed. The trench profile consisted of seven undulating fill deposits (Figure 4):

- Fill 1 horizon: 0- 2.0 feet (0- 0.61 meters) below surface – [10YR 6/8] brownish sandy loam mixed with construction debris (brick, mortar, concrete)
- Fill 2 horizon: 2.0- 2.8 feet (0.61- 0.85 meters) below surface - [10YR 2/2] very dark brown loam mixed with slag, charcoal, metal, and tin foil
- Fill 3 horizon: 2.4- 2.8 feet (0.73- 0.85 meters) below surface – [10YR 2/1] black silty loam mixed with some brick fragments
- Fill 4 horizon: 2.0- 2.8 feet (0.61- 0.85 meters) below surface – [10YR 7/4] very pale brown loam mixed with mortar
- Fill 5 horizon: 2.6- 3.8 feet (0.79- 1.16 meters) below surface - [10YR 3/2] very dark grayish brown sandy loam mixed with charcoal, mortar, brick fragments, and oyster shell
- Fill 6 horizon: 2.6- 4.4 feet (0.79- 1.34 meters) below surface – [10YR 4/4] dark yellowish brown sandy clay loam
- Fill 7 horizon: 2.6- 4.4 feet (0.79- 1.34 meters) below surface – [10YR 6/6] brownish yellow sand



Figure 4: Trench 3, East Wall Profile

Trench 3 exhibits seven layers of fill related to construction activities during the 19th and 20th century. All fill horizons contained construction material. Fill 3 and Fill 5 exhibited potential burn episodes. Historically, the block was subjected to two major fires in 1810 and 1854. A third conflagration engulfed the Bryant Fertilizer Factory that had subsumed the entire block in 1897. There is not enough evidence from the trenches or subsequent features to definitively date the stratigraphic layers to either fire. No culturally sterile subsoils were encountered during the excavation of Trench 3. Fill 6 and Fill 7 represent the historic fills related to the in-filling episodes to reclaim the tidal mud flats of the Potomac River for further development in the late 18th century and early 19th century.

A total of three features were located in Trench 3, including a 20th-century concrete pad (Feature 7), and two brick rubble concentrations (Feature 8 and Feature 9). They were revisited during the excavation of the second part of Trench 3 (discussed later in this section).

A total of 33 artifacts were recovered from Trench 3 (Appendix V). Ten pearlware (1780-1830) sherds were recovered from Fills 5-7 (South 1977; Miller 1992). Three whiteware sherds (1820-1900+) were recovered from Fill 7, and one blue hand-painted whiteware (1830-1860+) and one American Rockingham (1800-1912) sherd were recovered from Fill 5, skewing Fills 5-7 period of occupation toward the early-mid 19th century (Miller 1992).

Trench 4

Trench 4 was placed in the center of the project area approximately 25 feet (7.6 meters) southeast of Trench 3. The trench measured 45 feet (13.7 meters) in length and was excavated to a depth of 4.4 feet (1.34 meters) below ground surface after the existing building was demolished and the concrete pad removed. Trench 4 was truncated from its proposed length due to the presence of a large contaminate soil pile that was unable to be moved, as well as a large concrete pad in the northeast section that would not be removed until the site leveling process. The trench profile consisted of eight undulating fill deposits (Figure 5):

- Fill 1 horizon: 0- 2.6 feet (0- 0.79 meters) below surface – [10YR 6/6] brownish yellow sandy loam mottled with [10YR 5/8] yellowish brown silty clay, brick fragments, concrete, and mortar
- Fill 2 horizon: 2.6- 3.0 feet (0.79- 0.91 meters) below surface - [10YR 3/1] very dark gray sandy loam mixed with mortar
- Fill 3 horizon: 2.0- 2.6 feet (0.61- 0.79 meters) below surface – [10YR 6/6] brownish yellow sand
- Fill 4 horizon: 2.6- 3.6 feet (0.79- 1.1 meters) below surface – [10YR 2/1] black sandy loam mottled with [10YR 3/2] very dark grayish brown sandy loam
- Fill 5 horizon: 3.0- 3.2 feet (0.91- 0.97 meters) below surface - [10YR 6/8] brownish yellow sandy loam mottled with [10YR 5/1] gray sandy loam
- Fill 6 horizon: 3.2- 3.6 feet (0.97- 1.1 meters) below surface – [10YR 2/2] very dark brown sandy loam mixed with brick, mortar, and oyster shell
- Fill 7 horizon: 3.4- 4.3 feet (1.04- 1.31 meters) below surface – [10YR 2/2] very dark brown sandy loam mixed with mortar
- Fill 8 horizon: 4.0- 4.6 feet (1.22- 1.40 meters) below surface – [10YR 3/4] sandy clay loam mottled with brick flecks

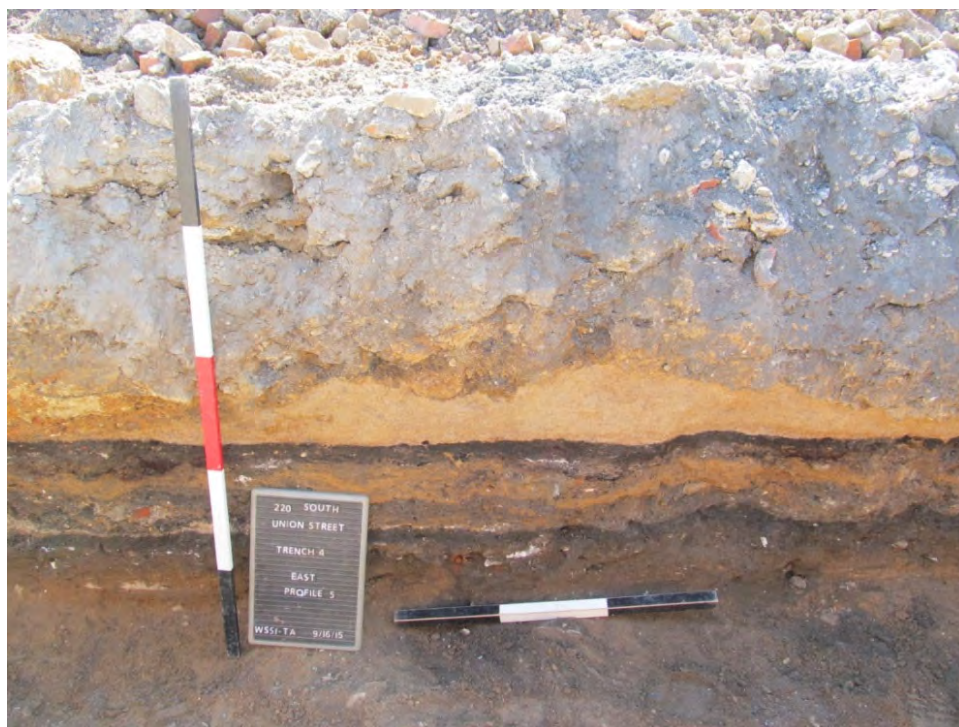


Figure 5: Trench 4, East Wall Profile

Trench 4 exhibited eight layers of fill related to construction activities during the 19th and 20th century. All fill levels contained construction material. Fill 4, Fill 6, and Fill 7 potentially exhibited burning episodes related to several fires that affect the parcel.

Eleven artifacts were recovered from Trench 4 (Appendix V). One ironstone (1840-1900+) sherd was recovered from Fill 4 (Miller 1992). Fill 6 had an embossed mid-20th century brick (Gurcke 1987). A fragment of a Frozen Charlotte, a hard paste porcelain doll, dating from 1850-1920, was found in Fill 7. Fill 8 contained five pearlware (1780-1830) sherds and one whiteware (1820-1900+) sherd (Miller 1992; South 1977). No culturally sterile subsoils were encountered during the excavation of Trench 4. No features were located in Trench 4.

Trench 5

Trench 5 was placed in the northeast portion of the project area approximately 53 feet (16.2 meters) northeast of Trench 3. The trench measured 35 feet (10.7 meters) in length and was excavated to an approximate depth of 4.4 feet (1.34 meters) below ground surface after the existing building was demolished and the concrete pad removed. Trench 5 was completely disturbed by modern features below the 4.5 feet (1.4 meters) limit for trenches during the first round of excavation (**Error! Reference source not found.**Figure 6). Trench 5 contained a concrete pad and two large concrete footers. The concrete pad spanned the entire northeast corner and was a previous floor to the 20th century warehouse and was fully exposed and removed during the subsequent site leveling phase. Since the pad and footers were part of the 20th century warehouse, no features were designated within the trench, and no further excavation occurred within Trench 5. Additionally, no artifacts were recovered from Trench 5 contexts.



Figure 6: Trench 5, Disturbances, View to the Southwest

Trench 6

Trench 6 was placed in the center of the project area approximately 19.7 feet (6 meters) east of Trench 4. The trench was truncated due to the large pile of contaminate soil that was unable to be moved. Trench 4 and Trench 5 make up the entire length of an originally proposed trench. The trench measured 35 feet (10.7 meters) in length and was excavated to a depth of 4.4 feet (1.34 meters) below ground surface after the existing building was demolished and the concrete pad removed. The trench profile consisted of five fill deposits (Figure 7):

- Fill 1 horizon: 0- 2.6 feet (0- 0.79 meters) below surface – [10YR 6/6] brownish yellow sandy loam mixed with construction debris
- Fill 2 horizon: 2.6- 2.8 feet (0.79- 0.85 meters) below surface – concrete, which becomes pea gravel by the southern end of the trench
- Fill 3 horizon: 2.8- 3.2 feet (0.85- 0.98 meters) below surface – [10YR 2/2] very dark brown sandy loam
- Fill 4 horizon: 3.2- 4.0 feet (0.98- 1.22 meters) below surface – [10YR 5/3] brown sandy loam mottled with brick, charcoal, and metal debris
- Fill 5 horizon: 4.0- 4.4 feet (1.22- 1.34 meters) below surface - [10YR 3/4] dark yellow brown sandy clay loam mottled with brick rubble



Figure 7: Trench 6, East Wall Profile

Trench 6 exhibited five layers of fill related to construction activities during the 19th and 20th century. All fill strata contained construction material. A total of 31 artifacts were recovered from Trench 6 (Appendix V). Twenty-three pearlware (1780-1830) sherds, two whiteware (1820-1900+) sherds, and one yellowware (1830-1940) were recovered from the top of Fill 5 (Miller 1992; South 1977). No culturally sterile subsoils were encountered during the excavation of Trench 6. A concrete pad was discovered in the north end of the trench, but was obviously a part of the 20th century warehouse complex and was not designated as a feature.

Trench 7

Trench 7 was placed in the southeast corner of the project area approximately 15 feet (4.6 meters) east of Trench 6. The trench measured 30 feet (9.1 meters) in length and was excavated to a depth of 4.2 feet (1.3 meters) below ground surface after the existing building was demolished and the concrete pad removed. The trench profile consisted of three fill deposits (Figure 8):

- Fill 1 horizon: 0- 2.6 feet (0- 0.79 meters) below surface – [10YR 5/8] yellowish brown sandy Fill 1 horizon: 0- 2.6 feet (0- 0.79 meters) below surface – [10YR 5/8] yellowish brown sandy loam mixed with construction debris (concrete, metal, etc.)
- Fill 2 horizon: 2.6- 3.6 feet (0.79- 1.1 meters) below surface – [10YR 5/6] yellowish brown sandy loam mixed with construction debris (concrete, metal, etc)
- Fill 3 horizon: 3.6- 4.2 feet (1.1 – 1.3 meters) below surface – [10YR 8/1] white sandy loam mixed with mortar



Figure 8: Trench 7, South Wall Profile

Trench 7 exhibited three layers of fill related to construction activities during the 20th century. All fill horizons contained construction material. No culturally sterile subsoils were encountered during the excavation of Trench 7. One feature (Feature 10) was recorded in the trench. Feature 10 was determined to be a modern brick and concrete pier, likely associated with the early 20th-century warehouse.

Thirteen artifacts were recovered from Trench 7 contexts (Appendix V), including 11 fragments of automatic bottle machine glass, dating to the mid-20th century, from Fill 2 (Lindsey 2015).

Trench 8

Trench 8 was placed in the southwest corner of the project area approximately 18 feet southeast of Trench 2. The trench was excavated once Feature 6 was recorded and removed in order to investigate the southwest corner of the project area. The trench measured 30 feet (9.1 meters) in length and was excavated to a depth of 4.0 feet (1.2 meters) below ground surface after the existing building was demolished and the concrete pad removed. The trench profile consisted of two fill deposits (Figure 9):

Fill 1 horizon: 0- 2.0 feet (0- 0.61 meters) below surface – [10YR 5/4] yellowish brown sandy loam mixed with construction debris (concrete, metal, etc.)
Fill 2 horizon: 2.0- 4.0 feet (0.61- 1.2 meters) below surface – [10YR 7/4] very pale brown sand mixed with [10YR 5/8] yellowish brown sand



Figure 9: Trench 8, East Wall Profile

Trench 8 exhibited two layers of fill related to construction activities during the 20th century. All fill horizons contained construction material. Feature 11 was identified in the trench's east wall profile and was determined to be a small cluster of brick from 20th century destruction fill. No features or culturally sterile subsoils were encountered during the excavation of Trench 8. Additionally, no artifacts were recovered.

Piling Trench

Prior to the second round of sample trenches, a five feet wide perimeter trench approximately 12 feet (3.7 meters) below the 6 feet (1.8 meters) a.s.l. grade was excavated to remove potential obstructions for sinking piles. The trench was excavated, obstructions removed, and then immediately backfilled. Archaeologists monitored this work closely (Figure 10). Along the western perimeter, the trench encountered ground water prior to hitting the 12 feet (3.7 meters) mark. Along the eastern side almost the entire trench was filled with modern fill including two very large brick piers associated with the modern warehouse.



Figure 10: Piling Trench Monitoring

Approximately 100 feet (30.5 meters) east of the southwest corner of the project area the backhoe pulled up some wood beams and planking about 5-6 feet (1.5-1.8 meters) below the 6 feet (1.8 meters) a.s.l. grade. Excavation in the piling trench area was slowed down, which revealed a significant amount of intact wood beams. Excavation was then discontinued until the entire area could be opened up during the second round of trenches. A very large area was carefully exposed using the backhoe and hand tools to reveal the footprint of a building matching the layout of the 1755 Carlyle Warehouse, which was assigned Feature 41 (Figure 11). Upon ascertaining the significance of the feature, a new mitigation plan was developed in consultation with Alexandria Archaeology. The results of the Phase III mitigation of Feature 41 are discussed in a subsequent separate heading within the main report (Volume I).



Figure 11: Piling Trench, Initial Discovery of Feature 41, Carlyle Warehouse

Site Leveling, Round 1

After the first round of sample trenches were completed, the entire site was excavated down to the first grade, approximately six feet (1.8 meters) a.s.l. The first 2-2.5 feet (0.61-0.76 meters) of heavily disturbed modern fill was removed systematically using a large backhoe with a toothed bucket. The remaining 3-5 feet (0.91-1.5 meters) was removed systematically with a flat-edged bucket. A total of 30 features were recorded during this phase.

Trenching Phase 2

After the site was levelled to the 6 feet (1.8 meters) a.s.l. grade and the resultant features were mapped and mitigated a second phase of sample trenches was undertaken. The trenches were placed similarly to the first phase, diagonally across the entire site. Three of the trenches were placed in the same spots as they were in the first phase of sample trenches. Those trenches retained the same trench numbers. Mitigating factors such as contaminated soil piles, ongoing construction work, spoil piles, required some trenches to be moved. Safety concerns, particularly related to water, prevent some trenches from being fully documented due to collapsing walls. Due to the large area exposed during the excavation of Feature 41, additional sample trenches in that area were unnecessary. A total of five features were recorded during the second round of sample trenches.

Trench 1, Phase 2

Trench 1 was placed in northwest corner of the project, in the approximate location of Trench 1 prior to the site leveling. The trench was excavated approximately 42 feet (12.8) in length and 4.5 feet (1.4 meters) below the 6 feet (1.8 meters) a.s.l. grade. At three feet (0.91 meters), the trench began to fill quickly with water. The sandy soil immediately began to collapse creating a safety hazard for any individual within the trench. The initial excavation, prior to collapse, revealed no features. Trench 1 appeared to contain natural sandy soils below the historic sandy fill.

Trench 2, Round 2

Trench 2 was placed in the same location as the original placement, but it was extended to its full length once Feature 6 had been removed during the site leveling process. Trench 2 during this phase was approximately 76 feet (23.2 meters) long and excavated to an average depth of 4 feet (1.22 meters) below grade. The trench profile consisted of three undulating fill deposits and sandy subsoil:

- Fill 1 horizon: 0- 2.2 feet (0- 0.67 meters) below surface – [10YR 4/6] dark yellowish brown sandy loam mixed with brick bits
- Fill 2 horizon: 2.2- 4.0 feet (0.67- 1.22 meters) below surface - [10YR 5/1] gray loam mixed with wood chips
- Fill 3 horizon: 3.0- 4.0 feet (0.91- 1.22 meters) below surface – [10YR 2/2] very dark brown sand and decomposed wood mixed with [10YR 5/1] sand
- B/C horizon: 0- 3.0 feet (0.67- 0.91 meters) below surface - [10YR 7/3] very pale brown sand

The northern portion of Trench 2 contained undulating historic fill deposits and sandy fill with decomposed wood (Fill 1, 2, 3) (Figure 12). The southern portion of the trench contains more natural sandy fills (B/C horizon) that were likely part of Point Lumley. At four feet (1.2 meters) below the 6 feet (1.8 meters) a.s.l. grade the trench filled with water making portions of the trench collapse and forcing the southern portion of the trench to stay above three feet (0.91 meters) below grade (Figure 13). No features were recorded in Trench 2.



Figure 12: Trench 2, Part 2, East Wall Profile



Figure 13: Trench 2, Part 2, Collapsed Wall

Trench 3, Round 2

Trench 3 was placed in the near the same location as the original placement during the first set of sample trenches. It was shifted slightly due to spoil pile and construction activities. It was

split in half with a small ramp to alleviate safety concerns due to depth. Trench 3 during this phase was approximately 95 feet (29 meters) long and excavated to an average depth of 4.4 feet (1.34 meters) below grade. The trench profile consisted of three undulating fill deposits that partially overlay sandy subsoil:

- Fill 1: 0- 0.6 feet (0- 0.18 meters) below surface – [10YR 3/2] very dark grayish brown loam mixed with brick bits and mortar
- Fill 2: 0.6- 2.0 feet (0.18- 0.61 meters) below surface - [10YR 4/6] sandy clay loam mottled with [10YR 6/2] sand lenses
- Fill 3: 2.0- 4.4 feet (0.61- 1.34 meters) below surface – [10YR 5/1] gray sandy loam mixed with wood chips and bark
- B/C horizon: 3.0- 4.4 feet (0.91- 1.34 meters) below surface - [10YR 7/3] very pale brown sand

Trench 3 consisted of three levels of fill underlain on the southern portion of the trench by a sandy B/C horizon (Figure 14). Fill 1 is a 19th and 20th century destruction fills, which includes the profiles of Features 27, 8 and 9. Fill 2 is the historic sandy fill that was used to reclaim and level the land in the waning years of the 18th century and the beginning of the 19th century. Fill 3 contains a very sandy loam mixed with natural and some worked wood chips and may represent the muddy tidal flats prior to the cribbing and filling in of the land around Lumley Point. The B/C horizon is sandy soils related to Lumley Point.

One feature, Feature 42, was recorded during the trench excavations. Features 8 and 9, found earlier in Trench 3, appear to be conglomerates of loose brick rubble, likely filling in depressions or were concentrations of discarded construction material placed in the fill during the infilling process of the 19th century. A portion of Feature 27 was also recorded in the second phase of Trench 3. Feature 27 was excavated in part during the first phase of site leveling and discussed in the report.



Figure 14: Trench 3, Part 2, East Wall Profile, Feature 9 on the Left Side

Two artifacts were recovered from a shovel test pit was dug within Trench 3, Part 2; one border ware (1650-1775) sherd and one quartz flake were recovered (Appendix V) (South 1977; Miller 1992).

Trench 9, Round 2

Trench 9 was placed to investigate the area below Trench 4 and Trench 5, but shifted slightly due to construction constraints. Like Trench 3, it was split in half with a small ramp to alleviate safety concerns. Trench 9 during this phase was approximately 74 feet (22.6 meters) long and excavated to an average depth of 4.2 feet (1.3 meters) below grade. The trench profile consisted of three undulating fill deposits:

- Fill 1: 0- 2.0 feet (0- 0.61 meters) below surface – [10YR 3/2] very dark grayish brown loam mixed with brick bits, oyster shell, and mortar
- Fill 2: 2.0- 4.1 feet (0.61- 1.25 meters) below surface - [10YR 4/3] brown sandy clay loam mottled with [10YR 6/2] light brownish gray sand lenses and mixed with brick flecks
- Fill 3: 3.2- 4.2 feet (0.97- 1.3 meters) below surface – [10YR 5/1] gray sandy loam mixed with wood chips and bark.

Trench 9 exhibited three levels of fill underlain on the southern portion of the trench by a sandy B/C horizon (Figure 15). Fill 1 is a 19th- and 20th-century destruction fills. Fill 2 is the historic sandy fill that was used to reclaim and level the land in the waning years of the 18th century and the beginning of the 19th century, which includes the profiles of Features 43, 44, 45, and 46. Fill 3 contains a very sandy loam mixed with natural and some worked wood chips and may represent the muddy tidal flats prior to the cribbing and filling in of the land around Point Lumley. Feature 47 was a 5.3 x 1.3 feet (1.6 x .39 meters) log located in the base of Trench 9. A total of five features were recorded during the trench excavation.



Figure 15: Trench 9, Part 2, East Wall Profile

Site Leveling, Round 2 (6 feet a.s.l. to -3 feet a.s.l.)

The second phase site leveling commenced after the second phase of sample trenches and the mitigation of Feature 41, discussed in a separate heading (Volume I). Soil from the entire site was removed from the 6 feet (1.8 meters) a.s.l. grade to -3 feet (-0.91 meters) a.s.l. None of the sample trenches reached this depth, but the sample trenches showed that the western half of the project area had already reached culturally sterile B/C horizons. The mitigation of Feature 41 also reached sterile horizons. Therefore, only the northeast corner had high potential for yielding intact cultural features. The second site leveling was conducted with a large backhoe, equipped with a flat bucket, and was monitored closely by archaeologists. A few large pieces of wood, some of which were worked, were found in the eastern edge of the project area (Figure 16). None of those finds appeared to be *in situ*, nor were they attached to larger features. A very large brick and mortar footer alongside several concrete footers were uncovered immediately north of Feature 41. These large footers were similar to footers recorded in the nearby piling trenches and are associated with the 20th-century warehouse upgrades and construction (Figure 17). Ten features were recorded during the second site leveling.



Figure 16: Site Leveling #2, Large Piece of Wood



Figure 17: Site Leveling #2, 20th Century Brick and Mortar Footers

Utility Trenches

Utility trenches were excavated during the construction process in Duke Street, Union Street, and the Strand. The archaeologists were required to monitor all activities. Three *in situ* features were photographed and two large artifacts were retained during these excavations.

Union Street Excavations

The utility trenches in Union Street consisted of a trench running from Robinson Terminal South to the intersection of Duke Street approximately 12 feet (3.7 meters) below the street surface (Figure 18). One feature was noted in the north wall of the trench, which was composed of several railroad ties and occasional portions of rail. The rail is depicted in several early 20th-century maps and leads to the 1902 spur (Feature 6).



Figure 18: Union Street Utility Trenching

Duke Street Excavations

The utility trenches in Duke Street consisted of a single trench running from the intersection with Union Street east to intersection with The Strand (Figure 19). At that intersection, a large area was excavated for a concrete junction box. One feature was recorded in the trench approximately 50 feet (15.2 meters) north of the intersection of Duke Street and The Strand. Three very large wooden logs running east to west were recorded in place, approximately six feet (1.8 meters) below the street and removed (Figure 20). The logs extend east and west out of the trench and were not fully exposed as they extended outside the project area. After consultation with Alexandria Archaeology, the logs were photographed in place and then removed. Two hand wrought spikes with a spatulate tip from the beams' construction were recovered. The pieces were retained by Alexandria Archaeology.



Figure 19: Duke Street Utility Trenching



Figure 20: Duke Street Utility Trenching, Three Wooden Logs Removed

The Strand Excavations

The utility trenches in The Strand consisted of a single trench running north from the intersection with Duke Street to approximately 60 feet (18.3 meters) from the intersection with Prince Street (Figure 21). In front of 211 The Strand, a large area was excavated approximately 12 feet (3.7 meters) below the street level for a large concrete junction box. One large wooden log was located at the base of the excavation (Figure 22). Due to safety concerns, photographs were taken from the edge of the excavation. After consultation with Alexandria Archaeology the find was mapped and left in place since the current excavations were not going to impact it. During the excavations two very large fragments of coral and a conch shell fragment were recovered. The soil was so waterlogged that it was vacuumed out of the excavation, and thus the artifacts were not mapped in situ but recovered when they became lodged in the vacuum hose. The items were retained by Alexandria Archaeology.



Figure 21: The Strand Utility Trench



Figure 22: The Strand Utility Trench, One Wooden Log Removed



Appendix V
Artifact Inventory



**220 SOUTH UNION STREET SITE 44AX0229 PHASE I-III
ARTIFACT INVENTORY**

Isolated Finds

Duke Street Utility Trench, 4 feet below ground surface, Lot 1

Metal

- 1 hand wrought spike, hand headed, spatulate tip, clinched (embedded in a wooden beam)

Duke Street Utility Trench, 5.5 feet below ground surface, Lot 2

Metal

- 1 hand wrought spike, hand headed, spatulate tip

The Strand Utility Trench, 8 feet below ground surface, Lot 3

Miscellaneous

- 1 conch shell fragment, 625 grams

Site 44AX0229

General Collection, 0.0-4.0 feet, Lot 1

Glass

- 1 amber cylindrical bottle, whole, crown cap lip finish, base embossed "GB 41/9 (Owens Illinois Maker's Mark) 40/15", cup mold, automatic bottle machine, manufactured by Owens-Illinois Glass Company (1929-1960, Lindsey 2015)
- 1 aqua cylindrical utility line insulator fragment, threaded, stained, patinated, possible Hemingray Glass Company Number 12
- 1 clear cylindrical bottle, whole, crown cap lip finish, molded corn cob-like pattern, applied color label "NET CONTENTS 7 FL. OZS./NO PRESERVATIVE USED/PASTEURIZED/TRU/REG. ...ADE/NOT CARBONATED/ VACUUM SEALED/CONTAINS FILTER WATER CONCENTRATED FRUIT JUICE/SUGAR, FLAVOR, CITRIC ACIC & ARTIFICIAL FLAVOR/ BOTTLED BY/TRU ADE BOTTLING CO./WASHINGTON, D.C.", base embossed "3 (Owens-Illinois maker's mark) 5/4/6913", automatic bottle machine (1942-1960, Lindsey 2015; Chosi 2015)
- 1 clear cylindrical bottle, whole, liquor bottle, external thread with collar lip finish, side embossed "FEDERAL LAW FORBIDS SALE/OR RE-USE OF THIS BOTTLE", heel embossed "ONE PINT/ONE PINT 70", base embossed "...1 D - 2/2245/51", Owens suction scar on base, automatic bottle machine (1929-1954)
- 1 clear cylindrical bottle, whole, milk bottle, capseat lip finish, embossed "ALEXANDRIA DAIRY/PRODUCTS CO INC./SEALED BA", heel embossed "ONE PINT LIQUID/REGISTERED", base embossed "2103-L B50", Owens suction scar, automatic bottle machine (1929-1954)
- 1 clear cylindrical bottle, whole, milk bottle, capseat lip finish, embossed dots around neck, side embossed "ALEXANDRIA DAIRY/PRODUCTS CO. INC./SEALED B1", heel embossed "ONE QUART LIQUID", base embossed "AD/P/1001-3 B45",

- applied color label
 "...DAIRY.../...OMPANY.../...BOTTLE.../...25.../ALEXANDRIA
 DAIRY/PHONE 2528.../(cityscape picture)", automatic bottle
 machine (1934-1954)
- 1 clear cylindrical bottle, whole, small mouth external thread with collar
 lip finish fragment, heel embossed "4/5 QUART/4/5 QUART/4/5
 QUART/4/5 QUART", base embossed "3/(Owens-Illinois Glass
 Company Maker's Mark)/8/10/DURAGLAS (in script)", duraglas
 stippling, automatic bottle machine (1940-1963, Lindsey 2015)
 - 1 clear cylindrical bottle, whole, soda bottle, crown cap lip finish, applied
 color label (front) "...CAPITOL/CLUB/...EVERAGES/...MADE
 R.../TASTES.../CAPITAL/CLUB/BEVERAGES", (back)
 "CAPITAL/CLUB/BEVERAGES/..LE
 STERILIZED/...BE...ERAGE/...CA...", base embossed
 "700/G(inside square)/8", automatic bottle machine, manufactured by
 Glenshaw Glass Company (post-1934)
 - 1 clear cylindrical bottle, whole, soda bottle, crown cap lip finish,
 molded, side embossed "ROYAL TREAT/ REGISTERED/ROYAL
 TREAT/TRADE MARK", heel embossed "ROBERTS MFG.
 CO./ALEXANDRIA, VA.", base embossed "CONTENTS 7 FLU.
 OZS/191B42", automatic bottle machine, stained (1924-1956), Chosi
 2015)
 - 1 clear rectangular bottle, whole, bead lip finish, chamfered corners,
 chilled iron mold, stained (1880-1930)
 - 1 green cylindrical bottle, whole, contoured hobble-skirt Coca-Cola
 bottle, embossed "COCA-COLA/TRADE MARK
 REGISTERED/MIN. CONTENTS 6 FL. OZS./COCA-
 COLA/TRADE MARK REGISTERED/BOTTLE PAT. D-105529",
 base embossed "ALEXANDRIA/VA/8", crown cap lip finish,
 automatic bottle machine, stained, heavily patinated (1951-1958,
 Lockhart and Porter 2010)
 - 1 olive green cylindrical bottle sherd, base fragment, rounded heel,
 dome-shaped push up, refired pontil, very heavily patinated (pre-1860)

Trench 1, Black Fill overlying Feature 1, Lot 2

Ceramics

- 1 tin glazed earthenware sherd, blue hand painted decoration, hollow
 vessel, burned (1700-1800, South 1977; Miller 1992)
- 1 tin glazed earthenware sherd, blue hand painted decoration, rim
 fragment, hollow vessel, indeterminate rim diameter, burned (1700-
 1800, South 1977; Miller 1992)

Glass

- 1 amber cylindrical bottle sherd, base fragment, heavily patinated
- 1 clear cylindrical bottle sherd, base fragment, heel embossed "4/5
 QUART/4/5 QUA.../...5 QUART/...QU...", base embossed
 "WINE/V (in keystone)/W-546", duraglas stippling, automatic bottle
 machine (1940-present)
- 1 clear cylindrical bottle sherd, collared lip finish fragment, automatic

- bottle machine (1910-present)
- 1 clear cylindrical bottle/jar sherd, embossed "...LIQUID...", automatic bottle machine (1910-present)
- 4 clear cylindrical bottle/jar sherds, automatic bottle machine (1910-present)
- 1 green cylindrical bottle sherd, base fragment, embossed "7112 (in rectangle)/MG (in rectangle-Maywood Glass Company Maker's Mark)/25 (in rectangle), duraglas stippling, automatic bottle machine, manufactured by Maywood Glass Company (1940-1959, Lindsey 2015)
- 2 green cylindrical bottle sherds (mend), contoured hobble-skirt Coca-Cola bottle, embossed "...COCA-COLA/TRADE MAR...STERED/MIN. CONTE...6 FL. OZS./...CA-COLA/...ADE MARK REGISTERED/...TTLE PAT. D-105529/23 C (in circle)50", base embossed "ALEXANDRIA/VA", automatic bottle machine (1951-1958, Lockhart and Porter 2010)
- 1 unidentified green sherd, flat, patinated

Miscellaneous

- 2 bone fragments
- 1 oyster shell fragment, 26.7 grams
- 1 shell fragment, unidentified , 1.4 grams

Trench 2, STP 3, 4 feet below ground surface, Lot 3

Miscellaneous

- 2 seed/pit fragments (mend)

Trench 3, Fill 5, Piece Plot #2, Lot 4

Ceramics

- 1 pearlware sherd, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), undecorated, rim fragments, flat vessel, 7 inch rim diameter, stained (1780-1830, South 1977; Miller 1992)

Trench 3, Fill 6, Piece Plot #3, Lot 5

Ceramics

- 2 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)

Trench 3, Fill 7, Lot 6

Ceramics

- 1 pearlware sherd, underglaze polychrome hand painted decoration, indeterminate vessel shape (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, unidentified green decoration, rim fragment, hollow vessel, 2 inch rim diameter (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, rim fragment, light brown glazed interior and exterior, hollow vessel, 12 inch rim diameter
- 3 whiteware sherds, undecorated, indeterminate vessel shape (1820-1900+, South 1977; Miller 1992)

Glass

- 1 clear cylindrical bottle/jar sherd, patinated

- 1 green cylindrical bottle sherd, stained, patinated
- 4 olive green cylindrical bottle sherds, heavily patinated

Metal

- 2 unidentified ferrous metal fragments

Miscellaneous

- 1 oyster shell fragment, 6.3 grams

Trench 3, Fill 7, Piece Plot #1, Lot 7

Ceramics

- 1 buff bodied coarse stoneware sherd, clear glazed interior, clear salt glazed exterior, indeterminate vessel shape
- 1 redware sherd, dark brown glazed interior and exterior, rim fragment, hollow vessel, 9 inch rim diameter

Glass

- 1 clear cylindrical bottle/jar sherd, stained, patinated
- 2 olive green cylindrical bottle sherds, patinated

Miscellaneous

- 1 bone fragment

Trench 3, Part 2, Shovel Test 1, C, Lot 8

Ceramics

- 1 border ware sherd, undecorated, hollow vessel (1650-1775, South 1977; Miller 1992)

Prehistoric

- 1 quartz primary reduction flake, whole, 8.8 mm x 7.6 mm

Trench 3, South Half, Fill 5, Lot 9

Ceramics

- 1 American Rockingham/Bennington sherd, molded, rim fragment, hollow vessel (1800-1912, Miller 1992; 1845-1900+, Magid 1990)
- 2 hard paste porcelain sherds, blue hand painted geometric decoration, flat vessel
- 1 pearlware sherd, undecorated, flat vessel, burned (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), molded decoration, rim/base fragment, hollow vessel, indeterminate rim/base diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 whiteware sherd, blue hand painted decoration, base fragment, hollow vessel, indeterminate base diameter, burned (1820-1900+, South 1977; 1830-1860+, Miller 1992)

Trench 4, Fill 4, Piece Plot #4, Lot 10

Ceramics

- 1 ironstone sherd, undecorated, rim and base fragment, hollow vessel, 7 inch rim diameter, 5 inch base diameter (1840-1900+, Miller 1992)

Trench 4, Fill 6, Lot 11

Glass

- 1 aqua cylindrical jar sherd, molded ring, scratched, patinated
- 1 green plate glass, ribbed, stained (post-1874)

Miscellaneous

- 1 brick fragment, embossed "CALVER..." in rectangular frog, mortar attached, manufactured by Victor Cushwa and Sons, Williamsport, Maryland (post-1935, Gurcke 1987), 1725 grams

Trench 4, Fill 7, North End, East Wall, Lot 12

Ceramics

- 1 hard paste porcelain doll fragment, Frozen Charlotte (1850-1920)

Trench 4, Fill 8, Piece Plot #5, Lot 13

Ceramics

- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, indeterminate vessel shape and rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 whiteware sherd, blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, 12 inch rim diameter (1820-1900+, South 1977; 1830-1860+, Miller 1992)

Trench 4, Fill 8, Piece Plot #6, Lot 14

Ceramics

- 1 pearlware sherd, underglaze blue hand painted decoration, scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 3 pearlware sherds (mend), undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)

Trench 6, General Collection, Top of Level 5, Lot 15

Ceramics

- 1 hard paste porcelain sherd, undecorated, hollow vessel
- 1 pearlware sherd, blue shell edge decoration, embossed rim fragment, flat vessel, 12 inch rim diameter (1780-1830, South 1977; Miller 1992; 1820s-1830s, MACL 2016)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992; 1800-1830s, MACL 2016)
- 1 pearlware sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, flat vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted geometric decoration, rim fragment, flat vessel, indeterminate rim diameter, burned (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds (two mend), blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, 12 inch rim diameter (1780-1830, South 1977; Miller 1992; 1800-1830s, MACL 2016)

- 4 pearlware sherds (two mend), blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragments, flat vessel, indeterminate rim diameters (1780-1830, South 1977; Miller 1992; 1800-1830s, MACL 2016)
- 7 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted floral decoration, flat vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, underglaze polychrome hand painted floral decoration, hollow vessel
- 1 whiteware sherd, blue hand painted decoration, base fragment, flat vessel, 5 inch base diameter (1820-1900+, South 1977; 1830-1860+, Miller 1992)
- 1 whiteware sherd, rim fragment, black hand painted rim band, flat vessel, indeterminate rim diameter, stained (1820-1900+, South 1977; Miller 1992)
- 1 yellowware sherd, undecorated, hollow vessel (1830-1940, Miller 1992)

Metal

- 1 unidentified nail fragment

Miscellaneous

- 1 bone fragment
- 2 oyster shell fragments (one discarded in lab), 114.3 grams

Trench 7, South Wall, Fill 2, Piece Plot #7, Lot 16

Glass

- 9 clear cylindrical bottle sherds (mend), base fragment, kick-up, heel embossed "4/5 QUART/4/5 QUART/4/5 QUART/4/5 QUART/DURAGLAS (in script)/DURAGLAS (in script)", base embossed container code "2/(Owens-Illinois Glass Company Maker's Mark)/5/WP-5472", automatic bottle machine, manufactured by Owens-Illinois Glass Company (1940-1963, Lindsey 2015)

Metal

- 1 unidentified ferrous metal fragment

Miscellaneous

- 1 snail shell fragment

Trench 7, South Wall, Fill 2, Piece Plot #8, Lot 17

Glass

- 1 7-up green cylindrical bottle, whole, collar with ring lip finish, heel embossed "4/5 QUART/4/5 QUART/4/5 QUART/4/5 QUART", base embossed with Owen's scar and container base code "20/(Owens-Illinois Glass Company Maker's Mark)/3/10/ 5757-10", duraglas stippling, automatic bottle machine, manufactured by Owens-Illinois Glass Company (1940-1960, Lindsey 2015)
- 1 clear cylindrical jar fragment, large mouth external thread lip finish, patinated, ferrous metal screw cap attached, slightly heat melted

Feature 03, East Bisection, Feature Fill, Lot 18

Miscellaneous

- 14 brick fragments, 18.6 grams
- 4 coal fragments
- 5 coke fragments
- 2 slag fragments, 3.8 grams

Feature 03, West Bisection, Feature Fill, Lot 19

Ceramics

- 1 pearlware sherd, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 1 tin glazed earthenware sherd, undecorated, flat vessel (1700-1800, South 1977; Miller 1992)

Miscellaneous

- 13 brick fragments, 19.3 grams
- 1 mortar fragment, 0.8 grams

Prehistoric

- 1 quartz primary reduction flake, medial

Feature 04, North Bisection, Feature Fill, Lot 20

Ceramics

- 1 pearlware sherd, molded decoration, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)

Glass

- 1 clear cylindrical bottle/jar sherd, patinated
- 5 pale aqua cylindrical bottle/jar sherds (mend), base fragments, chilled iron mold (1880-1930)
- 1 unidentified olive amber blackglass spall (pre-1880)

Miscellaneous

- 1 brick fragment, glazed, 175 grams
- 32 brick fragments, 612.3 grams
- 4 coal fragments, 2.0 grams
- 7 coke fragments, 2.8 grams
- 18 oyster shell fragments (ten discarded in lab), 226.2 grams
- 1 slag fragment, 9.6 grams

Feature 04, South Bisection, Feature Fill, Lot 21

Ceramics

- 1 whiteware sherd, undecorated, indeterminate vessel shape (1820-1900+, South 1977; Miller 1992)

Glass

- 1 light aqua cylindrical bottle/jar sherd, chilled iron mold, scratched (1880-1930)
- 1 olive amber cylindrical bottle sherd, chilled iron mold (1880-1930)
- 1 windowpane sherd, potash (pre-1864)

Metal

- 1 unidentified ferrous metal fragment, flat
- 1 unidentified nail fragment

Miscellaneous

- 4 brick fragments, three burned, 250.6 grams
- 3 coke fragments
- 1 mortar fragment, 3.2 grams
- 20 oyster shell fragments (15 discarded in lab), 183.4 grams

Feature 05, Fill at 3.5 feet below surface, Lot 22

Ceramics

- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, 12 inch rim diameter, stained (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, flat vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)

Metal

- 2 wire nail fragments (1890-present)

Miscellaneous

- 1 asphalt chunk (sample) (discarded in lab)
- 1 brick fragment, 118.4 grams

Feature 08, Feature Fill, Lot 23

Ceramics

- 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter

Feature 10, Fill 3, Lot 24

Glass

- 4 amber cylindrical bottle sherds (one vessel), external thread with collar and ring, partial plastic lid attached, embossed "...R RE...", automatic bottle machine (1907-present)

Metal

- 1 wire nail fragment, pulled (1890-present)

Feature 12, East Bisection, Feature Fill, Lot 25

Ceramics

- 1 hard paste porcelain insulator fragment, embossed "...AT.SEPT.3...", threaded
- 1 redware sherd, rim fragment, dark brown glazed interior and exterior, indeterminate vessel shape and rim diameter
- 1 whiteware sherd, undecorated, hollow vessel, stained, burned (1820-1900+, South 1977; Miller 1992)

Glass

- 1 7-up green cylindrical bottle sherd, automatic bottle machine (post-1934)
- 1 amber cylindrical bottle sherd, base fragment, automatic bottle machine (1907-present)
- 1 amber cylindrical bottle sherd, embossed "...-US...", automatic bottle machine (1907-present)
- 1 amber cylindrical bottle sherd, unidentified embossing, automatic bottle machine (1907-present)
- 1 clear cylindrical bottle/jar sherd, stained, patinated
- 6 clear cylindrical bottle/jar sherds, automatic bottle machine (1910-present)

- 1 clear manganese cylindrical bottle/jar sherd, patinated (1880-1915)
- 1 honey amber cylindrical bottle sherd, patinated
- 6 light aqua cylindrical bottle sherd, patinated
- 1 light aqua cylindrical bottle/jar sherd, embossed "...ES...", heavily patinated
- 1 light green cylindrical bottle sherd, automatic bottle machine (1907-present)
- 4 light green cylindrical bottle sherds, patinated
- 1 olive amber square/rectangular bottle sherd, contact mold, patinated (1810-1880)
- 1 peacock cylindrical bottle sherd, patinated
- 1 unidentified amber spall
- 1 unidentified clear spall
- 12 unidentified light aqua sherds, flat, patinated
- 1 unidentified light green sherd, flat, patinated
- 5 unidentified pale aqua sherds, flat, heavily stained
- 3 unidentified very pale aqua sherds, flat, patinated
- 2 windowpane sherds, potash, stained, patinated (pre-1864)

Metal

- 1 brass wire fragment
- 1 cut nail fragment, clinched (post-1790)
- 1 cut nail fragment, pulled (post-1790)
- 4 cut nail fragments (post-1790)
- 11 unidentified ferrous metal fragments

Miscellaneous

- 1 asphalt fragment (discarded in lab) , 10.3 grams
- 1 bone fragment
- 23 brick fragments, 58.8 grams
- 9 charcoal fragments, 2.6 grams
- 4 cinder fragments, 4.7 grams
- 10 coal fragments, 3.4 grams
- 1 flint ballast
- 1 leather fragment
- 10 mortar fragments, 43.1 grams
- 1 oyster shell fragment, 2.6 grams
- 8 slag fragments, 8.6 grams
- 1 unidentified Bakelite fragment
- 1 unidentified composite fragment, curved, tan, burned
- 1 unidentified shell fragment, .01 grams

Feature 12, West Bisection, Feature Fill, Lot 26

Ceramics

- 1 kaolin pipe bowl fragment
- 1 refined white earthenware sherd, molded decoration, rim fragment, hollow vessel, indeterminate rim diameter, heavily burned

Glass

- 1 amber cylindrical bottle sherd, heavily patinated
- 3 amber cylindrical bottle sherds, patinated

- 1 amber square/rectangular bottle sherd, patinated
- 1 clear cylindrical bottle sherd, small mouth external thread with collar lip finish fragment, stained, patinated
- 2 clear cylindrical bottle/jar sherds, heavily stained, patinated
- 7 clear cylindrical bottle/jar sherds, patinated
- 1 clear manganese cylindrical bottle/jar sherd, heavily patinated
- 1 green cylindrical bottle sherd, unidentified lip finish fragment, heavily patinated
- 2 light green cylindrical bottle sherds, stained, heavily patinated
- 1 olive green cylindrical bottle sherd, heavily patinated
- 1 pale aqua cylindrical bottle sherd, patinated
- 5 unidentified light aqua sherds, stained, heavily patinated
- 4 unidentified light green sherds, flat, patinated
- 6 unidentified very pale aqua sherds, flat, patinated
- 2 windowpane sherds, potash, heavily stained, patinated (pre-1864)

Metal

- 3 cut nail fragments (post-1790)
- 2 ferrous metal bolt fragments
- 1 ferrous metal screw fragment, flat end
- 2 unidentified ferrous metal fragments
- 1 unidentified lead fragment, possible lead window came
- 7 unidentified nail fragments

Miscellaneous

- 1 bone fragment
- 1 brick fragment, glazed, 122.6 grams
- 336 brick fragments, twenty-two with mortar attached, one heavily burned, 2105.0 grams
- 4 mortar fragments with plaster attached, 50.3 grams
- 59 mortar fragments, two heavily burned, 515.0 grams
- 17 oyster shell fragments (16 discarded in lab), 29.3 grams
- 15 slag fragments, 42.1 grams
- 2 unidentified composite fragments, flat, tan

Feature 14, East Bisection, Feature Fill, Lot 27

Ceramics

- 1 pearlware sherd, brown annular decoration, hollow vessel (1790-1820, South 1977; 1790-1839, Miller 1992)

Glass

- 1 unidentified clear sherd, flat, scratched, patinated
- 1 unidentified light aqua sherd, flat, patinated
- 1 unidentified very pale green, patinated

Feature 14, West Bisection, Feature Fill, Lot 28

Glass

- 1 clear cylindrical bottle/jar sherd, scratched, stained
- 1 olive yellow cylindrical bottle sherd, patinated
- 2 windowpane sherds, potash, patinated (pre-1864)

Feature 15, North Bisection, Feature Fill, Lot 29

Ceramics

- 1 redware sherd, brown glazed interior and exterior, hollow vessel

Glass

- 1 unidentified clear sherd, flat, patinated
- 1 white milk glass button fragment
- 1 windowpane sherd, potash (pre-1864)

Feature 17, North Bisection, Feature Fill, Lot 30

Ceramics

- 4 ironstone sherds (mend), undecorated, rim and base fragments, flat vessel, 10 inch rim diameter, indeterminate base diameter, burned (1840-1900+, Miller 1992)
- 4 ironstone sherds, undecorated, flat vessel, burned (1840-1900+, Miller 1992)
- 1 kaolin pipe bowl fragment, molded floral decoration, stained
- 1 redware sherd, unglazed interior and exterior, hollow vessel
- 1 redware spall, indeterminate vessel shape
- 1 whiteware sherd, unidentified blue decoration, indeterminate vessels shape, stained (1820-1900+, South 1977; Miller 1992)

Glass

- 2 aqua cylindrical bottle/jar sherds, scratched, patinated
- 1 clear cylindrical bottle/jar sherd, scratched, patinated
- 2 clear cylindrical bottle/jar sherds, patinated
- 1 clear soda cylindrical tableware sherd, copper wheel etched decoration, patinated
- 2 dark green cylindrical bottle sherds, patinated
- 2 light aqua cylindrical bottle/jar sherds, patinated
- 2 olive amber square/rectangular bottle sherds, contact mold, scratched, patinated (1810-1880)
- 2 olive green cylindrical bottle sherds, patinated
- 3 unidentified clear sherds, flat, scratched, stained
- 1 unidentified clear spall
- 1 unidentified olive green spall
- 1 unidentified very pale green spall, ribbed, patinated
- 1 very pale aqua cylindrical bottle/jar sherd, thin, patinated
- 3 windowpane sherds, potash, stained (pre-1864)

Metal

- 2 unidentified ferrous metal fragments (mend), thin, folded

Prehistoric

- 1 quartz biface thinning flake, proximal
- 1 quartz biface thinning flake, whole, 9.3 mm x 21.7 mm
- 2 quartz primary reduction flakes, proximal

Feature 17, South Bisection, Feature Fill, Lot 31

Ceramics

- 1 ironstone sherd, undecorated, flat vessel (1840-1900+, Miller 1992)
- 1 ironstone sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter, burned (1840-1900+, Miller 1992)

- 1 pearlware sherd, blue transfer printed, flat vessel (1795-1840, South 1977; 1787-1830, Miller 1992)
- 2 whiteware sherds, undecorated, flat vessel, burned (1820-1900+, South 1977; Miller 1992)

Glass

- 1 amber cylindrical bottle sherd, patinated
- 1 olive amber square/rectangular bottle sherd, contact mold (1810-1880)
- 1 olive green cylindrical bottle sherd, patinated
- 1 unidentified light aqua sherd, flat, patinated
- 1 windowpane sherd, potash (pre-1864)

Metal

- 1 cut nail fragment (post-1790)

Miscellaneous

- 1 bone fragment
- 1 brick fragment, 316.7 grams
- 2 cinder fragments

Prehistoric

- 1 chert primary reduction flake, whole, utilized, cortex proximal, possible abrader, 30.9 mm x 34.8 mm

Feature 18, East Bisection, Feature Fill, Lot 32

Ceramics

- 1 buff bodied earthenware sherd, green glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 pearlware sherd, undecorated, flat vessel, stained (1780-1830, South 1977; Miller 1992)

Glass

- 1 aqua cylindrical bottle/jar sherd, unidentified embossing, patinated
- 1 clear lead cylindrical tableware sherd, base fragment, patinated
- 2 unidentified clear sherds, flat, patinated
- 1 unidentified clear spall
- 1 unidentified light aqua sherd, flat, patinated
- 1 unidentified light green sherd, flat, patinated
- 1 unidentified olive green spall
- 1 windowpane sherd, soda (pre-1864)

Metal

- 1 brass flat disc button, unidentified attachment - 1.2 cm diameter (Type 9, 1726-1776, Noel Hume 1976:91-92)
- 1 cut nail fragment (post-1790)
- 1 wire fragment

Miscellaneous

- 3 bone fragments
- 1 brick fragment, glazed, 5.7 grams
- 42 brick fragments, 45.7 grams
- 1 charcoal fragment, 0.1 grams
- 6 coal fragments, 2.1 grams
- 8 coke fragments, 2.1 grams
- 1 egg shell fragment, 0.1 grams

- 1 mortar fragment, 1.1 grams
- 18 oyster shell fragments (15 discarded in lab), 230.7 grams
- 4 slag fragments, 5.2 grams

Feature 18, West Bisection, Feature Fill, Lot 33

Ceramics

- 1 pearlware sherd, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, brown glazed interior, hollow vessel
- 1 whiteware sherd, blue hand painted decoration, indeterminate vessel shape, stained (1820-1900+, South 1977; 1830-1860+, Miller 1992)
- 1 whiteware sherd, undecorated, flat vessel, stained (1820-1900+, South 1977; Miller 1992)
- 1 whiteware sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter (1820-1900+, South 1977; Miller 1992)

Glass

- 1 clear manganese cylindrical bottle/jar sherd, stained, patinated (1880-1915)
- 1 light green cylindrical bottle sherd, scratched, patinated
- 1 olive yellow cylindrical bottle sherd, base fragment, contact mold, patinated (1810-1880)
- 1 peacock cylindrical bottle sherd, applied oil lip finish, patinated (1830-1920, Lindsey 2014)
- 4 unidentified clear sherds, flat, scratched, patinated
- 1 windowpane sherd, potash, scratched, patinated (pre-1864)

Metal

- 5 cut nail fragments, one pulled (post-1790)
- 1 ferrous metal bolt fragment

Miscellaneous

- 1 bone fragment
- 3 oyster shell fragments, 228.0 grams

Feature 19, East Bisection, Feature Fill, Lot 34

Ceramics

- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, flat vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
- 1 whiteware sherd, blue hand painted decoration, hollow vessel (1820-1900+, South 1977; 1830-1860+, Miller 1992)

Glass

- 1 clear cylindrical bottle sherd, collared lip finish fragment, crushed, patinated
- 3 clear cylindrical bottle/jar sherds, stained, patinated
- 2 clear manganese cylindrical bottle/jar sherds, patinated
- 1 olive green cylindrical bottle sherd, patinated
- 1 unidentified glass sherd, flat, stained/painted black

- 1 very pale aqua cylindrical bottle/jar sherd, patinated
- 2 very pale green sherds, flat, patinated, one crushed
- 3 windowpane sherds, potash, one heavily patinated (pre-1864)

Metal

- 1 cut nail fragment, machine headed (post-1830)
- 2 cut nail fragments (post-1790)

Miscellaneous

- 8 bone fragments
- 1 plastic jewelry inlay, possible Lucite

Prehistoric

- 1 quartz decortication flake, proximal
- 1 quartz primary reduction flake, proximal
- 1 quartz primary reduction flake, whole, utilized, unifacially worked, 42.3 mm x 45.2 mm

Feature 19, West Bisection, Feature Fill, Lot 35

Ceramics

- 1 gray and buff bodied coarse stoneware sherd, rim fragment, brown glazed interior, brown salt glazed exterior, 8 inch rim diameter, hollow vessel
- 1 pearlware sherd, underglaze polychrome hand painted geometric decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds, undecorated, indeterminate vessel shape, burned (1780-1830, South 1977; Miller 1992)
- 1 refined white earthenware sherd, undecorated, indeterminate vessel shape
- 1 whiteware sherd, unidentified black maker's mark "...J...", indeterminate vessel shape (1820-1900+, South 1977; Miller 1992)

Glass

- 3 clear cylindrical bottle/jar sherds, patinated
- 1 clear soda cylindrical tableware sherd, patinated
- 1 clear soda cylindrical tableware sherd, pressed (1827-present)
- 2 unidentified clear sherds, flat, stained, patinated
- 3 unidentified light aqua sherds, flat, stained
- 2 windowpane sherds, potash (pre-1864)

Metal

- 5 cut nail fragments (post-1790)
- 1 unidentified ferrous metal fragment, curved, rectangular
- 1 unidentified ferrous metal fragment, flat, thin
- 2 wire fragments
- 1 wrought nail fragment, unidentified head, spatulate tip, burned

Miscellaneous

- 3 bone fragments
- 7 brick fragments, 8.4 grams
- 3 mortar fragments, 4.0 grams

Prehistoric

- 1 amber chert primary reduction flake, medial

Feature 20, North Bisection, Feature Fill, Lot 36

Ceramics

- 1 pearlware sherd, blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter, burned (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)

Metal

- 1 cut nail fragment (post-1790)
- 1 ferrous metal spike fragment

Feature 20, South Bisection, Feature Fill, Lot 37

Ceramics

- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)

Glass

- 1 windowpane sherd, potash (pre-1864)

Miscellaneous

- 3 bone fragments
- 14 brick fragments, 112.4 grams
- 23 cinder fragments, 7.5 grams
- 20 coal fragments, 15.1 grams
- 10 coke fragments, 4.4 grams
- 71 slag fragments, 618.5 grams
- 1 tooth fragment

Feature 22, North Bisection, Feature Fill, Lot 38

Glass

- 1 clear cylindrical bottle/jar sherd, patinated

Miscellaneous

- 1 brick fragment, 0.1 grams
- 1 coke fragment, 0.1 grams

Feature 22, South Bisection, Feature Fill, Lot 39

Ceramics

- 1 whiteware sherd, undecorated, indeterminate vessel shape (1820-1900+, South 1977; Miller 1992)

Glass

- 1 clear cylindrical bottle/jar sherd, stained, heat melted
- 1 olive green cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 2 unidentified very pale green sherds, flat, patinated

Feature 24, Section 1 Bisection, Builder's Trench Fill, Lot 40

Ceramics

- 1 creamware sherd, undecorated, flat vessel, stained (1762-1820, South 1977; Miller 1992)

Miscellaneous

- 4 brick fragments, 6.7 grams
- 3 mortar fragments, 0.9 grams

Feature 24, Section 2 Bisection, Feature Fill, Lot 41

Ceramics

- 1 creamware sherd, undecorated, flat vessel (1762-1820, South 1977; Miller 1992)

Glass

- 1 olive green cylindrical bottle sherd, stained, patinated
- 1 unidentified pale aqua sherd, possible mirror fragment with backing
- 2 very pale green cylindrical bottle sherds, patinated

Miscellaneous

- 1 bone fragment
- 6 brick fragments, 40.6 grams

Feature 27, Section 1, Builder's Trench Fill, Lot 42

Ceramics

- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, hollow vessel, 6 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)

Metal

- 2 cut nail fragment (post-1790)
- 3 unidentified nail fragments

Miscellaneous

- 44 brick fragments, 317.7 grams
- 4 coal fragments
- 3 mortar fragments, 84.5 grams
- 14 oyster shell fragments (12 discarded in lab), 9.9 grams
- 66 slag fragments, 560.0 grams

Feature 27, Section 1, Feature Fill, Lot 43

Glass

- 1 olive green cylindrical bottle sherd, base fragment, contact mold (1810-1880)
- 1 olive green cylindrical bottle sherd, heavily patinated
- 1 windowpane sherd, potash (pre-1864)

Metal

- 1 cut nail fragment (post-1790)
- 1 cut nail fragment (slag attached) (post-1790)
- 1 cut nail fragment, clinched (post-1790)
- 1 cut nail fragment, machine headed, clinched, burned (post-1830)

Miscellaneous

- 2 brick fragments, mortar attached, burned, 208.1 grams
- 5 brick fragments, one burned, 510.0 grams
- 3 charcoal fragments

- 1 coal fragment
- 8 mortar fragments, 193.2 grams
- 4 oyster shell fragments (one discarded in lab), 25.9 grams
- 2 slag fragments (one attached to a cut nail), 54.0 grams

Feature 27, Section 2, Builder's Trench Fill, Lot 44

Ceramics

- 1 pearlware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 4 pearlware sherds, undecorated, hollow vessel, slightly burned (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel, burned
- 2 redware sherds, brown glazed interior, unglazed exterior, hollow vessel

Glass

- 1 greenish-aqua cylindrical bottle sherd, possible freeblown, stained, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, contact mold (1810-1880)

Metal

- 1 cut nail fragment, pulled (post-1790)
- 2 cut nail fragments (post-1790)
- 1 unidentified ferrous metal fragment
- 2 unidentified nail/bolt fragments

Miscellaneous

- 3 bone fragments
- 25 brick fragments, 354.9 grams
- 2 coal fragments
- 39 oyster shell fragments (30 discarded in lab), 116.8 grams
- 7 slag fragments, 209.3 grams

Prehistoric

- 1 quartz biface thinning flake, proximal

Feature 27, Section 2, Feature Fill, Lot 45

Ceramics

- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, hollow vessel, burned (1795-1815, South 1977; 1780-1835, Miller 1992)

Glass

- 3 olive green cylindrical bottle sherds, patinated
- 1 windowpane sherd, potash (pre-1864)

Metal

- 2 unidentified nail fragments

Miscellaneous

- 3 bone fragments (two mend)
- 1 brick fragment, mortar attached, 21.4 grams

- 5 brick fragments, 94.7 grams
- 6 mortar fragments, 123.6 grams
- 1 oyster shell fragment, 0.6 grams
- 1 slag fragment, 51.4 grams

Feature 30, Feature Fill, Lot 46

Metal

- 1 cut nail fragment (post-1790)

Miscellaneous

- 1 brick fragments, 34.5 grams
- 1 coal fragment
- 10 mortar fragments, 30.9 grams
- 4 oyster shell fragments (three discarded in lab), 4.0 grams
- 3 slag fragments, 11.2 grams

Feature 31, South Bisection, Feature Fill, Lot 47

Ceramics

- 1 pearlware sherd, underglaze polychrome hand painted decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, red glazed interior and exterior, hollow vessel

Glass

- 1 clear cylindrical bottle/jar sherd, scratched, patinated
- 3 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 1 windowpane sherd, potash (pre-1864)

Metal

- 1 unidentified nail fragment

Miscellaneous

- 6 brick fragments, 170.6 grams
- 1 coal fragment
- 2 mortar fragments, 1.0 grams
- 6 slag fragments, 151.9 grams
- 1 tooth fragment

Feature 34A & B, North Bisection, Feature Fill, Lot 48

Ceramics

- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, stained (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, indeterminate vessel shape and rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, base fragment, hollow vessel, 3 inch foot ring diameter, burned (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), undecorated, rim and base fragments, flat vessel, 8 inch rim diameter, 6 inch base diameter (1780-1830, South 1977; Miller 1992)

- 2 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 3 redware sherds, dark brown glazed interior and exterior, hollow vessel
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)
- 1 whiteware sherd, blue hand painted decoration, base fragment, flat vessel, indeterminate base diameter (1820-1900+, South 1977; 1830-1860+, Miller 1992)

Glass

- 1 clear cylindrical bottle/jar sherd, patinated
- 1 olive amber cylindrical bottle sherd, contact mold (1810-1880)
- 1 olive green cylindrical bottle sherd, base fragment, contact mold (1810-1880)
- 1 olive green cylindrical bottle sherd, patinated
- 1 unidentified very pale green sherd, flat, scratched, patinated

Metal

- 1 cut nail fragment, clinched (post-1790)
- 3 cut nail fragments (post-1790)
- 1 unidentified nail fragment
- 1 wire nail fragment, clinched (1890-present)

Miscellaneous

- 1 bone fragment
- 20 brick fragments, 375.0 grams
- 1 coal fragment
- 1 flint ballast, worn
- 42 oyster shell fragments (31 discarded in lab), 535.0 grams
- 1 slate fragment
- 1 tooth fragment

Feature 34A, South Bisection, Feature Fill, Lot 49

Ceramics

- 1 hard paste porcelain sherd, undecorated, hollow vessel
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
- 2 redware sherds, dark brown glazed interior and exterior, hollow vessel
- 1 whiteware sherd, blue hand painted decoration "...IN.../...PA...", flat vessel (1820-1900+, South 1977; 1830-1860+, Miller 1992)
- 1 whiteware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, burned (1820-1900+, South 1977; Miller 1992)
- 2 whiteware sherds (mend), undecorated (1820-1900+, South 1977; Miller 1992)

Glass

- 2 clear cylindrical bottle/jar sherds, scratched, patinated
- 1 olive green cylindrical bottle sherd, contact mold (1810-1880)
- 7 windowpane sherds, potash, stained, patinated (pre-1864)

Metal

- 3 cut nail fragments (post-1790)
- 1 unidentified ferrous metal fragment
- 3 unidentified nail fragments

Miscellaneous

- 2 bone fragments
- 16 brick fragments, 751.1 grams
- 5 coal fragments
- 4 mortar fragments, 1.3 grams
- 38 oyster shell fragments (31 discarded in lab), 247.3 grams
- 2 plastic comb tooth fragments

Feature 34B, South Bisection, Feature Fill, Lot 50

Ceramics

- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, flat vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel

Glass

- 1 clear soda cylindrical tableware sherd, copper wheel etched decoration, patinated
- 1 light aqua cylindrical bottle/jar sherd, patinated
- 1 olive green cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 1 unidentified olive green spall
- 3 windowpane sherds, potash (pre-1864)

Metal

- 1 cut nail fragment, clinched (post-1790)
- 5 cut nail fragments (post-1790)

Miscellaneous

- 45 brick fragments, 457.3 grams
- 17 oyster shell fragments (13 discarded in lab), 87.3 grams

Feature 35, Feature Fill, Lot 51

Ceramics

- 1 creamware sherd, undecorated, base fragment, hollow vessel, 3.5 inch base diameter, burned (1762-1820, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, jug, 4 inch rim diameter (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 52, Lot 54, Lot 55)
- 1 pearlware sherd, underglaze polychrome annular decoration, base fragment, jug, 4 inch base diameter (1790-1820, South 1977; 1790-

- 1839, Miller 1992) (mends with sherds from Lot 52, Lot 55)
- 1 pearlware sherd, underglaze polychrome annular decoration, spout fragment attached, jug (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 52, Lot 55)
 - 6 pearlware sherds (mend), underglaze polychrome annular decoration, jug (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 52, Lot 55)

Feature 35, East Bisection, Feature Fill, Lot 52

Ceramics

- 1 buff bodied coarse stoneware sherd, unglazed interior, brown salt glazed exterior, roulette decoration, hollow vessel
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 4 inch base diameter (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 54, Lot 55)
- 1 pearlware sherd, undecorated, possible spout fragment, jug (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 54, Lot 55)
- 1 pearlware sherd, underglaze polychrome annular decoration, jug (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 55)
- 1 pearlware sherd, underglaze polychrome annular decoration, rim fragment, jug, 4 inch rim diameter (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 55)
- 7 pearlware sherds (mend), underglaze blue hand painted floral decoration interior and exterior, rim fragments, punch bowl, 8 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992) (mends with sherds from Lot 51, Lot 54, Lot 55)
- 4 pearlware sherds (mend), underglaze polychrome annular decoration, possible mocha, hollow vessel (1790-1820, South 1977; 1790-1839, Miller 1992)
- 1 redware sherd, brown glazed interior, unglazed exterior, hollow vessel
- 2 redware sherds (mend), dark brown glazed interior and exterior, hollow vessel
- 1 redware spall, indeterminate vessel shape

Glass

- 1 clear cylindrical stemmed wine glass base fragment, freeblown, open pontil, stained (pre-1860)
- 1 clear cylindrical stemmed wine glass fragment, freeblown, open pontil, stained (pre-1860)
- 2 clear lead cylindrical stemmed wine glass folded foot base fragments, freeblown, heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, rim fragment, probable tumbler, stained, patinated
- 4 clear soda cylindrical tableware sherds, probable stemmed wine glass fragments, stained
- 2 forest green blackglass cylindrical bottle sherds (mend), contact mold, base fragment, rounded heel, conical push-up, sand pontil, wine bottle

- style, 97.5 mm base diameter, scratched (1810-1860)
- 2 green square/rectangular bottle sherds, patinated
- 1 light green cylindrical bottle sherd, flared lip finish, patinated (1820-1870, Lindsey 2015)
- 2 light green square/rectangular bottle sherds, contact mold (1810-1880)
- 1 olive green blackglass cylindrical bottle sherd, base fragment, bulged heel, dome-shaped push-up, partial sand pontil, contact mold, wine bottle style (1810-1860)
- 1 olive green cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, cracked off and fire polished v-shaped lip finish, applied down-tooled string rim, flattened area below string rim, contact mold, stained, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, heat melted
- 1 olive green cylindrical bottle sherd, heavily patinated
- 1 olive green cylindrical bottle sherd, partial base fragment, contact mold, patinated (1810-1880)
- 9 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 13 windownpane sherds, potash, stained, patinated (pre-1864)

Miscellaneous

- 1 bone fragment
- 1 brick fragment, 243.7 grams
- 2 fish scale fragments

Feature 35, East Bisection Profile, Piece Plot #09, Lot 53

Glass

- 1 olive green cylindrical bottle sherd, base fragment, bulged heel, contact mold, wine bottle style, scratched, patinated (1810-1820s, Jones 1986)

Feature 35, East Bisection Profile, Piece Plot #10, Lot 54

Ceramics

- 1 pearlware sherd, underglaze blue hand painted floral decoration interior and exterior, rim and base fragment, punch bowl, 8 inch rim diameter, 4 inch base diameter (1780-1820, South 1977; 1780-1830, Miller 1992) (mends with sherds from Lot 51, Lot 52, Lot 55)

Feature 35, West Bisection, Feature Fill, Lot 55

Ceramics

- 1 creamware sherd, overglaze polychrome enamelled hand painted floral decoration, lid fragment, green flower-shaped handle attached, hollow vessel, 4 inch lid diameter (1765-1810, South 1977; Miller 1992)
- 1 hard paste porcelain sherd, undecorated, hollow vessel
- 1 pearlware sherd, blue shell edge decoration, unscaloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992; 1840s-1860s, MACL 2016)
- 6 pearlware sherds (mend), underglaze blue hand painted floral decoration interior and exterior, rim and base fragments, punch bowl, 8 inch rim diameter, 4 inch base diameter (1780-1820, South 1977;

- 1780-1830, Miller 1992) (mends with sherds from Lot 51, Lot 52, Lot 54)
- 5 pearlware sherds (mend), underglaze polychrome annular decoration, base fragments, jug, 4 inch base diameter (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 52)
 - 19 pearlware sherds (mend), underglaze polychrome annular decoration, jug (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 52)
 - 6 pearlware sherds (mend), underglaze polychrome annular decoration, possible mocha, rim fragments, bowl, 5 inch rim diameter (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 52)
 - 2 pearlware sherds (mend), underglaze polychrome annular decoration, rim fragments, jug, 4 inch rim diameter (1790-1820, South 1977; 1790-1839, Miller 1992) (mends with sherds from Lot 51, Lot 52)
 - 10 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
 - 1 redware sherd, dark brown glazed interior, hollow vessel

Glass

- 1 aqua multi-sided bottle sherd, patinated
- 1 clear cylindrical stemmed wine glass fragment, freeblown, pontil, applied base, stained, patinated (pre-1860)
- 1 clear lead cylindrical tableware sherd, stemware base fragment, open pontil, heavily stained (pre-1860)
- 1 clear soda cylindrical stemmed wine glass base fragment, open pontil, stained (pre-1860)
- 2 clear soda cylindrical tableware sherds, probable wine glass fragments, stained, patinated
- 5 clear soda cylindrical tableware sherds, rim fragments, tumbler fragments, stained, patinated
- 5 clear soda cylindrical tableware sherds, stained, patinated
- 2 green cylindrical bottle sherds, probable freeblown, patinated (pre-1860)
- 1 green square/rectangular bottle sherd, concave corners, base fragment, open pontil, freeblown, patinated (pre-1860)
- 6 light green multi-sided bottle sherds, contact mold, patinated (1810-1880)
- 1 olive amber blackglass cylindrical bottle sherd, base fragment, bulged heel, dome-shaped push-up, sand pontil, contact mold, base diameter 72.9 mm, scratched, patinated (1810-1860)
- 1 olive green cylindrical bottle sherd, base fragment, bulged heel, contact mold, scratched, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, base fragment, bulged heel, contact mold, scratched, patinated (1810-1880)
- 3 olive green cylindrical bottle sherd, contact mold, scratched, patinated (1810-1880)

- 1 olive green cylindrical bottle sherd, cracked off and fire polished V-shaped lip finish, applied flattened side string rim, contact mold, stained, patinated (1810-1880)
- 14 olive green cylindrical bottle sherds, contact mold, scratched, patinated (1810-1880)
- 8 pale green multi-sided bottle sherds, contact mold, stained, patinated (1810-1880)
- 14 unidentified aqua sherds, flat, heavily patinated
- 1 unidentified olive amber spall
- 3 unidentified olive green spalls
- 19 windowpane sherds, potash, patinated (pre-1864)

Metal

- 1 brass button fragment, deteriorated
- 1 cut nail fragment (post-1790)

Miscellaneous

- 1 bone fragment
- 1 brick fragment with mortar attached
- 4 brick fragments (discarded in field), 0 grams
- 3 fish scale fragments
- 2 mortar fragments with plaster attached, 6.9 grams
- 13 mortar fragments, 88.9 grams
- 3 oyster shell fragments (discarded in field)

Feature 35B, South Bisection, Feature Fill, Lot 56

Glass

- 1 unidentified olive green spall

Miscellaneous

- 1 cinder fragment, 0.2 grams
- 5 coal fragments, 1.3 grams
- 3 coke fragments, 0.9 grams

Feature 36, North Bisection, Feature Fill, Level 1, Lot 57

Ceramics

- 1 creamware sherd, undecorated, hollow vessel, burned (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Royal pattern rim fragment, base fragment, bowl, 10 inch rim and 5 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, base fragment, plate, 5 inch base diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, base fragments, plate, indeterminate base diameter (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds (mend), undecorated, rim and base fragments, Royal pattern rim fragments, plate, 9 inch rim and 6 inch base diameter (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds (mend), undecorated, rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)

- 5 creamware sherds (mend), undecorated, rim fragments, bowl, 7 inch rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 8 creamware sherds (mend), undecorated, rim fragments, oval platter, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, base fragments, 3 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, base fragments, plates, 6 inch base diameter (1762-1820, South 1977; Miller 1992)
- 14 creamware sherds, undecorated, flat vessels (1762-1820, South 1977; Miller 1992)
- 11 creamware sherds, undecorated, hollow vessels (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds, undecorated, rim fragments, plates, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds, undecorated, Royal pattern rim fragments, plate, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 3 gray and red bodied coarse stoneware sherds, unglazed interior and exterior, hollow vessels
- 1 hard paste porcelain sherd (Chinese export), undecorated, hollow vessel
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted chinoiserie decoration interior and exterior, rim fragment, hollow vessel, 3 inch rim diameter (1775-1810, MACL 2017)
- 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter
- 1 pearlware sherd, blue shell edge decoration, Rococo scalloped rim fragment, plate, indeterminate rim diameter, stained (1780-1830, South 1977; Miller 1992; 1775-1810, MACL 2017)
- 2 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, 12 inch rim diameter, stained (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, molded decoration exterior, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted base band decoration, oval base fragment, hollow vessel, 79.7 mm x 54.0 mm base (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration interior and exterior, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted rim decoration, scalloped rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted trellis decoration,

- hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted trellis rim decoration, rim fragment, hollow vessel, 5 inch rim diameter, heavily stained (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue transfer printed decoration, hollow vessel (1795-1840, South 1977; 1787-1830, Miller 1992)
 - 1 pearlware sherd, underglaze brown hand painted rim band decoration interior and exterior, rim fragment, hollow vessel, indeterminate rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration interior, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted geometric rim decoration interior, rim fragment, hollow vessel, 5 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, unidentified green decoration, probable green shell edge decoration, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
 - 3 pearlware sherds (mend), mocha decoration on an orange slip, base fragment, hollow vessel, 4 inch base diameter, heavily stained (1795-1890, South 1977; 1799-1830, Miller 1992) (mend with sherds from Lot 58)
 - 5 pearlware sherds, undecorated, hollow vessels (1780-1830, South 1977; Miller 1992)
 - 5 pearlware sherds, underglaze blue hand painted decoration exterior, hollow vessels (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 2 pearlware sherds, underglaze brown hand painted decoration exterior, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds, underglaze polychrome hand painted floral decoration exterior, hollow vessels (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, coggled rim fragment, plate, indeterminate rim diameter (1792-1809, Magid et al. 2003)
 - 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, rim fragment, milk pan, 10 inch rim diameter, unidentified black residue attached (1792-1809, Magid et al. 2003)
 - 1 redware sherd, brown glazed interior and exterior, molded handle fragment, hollow vessel (1792-1809, Magid et al. 2003)
 - 1 redware sherd, dark brown glazed, indeterminate vessel shape
 - 1 redware sherd, white slipped interior, brown glazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
 - 4 redware sherds (mend), annular trailed slip decoration interior, unglazed exterior, rim fragments, milk pan, 11 inch rim diameter, unidentified black residue attached (1792-1809, Magid et al. 2003)

- 10 redware sherds (mend), annular trailed slip decoration with copper oxide splotches interior, unglazed exterior, rim and base fragments, milk pan, 12 inch rim and 6 inch base diameters (1792-1809, Magid et al. 2003) (mend with sherds from Lot 60)
- 4 redware sherds (mend), dark brown glazed interior and exterior, incised lines exterior, molded handle and everted rim fragment, chamber pot, 8 inch rim diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 58, Lot 63)
- 2 redware sherds (mend), mottled dark brown glazed interior and exterior, incised horizontal lines exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 5 redware sherds (mend), mottled dark brown glazed interior and exterior, rim and base fragments, handle fragment attached, hollow vessel, indeterminate rim diameter, 2.5 inch base diameter (1792-1809, Magid et al. 2003)
- 10 redware sherds, annular trailed slip decoration interior, unglazed exterior, milk pan (1792-1809, Magid et al. 2003)
- 3 redware sherds, annular trailed slip decoration interior, unglazed exterior, milk pan, unidentified black residue attached (1792-1809, Magid et al. 2003)
- 2 redware sherds, annular trailed slip decoration interior, unglazed exterior, rim fragments, milk pan, 10 inch rim diameter, unidentified black residue attached (1792-1809, Magid et al. 2003)
- 2 redware sherds, dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 3 redware sherds, mottled brown glazed interior, unglazed exterior, hollow vessels (1792-1809, Magid et al. 2003)
- 5 redware spalls

Glass

- 5 clear soda cylindrical lamp chimney sherds (four mend), curved rim fragments, heavily patinated
- 1 clear soda cylindrical tableware sherd, freeblown, rim fragment, copper wheel etched decoration, tumbler (pre-1860)
- 9 clear soda cylindrical tableware sherds, freeblown, copper wheel etched decoration, tumbler (pre-1860)
- 7 clear soda cylindrical tableware sherds, heavily patinated
- 3 clear soda cylindrical tableware sherds, molded, tumbler, patinated
- 3 clear soda cylindrical tableware sherds, ribbed, tumbler rim fragments, patinated
- 7 clear soda cylindrical tableware sherds, ribbed, tumbler, patinated
- 12 clear soda cylindrical tableware sherds, tumbler rim fragments, stained, patinated
- 57 clear soda cylindrical tableware sherds, tumbler, stained, patinated
- 6 dark olive green square/rectangular case bottle fragments (mend), freeblown, tapered base fragment with four embossed "X" along edges, open pontil, pointed base corners, base 65.1 mm x 66.5 mm, heavily patinated (pre-1860)

- 2 greenish-aqua square/rectangular bottle sherds, contact mold, patinated (1810-1880)
- 25 light olive green cylindrical bottle sherds (mend), freeblown, cracked off and fire polished v-shaped lip finish, applied down-tooled string rim, flattened area below string rim, stained, patinated (pre-1860)
- 2 light olive green square/rectangular bottle sherd, freeblown, heavily patinated (pre-1860)
- 4 olive amber cylindrical bottle sherds (three mend), freeblown, patinated (pre-1860)
- 2 olive amber cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, base fragment, freeblown, bulged heel, cone-shaped push-up, sand pontil, wine bottle style, base diameter 88.8 mm, patinated (1760-1800, Jones 1986)
- 1 olive green cylindrical bottle sherd, freeblown, cracked off and fire polished v-shaped lip finish, applied down-tooled string rim, flattened area below string rim, stained, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, cracked off and fire polished v-shaped lip finish, applied down-tooled string rim, stained, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, cracked off and fire polished v-shaped lip finish, applied flattened string rim, stained, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, cracked off and fire polished v-shaped lip finish, applied up-tooled string rim, stained, patinated (pre-1860)
- 4 olive green cylindrical bottle sherds (mend), base fragments, contact mold, bulged heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 98.7 mm, patinated (1810-1860)
- 4 olive green cylindrical bottle sherds (mend), base fragments, freeblown, bulged heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 99.5 mm, patinated (1760-1800, Jones 1986)
- 2 olive green cylindrical bottle sherds (mend), base fragments, freeblown, rounded heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 96.7 mm, patinated (1760-1800, Jones 1986)
- 2 olive green cylindrical bottle sherds (mend), neck fragments, heavily patinated
- 2 olive green cylindrical bottle sherds, base fragments, stained, patinated
- 48 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 73 olive green cylindrical bottle sherds, stained, patinated
- 2 olive green square/rectangular bottle sherds (mend), freeblown, applied wide bead lip finish, patinated (pre-1860)
- 53 olive green square/rectangular bottle sherds, freeblown, patinated (pre-1860)
- 21 olive green square/rectangular case bottle fragments (mend), freeblown, base fragment, open pontil, pointed base corners, base 76.3 mm x 76.0 mm, heavily patinated (pre-1860)
- 9 olive green square/rectangular case bottle fragments (mend),

freeblown, base fragments with four embossed "X", open pontil, pointed base corners, base 69.5 mm x 69.1 mm, heavily patinated (pre-1860)

- 4 unidentified clear spalls
- 14 unidentified olive green spalls
- 4 unidentified pale aqua sherds, flat, patinated
- 1 very pale aqua cylindrical bottle sherd, freeblown, base fragment, open pontil, medicinal bottle, patinated (pre-1860)
- 1 very pale aqua cylindrical tableware sherd, freeblown, tumbler base fragment, refired pontil, 56.3 mm diameter, stained (pre-1860)
- 1 very pale aqua cylindrical tableware sherd, freeblown, tumbler rim and base fragment, refired pontil, 54.8 mm diameter, stained (pre-1860)
- 3 very pale aqua cylindrical tableware sherds, tumbler rim fragments, stained, patinated
- 8 very pale aqua cylindrical tableware sherds, tumbler, stained, patinated
- 7 very pale cornflower cylindrical tableware sherds (mend), freeblown, decanter base fragments, refired pontil, patinated (pre-1860)
- 3 very pale cornflower cylindrical tableware sherds (mend), freeblown, decanter flared rim fragments, interior wear, patinated (pre-1860)
- 47 very pale cornflower cylindrical tableware sherds, freeblown, decanter, patinated (pre-1860)
- 1 very pale green cylindrical tableware sherd, freeblown, tumbler base fragment, refired pontil, 51.2 mm diameter, stained (pre-1860)
- 1 very pale green cylindrical tableware sherd, freeblown, tumbler base fragment, refired pontil, 56.7 mm diameter, stained (pre-1860)
- 5 very pale green cylindrical tableware sherds, tumbler rim fragments, patinated
- 2 very pale green cylindrical tableware sherds, tumbler, patinated
- 7 windowpane sherds, potash (pre-1864)

Metal

- 1 brass flat disc button, alpha shank cast in boss - 1.3 cm diameter (Type 8, Noel Hume 1976:91; 1760-1800, Hinks 1988:53)
- 1 brass flat disc button, unidentified attachment, heavily corroded back - 1.5 cm diameter
- 17 unidentified ferrous metal fragments
- 5 unidentified nail fragments
- 2 unidentified nail fragments, pulled
- 11 wrought nail fragments
- 2 wrought nail fragments, pulled
- 6 wrought nail fragments, unidentified heads
- 2 wrought nail fragments, unidentified heads, clinched
- 1 wrought spike

Miscellaneous

- 346 bone fragments
- 1 bone lice comb fragment

- 13 brick fragments (12 discarded in lab), 325.0 grams
- 4 coke fragments (three discarded in lab), 25.2 grams
- 1 fish scale fragment
- 9 leather shoe fragments
- 1 maxilla/mandible bone fragment, two teeth attached
- 2 maxilla/mandible bone fragments, one tooth attached
- 9 oyster shell fragments, two burned (seven discarded in lab), 14.1 grams
- 1 slag fragment, 0.7 grams
- 4 slate fragments
- 15 teeth fragments

Feature 36, North Bisection, Feature Fill, Level 2, Lot 58

Ceramics

- 1 creamware sherd, undecorated, rim and base fragment, plate, indeterminate rim and 7 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, base fragments, plate, 6 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 11 creamware sherds (mend), undecorated, rim and base fragments, plate, indeterminate rim and 6 inch base diameter, heavily stained (1762-1820, South 1977; Miller 1992)
- 7 creamware sherds (mend), undecorated, rim fragments, plate, 11 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds (mend), undecorated, rim fragments, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, Royal pattern rim fragments, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 9 creamware sherds, undecorated, flat vessels (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, handle fragments, hollow vessel, stained (1762-1820, South 1977; Miller 1992)
- 6 creamware sherds, undecorated, hollow vessels (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, possible handle fragments, hollow vessels (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, rim fragments, plates, indeterminate rim diameters (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds, undecorated, Royal pattern rim and base sherds, plate, indeterminate rim and 6 inch base diameters, heavily stained (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, Royal pattern rim fragments, plates, indeterminate rim diameters, stained (1762-1820, South 1977; Miller 1992)
- 1 gray and red bodied coarse stoneware sherd, unglazed interior and

- exterior, hollow vessel
- 1 hard paste porcelain sherd (Chinese export), molded handled fragment, hollow vessel
 - 1 hard paste porcelain sherd (Chinese export), undecorated, hollow vessel
 - 1 pearlware sherd, green shell edge decoration, scalloped rim fragment, plate, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
 - 1 pearlware sherd, underglaze brown hand painted decoration exterior, hollow vessel, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration interior and exterior, rim fragment, bowl, 3.5 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds (mend), mocha decoration on an orange slip, base fragment, hollow vessel, 4 inch base diameter (1795-1890, South 1977; 1799-1830, Miller 1992) (mend with sherds from Lot 57)
 - 9 pearlware sherds (mend), underglaze blue hand painted floral decoration interior and exterior, rim and base fragments, common shaped cup, 3.5 inch rim and 1.5 inch base diameters (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 4 pearlware sherds (mend), underglaze polychrome hand painted floral decoration interior, unidentified maker's mark on base, rim and base fragments, saucer, 6 inch rim and 3 inch base diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds, underglaze blue hand painted decoration exterior, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 redware sherd, orange glazed interior, unglazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
 - 1 redware sherd, white slipped interior, brown glazed exterior, rim fragment, hollow vessel, indeterminate rim diameter
 - 22 redware sherds (mend), mottled dark brown glazed interior and exterior, incised horizontal line exterior shoulder, everted rim and base fragments, molded strap handle fragment, chamber pot, 8 inch rim and 5 inch base diameters (1792-1809, Magid et al. 2003) (mends with sherds from Lot 57, Lot 63)
 - 6 redware sherds (mend), mottled dark brown glazed interior and exterior, incised horizontal line exterior, rim fragments, hollow vessel, 7 inch rim diameter (1792-1809, Magid et al. 2003)
 - 1 Whieldon ware sherd, undecorated, hollow vessel (1740-1770, South 1977; 1740-1780, Miller 1992)

Glass

- 1 clear soda cylindrical tableware sherd, copper wheel etched decoration, patinated
- 1 clear soda cylindrical tableware sherd, freeblown, stemware, refired pontil, 66.2 mm base diameter (pre-1860)
- 1 clear soda cylindrical tableware sherd, molded base fragment, tumbler, patinated

- 1 clear soda cylindrical tableware sherd, molded, tumbler, patinated
- 1 clear soda cylindrical tableware sherd, ribbed, tumbler, patinated
- 1 clear soda cylindrical tableware sherd, rim fragment, copper wheel etched decoration, heavily scratched, stained
- 4 clear soda cylindrical tableware sherds, rim fragments, tumbler, patinated
- 12 clear soda cylindrical tableware sherds, tumbler, patinated
- 6 clear soda cylindrical tableware sherds, tumbler, stained, patinated
- 3 dark green square/rectangular bottle sherds, stained, patinated
- 6 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 5 olive green cylindrical bottle sherds, patinated
- 1 olive green square case bottle fragment, freeblown, applied wide bead lip finish, patinated (pre-1860)
- 3 olive green square/rectangular bottle sherds, patinated
- 11 pale aqua cylindrical tableware sherds (one vessel), freeblown, rim fragments, base fragment, refired pontil, patinated (pre-1860)
- 1 unidentified light aqua sherd, flat, patinated
- 1 unidentified olive green spall
- 1 windowpane sherd, soda (pre-1864)

Metal

- 2 unidentified ferrous metal fragments
- 4 unidentified nail fragments

Miscellaneous

- 52 bone fragments
- 1 maxilla/mandible bone fragment, two teeth attached
- 1 oyster shell fragment, 13.3 grams
- 6 teeth fragments

Feature 36, North Bisection, Feature Fill, Level 3, Lot 59

Ceramics

- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)

Miscellaneous

- 1 bone fragment

Feature 36, South Bisection, Feature Fill, Level 1, Lot 60

Ceramics

- creamware sherd, undecorated, rim fragment, hollow vessel, 7 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds (mend), undecorated, base fragments, bowl, 4 inch foot ring diameter, heavily stained (1762-1820, South 1977; Miller 1992)
- 7 creamware sherds (mend), undecorated, embossed maker's mark "...4...", base fragments, plate, 6 inch base diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, probable Royal pattern rim fragments, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, probable Royal pattern rim fragments,

- plate, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds (mend), undecorated, rim fragments, bowl, 8 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 29 creamware sherds (mend), undecorated, rim fragments, oval platter, heavily stained (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds (mend), undecorated, Royal pattern rim fragments, plate, 9 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds (mend), undecorated, Royal pattern rim fragments, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 9 creamware sherds, undecorated, hollow vessels (1762-1820, South 1977; Miller 1992)
- 10 creamware sherds, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 16 creamware sherds, undecorated, plate (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, rim fragments, hollow vessels, indeterminate rim diameters (1762-1820, South 1977; Miller 1992)
- 6 creamware sherds, undecorated, rim fragments, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), undecorated, hollow vessel
- 1 Jackfield ware sherd, undecorated, hollow vessel (1740-1780, South 1977; Miller 1992)
- 1 kaolin pipe stem fragment - 1/64 inch bore hole diameter
- 1 pearlware sherd, undecorated, base fragment, indeterminate vessel shape and foot ring diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration exterior, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration interior, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration interior, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue transfer printed decoration interior and exterior, hollow vessel (1795-1840, South 1977; 1787-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue transfer printed decoration interior, rim fragment, hollow vessel, indeterminate rim diameter (1795-1840, South 1977; 1787-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration exterior, base fragment, hollow vessel, indeterminate base diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration interior, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome mocha decoration, hollow

- vessel (1795-1890, South 1977; 1799-1830, Miller 1992)
- 7 pearlware sherds (mend), underglaze blue hand painted chinoiserie with trellis rim band decoration interior, rim and base fragments, saucer, 5 inch rim and 3 inch base diameters, heavily stained (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 2 pearlware sherds (mend), underglaze brown hand painted decoration interior, scalloped rim fragments, base fragment, saucer, 5 inch rim and 3 inch foot ring diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 3 pearlware sherds (mend), underglaze polychrome unidentified sponge decoration, rim fragments, pot, 4 inch rim diameter, stained (1780-1830, South 1977; Miller 1992) (same vessel as Lots 61, 62, 64, 75, 237)
 - 1 redware sherd, dark brown glazed interior and exterior, hollow vessel
 - 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
 - 1 redware sherd, unglazed interior and exterior, incised line exterior, hollow vessel
 - 20 redware sherds (mend), annular trailed slip decoration interior, unglazed exterior, rim and base fragments, milk pan, 9 inch rim and 5 inch base diameter, unidentified black residue attached (1792-1809, Magid et al. 2003)
 - 14 redware sherds (mend), annular trailed slip decoration with copper oxide splotches interior, unglazed exterior, rim and base fragments, milk pan, 10 inch rim and 5 inch base diameter (1792-1809, Magid et al. 2003) (mend with sherds from Lot 57)
 - 2 redware sherds (mend), molded strap handle decoration, dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)

Glass

- 1 blackglass rotating intaglio/watch fob spinner, hand etched fouled anchor and three-masted ship with furled sails, brass setting
- 1 clear soda cylindrical tableware sherd, rim fragment, copper wheel etched geometric decoration
- 12 clear soda cylindrical tableware sherds, rim fragments, patinated
- 3 clear soda cylindrical tableware sherds, scratched, patinated
- 55 clear soda cylindrical tableware sherds, stained/patinated
- 1 clear soda tableware sherd, stemware, molded
- 3 dark green square/rectangular bottle sherds, freeblown, stained, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, contact mold (1810-1880)
- 11 olive green cylindrical bottle sherds (mend), freeblown, down-tooled cracked-off lip finish fragment with down-tooled string rim, wine bottle style, heavily patinated (pre-1860)
- 2 olive green cylindrical bottle sherds (mend), freeblown, patinated (pre-1860)
- 4 olive green cylindrical bottle sherds, freeblown, heavily patinated (pre-1860)

- 4 olive green square/rectangular case bottle sherds (mend), freeblown, patinated (pre-1860)
- 6 olive green square/rectangular case bottle sherds, freeblown, patinated (pre-1860)
- 1 unidentified aqua sherd, flat, heavily patinated
- 8 unidentified olive green spalls, patinated
- 21 very pale aqua soda cylindrical tableware sherds (mend), blown pattern mold, tumbler/flip glass, rim fragments, base fragment, open pontil, 52.1 mm base diameter, patinated (1750-1850)
- 2 windowpane sherds, potash (pre-1864)

Metal

- 1 unidentified ferrous metal fragment, flat, rectangular, possible handle fragment
- 10 unidentified ferrous metal fragments
- 3 wrought nail fragments
- 5 wrought nail fragments (two mend), unidentified heads

Miscellaneous

- 419 bone fragments
- 12 brick fragments (ten discarded in lab), 3950.0 grams
- 3 coke fragments (two discarded in lab), 16.1 grams
- 12 fish scale fragments
- 1 maxilla/mandible bone fragment, one tooth attached
- 1 maxilla/mandible bone fragment, two teeth attached
- 1 nail/claw fragment
- 44 oyster shell fragments (30 discarded in lab), 550.0 grams
- 1 peach pit fragment
- 3 sandstone building material fragments, 5100.0 grams
- 1 shell fragment, unidentified, 22.9 grams
- 3 slag fragments (two discarded in lab), 280.0 grams
- 15 teeth fragments

Feature 36, South Bisection, Feature Fill, Level 2, Lot 61

Ceramics

- 1 creamware sherd, undecorated, plain pattern rim fragment, plate, 16 inch rim diameter, heavily scratched (1762-1820, South 1977; Miller 1992) (mends with sherds from Lot 60)
- 1 creamware sherd, undecorated, Royal pattern rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, Royal pattern rim and base fragment, plate, indeterminate rim and 5 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, hollow vessels (1762-1820, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze polychrome annular decoration exterior, base fragment, hollow vessel, 3.5 inch base diameter, stained (1790-1820, South 1977; 1790-1839, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration interior with brown rim decoration, scalloped rim fragment, flat vessel,

- indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral and brown rim band decoration interior, rim and base fragment, saucer, 6 inch rim and 4 inch base diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome unidentified sponge decoration, pot (1780-1830, South 1977; Miller 1992) (same vessel as Lots 60, 62, 64, 75, 237)
- 2 pearlware sherds, underglaze blue hand painted rim band decoration, rim fragments, indeterminate vessel shape and rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)

Glass

- 1 clear cylindrical bottle sherd
- 1 clear soda cylindrical tableware sherd
- 1 dark green square/rectangular bottle sherds, freeblown, patinated (pre-1860)
- 2 green cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, freeblown, cracked off and fire polished v-shaped lip finish with flat string rim (pre-1860)
- 3 olive green cylindrical bottle sherds, patinated
- 1 unidentified olive green spall, patinated

Metal

- 9 unidentified ferrous metal fragments
- 3 wrought nail fragments, unidentified heads

Miscellaneous

- 7 bone fragments
- 10 brick fragments (nine discarded in lab), 335.0 grams
- 2 charcoal fragments, 0.8 grams
- 1 coal fragment, 2.9 grams
- 1 fish scale fragment
- 15 oyster shell fragments (12 discarded in lab), 50.2 grams
- 3 oyster shell fragments, 42.5 grams
- 1 peach pit fragment
- 1 seed fragment
- 1 tooth fragment

Feature 36, South Bisection, Feature Fill, Level 3, Lot 62

Ceramics

- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze brown hand painted decoration, base fragment, flat vessel, indeterminate base diameter, burned (1795-1815, South 1977; 1780-1835, Miller 1992)

- 1 pearlware sherd, underglaze polychrome unidentified sponge decoration, pot, burned (1780-1830, South 1977; Miller 1992) (same vessel as Lots 60, 61, 64, 75, 237)
- 1 redware spall, indeterminate vessel shape
- 1 unidentified ceramic sherd, dark brown glazed exterior, unglazed interior, indeterminate vessel shape, heavily burned

Glass

- 1 clear multi-sided tableware sherds, patinated

Metal

- 1 unidentified ferrous metal fragment, curved
- 21 unidentified ferrous metal fragments, flat, thin
- 1 wrought nail fragment

Miscellaneous

- 4 bone fragments
- 1 coal fragment
- 1 oyster shell fragment, 0.3 grams
- 1 seed fragment

Feature 36, South Bisection Profile, Piece Plot #11, Lot 63

Ceramics

- 5 redware sherds (mend), mottled dark brown glazed interior and exterior, base fragment, nipple in center of base, handle fragment attached, chamber pot, 4.5 inch base diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 57, Lot 58)

Feature 36, South Bisection Profile, Piece Plot #12, Lot 64

Ceramics

- 9 pearlware sherds (mend), underglaze polychrome unidentified sponge decoration, pot, 4 inch base diameter, kiln scar, stained (1780-1830, South 1977; Miller 1992) (same vessel as Lots 60, 61, 62, 75, 237)

Feature 36, South Bisection Profile, Piece Plot #13, Lot 65

Ceramics

- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim and base fragment, common shape cup, 3 inch rim and 1.5 inch foot ring diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)

Feature 37, Top of Feature, Lot 66

Ceramics

- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 redware sherd, white slipped decoration, hollow vessel
- 6 redware sherds, dark brown glazed redware, unglazed exterior, hollow vessel

Glass

- 1 windowpane sherd, potash, patinated (pre-1864)

- 1 windowpane sherd, potash/soda, patinated (pre-1864)

Metal

- 2 unidentified ferrous metal fragments

Miscellaneous

- 3 bone fragments
- 3 brick fragments, 79.8 grams
- 1 oyster shell fragment, 1.1 grams

Feature 37, East Bisection, Feature Fill, Level 1, Lot 67

Ceramics

- 1 brown bodied coarse stoneware sherd, unglazed, hollow vessel
- 1 creamware sherd, overglaze black transfer printed decoration, hollow vessel, heavily burned (1765-1815, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), undecorated, hollow vessel
- 2 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, hollow vessel (1775-1810, MACL 2016)
- 4 kaolin pipe bowl fragments
- 1 kaolin pipe stem and bowl fragment -- 5/64 inch bore hole diameter
- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 4 inch base diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, hollow vessel, 6 inch rim diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted geometric decoration, rim fragment, hollow vessel, 3 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted rim band decoration, rim fragment, flat vessel, 10 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted rim band decoration, rim fragment, flat vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, 12 inch rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
- 2 pearlware sherds (mend), undecorated, rim fragments, flat vessel, 10 inch rim diameter, stained (1780-1830, South 1977; Miller 1992)
- 3 pearlware sherds, undecorated, flat vessel, stained (1780-1830, South 1977; Miller 1992)

- 7 pearlware sherds, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, base fragment, brown glazed interior, unglazed exterior, hollow vessel
- 1 refined white earthenware sherd, green hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter, burned
- 1 refined white earthenware sherd, undecorated, hollow vessel, heavily burned
- 1 refined white earthenware sherd, unglazed, hollow vessel, stained
- 1 whiteware sherd, blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter (1820-1900+, South 1977; 1830-1860+, Miller 1992; 1800-1830s, MACL 2016)

Glass

- 1 clear soda cylindrical tableware sherd, freeblown, stemware base fragment, stained (pre-1860)
- 4 clear soda cylindrical tableware sherds, patinated
- 1 greenish-aqua cylindrical bottle sherd, freeblown (pre-1860)
- 6 lamp chimney fragments, patinated
- 1 light aqua cylindrical bottle sherd, heavily patinated
- 1 olive amber blackglass cylindrical bottle sherd, base fragment, freeblown, sand pontil fragment, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, very heavily patinated
- 2 olive green cylindrical bottle sherds (mend), base fragment, freeblown, bulged heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 100.4 mm, patinated (1760-1800, Jones 1986)
- 3 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 5 olive green cylindrical bottle sherds, patinated
- 2 olive green square/rectangular bottle sherds, patinated
- 1 pale green cylindrical bottle sherd, patinated
- 5 unidentified light aqua sherds, flat, patinated
- 4 unidentified light green sherds, flat, patinated
- 7 unidentified olive green spalls
- 1 very pale aqua cylindrical tableware sherd, ribbed, tumbler base fragment, refired pontil, freeblown (pre-1860)
- 1 windowpane sherd, soda (pre-1864)
- 3 windowpane sherds, potash (pre-1864)

Metal

- 31 unidentified ferrous metal fragments
- 1 wrought nail fragment, unidentified head, clinched
- 3 wrought nail fragments
- 7 wrought nail fragments, unidentified heads

Miscellaneous

- 50 bone fragments
- 1 brick bat fragment, 4 inches x 2 inches, 1260.0 grams

- 1 brick bat fragment, 4 inches x 2.25 inches, 1205.0 grams
- 1 brick bat fragment, 4.25 inches x 2 inches, 1575.0 grams
- 1 brick bat fragment, 4.5 inches x 2.25 inches, 1425.0 grams
- 19 brick fragments, 730.0 grams
- 4 clam shell fragments, 24.0 grams
- 5 coal fragments, 17.9 grams
- 5 coke fragments, 63.4 grams
- 4 mortar fragments, 243.8 grams
- 120 oyster shell fragments (90 discarded in lab), 1835.0 grams
- 1 slag fragment, 1.7 grams

Non-Cultural

- 4 chert fragments

Feature 37, East Bisection, Feature Fill, Level 2, Lot 68

Miscellaneous

- 25 bone fragments, one calcined
- 1 nail/claw fragment
- 40 oyster shell fragments (30 discarded in lab), 366.5 grams
- 1 peach pit fragment

Feature 37, East Bisection, Feature Fill, Level 3, Lot 69

Ceramics

- 1 creamware sherd, overglaze enamelled hand painted decoration, hollow vessel (1765-1810, South 1977; Miller 1992)
- 1 kaolin pipe bowl fragment
- 1 kaolin pipe stem - 1/16 inch bore hole diameter
- 1 pearlware sherd, undecorated, rim fragment, flat vessel, 12 inch rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, spout fragment, hollow vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, flat vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze brown hand painted decoration, flat vessel, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze brown hand painted decoration, rim fragment, flat vessel, indeterminate rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, flat vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 5 pearlware sherds, undecorated, flat vessel, stained (1780-1830, South 1977; Miller 1992)
- 8 pearlware sherds, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, handle fragment, dark brown glazed interior and exterior, stained
- 1 redware sherd, unglazed, indeterminate vessel shape

- 1 redware sherds, dark brown glazed interior, unglazed exterior, flat vessel
- 1 white salt glazed stoneware sherd, undecorated, flat vessel (1720-1805, South 1977; Miller 1992)

Glass

- 1 aqua cylindrical bottle sherd, patinated
- 1 clear cylindrical bottle sherd, patinated
- 2 light aqua cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, stained, patinated
- 2 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 1 unidentified aqua sherd, flat, stained, patinated
- 1 unidentified green sherd, flat, patinated
- 2 unidentified olive green spalls

Metal

- 6 unidentified ferrous metal fragments

Miscellaneous

- 1 bone fragment
- 18 brick fragments, 57.0 grams
- 2 charcoal fragments
- 14 coal fragments
- 9 coke fragments
- 3 oyster shell fragments (one discarded in lab), 32.6 grams
- 4 seed/pit fragments
- 1 slag fragment, 8.0 grams

Prehistoric

- 1 quartzite projectile point fragment, Savannah River broadspear stemmed type, Late Archaic (3000 BC - 1000 BC)

Feature 37, East Bisection, Feature Fill, Level 4, Lot 70

Ceramics

- 1 creamware sherd, overglaze enamelled polychrome hand painted decoration, hollow vessel (1765-1810, South 1977; Miller 1992)
- 2 kaolin pipe bowl fragments
- 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, flat vessel, 12 inch rim diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze green hand painted rim band decoration, rim fragment, flat vessel, indeterminate vessel shape (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, unidentified blue decoration, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)

- 2 pearlware sherds, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 6 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 3 pearlware sherds, underglaze polychrome hand painted decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 refined white earthenware sherd, undecorated, indeterminate vessel shape
- 1 Westerwald ware sherd, incised cobalt hand painted decoration, clear salt glazed interior and exterior, hollow vessel (1700-1775, South 1977; Miller 1992)

Glass

- 1 clear soda cylindrical tableware sherd, base fragment, refired pontil fragment, freeblown, probable tumbler fragment, patinated (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, folded foot stemware base fragment, patinated (pre-1860)
- 1 greenish-aqua cylindrical bottle sherd, base fragment, freeblown (pre-1860)
- 1 greenish-aqua cylindrical bottle sherd, base fragment, open pontil fragment, freeblown (pre-1860)
- 3 greenish-aqua cylindrical bottle sherds, patinated
- 2 olive green cylindrical bottle sherds (mend), applied down-tooled lip finish fragment, unidentified string rim, patinated
- 5 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 6 olive green cylindrical bottle sherds, stained, patinated
- 1 pale aqua cylindrical bottle/jar sherd, patinated
- 1 unidentified aqua sherd, curved, very thin
- 1 unidentified aqua sherd, flat
- 2 unidentified light aqua sherds, flat, patinated
- 3 unidentified olive green spalls, patinated
- 1 unidentified pale green sherd, flat, heavily patinated
- 2 windowpane sherds, potash (pre-1864)

Metal

- 1 lead shot, flattened, fired - 11.7 mm diameter
- 23 unidentified ferrous metal fragments
- 1 wrought nail fragment, hand headed, pulled
- 15 wrought nail fragments
- 2 wrought nail fragments, hand headed
- 4 wrought nail fragments, pulled
- 9 wrought nail fragments, unidentified heads

Miscellaneous

- 14 bone fragments
- 1 brick fragment, glazed, 16.6 grams
- 31 brick fragments, 955.0 grams
- 1 cinder fragment, 1.0 grams
- 36 coal fragment, 101.6 grams

- 33 coke fragments, 107.1 grams
- 2 mortar fragments, 11.9 grams
- 23 oyster shell fragments (20 discarded in lab), 197.5 grams
- 6 peach pit fragments
- 4 seed fragments, possible cherry seeds
- 17 slag fragments, 123.1 grams
- 48 watermelon seed fragments

Prehistoric

- 1 jasper biface thinning flake, medial
- 1 jasper biface thinning flake, whole, heat treated, 8.0 mm x 6.9 mm
- 1 jasper primary reduction flake, proximal, cortex proximal
- 1 quartz primary reduction flake, proximal

Feature 37, East Wall, Piece Plot #14, Lot 71

Glass

- 1 olive green cylindrical bottle sherd, base fragment, freeblown, bulged heel, dome-shaped push-up, sand pontil, base diameter 74.7 mm, patinated (pre-1860)

Feature 37, East Wall, Piece Plot #15, Lot 72

Ceramics

- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)

Feature 37, East Wall, Piece Plot #16, Lot 73

Ceramics

- 1 pearlware sherd, green shell edge decoration, unscalloped rim fragment, flat vessel, indeterminate rim diameter, stained (1780-1830, South 1977; 1800-1830, Miller 1992; 1840s-1860s, MACL 2016)

Feature 37, East Wall, Piece Plot #17, Lot 74

Ceramics

- 1 pearlware sherd, undecorated, scalloped rim fragment, flat vessel, 11 inch rim diameter, stained (1780-1830, South 1977; Miller 1992)

Feature 37, East Wall, General Cleaning, Lot 237

Ceramics

- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, flat vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome unidentified sponge decoration, pot (1780-1830, South 1977; Miller 1992) (same vessel as Lots 60, 61, 62, 64, 75)
- 3 pink bodied earthenware sherds (mend), mottled brown and yellow glazed interior, orange and olive glazed exterior, rim fragments, hollow vessel, 6 inch rim diameter, heavily stained
- 1 redware sherd, orange glazed interior with slipped decoration and copper oxide splotches, unglazed exterior, coggled rim fragment, plate, 13 inch rim diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 76, Lot 78)

Miscellaneous

- 5 bone fragments
- 1 brick fragment, 1.0 grams
- 2 oyster shell fragments, 2.1 grams

Feature 37, Feature Fill, Level 2, Lot 75

Ceramics

- 1 buff bodied earthenware sherd, yellow and brown mottled glaze interior, olive glazed exterior, hollow vessel
- 1 buff bodied stoneware sherd, clear glazed interior and exterior, hollow vessel
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, 5 inch rim diameter, burned (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, base fragment, hollow vessel, 3 inch foot ring diameter, burned (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, base fragments, flat vessel, 6 inch base diameter, burned (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, flat vessel, stained (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled red hand painted decoration, hollow vessel (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, hollow vessel (1775-1810, MACL 2016)
- 1 hard paste porcelain sherd (Continental European), overglaze shadow hand painted decoration, hollow vessel
- 2 kaolin pipe bowl fragments, one heavily stained
- 1 kaolin pipe stem fragment -- 5/64 inch bore hole diameter
- 2 manganese mottled ware sherds, coarse bodied, undecorated, hollow vessel (1680-1780, MACL 2015)
- 1 Nottingham-type stoneware sherd, brown glazed interior, brownish-red glazed exterior, incised geometric pattern, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 3 inch foot ring diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, indeterminate vessel shape and rim diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze green hand painted rim band decoration, rim fragment, hollow vessel, 6 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze green hand painted rim band decoration, rim fragment, indeterminate vessel shape and rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, hollow vessel, burned (1795-1815, South 1977; 1780-1835, Miller 1992)

- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, hollow vessel, 5 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragments, hollow vessel, 4 inch base diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome unidentified sponge decoration, pot, stained (1780-1830, South 1977; Miller 1992) (same vessel as Lots 60, 61, 62, 64, 237)
- 2 pearlware sherds (mend), underglaze blue hand painted decoration, rim and base fragment, hollow vessel, 5 inch rim diameter, 3 inch foot ring diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 7 pearlware sherds (mend), underglaze polychrome hand painted decoration, base fragments, flat vessel, 3 inch foot ring diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds, undecorated, flat vessel, burned (1780-1830, South 1977; Miller 1992)
- 8 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 3 pearlware sherds, undecorated, hollow vessel, stained (1780-1830, South 1977; Miller 1992)
- 8 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 5 pearlware sherds, underglaze blue hand painted decoration, hollow vessel, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 3 pearlware sherds, underglaze blue hand painted rim band decoration, scalloped rim fragments, hollow vessel, indeterminate rim diameters, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, underglaze brown hand painted decoration, flat vessel, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pink bodied earthenware sherd, mottled brown and yellow glazed interior, orange and olive glazed exterior, hollow vessel
- 1 pink bodied earthenware sherd, mottled brown and yellow glazed interior, orange and olive glazed exterior, rim fragment, hollow vessel, indeterminate rim diameter
- 4 pink bodied earthenware sherds (mend), mottled brown and yellow glazed interior, orange and olive glazed exterior, rim fragments, hollow vessel, 6 inch rim diameter
- 1 redware sherd, orange glazed interior with copper oxide splotches, unglazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 2 redware sherds, dark brown glazed interior and exterior, hollow vessel
- 1 refined redware sherd, molded handle fragment, hollow vessel (1800-1840, Magid 1990)
- 1 refined white earthenware sherd, undecorated, indeterminate vessel shape, burned

- 1 refined white earthenware spall, underglaze blue hand painted decoration, indeterminate vessel shape
- 2 refined white earthenware spalls (mend), underglaze blue hand painted decoration, indeterminate vessel shape

Glass

- 1 aqua multi-sided ink well sherd, contact mold (1810-1880)
- 1 blue la bead, drawn, opaque, small, barrel, 3.1 mm diameter, 3.0 mm length (Burgess 2012)
- 8 clear cylindrical lamp chimney sherds, patinated
- 1 clear soda cylindrical tableware sherd, freeblown, rim fragment, tumbler, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler base fragment, refired pontil, patinated (pre-1860)
- 1 clear soda cylindrical tableware sherd, heavily patinated
- 5 clear soda cylindrical tableware sherds
- 3 clear soda cylindrical tableware sherds, freeblown, tumbler base fragments, patinated (pre-1860)
- 1 light aqua cylindrical bottle sherd, freeblown, base fragment, refired pontil, patinated (pre-1860)
- 4 light aqua cylindrical bottle sherds, patinated
- 5 olive amber cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, unidentified collared lip finish fragment, patinated
- 7 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 16 olive green cylindrical bottle sherds, patinated
- 4 olive green cylindrical bottle sherds, patinated, slightly burned
- 1 olive green square/rectangular bottle sherd, patinated
- 7 unidentified light aqua sherds, flat, patinated
- 4 unidentified olive green spalls
- 2 unidentified pale aqua sherds, flat, thin, heavily patinated
- 1 very pale aqua cylindrical tableware sherd, tumbler base fragment, freeblown, refired pontil (pre-1860)
- 1 windowpane sherd, potash (pre-1864)
- 4 windowpane sherds, soda (pre-1864)
- 3 windowpane sherds, soda/potash (pre-1864)

Metal

- 1 brass flat disc button, wire eye attachment -- 1.2 cm diameter (Type 9, 1726-1776, Noel Hume 1976:91-92)
- 1 brass flat disc button, wire eye attachment -- 1.3 cm diameter (Type 9, 1726-1776, Noel Hume 1976:91-92)
- 27 unidentified ferrous metal fragments
- 1 wrought nail fragment, hand headed
- 1 wrought nail fragment, hand headed, pulled
- 1 wrought nail fragment, spatulate tip
- 7 wrought nail fragments
- 2 wrought nail fragments (mend), hand headed, burned

- 8 wrought nail fragments, unidentified heads
- 2 wrought nail fragments, unidentified heads, pulled

Miscellaneous

- 26 brick fragments, 1014.1 grams
- 2 charcoal fragments, 0.7 grams
- 36 coal fragments, 104.6 grams
- 32 coke fragments, 104.5 grams
- 2 mortar fragments, 18.1 grams
- 9 slag fragments, 174.7 grams
- 1 slate fragment

Feature 37, West Bisection, Feature Fill, Level 1, Lot 76

Ceramics

- 1 hard paste porcelain sherd, blue hand painted floral decoration, hollow vessel
- 1 hard paste porcelain sherd, overglaze polychrome hand painted decoration, spout fragment, hollow vessel
- 1 hard paste porcelain sherd, undecorated, base fragment, hollow vessel, 2 inch base diameter
- 1 Nottingham type sherd, incised geometric pattern, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 pearlware sherd, molded decoration, scalloped rim fragment, flat vessel, indeterminate rim diameter, slightly burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, molded, scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 4 inch base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, flat vessel, 8 inch rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel, scratched, slightly burned (1780-1830, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, hollow vessel, 6 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, indeterminate vessel shape and rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)

- 1 pearlware sherd, underglaze polychrome hand painted rim band decoration, rim fragment, indeterminate vessel shape and rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), underglaze blue hand painted decoration, flat vessel, burned (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds (mend), underglaze polychrome hand painted decoration, hollow vessel, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 4 pearlware sherds (two mend), underglaze polychrome hand painted decoration, indeterminate vessel shape, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 7 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, indeterminate vessel shape, burned (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, dark brown glazed interior and exterior, molded, handle fragment, hollow vessel
- 4 redware sherds (mend), trail slipped decoration interior, unglazed exterior, coggled rim decoration, rim fragment, plate, 13 inch rim diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 78, Lot 237)

Glass

- 1 clear soda cylindrical tableware sherd, rim fragment, patinated
- 4 clear soda cylindrical tableware/bottle sherds, patinated
- 1 dark green cylindrical bottle sherd, patinated
- 1 olive amber blackglass cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 6 olive green cylindrical bottle sherds, patinated
- 1 olive green square/rectangular bottle sherd, patinated
- 1 unidentified clear spall
- 4 unidentified dark greenish-aqua sherds, flat, patinated
- 1 unidentified very pale aqua sherd, flat, patinated
- 3 windowpane sherds, potash, patinated (pre-1864)

Metal

- 1 unidentified ferrous metal fragment, curved, large, possible handle
- 1 unidentified ferrous metal fragments, cylindrical, probable bolt fragment
- 12 unidentified ferrous metal fragments, flat, rectangular
- 3 wrought nail fragments, pulled
- 8 wrought nail fragments, unidentified heads
- 2 wrought nail fragments, unidentified heads, clinched

Miscellaneous

- 12 bone fragments
- 4 brick fragments, 157.4 grams
- 5 coal fragments

- 2 mortar fragments, 68.3 grams
- 13 oyster shell fragments, 368.2 grams
- 2 teeth fragments

Feature 37, West Bisection, Feature Fill, Level 2, Lot 77

Miscellaneous

- 20 bone fragments
- 9 oyster shell fragments (five discarded in lab), 133.9 grams

Feature 37, West Bisection, Feature Fill, Level 3, Lot 78

Ceramics

- 1 hard paste porcelain sherd, unidentified shadow hand painted floral decoration, rim fragment, flat vessel, indeterminate rim diameter
- 1 pearlware sherd, blue shell edge decoration, unscaloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992; 1840s-1860s, MACL 2016)
- 1 pearlware sherd, brown hand painted rim band decoration, rim fragment, flat vessel, 11 inch rim diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, brown hand painted rim band decoration, rim fragment, flat vessel, indeterminate rim diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, molded decoration, lid fragment, hollow vessel, indeterminate lid diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, lid fragment, hollow vessel, indeterminate lid diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decorations, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, base fragment, flat vessel, indeterminate base diameter (1795-1815, South 1977; MACL 2016)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, hollow vessel (1795-1815, South 1977; MACL 2016)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, 5 inch rim diameter, burned (1795-1815, South 1977; MACL 2016)
- 1 pearlware sherd, underglaze polychrome hand painted floral

- decoration, rim fragment, hollow vessel, 5 inch rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 5 pearlware sherds, undecorated, flat vessel, stained (1780-1830, South 1977; Miller 1992)
- 6 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, brown glazed interior, unglazed exterior, hollow vessel
- 1 redware sherd, trail slipped decoration interior, unglazed exterior, coggled rim decoration, rim fragment, plate, 13 inch rim diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 76, Lot 237)
- 1 redware sherd, white slipped interior, light brown glazed exterior, hollow vessel

Glass

- 1 light aqua cylindrical bottle/jar sherd, patinated
- 2 olive green cylindrical bottle sherds, contact mold (1810-1880)
- 6 olive green cylindrical bottle sherds, stained, patinated
- 1 unidentified aqua sherd, flat, patinated
- 1 unidentified light aqua sherd, flat, patinated
- 2 windowpane sherds, soda/potash (pre-1864)

Metal

- 3 unidentified metal fragments

Miscellaneous

- 2 brick fragments, 32.5 grams
- 1 coke fragment
- 1 leather fragment
- 1 oyster shell fragment, 11.8 grams

Feature 37, West Bisection, Feature Fill, Level 4, Lot 79

Ceramics

- 1 kaolin pipe bowl fragment
- 1 pearlware sherd, black hand painted floral decoration, rim fragment, hollow vessel, 3 inch rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 3 inch foot ring diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, flat vessel, 7 inch rim diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, hollow vessel, 7 inch rim diameter (1780-1820, South 1977; 1780-1820, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted rim band, scalloped rim fragment, hollow vessel, 3 inch rim diameter, burned (1780-1820, South 1977; 1780-1820, Miller 1992)

- 4 pearlware sherds, undecorated, indeterminate vessel shape, burned (1780-1830, South 1977; Miller 1992)
- 1 redware spall, possible Buckley

Glass

- 1 aqua multi-sided bottle sherd, contact mold (1810-1880)
- 1 clear soda cylindrical tableware sherd, patinated
- 4 dark olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 1 green cylindrical bottle sherd, scratched
- 1 olive green cylindrical bottle sherd, patinated
- 3 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)
- 1 windowpane sherd, potash, patinated (pre-1864)
- 1 windowpane sherd, soda (pre-1864)
- 3 windowpane sherds, potash/soda, patinated (pre-1864)

Metal

- 1 unidentified ferrous metal fragment
- 1 unidentified nail fragment
- 1 wrought nail fragment, pulled
- 4 wrought nail fragments

Miscellaneous

- 1 bone fragment
- 6 brick fragments, 36.2 grams
- 6 coal fragments
- 2 coke fragments
- 5 oyster shell fragments (three discarded in lab), 15.9 grams
- 2 peach pit fragments (mend)

Feature 38, East Bisection, Feature Fill, Lot 80

Ceramics

- 1 pearlware sherd, undecorated, base fragment, hollow vessel, indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 refined white earthenware sherd, blue hand painted decoration, hollow vessel, heavily burned

Glass

- 1 olive green cylindrical bottle sherd, scratched, patinated

Metal

- 1 cut nail fragment (post-1790)

Feature 38, West Bisection, Feature Fill, Lot 81

Ceramics

- 1 creamware sherd, overglaze polychrome enamelled hand painted floral decoration, rim fragment, flat vessel, indeterminate rim diameter (1765-1810, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, indeterminate vessel shape and base diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, indeterminate vessel shape (1762-

1820, South 1977; Miller 1992)

- 1 creamware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter (1762-1820, South 1977; Miller 1992)
- 1 kaolin pipe bowl fragment
- 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, flat vessel
- 2 redware sherds (mend), dark brown glazed interior and exterior, burned

Glass

- 2 olive green cylindrical bottle sherds (mend), scratched, patinated

Metal

- 2 cut nail fragments (post-1790)

Miscellaneous

- 1 mortar fragment, red, 5.0 grams
- 7 slag fragments, 81.6 grams

Feature 41, Below floorboard 13, Lot 82

Metal

- 1 ferrous metal ring, cotter pin attached, ring diameter 10.1 cm, cotter pin length 11.7 cm
- 1 ferrous metal ring, probable friction ring or pulley block, 7.4 cm diameter
- 1 ferrous metal stake fragment, hand wrought, unidentified head, pulled, 17 inch length, 0.7 inch diameter
- 1 ferrous metal stake, hand wrought, 18.5 inch length, 1.5 inch diameter
- 1 wrought nail fragment
- 1 wrought nail fragment, hand headed
- 1 wrought nail fragment, hand headed, clinched
- 1 wrought nail fragment, unidentified head, clinched

Miscellaneous

- 1 unidentified wood, possible peg for floor boards, tapered end, notch in center, divot in top, smoothed, 2.6 cm diameter, 17.1 cm length
- 1 wooden bung - 6.1 cm diameter

Feature 41, Fill below S7, Lot 83

Metal

- 1 ferrous metal square bar, spike attached, possibly hand wrought

Feature 41, Fill Below Sill-Beams, Lot 84

Ceramics

- 5 white salt glazed stoneware sherds (mend), undecorated, rim and base fragments, plate, 9 inch rim diameter, 7 inch base diameter (1740-1775, South 1977; Miller 1992)

Feature 41, General Collection, Lot 85

Ceramics

- 1 hard paste porcelain sherd, blue hand painted floral decoration, base fragment, hollow vessel, handle fragment attached, 1.5 inch base diameter, stained
- 1 kaolin pipe stem and bowl fragment - 1/16 inch bore hole diameter
- 1 pearlware sherd, undecorated, flat vessel, heavily stained/burned

(1780-1830, South 1977; Miller 1992)

- 1 pearlware sherd, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, flat vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, hollow vessel, burned (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted, hollow vessel, slightly stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 redware sherd, annular trailed slip decoration interior, flat vessel
- 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, flat vessel
- 1 redware sherd, everted rim fragment, mottle brown glazed interior and exterior, hollow vessel, 7 inch rim diameter
- 1 redware sherd, mottled brown glazed interior and exterior, hollow vessel
- 1 white salt glazed stoneware sherd, debased scratch blue decoration (1765-1795, South 1977; 1723-1775, Miller 1992)

Glass

- 1 olive amber blackglass cylindrical bottle sherd, base fragment, contact mold, rounded heel, dome-shaped push-up, sand pontil, base diameter 86.0 cm, 29 seeds recovered from interior, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, neck fragment, heavily patinated
- 2 olive green cylindrical bottle sherds, patinated
- 7 unidentified olive green spalls

Metal

- 1 ferrous metal ring - 4.6 cm diameter
- 1 unidentified ferrous metal fragment, flat, thin
- 1 wrought nail fragment, hand headed
- 1 wrought nail fragment, rosehead, spatulate tip, clinched
- 1 wrought nail fragment, unidentified head, pulled

Miscellaneous

- 2 bone fragments
- 1 flint ballast
- 7 leather shoe sole and heel fragments
- 29 seed fragments (recovered from bottle base)
- 1 tooth fragment

Feature 41, Center Third, General Collection, Lot 86

Ceramics

- 2 hard paste porcelain sherds (mend), underglaze blue hand painted decoration, overglaze polychrome hand painted decoration, hollow vessel
- 1 pearlware sherd, undecorated, flat (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel, burned (1780-1830, South

- 1977; Miller 1992)
- 2 redware sherds, dark brown glazed interior and exterior, hollow vessel
 - 1 refined white earthenware sherd, undecorated, flat vessel, stained, burned

Glass

- 4 olive amber cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, base fragment, freeblown, rounded heel, dome-shaped push-up, refired pontil, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, cracked off and fire polished lip finish, applied string rim flat side slopes in to neck, patinated (pre-1860)
- 2 olive green cylindrical bottle sherds, contact mold, patinated (1810-1880)

Metal

- 1 hand wrought spike, hand headed
- 1 unidentified ferrous metal fragment, flat, possible hinge one end, large slag chunk attached
- 1 unidentified ferrous metal fragment, probable barrel hoop fragment
- 1 wrought nail fragment
- 3 wrought nail fragments, roseheads
- 2 wrought nail fragments, roseheads, spatulate tips

Miscellaneous

- 9 bone fragments
- 1 wood disc 1-hole sew through button - 2.2 cm diameter
- 1 wooden barrel head fragment, single board, beveled outside edge (chime), 16 1/2 inches x 7 1/2 inches x 3/4 inch (Returned to Site for Curation)
- 1 wooden barrel head fragment, single board, beveled outside edge (chime), 24 1/2 inches x 5 1/2 inches x 1/2 inch (Returned to Site for Curation)
- 1 wooden barrel head fragments, two boards attached, beveled outside edge (chime), wooden dowel attached, 18 inches x 8 3/4 inches x 1 inch (Returned to Site for Curation)
- 1 wooden tool handle fragment, probable hammer, flat one side, tapered end, 8 inches x 3 7/8 inches (Returned to Site for Curation)
- 1 wooden tool handle, probable hatchet, 16 1/4 inches x 3 1/4 inches (Returned to Site for Curation)

Feature 41, East Third, General Collection, Lot 87

Ceramics

- 1 British brown stoneware sherd, molded, clear salt glazed interior and exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 2 Buckley ware sherds (mend), undecorated, hollow vessel (1720-1775, South 1977; Miller 1992)
- 2 pearlware sherds (mend), undecorated, rim fragment, flat vessel, 5 inch rim diameter (1780-1830, South 1977; Miller 1992)
- 2 redware sherds, dark brown glazed interior and exterior, hollow vessel

- 1 tin glazed earthenware sherd, undecorated, hollow vessel, heavily scratched/stained (1700-1800, South 1977; Miller 1992)

Glass

- 1 olive green cylindrical bottle sherd, patinated

Metal

- 1 wrought 20d nail, rosehead, spatulate tip, clinched
- 1 wrought 6d nail, rosehead, spatulate tip
- 1 wrought 8d nail, L-head, spatulate tip
- 1 wrought nail fragment, rosehead
- 3 wrought nail fragments, roseheads, spatulate tips

Miscellaneous

- 5 bone fragments
- 2 leather shoe fragments
- 1 maxilla/mandible fragment, two teeth attached

Feature 41, West Third, General Collection, Lot 88

Ceramics

- 1 gray bodied coarse stoneware sherd, beer bottle type, brown and clear salt glazed interior and exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 gray bodied coarse stoneware sherd, light brown glazed interior, brown salt glazed exterior, hollow vessel
- 2 hard paste porcelain sherds, blue hand painted decoration, hollow vessel
- 1 kaolin pipe stem fragment - 5/64 inch bore hole diameter
- 1 kaolin pipe stem fragment - 5/64 inch bore hole, heavily stained
- 1 pearlware sherd, molded, scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, blue hand painted decoration, base fragments, hollow vessel, 3 inch foot ring diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 redware sherd, base fragment, dark brown glazed interior, unglazed exterior, flat vessel, 14 inch base diameter
- 1 redware sherd, base fragment, dark brown glazed interior, unglazed exterior, hollow vessel, 4 inch base diameter
- 1 redware sherd, base fragment, unglazed interior and exterior, hollow vessel, 5 inch base diameter
- 1 redware sherd, dark brown glazed interior, unglazed exterior, flat vessel
- 1 redware sherd, everted rim fragment, dark brown glazed interior, unglazed exterior, hollow vessel, 15 inch rim diameter
- 1 refined white earthenware sherd, marbled decoration, hollow vessel, heavily stained, probable Staffordshire slipware
- 2 refined white earthenware sherds (mend), base fragments, marbled decoration, hollow vessel, 3 inch base diameter, heavily stained, probable Staffordshire slipware

- 2 refined white earthenware sherds, rim fragments, brown dot decoration, hollow vessel, 3 inch rim diameter, heavily stained, probable Staffordshire slipware
- 1 white salt glazed stoneware sherd, molded rim fragment, hollow vessel, indeterminate rim diameter (1740-1765, South 1977; Miller 1992)
- 1 white salt glazed stoneware sherd, undecorated, flat vessel (1740-1775, South 1977; Miller 1992)
- 3 white salt glazed stoneware sherds, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 1 clear soda cylindrical tableware sherd, freeblown, tumbler, base fragment, open pontil fragment, scratched (pre-1860)
- 6 dark olive green cylindrical bottle sherds (mend), freeblown, base fragments, dome-shaped push-up, sand pontil, patinated (pre-1860)
- 1 light aqua cylindrical bottle sherd, embossed "...O.../...FLUID OZ...", chilled iron mold, scratched, patinated (1880-1930)
- 1 olive green cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 3 olive green cylindrical bottle sherds, patinated
- 6 olive green cylindrical bottle sherds, stained, patinated
- 6 unidentified olive green spalls
- 1 windowpane sherd, potash, patinated (pre-1864)

Metal

- 1 ferrous metal nose auger fragment (18th century, Colonial Williamsburg 2016)
- 1 ferrous metal spike fragment, hand headed, pulled
- 1 ferrous metal spike fragment, large
- 5 ferrous metal spike fragments, hand headed
- 2 ferrous metal spike fragments, hand headed, spatulate tip
- 1 ferrous metal spike, hand headed, clinched
- 1 ferrous metal wedge, hand headed
- 1 unidentified ferrous metal fragment, curved, rectangular
- 1 unidentified ferrous metal fragment, flat, thin, rectangular, curved end
- 1 unidentified ferrous metal fragment, U-shaped
- 5 unidentified ferrous metal fragments, flat, thin
- 1 wrought 50d nail, rosehead, spatulate tip
- 1 wrought 60d nail, rosehead, spatulate tip, clinched
- 1 wrought nail fragment
- 1 wrought nail fragment, rosehead
- 1 wrought nail fragment, unidentified head (post-1790)
- 1 wrought nail fragments, rosehead, spatulate tip

Miscellaneous

- 1 bone disc 1-hole sew through button - 1.5 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 11 bone fragments
- 1 brick fragment, mortar attached, 56.6 grams

- 2 brick fragments, 386.9 grams
- 1 clam shell fragment, stained, 12.1 grams
- 14 leather fragments, shoe sole and heel fragments, one possible belt fragment
- 4 oyster shell fragment (one discarded in lab), 104.9 grams
- 1 slate fragment
- 5 wood fragments
- 1 wooden barrel head fragment, single board, beveled outside edge (chime), holes along interior edge with dowel fragments imbedded, small hole through left side of board, three small wooden dowels imbedded in right side of top, carved lines possibly forming an "X" or "V", 23 1/2 inches x 7 inches x 1 inch (Returned to Site for Curation)
- 1 wooden barrel head fragment, single board, beveled outside edge (chime), tar along interior edge and top, 16 1/4 inches x 4 inches x 3/4 inch (Returned to Site for Curation)
- 1 wooden dowel
- 1 wooden treenail, 14 1/2 inches x 3 1/8 inches (Returned to Site for Curation)
- 1 wooden treenail, 14 3/4 inches x 3 1/8 inches (Returned to Site for Curation)
- 1 wooden treenail, 16 1/4 inches x 3 1/2 inches (Returned to Site for Curation)

Feature 41, West Third, General Collection, Piece Plot #19, Lot 89

Miscellaneous

- 1 probable cow skull

Feature 41, West Third, Northwest Corner, Piece Plot #20, Lot 90

Glass

- 1 olive green bottle sherd, tooled crack-off lip finish with flattened side string rim, contact mold, cork attached, patinated (1810-1880)

Feature 41, Test Unit 01, Level 1, Fill 1, Lot 91

Ceramics

- 1 buff bodied coarse stoneware sherd, unglazed interior, clear salt glazed exterior, base fragment, hollow vessel, 5 inch base diameter
- 1 pearlware sherd, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 1 white salt glazed stoneware sherd, base fragment, hollow vessel, 2 inch base diameter (1720-1805, South 1977; Miller 1992)

Glass

- 1 light aqua cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, patinated
- 1 unidentified aqua sherd, flat, patinated

Miscellaneous

- 1 bone fragment
- 1 slag fragment, 15.1 grams
- 1 slate fragment
- 1 tar/slag fragment, oyster shell fragment attached, 37.5 grams

Feature 41, Test Unit 01, Level 2, Fill 2, Lot 92

Ceramics

- 1 buff bodied coarse stoneware sherd, unglazed interior, clear salt glazed exterior, hollow vessel
- 1 debased white salt glazed stoneware sherd, hollow vessel (1723-1775, South 1977; 1765-1795, Miller 1992)
- 1 redware sherd, base fragment, dark brown glazed interior, unglazed exterior, hollow vessel, indeterminate base diameter
- 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 6 light olive green cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, patinated
- 1 unidentified aqua sherd, flat, patinated

Metal

- 1 wrought 3d nail, rosehead, point tip
- 1 wrought nail fragment, pulled
- 1 wrought nail fragment, rosehead
- 1 wrought nail fragment, rosehead, spatulate tip

Miscellaneous

- 5 bone fragments
- 1 brick fragment, 5.4 grams
- 4 cinder fragments
- 2 oyster shell fragments, 9.9 grams
- 1 peach pit fragment
- 1 wooden cylindrical dowel fragment

Prehistoric

- 1 quartzite biface fragment, middle stage

Feature 41, Test Unit 01, Level 3, Fill 3, Lot 93

Ceramics

- 1 redware sherd, base fragment, dark brown glazed interior and exterior, hollow vessel, indeterminate base diameter
- 5 redware sherds, dark brown glazed interior and exterior, hollow vessel
- 1 refined white earthenware sherd, unidentified blue decoration, indeterminate vessel shape, heavily burned
- 1 white salt glazed stoneware sherd, molded, hollow vessel (1740-1765, South 1977; Miller 1992)
- 1 white salt glazed stoneware sherd, undecorated, rim fragment, hollow vessel, 4 inch rim diameter (1720-1805, South 1977; Miller 1992)

Glass

- 1 olive amber cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, patinated

Miscellaneous

- 4 bone fragments

- 1 brick fragment, 0.2 grams
- 1 coal fragment
- 2 oyster shell fragments (one discarded in lab), 1.8 grams
- 2 peach pit fragments
- 1 slate fragment

Prehistoric

- 1 quartz biface thinning flake, 12.6 mm x 10.7 mm
- 1 quartz biface thinning flake, medial
- 1 quartz primary reduction flake, distal
- 1 quartz primary reduction flake, proximal
- 1 quartzite primary reduction flake, whole, 15.3 mm x 21.1 mm
- 3 quartzite primary reduction flakes, proximal

Feature 41, Test Unit 01, Level 5, Fill 5, Lot 94

Ceramics

- 1 kaolin pipe bowl fragment
- 1 Nottingham stoneware sherd, cordoning, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 redware sherd, mottled dark brown glazed interior and exterior, everted rim fragment, hollow vessel, indeterminate rim diameter
- 2 white salt glazed stoneware sherds, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 20 clear square bottle sherds (mend), flared lip finish, freeblown, open pontil, cork remnant present, medicinal bottle, heavily stained (pre-1860)

Metal

- 1 cut nail fragment, unidentified head (post-1790)
- 1 wrought 8d nail, rosehead, spatulate tip
- 1 wrought nail fragment

Miscellaneous

- 4 bone fragments, two burned
- 3 fish scale fragments
- 2 peach pit fragments

Feature 41, Test Unit 01, Level 6, BC, Lot 95

Miscellaneous

- 3 fish scale fragments
- 1 peach pit fragment
- 1 unidentified seed/pit fragment
- 1 wooden barrel head fragment, single board, beveled outside edge (chime), 16 1/4 inches x 3 3/4 inches x 3/4 inch (Returned to Site for Curation)

Prehistoric

- 1 quartz biface thinning flake, proximal

Feature 41, Test Unit 02, Level 1, Fill 1, Lot 96

Glass

- 1 clear soda cylindrical bottle/tableware sherd, patinated

Metal

- 1 ferrous metal reaming iron/wedge fragment, triangular, tapered end, flat end
- 1 hand wrought spike, hand headed
- 1 wrought nail fragment
- 1 wrought nail fragment, rosehead
- 1 wrought nail fragment, rosehead, pulled
- 1 wrought nail fragment, spatulate tip

Miscellaneous

- 47 fish scale fragments

Prehistoric

- 1 jasper primary reduction flake, whole, 20.5 mm x 12.2 mm

Feature 41, Test Unit 03, Level 1, Fill 1, Lot 97

Metal

- 1 wrought 9d nail, rosehead and spatulate tip

Feature 41, Test Unit 03, Level 2, Fill 2, Lot 98

Metal

- 1 wrought 10d nail, rosehead, spatulate tip, clinched
- 1 wrought 7d nail, L-head, spatulate tip

Feature 41, Test Unit 03, Level 3, Fill 3, Lot 99

Glass

- 1 aqua square/rectangular bottle sherd, patinated

Miscellaneous

- 1 wood fragment, carved, possible tool handle fragment

Feature 41, Test Unit 03, Level 4, Fill 4, Lot 100

Miscellaneous

- 3 brick fragments, 41.6 grams

Feature 41, Test Unit 03, Level 5, Fill 5, Lot 101

Metal

- 1 ferrous metal handle fragment, U-shaped
- 1 hand wrought spike, hand headed, spatulate tip
- 1 unidentified ferrous metal fragment, S-shaped, possible handle fragment
- 1 wrought nail fragment, rosehead, spatulate tip

Miscellaneous

- 5 bone fragments, burned
- 1 rope fragment covered in pitch/tar
- 1 unidentified wood fragment, hand carved
- 1 wooden bung - 6.8 cm diameter

Feature 41, Test Unit 03, Level 6, BC, Lot 102

Ceramics

- 2 kaolin pipe bowl fragments, burned

Metal

- 1 wrought nail fragment, rosehead, point tip

Prehistoric

- 1 quartz biface thinning flake, whole, 17.8 mm x 10.6 mm
- 1 quartz primary reduction flake, distal

- 1 quartz primary reduction flake, proximal
- 1 quartzite biface thinning flake, whole, 11.5 mm x 9.9 mm
- 1 quartzite fire cracked rock fragment
- 1 quartzite primary reduction flake, medial
- 1 quartzite primary reduction flake, proximal, heat altered
- 1 quartzite primary reduction flake, whole, 15.7 mm x 24.7 mm
- 1 quartzite primary reduction flake, whole, 23.9 mm x 28.7 mm
- 2 quartzite primary reduction flakes, proximal

Feature 41, Test Unit 04, Level 1, Fill 1, Lot 103

Metal

- 1 unidentified ferrous metal fragment, flat, rectangular, hole one end
- 1 wrought 6d nail, rosehead, spatulate tip, clinched
- 1 wrought 7d nail, rosehead, spatulate tip
- 1 wrought nail fragment, rosehead, spatulate tip
- 1 wrought nail fragment, spatulate tip
- 1 wrought nail fragment, unidentified head, spatulate tip
- 3 wrought nail fragments, roseheads

Miscellaneous

- 2 bone fragments
- 4 brick fragments, 226.5 grams
- 1 oyster shell fragment, 4.2 grams
- 1 seed/pit fragment
- 1 wooden treenail, 18 inches x 3 1/2 inches

Prehistoric

- 1 chert decortication flake, proximal
- 1 quartz primary reduction flake, proximal

Feature 41, Test Unit 04, Level 3, Fill 3, Lot 104

Metal

- 1 wrought nail fragment, rosehead, spatulate tip

Feature 41, Test Unit 04, Feature 41-11, Feature Fill, Lot 105

Metal

- 1 wrought nail fragment
- 1 wrought nail fragment, rosehead
- 1 wrought nail fragment, unidentified head, spatulate tip

Feature 41, Test Unit 05, Level 1, Fill 1, Lot 106

Ceramics

- 1 pearlware sherd, underglaze blue hand painted, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 1 olive green cylindrical bottle sherd, patinated

Metal

- 1 unidentified ferrous metal fragment, curved, thin, tapered ends
- 1 wrought spike, clinched

Feature 41, Test Unit 05, Level 2, Fill 2, Lot 107

Ceramics

- 1 kaolin pipe stem fragment, end piece - 1/16 inch bore hole diameter
- 2 redware sherds, brown glazed interior, annular trailed slip decoration exterior, hollow vessel, burned
- 1 white salt glazed stoneware sherd, rim fragment, flat vessel, 10 inch rim diameter (1720-1805, South 1977; Miller 1992)

Glass

- 1 olive green cylindrical bottle sherd, contact mold, base fragment, patinated (1810-1880)

Metal

- 1 wrought 50d nail, hand headed, spatulate tip, clinched
- 1 wrought nail fragment
- 1 wrought nail fragment, unidentified head
- 2 wrought nail fragments, roseheads
- 1 wrought spike fragment, unidentified head

Miscellaneous

- 8 bone fragments, one burned
- 1 brick fragment, 0.7 grams
- 1 coke fragment
- 3 leather shoe fragments
- 17 oyster shell fragments (11 discarded in lab), 109.7 grams

Feature 41, Test Unit 05, Level 4, Fill 4, Lot 108

Metal

- 1 wrought nail fragment
- 2 wrought nail fragments, roseheads

Miscellaneous

- 1 bone fragment, calcined
- 1 unidentified seed/pit

Feature 41, Test Unit 05, Level 5, BC, Lot 109

Prehistoric

- 1 quartzite primary reduction flake, whole, utilized, 55.6 mm x 47.3 mm

Feature 41, Test Unit 06, Level 1, Fill 1, Lot 110

Ceramics

- 3 Buckley ware sherds, undecorated, hollow vessel (1720-1775, South 1977; Miller 1992)
- 2 kaolin pipe bowls
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel
- 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
- 1 redware sherd, rim fragment, brown glazed interior and exterior, indeterminate vessel shape and rim diameter
- 1 refined white earthenware sherd, unidentified polychrome decoration, indeterminate vessel shape
- 1 white salt glazed stoneware sherd, rim fragment, hollow vessel, indeterminate rim diameter (1720-1805, South 1977; Miller 1992)

Glass

- 1 aqua cylindrical bottle sherd, patinated
- 1 clear soda cylindrical tableware sherd, molded, crushed
- 1 olive green cylindrical bottle sherd, contact mold, patinated (1810-1880)
- 1 olive green cylindrical bottle sherd, patinated
- 1 olive green square/rectangular bottle sherd, contact mold, patinated (1810-1880)

Metal

- 1 unidentified ferrous metal fragment, curved
- 1 unidentified ferrous metal fragment, flat, circular, corroded
- 1 wrought 2d nail, rosehead, point tip, clinched
- 1 wrought 3d nail, rosehead, point tip
- 1 wrought 4 1/2d nail, rosehead, point tip, clinched
- 2 wrought 8d nails, roseheads, spatulate tips
- 5 wrought nail fragments
- 7 wrought nail fragments, roseheads
- 3 wrought nail fragments, roseheads, pulled
- 5 wrought nail fragments, roseheads, spatulate tips

Miscellaneous

- 19 bone fragments, two calcined
- 18 brick fragments, 134.0 grams
- 1 charcoal fragment
- 1 cinder fragment
- 2 fish scale fragments
- 1 flint ballast
- 1 mortar fragment, 0.9 grams
- 19 oyster shell fragments (17 discarded in lab), 62.3 grams
- 11 peach pit fragments
- 1 slag fragment, 7.9 grams
- 2 teeth fragments, burned

Prehistoric

- 1 chalcedony primary reduction flake, whole, 11.2 mm x 12.6 mm
- 1 quartz primary reduction flake, proximal

Feature 41, Test Unit 06, Level 2, Fill 2, Lot 111

Ceramics

- 1 refined white earthenware sherd, undecorated, indeterminate vessel shape, burned

Glass

- 1 olive green cylindrical bottle sherd, patinated

Metal

- 1 unidentified ferrous metal fragment, flat, two fragments attached by rivet
- 1 wrought 12d nail, rosehead, spatulate tip
- 1 wrought 7d nail, rosehead, spatulate tip
- 1 wrought 7d nail, rosehead, spatulate tip, pulled

Miscellaneous

- 1 oyster shell fragment, burned, 0.2 grams
- 4 seed/pit fragments
- 1 snail shell fragment, 0.2 grams
- 1 tooth fragment

Feature 41, Test Unit 06, Level 2, Fill 3, Lot 112

Ceramics

- 1 hard paste porcelain sherd, molded decoration, hollow vessel
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel
- 2 refined white earthenware sherd, undecorated, flat vessel, stained/burned
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 1 olive amber square/rectangular bottle sherd, patinated
- 1 olive green cylindrical bottle sherd, base fragment, patinated
- 1 olive green cylindrical bottle sherd, patinated
- 1 unidentified olive green spall
- 1 windowpane sherd, potash (pre-1864)

Metal

- 1 wrought 4d nail, rosehead, spatulate tip
- 1 wrought 7d nail, rosehead, spatulate tip
- 1 wrought nail fragment, rosehead
- 1 wrought nail fragment, rosehead, clinched
- 1 wrought nail fragment, rosehead, spatulate tip
- 1 wrought nail fragment, unidentified head
- 2 wrought nail fragments, spatulate tips

Miscellaneous

- 17 bone fragments
- 1 coal fragment
- 4 fish scale fragments, two burned
- 1 flint ballast
- 8 oyster shell fragments (six discarded in lab), 5.8 grams
- 1 peach pit fragment
- 14 seed fragments

Feature 41, Test Unit 06, Level 3, Fill 4, Lot 113

Ceramics

- 1 redware sherd, rim fragment, brown glazed interior and exterior, annular trailed slip decoration, flat vessel, indeterminate rim diameter

Metal

- 1 wrought nail fragment, rosehead, pulled

Miscellaneous

- 1 oyster shell fragment, 0.2 grams

Prehistoric

- 1 jasper biface thinning flake, distal, heat altered
- 1 jasper biface thinning flake, proximal, heat altered
- 1 quartz biface thinning flake, distal

- 1 quartz biface thinning flake, proximal
- 1 quartzite primary reduction flake, proximal

Feature 41, Test Unit 06, Level 4, Fill 5, Lot 114

Miscellaneous

- 1 seed/pit

Prehistoric

- 1 quartz decortication flake, whole, 23.3 mm x 23.9 mm

Feature 41, Test Unit 06, Level 5, Fill 6, Lot 115

Metal

- 2 wrought nail fragments, roseheads

Miscellaneous

- 3 bone fragments
- 1 leather shoe sole, heal fragment
- 1 maxilla/mandible fragment, two teeth attached
- 1 nut fragment
- 1 tooth fragment

Feature 41, Test Unit 07, Level 1, Fill 1, Lot 116

Ceramics

- 1 hard paste porcelain sherd, blue hand painted decoration, hollow vessel
- 2 kaolin pipe stem fragments - 1/16 inch bore hole diameter
- 1 refined white earthenware sherd, molded rim decoration, rim fragment, flat vessel, possible square/rectangular platter

Glass

- 1 clear soda cylindrical tableware sherd, patinated
- 1 olive green cylindrical bottle sherd, patinated
- 2 windowpane sherds, potash, heavily stained, patinated

Metal

- 1 ferrous metal hand wrought spike fragment
- 1 unidentified ferrous metal fragment, round
- 1 unidentified lead fragment, possible lead window came
- 3 unidentified nail fragments
- 1 wrought 4 1/2d nail, rosehead, spatulate tip
- 1 wrought nail fragment
- 1 wrought nail fragment, pulled
- 1 wrought nail fragment, unidentified head, spatulate tip, clinched
- 3 wrought nail fragments, roseheads

Miscellaneous

- 4 bone fragments, one burned
- 7 brick fragments, 20.1 grams
- 1 mortar fragment, 0.9 grams
- 20 oyster shell fragments, burned (15 discarded in lab), 64.8 grams
- 3 peach pit fragments
- 1 slag fragment, 0.3 grams

Feature 41, Test Unit 07, Level 2, Fill 2, Lot 117

Ceramics

- 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter

- 1 kaolin pipe stem fragment - 5/64 inch bore hole diameter
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Metal

- 1 wrought 30d nail, rosehead, spatulate tip, pulled
- 1 wrought 8d nail, unidentified head, spatulate tip
- 1 wrought nail fragment, rosehead

Miscellaneous

- 1 bone fragment
- 1 coal fragment
- 1 peach pit fragment

Feature 41, Test Unit 08, Level 1, Fill 1, Lot 118

Ceramics

- 1 British brown stoneware sherd, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 hard paste porcelain sherd, unidentified overglaze black decoration, hollow vessel
- 1 pearlware sherd, undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 1 purple bodied stoneware sherd, dark brown glazed interior and exterior, annular trailed slip decoration exterior
- 4 refined white earthenware sherds (mend), rim fragments, overglaze polychrome hand painted decoration, hollow vessel, burned/stained

Metal

- 1 ferrous metal tool fragment, flat, rectangular, tapered one end for handle (missing), probable chisel
- 1 wrought 8d nails, roseheads, spatulate tips
- 1 wrought nail fragment, rosehead, spatulate tip
- 1 wrought nail fragment, rosehead, spatulate tip, clinched
- 1 wrought nail fragment, rosehead, spatulate tip, pulled
- 2 wrought nail fragments
- 5 wrought nail fragments, roseheads
- 2 wrought nail fragments, unidentified head, pulled

Miscellaneous

- 1 bone fragment
- 1 brick fragment, glazed, 38.5 grams
- 2 brick fragments, 106.9 grams
- 2 oyster shell fragments, burned (one discarded in lab), 56.9 grams
- 1 slag fragment, 21.4 grams

Feature 41, Test Unit 08, Level 2, Fill 2, Lot 119

Ceramics

- 1 gray bodied coarse stoneware sherd, clear glazed interior and exterior, incised geometric lines on exterior
- 1 refined white earthenware sherd, undecorated, flat vessel, burned/stained

Metal

- 1 ferrous metal spike fragment

- 1 wrought 7d nail, rosehead, spatulate tip
- 2 wrought nail fragments

Miscellaneous

- 1 bone fragment
- 2 brick fragments, 31.6 grams
- 1 mortar fragment, 9.7 grams

Feature 41, Test Unit 08, Level 3, Fill 3, Lot 120

Ceramics

- 1 light gray bodied coarse stoneware sherd, unglazed interior, clear salt glazed exterior, hollow vessel
- 1 redware sherd, mottled brown glazed interior and exterior, base fragment, flat vessel, 6 inch base diameter, heavily stained
- 1 redware sherd, mottled brown glazed interior and exterior, flat vessel, heavily stained
- 1 refined white earthenware sherd, blue hand painted decoration, handle fragment, hollow vessel, burned/stained

Glass

- 1 olive green cylindrical bottle sherd, patinated

Metal

- 1 wrought 7d nail, rosehead, spatulate tip, pulled
- 1 wrought 8d nail, rosehead, spatulate tip
- 2 wrought nail fragment, spatulate tips
- 2 wrought nail fragments, roseheads

Miscellaneous

- 3 bone fragments
- 2 mortar fragments, 35.3 grams

Feature 41, Test Unit 08, Level 4, Fill 4, Lot 121

Metal

- 1 wrought 60d nail, rosehead, spatulate tip, clinched
- 1 wrought 9d nail, rosehead, spatulate tip
- 1 wrought nail fragment
- 1 wrought nail fragment, heat altered

Miscellaneous

- 3 brick fragments, glazed, 365.0 grams

Feature 41, Test Unit 08, Level 5, Fill 5, Lot 122

Metal

- 1 wrought 7d nail, rosehead, spatulate tip
- 1 wrought nail fragment, rosehead, spatulate tip
- 2 wrought nail fragments, roseheads

Miscellaneous

- 1 bone fragment

Feature 41, Test Unit 09, Level 1, Fill 1, Lot 123

Ceramics

- 1 Buckley ware, undecorated, hollow vessel (1720-1775, South 1977; Miller 1992)
- 1 creamware sherd, lid fragment, molded red sprig decoration, overglaze enamelled black hand painted decoration, molded bead and

- reel rim decoration, burned/stained (1765-1810, South 1977; Miller 1992)
- 1 gray and buff bodied coarse stoneware sherd, unglazed interior, mottled red slipped exterior, hollow vessel
 - 1 hard paste porcelain sherd, undecorated, hollow vessel
 - 1 hard paste porcelain sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter
 - 2 hard paste porcelain sherds (mend), undecorated, handle fragment, hollow vessel
 - 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter
 - 1 pearlware sherd, dipped earthenware, underglaze variegated combed decoration, hollow vessel (Late 18th Century-1810, MACL 2015)
 - 1 red bodied stoneware sherd, red glazed interior and exterior, indeterminate vessel shape
 - 1 redware sherd, brown glazed interior, unglazed exterior, indeterminate vessel shape
 - 3 redware sherds, dark brown glazed interior and exterior, hollow vessel
 - 1 refined white earthenware sherd, molded, handle fragment, hollow vessel, burned/stained
 - 1 refined white earthenware sherd, undecorated, base fragment, hollow vessel, 3 inch base diameter, burned/stained
 - 1 refined white earthenware sherd, undecorated, hollow vessel, handle fragment attached, burned/stained
 - 2 refined white earthenware sherds (mend), undecorated, base fragments, hollow vessel, 4 inch base diameter, burned/stained
 - 5 refined white earthenware sherds, blue hand painted decoration, hollow vessel, stained/burned
 - 2 refined white earthenware sherds, blue hand painted decoration, rim fragments, hollow vessel, 6 inch rim diameter, burned/stained
 - 3 refined white earthenware sherds, blue hand painted decoration, rim fragments, hollow vessel, indeterminate rim diameter, stained/burned
 - 2 refined white earthenware sherds, molded, hollow vessels, burned/stained
 - 3 refined white earthenware sherds, rim fragments, hollow vessel, 5 inch rim diameter, burned/stained
 - 15 refined white earthenware sherds, undecorated, hollow vessels, burned/stained
 - 3 refined white earthenware sherds, undecorated, rim fragments, flat vessels, indeterminate rim diameter, burned/stained
 - 1 Westerwald ware sherd, incised cobalt hand painted decoration, clear salt glazed interior and exterior, hollow vessel (1700-1775, South 1977; Miller 1992)
 - 1 white salt glazed stoneware sherd, undecorated, indeterminate vessel shape (1720-1805, South 1977; Miller 1992)

Glass

- 1 clear cylindrical bottle/jar sherd, patinated
- 2 olive green cylindrical bottle sherds, patinated

- 1 windowpane sherd, potash/soda, stained (pre-1864)
- 8 windowpane sherds, potash, patinated (pre-1864)

Metal

- 1 brass buckle fragment, rectangular, molded dot decoration, possible shoe buckle
- 1 brass straight pin, round head - 28.5 mm length
- 1 brass straight pin, round head, corroded - 30.4 mm length
- 1 brass straight pin, round head, corroded - 32.1 mm length
- 1 ferrous metal fencing staple, large, 6.5 cm length
- 1 ferrous metal ring - 3.4 cm diameter
- 1 hand wrought spike fragment, hand headed, pulled
- 1 hand wrought spike fragment, unidentified head, spatulate tip, clinched
- 2 hand wrought spike fragments, hand headed
- 1 unidentified ferrous metal fragment, possibly several nails corroded together
- 1 wrought 10d nail, rosehead, spatulate tip
- 1 wrought 10d nail, rosehead, spatulate tip, clinched, burned
- 1 wrought 12d nail, rosehead, spatulate tip, clinched
- 1 wrought 4d nail, rosehead, point tip
- 1 wrought 8d nail, rosehead, point tip, clinched
- 1 wrought 8d nail, rosehead, spatulate tip
- 1 wrought 8d nail, T-head, spatulate tip
- 1 wrought 9d nail, L-head, point tip
- 1 wrought 9d nail, rosehead, spatulate tip, clinched, burned
- 1 wrought nail fragment, point tip, clinched
- 1 wrought nail fragment, rosehead, burned
- 7 wrought nail fragments
- 8 wrought nail fragments, roseheads
- 4 wrought nail fragments, roseheads, spatulate tips
- 2 wrought nail fragments, roseheads, spatulate tips, burned
- 2 wrought nail fragments, roseheads, spatulate tips, clinched
- 2 wrought nail fragments, spatulate tips
- 1 wrought spike fragment, cylindrical top, cut bottom

Miscellaneous

- 1 bone 4-hole sew through button, sunken center - 1.5 cm diameter (Type 19, 1800-1865, Noel Hume 1976:90-91)
- 20 bone fragments
- 1 brick fragment, glazed, 249.9 grams
- 2 charcoal fragments
- 1 fish scale fragment, burned
- 2 flint ballast
- 5 peach pit fragments
- 7 seed fragments, round, smooth
- 1 slag fragment, 8.8 grams
- 1 unidentified seed/pit fragment, possible black walnut

Prehistoric

- 1 chalcedony biface thinning flake, proximal

Feature 41, Test Unit 09, Level 2, Fill 2, Lot 124

Ceramics

- 1 kaolin pipe bowl fragment
- 1 refined white earthenware sherd, undecorated, hollow vessel, burned/stained
- 1 refined white earthenware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter, burned/stained
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Metal

- 1 brass straight pin fragment - 22.9 mm length
- 1 hand wrought spike, hand headed
- 1 hand wrought spike, hand headed, pulled
- 2 hand wrought spikes, hand headed, clinched
- 1 unidentified cast iron fragment, curved, bell-shaped
- 1 unidentified ferrous metal fragment
- 1 unidentified ferrous metal fragment, flat, thin
- 1 wrought 7d nail, rosehead, spatulate tip
- 1 wrought nail fragment, L-head, clinched
- 1 wrought nail fragment, rosehead, clinched
- 1 wrought nail fragment, rosehead, pulled
- 1 wrought nail fragment, spatulate tip
- 7 wrought nail fragments
- 13 wrought nail fragments, roseheads
- 3 wrought nail fragments, unidentified heads
- 1 wrought nail, hand headed, burned

Miscellaneous

- 4 bone fragments
- 1 brick fragment, 22.9 grams
- 1 charcoal fragment
- 1 flint ballast
- 2 seed/pit fragments
- 1 tooth fragment, burned

Prehistoric

- 1 rhyolite primary reduction flake, whole, 12.2 mm x 36.4 mm
- 1 rhyolite primary reduction flake, whole, 25.3 mm x 19.3 mm

Feature 41, Test Unit 09, Level 3, Fill 3, Lot 125

Ceramics

- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel

Glass

- 1 olive green cylindrical bottle sherd, patinated

Metal

- 1 wrought 9d nail, rosehead, spatulate tip, clinched
- 1 wrought nail fragment, spatulate tip, clinched
- 2 wrought nail fragments (mend), hand headed

Miscellaneous

- 2 bone fragments

Feature 41, Test Unit 10, Level 1, Fill 1, Lot 126

Ceramics

- 2 redware sherds, dark brown glazed interior and exterior, indeterminate vessel shape
- 1 Westerwald ware sherd, incised cobalt hand painted decoration, clear salt glazed interior and exterior, hollow vessel (1700-1775, South 1977; Miller 1992)

Glass

- 1 light olive green cylindrical bottle sherd, patinated
- 1 olive green cylindrical bottle sherd, freeblown, cracked-off and polished lip finish, applied string rim up-tooled to flattened side, cork attached, scratched, patinated (pre-1800, Jones 1986)
- 5 olive green cylindrical bottle sherds, scratched, patinated

Metal

- 1 ferrous metal flat disc button, post attachment fragment -- 1.8 cm diameter
- 1 wrought nail fragment, rosehead

Miscellaneous

- 6 bone fragments

Feature 41, Test Unit 10, Level 3, Fill 3, Lot 127

Metal

- 1 ferrous metal ring/washer - 4 cm diameter
- 1 wrought nail fragment

Feature 41, Test Unit 10, Level 4, Fill 4, Lot 128

Metal

- 1 wrought nail fragment, rosehead, pulled
- 1 wrought nail fragment, spatulate tip

Miscellaneous

- 1 peach pit

Prehistoric

- 2 quartz primary reduction flakes, proximal

Feature 41-01, Feature Fill, Lot 129

Ceramics

- 1 buff bodied coarse stoneware sherd, base fragment, unglazed interior, clear glazed exterior, hollow vessel, indeterminate base diameter, burned
- 2 buff bodied coarse stoneware sherds, unglazed interior, clear salt glazed exterior
- 1 hard paste porcelain sherd, blue hand painted decoration, base fragment, hollow vessel, indeterminate base diameter, stained
- 1 hard paste porcelain sherd, overglaze polychrome hand painted decoration, hollow vessel
- 1 hard paste porcelain sherd, undecorated, hollow vessel
- 1 kaolin pipe stem fragment - 1/16 inch bore hole
- 1 pearlware sherd, underglaze polychrome hand painted decoration, base fragment, flat vessel, 5 inch base diameter (1795-1815, South 1977; 1780-1835, Miller 1992)

- 1 red bodied coarse stoneware sherd, unglazed interior, light brown salt glazed exterior, incised line, hollow vessel
- 1 redware sherd, mottled brown glazed interior, unglazed exterior, hollow vessel
- 4 redware sherds (mend), dark brown glazed interior and exterior, hollow vessel, scratched
- 1 refined white earthenware sherd, molded rim decoration, scalloped rim sherd, flat vessel, indeterminate rim diameter, stained/burned
- 1 refined white earthenware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained/burned
- 2 refined white earthenware sherds (mend), blue hand painted decoration, indeterminate vessel shape, stained/burned
- 3 refined white earthenware sherds, undecorated, flat vessel, stained/burned
- 7 refined white earthenware sherds, undecorated, indeterminate vessel shape, stained/burned
- 2 refined white earthenware sherds, undecorated, rim fragments, hollow vessel, 7 inch rim diameter, stained/burned

Glass

- 1 clear soda cylindrical tableware sherd, stemmed wine glass base fragment, scratched, very heavily stained
- 1 emerald green blackglass cylindrical bottle sherd, base fragment, rounded heel, dome-shaped push-up, sand pontil, base diameter 88.2 mm, scratched, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, base fragment, heavily patinated
- 1 unidentified olive green spall, heavily patinated

Metal

- 1 ferrous metal belt axe head???
- 2 hand wrought spike fragments
- 1 strap iron fragment
- 1 wire nail fragment (1890-present)
- 1 wrought 4d nail, hand headed, spatulate tip
- 1 wrought 6d nail, rosehead, point tip
- 1 wrought nail fragment, hand headed
- 3 wrought nail fragments, unidentified heads, spatulate tips

Miscellaneous

- 6 bone fragments
- 2 clam shell fragments, 34.6 grams
- 2 leather strap fragments, one with slit

Feature 41-01, Feature Fill, Cross Section 1, Lot 130

Metal

- 1 ferrous metal plate, flat, rounded edge, two holes
- 1 wrought 40d nail, rosehead, spatulate tip

Miscellaneous

- 1 brick fragment, glazed, burned, 35.6 grams

Feature 41-03, Feature Fill, Lot 131

Ceramics

- 4 British brown stoneware sherds, brown glazed interior, brown salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 pearlware sherd, mocha decoration, base fragment, hollow vessel, indeterminate base diameter (1795-1890, South 1977; 1799-1830, Miller 1992)
- 1 white salt glazed stoneware sherd, base fragment, hollow vessel, 4 inch base diameter (1720-1805, South 1977; Miller 1992)
- 1 white salt glazed stoneware sherd, handle fragment, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 1 olive amber cylindrical bottle sherd, base fragment, patinated

Metal

- 1 wrought spike fragment

Miscellaneous

- 5 bone fragments

Prehistoric

- 1 quartzite fire cracked rock

Feature 41-05, Builder's Trench, Feature Fill, Lot 132

Ceramics

- 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel

Metal

- 1 ferrous metal chain link, attached to two spikes (inventoried separately)
- 1 ferrous metal rectangle, hand wrought, possible scupper, 15.5 cm length, 12.4cm width, 3.6 cm depth
- 1 ferrous metal reaming iron, hand wrought, 10 inches x 1.1 inch x 3.5 inches x 6.5 inches
- 1 ferrous metal rod fragment, two wrought nails attached (inventoried separately)
- 1 ferrous metal rod with spike head, hand wrought, L-shaped, rod length 11.5 inches, rod diameter .99 inches, spike head length 5.5 inches, spike head width 1.1 inches (tapered), possible pintle
- 1 ferrous metal spike with ring attached, hand wrought, 24 inch length, 1.25 inch diameter
- 1 ferrous metal spike, hand wrought, point tip, 6 inches x 1.12 inches
- 1 ferrous metal stake fragment, hand wrought, 13.75 inch length, 0.5 inch diameter
- 1 ferrous metal stake fragment, hand wrought, 16.5 inches x 1.2 inches, attached to square stake and chain link (inventoried separately)
- 1 ferrous metal stake fragment, hand wrought, 27.25 inch length, 1 inch diameter
- 1 ferrous metal stake fragment, hand wrought, pointed barbed tip, 21 inch length, 1 inch diameter
- 1 ferrous metal stake fragment, square, hand wrought, 13 inches x 1 inch, attached to round stake and chain link (inventoried separately)
- 1 ferrous metal stake, square, hand wrought, spatulate tip, 11.5 inches x

- .75 inch
- 2 strap iron fragments, rounded edges, bent, possible barrel strap
- 1 wrought nail fragment, hand headed, pulled
- 2 wrought nail fragments, hand headed, attached to rod (inventoried separately)
- 1 wrought nail, hand headed
- 1 wrought nail, hand headed, spatulate tip
- 1 wrought nail, hand headed, spatulate tip
- 1 wrought nail, hand headed, spatulate tip, pulled

Miscellaneous

- 6 leather shoe and sole fragments (two mend)
- 1 unidentified leather fragment, flat, thin, punched holes, probable shoe fragment
- 2 unidentified leather fragments, probable shoe fragments
- 1 wooden treenail fragment, 11.5 inches x 1.0 inch

Feature 41-05-1, Feature Fill, Lot 133

Ceramics

- 1 Buckley ware sherd, undecorated, hollow vessel (1720-1775, South 1977; Miller 1992)

Glass

- 1 olive green cylindrical bottle sherd, contact mold, stained, patinated (1810-1880)

Metal

- 1 ferrous metal cylindrical spike
- 1 ferrous metal grommet - 4.7 cm diameter
- 1 ferrous metal grommet - 5.3 cm diameter
- 1 hand wrought spike fragment, hand headed
- 1 hand wrought spike fragment, hand headed, clinched
- 2 hand wrought spike fragments, hand headed, spatulate tips, one with wood attached
- 1 wrought 30d nail, rosehead, spatulate tip
- 1 wrought nail fragment, hand headed
- 1 wrought nail fragment, rosehead, spatulate tip
- 1 wrought nail fragment, unidentified head, spatulate tip

Miscellaneous

- 2 bone fragments

Feature 41-06-1, Feature Fill, Lot 134

Metal

- 1 unidentified ferrous metal fragment, rod with tapered end, flat Y-shaped arms other end, hollowed end

Feature 41-06-3, Feature Fill, Lot 135

Miscellaneous

- 1 bone fragment
- 1 wooden cleat

Feature 41-07-2 (between S2 & S3), Feature Fill, Lot 136

Metal

- 2 ferrous metal cylindrical spike fragments

- 1 ferrous metal handle fragment, curved, U-shaped
- 1 hand wrought spike, hand headed, small rectangular wood block attached
- 1 wrought 40d nail, hand headed, spatulate tip

Miscellaneous

- 1 wood block, rectangular, three wrought nails with roseheads attached

Feature 41-07, Feature Fill, Lot 137

Ceramics

- 1 manganese mottled buff bodied coarse earthenware sherd, interior unglazed, hollow vessel (1680-1780, MACL 2008)

Metal

- 1 unidentified lead plate, flat, rectangular, beveled edge, mortar attached, 19.5 cm x 6.3 cm

Feature 41-09, Feature Fill, Lot 138

Ceramics

- 1 redware sherd, dark brown glazed interior and exterior, base fragment, hollow vessel, 3 inch base diameter
- 1 redware sherd, rim fragment, mottled brown glazed interior and exterior, slipped decoration, flat vessel, 15 inch rim diameter
- 1 white salt glazed stoneware sherd, molded, handle fragment, hollow vessel (1720-1805, South 1977; Miller 1992)
- 3 white salt glazed stoneware sherds (mend), undecorated, base fragment, hollow vessel, 3 inch base diameter (1720-1805, South 1977; Miller 1992)

Metal

- 2 wrought nail fragments, roseheads, spatulate tips

Miscellaneous

- 4 bone fragments
- 1 carved wood fragment, flat, rectangular
- 1 tooth fragment

Feature 41-12, Feature Fill, Lot 139

Metal

- 1 wrought 40d nail, rosehead, spatulate tip, clinched

Prehistoric

- 1 quartzite biface, middle-late stage, utilized

Feature 41-12, Base, Feature Fill, Lot 140

Miscellaneous

- 11 leather shoe fragments

Feature 41-13, Northwest corner, Fill 1, Lot 141

Glass

- 1 olive green cylindrical bottle sherd, base fragment, freeblown, bulged heel, dome-shaped push-up, sand pontil, base diameter 79.5 mm, scratched, patinated (pre-1860)
- 3 olive green cylindrical bottle sherds (mend), freeblown, cracked off and fire polished flat top lip finish, applied down-tooled string rim, flattened area below string rim, patinated (pre-1860)

Miscellaneous

- 1 bone fragment
- 1 brick fragment, 86.2 grams
- 1 fossilized coral fragment

Feature 41-18, Feature Fill, Lot 142

Miscellaneous

- 1 clay marble - 1.5 cm diameter

Feature 45, Feature Fill, Lot 143

Ceramics

- 1 gray bodied coarse stoneware sherd, base fragment, clear glazed interior, clear salt glazed exterior, incised horizontal band exterior, 15 inch base diameter
- 1 gray bodied coarse stoneware sherd, clear glazed interior, clear salt glazed exterior, hollow vessel
- 1 hard paste porcelain sherd, undecorated, base fragment, hollow vessel, 4 inch base diameter
- 1 hard paste porcelain sherd, undecorated, hollow vessel
- 1 kaolin pipe bowl fragment
- 1 kaolin pipe stem fragment - 5/64 inch bore hole diameter
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, indeterminate base diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, indeterminate vessel shape (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, unidentified blue decoration, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, unidentified blue decoration, rim fragment, indeterminate vessel shape and rim diameter (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), polychrome annular decoration, hollow vessel (1790-1820, South 1977; 1790-1839, Miller 1992)
- 4 pearlware sherds, undecorated, flat, stained (1780-1830, South 1977; Miller 1992)
- 8 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, undecorated, rim fragments, indeterminate vessel shape and rim diameter (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, brown glazed interior and exterior, hollow vessel
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel
- 1 refined white earthenware sherd, unidentified green decoration, hollow vessel
- 1 whiteware sherd, brown transfer printed, indeterminate vessel shape (1820-1900+, South 1977; 1825-1875+, Miller 1992)
- 1 whiteware sherd, hand painted polychrome decoration, flat vessel (1820-1900+, South 1977; 1825-1860+, Miller 1992)
- 1 whiteware sherd, unidentified blue decoration, hollow vessel, burned

- (1820-1900+, South 1977; Miller 1992)
- 6 whiteware sherds, undecorated, flat vessel (1820-1900+, South 1977; Miller 1992)
 - 3 whiteware sherds, undecorated, hollow vessel, burned (1820-1900+, South 1977; Miller 1992)
 - 1 yellowware sherd, undecorated, hollow vessel (1830-1940, Miller 1992)
 - 1 yellowware sherd, unidentified white decoration, hollow vessel (1830-1940, Miller 1992)

Glass

- 1 light aqua cylindrical bottle sherd, embossed "...ER...", patinated
- 1 light green multi-sided bottle, patinated
- 1 olive amber blackglass cylindrical bottle sherd, base fragment, contact mold (1810-1880)
- 1 olive green cylindrical bottle sherd
- 1 olive green cylindrical bottle sherd, burned, heavily patinated
- 2 olive green cylindrical bottle sherds (mend), contact mold (1810-1880)
- 2 olive green cylindrical bottle sherds, heavily patinated
- 2 olive green cylindrical bottle sherds, scratched, patinated
- 2 unidentified pale aqua sherds, flat, thin, patinated
- 12 windowpane sherds, potash, patinated (pre-1864)
- 2 windowpane sherds, potash/soda (pre-1864)

Metal

- 1 wrought nail fragment, rosehead
- 1 wrought nail fragment, rosehead, spatulate tip
- 1 wrought nail fragment, spatulate tip
- 1 wrought nail fragment, unidentified head, spatulate tip
- 8 wrought nail fragments
- 2 wrought nail fragments, roseheads, clinched
- 2 wrought nail fragments, unidentified heads

Miscellaneous

- 40 bone fragments
- 1 fossilized coral fragment
- 1 oyster shell fragment, .1 grams

Feature 46, Feature Fill, Lot 144

Ceramics

- 1 pearlware sherd, undecorated, indeterminate vessel shape, slightly burned (1780-1830, South 1977; Miller 1992)

Near Features 48, 49, 50, and 51, Surface Collection, Lot 145

Miscellaneous

- 2 coal fragments

Feature 48, North Bisection, Feature Fill, Lot 146

Ceramics

- 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter

Miscellaneous

- 1 bone fragment
- 10 brick fragments, 15.4 grams

Feature 50, Northwest Bisection, Feature Fill, Lot 147

Ceramics

- 1 gray bodied coarse stoneware sherd, clear glazed interior, clear salt glazed exterior, unidentified cobalt decoration, indeterminate vessel shape
- 1 redware sherd, dark brown glazed interior and exterior, handle fragment attached, hollow vessel

Glass

- 1 windowpane sherd, potash, stained (pre-1864)

Miscellaneous

- 3 brick fragments, 6.3 grams
- 1 charcoal fragment, .01 grams
- 1 leather shoe heel fragment
- 2 oyster shell fragments, one burned, 0.4 grams

Feature 53, Top of Feature, Feature Fill, Lot 148

Ceramics

- 1 English brown stoneware sherd, unglazed interior, brown and clear salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration exterior, base fragment, hollow vessel, 2 inch base diameter (1775-1810, MACL 2017)
- 1 kaolin pipe stem fragment, stained - 1/16 inch bore hole diameter
- 1 redware sherd, dark brown glazed interior, unglazed exterior, rim fragment, flat vessel, 14 inch rim diameter
- 1 refined white earthenware sherd, undecorated, hollow vessel, heavily stained
- 1 tin glazed earthenware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1700-1800, South 1977; Miller 1992)

Glass

- 2 olive amber cylindrical bottle sherds, scratched, patinated
- 1 olive green blackglass cylindrical bottle sherd, heavily patinated (pre-1880)
- 1 olive green cylindrical bottle sherd, freeblown, scratched, patinated (pre-1860)

Metal

- 2 unidentified ferrous metal fragments
- 1 wrought nail fragment
- 2 wrought nail fragments, clinched
- 1 wrought spike fragment

Miscellaneous

- 4 bone fragments
- 1 brick fragment, 3.8 grams
- 5 flint ballast
- 1 mortar conglomerate, 92.5 grams
- 8 oyster shell fragments (seven discarded in lab), 6.0 grams

Feature 53, General Collection, Overlying Feature Fill, Lot 149

Ceramics

- 1 British brown stoneware sherd, unglazed interior, clear glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 Buckley ware sherd, undecorated, rim fragment, hollow vessel, 14 inch rim diameter (1720-1775, South 1977; Miller 1992)
- 2 Buckley ware sherds, undecorated, hollow vessel (1720-1775, South 1977; Miller 1992)
- 1 creamware sherd, molded lid fragment, finial, strainer holes, hollow vessel, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter (1762-1820, South 1977; Miller 1992)
- 1 English brown sherd, molded decoration, unglazed interior, brown slipped and salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 English brown sherd, unglazed interior, brown slip and salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 English brown sherd, unglazed interior, brown slipped and salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 2 English brown sherds (mend), molded decoration, brown slipped interior, brown slipped and salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 gray bodied coarse stoneware sherd, collar rim fragment, clear salt glazed interior and exterior, hollow vessel, 3 inch rim diameter
- 1 hard paste porcelain sherd, blue hand painted decoration, scalloped rim fragment, flat vessel, indeterminate rim diameter
- 1 hard paste porcelain sherd, blue hand painted floral decoration, base fragment, flat vessel, indeterminate base diameter, stained
- 1 hard paste porcelain sherd, blue hand painted floral decoration, rim and base fragment, bowl, 10 inch rim diameter, 5 inch base diameter
- 2 kaolin pipe stem fragments - 5/64 inch bore hole diameter
- 1 manganese mottled sherd, undecorated, indeterminate vessel shape (1680-1780, MACL 2016)
- 1 Nottingham-type stoneware sherd, brown slipped interior and exterior, turned bands/cordons exterior, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 red and gray bodied coarse earthenware sherd, unglazed interior and exterior, 5YR5/6 (yellowish red) and 7.5YR6/1 (gray) paste, 5YR6/6 (reddish yellow) interior, 7.5YR5/2 (brown) exterior, hollow vessel
- 1 redware sherd, brown glazed interior, annular trailed slip decoration exterior, hollow vessel
- 1 redware sherd, brown glazed interior, indeterminate vessel shape
- 1 redware sherd, brown glazed interior, unglazed exterior, flat vessel
- 2 redware sherds, brown and red mottled interior and exterior, hollow vessel
- 1 redware spall, undecorated, indeterminate vessel shape
- 1 refined white earthenware sherd, undecorated, hollow vessel, stained

- 1 refined white earthenware sherd, undecorated, rim fragment, hollow vessel, 5 inch rim diameter, stained
- 1 refined white earthenware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter, stained
- 1 refined white earthenware sherd, undecorated, scalloped rim fragment, hollow vessel, indeterminate rim diameter, stained
- 1 refined white earthenware sherd, unidentified overglaze hand painted floral decoration, hollow vessel, heavily stained
- 1 tin glazed earthenware sherd, polychrome hand painted decoration, flat vessel (1700-1800, South 1977; Miller 1992)
- 1 tin glazed earthenware sherd, undecorated, hollow vessel (1700-1800, South 1977; Miller 1992)
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 1 light olive green cylindrical bottle sherd, freeblown, patinated (pre-1860)
- 1 olive amber blackglass cylindrical bottle sherd, freeblown, scratched, patinated (pre-1860)
- 3 olive amber blackglass cylindrical bottle sherds, base fragments, freeblown, scratched, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, scratched, patinated

Metal

- 5 unidentified ferrous metal fragments
- 1 wrought nail fragment, unidentified head, clinched
- 11 wrought nail fragments

Miscellaneous

- 9 bone fragments
- 4 brick fragments, glazed, 1065.0 grams
- 1 cinder fragment
- 8 flint ballast
- 8 leather shoe and two sole fragments
- 1 mandible fragment, two teeth attached
- 1 mortar fragment, 24.4 grams

Prehistoric

- 1 quartz biface thinning flake, proximal
- 1 quartz decortication flake, whole, 20.5 mm x 23.9 mm
- 1 quartz primary reduction flake, proximal, cortex lateral margin
- 3 quartz primary reduction flakes, proximal

Feature 53, STP 1, Fill 1, Lot 150

Glass

- 1 olive green cylindrical bottle sherd, patinated

Feature 53, STP 1, Fill 2, Lot 151

Ceramics

- 1 kaolin pipe stem fragment, worn - 5/64 inch bore hole
- 1 redware sherd, black glazed interior and exterior, hollow vessel

Miscellaneous

- 1 brick fragment, 2.0 grams

Feature 53, STP 5, Fill 2, Lot 152

Ceramics

- 5 tin glazed earthenware spalls (mend), blue hand painted decoration, indeterminate vessel shape (1700-1800, South 1977; Miller 1992)

Miscellaneous

- 2 bone fragments

Prehistoric

- 1 gray chert biface thinning flake, proximal
- 1 quartzite primary reduction flake, whole, 19.2 mm x 16.7 mm
- 2 quartzite primary reduction flakes, proximal

Feature 53, Frame 01, Level 2, Lot 153

Miscellaneous

- 1 brick fragment, 38.6 grams

Feature 53, Frame 02, Level 2, Lot 154

Non-Cultural

- 4 non-cultural material (NCM)

Feature 53, Frame 04, Level 2, Lot 155

Ceramics

- 4 kaolin pipe bowl and stem fragments (mend) - 5/64 inch bore hole diameter

Glass

- 1 olive amber blackglass cylindrical bottle sherd, patinated (pre-1880)
- 1 olive amber blackglass cylindrical bottle sherd, unidentified applied collared lip finish fragment, patinated (pre-1880)

Metal

- 3 unidentified ferrous metal fragments (two mend), curved
- 2 wrought nail fragments

Miscellaneous

- 2 oyster shell fragments (one discarded in lab), 4.8 grams

Feature 53, Frame 05, Level 2, Lot 156

Glass

- 1 olive amber cylindrical bottle sherd, scratched, patinated
- 1 olive green cylindrical bottle sherd, heavily patinated

Metal

- 5 unidentified ferrous metal conglomerate fragments
- 1 wrought nail fragment, unidentified head

Miscellaneous

- 5 oyster shell fragments (two discarded in lab), 35.0 grams

Feature 53, Frame 06, Level 2, Lot 157

Miscellaneous

- 1 clam shell fragment, 0.4 grams
- 1 wooden bung - 7.9 cm diameter

Feature 53, Frame 08, Level 2, Lot 158

Ceramics

- 2 red and gray bodied coarse earthenware sherds (mend), unglazed interior and exterior, 5YR5/6 (yellowish red) and 7.5YR6/1 (gray) paste, 5YR6/6 (reddish yellow) interior, 7.5YR5/2 (brown) exterior, hollow vessel
- 1 red bodied coarse earthenware sherd, unglazed interior and exterior, hollow vessel, 5YR5/4 (reddish brown) paste, 7.5YR5/3 (brown) interior, 7.5YR6/3 (light brown) exterior

Metal

- 3 unidentified ferrous metal conglomerate fragments

Miscellaneous

- 3 brick fragments, 1.0 grams

Feature 53, Frame 13 (below ceiling boards), Level 2, Lot 159

Ceramics

- 1 kaolin pipe stem fragment, worn - 1/16 inch bore hole diameter

Metal

- 1 wrought nail fragment

Feature 53, Frame 17, Level 2, Lot 160

Metal

- 1 unidentified ferrous metal fragment, probable wrought spike
- 1 wrought nail fragment

Feature 53, Frame 18, Level 2, Lot 161

Metal

- 1 wrought spike fragment

Feature 53, Frame 18, Level 3, Lot 162

Metal

- 1 unidentified ferrous metal fragment, hollow tube with collar

Feature 53, Frame 19, Level 2, Lot 163

Ceramics

- 2 creamware sherds (mend), molded bead rim decoration, rim fragment, hollow vessel, stained (1762-1820, South 1977; Miller 1992)

Glass

- 1 green cylindrical bottle sherd, patinated
- 1 olive amber cylindrical bottle sherd, freeblown (pre-1860)

Metal

- 2 unidentified ferrous metal conglomerate fragments, flat, one with thin, curved wire attached
- 1 wrought nail fragment, unidentified head

Feature 53, Frame 20 (not ceiling), Level 2, Lot 164

Glass

- 1 olive green cylindrical bottle sherd, scratched, patinated

Metal

- 1 unidentified ferrous metal fragment, flat, tapered end, possible cutlery fragment, wrought nail attached
- 1 wrought nail fragment, unidentified head, attached to unidentified ferrous metal fragment

Feature 53, Frame 20 (under ceiling planks), Level 2, Lot 165

Glass

- 5 light olive green cylindrical bottle sherds (mend), freeblown, patinated (pre-1860)

Metal

- 1 unidentified ferrous metal conglomerate fragment

Miscellaneous

- 1 bone fragment
- 2 brick fragments, 21.5 grams
- 2 oyster shell fragments, 9.7 grams

Feature 53, Frame 22, Level 2, Lot 166

Ceramics

- 1 kaolin pipe stem fragment - 5/64 inch bore hole diameter
- 1 pearlware sherd, blue hand painted decoration, indeterminate vessel shape, burned (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 redware sherd, brown and orange glazed interior and exterior, hollow vessel

Glass

- 3 green cylindrical bottle sherds, freeblown, patinated (pre-1860)

Metal

- 2 unidentified ferrous metal fragments
- 1 wrought nail fragment, pulled
- 4 wrought nail fragments, two corroded together

Miscellaneous

- 1 bone fragment
- 1 oyster shell fragment, 0.1 grams

Prehistoric

- 1 quartz decortication flake, proximal
- 1 quartz primary reduction flake, proximal

Feature 53, below Frame 20, Level 3, Lot 167

Ceramics

- 1 creamware sherd, overglaze red enamelled hand painted decoration, hollow vessel, stained (1765-1810, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, hollow vessel, stained (1762-1820, South 1977; Miller 1992)

Glass

- 1 clear soda cylindrical tableware sherd, base fragment, freeblown, open pontil fragment, patinated (pre-1860)
- 1 green cylindrical bottle sherd, patinated
- 8 olive amber blackglass cylindrical bottle sherds (mend), freeblown, scratched, patinated (pre-1860)

Metal

- 1 wrought nail fragment, hand headed, point tip
- 3 wrought nail fragments, unidentified heads

Miscellaneous

- 4 brick fragments, 57.9 grams

Feature 53, below Frame 21, Level 3, Lot 168

Ceramics

- 1 redware sherd, brown and orange glazed interior and exterior, hollow vessel
- 1 white salt glazed stoneware sherd, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Metal

- 1 pewter utensil handle, probable spoon, attached to wrought nail fragment
- 1 unidentified ferrous metal fragment
- 1 wrought nail fragment, pewter spoon handle attached
- 3 wrought nail fragments, two mend

Miscellaneous

- 1 bone fragment
- 1 brick bat fragment, 10.3 cm x 6.4 cm, 1010.0 grams
- 1 brick fragment, 0.3 grams
- 2 coal fragments

Feature 53, below Frame 22, Level 3, Lot 169

Glass

- 2 light olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)

Metal

- 1 unidentified ferrous metal fragment, flat
- 1 wrought nail fragment, pulled

Miscellaneous

- 1 mortar fragment, 0.7 grams
- 1 nut/pit fragment

Feature 53, below Frame 23 (Hull), Level 3, Lot 170

Metal

- 3 wrought nail fragments

Miscellaneous

- 4 oyster shell fragments (three discarded in lab), 18.7 grams

Feature 53, between Frame 03/Frame 04, Level 3, Lot 171

Ceramics

- 1 kaolin pipe stem fragment, stained - 5/64 inch bore hole diameter
- 1 refined white earthenware sherd, undecorated, hollow vessel, heavily stained

Glass

- 3 olive amber cylindrical bottle sherds (mend), base fragments, scratched, patinated

Metal

- 3 unidentified ferrous metal fragments
- 1 wrought nail fragment

Miscellaneous

- 1 leather shoe heel/sole fragment

Feature 53, between Frame 04/Frame 05, Level 3, Lot 172

Ceramics

- 1 redware sherd, unglazed interior and exterior, hollow vessel, burned

Metal

- 1 unidentified ferrous metal fragment
- 1 wrought nail fragment
- 1 wrought nail fragment, spatulate tip

Miscellaneous

- 1 brick fragment, 1.4 grams

Feature 53, between Frame 05/Frame 06, Level 3, Lot 173

Ceramics

- 2 red and gray bodied coarse earthenware sherds, unglazed exterior and interior, 5YR5/6 (yellowish red) and 7.5YR6/1 (gray) paste, 5YR6/6 (reddish yellow) interior, 7.5YR5/2 (brown) exterior, hollow vessel

Metal

- 1 unidentified ferrous metal fragment
- 1 wrought nail fragment, hand headed

Miscellaneous

- 1 flint ballast

Feature 53, between Frame 06/Frame 07, Level 2, Lot 174

Ceramics

- 1 red and gray bodied coarse earthenware sherd, unglazed interior and exterior, 5YR5/6 (yellowish red) and 7.5YR6/1 (gray) paste, 5YR6/6 (reddish yellow) interior, 7.5YR5/2 (brown) exterior, hollow vessel

Metal

- 1 ferrous metal rod fragment
- 1 unidentified ferrous metal fragment
- 2 wrought nail fragment, unidentified heads

Miscellaneous

- 4 flint ballast

Feature 53, between Frame 07/Frame 08, Level 2, Lot 175

Glass

- 1 light olive green cylindrical bottle sherd, patinated
- 1 olive green cylindrical bottle sherd, freeblown, patinated (pre-1860)

Feature 53, between Frame 07/Frame 08, Level 3, Lot 176

Ceramics

- 1 English brown stoneware sherd, unglazed interior, brown slipped and clear salt glazed exterior, hollow vessel (1690-1775, South 1977; Miller 1992)

Metal

- 1 unidentified ferrous metal fragment

Feature 53, between Frame 08/Frame 09, Level 3, Lot 177

Ceramics

- 1 kaolin pipe, whole -- 1/16 inch bore hole diameter

Feature 53, between Frame 09/Frame 10, Level 2, Lot 178

Glass

- 1 dark green cylindrical bottle sherd, patinated
- 1 olive green cylindrical bottle sherd, scratched, patinated

Metal

- 1 wrought nail fragment

Prehistoric

- 1 quartzite primary reduction flake, proximal, cortex lateral margin

Feature 53, between Frame 09/Frame 10, Level 3, Lot 179

Ceramics

- 1 redware sherd, unglazed interior and exterior, hollow vessel

Metal

- 1 wrought 8d nail, rosehead, spatulate tip

Miscellaneous

- 1 brick fragment, 26.7 grams

Feature 53, between Frame 12/Frame 13, Level 2, Lot 180

Glass

- 1 olive green cylindrical bottle sherd, freeblown, patinated (pre-1860)

Feature 53, between Frame 13/Frame 14, Level 2, Lot 181

Ceramics

- 1 Buckley ware sherd, undecorated, hollow vessel (1720-1775, South 1977; Miller 1992)
- 1 kaolin pipe bowl fragment
- 1 redware spall, indeterminate vessel shape
- 2 tin glazed earthenware spalls, blue hand painted decoration, indeterminate vessel shape (1700-1800, South 1977; Miller 1992)

Glass

- 1 clear soda cylindrical tableware sherd, rim fragment, possible tumbler fragment, patinated
- 3 light olive green cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, scratched, patinated
- 1 windowpane sherd, potash (pre-1864)

Metal

- 1 wrought nail fragment, clinched
- 2 wrought nail fragments

Miscellaneous

- 2 brick fragments, 7.1 grams
- 1 tooth fragment

Feature 53, between Frame 13/Frame 14, Level 3, Lot 182

Metal

- 1 wrought nail fragment

Feature 53, between Frame 14/Frame 15, Level 3, Lot 183

Miscellaneous

- 2 fossilized coral fragments, 21.7 grams

Feature 53, between Frame 16/Frame 17, Level 2, Lot 184

Ceramics

- 1 creamware sherd, molded bead rim decoration, rim fragment, flat

vessel, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)

Feature 53, between Frame 16/Frame 17, Level 3, Lot 185

Ceramics

- 1 kaolin pipe stem and bowl fragment -- 5/64 inch bore hole

Glass

- 1 olive green cylindrical bottle sherd, heavily scratched, patinated
- 1 olive green cylindrical bottle sherd, stained, attached to wrought spike fragment

Metal

- 1 wrought nail fragment, clinched
- 3 wrought nail fragments
- 1 wrought spike fragment

Feature 53, between Frame 17/Frame 18, Level 2, Lot 186

Ceramics

- 1 redware sherd, slipped annular decoration rim and exterior, brown glazed interior and exterior, flat rim fragment, hollow vessel, 9 inch rim diameter

Metal

- 1 wrought nail fragment, attached to rectangular rock, field records indicate it could be a possible wedge between the two frames

Feature 53, between Frame 18/Frame 20, Level 3, Lot 187

Ceramics

- 1 redware sherd, brown and orange glazed interior and exterior, hollow vessel

Glass

- 1 light olive green cylindrical bottle sherd, patinated
- 5 olive amber blackglass cylindrical bottle sherds, freeblown, scratched, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, patinated

Metal

- 3 unidentified ferrous metal fragments, flat
- 2 wrought nail fragments
- 2 wrought nail fragments, unidentified heads

Miscellaneous

- 1 bone fragment
- 4 brick fragments, 4.5 grams
- 2 fossilized coral fragments, 16.1 grams

Feature 53, between Frame 19/Frame 20, Level 2, Lot 188

Miscellaneous

- 1 bone fragment

Feature 53, under Frame 03 (keel side), Level 3, Lot 189

Glass

- 1 dark emerald green blackglass cylindrical bottle sherd, base fragment, patinated

Feature 53, under Frame 07, Level 3, Lot 190

Ceramics

- 3 red and gray bodied coarse earthenware sherds (mend), unglazed interior and exterior, 5YR5/6 (yellowish red) and 7.5YR6/1 (gray) paste, 5YR6/6 (reddish yellow) interior, 7.5YR5/2 (brown) exterior, hollow vessel

Feature 53, under Frame 14, Level 3, Lot 191

Glass

- 1 olive green cylindrical bottle sherd, freeblown, patinated (pre-1860)

Feature 53, under Frame 18, Level 3, Lot 192

Glass

- 1 olive amber blackglass cylindrical bottle sherd, patinated (pre-1880)
- 1 olive green cylindrical bottle sherd, freeblown (pre-1860)

Metal

- 3 unidentified ferrous metal fragments, flat

Miscellaneous

- 2 oyster shell fragments (one discarded in lab), 6.1 grams

Feature 53, Futtock 21-b, Level 2, Lot 193

Glass

- 1 olive amber cylindrical bottle sherd, freeblown (pre-1860)

Feature 53, Gravel near Futtock 18, Level 2, Lot 194

Ceramics

- 1 redware sherd, brown glazed interior and exterior, hollow vessel

Feature 53, Keel 3 - Bow End, Feature Fill, Lot 195

Ceramics

- 1 redware sherd, unglazed interior and exterior, quartz inclusions, everted slant angle rim fragment, probable milk pan, 2.5YR6/6 (light red) paste, 5YR6/6 (reddish yellow) and 5YR6/3 (light reddish brown) interior, 5YR6/4 (light reddish brown) exterior, heavily water worn, possibly used for ballast

Feature 53, Sacrificial Planking 3.3, Level 3, Lot 196

Miscellaneous

- 1 bone fragment

Feature 53, Sacrificial Planking 4.3, Level 3, Lot 197

Miscellaneous

- 1 bone fragment

Feature 53, Sacrificial Planking 8.3, Level 3, Lot 198

Ceramics

- 1 Westerwald sherd, incised cobalt hand painted decoration, clear salt glazed interior and exterior, hollow vessel (1700-1775, South 1977; Miller 1992)

Feature 54, General Collection, Overlying Feature Fill, Lot 199

Glass

- 2 olive green cylindrical bottle sherds (mend), base fragment, freeblown, rounded heel, dome-shaped push-up, sand pontil, base diameter 78.9 mm, patinated (pre-1860)

Feature 54, West Profile, Near Post 3, General Fill, Lot 200

Ceramics

- 1 Westerwald ware, incised cobalt hand painted decoration, clear salt glazed interior and exterior, hollow vessel (1700-1775, South 1977; Miller 1992)

Feature 54, Test Unit 1, Level 1, Fill 1, Lot 201

Miscellaneous

- 2 brick fragments, 44.3 grams

Prehistoric

- 1 quartz primary reduction flake, proximal
- 1 quartz primary reduction flake, whole, 43.3 mm x 24.2 mm

Feature 54, Test Unit 1, Level 2, Fill 2, Lot 202

Miscellaneous

- 2 wood fragments

Feature 54, Test Unit 1, Level 5, Fill 5, Lot 203

Ceramics

- 1 kaolin pipe bowl fragment
- 1 redware sherd, dark brown glazed interior, unglazed exterior, flat vessel
- 2 redware sherds, unglazed, flat vessel
- 1 tin glazed earthenware sherd, undecorated, indeterminate vessel shape, scratched (1700-1800, South 1977; Miller 1992)
- 2 white salt glazed stoneware sherds, undecorated, hollow vessel (1720-1805, South 1977; Miller 1992)

Glass

- 5 olive amber blackglass square bottle sherds, freeblown, base case bottle fragment, refired open pontil, patinated (pre-1860)

Metal

- 8 wrought nail fragments

Miscellaneous

- 1 bone fragment
- 8 brick fragments, 8.3 grams
- 5 flint ballast

Prehistoric

- 1 quartz primary reduction flake, proximal
- 1 quartz primary reduction flake, whole, 27.5 mm x 31.2 mm

Feature 54, Test Unit 1, Level 6, Fill 6, Lot 204

Ceramics

- 1 English dry-bodied red stoneware sherd, unglazed interior and exterior, hollow vessel (1740-1775, South 1977; Miller 1992; MACL 2016)

Metal

- 1 wrought nail fragment, spatulate tip
- 2 wrought nail fragment, unidentified heads

Feature 54, Test Unit 1, Level 7, Fill 7, Lot 205

Prehistoric

- 1 chert decortication flake, whole, 22.1 mm x 20.8 mm

- 3 quartz biface thinning flake, proximal
- 1 quartz biface thinning flake, whole, 14.9 mm x 13.0 mm
- 1 quartz decortication flake, proximal
- 1 quartz decortication flake, whole, 17.8 mm x 16.3 mm
- 1 quartz primary reduction flake, medial
- 5 quartz primary reduction flakes, proximal
- 1 quartzite biface thinning flake, whole, 31.7 mm x 19.7 mm
- 2 quartzite biface thinning flakes, proximal
- 1 quartzite decortication flake, proximal
- 1 quartzite primary reduction flake, proximal
- 1 quartzite primary reduction flake, proximal
- 1 quartzite projectile point fragment, probable Morrow Mountain Stemmed Type, Middle Archaic (4800 BCE - 4200 BCE, DHR 2016)

Feature 54, Test Unit 2, Level 1, Fill 1, Lot 206

Ceramics

- 1 redware sherd, brown glazed, indeterminate vessel shape
- 3 redware spalls, indeterminate vessel shape

Glass

- 1 windowpane sherd, potash, patinated (pre-1864)

Miscellaneous

- 1 brick bat fragment, highly fired, 600 grams
- 1 flint ballast

Feature 54, Test Unit 2, Level 2, Fill 2, Lot 207

Metal

- 1 unidentified ferrous metal fragment

Miscellaneous

- 1 brick fragment, 0.3 grams

Feature 54, Test Unit 2, Level 3, Fill 3, Lot 208

Miscellaneous

- 2 brick fragments, 6.4 grams

Feature 54, Test Unit 2, Level 4, Fill 4, Lot 209

Ceramics

- 1 redware spall, indeterminate vessel shape
- 1 white salt glazed stoneware sherd, molded, hollow vessel (1740-1765, South 1977; Miller 1992)

Glass

- 1 olive green cylindrical bottle sherd, neck fragment, patinated

Metal

- 2 unidentified ferrous metal fragments, flat

Miscellaneous

- 1 brick bat fragment, 440.0 grams
- 1 coconut shell fragment

Feature 54, Test Unit 2, Level 5, Fill 5, Lot 210

Prehistoric

- 1 quartz primary reduction flake, proximal

Feature 54, Test Unit 2, Level 6, Fill 6, Lot 211

Prehistoric

- 1 quartz primary reduction flake, proximal

Feature 55, North Bisection, Level 2, Lot 212

Miscellaneous

- 1 black walnut
- 1 brick bat fragment, 203.1 grams

Feature 55, North Bisection, Level 4, Lot 213

Metal

- 1 wrought nail fragment
- 1 wrought nail fragment, unidentified head, clinched

Feature 55, South Bisection, Level 1, Lot 214

Metal

- 1 unidentified ferrous metal fragment
- 1 wrought nail fragment, clinched
- 4 wrought nail fragments

Miscellaneous

- 1 brick fragment, 47.4 grams
- 2 oyster shell fragments, 14.3 grams

Prehistoric

- 1 chert primary reduction flake, proximal, cortex lateral margin
- 1 quartz biface thinning flake, whole, 30.9 x 22.9

Feature 55, South Bisection, Level 2, Lot 215

Ceramics

- 1 tin glazed earthenware sherd, overglaze blue hand painted decoration, hollow vessel, 8 inch rim diameter (1700-1800, South 1977; Miller 1992)

Feature 55, South Bisection, Level 3, Lot 216

Ceramics

- 1 tin glazed earthenware sherd, blue hand painted decoration, indeterminate vessel shape, burned (1700-1800, South 1977; Miller 1992)

Miscellaneous

- 5 oyster shell fragments (three discarded in lab), 47.0 grams

Feature 55, South Bisection, Level 4, Lot 217

Metal

- 3 wrought nail fragments

Miscellaneous

- 1 brick fragment, 15.2 grams
- 4 oyster shell fragments (one discarded in lab), 41.7 grams

Prehistoric

- 1 quartz primary reduction flake, proximal

Feature 55, South Bisection, Level 5, Lot 218

Miscellaneous

- 2 oyster shell fragments, 15.2 grams

Feature 56, North Bisection, Top of Feature, Lot 219

Ceramics

- 1 ironstone sherd, undecorated, hollow vessel (1840-1900+, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, base fragment, hollow vessel, 3 inch foot ring diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, 5 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, 7 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 4 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)

Glass

- 1 clear soda cylindrical tableware sherd, stained

Metal

- 1 ferrous metal spike
- 1 wrought nail fragment, hand headed

Miscellaneous

- 4 bone fragments

Feature 56, North Bisection, Level 1, Feature Fill 1, Lot 220

Ceramics

- 1 creamware sherd, undecorated, plain rim fragment, flat vessel, 12 inch rim fragment (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, hollow vessel (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), overglaze polychrome and gilt hand painted decoration, teapot (mends with sherds from Lot 223, Lot 225, Lot 226, Lot 233)
- 1 hard paste porcelain sherd (Continental European), undecorated, indeterminate vessel shape
- 1 ironstone sherd, undecorated, hollow vessel (1840-1900+, Miller 1992)
- 1 kaolin pipe stem fragment - 5/64 inch bore hole diameter
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, flat vessel, 3 inch foot ring diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, hollow vessel, 5 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted geometric decoration, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820,

- South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, unidentified mulberry decoration, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
 - 2 pearlware sherds, undecorated, flat vessels (1780-1830, South 1977; Miller 1992)
 - 4 pearlware sherds, undecorated, indeterminate vessel (1780-1830, South 1977; Miller 1992)
 - 2 pearlware sherds, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, rim fragment, flat vessel, 10 inch rim diameter
 - 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
 - 1 redware sherd, mottled dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
 - 1 Westerwald ware sherd, incised cobalt hand painted decoration, clear salt glazed interior and exterior, hollow vessel (1700-1775, South 1977; Miller 1992)

Glass

- 1 clear cylindrical bottle/jar sherd, scratched
- 5 clear soda cylindrical tableware sherds, patinated
- 1 green square/rectangular bottle sherd, ribbed, contact mold (1810-1880)
- 1 light olive green cylindrical bottle sherd, contact mold (1810-1880)
- 1 olive amber cylindrical bottle sherd, contact mold (1810-1880)
- 1 olive amber cylindrical bottle sherd, patinated
- 1 olive green cylindrical bottle sherd, freeblown, patinated (pre-1860)
- 3 olive green cylindrical bottle sherds, patinated
- 2 unidentified aqua sherds, flat, patinated
- 1 unidentified light aqua sherd, curved, patinated
- 1 unidentified light aqua sherd, flat, stained
- 1 unidentified pale aqua sherd, flat, crushed/deteriorated
- 1 unidentified pale aqua sherd, flat, heavily patinated
- 1 unidentified very pale aqua sherd, flat, patinated

Metal

- 1 wrought nail fragment, spatulate tip
- 1 wrought nail fragment, unidentified head, clinched
- 3 wrought nail fragments
- 2 wrought nail fragments, hand headed
- 4 wrought nail fragments, unidentified heads

Miscellaneous

- 3 bone fragments
- 25 brick fragments (discarded in field)
- 2 brick fragments, 33.0 grams
- 3 bricks, whole (discarded in field)
- 1 clam shell fragment, 2.0 grams

- 1 coke fragment, 2.8 grams
- 4 mortar fragments, 35.0 grams
- 1 slate fragment

Feature 56, North Bisection, Level 2, Feature Fill 2, Lot 221

Ceramics

- 1 black basalt stoneware sherd, undecorated, base fragment, hollow vessel, indeterminate base diameter (1750-1820, South 1977; Miller 1992) (mends with sherds from Lot 229, Lot 232, Lot 233)
- 3 black basalt stoneware sherds, molded, hollow vessel (1750-1820, South 1977; Miller 1992) (mends with sherds from Lot 229, Lot 232, Lot 233)
- 1 creamware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, handle fragment, hollow vessel (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, flat vessel, 3 inch rim diameter, burned (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Royal pattern rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, underglaze black transfer printed decoration, hollow vessel (1765-1815, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, base fragments, hollow vessels, 2 inch base diameters (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, Bath pattern rim fragments, plate, indeterminate rim diameters (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds, undecorated, flat vessels (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 2 gray bodied coarse stoneware sherds (mend), clear glazed interior, clear salt glazed exterior, hollow vessel
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, hollow vessel (1775-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, rim fragment, hollow vessel, indeterminate rim diameter (1775-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), underglaze polychrome hand painted decoration, rim fragment, flat vessel, indeterminate rim diameter
- 3 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted decoration, rim fragments, flat vessel, 6 inch rim diameter (1765-1810, MACL 2016)
- 2 hard paste porcelain sherds (Chinese export), undecorated, indeterminate vessel shape
- 1 kaolin pipe bowl fragment
- 1 kaolin pipe stem fragment, indeterminate bore hole diameter

- 1 pearlware sherd, dipped earthenware, underglaze polychrome banded decoration, hollow vessel, stained (1770s - early 20th century, MACL 2015)
- 1 pearlware sherd, dipped earthenware, underglaze polychrome engine turned inlaid rouletting decoration, hollow vessel, stained (1780-1830, South 1977; Miller 1992; c. 1770s - late 19th century, MACL 2016)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, 5 inch base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, 7 inch base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 3 inch base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, base fragment, indeterminate vessel shape and base diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, hollow vessel, burned (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, 7 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), dipped earthenware, underglaze polychrome banded decoration, rim fragment, hollow vessel, 3 inch rim diameter, stained (1770s - early 20th century, MACL 2015)
- 3 pearlware sherds, blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragments, flat vessels, indeterminate rim diameters (1780-1830, South 1977; Miller 1992)
- 3 pearlware sherds, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragments, flat vessels, indeterminate rim diameters, stained, burned (1780-1830, South 1977; 1800-1830, Miller 1992)
- 5 pearlware sherds, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 10 pearlware sherds, undecorated, hollow vessel, stained (1762-1820, South 1977; Miller 1992)
- 3 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
- 3 pearlware sherds, underglaze blue hand painted decoration, rim fragments, indeterminate vessel shapes and rim diameters (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, underglaze polychrome hand painted floral

- decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds, underglaze polychrome hand painted floral decoration, rim fragment, indeterminate vessel shapes and rim diameters (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, dish (1792-1809, Magid et al. 2003)
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel, burned
- 1 redware sherd, mottled brown glazed interior and exterior, hollow vessel
- 1 redware sherd, mottled dark brown glazed interior, unglazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 4 redware sherds, annular trailed slip decoration with small iron-oxide splotches interior, unglazed exterior, base fragments, milk pan, indeterminate base diameter (1792-1809, Magid et al. 2003)
- 1 refined white earthenware sherd, undecorated, indeterminate vessel shape, burned

Glass

- 3 clear cylindrical bottle sherds
- 1 clear cylindrical lamp chimney sherd
- 1 clear soda cylindrical tableware sherd, patinated
- 2 clear soda cylindrical tableware sherds, stemware folded foot base fragments, stained
- 1 cobalt cylindrical tableware sherd, molded diamond pattern, heavily stained, patinated
- 1 green cylindrical bottle sherd, freeblown, base fragment, refired pontil, patinated (pre-1860)
- 1 green cylindrical bottle sherd, patinated
- 1 light aqua cylindrical bottle sherd, patinated
- 1 olive amber blackglass cylindrical bottle sherd, freeblown, base fragment, bulged heel, dome-shaped push-up, sand pontil/quatrefoil, base diameter 90.5 mm, heavily patinated (pre-1840)
- 2 olive green cylindrical bottle sherds, patinated
- 3 unidentified clear sherds, curvy, very thin, patinated
- unidentified pale aqua sherd, flat, heat melted, heavily patinated
- 1 unidentified pale aqua sherd, flat, heavily patinated
- 2 unidentified pale aqua sherds, flat, crushed/deteriorated
- 7 windowpane sherds, potash (pre-1864)
- 19 windowpane sherds, soda (pre-1864)

Metal

- 1 unidentified ferrous metal fragment
- 3 wire fragments
- 1 wrought 12d nail, rosehead, spatulate tip, clinched
- 1 wrought 16d nail, hand headed, burned
- 1 wrought 2d nail, unidentified head, point tip
- 1 wrought 2d nail, unidentified head, point tip, pulled

- 1 wrought 5d nail, rosehead, spatulate tip
- 1 wrought 6d nail, hand headed, point tip
- 1 wrought 6d nail, rosehead, spatulate tip, pulled
- 2 wrought 7d nails, roseheads, spatulate tips
- 1 wrought 8d nail, rosehead, spatulate tip, pulled
- 1 wrought nail fragment, point tip fragment, pulled, burned
- 1 wrought nail fragment, rosehead, clinched
- 1 wrought nail fragment, spatulate tip, burned
- 3 wrought nail fragments
- 2 wrought nail fragments, hand headed, pulled
- 2 wrought nail fragments, pulled
- 2 wrought nail fragments, roseheads
- 6 wrought nail fragments, unidentified heads, pulled

Miscellaneous

- 36 bone fragments, one calcined
- 18 brick fragments (discarded in field)
- 3 clam shell fragments, 4.0 grams
- 1 coal fragment, 9.0 grams
- 5 egg shell fragments, 0.1 grams
- 2 mortar fragments, 0.7 grams
- 14 oyster shell fragments (13 discarded in lab), 52.8 grams
- 3 slate fragments
- 1 wooden bung - 9.3 cm diameter

Feature 56, North Bisection, Level 3, Feature Fill 2, Lot 222

Ceramics

- 1 buff bodied earthenware sherd, olive green glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 creamware sherd, undecorated, flat vessel (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, underglaze black transfer printed decoration, indeterminate vessel shape (1765-1815, South 1977; Miller 1992)
- 1 creamware sherd, underglaze hand painted orange rim band, rim fragment, flat vessel, indeterminate vessel shape, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, Bath pattern rim fragments, flat vessel, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, rim fragments, hollow vessel, 3 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, hollow vessels (1762-1820, South 1977; Miller 1992)
- 4 gray bodied coarse stoneware sherds (mend), cobalt hand painted decoration, clear glazed interior, clear salt glazed exterior, hollow vessel

- 4 gray bodied coarse stoneware sherds (mend), unglazed interior, clear salt glazed exterior, hollow vessel
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, rim fragment, 5 inch rim diameter, flat vessel (1775-1810, MACL 2016)
- 1 hard paste porcelain sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter, heavily burned
- 1 kaolin pipe stem fragment
- 1 kaolin pipe stem fragment - 5/6 inch bore hole diameter
- 1 pearlware sherd, blue shell edge decoration, embossed rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992; 1820s-1830s, MACL 2016)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, hollow vessel, burned (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), undecorated, hollow vessel, burned (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), underglaze polychrome hand painted floral decoration, base fragment, hollow vessel, 3 inch foot ring diameter, burned (1795-1815, South 1977; 1780-1835, Miller 1992) (mend with sherds from Lot 223, Lot 233)
- 2 pearlware sherds, underglaze blue hand painted decoration, rim fragments, flat vessels, indeterminate rim diameters (1780-1820, South 1977; 1780-1830, Miller 1992)
- 3 pearlware sherds, underglaze polychrome hand painted floral decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, base fragment, flat vessel, 6 inch base diameter
- 1 redware sherd, rim fragment, dark brown glazed interior and exterior, flat vessel, indeterminate rim diameter, patinated

- 4 redware sherds (three mend), mottled dark brown interior, unglazed exterior, pot, burned (1792-1809, Magid et al. 2003)
- 2 redware sherds, mottled dark brown glazed interior and exterior, hollow vessels (1792-1809, Magid et al. 2003)
- 1 refined white earthenware sherd, undecorated, indeterminate vessel shape, burned
- 1 refined white earthenware sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter, burned

Glass

- 3 clear cylindrical bottle sherds (mend), probable medicinal, flared lip finish fragment, stained (1820-1870, Lindsey 2016)
- 2 clear cylindrical bottle sherds (mend), probable medicinal, flared lip finish, very heavily stained (1820-1870, Lindsey 2016)
- 6 clear cylindrical decanter sherds (mend), freeblown, base fragments, refired pontil, 77 mm base diameter, heavily stained (pre-1860)
- 9 clear cylindrical lamp chimney sherds, stained, heavily patinated
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler base fragment, refired pontil, 54.6 base diameter, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, rim fragment, stained
- 4 clear soda cylindrical tableware sherds, two stained
- 1 olive amber cylindrical bottle sherd, patinated
- 11 olive green cylindrical bottle sherds, stained, patinated
- 1 unidentified light green sherd, flat, stained
- 8 windowpane sherds, potash (pre-1864)

Metal

- 1 unidentified ferrous metal fragment
- 2 wire fragments
- 1 wrought 4d nail, unidentified head, point tip
- 1 wrought 7d nail, L-head, point tip, pulled, burned
- 1 wrought 8d nail, rosehead, spatulate tip, clinched
- 1 wrought nail fragment, spatulate tip
- 1 wrought nail fragment, unidentified head
- 3 wrought nail fragments, hand headed
- 3 wrought nail fragments, roseheads
- 2 wrought nail fragments, roseheads, pulled

Miscellaneous

- 2 bone fragments, burned
- 25 bone fragments, six calcined
- 1 brick bat (discarded in field)
- 1 brick fragment, 0.1 grams
- 10 brick fragments (discarded in field)
- 4 clam shell fragments, 1.5 grams
- 3 coke fragments, 0.7 grams
- 1 fish scale fragment
- 3 oyster shell fragments (two discarded in lab), 1.2 grams
- 2 peach pit fragments
- 44 seeds

Feature 56, North Bisection, Level 4, Feature Fill 3, Lot 223

Ceramics

- 1 brown bodied coarse stoneware sherd, clear salt glazed interior, brown salt glazed exterior, hollow vessel
- 3 creamware sherds (mend), overglaze polychrome hand painted decoration, rim fragments, tea bowl, 3 inch rim diameter, very heavily stained (1765-1810, South 1977; Miller 1992) (mend with sherds from Lot 230, Lot 231)
- 3 creamware sherds (mend), undecorated, rim fragment, molded handle fragments, tankard, 3 inch rim diameter, stained (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 229)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral neoclassical rim band decoration, hollow vessel (c.1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled shadow hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze polychrome hand painted decoration, gilt edge decoration, rim fragment, teapot, indeterminate rim diameter (mends with sherds from Lot 224, Lot 225, Lot 226, Lot 233)
- 1 hard paste porcelain sherd (Chinese export), underglaze brown hand painted band decoration, hollow vessel
- 8 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted floral and neoclassical rim band decoration, base and scalloped rim fragment, saucer, 6 inch rim and 3 inch base diameters (1765-1810, MACL 2016)
- 2 hard paste porcelain sherds (Chinese export), undecorated, hollow vessels
- 1 kaolin pipe stem fragment, burned - 5/64 inch bore hole diameter
- 1 pearlware sherd, blue shell edge decoration, base and neoclassically-inspired symmetrical scalloped rim fragment, plate, indeterminate rim diameter, 6 inch base diameter, heavily stained (1780-1830, South 1977; Miller 1992; 1820s-1830s, MACL 2016)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, indeterminate base diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, rim fragment, hollow vessel, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, indeterminate vessel shape, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration,

- hollow vessel, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, indeterminate rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 5 pearlware sherds (mend), undecorated, rim and base fragments, hollow vessel, 4 inch rim and 2 inch base diameter, heavily stained (1780-1830, South 1977; Miller 1992)
 - 5 pearlware sherds (mend), underglaze polychrome hand painted floral decoration, base fragments, plate, 3 inch foot ring diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992) (mend with sherds from Lot 222, Lot 233)
 - 4 pearlware sherds, undecorated, hollow vessels, heavily stained (1780-1830, South 1977; Miller 1992)
 - 2 pearlware sherds, underglaze blue hand painted decoration, hollow vessels (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 2 pearlware sherds, underglaze blue hand painted decoration, rim fragments, flat vessels, indeterminate rim diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel
 - 1 redware sherd, white slipped mottled brown glazed interior, orange glazed exterior, hollow vessel (1792-1809, Magid et al. 2003)

Glass

- 1 clear soda cylindrical tableware sherd, freeblown, folded stemware base fragment, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, stemware base fragment, refired pontil, patinated (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler base fragment, open pontil, base diameter 51.1 mm, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler base fragment, open pontil, base diameter 52.5 mm, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler base fragment, stained (pre-1860)
- 2 clear soda cylindrical tableware sherds (mend), freeblown, flip glass, molded, rim fragment, refired pontil, base diameter 40.9 mm, stained (pre-1860)
- 3 clear soda cylindrical tableware sherds (mend), freeblown, tumbler base fragments, refired pontil, base diameter 55.2 mm, stained (pre-1860)
- 3 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler, copper wheel etched rim band decoration (pre-1860)
- 19 clear soda cylindrical tableware sherds, freeblown, tumbler fragments, rim fragments, twelve stained (pre-1860)
- 58 clear soda cylindrical tableware sherds, freeblown, tumbler fragments, thirty-eight stained, patinated (pre-1860)
- 1 dark green cylindrical bottle sherd, freeblown, patinated (pre-1860)

- 1 greenish-aqua cylindrical bottle sherd, scratched, patinated
- 5 olive green cylindrical bottle sherds, freeblown, scratched (pre-1860)
- 1 unidentified light aqua sherd, flat, heavily patinated
- 2 unidentified light aqua sherds, flat, crushed/deteriorated
- 11 windowpane sherds, potash (pre-1864)
- 6 windowpane sherds, soda (pre-1864)

Metal

- 1 brass concertina reed fragment, flat, rectangular, small hole one end, rectangular hole other end
- 1 wrought 9d nail, rosehead, spatulate tip

Miscellaneous

- 7 bone fragments, burned
- 9 bone fragments, one calcined
- 2 coal fragments, 10.8 grams
- 1 coke fragment, 0.2 grams
- 20 fish scale fragments
- 3 fruit peel fragments, dried, possible peach
- 4 leather shoe and sole fragments
- 1 mortar fragment, 0.2 grams
- 1 oyster shell fragment, 0.3 grams
- 1 plaster fragment, 0.8 grams
- 22 seeds

Feature 56, North Bisection, Level 5, Feature Fill 3, Lot 224

Ceramics

- 1 creamware sherd, overglaze enamelled orange hand painted decoration, hollow vessel (1765-1810, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, plain rim fragment, flat vessel, 8 inch rim diameter (1780-1830, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, 6 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), overglaze enamelled red hand painted decoration, rim fragments, flat vessel, indeterminate rim diameter, stained (1765-1810, South 1977; Miller 1992)
- 4 creamware sherds, undecorated, hollow vessels (1780-1830, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), molded decoration, base fragment, hollow vessel, 2 inch base diameter (mends with sherds from Lot 225, Lot 232, Lot 233)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, indeterminate vessel shape (1775-1810, MACL 2016)
- 2 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted floral and neoclassical rim band decoration, base and scalloped rim fragment, saucer, 6 inch rim and 5 inch base diameters (1765-1810, MACL 2016)

- 4 hard paste porcelain sherds (Chinese export) (mend), overglaze polychrome and gilt hand painted decoration, teapot (mends with sherds from Lot 223, Lot 225, Lot 233, Lot 226)
- 5 hard paste porcelain sherds (Chinese export) (mend), overglaze red enamelled hand painted neoclassical rim band decoration, rim and base fragments, common shape cup, 3 inch rim diameter, 1.5 inch base diameter (c.1765-1810, MACL 2016) (mend with sherds from Lot 226, Lot 232, Lot 233)
- 2 hard paste porcelain sherds (Chinese export), undecorated, hollow vessels
- 1 Nottingham-type stoneware sherd, brown glazed interior and exterior, rim fragment, rouletted band decoration, possible gin/seltzer bottle, 7 inch rim diameter (1700-1810, South 1977; Miller 1992)
- 1 pearlware sherd, blue shell edge decoration, Rococo scalloped rim fragment, flat vessel, 8 inch rim diameter (1780-1830, South 1977; Miller 1992; 1775-1810, MACL 2016)
- 1 pearlware sherd, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted chinoiserie decoration, rim fragment, hollow vessel, 8 inch rim diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, base fragment, flat vessel, indeterminate foot ring diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, flat vessel, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, rim fragment, flat, 12 inch rim diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue transfer printed floral decoration, base fragment, creamer, 2 inch base diameter (1795-1840, South 1977; 1787-1830, Miller 1992) (mends with sherds from Lot 225, Lot 232, Lot 233)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, hollow vessel, indeterminate rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, rim fragment, hollow vessel, 4 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds (mend), blue shell edge decoration, Rococo scalloped rim and base fragment, plate, 10 inch rim diameter, 7 inch base diameter, stained (1780-1830, South 1977; Miller 1992; 1775-1810, MACL 2016) (mend with sherds from Lot 225, Lot 234)
- 2 pearlware sherds (mend), green shell edge decoration, neoclassically-inspired symmetrical scalloped rim and base fragment, plate, 8 inch

- rim diameter, 6 inch base diameter (1780-1830, South 1977; Miller 1992; 1800-1830, Miller 2000) (mend with sherds from Lot 232, Lot 233)
- 2 pearlware sherds, undecorated, flat vessels (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted decoration, indeterminate vessels (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, flat vessel
- 1 redware sherd, unglazed interior and exterior, indeterminate vessel shape

Glass

- 1 clear cylindrical bottle sherd, freeblown, base fragment, abrupt heel, refired pontil, slight dome-shaped push-up, 72.3 mm base diameter, very heavily stained (pre-1860)
- 1 clear lead cylindrical tableware sherd, freeblown, rim fragment, tumbler, very heavily stained (pre-1860)
- 1 clear lead tableware sherd, blown pattern mold, short twisted goblet/runner base fragment, refired pontil, 59.5 mm base diameter, very heavily stained (1750-1850)
- 2 clear lead tableware sherds (mend), freeblown, stemware base fragment, molded ribbing, refired pontil, 61.1 mm base diameter, very heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler base fragment, unidentified partial pontil (pre-1860)
- 4 clear soda cylindrical tableware sherds (mend), freeblown, flip cup base fragment, unidentified partial pontil (pre-1860)
- 5 clear soda cylindrical tableware sherds (mend), freeblown, rim fragments, copper wheel etched decoration (pre-1860)
- 34 clear soda cylindrical tableware sherds, freeblown, probable tumbler fragments, eight stained, patinated (pre-1860)
- 11 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler fragments, three stained, patinated (pre-1860)
- 1 dark green square/rectangular bottle sherd, heavily patinated
- 1 green square bottle sherd, contact mold, chamfered corners, open pontil, two piece mold (1810-1860)
- 1 olive green cylindrical bottle sherd, base fragment, heavily patinated
- 1 olive green cylindrical bottle sherd, heavily patinated
- 5 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 8 unidentified aqua sherds, flat, patinated
- 15 unidentified light aqua sherds, flat, crushed/deteriorated
- 2 unidentified olive green spalls, heavily patinated
- 1 very pale aqua cylindrical tableware sherd, freeblown, tumbler base fragment, open pontil, 53.4 mm base diameter (pre-1860)
- 14 windowpane sherds, potash, patinated (pre-1864)
- 4 windowpane sherds, soda, stained (pre-1864)
- 3 windowpane sherds, soda/potash (pre-1864)

Metal

- 1 brass concertina reed fragment, flat, rectangular, small hole one end, rectangular hole other end
- 1 unidentified brass fragment, flat, rectangular, rounded appendage in center
- 1 wrought nail fragment, unidentified head

Miscellaneous

- 22 bone fragments, three calcined
- 7 coal fragments, 7.1 grams
- 6 egg shell fragments, 0.2 grams
- 6 fish scale fragments
- 2 fruit peel fragments, dried, possible peach
- 1 leather fragment
- 7 leather fragments
- 8 leather shoe sole and heel fragments
- 2 nut fragments
- 1 oyster shell fragment, burned, 0.1 grams
- 10 seeds

Feature 56, North Bisection, Level 6, Feature Fill 3, Lot 225

Ceramics

- 1 creamware sherd, undecorated, base fragment, flat vessel, 6 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, flat vessel, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, 4 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), overglaze polychrome hand painted neoclassical rim decoration, scalloped rim fragment, hollow vessel, 4 inch rim diameter (1765-1810, MACL 2016) (mends with sherds from Lot 224, Lot 232, Lot 233)
- 1 hard paste porcelain sherd (Continental European), underglaze blue hand painted decoration, hollow vessel, stained
- 3 hard paste porcelain sherds (Chinese export) (mend), overglaze polychrome and gilt hand painted decoration, rim fragments, teapot, 4 inch rim diameter (mends with sherds from Lot 223, Lot 224, Lot 226, Lot 233)
- 1 Nottingham-type stoneware sherd, brown glazed interior, incised geometric pattern, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 pearlware sherd, blue shell edge decoration, Rococo scalloped rim and base fragment, plate, 10 inch rim and 7 inch base diameter (1780-1830, South 1977; Miller 1992) (mends with Lot 224, Lot 234)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim and base fragment, plate, 9 inch rim and 7 inch base diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate foot ring diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977;

Miller 1992)

- 1 pearlware sherd, underglaze polychrome hand painted decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted rim decoration, rim fragment, hollow vessel, 2.5 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome unidentified sponge decoration, base fragment, hollow vessel, 4 inch base diameter (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), underglaze blue hand painted decoration, rim fragments, hollow vessel, 5 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, undecorated, flat vessels, stained (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 redware sherds (mend), mottled brown glazed interior and exterior, base fragment, hollow vessel, 2.5 inch base diameter (1792-1809, Magid et al. 2003)
- 1 refined white earthenware sherd, undecorated, flat vessel, stained, burned

Glass

- 1 clear lead cylindrical tableware sherd, freeblown, stemware neck, heavily stained (pre-1860)
- 2 clear lead cylindrical tableware sherds (mend), freeblown, stemware base, heavily stained (pre-1860)
- 4 clear lead cylindrical tableware sherds, freeblown, heavily stained (pre-1860)
- 6 clear lead cylindrical tableware sherds, freeblown, tumbler, rim fragments, heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, tumbler, rim fragment, stained (pre-1860)
- 6 clear soda cylindrical tableware sherds (mend), blown pattern mold, tumbler, rim fragments, copper wheel etched decoration (1750-1850)
- 6 clear soda cylindrical tableware sherds, freeblown, stained (pre-1860)
- 5 light aqua cylindrical bottle sherds, heavily patinated, slightly heat melted
- 1 light aqua cylindrical tableware sherd, base fragment, patinated
- 1 olive amber cylindrical bottle sherd, patinated
- 14 olive green cylindrical bottle sherds (mend), freeblown, crack-off and fire-polished v-shaped lip finish with flattened side string rim, rounded heel, conical push-up, open pontil, 90.8 mm base diameter, patinated (1760-1800, Jones 1986)
- 2 unidentified light aqua sherds, flat, crushed/deteriorated
- 1 very pale aqua cylindrical tableware sherd, freeblown (pre-1860)
- 1 very pale aqua cylindrical tableware sherd, freeblown, rim fragment (pre-1860)

- 1 very pale aqua cylindrical tableware sherd, freeblown, stemware fragment, refired pontil, heavily patinated (pre-1860)
- 4 windowpane sherds, potash, one heavily patinated (pre-1864)

Miscellaneous

- 29 bone fragments, two calcined
- 4 bricks, whole (discarded in field)
- 1 coal fragment, 0.4 grams
- 2 egg shell fragments, .01 grams
- 11 fish scale fragments
- 13 leather shoe and sole fragments
- 5 leather shoe fragments
- 1 mandible fragment, three molars attached
- 2 nut fragments
- 1 oyster shell fragment, 55.2 grams
- 130 seeds
 - 1 skull/maxilla fragment, five molars attached
 - 1 slate fragment
 - 7 teeth

Feature 56, North Bisection, Level 7, Feature Fill 4, Lot 226

Ceramics

- 1 creamware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained (1762-1820, South 1977; Miller 1992) (mends with sherds from Lot 233, Lot 234)
- 1 creamware sherd, undecorated, flat vessel, stained (1762-1820, South 1977; Miller 1992) (mends with sherds from Lot 233, Lot 234)
- 20 creamware sherds (mend), undecorated, Royal pattern rim and base fragments, plate, 10 inch rim and 6 inch base diameters, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, base fragments, plates, 6 inch base diameters (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 233, Lot 234)
- 3 creamware sherds, undecorated, Royal pattern rim fragments, plates, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 233, Lot 234)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral and neoclassical rim band decoration, rim fragment, hollow vessel, 3 inch rim diameter (1765-1810, MACL 2016) (mend with sherds from Lot 224, Lot 232, Lot 233)
- 1 hard paste porcelain sherd (Chinese export), overglaze polychrome and gilt hand painted decoration, base fragment, teapot, 5 inch base diameter (mends with sherds from Lot 223, Lot 224, Lot 225, Lot 233)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration interior, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)

- 1 pearlware sherd, underglaze blue hand painted geometric decoration exterior, hollow vessel, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted rim band decoration interior and exterior, rim fragment, hollow vessel, indeterminate rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted and sponged Birds of Britain Spike pattern decoration, base fragment, flat vessel, 3 inch foot ring fragment (1800-1815, Magid 2010) (mends with sherds from Lot 234)
- 1 pearlware sherd, underglaze polychrome hand painted geometric decoration, lid fragment, 3 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 234)
- 3 pearlware sherds (mend), underglaze polychrome hand painted floral decoration interior and exterior and interior rim band decoration, rim and base fragments, bowl, 5 inch rim and 3 inch base diameters, stained (1795-1815, South 1977; 1780-1835, Miller 1992) (mend with sherds from Lot 234)
- 1 redware sherd, dark brown glazed interior, unglazed exterior, pot (1792-1809, Magid et al. 2003)
- 19 redware sherds (mend), brown glazed interior, unglazed exterior, rim fragment, pot, 7 inch rim diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 234)
- 1 white salt glazed stoneware sherd, molded dot, diaper, and basket rim fragment, plate, indeterminate rim diameter (1740-1775, South 1977; Miller 1992)

Glass

- 4 clear lead tableware sherds (mend), freeblown, folded foot fragments, possible lid, heavily stained (pre-1860)
- 8 clear lead tableware sherds (mend), freeblown, rim fragments, handled mug, heavily stained (pre-1860)
- 1 clear soda cylindrical decanter base fragment, freeblown, refired pontil, 105.8 mm base diameter (pre-1860)
- 1 clear soda cylindrical decanter fragment, freeblown, wide prescription lip finish, interior wear from stopper (pre-1860)
- 46 clear soda cylindrical tableware sherds, freeblown, patinated (pre-1860)
- 4 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler, stained, patinated (pre-1860)
- 2 greenish-aqua cylindrical bottle sherds (mend), freeblown, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, base fragment, bulged heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 101.5 mm, heavily patinated (1760-1800, Jones 1986)
- 1 olive green cylindrical bottle sherd, freeblown, base fragment, bulged heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 99.1 mm, heavily patinated (1760-1800, Jones 1986)

- 1 olive green cylindrical bottle sherd, freeblown, crack-off and fire-polished lip finish with applied up-tooled string rim, wine bottle style, heavily patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, crack-off and fire-polished v-shaped lip finish with applied up-tooled string rim, heavily patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, down-tooled cracked-off lip finish fragment with applied flat string rim, flattened area below string rim, bulged heel, conical push-up, sand pontil, wine bottle style, 97.3 mm base diameter, corked attached, patinated (pre-1860)
- 1 olive green cylindrical bottle sherd, freeblown, down-tooled cracked-off lip finish fragment with flat string rim, wine bottle style, heavily patinated (pre-1860)
- 4 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 50 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 14 olive green square case bottle fragments (mend), freeblown, applied wide bead lip finish, open pontil, pointed base corners, tapered gin bottle, heavily patinated (pre-1860)
- 6 unidentified olive green spalls
- 15 unidentified pale aqua sherds, flat, crushed
- 1 very pale aqua soda cylindrical tableware sherd, freeblown, tumbler base fragment, open pontil, 52.7 mm base diameter (pre-1860)
- 2 very pale aqua soda cylindrical tableware sherds (mend), freeblown, tumbler base fragments, open pontil, indeterminate base diameter (pre-1860)
- 9 very pale aqua soda cylindrical tableware sherds, freeblown, rim fragments, tumbler (pre-1860)
- 5 very pale aqua soda cylindrical tableware sherds, freeblown, tumbler (pre-1860)
- 5 windowpane sherds, potash (pre-1864)

Miscellaneous

- 1 bone fragment, burned
- 33 bone fragments
- 5 brick fragments (four discarded in lab), 69.4 grams
- 1 cinder fragment, 5.5 grams
- 4 coal fragments (three discarded in lab), 21.5 grams
- 3 coke fragments (two discarded in lab), 88.5 grams
- 1 cork, whole, 29.9 mm diameter
- 4 fish scale fragments
- 21 leather shoe and sole fragments (fifteen previously sent to Alexandria Archaeology)
- 1 mandible fragment, six teeth attached
- 2 mortar fragments (one discarded in lab), 14.0 grams
- 1 oyster shell fragment, 0.1 grams
- 1 peach pit fragment
- 356 seeds
- 6 slag fragments (five discarded in lab), 186.3 grams

- 2 teeth fragments
- 1 wood fragment, carved, tapered one end

Feature 56, North Bisection, Level 8, Feature Fill 5, Lot 227

Ceramics

- 1 pearlware sherd, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1830, South 1977; 1780-1830, Miller 1992)
- 1 refined white earthenware sherd, undecorated, base fragment, flat vessel, indeterminate base fragment, burned/stained
- 2 refined white earthenware sherds (mend), molded rim decoration, rim fragment, flat vessel, 9 inch rim diameter, burned/stained
- 2 refined white earthenware sherds (mend), undecorated, handle fragment, hollow vessel, burned/stained
- 2 refined white earthenware sherds, undecorated, flat vessel, burned/stained

Glass

- 1 aqua cylindrical bottle sherd, freeblown, patinated (pre-1860)
- 1 clear soda cylindrical tableware sherd, patinated
- 3 olive green cylindrical bottle sherds, heavily patinated
- 1 olive green square/rectangular bottle sherd, heavily patinated

Miscellaneous

- 2 bone fragments
- 2 coke fragments
- 3 seed fragments

Feature 56, South Bisection, Level 1, Feature Fill 1, Lot 228

Ceramics

- 1 British brown stoneware sherd, hollow vessel (1690-1775, South 1977; Miller 1992)
- 1 creamware sherd, overglaze black transfer printed decoration, hollow vessel (1765-1815, South 1977; Miller 1992)
- 1 creamware sherd, overglaze red enamelled hand painted decoration, hollow vessel, stained (1765-1810, South 1977; Miller 1992)
- 1 creamware sherd, pink glaze, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, flat vessel, 5 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, flat vessel, 5 inch rim diameter, burned (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, hollow vessel, 4 inch foot ring fragment (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Bath pattern rim fragment, plate, 12 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, hollow vessel, burned (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, flat vessel, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel,

- indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, unidentified scalloped rim fragment, plate, 9 inch rim diameter (1762-1820, South 1977; Miller 1992)
 - 2 creamware sherds (mend), undecorated, base fragments, flat vessel, 6 inch base diameter (1762-1820, South 1977; Miller 1992)
 - 2 creamware sherds, undecorated, base fragments, flat vessels, indeterminate base diameter (1762-1820, South 1977; Miller 1992)
 - 6 creamware sherds, undecorated, flat vessels, two stained (1762-1820, South 1977; Miller 1992)
 - 8 creamware sherds, undecorated, hollow vessels, three stained (1762-1820, South 1977; Miller 1992)
 - 11 creamware sherds, undecorated, indeterminate vessel shapes (1762-1820, South 1977; Miller 1992)
 - 3 creamware sherds, undecorated, indeterminate vessel shapes, burned (1762-1820, South 1977; Miller 1992)
 - 1 gray bodied coarse stoneware sherd, clear glazed interior, clear salt glazed exterior, hollow vessel
 - 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted decoration, hollow vessel (1765-1810, MACL 2016)
 - 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted neoclassical rim band decoration, rim fragment, flat vessel, indeterminate rim diameter (1765-1810, MACL 2016)
 - 1 hard paste porcelain sherd (Chinese export), undecorated, flat vessel
 - 1 hard paste porcelain sherd (Chinese export), undecorated, hollow vessel
 - 1 hard paste porcelain sherd (Continental European), undecorated, flat vessel
 - 2 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted neoclassical rim band decoration, scalloped rim fragments, hollow vessel, indeterminate rim diameter (1765-1810, MACL 2016)
 - 3 kaolin pipe bowl fragments
 - 1 pearlware sherd, blue shell edge decoration, rim fragment, plate, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, dipped earthenware, underglaze polychrome annular decoration, hollow vessel (1790-1820, South 1977; 1790-1839, Miller 1992)
 - 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, 8 inch rim diameter, stained (1780-1830, South 1977; 1800-1830, Miller 1992)
 - 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
 - 1 pearlware sherd, undecorated, base fragment, flat vessel,

- indeterminate base diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted chinoiserie decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, flat vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze brown hand painted decoration, rim fragment, indeterminate vessel shape and rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze orange hand painted decoration, molded, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds (mend), underglaze polychrome floral decoration, base fragments, hollow vessel, 3 inch foot ring diameter, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds (mend), underglaze polychrome hand painted floral and geometric decoration, rim fragments, bowl, 7 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), underglaze polychrome hand painted floral and rim band decoration, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 4 pearlware sherds (mend), underglaze polychrome rim band decoration, rim fragments, flat vessel, 6 inch rim diameter, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 5 pearlware sherds, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
- 4 pearlware sherds, undecorated, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 4 pearlware sherds, underglaze blue hand painted floral decoration, hollow vessels (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted floral decoration, rim fragments, flat vessels, indeterminate rim diameters (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted geometric decoration, rim fragments, hollow vessels, indeterminate rim diameters (1780-1820, South 1977; 1780-1830, Miller 1992)
- 2 pearlware sherds, underglaze polychrome hand painted decoration, indeterminate vessel shape (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds, underglaze polychrome unidentified sponge decoration, hollow vessels (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, mottled dark brown interior, unglazed exterior, base fragment, hollow vessel, 3 inch base diameter, burned (1792-1809,

Magid et al. 2003)

- 1 redware sherd, orange glazed interior, mottled dark brown glazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 redware sherd, slipped interior, unglazed exterior, flat vessel (1792-1809, Magid et al. 2003)
- 1 refined white earthenware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter, heavily burned
- 1 refined white earthenware sherd, unidentified black decoration, indeterminate vessel shape

Glass

- 1 aqua cylindrical bottle sherd, patinated
- 1 clear lead cylindrical tableware sherd, freeblown, stemware base, unidentified pontil, stained, heat melted (pre-1860)
- 3 clear lead cylindrical tableware sherds, freeblown, tumbler, heavily stained (pre-1860)
- 7 clear soda cylindrical tableware sherds
- 2 clear soda cylindrical tableware sherds, blown pattern mold, one patinated (1750-1850)
- 5 olive green cylindrical bottle sherds, patinated
- 3 pale aqua cylindrical tableware sherds, patinated
- 1 unidentified aqua sherd, heavily heat melted
- 2 unidentified clear spalls, patinated
- 2 unidentified light aqua sherds, flat, patinated
- 3 unidentified olive green spalls, patinated
- 4 unidentified pale aqua sherds, flat, stained
- 9 windowpane sherds, potash, patinated (pre-1864)
- 6 windowpane sherds, soda (pre-1864)

Metal

- 1 ferrous metal wrought 4d screw
- 2 unidentified ferrous metal fragments
- 1 wrought 10d nail, rosehead, spatulate tip
- 1 wrought 2d nail, rosehead, point tip
- 1 wrought 4 1/2d nail, rosehead, spatulate tip, pulled
- 1 wrought 4d nail, rosehead, point tip, pulled
- 1 wrought 5d nail, rosehead, spatulate tip
- 1 wrought 7d nail, rosehead, spatulate tip
- 1 wrought 7d nail, rosehead, spatulate tip, pulled
- 2 wrought 8d nails, roseheads, spatulate tips, clinched
- 1 wrought nail fragment, rosehead, clinched
- 1 wrought nail fragment, spatulate tip, clinched
- 1 wrought nail fragment, unidentified head, pulled
- 7 wrought nail fragments
- 2 wrought nail fragments, point tips
- 6 wrought nail fragments, roseheads
- 2 wrought nail fragments, spatulate tips
- 7 wrought nail fragments, unidentified heads

Miscellaneous

- 1 bone disc 1-hole sew through button - 1.3 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 4 bone fragments, burned
- 47 bone fragments, four calcined
- 26 brick fragments (discarded in field)
- 3 brick fragments (two discarded in lab), 1.1 grams
- 4 egg shell fragments, 0.2 grams
- 8 fish scale fragments
- 8 leather fragments (five previously sent to Alexandria Archaeology)
- 3 oyster shell fragments (two discarded in lab), 0.2 grams
- 2 peach pit fragments
- 2 plaster fragments, 0.4 grams
- 1 seed
- 1 slate fragment
- 1 snail shell, 1.8 grams
- 2 teeth fragments

Feature 56, South Bisection, Level 2, Feature Fill 2, Lot 229

Ceramics

- 4 black basalt stoneware sherds (mend), molded, hollow vessel (1750-1820, South 1977; Miller 1992) (mends with sherds from Lot 221, Lot 232, Lot 233)
- 1 creamware sherd, overglaze enamelled red hand painted decoration, rim fragment, hollow vessel, indeterminate rim diameter, stained (1765-1810, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, hollow vessel, 4 inch foot ring diameter, heavily stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, indeterminate vessel shape, 3 inch foot ring diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Bath pattern rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, 6 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Royal pattern rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, underglaze black transfer printed decoration, indeterminate vessel shape (1765-1815, South 1977; Miller 1992)
- 3 creamware sherds (mend), undecorated, base fragments, tankard, 3.5 inch foot ring diameter, molded strap handle fragment attached (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 223)
- 9 creamware sherds, undecorated, flat vessels, stained (1762-1820, South 1977; Miller 1992)

- 8 creamware sherds, undecorated, hollow vessels, stained (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds, undecorated, indeterminate vessel shapes (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, rim fragments, hollow vessels, indeterminate rim diameters, stained (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted decoration, hollow vessel (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, hollow vessel (1775-1810, MACL 2016)
- 1 kaolin pipe bowl fragment
- 1 Nottingham-type stoneware sherd, cordoned banding, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 pearlware sherd, dipped earthenware, underglaze polychrome engine turned inlaid rouletting decoration, hollow vessel, stained (1780-1830, South 1977; Miller 1992; c. 1770s - late 19th century, MACL 2016)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter, stained (1780-1830, South 1977; Miller 1992; 1800-1830s, MACL 2016)
- 1 pearlware sherd, green shell edge decoration, unscalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, indeterminate vessel shape and foot ring diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, hollow vessel, heavily stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, base fragment, flat vessel, indeterminate base diameter, heavily stained (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze brown hand painted geometric decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, hollow vessels (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, molded, hollow vessel, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 8 pearlware sherds (mend), dipped earthenware, brown slip, underglaze polychrome hand painted floral decoration on body, yellow dendritic decoration on neck, green rilling base of neck, rim fragment, dutch

- jug, 4 inch rim diameter (1795-1890, South 1977; 1799-1830, Miller 1992) (mends with sherds from Lot 230, Lot 231)
- 4 pearlware sherds (mend), undecorated, base fragments, flat vessel, 3 inch foot ring diameter (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds (mend), underglaze blue hand painted floral decoration, flat vessel, 4 inch foot ring fragment (1780-1820, South 1977; 1780-1830, Miller 1992)
- 4 pearlware sherds, undecorated, flat vessels (1780-1830, South 1977; Miller 1992)
- 4 pearlware sherds, undecorated, hollow vessels (1780-1830, South 1977; Miller 1992)
- 5 pearlware sherds, undecorated, indeterminate vessel shapes (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, underglaze polychrome hand painted rim band decoration, rim fragments, hollow vessels, indeterminate rim diameters, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 redware sherd, dark brown glazed interior, unglazed exterior, base fragment, hollow vessel, 4 inch base diameter (1792-1809, Magid et al. 2003)
- 1 redware sherd, mottled dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 redware sherd, mottled light brown glazed, indeterminate vessel shape (1792-1809, Magid et al. 2003)
- 1 redware sherd, slipped interior, orange glazed exterior, flat vessel (1792-1809, Magid et al. 2003)
- 2 refined white earthenware sherds, undecorated, flat vessel, heavily stained

Glass

- 1 clear lead cylindrical tableware sherd, stained
- 1 clear soda cylindrical tableware sherd, blown pattern mold (1750-1850)
- 1 clear soda cylindrical tableware sherd, freeblown, rim fragment, patinated (pre-1860)
- 2 clear soda cylindrical tableware sherds (mend), freeblown, stemware folded foot fragments, stained (pre-1860)
- 5 clear soda cylindrical tableware sherds, freeblown (pre-1860)
- 1 greenish-aqua cylindrical tableware sherd, everted rim fragment, patinated
- 2 light olive green cylindrical bottle sherds
- 1 olive green cylindrical bottle sherd, heavily patinated
- 3 olive green cylindrical bottle sherds (mend), freeblown, unidentified base fragments, patinated (pre-1860)
- 7 olive green cylindrical bottle sherds, patinated
- 1 unidentified aqua sherd, flat, patinated
- 1 unidentified clear sherd, heat melted
- 6 unidentified light aqua sherds, flat, crushed
- 2 unidentified light aqua sherds, flat, patinated
- 5 unidentified light green sherds, flat, patinated

- 13 unidentified olive green sherds, heavily heat melted
- 23 windowpane sherds, potash (pre-1864)
- 5 windowpane sherds, soda (pre-1864)

Metal

- 1 ferrous metal hook fragment
- 6 ferrous metal shovel blade and partial handle fragment, flat, square
- 2 strap iron fragments
- 1 wrought 10d nail, hand headed, spatulate tip, clinched
- 1 wrought 10d nail, rosehead, spatulate tip, pulled
- 1 wrought 6d nail, hand headed, point tip, pulled
- 1 wrought 6d nail, rosehead, spatulate tip, pulled
- 2 wrought 6d nails, roseheads, spatulate tips
- 1 wrought nail fragment, pulled
- 1 wrought nail fragment, rosehead, pulled
- 1 wrought nail fragment, spatulate tip, pulled
- 9 wrought nail fragments
- 8 wrought nail fragments (two mend), hand headed
- 10 wrought nail fragments, roseheads
- 2 wrought nail fragments, spatulate tips
- 8 wrought nail fragments, unidentified heads

Miscellaneous

- 1 bone disc 1-hole sew through button - 3 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 4 bone fragments, burned
- 68 bone fragments, fifteen calcined
- 1 bone utensil handle fragment
- 12 brick fragments (discarded in field)
- 1 brick, whole (discarded in field)
- 3 charcoal fragments (two discarded in lab), 0.7 grams
- 1 clam shell fragment, 0.9 grams
- 1 coal fragment, 0.1 grams
- 4 egg shell fragments, 0.01 grams
- 22 fish scale fragments
- 6 oyster shell fragments (five discarded in lab), 0.1 grams
- 4 peach pit fragments
- 4 seed/pit fragments
- 23 seeds
- 1 slag fragment, 2.1 grams
- 2 teeth fragments

Feature 56, South Bisection, Level 3, Feature Fill 2, Lot 230

Ceramics

- 4 brown bodied coarse stoneware sherds (mend), unglazed interior, brown salt glazed exterior, base fragments, crock, 6 inch base diameter (1792-1809, Magid 2003)
- 1 buff bodied earthenware sherd, olive green glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 creamware sherd, undecorated, base fragment, flat vessel, 5 inch

- base diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, flat vessel, 5 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
 - 1 creamware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter (1762-1820, South 1977; Miller 1992)
 - 1 creamware sherd, undecorated, base fragment, hollow vessel, 4 inch foot ring fragment, heavily stained (1762-1820, South 1977; Miller 1992)
 - 1 creamware sherd, undecorated, base fragment, hollow vessel, indeterminate foot ring diameter, heavily stained (1762-1820, South 1977; Miller 1992)
 - 1 creamware sherd, undecorated, rim fragment, flat vessel, 10 inch rim diameter, heavily stained (1762-1820, South 1977; Miller 1992)
 - 1 creamware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
 - 4 creamware sherds (mend), overglaze enamelled polychrome hand painted decoration, rim and base fragments, common shape tea bowl fragments, 3 inch rim diameter, 2 inch foot ring diameter, heavily stained/burned (1765-1810, South 1977; Miller 1992) (mend with sherds from Lot 223, Lot 231)
 - 2 creamware sherds (mend), undecorated, probable Royal pattern rim fragments, plate, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
 - 3 creamware sherds (mend), undecorated, rim fragments, hollow vessel, 4 inch rim diameter, stained (1762-1820, South 1977; Miller 1992)
 - 2 creamware sherds, undecorated, flat, stained (1762-1820, South 1977; Miller 1992)
 - 9 creamware sherds, undecorated, hollow vessels, heavily stained (1762-1820, South 1977; Miller 1992)
 - 7 creamware sherds, undecorated, indeterminate vessel shapes, stained (1762-1820, South 1977; Miller 1992)
 - 2 creamware sherds, undecorated, rim fragments, flat vessels, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
 - 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral neoclassical rim band decoration, rim fragment, hollow vessel, indeterminate rim diameter (c.1765-1810, MACL 2016)
 - 1 hard paste porcelain sherd (Chinese export), shadow overglaze enamelled polychrome hand painted floral decoration, indeterminate vessel shape (1765-1810, South 1977; 1790-1825, Miller 1992)
 - 1 hard paste porcelain sherd (Chinese export), shadow overglaze enamelled polychrome hand painted floral decoration, rim fragment, indeterminate vessel shape and rim diameter (1765-1810, South 1977; 1790-1825, Miller 1992)
 - 1 hard paste porcelain sherd (Chinese export), undecorated, hollow vessel

- 3 hard paste porcelain sherds (mend), undecorated, hollow vessel, stained, burned
- 2 kaolin pipe bowl and stem fragments (mend), heavily stained, burned - 5/64 inch bore hole diameter
- 1 kaolin pipe stem fragment - 1/16 inch bore hole diameter
- 1 kaolin pipe stem fragment, heavily stained, burned - 5/64 inch bore hole diameter
- 12 kaolin pipe stem fragments - 5/64 inch bore hole diameter
- 2 kaolin pipe stem fragments - indeterminate bore hole diameter
- 1 Nottingham-type stoneware sherd, incised decoration, hollow vessel (1700-1810, South 1977; Miller 1992)
- 1 pearlware sherd, blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, indeterminate rim diameter, heavily stained, burned (1780-1830, South 1977; Miller 1992; 1820s-1830s, MACL 2016)
- 1 pearlware sherd, dipped earthenware, underglaze polychrome engine turned inlaid rouletting decoration, hollow vessel, stained (1780-1830, South 1977; Miller 1992; c. 1770s - late 19th century, MACL 2016)
- 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, flat vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted geometric rim decoration, rim fragment, hollow vessel, 3 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted rim decoration, scalloped rim fragment, indeterminate vessel shape and rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, base fragment, flat vessel, 3 inch foot ring diameter, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted edge decoration, scalloped rim fragment, hollow vessel, 6 inch rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, possible unidentified maker's mark on base "...S...", base fragment, punch bowls, 5 inch foot ring diameter, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 50 pearlware sherds (mend), dipped earthenware, brown slip, underglaze polychrome hand painted floral decoration on body, yellow dendritic decoration on neck, green rilling base of neck, rim and base fragments, dutch jug, 4 inch rim and 3 inch base diameter (1795-1890, South 1977; 1799-1830, Miller 1992) (mends with sherds from Lot 229, Lot 231)

- 4 pearlware sherds (mend), Prattware, blue shell edge decoration, Rococo scalloped rim fragments, molded crayfish decoration, plate, 4 inch rim diameter, burned (1780-1830, South 1977; Miller 1992; 1790-1820, Magid 2010) (mends with sherds from Lot 231)
- 3 pearlware sherds (mend), underglaze hand painted floral and rim band decoration, hollow vessel, 4 inch rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 12 pearlware sherds (mend), underglaze polychrome (brown and yellow) hand painted rim decoration, rim fragments, punch bowl, 10 inch rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 231)
- 3 pearlware sherds (mend), underglaze polychrome hand painted floral decoration, flat vessel, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), underglaze polychrome hand painted floral decoration, possible unidentified maker's mark on base "...ll...", base fragments, flat vessel, 3 inch foot ring diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 3 pearlware sherds, undecorated, flat vessel, stained (1780-1830, South 1977; Miller 1992)
- 12 pearlware sherds, undecorated, hollow vessel, stained (1780-1830, South 1977; Miller 1992)
- 7 pearlware sherds, undecorated, indeterminate vessel shape, heavily stained (1780-1830, South 1977; Miller 1992)
- 2 pearlware sherds, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
- 3 pearlware sherds, underglaze polychrome hand painted floral decoration, hollow vessel, heavily stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel
- 1 redware sherd, dark brown glazed interior, unglazed exterior, pan base fragment, burned (1792-1809, Magid et al. 2003)
- 1 redware sherd, mottled dark brown glazed interior, unglazed exterior, pot (1792-1809, Magid et al. 2003)
- 1 redware sherd, unglazed interior and exterior, unidentified incised decoration, flower pot (1790-1810, Magid 2010)
- 1 redware sherd, unglazed, flat vessel

Glass

- 1 blue Ia bead, wound, opaque, small, barrel, 6.6 mm diameter, 3.6 mm length (Burgess 2012)
- 1 clear lead cylindrical tableware sherd, blown pattern mold, probable stemware, molded, stained (1750-1850)
- 1 clear lead cylindrical tableware sherd, freeblown, rim fragment, stained (pre-1860)
- 3 clear lead cylindrical tableware sherds, freeblown, tumbler, heavily stained (pre-1860)

- 1 clear soda cylindrical tableware sherd, freeblown, rim fragment, tumbler, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, stemware, patinated (pre-1860)
- 10 clear soda cylindrical tableware sherds, freeblown, tumbler, stained (pre-1860)
- 1 olive green cylindrical bottle sherd, heavily patinated
- 10 olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 15 unidentified aqua sherds, flat, patinated
- 1 unidentified clear sherd, curved, thick, patinated
- 1 unidentified clear sherd, heat melted, patinated
- 1 unidentified clear spall, patinated
- 1 unidentified green sherd, heat melted, stained
- 2 unidentified light aqua sherds, flat, patinated
- 38 unidentified pale aqua sherds, flat, crushed/deteriorated
- 2 unidentified very pale aqua sherds, flat, patinated
- 6 windowpane sherds, potash (pre-1864)
- 3 windowpane sherds, soda, stained (pre-1864)
- 3 windowpane sherds, soda/potash (pre-1864)

Metal

- 1 brass flat disc button, unidentified attachment -- 1.6 cm diameter (Type 9, 1726-1776, Noel Hume 1976:91-92)
- 1 ferrous metal rod with spike head, hand wrought, L-shaped, rod length 3.5 inches, rod diameter .5 inches, spike head length 6.5 inches, spike head width 1.5 inches (tapered), possible pintle
- 2 unidentified ferrous metal fragments, possible wrought spike fragments
- 1 wrought nail fragment, hand headed, clinched
- 1 wrought nail fragment, hand headed, pulled
- 1 wrought nail fragment, unidentified head, pulled
- 4 wrought nail fragments
- 3 wrought nail fragments (mend), hand headed, burned
- 5 wrought nail fragments, hand headed
- 2 wrought nail fragments, roseheads, pulled
- 4 wrought nail fragments, unidentified heads

Miscellaneous

- 1 bone disc 1-hole sew through button - 1.8 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 34 bone fragments, burned
- 105 bone fragments, seventy-two calcined
- 10 brick fragments (discarded in field)
- 2 brick fragments, 0.01 grams
- 1 coral fragment, stained, 14.2 grams
- 18 egg shell fragments, 0.4 grams
- 12 fish scale fragments
- 1 leather fragment
- 5 leather shoe and sole fragments
- 12 oyster shell fragments (eleven discarded in lab), 0.7 grams

- 7 peach pit fragments
- 1 rodent claw/nail fragment
- 571 seeds
- 1 snail shell, 1.6 grams

Prehistoric

- 1 chalcedony biface thinning flake, whole, 17.8 mm x 16.1 mm

Feature 56, South Bisection, Level 4, Feature Fill 3, Lot 231

Ceramics

- 1 buff bodied earthenware sherd, olive green and orange glazed interior and exterior, posset cup (1792-1809, Magid et al. 2003)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, 4 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds (mend), overglaze enamelled polychrome hand painted decoration, rim fragments, common shape tea bowl fragments, 3 inch rim diameter, heavily stained (1765-1810, South 1977; Miller 1992) (mend with sherds from Lot 223, Lot 230)
- 3 creamware sherds, undecorated, flat vessels, stained (1762-1820, South 1977; Miller 1992)
- 10 creamware sherds, undecorated, hollow vessels, stained (1762-1820, South 1977; Miller 1992)
- 3 creamware sherds, undecorated, rim fragments, hollow vessels, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted decoration, hollow vessel (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral and neoclassical rim decoration, rim and base fragment, saucer, 5 inch rim and 3 inch base diameters (1765-1810, MACL 2016) (mends with sherds from Lot 232)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted neoclassical rim decoration, rim fragment, hollow vessel (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, flat vessel (1775-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, rim fragment, flat vessel, indeterminate rim diameter (1775-1810, MACL 2016)
- 1 kaolin pipe bowl fragment
- 3 kaolin pipe stem fragments, one stained and heavily corroded - 5/64 inch bore hole diameters
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, indeterminate rim diameter (1780-1830, South 1977; 1800-1830, Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, hollow vessel, 5 inch base diameter, burned (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, plate, 6 inch base

- diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze hand painted floral and rim band decoration, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration, hollow vessel, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration, scalloped rim fragment, hollow vessel, 4 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted geometric decoration, hollow vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds (mend), dipped earthenware, brown slip, underglaze polychrome hand painted floral decoration on body, dutch jug (1795-1890, South 1977; 1799-1830, Miller 1992) (mends with sherds from Lot 230, Lot 231)
 - 2 pearlware sherds (mend), Prattware, blue shell edge decoration, Rococo scalloped rim fragments, plate, 4 inch rim diameter, burned (1780-1830, South 1977; Miller 1992; Magid 2010) (mends with sherds from Lot 230)
 - 2 pearlware sherds (mend), undecorated, base fragment, plate, 6 inch base diameter, heavily stained (1780-1830, South 1977; Miller 1992)
 - 2 pearlware sherds (mend), undecorated, plate, stained (1780-1830, South 1977; Miller 1992)
 - 2 pearlware sherds (mend), underglaze polychrome (brown and yellow) hand painted rim decoration, rim fragments, punch bowl, 10 inch rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 230)
 - 2 pearlware sherds (mend), underglaze polychrome hand painted rim decoration, rim fragments, bowl, 5 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 3 pearlware sherds (mend), underglaze polychrome hand painted rim decoration, scalloped rim fragments, hollow vessel, indeterminate rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds, undecorated, flat vessels, stained (1780-1830, South 1977; Miller 1992)
 - 2 pearlware sherds, undecorated, hollow vessels, stained (1780-1830, South 1977; Miller 1992)
 - 1 redware sherd, dark brown glazed interior, unglazed exterior, indeterminate vessel shape (1792-1809, Magid et al. 2003)
 - 1 redware sherd, mottled dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
 - 1 redware sherd, unglazed, indeterminate vessel shape

- 2 redware sherds (mend), brown glazed interior, unglazed exterior, pot (1792-1809, Magid et al. 2003) (mends with sherds from Lot 226, Lot 234)
- 4 refined white earthenware sherds, undecorated, flat vessels, heavily stained, burned
- 2 refined white earthenware sherds, undecorated, hollow vessels, heavily stained, burned

Glass

- 1 clear lead cylindrical tableware sherd, freeblown, tumbler, heavily stained (pre-1860)
- 3 clear lead cylindrical tableware sherds, freeblown, rim fragments, probable handled mug, very heavily stained (pre-1860)
- 4 clear soda cylindrical lamp chimney sherds, freeblown, heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, probable pushup fragment, stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, rim fragment, stained (pre-1860)
- 2 clear soda cylindrical tableware sherds, blown pattern mold, flip cup, stained (1750-1850)
- 4 clear soda cylindrical tableware sherds, freeblown, folded foot fragments, probable handled mug, heavily stained (pre-1860)
- 3 clear soda cylindrical tableware sherds, freeblown, rim fragment, copper wheel etched decoration, tumbler, stained (pre-1860)
- 4 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler, stained (pre-1860)
- 4 clear soda cylindrical tableware sherds, freeblown, stained (pre-1860)
- 14 clear soda cylindrical tableware sherds, freeblown, tumbler, stained (pre-1860)
- 1 clear soda multi-sided tableware sherd, freeblown, possible hand etching, chamfered corner, heavily stained, patinated (pre-1860)
- 2 dark green cylindrical bottle sherds, heavily patinated
- 1 light green square/rectangular bottle sherd, freeblown, stained (pre-1860)
- 3 olive amber cylindrical bottle sherds (mend), rounded heel, conical push-up, sand pontil, 75.8 mm base diameter, patinated (1760-1800, Jones 1986)
- 13 olive amber cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 4 unidentified aqua sherds, flat, patinated
- 2 unidentified green sherds, flat, stained
- 4 unidentified light aqua sherds, flat, patinated
- 1 unidentified light green sherd, flat, stained
- 1 unidentified light green sherd, heat melted, heavily patinated
- 80 unidentified pale aqua sherds, flat, crushed/deteriorated
- 23 windowpane sherds, potash (pre-1864)
- 4 windowpane sherds, soda (pre-1864)

Metal

- 2 brass concertina reed fragments, flat, rectangular, small hole one end,

- rectangular hole other end
- 2 strap iron fragments
- 1 wrought nail fragment
- 1 wrought nail fragment, unidentified head, pulled

Miscellaneous

- 1 bean fragment
- 4 black walnut shell fragments
- 1 bone disc 1-hole sew through button - 1.5 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 1 bone disc 1-hole sew through button - 1.7 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 46 bone fragments, burned
- 253 bone fragments, thirty-five calcined
- 17 brick fragments (fifteen discarded in lab), 45.6 grams
- 6 clam shell fragments (five discarded in lab), 12.3 grams
- 3 egg shell fragments, 0.1 grams
- 21 fish scale fragments
- 3 husk fragments
- 10 leather shoe and sole fragments (six previously sent to Alexandria Archaeology)
- 6 mortar fragments (five discarded in lab), 7.3 grams
- 1 nut shell fragment
- 3 oyster shell fragments, 0.1 grams
- 2 peach pit fragments
- 1 pumpkin stem fragment
- 3,223 seed fragments
- 2 unidentified wooded fragments, possible tools, oval with tapered ends, notched center, 7.2 inches x 1.3 inches and 7.6 inches x 1.3 inches
- 1 wooden barrel head fragment, single board, beveled outside edge (chime), 14.4 inches x 4.9 inches

Feature 56, South Bisection, Level 5, Feature Fill 3, Lot 232

Ceramics

- 1 black basalt stoneware sherd, undecorated, hollow vessel (1750-1820, South 1977; Miller 1992) (mends with sherds from Lot 221, Lot 229, Lot 233)
- 1 creamware sherd, dipped earthenware, underglaze polychrome banded decoration, hollow vessel, stained (1780-1815, South 1977; Miller 1992)
- 1 creamware sherd, molded diamond beaded border, rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, hollow vessel, 5 inch base diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, hollow vessel, indeterminate base diameter (1762-1820, South 1977; Miller 1992)
- 7 creamware sherds (mend), undecorated, rim and base fragments, common shape bowl, 4 inch rim and 2 inch base diameters, stained (1762-1820, South 1977; Miller 1992)

- 2 creamware sherds, undecorated, base fragments, flat vessels, indeterminate base diameters (1762-1820, South 1977; Miller 1992)
- 15 creamware sherds, undecorated, hollow vessels, stained (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds, undecorated, indeterminate vessel shapes (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds, undecorated, rim fragment, bowl, 6 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 5 creamware sherds, undecorated, rim fragments, hollow vessels, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, scalloped rim fragments, plates, indeterminate rim diameters (1762-1820, South 1977; Miller 1992)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral and neoclassical rim band decoration, scalloped rim fragment, bowl, 3.5 inch rim diameter (1765-1810, MACL 2016) (mends with sherds from Lot 224, Lot 225, Lot 233)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral decoration, base fragment, flat vessel, indeterminate base diameter (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted neoclassical decoration, base fragment, flat vessel, 3 inch base diameter, stained (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted neoclassical rim band decoration, scalloped rim fragment, hollow vessel, indeterminate rim diameter (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), undecorated, base fragment, hollow vessel, indeterminate foot ring diameter
- 1 hard paste porcelain sherd (Chinese export), undecorated, rim fragment, hollow vessel, indeterminate rim diameter
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, rim fragment, hollow vessel, indeterminate rim diameter (1775-1810, MACL 2016)
- 20 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted floral and neoclassical rim band decoration, rim and base fragments, saucer, 6 inch rim and 4 inch base diameters (1765-1810, MACL 2016) (mend with sherds from Lot 231)
- 2 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted neoclassical rim band decoration, rim fragment, common shape tea cup, 3 inch rim and 2 inch base diameters, molded press molded handle attached (1765-1810, MACL 2016) (mend with sherds from Lot 224, Lot 226, Lot 233)
- 3 hard paste porcelain sherds (Chinese export), overglaze enamelled polychrome hand painted floral decoration, hollow vessels (1765-1810, MACL 2016)

- 4 hard paste porcelain sherds (Chinese export), undecorated, hollow vessels
- 4 kaolin pipe bowl fragments
- 1 pearlware sherd, blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, indeterminate rim diameter, stained (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim and base fragment, plate, indeterminate rim diameter, 6 inch base diameter, stained (1780-1830, South 1977; 1800-1830, Miller 1992) (mend with sherds from Lot 224, Lot 233)
- 1 pearlware sherd, green shell edge decoration, Rococo scalloped rim fragment, plate, 7.0 inch rim diameter, stained (1780-1830, South 1977; Miller 1992; 1775-1810, MACL 2016) (mend with sherds from Lot 224, Lot 233)
- 1 pearlware sherd, underglaze blue hand painted floral decoration, base fragment, flat vessel, indeterminate base diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze blue hand painted geometric decoration, rim fragment, indeterminate vessel shape and rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, underglaze brown rim band and floral decoration, rim fragment, hollow vessel, indeterminate rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze brown rim band decoration, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted decoration, base fragment, plate, 4 inch base diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, flat vessel (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted geometric decoration, rim fragment, lid, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
- 5 pearlware sherds (mend), green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragments, rim and base fragments, plate, 8 inch rim and 6 inch base diameters, stained (1780-1830, South 1977; 1800-1830, Miller 1992) (mend with sherds from Lot 224, Lot 233)
- 12 pearlware sherds (mend), underglaze blue transfer printed floral decoration, brown hand painted rim band, rim and handle fragments, creamer, 3 inch rim diameter, stained (1795-1840, South 1977; 1787-1830, Miller 1992) (mend with sherds in Lot 224, Lot 225, Lot 233)
- 2 pearlware sherds (mend), underglaze polychrome hand painted floral rim band decoration, rim fragments, flat vessel, 6 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)

- 5 pearlware sherds (mend), underglaze polychrome hand painted geometric rim decoration, rim and base fragments, saucer, 6 inch rim and 4 inch base diameters, stained (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 233, Lot Lot 234)
- 3 pearlware sherds (two mend), undecorated, base fragments, plate, 6 inch rim diameter, stained (1780-1830, South 1977; Miller 1992) (mend with sherds from Lot 224, Lot 233)
- 2 pearlware sherds, undecorated, flat vessels, stained (1780-1830, South 1977; Miller 1992) (mend with sherds from Lot 224, Lot 233)
- 4 pearlware sherds, undecorated, hollow vessels, stained (1780-1830, South 1977; Miller 1992)
- 3 pearlware sherds, underglaze blue hand painted floral decoration, hollow vessels (1780-1820, South 1977; 1780-1830, Miller 1992)
- 3 pearlware sherds, underglaze polychrome hand painted floral decoration, hollow vessels (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, flat vessel (1792-1809, Magid et al. 2003)
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 redware sherd, dark brown glazed interior, unglazed exterior, hollow vessel, probable pot (1792-1809, Magid et al. 2003)
- 1 redware sherd, mottled brown glazed interior and exterior, indeterminate vessel shape (1792-1809, Magid et al. 2003)
- 1 redware sherd, slipped interior, orange glazed exterior, bowl (1792-1809, Magid et al. 2003)

Glass

- 2 clear cylindrical lamp chimney fragments, stained
- 1 clear lead cylindrical tableware sherd, freeblown, base fragment, tumbler, very heavily patinated and stained (pre-1860)
- 3 clear lead cylindrical tableware sherds, freeblown, folded foot fragments, very heavily stained (pre-1860)
- 7 clear lead cylindrical tableware sherds, freeblown, probable base fragments, very heavily stained (pre-1860)
- 3 clear lead cylindrical tableware sherds, freeblown, very heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, blown pattern mold, base fragment, open pontil, flip glass (1750-1850)
- 1 clear soda cylindrical tableware sherd, freeblown, base fragment, conical push-up, refired pontil, heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, base fragment, open pontil, tumbler (pre-1860)
- 1 clear soda cylindrical tableware sherd, freeblown, folded foot base fragment, probable handled mug, stained (pre-1860)
- 4 clear soda cylindrical tableware sherds (mend), freeblown, rim fragments, copper wheel etched decoration, tumbler (pre-1860)

- 2 clear soda cylindrical tableware sherds, blown pattern mold, flip cup (1750-1850)
- 4 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler, heavily stained (pre-1860)
- 4 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler, stained (pre-1860)
- 2 clear soda cylindrical tableware sherds, freeblown, thick, stained (pre-1860)
- 16 clear soda cylindrical tableware sherds, freeblown, tumbler (pre-1860)
- 2 clear soda cylindrical tableware sherds, heavily patinated
- 1 light aqua square/rectangular tableware sherd, rim fragment, patinated
- 4 olive amber cylindrical bottle sherds (mend), freeblown, bulged heel, conical push-up, sand pontil, 95.9 mm base diameter, very heavily patinated (1760-1800, Jones 1986)
- 3 olive amber cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 1 unidentified aqua sherd, flat, heavily patinated
- 14 unidentified light aqua sherds, flat, crushed/deteriorated
- 3 unidentified light aqua sherds, heat melted, patinated
- 1 unidentified light aqua spall
- 1 unidentified pale aqua sherd, flat, heavily patinated
- 1 unidentified very pale green sherd, curved, stained
- 5 windowpane sherds, potash (pre-1864)
- 2 windowpane sherds, soda (pre-1864)

Metal

- 1 brass grommet, possibly related to spigot/tap, 33.9 mm diameter
- 1 brass spigot/tap fragment
- 3 unidentified ferrous metal fragments
- 2 wrought nail fragment, unidentified head, pulled
- 4 wrought nail fragments, unidentified heads

Miscellaneous

- 9 bone fragments, burned
- 263 bone fragments, twenty-two calcined
- 18 brick fragments (seventeen discarded in lab), 345.3 grams
- 1 clam shell fragment, 0.5 grams
- 4 coal fragments (three discarded in lab), 14.9 grams
- 67 fish scale fragments
- 1 kiln furniture fragment
- 61 leather shoe fragments
- 2,056 seed fragments
- 1 shell/bone fragment
- 1 slate fragment
- 1 snail shell fragment, 0.3 grams
- 1 wooden bung fragment, small

Feature 56, South Bisection, Level 6, Feature Fill 3, Lot 233

Ceramics

- 2 black basalt stoneware sherds (mend), molded, hollow vessel (1750-1820), South 1977; Miller 1992) (mends with sherds from Lot 221, Lot 229, Lot 232)

- 1 buff bodied coarse earthenware sherd, dark brown glazed, indeterminate vessel shape, burned (1792-1809, Magid et al. 2003)
- 1 buff bodied earthenware sherd, green glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 buff bodied earthenware sherd, mottled orange and brown glazed interior, orange glazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 buff bodied earthenware sherd, orange glazed interior, mottled dark brown glazed exterior, hollow vessel (1792-1809, Magid et al. 2003)
- 1 buff bodied earthenware sherd, unglazed interior, dark brown glazed exterior, hollow vessel, burned (1792-1809, Magid et al. 2003)
- 1 creamware sherd, overglaze red enamelled hand painted decoration, hollow vessel (1765-1810, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, hollow vessel, 6 inch base diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, indeterminate vessel shape and foot ring diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, indeterminate vessel shape and foot ring diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, plate, 6 inch base diameter, burned (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Bath pattern rim fragment, plate, 8 inch rim diameter (1762-1820, South 1977; Miller 1992) (mends with sherds from Lot 226, Lot 234)
- 1 creamware sherd, undecorated, Bath pattern rim fragment, plate, indeterminate rim diameter (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 226, Lot 234)
- 1 creamware sherd, undecorated, hollow vessel, burned (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, indeterminate vessel shape, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim and base fragment, bowl, indeterminate rim and base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, underglaze black transfer printed decoration, indeterminate vessel shape (1765-1815, South 1977; Miller 1992)
- 3 creamware sherds (mend), overglaze polychrome enamelled hand painted floral decoration, hollow vessel (1765-1810, South 1977; Miller 1992)
- 3 creamware sherds (mend), undecorated, flat vessel, stained (1762-1820, South 1977; Miller 1992)
- 4 creamware sherds (mend), undecorated, Royal pattern rim and base fragments, plate, indeterminate rim and 7 inch base diameter (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 226, Lot 234)

- 5 creamware sherds, undecorated, flat vessels (1762-1820, South 1977; Miller 1992)
- 6 creamware sherds, undecorated, hollow vessels, two heavily stained (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds, undecorated, Royal pattern rim fragment, plates, indeterminate rim diameters, one heavily stained (1762-1820, South 1977; Miller 1992) (mend with sherds from Lot 226, Lot 234)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled black hand painted decoration, hollow vessel, burned (1765-1810, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral decoration with underglaze blue hand painted decoration, flat vessel (1700-1760, MACL 2016)
- 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted neoclassical rim band decoration, rim fragment, indeterminate vessel shape (1765-1810, MACL 2016) (mends with sherds from Lot 224, Lot 226, Lot 232)
- 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, hollow vessel, stained (1775-1810, MACL 2016)
- 1 hard paste porcelain sherd, undecorated, base fragment, common shape cup, 1.5 inch foot ring fragment
- 3 hard paste porcelain sherds (Chinese export) (mend), overglaze enamelled polychrome hand painted floral and neoclassical rim band decoration, base and scalloped rim fragment, common shape cup, 4 inch rim and 1.5 inch base diameters (1765-1810, MACL 2016) (mends with sherds from Lot 224, Lot 225, Lot 232)
- 3 hard paste porcelain sherds (Chinese export) (mend), overglaze polychrome and gilt hand painted decoration, base fragment, teapot, 5 inch base diameter (mends with sherds from Lot 223, Lot 224, Lot 225, Lot 226)
- 3 hard paste porcelain sherds (Chinese export), overglaze enamelled polychrome hand painted floral decoration, hollow vessels (1765-1810, MACL 2016) (mend with sherds from Lot 224, Lot 226, Lot 232)
- 5 hard paste porcelain sherds, undecorated, hollow vessels
- 1 kaolin pipe bowl fragment
- 1 kaolin pipe stem, partial bowl, and heel fragment, "T/D" embossed astride heel - 5/64 inch bore hole diameter (1750-1898)
- 1 pearlware sherd, blue shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, flat vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 pearlware sherd, dipped earthenware, polychrome annular decoration, rim fragment, hollow vessel, indeterminate rim diameter (1790-1820, South 1977; 1790-1839, Miller 1992)
- 1 pearlware sherd, dipped earthenware, polychrome annular decoration, rim fragment, hollow vessel, indeterminate rim diameter, stained, burned (1790-1820, South 1977; 1790-1839, Miller 1992)
- 1 pearlware sherd, undecorated, base fragment, plate, indeterminate

- base diameter (1780-1830, South 1977; Miller 1992) (mend with sherds from Lot 224, Lot 232)
- 1 pearlware sherd, undecorated, flat vessel (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, undecorated, handle fragment, hollow vessel (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, undecorated, hollow vessel (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, undecorated, molded handle fragment, hollow vessel (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, undecorated, rim fragment, hollow vessel, 3 inch rim diameter, burned (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, underglaze blue hand painted chinoiserie decoration, base fragment, hollow vessel, 3 inch foot ring diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue hand painted decoration, indeterminate vessel shape (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue negative transfer printed, rim fragment, indeterminate vessel shape and rim diameter (1795-1840, South 1977; 1787-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue rim band decoration, hollow vessel, 2.5 inch foot ring fragment (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze blue transfer printed scroll decoration, creamer (1795-1840, South 1977; 1787-1830, Miller 1992) (mends with sherds from Lot 224, Lot 225, Lot 232)
 - 1 pearlware sherd, underglaze brown rim band decoration, rim fragment, hollow vessel, 2.5 inch rim diameter, burned (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted and sponged Birds of Britain Spike pattern decoration, flat vessel (1800-1815, Magid 2010)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration exterior and brown rim band interior, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration exterior and interior, rim fragment, hollow vessel, indeterminate rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral decoration, base fragment, flat vessel, 3 inch foot ring fragment (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 222, Lot 223)
 - 1 pearlware sherd, underglaze polychrome hand painted geometric rim decoration, base fragment, saucer, 6 inch rim and 4 inch base

- diameter (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 232, Lot 234)
- 5 pearlware sherds (mend), underglaze polychrome hand painted floral decoration with orange rim band, scalloped rim fragments, hollow vessel, 4 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds, green shell edge decoration, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragments, rim and base fragments, plate, 8 inch rim and 6 inch base diameters, stained (1780-1830, South 1977; 1800-1830, Miller 1992) (mend with sherds from Lot 224, Lot 232)
 - 10 pearlware sherds, undecorated, indeterminate vessel shapes, three stained (1780-1830, South 1977; Miller 1992)
 - 4 pearlware sherds, underglaze polychrome hand painted decoration, indeterminate vessel shapes (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds, underglaze polychrome hand painted floral decoration, hollow vessels (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds, underglaze polychrome hand painted rim decoration, rim fragments, hollow vessels, indeterminate rim diameters (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 red bodied coarse earthenware sherd, mottled dark brown glazed exterior, hollow vessel, burned (1792-1809, Magid et al. 2003)
 - 1 redware sherd, dark brown glazed interior and exterior, hollow vessel (1792-1809, Magid et al. 2003)
 - 1 refined white earthenware sherd, undecorated, flat vessel, very heavily stained/burned
 - 2 refined white earthenware sherds, undecorated, rim fragments, flat vessels, indeterminate rim diameters, very heavily stained/burned
 - 1 tin glazed earthenware sherd, underglaze polychrome hand painted rim band decoration, rim fragment, flat vessel, indeterminate rim diameter (1700-1800, South 1977; Miller 1992)

Glass

- 5 aqua cylindrical bottle sherds, patinated
- 1 clear lead cylindrical tableware sherd, freeblown, possible base fragment with refired pontil, very heavily stained (pre-1860)
- 7 clear lead cylindrical tableware sherds, freeblown, folded foot base fragments, probable handled mug, very heavily patinated (pre-1860)
- 6 clear lead cylindrical tableware sherds, freeblown, rim fragments, tumbler, very heavily stained (pre-1860)
- 26 clear lead cylindrical tableware sherds, freeblown, tumbler, very heavily stained (pre-1860)
- 1 clear soda cylindrical decanter fragment, blown pattern mold, faceted flared lip finish, interior wear from stopper (1750-1850)
- 1 clear soda cylindrical tableware sherd, heavily patinated
- 2 clear soda cylindrical tableware sherds (mend), freeblown, rim

- fragments, copper wheel etched decoration, tumbler, patinated (pre-1860)
- 9 clear soda cylindrical tableware sherds, freeblown, flip cup, patinated (pre-1860)
- 4 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler (pre-1860)
- 26 clear soda cylindrical tableware sherds, freeblown, tumbler, patinated (pre-1860)
- 4 clear soda cylindrical tableware sherds, heavily patinated
- 1 dark blue cylindrical bead, barrel shape with tapered ends, faceted, 12.1 mm length, 7.8 width
- 1 green cylindrical bottle sherd, patinated
- 9 greenish-aqua multi-sided bottle sherds (mend), contact mold, open pontil, concave chamfered corners, condiment bottle, patinated (1810-1860)
- 8 light aqua cylindrical bottle sherds, patinated
- 1 olive green cylindrical bottle sherd, freeblown, down-tooled cracked-off lip finish fragment with flat string rim, deliberate groove between lip and string rim, heavily patinated (1835-1855, Jones 1986)
- 1 olive green cylindrical bottle sherd, unidentified lip finish fragment, heavily patinated
- 6 olive green cylindrical bottle sherds, freeblown, heavily patinated (pre-1860)
- 1 opaque white glass cylindrical tableware sherd, handle fragment, handled mug
- 2 unidentified aqua sherds, flat, patinated
- 22 unidentified aqua sherds, heavily heat melted, patinated
- 152 unidentified light aqua sherds, flat, crushed, patinated
- 3 unidentified light aqua sherds, flat, patinated
- 1 unidentified light green spall
- 2 very pale aqua cylindrical tableware sherds, freeblown, rim fragments, tumbler (pre-1860)
- 38 windowpane sherds, potash, patinated (pre-1864)
- 17 windowpane sherds, soda, patinated (pre-1864)

Metal

- 1 brass straight pin - 37.3 mm length
- 4 unidentified ferrous metal fragments
- 1 wrought nail fragment, pulled
- 10 wrought nail fragments
- 2 wrought nail fragments, spatulate tips
- 2 wrought nail fragments, unidentified heads
- 4 wrought spike fragments

Miscellaneous

- 34 black walnut shell fragments
- 1 bone disc 1-hole sew through button - 1.8 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 53 bone fragments, burned

- 442 bone fragments, forty-four calcined
- 22 brick fragments (eighteen discarded in lab), 96.6 grams
- 5 bricks, whole (discarded in field)
- 1 charcoal fragment, 0.5 grams
- 2 coal fragments, 0.6 grams
- 1 coral fragment, 6.2 grams
- 19 egg shell fragments, 0.7 grams
- 111 fish scale fragments
- 37 husk fragments
- 142 leather shoe fragments (138 previously sent to Alexandria Archaeology)
- 1 mortar fragment, 11.5 grams
- 15 oyster shell fragments (fourteen discarded in lab), 30.0 grams
- 44 peach pit fragments
- 5,192 seed fragments
- 12 shell fragments, 3.6 grams
- 4 slag fragments (three discarded in lab), 7.2 grams
- 2 teeth fragments
- 1 wooden bung - 2.3 cm diameter
- 1 wooden bung - 4.3 cm diameter

Feature 56, South Bisection, Level 7, Feature Fill 4, Lot 234

Ceramics

- 2 brown bodied coarse stoneware sherds, unglazed interior, brown salt glazed exterior, hollow vessel
- 1 buff bodied coarse earthenware sherd, unglazed interior and exterior, molded with rouletted vertical lines, rim fragment, flower pot, 9 inch rim diameter (1790-1810, Magid 2010)
- 1 creamware sherd, undecorated, base fragment, plate, 5 inch base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Bath pattern rim and base fragment, plate, 10 inch rim and 8 inch base diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Bath pattern rim fragment, plate, 10 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, chamber pot lip, 8 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, 6 inch rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, rim fragment, hollow vessel, indeterminate rim diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Royal pattern rim fragment, flat vessel, indeterminate rim diameter, burned (1762-1820, South 1977; Miller 1992)
- 2 creamware sherds (mend), undecorated, base fragments, plate, 6 inch base diameter, heavily stained (1762-1820, South 1977; Miller 1992)
- 11 creamware sherds (mend), undecorated, Royal pattern rim and base fragments, plate, 8 inch rim and 6 inch base diameter, stained (1762-

- 1820, South 1977; Miller 1992) (mend with sherds from Lot 226, Lot 233)
- 2 creamware sherds, undecorated, flat vessel, heavily burned (1762-1820, South 1977; Miller 1992)
 - 7 creamware sherds, undecorated, flat vessels, stained (1762-1820, South 1977; Miller 1992)
 - 5 creamware sherds, undecorated, hollow vessels, stained (1762-1820, South 1977; Miller 1992)
 - 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted floral decoration, flat vessel (1765-1810, MACL 2016)
 - 1 hard paste porcelain sherd (Chinese export), overglaze enamelled polychrome hand painted neoclassical rim band decoration, rim fragment, hollow vessel, indeterminate rim diameter (1765-1810, MACL 2016)
 - 1 hard paste porcelain sherd (Chinese export), undecorated, flat vessel
 - 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, base fragment, hollow vessel, 3 inch foot ring diameter (1775-1810, MACL 2016)
 - 1 hard paste porcelain sherd (Chinese export), underglaze blue hand painted decoration, base fragment, hollow vessel, indeterminate base diameter (1775-1810, MACL 2016)
 - 1 kaolin pipe bowl fragment
 - 1 kaolin pipe stem fragment - 5/64 inch bore hole diameter
 - 1 pearlware sherd, blue shell edge decoration, Rococo scalloped rim and base fragment, plate, 10 inch rim and 7 inch base diameter (1780-1830, South 1977; Miller 1992; 1775-1810, MACL 2016) (mends with sherds from Lot 224, Lot 225)
 - 1 pearlware sherd, green shell edge decoration, neoclassically-inspired symmetrical scalloped rim fragment, plate, indeterminate rim diameter, burned (1780-1830, South 1977; 1800-1830, Miller 1992)
 - 1 pearlware sherd, undecorated, base fragment, flat vessel, indeterminate base diameter, stained (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, undecorated, indeterminate vessel shape, stained (1780-1830, South 1977; Miller 1992)
 - 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel, burned (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue hand painted floral decoration, rim fragment, hollow vessel, 6 inch rim diameter, stained (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze blue hand painted rim band decoration, rim fragment, hollow vessel, 6 inch rim diameter (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted floral

- decoration, base fragment, hollow vessel, 3 inch foot ring diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 1 pearlware sherd, underglaze polychrome hand painted floral decoration, base fragment, hollow vessel, 4 inch foot ring diameter, burned (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 226)
 - 1 pearlware sherd, underglaze polychrome hand painted geometric decoration exterior, rim fragment, saucer, indeterminate rim diameter, heavily burned (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 1 pearlware sherd, underglaze polychrome hand painted geometric decoration interior, rim and base fragment, saucer, 4 inch rim and 6 inch base diameter (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 232, Lot 233)
 - 2 pearlware sherds (mend), underglaze polychrome hand painted and sponged Birds of Britain Spike pattern decoration, base fragments, plate, 3 inch foot ring fragment (1800-1815, Magid 2010) (mends with sherd from Lot 226)
 - 5 pearlware sherds (mend), underglaze polychrome hand painted floral decoration, rim and base fragments, punch bowl, 6 inch rim and 3 inch base diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 226)
 - 2 pearlware sherds (mend), underglaze polychrome hand painted geometric decoration, lid fragment, 4 inch rim diameter, burned (1795-1815, South 1977; 1780-1835, Miller 1992)
 - 2 pearlware sherds (mend), underglaze polychrome hand painted geometric decoration, lid fragment, finial, 3 inch rim diameter (1795-1815, South 1977; 1780-1835, Miller 1992) (mends with sherds from Lot 226)
 - 2 pearlware sherds, undecorated, flat vessels, stained (1780-1830, South 1977; Miller 1992)
 - 3 pearlware sherds, underglaze blue hand painted rim band decorations, rim fragments, indeterminate vessel shape and rim diameters (1780-1820, South 1977; 1780-1830, Miller 1992)
 - 1 redware sherd, annular trailed slip decoration interior, unglazed exterior, flat vessel, wrought nail attached
 - 1 redware sherd, mottle dark brown glazed interior and exterior, everted rim fragment, hollow vessel, indeterminate rim diameter
 - 1 redware sherd, mottled dark brown glazed interior and exterior, rim fragment, indeterminate vessel shape and rim diameter
 - 6 redware sherds (mend), brown glazed interior, unglazed exterior, base fragment, pot, 5.5 inch base diameter (1792-1809, Magid et al. 2003) (mends with sherds from Lot 226)
 - 1 redware spall, brown glazed, indeterminate vessel shape
 - 1 refined white earthenware sherd, undecorated, rim fragment, indeterminate vessel shape and rim diameter, heavily burned

- 1 refined white earthenware sherd, underglaze orange hand painted rim band decoration, scalloped rim fragment, flat vessel, indeterminate rim diameter, heavily burned

Glass

- 1 clear lead cylindrical tableware sherd, freeblown, decanter base fragment (pre-1860) (mends with sherds from Lot 226)
- 1 clear lead cylindrical tableware sherd, freeblown, tumbler rim fragment, heavily stained (pre-1860)
- 2 clear lead cylindrical tableware sherds (mend), freeblown, folded foot fragments, handled mug, heavily stained (pre-1860)
- 4 clear lead cylindrical tableware sherds (mend), freeblown, stemware rim fragment, copper wheel etched decoration, refired pontil, 56.5 mm base diameter, heavily stained (pre-1860)
- 9 clear lead cylindrical tableware sherds, freeblown, decanter, two base fragments (pre-1860)
- 9 clear lead cylindrical tableware sherds, freeblown, heavily stained (pre-1860)
- 1 clear soda cylindrical tableware sherd, blown pattern mold, stemware base fragment, open pontil, 48.3 mm base diameter, stained (1750-1850)
- 1 clear soda cylindrical tableware sherd, freeblown, rim fragment, heavily patinated (pre-1860)
- 6 clear soda cylindrical tableware sherds (mend), blown pattern mold, flip glass base fragments, open pontil, 48.6 mm base diameter, patinated (1750-1850)
- 5 clear soda cylindrical tableware sherds, freeblown, heavily patinated (pre-1860)
- 8 clear soda cylindrical tableware sherds, freeblown, tumbler rim fragments, one stained (pre-1860)
- 60 clear soda cylindrical tableware sherds, freeblown, tumbler, patinated (pre-1860)
- 2 dark green cylindrical bottle sherds (mend), freeblown, patinated (pre-1860)
- 1 dark olive green cylindrical bottle sherd, freeblown, base fragment, bulged heel, dome-shaped push-up, sand pontil, indeterminate base diameter, heavily patinated (pre-1860)
- 1 green cylindrical bottle sherd, freeblown, base fragment, open pontil, push-up, probable medicine bottle (pre-1860)
- 2 light green cylindrical bottle sherds (mend), freeblown, probable medicine bottle, patinated (pre-1860)
- 20 light green cylindrical bottle sherds, freeblown, probable medicine bottle, patinated (pre-1860)
- 3 olive amber cylindrical bottle sherds (mend), freeblown, base fragment, rounded heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 103.1 mm, patinated (1760-1800, Jones 1986)

- 2 olive amber cylindrical bottle sherds (mend), freeblown, bulged heel, conical push-up, sand pontil, 96.6 mm base diameter, heavily patinated (1760-1800, Jones 1986)
- 3 olive green cylindrical bottle sherds (mend), freeblown, base fragments, bulged heel, dome-shaped push-up, sand pontil, wine bottle style, base diameter 100.8 mm, patinated (1760-1800, Jones 1986)
- 2 olive green cylindrical bottle sherds (mend), freeblown, down-tooled cracked-off lip finish fragment with applied down-tooled string rim, flattened area below string rim (pre-1860)
- 16 olive green cylindrical bottle sherds (mend), freeblown, down-tooled cracked-off lip finish fragment with applied flat string rim, flattened area below string rim, cork attached, heavily patinated (pre-1860)
- 2 olive green cylindrical bottle sherds (mend), freeblown, down-tooled cracked-off lip finish fragment with down-tooled string rim, wine bottle style, patinated (pre-1860)
- 10 olive green cylindrical bottle sherds (mend), freeblown, patinated (pre-1860)
- 2 olive green cylindrical bottle sherds (mend), freeblown, unidentified lip finish with flat string rim fragment, flattened area below string rim, heavily patinated (pre-1860)
- 70 olive green cylindrical bottle sherds, freeblown, heavily patinated (pre-1860)
 - 1 pale aqua soda cylindrical tableware sherd, freeblown, tumbler base fragment, open pontil, 49.1 mm base diameter (pre-1860)
 - 4 unidentified aqua sherds, flat, patinated
 - 19 unidentified aqua sherds, heavily heat melted, patinated
 - 4 unidentified clear sherds, curved, crushed, patinated
 - 2 unidentified green spalls
 - 9 unidentified light aqua sherds, flat, patinated
 - 3 unidentified light green sherds, flat, patinated
- 80 unidentified pale aqua sherds, flat, crushed/deteriorated
 - 1 very pale aqua soda cylindrical tableware sherd, freeblown, tumbler base fragment (pre-1860)
 - 1 very pale aqua soda cylindrical tableware sherd, freeblown, tumbler base fragment, open pontil, 55.7 mm base diameter (pre-1860)
 - 4 windowpane sherds, potash (pre-1864)
 - 10 windowpane sherds, soda (pre-1864)

Metal

- 3 brass dome-shaped buttons, unidentified attachments, possible gold leaf - 1.6 cm diameter
- 1 brass flat disc button, wire eye attachment -- 1.9 cm diameter (Type 9, 1726-1776, Noel Hume 1976:91-92)
- 2 metal alloy spoon fragments (probable carbon steel), teaspoon, flat stele, plainly rounded terminal, turned up end, elliptical bowl with tapered end, probable Old English pattern (Mid-18th century -19th century, Moore 1987)
- 14 unidentified ferrous metal fragments

- 1 wrought nail fragment, attached to redware sherd
- 1 wrought nail fragment, unidentified head
- 2 wrought nail fragments
- 2 wrought nail fragments (mend), unidentified head, pulled

Miscellaneous

- 3 black walnut shell fragments
- 1 bone disc 1-hole sew through button - 1.1 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 1 bone disc 1-hole sew through button - 1.3 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 1 bone disc 1-hole sew through button - 1.6 cm diameter (Type 15, 1726-1776, Noel Hume 1976:90-91)
- 19 bone fragments, burned
- 182 bone fragments, eleven calcined
- 17 brick fragments (sixteen discarded in lab), 67.7 grams
 - 1 charcoal fragment, 2.2 grams
 - 2 clam shell fragments, 2.7 grams
 - 3 coal fragments (two discarded in lab), 6.6 grams
 - 8 egg shell fragments, .5 grams
- 20 fish scale fragments
- 10 husk fragments
- 104 leather shoe sole and heel fragments (ninety-four previously sent to Alexandria Archaeology)
 - 3 mortar fragments (two discarded in lab), 53.5 grams
 - 2 nail/claw fragments, one with bone attached
 - 1 oyster shell button fragment (partially drilled hole) - 1.3 cm diameter
 - 7 oyster shell fragments (six discarded in lab), 23.8 grams
- 27 peach pit fragments
- 9,056 seed fragments
 - 17 slag fragments (sixteen discarded in lab), 54.8 grams
 - 1 slate fragment
- 11 snail shell fragments, 1.7 grams

Prehistoric

- 1 quartz decortication flake, proximal

Feature 56, South Bisection, Level 8, Feature Fill 5, Lot 235

Ceramics

- 1 creamware sherd, undecorated, base fragment, plate, 6 inch base diameter (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, base fragment, plate, indeterminate base diameter, stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, indeterminate vessel shape (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, Royal pattern rim fragment, plate, indeterminate rim diameter, heavily stained (1762-1820, South 1977; Miller 1992)
- 1 creamware sherd, undecorated, scalloped rim fragment, flat vessel, indeterminate rim diameter, stained (1762-1820, South 1977; Miller 1992)

- 4 creamware sherds, undecorated, flat vessel, heavily stained (1762-1820, South 1977; Miller 1992)
- 2 kaolin pipe stem fragments - 5/64 inch bore hole diameter
- 1 pearlware sherd, underglaze blue hand painted decoration, hollow vessel (1780-1820, South 1977; 1780-1830, Miller 1992)
- 1 pearlware sherd, unidentified underglaze blue decoration, indeterminate vessel shape (1780-1830, South 1977; Miller 1992)
- 7 pearlware sherds (mend), underglaze polychrome hand painted decoration, scalloped rim fragment, flat vessel, 6 inch rim diameter, stained (1795-1815, South 1977; 1780-1835, Miller 1992)
- 2 pearlware sherds (mend), underglaze polychrome unidentified sponge decoration, rim fragment, hollow vessel, indeterminate rim diameter (1780-1830, South 1977; Miller 1992)
- 1 redware sherd, dark brown glazed interior and exterior, hollow vessel
- 1 redware sherd, dark brown glazed interior, unglazed exterior, base fragment, hollow vessel, 6 inch base diameter
- 1 redware sherd, unglazed interior, dark brown glazed exterior, hollow vessel
- 1 redware sherd, unglazed, indeterminate vessel shape

Glass

- 1 black spherical bead, WIb, drawn, opaque, 7.90 mm diameter, 4.0 mm length (Burgess 2012)
- 2 clear lead cylindrical tableware sherds, freeblown, heavily stained (pre-1860)
- 15 clear soda cylindrical tableware sherds, freeblown, possible tumbler, freeblown, patinated (pre-1860)
- 3 clear soda cylindrical tableware sherds, freeblown, rim fragments, tumbler (pre-1860)
- 1 green cylindrical bottle sherd, freeblown, base fragment, partial open pontil (pre-1860)
- 7 greenish-aqua cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 9 light olive green cylindrical bottle sherds, freeblown, patinated (pre-1860)
- 2 olive amber blackglass cylindrical bottle sherds (mend), heavily patinated (pre-1880)
- 1 olive green cylindrical bottle sherd, freeblown, bulged heel, conical push-up, sand pontil, 94.5 mm base diameter, patinated (1760-1800, Jones 1986)
- 1 olive green cylindrical bottle sherd, freeblown, cracked-off and fire polished with flattened string rim lip finish fragment, wine bottle style, patinated (pre-1840)
- 1 olive green cylindrical bottle sherd, freeblown, down-tooled cracked-off lip finish fragment with down-tooled string rim, wine bottle style, patinated (pre-1860)
- 4 olive green cylindrical bottle sherds (mend), freeblown, base fragment, bulged heel, dome-shaped push-up, sand pontil/quatrefoil, wine bottle style, base diameter 101.1 mm, patinated (pre-1840)

- 7 olive green cylindrical bottle sherds, heavily patinated
- 1 pale aqua cylindrical bottle sherd, patinated
- 1 unidentified clear spall
- 1 unidentified light aqua sherd, flat, patinated
- 2 unidentified olive green spalls
- 1 unidentified pale aqua sherd, flat, crushed/deteriorated
- 1 unidentified pale aqua spall
- 5 very pale aqua cylindrical tableware sherds (three mend), freeblown, rim fragments, tumbler (pre-1860)
- 1 windowpane sherd, soda (pre-1864)

Metal

- 1 ferrous metal chain link fragment
- 1 unidentified ferrous metal fragment
- 1 wrought 7d nail, unidentified head, spatulate head, pulled
- 1 wrought nail fragment, pulled
- 1 wrought nail fragment, rosehead

Miscellaneous

- 28 bone fragments
- 2 coal fragments (one discarded in lab), 0.5 grams
- 4 egg shell fragments, 0.01 grams
- 8 fish scale fragments
- 4 leather fragments (three previously sent to Alexandria Archaeology)
- 1 mortar fragment, 0.4 grams
- 1 oyster shell fragment, 0.7 grams
- 6 peach pit fragments, 10.1 grams
- 2,698 seed fragments, 295.0 grams

Feature 57, North Bisection, Feature Fill, Lot 236

Ceramics

- 2 redware spalls, indeterminate vessel shape
- 1 white salt glazed stoneware sherd, hollow vessel (1720-1805, South 1977; Miller 1992)

Miscellaneous

- 1 flint ballast

Appendix VI
Conservation Report – Maryland Archaeological Conservation Laboratory

Conservation Report

Maryland Archaeological Conservation Laboratory

Conservation Work Order No. 2017.017
Conservation Object No. 2017.017.007

Project Miscellaneous Metal Objects
Contact Elizabeth Waters Johnson: 5300 Wellington Branch Road, Suite 100, Gainesville, VA 20155
Provenience 44AX0229/
Artifact 1 copper alloy watch fob with glass intaglio

Requested Service

--Not recorded--

Examination and Treatment Proposal

Description:

A watch fob consisting of a copper alloy, oval-shaped frame, inset with a glass intaglio. The color of the glass appears blue. An anchor is visible on one side of the glass intaglio and a three-masted ship is visible on the other side. Soil and thick corrosion products are present on the copper alloy frame.

Measurements:

Height: 3.0 cm; Length: 2.5 cm; Width: 0.5 cm; Weight: 9.3 g

Treatment Proposal:

- 1) Document before treatment condition of object with photographs and written record.
- 2) Mechanically clean the object with hand tools to remove superficial deposits, while preserving remaining original surface and features as much as possible.
- 3) Apply protective coatings.
- 4) Document after treatment condition of object with photographs and written record.
- 5) Package object for return to owner.

Treatment Description

5/1/2017: Examined and took before treatment images of the object. 15 min. FLL

5/3/2017: Began mechanically cleaning the object using a scalpel and cotton swabs moistened with ethanol. 20 min. FLL

5/16/2017: Continued mechanically cleaning the object using a scalpel. Mechanical cleaning has revealed that the copper alloy corrosion products are quite hard and the surface of the oval frame is fragile and incomplete. 20 min. FLL

5/17/2017: Completed mechanical cleaning of the object. 20 min. FLL

5/18/2017: Applied corrosion inhibitor 1% Benzotriazole (BTA) in ethanol to the copper alloy frame. 5 min. FLL

5/19/2017: Applied final coating of 10% Paraloid B48N/B67 in acetone/xylene to the copper alloy frame. 5 min. FLL

6/5/2017: Took after treatment images of the object. 10 min. FLL

Tech Monitoring

Storage and Display Recommendations

Wear gloves when handling the object. Store object in a climate controlled facility.

Conservator / Examiner	Francis Lukezic
Begin Date	5/3/2017
Completed Date	--Not recorded--

Images

Main Image Folder: J:\JPPM Images\Conservation-MAC\Projects\Contract Projects\Thunderbird Archaeology\WO2017.017

Other Images:



Before Treatment Image

J:\JPPM Images\Conservation-MAC\Projects\Contract Projects\Thunderbird Archaeology\WO2017.017\Before Treatment Images\2017.017_7BT (Side A).JPG

After Treatment Image

J:\JPPM Images\Conservation-MAC\Projects\Contract Projects\Thunderbird Archaeology\WO2017.017\After Treatment Images\2017.017_7AT (Side A).JPG

Appendix VII
Macrofloral Analysis - Paleosciapes Archaeobotanical Services Team (PAST)

**Macrofloral Analysis of Samples from the 220 South Union Street
(Indigo Hotel) Site, 44AX0229,
Alexandria, Virginia**

by

Kathryn Puseman
Paleosciapes Archaeobotanical Services Team (PAST), LLC
Bailey, Colorado



Technical report 16013 prepared for
Wetland Studies and Solutions, Inc.
Gainesville, Virginia

September 2017

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INTRODUCTION

Samples from various features at the 220 South Union Street (Indigo Hotel) site (44AX0229) in Alexandria, Virginia, were floated to recover macrofloral remains. This site is situated on the urban waterfront and is bounded by South Union Street, Duke Street, and The Strand. Most features at the site date to the late 18th/early 19th century. Sampled features include a 1755 public warehouse (the Carlyle Warehouse), a large privy that might be associated with the Carlyle Warehouse, a smaller possible privy, two barrel privies, and an oceangoing vessel hull used as part of the infilling process to make usable land in the Potomac River. Macrofloral analysis will provide information concerning plants growing in the area, foods eaten by the various privy users, and insight into the nature of sediment used for the banking out process to create usable land in the late 18th century.

METHODS

Sediment samples were floated to recover macrofloral remains using a bucket system. Samples were measured and added one liter at a time to a bucket filled with water. The sample was swirled, then the floating material (light fraction) was poured through a 150-micron-mesh sieve. This process was repeated with additional water until all floating material was recovered. After the heavy fraction remaining in the bottom of the bucket was poured through a 0.5-mm-mesh screen, the floated light and heavy fractions were dried.

After the light fractions were weighed, they were screened using a series of graduated screens (US Standard Sieves with 4-mm, 2-mm, 1-mm, 0.5-mm, and 0.25-mm openings). The contents of each screen were then examined. The total wood and/or charcoal fragments in the 4-mm or 2-mm screens were weighed. Charcoal and/or wood fragments from a representative sample were broken to expose fresh, cross, tangential, and radial sections, then examined under a Bausch and Lomb Stereozoom microscope at a magnification of 70x. Some specimens were also examined using a Nikon Optiphot 66 microscope at magnifications of 100-600x. Within the representative sample, both counts and weights were recorded. Weights were taken using a top-loading Tree® high resolution electronic balance with an accuracy level to 0.001 g.

Light fraction material remaining in the 4-mm, 2-mm, 1-mm, 0.5-mm, and 0.25-mm screens was examined under a Bausch and Lomb Stereozoom microscope at magnifications of 10-70x. The light fraction material smaller than 0.25 mm in size was not examined. The heavy fraction was scanned under a 2x magnifying light for the presence of botanic remains. Macrofloral remains were recorded as charred and/or uncharred, whole and/or fragments using counts, weights, and/or frequencies. An asterisk (*) in the macrofloral table notes an estimated frequency calculated from the sort of a portion of the total volume. Macrofloral remains and charcoal/wood fragments were identified using standard identification manuals (Carlquist 1988; Core et al. 1976; Hoadley 1990; Martin and Barkley 2000; Montgomery 1977; Musil 1963; Panshin and de Zeeuw 1980), internet web sites (InsideWood 2004; Schweingruber and Landolt 2005) and a modern comparative collection.

RESULTS

The town of Alexandria was founded in 1749, and the southern portion of site 44AX0229 is situated on dry land known as Point Lumley at the time of the town's founding. The Carlyle Warehouse (Feature 41) was built around 1755 and is the first recorded public building in the town. The northern portion of the site was originally in the Potomac River; however, a banking out process in the late 18th century created usable land. Samples were submitted from six features at the site.

Feature 35

Feature 35 is circular pit in the southern portion of the site believed to be a privy associated with a dwelling or business located along Union Street. This feature contained numerous artifacts including glass, ceramics, brick, nails, shell, bottles, and stemware. The ceramics and glassware date the feature to the late 18th/early 19th century. Sample F35-1 consists of fill from the east half of the feature (Table 1). The users of this privy appear to have eaten several types of fruits as evidenced by recovery of numerous uncharred *Rubus* sp. (raspberry group) seeds and several seed fragments, several uncharred *Vitis* sp. (grape) seeds and numerous seed fragments, several uncharred *Ficus carica* (fig) seeds and seed fragments, a few uncharred *Fragaria* sp. (strawberry) seeds and seed fragments, and an uncharred *Prunus* sp. (cherry) pit fragment (Table 2 and Table 3). Several uncharred *Typha* sp. (cattail) seeds and a few sclerotia were also present. Sclerotia are round, black, smooth, and range in size from 0.5 to 4+ mm in diameter (Trappe 1969). They are the resting structures of the reproductive organs of fungi such as *Cenococcum*, a mycorrhizal fungus, and were originally identified by Dr. Kristiina Vogt, a professor of Ecology in the school of Forestry and Environmental Studies at Yale University (McWeeney 1989:228). These fungi produce a symbiotic relationship between themselves and the roots of vascular plants, resulting in increased nutrient uptake, expansion of water absorption capabilities, and protection against pathogenic fungi (Harley and Smith 1983). Sclerotia can survive at great depths in the soil and in a variety of soil types, from poor to rich, dry woods to bogs, and often are found in areas of deep surface organic accumulation (Mikola 1948:70). *Cenococcum* fungi and their associated sclerotia are found with conifers such as fir (*Abies* spp.), common juniper (*Juniperus communis*), larch (*Larix* spp.), spruce (*Picea* spp.), pine (*Pinus* spp.), and Douglas-fir (*Pseudotsuga menziesii*), as well as deciduous trees including sycamore maple (*Acer pseudoplatanus*), alder (*Alnus* spp.), birch (*Betula* spp.), American hornbeam (*Carpinus caroliniana*), hickory (*Carya* spp.), hazelnut (*Corylus* spp.), oneseed hawthorn (*Crataegus monogyna*), beech (*Fagus* spp.), glossy buckthorn (*Frangula alnus*), cottonwood/aspens/poplar (*Populus* spp.), oak (*Quercus* spp.), willow (*Salix* spp.), mountain ash (*Sorbus* spp.), and basswood (*Tilia* spp.) (Trappe 1962). It is one of the most common and globally abundant genera of ectomycorrhizal fungi, often the dominant mycorrhizal fungus on the roots of trees in arctic, temperate, and subtropical forests (The Regents of the University of California 1997-2014). Experimentation by Trappe (1969) has shown that dead sclerotia will float, resulting in their recovery in archaeobotanic flotation samples.

Table 1. Provenience Data for Samples from the 220 South Union Street (Indigo Hotel) Site, 44AX0229, Virginia.

Sample Number	Feature Number	Test Unit	Level	Provenience/Description	Analysis
F35-1	35			Fill from east half of possible privy	Macrofloral
F36-1	36		3	Fill from south half of barrel privy	Macrofloral
F37-1	37		3	Fill from east half of barrel privy	Macrofloral
F41-1	41	4	2-4	Fills 2-4 from Carlyle Warehouse; collapse and floor	Macrofloral
F41-2	41	6	2	Fills 2 and 3 from Carlyle Warehouse	
F41-3	41	7	4-5	Fills 2 and 3 from Carlyle Warehouse; deep fill below Feature 41-17	Macrofloral
F41-4	41	8	5-6	Fills 5 and 6 from Carlyle Warehouse; above BC Transition	Macrofloral
F41-5	41	11	1	Fill 1 under Floorboard 7 in Carlyle Warehouse	Macrofloral
F41-6	41	11	2	Fill 2 under Floorboard 7 in Carlyle Warehouse	Macrofloral
F41-7	41	11	3	Fill 3 under Floorboard 7 in Carlyle Warehouse	Macrofloral
F41-8	41	11	4	Fill 4 under Floorboard 7 in Carlyle Warehouse	Macrofloral
F41-9	41	11	5	Fill 5 under Floorboard 7 in Carlyle Warehouse	Macrofloral
F53-1	53		2	Fill between Frames 6 and 7 of oceangoing vessel hull used for banking out process on waterfront	Macrofloral
F53-2	53		2	Fill around Frame 10 of vessel hull	Macrofloral
F53-3	53		2	Fill around Frame 13 of vessel hull	Macrofloral
F53-4	53		2	Fill between Frames 14 and 15 of vessel hull	Macrofloral
F56-1	56		1	Fill 1 from south half of large privy (possibly associated with the Carlyle Warehouse)	Macrofloral
F56-2	56		2	Fill 2 from south half of large privy	Macrofloral
F56-3	56		3	Fill 2 from south half of large privy	Macrofloral
F56-4	56		4	Fill 3 from south half of large privy	Macrofloral
F56-5	56		5	Fill 3 from south half of large privy	Macrofloral
F56-6	56		6	Fill 3 from south half of large privy	Macrofloral
F56-7	56		7	Fill 4 from south half of large privy	Macrofloral
F56-8	56		8	Fill 5 from south half of large privy	Macrofloral

Table 2. Macrofloral Remains in Samples from Features 35, 36, and 37, Site 44AX0229, Virginia.

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F35-1	Volume Floated						2.00 L
Feature 35	Light Fraction Weight						23.038 g
	<u>Floral Remains:</u>						
	<i>Ficus carica</i>	Seed			32*	8*	
	<i>Fragaria</i> spp.	Seed			16*	8*	
	<i>Pinus</i> spp.	Bark scale		18*			
	<i>Prunus</i> sp. – cherry	Pit				1	
	<i>Rubus</i> spp.	Seed	2		364*	24*	
	<i>Typha</i> spp.	Seed			64*		
	<i>Vitis</i> spp.	Seed	1		43	1738*	
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						2.566 g
	<i>Acer</i> spp.	Charcoal		3			0.152 g
	<i>Carya</i> spp. – hickory	Charcoal		2			0.102 g
	<i>Pinus</i> spp.	Charcoal		4			0.082 g
	<i>Pinus</i> – southern pine group	Charcoal		9			0.203 g
	<i>Quercus</i> spp.	Charcoal		4			0.094 g
	<i>Quercus</i> – <i>Leucobalanus</i> Group	Charcoal		17			0.521 g
	<i>Robinia pseudoacacia</i>	Charcoal		1			0.012 g
	Total wood ≥ 2 mm						0.027g
	<i>Pinus</i> spp.	Wood				8	0.027 g
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm					54	0.716 g
	Bone < 2 mm					X	Numerous
	Bone ≥ 2 mm			1			0.010 g
	Bone - calcined < 2 mm						
	Fish bone ≥ 2 mm					56	0.205 g
	Fish bone < 2 mm					X	Moderate
	Fish bone ≥ 2 mm			4			0.006 g
	Fish bone – calcined ≥ 2 mm			2			0.004 g
	Fish bone – interneural spine ≥ 2 mm					175	1.142 g
	Fish bone – interneural spine < 2 mm					X	Numerous
	Fish vertebrae ≥ 2 mm				5	2	0.071 g
	Fish vertebrae ≥ 2 mm			1			0.007 g
	Fish vertebrae – calcined			1			
	Clinker ≥ 2 mm					10	0.236 g
	Clinker < 2 mm					X	Few
	Coal ≥ 2 mm					5	0.098 g
	Coal < 2 mm					X	Few
	Fish scale ≥ 2 mm					82	0.109 g
	Fish scale < 2 mm					X	Numerous

Sample Number	Identification	Part	Charred		Uncharred		Weights/Comments
			W	F	W	F	
F35-1	Glass – clear ≥ 2 mm					22	10.602 g
Feature 35	Glass – green ≥ 2 mm					4	1.470 g
	Insect	Chitin				56*	
	Insect	Larva				1	
	Insect	Puparium					
	Rock/Gravel					X	Moderate
	Mortar < 2 mm						
	Shell – oyster ≥ 2 mm					1	34.786 g
	Shell < 2 mm					X	Moderate
F36-1	Volume Floated						2.00 L
Feature 36	Light Fraction Weight						14.133 g
	<u>Floral Remains:</u>						
	<i>Ficus carica</i>	Seed				1	
	<i>Fragaria</i> sp.	Seed			1		
	<i>Portulaca oleracea</i>	Seed			5		
	<i>Rubus</i> spp.	Seed			7		
	<i>Typha</i> sp.	Seed			1		
	<i>Vitis</i> spp.	Seed			2	11	0.058 g
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 1 mm						0.071 g
	<i>Pinus</i> spp.	Charcoal		4			0.006 g
	<i>Quercus</i> spp.	Charcoal		20			0.042 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		6			0.018 g
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm					14	7.552 g
	Bone < 2 mm					X	Few
	Bone ≥ 2 mm			1			0.084 g
	Bone < 2 mm			X			Few
	Clinker ≥ 2 mm					4	0.064 g
	Clinker < 2 mm					X	Few
	Coal ≥ 2 mm					19	0.271 g
	Coal < 2 mm					X	Few
	Fish scale – ctenoid				1		0.002 g
	Insect	Chitin				4	
	Rock/Gravel					X	Moderate
	Sand					X	Abundant
	Sand concretions					X	Few
	Shell ≥ 2 mm					2	0.017 g
F37-1	Volume Floated						2.00 L
Feature 37	Light Fraction Weight						20.978 g
	<u>Floral Remains:</u>						
	<i>Portulaca oleracea</i>	Seed			1	1	
	<i>Trifolium</i> spp.	Seed			2		
	<i>Typha</i> spp.	Seed			64*		
	<i>Vitis</i> spp.	Seed				2	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F37-1	<u>Charcoal/Wood:</u>						
Feature	Total charcoal \geq 2 mm						0.581 g
37	<i>Pinus</i> – southern pine grp.	Charcoal		3			0.013 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		37			0.389 g
	Total wood \geq 4 mm						3.799 g
	<i>Quercus</i> spp.	Wood				35	3.224 g
	<u>Non-Floral Remains:</u>						
	Clinker					X	Few
	Coal \geq 4 mm					33	5.556 g
	Coal < 4 mm					X	Numerous
	Glass – clear \geq 2 mm					2	0.600 g
	Glass – green \geq 2 mm					1	0.038 g
	Insect	Chitin				304*	
	Insect	Larva				8*	
	Insect	Puparium				14	
	Rock/Gravel					X	Moderate
	Sand					X	Moderate
	Sand concretions					X	Numerous
	Shell – oyster \geq 4 mm					28	35.002 g
	Shell < 4 mm					X	Numerous
	Slag					X	Few

W = Whole

F = Fragment

g = grams

X = Presence noted in sample

grp. = group

*Indicates an estimated frequency based on the sort of a portion of the total sample

Table 3. Index of Macrofloral Remains in Samples from Site 44AX0229.

Scientific Name	Common Name
FLORAL REMAINS:	
<i>Acalypha</i>	Threeseed mercury, Copperleaf
<i>Alnus serrulata</i>	Hazel alder
<i>Amaranthus</i>	Pigweed, Amaranth
<i>Amelanchier</i>	Serviceberry
Asteraceae	Sunflower family
<i>Ambrosia</i>	Ragweed
<i>Anthemis cotula</i>	Stinking chamomile, Dog fennel, Mayweed
<i>Bidens</i>	Beggarticks
<i>Cirsium</i>	Thistle
<i>Eutrochium</i> (syn. <i>Eupatorium</i>)	Joe pye weed, Trumpetweed
<i>Helianthus</i>	Sunflower
<i>Lactuca biennis</i> -type	similar to Tall blue lettuce
<i>Lactuca sativa</i>	Garden lettuce

Scientific Name	Common Name
<i>Bolboschoenus fluviatilis</i> (syn. <i>Scirpus fluviatilis</i>)	River bulrush
<i>Chenopodium</i>	Goosefoot
<i>Citrullus lanatus</i> (syn. <i>Citrullus vulgaris</i>)	Watermelon
<i>Coriandrum sativum</i>	Coriander, Cilantro
<i>Cucumis melo</i>	Cantaloupe, Melon, Honeydew melon, Muskmelon
<i>Cucumis sativus</i>	Cucumber
<i>Cucurbita</i>	Squash, Pumpkin, Gourd
Cyperaceae	Sedge family
<i>Carex</i>	Sedge
<i>Carex comosa</i> -type	similar to Longhair sedge
<i>Carex crinita</i> -type	similar to Fringed sedge
<i>Carex lupulina</i>	Hop sedge
<i>Cyperus</i>	Flatsedge, Nut grass, Umbrella sedge
<i>Cyperus strigosus</i>	Straw-colored flatsedge
<i>Dulichium arundinaceum</i>	Three-way sedge, Dulichium
<i>Eleocharis</i>	Spikerush
<i>Eleocharis obtusa</i>	Blunt spikerush
<i>Eleocharis palustris</i>	Common spikerush
<i>Eleocharis quadrangulata</i>	Squarestem spikerush
<i>Fimbristylis</i>	Fimbry
<i>Diospyros virginiana</i>	Common persimmon
<i>Euphorbia</i>	Spurge
<i>Ficus carica</i>	Common fig
<i>Fragaria</i>	Strawberry
<i>Gaylussacia</i>	Huckleberry
<i>Humulus lupulus</i>	Common hop
<i>Hypericum</i>	St. Johnswort, St. Andrew's cross
<i>Hypericum gentianoides</i>	Orangegrass
<i>Hypoxis</i> -type	similar to Star-grass, Goldstar
<i>Juglans nigra</i>	Black walnut
<i>Juniperus virginiana</i>	Eastern redcedar
Lamiaceae	Mint family
<i>Lycopus americana</i>	American water horehound, St. Lawrence water horehound
<i>Marrubium vulgare</i>	Horehound
<i>Mentha</i>	Mint
<i>Pycnanthemum</i>	Mountainmint
<i>Scutellaria</i>	Skullcap
<i>Thymus vulgaris</i>	Garden thyme
<i>Linum</i>	Flax
<i>Linum cf. usitatissimum</i>	probable Common flax
<i>Liriodendron tulipifera</i>	Tuliptree
<i>Malus</i>	Apple
<i>Mollugo verticillata</i>	Green carpetweed, Indian chickweed
<i>Morus rubra</i>	Red mulberry
<i>Najas guadalupensis</i>	Guadalupe waternymph, Southern naiad
Nyctaginaceae	Four-o'clock Family
<i>Nymphaea odorata</i>	American white waterlily

Scientific Name	Common Name
Orchidaceae	Orchid family
<i>Oxalis</i>	Wood sorrel
<i>Phytolacca americana</i>	Pokeweed
<i>Pinus</i>	Pine
<i>Pinus</i> cone scale	Scales on female cones of pine trees
Poaceae	Grass family
Poaceae C	Members of the grass family with small caryopses, such as <i>Agrostis</i> (bentgrass), <i>Muhlenbergia</i> (muhly grass), <i>Phragmites australis</i> (common reed), <i>Poa</i> (bluegrass), etc.
<i>Eleusine indica</i>	Goosegrass
<i>Panicum</i>	Panic grass, Witchgrass
<i>Paspalum</i>	Paspalum, Crowngrass
<i>Setaria</i>	Bristlegrass, Millet
<i>Polygonum</i>	Smartweed; Knotweed
<i>Polygonum</i> – triangular (includes <i>P. argyrocoleon</i> , <i>P. cilinode</i> , <i>P. convolvulus</i> , <i>P. douglasii</i> , <i>P. dumetorum</i> , <i>P. erectum</i> , <i>P. hydropiper</i> , <i>P. hydropiperoides</i> , <i>P. punctatum</i> , <i>P. ramosissimum</i> , <i>P. sagittatum</i> , <i>P. scandens</i> , etc.)	Smartweed; Knotweed (seeds are triangular in cross-section)
<i>Polygonum aviculare</i>	Prostrate knotweed
<i>Polygonum lapathifolium</i> -type	similar to Curlytop knotweed, Pale persicaria
<i>Polygonum pennsylvanicum</i> -type	similar to Pennsylvania smartweed
<i>Polygonum virginianum</i>	Jumpseed
<i>Portulaca oleracea</i>	Purslane; Little hogweed
<i>Prunus</i> - cherry	Cherry
<i>Prunus</i> - plum	Plum
<i>Prunus persica</i>	Peach, Nectarine
<i>Ranunculus</i>	Buttercup
<i>Ribes</i>	Currant, Gooseberry
<i>Rosa</i>	Rose, Wild rose
<i>Rubus</i>	Raspberry, Blackberry, etc.
<i>Rumex</i>	Dock, Sorrel
<i>Sagittaria</i>	Arrowhead
<i>Sambucus nigra</i>	Black elderberry, Common elderberry
<i>Scirpus</i> -type (includes <i>Amphiscirpus</i> , <i>Bolboschoenus</i> , <i>Isolepis</i> , <i>Shoenoplectus</i> , and <i>Scirpus</i>)	Bulrush
<i>Sida</i>	Fanpetals
<i>Silene</i>	Catchfly, Campion
Solanaceae	Nightshade family
<i>Capsicum annuum</i>	Cayenne pepper
<i>Datura stramonium</i>	Jimsonweed
<i>Nicotiana tobacum</i>	Cultivated tobacco
<i>Physalis</i>	Groundcherry, Tomatillo
<i>Solanum</i>	Nightshade

Scientific Name	Common Name
<i>Solanum lycopersicum</i> (syn. <i>Lycopersicon esculentum</i>)	Garden tomato
<i>Thalictrum</i>	Meadow-rue
<i>Thymus vulgaris</i>	Common thyme
<i>Trifolium</i>	Clover
<i>Typha</i>	Cattail
<i>Vaccinium</i>	Blueberry, Cranberry, Bilberry
<i>Verbascum thapsus</i>	Common mullein
<i>Verbena</i>	Verbena, Vervain
<i>Vitis</i>	Grape
<i>Zea mays</i>	Maize, Corn
Anther	The terminal part of a stamen in which the pollen grains are produced
Moss	Tiny leafy-stemmed flowerless plants (class Bryopsida); any of at least 12,000 species of small, spore-bearing land plants (division Bryophyta) distributed throughout the world except in salt water
Periderm	Technical term for bark; Consists of the cork (phellum) which is produced by the cork cambium, as well as any epidermis, cortex, and primary or secondary phloem exterior to the cork cambium
Sclerotia	Resting structures of mycorrhizae fungi
Vitrified tissue	Charred material with a shiny, glassy appearance due to fusion by heat
CHARCOAL/WOOD:	
<i>Acer</i>	Maple, Box elder
<i>Aesculus</i>	Buckeye
<i>Carya</i>	Hickory
<i>Castanea</i>	Chestnut, Chinquapin
Conifer	Cone-bearing, gymnospermous trees and shrubs, mostly evergreens, including the pine, spruce, fir, juniper, cedar, yew, hemlock, redwood, and cypress
<i>Chamaecyparis thyoides</i>	Atlantic white cedar
<i>Juniperus virginiana</i>	Eastern red cedar
<i>Pinus</i>	Pine
<i>Pinus</i> - southern pine group	Includes <i>Pinus palustris</i> (longleaf pine), <i>Pinus echinata</i> (shortleaf pine), <i>Pinus taeda</i> (loblolly pine), <i>Pinus elliotii</i> (slash pine), <i>Pinus rigida</i> (pitch pine), <i>Pinus serotina</i> (pond pine), and others
<i>Pinus strobus</i>	Eastern white pine
<i>Taxodium distichum</i>	Bald cypress
<i>Fraxinus</i>	Ash
<i>Gleditsia triacanthos</i>	Honeylocust
<i>Juglans</i>	Walnut
<i>Liriodendron tulipifera</i>	Tuliptree, Poplar
<i>Platanus occidentalis</i>	American sycamore
<i>Quercus</i>	Oak

Scientific Name	Common Name
<i>Quercus - Erythrobalanus</i> group	Red oak group - Species in the red oak group exhibit open early-wood vessels and thick-walled, round late-wood vessels
<i>Quercus - Leucobalanus</i> group	White oak group - Species in the white oak group exhibit early-wood vessels occluded with tyloses, thin-walled and angular late-wood vessels, and longer rays than species in the red oak group
<i>Robinia pseudoacacia</i>	Black locust
Salicaceae	Willow family
<i>Ulmus americana</i>	American Elm
Unidentified hardwood	Wood from a broad-leaved flowering tree or shrub
Unidentified hardwood - small	Wood from a broad-leaved flowering tree or shrub, fragments too small for further identification
NON-FLORAL REMAINS:	
Coal	A combustible, organic, sedimentary rock that forms from the accumulation and preservation of plant materials
Fish scale - ctenoid	Fish scales with tiny teeth called <i>ctenii</i> on the posterior edge that give them a rough texture; usually found on fish with spiny fin rays, such as perch, bass, crappie, etc.
Fish scale - cycloid	Circular fish scale with smooth edges; found on fish with soft fin rays such salmon, trout, herring, pike, minnow, carp, etc.
Insect puparium	A rigid outer shell made from tough material that includes chitin (a natural polymer found in insect exoskeleton and crab shells) and hardens from a larva's skin to protect the pupa as it develops into an adult insect
Snail shell - depressed	Snail shell with a depressed (flat) shape where the width is much bigger than the height

The charcoal record for sample F35-1 was dominated by *Quercus – Leucobalanus* group, reflecting a member or members of the white oak group. Several fragments of *Pinus – southern pine* group and fewer pieces of *Quercus* sp. (oak), *Pinus* sp. (pine), *Acer* sp. (maple), *Carya* sp. (hickory), and *Robinia pseudoacacia* (black locust) were also present, as were a few pieces of uncharred *Pinus* sp. wood. A few charred *Pinus* sp. bark scale fragments note burning pine logs/branches with adhering bark. The sample also yielded a variety of non-floral remains that likely reflect trash thrown into the privy. These include numerous uncharred bone fragments, a charred bone fragment, fish bone, numerous interneural fish spine fragments, numerous fish scales, two ceramic sherds, coal, clinker, clear and green glass fragments, an oyster shell, and other shell fragments. Several insect chitin fragments and an insect larva fragment were also present.

Feature 36

Feature 36 is a wood-lined barrel privy located just north of the 1788 shoreline and likely associated with a dwelling or business on Union Street. Artifacts include ceramics, glass, metal, brick, and shell. Sample F36-1 was collected from fill in the south half of the privy and contained a few *Rubus* sp. seeds, a few *Vitis* sp. seeds and seed fragments, a *Ficus carica* seed fragment, and a *Fragaria* sp. seed, reflecting consumption of a member of the raspberry group, grapes, figs, and strawberries. The small amount of seeds in this sample suggests that the feature was not used extensively as a privy. A few uncharred *Portulaca* sp. (purslane) seeds and an uncharred *Typha* sp. seed suggest the presence of purslane and cattails nearby. The sample also contained a few sclerotia. Several fragments of *Quercus* sp. charcoal and fewer fragments of *Pinus* sp. and *Quercus – Leucobalanus* group charcoal suggest that pine and oak wood were burned in a stove or fireplace, including members of the white oak group. A few charred and uncharred bone fragments, a ctenoid fish scale, a few shell fragments, and a small amount of coal and clinker indicate that some trash was also thrown into the feature. There are five basic types of fish scales: placoid, cosmoid, ganoid, cycloid, and ctenoid. Cycloid and ctenoid scales are found in members of the Teleostei, which are the vast majority of bony fishes. These scales are imbricated, overlapping like shingles on a roof. Cycloid scales exhibit smooth edges and are found on fish with soft fin rays such as salmon, trout, herring, pike, minnow, carp, etc. Ctenoid scales have tiny teeth called *ctenii* on the posterior edge that give them a rough texture and are usually found on fish with spiny fin rays, such as perch, sunfish, bass, crappie, etc. (Helfman et al. 2009:36-40).

Feature 37

Feature 37 is a wood-lined barrel privy also believed to be associated with a dwelling or business on Union Street. It is located immediately north of Feature 36. The fill contained ceramics, glass, bone, and large pieces of iron. Macrofloral sample F37-1 represents fill from the east half of the feature. The macrofloral record suggests that this feature was also not extensively used as a privy since the only food seeds are two uncharred *Vitis* sp. seed fragments, suggesting that grapes were eaten. Several uncharred *Typha* sp. seeds, an uncharred *Portulaca* sp. seed and seed fragment, and two uncharred *Trifolium* sp. seeds note the presence of cattails, purslane, and clover growing nearby. Several fragments of *Quercus – Leucobalanus* group charcoal and a few pieces of *Pinus* – southern pine group charcoal reflect burning a member or members of the white oak and southern pine groups. Pieces of uncharred *Quercus* sp. wood suggest that the feature was lined with oak wood. Non-floral remains indicative of trash in the feature include numerous coal fragments, a few pieces of clinker, a few fragments of clear and green glass, a few pieces of slag, several oyster shells, and numerous small shell fragments. The sample also yielded numerous insect chitin fragments and several insect larvae and puparia fragments.

Feature 41 – Carlyle Warehouse

Feature 41 is the Carlyle Warehouse built on public land by John Carlyle on the northern end of Point Lumley at around 1755. At the time of its construction, it sat on the waterfront and

was the first recorded public building in the town. The banks of the bay rose abruptly above the tidal flats on which the warehouse was constructed (Carroll and Mullen 2014:3). This feature currently consists of a large partial foundation made of wooden beams, planks, piers, a stone curtain wall, and a large stone pier. The northwest corner also contained in situ floorboards. Samples were collected from various test units in the feature.

Test Unit 4

Sample F41-1 represents building collapse fill and the floor (Levels 2-4) in Test Unit 4. A stone wall was uncovered in this unit. Sample F41-1 contained two uncharred Lamiaceae seeds, reflecting a member of the mint family (Table 4 and Table 3). A variety of seeds representing wetland plants were present in this sample, including a few *Carex* spp., *Carex crinita*-type, *Carex lupulina*, *Cyperus* sp., *Dulichium arundinaceum*, *Eleocharis palustris*, and Cyperaceae seeds, as well as numerous *Cyperus strigosus* and *Eleocharis* spp. seeds. Other seeds from local plants include single *Bidens* sp. and *Polygonum virginianum* seeds, an Asteraceae seed fragment, several Poaceae florets and possible Orchidaceae seeds, and a few uncharred *Amaranthus* spp., *Hypericum* spp., *Polygonum* S, *Polygonum* – triangular, *Rumex* spp., and Unidentified S seeds/seed fragments. The charcoal record consisted of single fragments of *Quercus* – *Leucobalanus* group and *Robinia pseudoacacia*, as well as a charred periderm fragment. Several types of wood fragments were present, including *Juniperus virginiana*, *Pinus strobus*, conifer, *Fraxinus* sp., *Quercus* spp., *Quercus* – *Leucobalanus* group, and *Robinia pseudoacacia*. Two uncharred periderm fragments were also noted. Several insect chitin fragments, a moderate amount of rock/gravel, a moderate amount of sand and sand concretions, and a moderate amount of sclerotia complete the record.

Table 4. Macrofloral Remains in Samples from Feature 41, Site 44AX0229, Virginia.

Sample Number	Identification	Part	Charred		Uncharred		Weights/Comments
			W	F	W	F	
F41-1	Volume Floated						1.30 L
Unit 4	Light Fraction Weight						9.405 g
	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			8*		
	Asteraceae	Pappus				1	
	<i>Bidens</i> sp.	Seed			1		
	Cyperaceae	Seed			1		
	<i>Carex</i> spp.	Seed			12*		
	<i>Carex crinita</i> -type	Seed			1		
	<i>Carex lupulina</i>	Seed			5	1	
	<i>Cyperus</i> sp.	Seed			1		
	<i>Cyperus strigosus</i>	Seed			104*		
	<i>Dulichium arundinaceum</i>	Seed			4		
	<i>Eleocharis</i> spp.	Seed			264*	32*	
	<i>Eleocharis palustris</i>	Seed			2		
	<i>Hypericum</i> spp.	Seed			2		
	Lamiaceae	Seed			2		
	cf. Orchidaceae	Seed			40*		
	Poaceae	Floret			34*	8*	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-1	<i>Polygonum virginianum</i>	Seed			1		
Unit 4	<i>Polygonum</i> - triangular	Seed			1	5	
	<i>Polygonum</i> S	Seed			14	4	
	<i>Rumex</i> spp.	Seed			2		
	Unidentified S	Seed			7		
	Sclerotia				X	X	Moderate
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						0.009 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		1			0.004 g
	<i>Robinia pseudoacacia</i>	Charcoal		1			0.002 g
	Periderm	Charcoal		1			0.003 g
	Total wood ≥ 2 mm						0.848 g
	Conifer	Wood				5	0.074 g
	<i>Juniperus virginiana</i> .	Wood				2	0.020 g
	<i>Pinus strobus</i>	Wood				3	0.029 g
	<i>Fraxinus</i> sp.	Wood				1	0.003 g
	<i>Quercus</i> spp.	Wood				5	0.052 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				17	0.381 g
	<i>Robinia pseudoacacia</i>	Wood				5	0.024 g
	Periderm					2	0.038 g
	<u>Non-Floral Remains:</u>						
	Insect	Chitin					88*
	Rock/Gravel					X	Moderate
	Sand					X	Moderate
	Sand concretions					X	Moderate
F41-2	Volume Floated						1.50 L
Unit 6	Light Fraction Weight						9.250 g
	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			2	3	
	<i>Ambrosia</i> sp.	Seed			1		
	<i>Cirsium</i> sp.	Seed				1	
	<i>Euphorbia</i> sp.	Seed			1		
	<i>Mollugo verticillata</i>	Seed			1		
	Periderm					6	0.113 g
	<i>Pinus</i> sp.	Bark scale				1	0.020 g
	Poaceae	Floret			1		
	<i>Polygonum</i> – triangular	Seed			2		
	<i>Portulaca oleracea</i>	Seed			28		
	<i>Solanum</i> spp.	Seed			2		
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 1 mm						0.147 g
	<i>Fraxinus</i> spp.	Charcoal		3			0.012 g
	<i>Juglans</i> spp.	Charcoal		6			0.018 g
	<i>Pinus</i> spp.	Charcoal		3			0.004 g
	<i>Pinus</i> – southern pine grp.	Charcoal		2			0.009 g
	<i>Quercus</i> spp.	Charcoal		17			0.036 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-2	<i>Quercus – Leucobalanus</i>	Charcoal		9			0.048 g
Unit 6	group						
	Total wood \geq 2 mm						0.920 g
	<i>Fraxinus</i> spp.	Wood				6	0.024 g
	<i>Pinus</i> spp.	Wood				8	0.044 g
	<i>Pinus</i> sp.	Wood				1 pc	0.012 g
	<i>Quercus</i> spp.	Wood				1	0.003 g
	<i>Quercus – Leucobalanus</i>	Wood				29	0.231 g
	group						
	<u>Non-Floral Remains:</u>						
	Coal \geq 1 mm					3	0.001 g
	Coal < 1 mm					X	Few
	Fish scale					1	<0.001 g
	Insect	Chitin				289	
	Insect	Egg			X		Few
	Insect	Larva				X	Moderate
	Insect	Puparium				6	
	Rock/Gravel					X	Few
	Sand					X	Numerous
	Sand concretions with embedded coal and shell					X	Moderate
	Woven fibers			1			<0.001 g
F41-3	Volume Floated						2.40 L
Unit 7	Light Fraction Weight						56.345 g
	<u>Floral Remains:</u>						
	<i>Amaranthus</i> sp.	Seed				1	
	<i>Bolboschoenus fluviatilis</i>	Seed				2	
	<i>Carex</i> sp.	Seed				1	
	<i>Eleocharis</i> sp.	Seed				1	
	<i>Ficus</i> spp.	Seed					2
	<i>Liriodendron tulipifera</i>	Seed				9	47
	<i>Phytolacca americana</i>	Seed				1	
	<i>Pinus</i> sp.	Bark scale		1			0.002 g
	<i>Polygonum</i> sp.	Seed				1	
	<i>Portulaca oleracea</i>	Seed				4	
	<i>Rubus</i> spp.	Seed				2	1
	<i>Sagittaria</i> spp.	Seed				2	
	<i>Sambucus nigra</i>	Seed					1
	<i>Thymus vulgaris</i>	Seed				2	
	<i>Vaccinium</i> sp.	Calyx					1
	<i>Vitis</i> sp.	Seed					1
	Unidentified R	Seed				1	
	Sclerotia				X	X	Moderate
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 2 mm						0.839 g
	<i>Fraxinus</i> spp.	Charcoal		2			0.009 g
	<i>Juglans</i> spp.	Charcoal		4			0.057 g
	<i>Liriodendron tulipifera</i>	Charcoal		1			0.002 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments	
			W	F	W	F		
F41-3	<i>Pinus</i> spp.	Charcoal		4			0.026 g	
Unit 7	<i>Pinus</i> – southern pine grp.	Charcoal		3			0.009 g	
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		24			0.244 g	
	<i>Ulmus americana</i>	Charcoal		2			0.030 g	
	Total wood \geq 4 mm						1.840 g	
	<i>Pinus</i> spp.	Wood				14	0.142 g	
	<i>Pinus</i> – southern pine grp.	Wood				1	0.010 g	
	<i>Quercus</i> spp.	Wood				4	0.093 g	
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				10	0.195 g	
	Unidentified	Wood				11	0.175 g	
	Periderm					1	0.631 g	
	<u>Non-Floral Remains:</u>							
		Bone					1	0.047 g
		Brick					1	0.004 g
		Clinker \geq 2 mm					24	1.490 g
		Clinker $<$ 2 mm					X	Few
		Coal \geq 2 mm					266	12.806 g
		Coal $<$ 2 mm					X	Numerous
		Insect	Chitin				14	
		Insect	Puparium				1	
		Nail- rusted				1		3.511 g
	Rock/Gravel					X	Few	
	Sand					X	Abundant	
	Sand concretions					X	Few	
	w/embedded coal, shell							
	Shell \geq 4 mm					129	58.349 g	
	Shell $<$ 4 mm					X	Numerous	
F41-4	Volume Floated						1.30 L	
Unit 8	Light Fraction Weight						138.798 g	
	<u>Floral Remains:</u>							
	<i>Acalypha</i> spp.	Seed			1	6		
	<i>Amaranthus</i> sp.	Seed				1		
	<i>Bolboschoenus fluviatilis</i> -type	Seed			1			
	<i>Carex</i> spp.	Seed			2			
	Lamiaceae	Seed				1		
	<i>Thymus vulgaris</i>	Seed			21			
	<i>Liriodendron tulipifera</i>	Seed			7	7		
	Nyctaginaceae	Seed			4			
	<i>Oxalis</i> spp.				2			
	<i>Phytolacca americana</i>	Seed				2		
	Poaceae	Floret				1		
	<i>Polygonum</i> – triangular	Seed			3			
	<i>Portulaca oleracea</i>	Seed			5			
	<i>Prunus</i> spp. – cherry	Pit			1	2		
	<i>Rosa</i> spp.	Seed			2			

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-4	<i>Rubus</i> sp.	Seed				1	
Unit 8	<i>Verbena</i> spp.	Seed			3		
	Periderm					X	Moderate
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						3.558 g
	<i>Fraxinus</i> spp.	Charcoal		4			0.195 g
	<i>Juglans</i> sp.	Charcoal		1			0.009 g
	<i>Pinus</i> sp.	Charcoal		1			0.013 g
	<i>Pinus</i> – southern pine grp.	Charcoal		1			0.005 g
	<i>Quercus</i> spp.	Charcoal		2			0.036 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		31			1.588 g
	Total wood ≥ 4 mm						35.631 g
	<i>Pinus</i> spp.	Wood				20	2.269 g
	<i>Quercus</i> spp.	Wood				3	0.119 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				24	2.319 g
	<i>Ulmus americana</i>	Wood				3	0.294 g
	<u>Non-Floral Remains:</u>						
	Clinker ≥ 2 mm					2	0.226 g
	Clinker < 2 mm					X	Few
	Coal ≥ 2 mm					11	0.155 g
	Coal < 2 mm					X	Few
	Insect	Chitin				70*	
	Insect	Puparium				1	
	Rock/Gravel					X	Few
	Sand					X	Moderate
	Shell ≥ 2 mm					1	
F41-5	Volume Floated						2.00 L
Unit 11	Light Fraction Weight						43.944 g
Level 1	<u>Floral Remains:</u>						
	<i>Acalypha</i> spp.	Seed		2			
	<i>Amaranthus</i> spp.	Seed		16*		8*	
	Asteraceae	Seed		1			
	<i>Anthemis cotula</i>	Seed		16*		88*	
	<i>Cirsium</i> spp.	Seed		8*		24*	
	<i>Carex</i> spp.	Seed		24*		40*	
	<i>Carex lupulina</i>	Seed		1			
	<i>Chenopodium</i> spp.	Seed		8*			
	<i>Citrullus lanatus</i>	Seed		1			
	<i>Cyperus</i> spp.	Seed		104*		16*	
	<i>Cyperus strigosus</i>	Seed		520*			
	<i>Dulichium arundinaceum</i>	Seed		4			
	<i>Eleocharis</i> spp.	Seed		16*			
	<i>Eleocharis obtusa</i>	Seed		64*			
	<i>Eleocharis palustris</i>	Seed		20			
	<i>Eleocharis quadrangulata</i>	Seed		8*			

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-5	<i>Euphorbia</i> spp.	Seed			6		
Unit 11	<i>Hypericum</i> spp.	Seed			208*		
Level 1	<i>Hypericum gentianoides</i>	Seed			352*		
	<i>Marrubium vulgare</i>	Seed			23		
	<i>Mentha</i> sp.	Seed			1		
	<i>Physalis</i> sp.	Seed			1		
	Poaceae	Floret			112*	64*	
	<i>Eleusine indica</i>	Caryopsis			2		
	<i>Panicum</i> spp.	Floret			2		
	<i>Paspalum</i> spp.	Floret			24*	96*	
	<i>Polygonum</i> spp.	Seed			16*	48*	
	<i>Polygonum</i> – triangular	Seed			12	8*	
	<i>Polygonum</i> S	Seed			16*		
	<i>Polygonum aviculare</i>	Seed			10	2	
	<i>Polygonum</i> <i>pensylvanicum</i> -type	Seed			11		
	<i>Portulaca oleracea</i>	Seed			16*	8*	
	<i>Rumex</i> spp.	Fruit			4	16*	
	<i>Rumex</i> spp.	Seed			8*		
	<i>Sida</i> spp.	Fruit			2		
	<i>Silene</i> sp.	Seed				1	
	<i>Sagittaria</i> spp.	Fruit			3		
	<i>Sagittaria</i> spp.	Seed			4		
	<i>Solanum</i> sp.	Seed				1	
	<i>Thymus vulgaris</i>	Seed			16*		
	<i>Vaccinium</i> sp.	Seed			1		
	<i>Verbascum thapsus</i>	Seed			1		
	<i>Verbena</i> spp.	Seed			4		
	Unidentified E	Seed			1		
	Unidentified S	Seed			4		
	Anther				X	X	Few
	Moss	Branch				X	Few
	Periderm					X	Moderate
	Sclerotia				X	X	Moderate
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 2 mm						0.217 g
	<i>Pinus</i> sp.	Charcoal		1			0.003 g
	<i>Pinus</i> – southern pine grp.	Charcoal		18			0.054 g
	<i>Quercus</i> spp.	Charcoal		5			0.013 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		6			0.144 g
	Total wood \geq 4 mm						11.900 g
	<i>Castanea</i> sp.	Wood				1	0.137 g
	<i>Pinus</i> spp.	Wood				19	1.401 g
	<i>Pinus strobus</i>	Wood				2	0.785 g
	<i>Quercus</i> spp.	Wood				3	1.336 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				15	6.257 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-5	<u>Non-Floral Remains:</u>						
Unit 11	Blue chalky material					X	Few
Level 1	Coal \geq 1 mm					3	0.012 g
	Coal < 1 mm					X	Few
	Hair					X	Few
	Insect	Chitin				2704*	
	Insect	Larva			66*	684*	
	Insect	Puparium				48*	
	Rock/Gravel					X	Few
	Sand concretions					X	Few
F41-6	Volume Floated						2.00 L
Unit 11	Light Fraction Weight						32.247 g
Level 2	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			24*	8*	
	Asteraceae	Seed			4	3	
	<i>Ambrosia</i> sp.	Seed				1	
	<i>Anthemis cotula</i>	Seed			8*	16*	
	<i>Bidens</i> spp.	Seed			5	4	
	<i>Cirsium</i> spp.	Seed			6	10*	
	<i>Eutrochium</i> spp.	Seed			4	1	
	<i>Carex</i> spp.	Seed			88*		
	<i>Carex lupulina</i>	Seed			6	1	
	<i>Chenopodium</i> spp.	Seed			16*	8*	
	<i>Cyperus</i> spp.	Seed			1584*	200*	
	<i>Cyperus strigosus</i>	Seed			164*	16*	
	<i>Dulichium arundinaceum</i>	Seed			19		
	<i>Eleocharis</i> spp.	Seed			34*	16*	
	<i>Eleocharis obtusa</i>	Seed			328*		
	<i>Eleocharis palustris</i>	Seed			216*		
	<i>Euphorbia</i> spp.	Seed			8*		
	<i>Fimbristylis</i> sp.	Seed			1		
	<i>Hypericum</i> spp.	Seed			360*	16*	
	<i>Hypericum gentianoides</i>	Seed			256*	8*	
	<i>Liriodendron tulipifera</i>	Seed			1	8*	
	<i>Lycopus americana</i>	Seed			24*		
	<i>Marrubium vulgare</i>	Seed			2		
	<i>Mollugo verticillata</i>	Seed			28*		
	cf. Orchidaceae	Seed			604*	136*	
	<i>Oxalis</i> sp.	Seed				1	
	<i>Pycnanthemum</i> sp.	Seed			1		
	cf. <i>Pinus</i>	Seed				1	0.002 g
	Poaceae	Floret			150*	32*	
	Poaceae C	Caryopsis			1		
	<i>Eleusine indica</i>	Caryopsis			3		
	<i>Panicum</i> spp.	Floret			6		
	<i>Paspalum</i> spp.	Floret				2	
	<i>Setaria</i> spp.	Floret			1	4	
	<i>Polygonum</i> spp.	Seed			32*	16*	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-6	<i>Polygonum</i> – triangular	Seed			8*		
Unit 11	<i>Polygonum</i> S	Seed			8*		
Level 2	<i>Polygonum aviculare</i>	Seed			10		
	<i>Polygonum pennsylvanicum</i> -type	Seed			7		
	<i>Portulaca oleracea</i>	Seed			40*		
	<i>Rubus</i> spp.	Seed			2		
	<i>Rumex</i> spp.	Fruit			3	4	
	<i>Rumex</i> spp.	Seed			11	1	
	<i>Sagittaria</i> spp.	Fruit			28*	16*	
	<i>Sagittaria</i> spp.	Seed			16*		
	cf. <i>Scutellaria</i> spp.	Seed			2		
	<i>Thalictrum</i> sp.	Seed			1		
	<i>Thymus vulgaris</i>	Seed			3		
	<i>Trifolium</i> spp.	Seed			3		
	<i>Verbena</i> spp.	Seed			16*	2	
	<i>Vitis</i> spp.	Seed				3	
	<i>Zea mays</i>	Cupule			1	5	0.020 g
	Unidentified S	Seed			1		
	Unidentified	Seed			2		
	Leaf					X	Few
	Moss	Branch				X	Few
	Periderm					X	Few
	Root	Periderm				X	Few
	Sclerotia				X	X	Few
	Thorn					3	
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 1 mm						0.023 g
	<i>Pinus</i> spp.	Charcoal		2			0.003 g
	<i>Quercus</i> spp.	Charcoal		3			0.012 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		3			0.007 g
	Unid. hardwood – small	Charcoal		1			<0.001 g
	Total wood \geq 2 mm						5.014 g
	<i>Pinus</i> spp.	Wood				11	0.191 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				29	2.195 g
	<u>Non-Floral Remains:</u>						
	Coal \geq 2 mm					2	0.028 g
	Coal < 2 mm					X	Few
	Insect	Chitin				2378*	
	Insect	Egg			X	X	Few
	Insect	Larva			64*	350*	
	Insect	Puparium				64*	
	Rock/Gravel					X	Few
	Sand					X	Moderate
	Sand concretions					X	Moderate

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-7	Volume Floated						2.50 L
Unit 11	Light Fraction Weight						66.342 g
Level 3	<u>Floral Remains:</u>						
	<i>Acalypha</i> spp.	Seed			3	1	
	<i>Amaranthus</i> spp.	Seed			24*	8*	
	Asteraceae	Seed			3		
	<i>Ambrosia</i> spp.	Seed			6		
	<i>Anthemis cotula</i>	Seed			1	72*	
	<i>Bidens</i> sp.	Seed			1		
	<i>Cirsium</i> spp.	Seed			2	5	
	<i>Eutrochium</i> spp.	Seed				10*	
	<i>Carex</i> spp.	Seed			8*		
	<i>Chenopodium</i> spp.	Seed			8*		
	<i>Cyperus</i> sp.	Seed			248*	48*	
	<i>Cyperus strigosus</i>	Seed			280*	16*	
	<i>Dulichium arundinaceum</i>	Seed			7	3	
	<i>Eleocharis</i> spp.	Seed			40*		
	<i>Eleocharis obtusa</i>	Seed			54*	8*	
	<i>Eleocharis palustris</i>	Seed			28*		
	<i>Euphorbia</i> spp.	Seed			8*		
	<i>Hypericum</i> spp.	Seed			72*		
	<i>Hypericum gentianoides</i>	Seed			176*	16*	
	Lamiaceae	Seed			1		
	<i>Lycopus americana</i>	Seed			8*		
	<i>Marrubium vulgare</i>	Seed			1		
	<i>Pycnanthemum</i> spp.	Seed			2		
	<i>Thymus vulgaris</i>	Seed			2		
	<i>Linum</i> sp.	Fruit				3	
	<i>Linum</i> sp.	Seed			2		
	<i>Mollugo verticillata</i>	Seed			16*		
	cf. Orchidaceae	Seed			128*	16*	
	Poaceae	Floret			136*	32*	
	<i>Panicum</i> spp.	Floret			14*		
	<i>Paspalum</i> spp.	Floret			6	12*	
	<i>Setaria</i> spp.	Floret				8*	
	<i>Polygonum</i> spp.	Seed			14*	24*	
	<i>Polygonum</i> – triangular	Seed			3		
	<i>Polygonum</i> S	Seed			8*		
	<i>Polygonum aviculare</i>	Seed			5		
	<i>Polygonum</i>	Seed			6		
	<i>pensylvanicum</i> -type						
	<i>Portulaca oleracea</i>	Seed			16*		
	<i>Prunus</i> sp. – cherry	Pit				1	
	<i>Ranunculus</i> sp.	Seed			1		
	<i>Rubus</i> sp.	Seed			1		
	<i>Rumex</i> spp.	Fruit				18*	
	<i>Rumex</i> spp.	Seed			8*		
	<i>Sagittaria</i> spp.	Fruit			16*	8*	
	<i>Sagittaria</i> spp.	Seed			8*		

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-7	Solanaceae	Seed			1		
Unit 11	<i>Physalis</i> spp.	Seed			2		
Level 3	<i>Verbena</i> spp.	Seed			8*		
	<i>Vitis</i> sp.	Seed				1	
	<i>Zea mays</i>	Cupule				43	0.055 g
	Unidentified C	Seed				4	
	Unidentified L	Seed			1		
	Unidentified	Seed				2	
	Moss					X	Few
	Periderm					X	Few
	Sclerotia				X	X	Moderate
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 1 mm						0.063 g
	<i>Juglans</i> sp.	Charcoal		1			0.008 g
	<i>Pinus</i> spp.	Charcoal		5			0.005 g
	<i>Quercus</i> spp.	Charcoal		10			0.029 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		3			0.005 g
	<i>Robinia pseudoacacia</i>	Charcoal		2			0.003 g
	Unidentified hardwood twig	Charcoal		1			0.015 g
	Total wood \geq 4 mm						17.171 g
	<i>Fraxinus</i> spp.	Wood				2	3.219 g
	<i>Fraxinus</i> spp. twig	Wood				3	0.201 g
	<i>Pinus</i> spp.	Wood				2	0.043 g
	<i>Pinus strobus</i>	Wood				1	0.010 g
	<i>Quercus</i> spp.	Wood				2	0.175 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				30	10.137 g
	<u>Non-Floral Remains:</u>						
	Coal < 2 mm					X	Few
	Insect	Chitin				X	Few
	Insect	Egg				682*	
	Insect	Larva			32*	106*	
	Insect	Puparium				26*	
	Rock/Gravel					X	Moderate
	Sand					X	Moderate
	Sand concretions					X	Moderate
F41-8	Volume Floated						2.10 L
Unit 11	Light Fraction Weight						15.529 g
Level 4	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			3		
	Asteraceae	Seed				1	
	<i>Ambrosia</i> spp.	Seed			1	1	
	<i>Anthemis cotula</i>	Seed			3	122*	
	<i>Cirsium</i> spp.	Seed			10	48*	
	<i>Lactuca biennis</i> -type	Seed			1	6	
	<i>Carex</i> sp.	Seed			1		

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-8	<i>Cyperus strigosus</i>	Seed			3		
Unit 11	<i>Eleocharis</i> spp.	Seed			11		
Level 4	<i>Eleocharis obtusa</i>	Seed			8		
	<i>Euphorbia</i> sp.	Seed			1		
	<i>Hypoxis</i> -type	Seed			1		
	<i>Marrubium vulgare</i>	Seed			1		
	<i>Mollugo verticillata</i>	Seed			1		
	Poaceae	Floret			20*	52*	
	Poaceae C	Caryopsis			2		
	<i>Eleusine indica</i>	Caryopsis			1		
	<i>Polygonum</i> spp.	Seed			11	3	
	<i>Polygonum</i> – triangular	Seed			12		
	<i>Polygonum</i> S	Seed			10		
	<i>Polygonum aviculare</i>	Seed			21		
	<i>Polygonum</i> <i>pensylvanicum</i> -type	Seed			13	1	
	<i>Portulaca oleracea</i>	Seed			13		
	<i>Ranunculus</i> sp.	Seed			1		
	<i>Rumex</i> spp.	Seed			4		
	<i>Verbascum thapsus</i>	Seed			3		
	<i>Verbena</i> sp.	Seed			1		
	Unidentified B	Seed			2		
	Unidentified C	Seed				1	
	Unidentified	Seed				1	
	Anther					X	Few
	Dicot	Leaf				X	Few
	Moss	Branch				X	Few
	Root	Periderm				X	Few
	Roots					X	Few
	Sclerotia				X	X	Moderate
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 1 mm						0.051 g
	<i>Pinus</i> – southern pine grp.	Charcoal		2			0.001 g
	<i>Quercus</i> spp.	Charcoal		33			0.037 g
	Total wood \geq 2 mm						1.168 g
	<i>Fraxinus</i> spp.	Wood				2	0.029 g
	<i>Pinus</i> spp.	Wood				9	0.045 g
	<i>Pinus strobus</i>	Wood				1	0.054 g
	<i>Quercus</i> spp.	Wood				4	0.051 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				24	0.355 g
	<u>Non-Floral Remains:</u>						
	Coal < 2 mm					X	Few
	Insect	Chitin				390*	
	Rock/Gravel					X	Moderate
	Sand & Sand concretions					X	Few
	Rodent & Termite fecal pellets				X	X	Few

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F41-9	Volume Floated						2.30 L
Unit 11	Light Fraction Weight						7.830 g
Level 5	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			3		
	<i>Anthemis cotula</i>	Seed				1	
	<i>Carex lupulina</i>	Seed			1		
	<i>Cirsium</i> spp.	Seed			4	3	
	<i>Cyperus strigosus</i>	Seed			5		
	<i>Eleocharis</i> spp.	Seed			19		
	<i>Euphorbia</i> spp.	Seed			2		
	<i>Mollugo verticillata</i>	Seed			1		
	<i>Najas guadalupensis</i>	Seed			1	1	
	Poaceae	Floret			7	3	
	<i>Eleusine indica</i>	Caryopsis			1		
	<i>Polygonum</i> S	Seed			7		
	<i>Polygonum</i> <i>pensylvanicum</i> -type	Seed			2	1	
	<i>Portulaca oleracea</i>	Seed			2		
	<i>Rumex</i> sp.	Seed			1		
	<i>Trifolium</i> sp.	Seed			1		
	Sclerotia				X	X	Moderate
	Total charcoal \geq 1 mm						0.091 g
	<i>Pinus</i> sp.	Charcoal		1			0.002 g
	<i>Pinus</i> – southern pine grp.	Charcoal		4			0.057 g
	<i>Quercus</i> spp.	Charcoal		11			0.011 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		5			0.018 g
	Periderm	Charcoal		1			0.003 g
	Total wood \geq 4 mm						1.972 g
	<i>Pinus</i> – southern pine grp.	Wood				8	0.267 g
	<i>Pinus strobus</i>	Wood				1	0.004 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				19	0.990 g
	Unid. hardwood root	Wood				2	0.034 g
	Periderm					6	0.155 g
	<u>Non-Floral Remains:</u>						
	Bone \geq 2 mm					1	0.004 g
	Coal < 2 mm					X	Few
	Insect	Chitin				27	
	Mortar < 2 mm					X	Moderate
	Rock/Gravel					X	Moderate
	Sand					X	Moderate
	Sand concretions w/embedded coal					X	Moderate
	Shell – oyster \geq 4 mm					1	17.608 g
	Termite fecal pellet					X	Few

W = Whole F = Fragment g = grams X = Presence noted in sample
 grp. = group pc = partially charred *Indicates an estimated frequency

Test Unit 6

Sample F41-2 was taken from Fill 2 (loose sand) and Fill 3 (clay) in Level 2 of Test Unit 6. Relatively few seeds were noted in this sample. Several uncharred *Portulaca oleracea* seeds reflect purslane plants, while a few *Amaranthus* spp., *Polygonum* – triangular, and *Solanum* spp. seeds and a single *Ambrosia* sp. seed, *Cirsium* sp. seed fragment, *Euphorbia* sp. seed, *Mollugo verticillata* seed, and Poaceae floret note the presence of amaranth, knotweed, nightshade, ragweed, thistle, spurge, carpetweed, and grass. The charcoal record was dominated by *Quercus* spp. fragments, with fewer pieces of *Quercus* – *Leucobalanus* group, *Juglans* spp., *Fraxinus* spp., *Pinus* spp., and *Pinus* – southern pine group charcoal present. Uncharred wood includes several fragments of *Quercus* – *Leucobalanus* group and fewer pieces of *Pinus* spp., *Fraxinus* sp., and *Quercus* sp. wood. Uncharred periderm fragments and an uncharred *Pinus* sp. bark scale fragment indicates that some of the uncharred wood represents pieces of wood with adhering bark. Non-floral remains likely to represent cultural trash include a few coal fragments, a fish scale fragment, and a burned fragment of woven fibers. The sample also yielded a moderate amount of sand concretions with embedded bone, coal, and shell fragments, as well as numerous insect chitin fragments, a few insect eggs and insect puparia, and a moderate amount of insect larva fragments.

Test Unit 7

Unit 7 was placed at the eastern end of the central east/west beam. This unit exposed a crude stone wall (Feature 41-17) and a possible wood floor. Sample F41-3 represents deep fill beneath the stone wall. A few uncharred seeds from edible plants were noted in this sample, including two *Ficus carica* seed fragments, two *Rubus* spp. seeds and a seed fragment, a *Sambucus nigra* seed fragment, two *Thymus vulgaris* seeds, a *Vaccinium* sp. seed fragment, and a *Vitis* sp. seed fragment. These seeds reflect figs, a member of the raspberry group, elderberries, thyme, blueberries, and grapes. These remains might have been present in trash that was either deposited in this area or in an area from which sediments were collected to add to this area. An uncharred *Phytolacca americana* seed might represent use of pokeweed or its growth as a weedy plant. Other uncharred seeds that reflect plants likely growing in Alexandria at the time of the warehouse occupation include a few *Amaranthus* sp., *Bolboschoenus* (syn. *Scirpus*) *fluviatilis*, *Carex* sp., *Eleocharis* sp., *Polygonum* sp., *Portulaca oleracea*, *Sagittaria* spp., and Unidentified R seeds. Several uncharred *Liriodendron tulipifera* seeds and seed fragments note the presence of a tuliptree growing nearby. A moderate amount of sclerotia also notes the presence of tree roots with their mycorrhizal fungi. *Quercus* – *Leucobalanus* group dominated the charcoal record, with smaller amounts of *Fraxinus* spp., *Juglans* spp., *Liriodendron tulipifera*, *Pinus* spp., and *Ulmus americana* charcoal present. A charred *Pinus* sp. bark scale fragment indicates that some of the burned pine wood possessed adhering bark. Uncharred wood fragments in this sample include *Pinus* spp., *Pinus* – southern pine group, *Quercus* spp., *Quercus* – *Leucobalanus* group, and unidentified wood. An uncharred periderm fragment indicates that some of the wood also retained bark. An uncharred bone fragment, a brick fragment, several pieces of clinker, numerous coal fragments, a rusted nail, and numerous shell fragments also represent cultural trash.

Test Unit 8

Unit 8 was excavated in an attempt to locate continuations of two wall features. Although rubble was noted, no intact walls were found. Level 5 contained wood and might represent construction fill. Sample F41-4 was taken from Level 5 fill and from Level 6 below this, which contained suspected alluvial flow. Seeds from possible edible/economic resources noted in sample F1-4 include a Lamiaceae seed fragment, several *Thymus vulgaris* seeds, two *Phytolacca americana* seed fragments, a *Prunus* sp. - cherry seed and two seed fragments, and one *Rubus* sp. seed fragment. Two uncharred *Rosa* sp. seeds might reflect cultivated or wild roses. Seeds from weedy/local plants include an *Acalypha* spp. seed and six seed fragments, an *Amaranthus* sp. seed fragment, a *Bolboschoenus fluviatilis* seed, two *Carex* seeds, seven *Liriodendron tulipifera* seeds and seed fragments, four Nyctaginaceae seeds, two *Oxalis* spp. seeds, a Poaceae floret fragment, three *Polygonum* – triangular seeds, five *Portulaca oleracea* seeds, and three *Verbena* spp. seeds. The sample also contained a moderate amount of uncharred periderm fragments and a few sclerotia. The charcoal record was dominated by *Quercus* – *Leucobalanus* group from burning a member or members of the white oak group. A few fragments of *Fraxinus* spp., *Quercus* spp., *Juglans* sp., *Pinus* sp., and *Pinus* – southern pine group charcoal also note burning ash, oak, walnut, and pine, including a member of the southern pine group. Uncharred wood was dominated by *Pinus* spp., and *Quercus* – *Leucobalanus* group, suggesting that pine and a member of the white oak group were used in construction of the warehouse. A few pieces of *Quercus* spp. and *Ulmus americana* wood were also present. A few pieces of clinker, several fragments of coal, several insect chitin fragments, an insect puparium fragment, a piece of shell, rock/gravel, and sand comprise the non-floral portion of the sample.

Test Unit 11

Unit 11 was placed beneath Floorboard 7. Samples were collected from five levels of fill in this unit. Although not present in great quantities, a variety of uncharred seeds from probable edible/economic plants were present in these samples. Single *Citrullus lanatus* and *Vaccinium* sp. seeds were noted in sample F41-5 from Level 1, reflecting watermelon and blueberry. Two *Rubus* spp. seeds in Level 2 (sample F41-6) and a single seed in Level 3 (sample F41-7) reflect a member of the raspberry group. A single *Prunus* sp. – cherry pit fragment was also present in Level 3. A *Physalis* sp. seed in Level 1 and two seeds in Level 3 might reflect the cultivated tomatillo or a native groundcherry. Sample F41-6 from Level 2 yielded three *Vitis* sp. seed fragments, and sample F41-7 from Level 3 contained one seed fragment, indicating the presence of grapes. Samples F41-6 and F41-7 were the only samples from this project to contain *Zea mays* remains. Several cupule fragments in these two samples indicate the presence of corn cobs. Samples from beneath Floorboard 7 yielded several types of seeds from members of the mint family. *Marrubium vulgare* (horehound) seeds were present in the upper four samples from this unit, absent only from sample F41-9 (Level 5). *Thymus vulgaris* seeds were noted in Levels 1-3, while *Pycnanthemum* spp. (mountainmint) seeds were found in Levels 2 and 3. Level 1 yielded a single *Mentha* sp. seed, while two probable *Scutellaria* spp. seeds were recovered in Level 2. Level 3 contained a Lamiaceae seed not identified to genus. These mints might have been used as flavorings or medicinal resources.

The samples from beneath Floorboard 7 yielded the greatest variety of seeds from plants in the local vegetation, especially those from wetland habitats. Wetlands are described as “lands transitional between terrestrial and aquatic systems where the water table is usually at or near the surface or the land is covered by shallow water” (Manner et al. 2008:1). *Carex* spp. (sedge) seeds were present in Levels 1-4, with the greatest number of seeds noted in Level 2. A *Carex lupulina* seed in Level 1 and six seeds in Level 2 reflect hop sedge. Numerous *Cyperus* spp. (flatsedge) and *Cyperus strigosus* seeds occurred in Levels 1-3, with a few *Cyperus strigosus* seeds also in Levels 4 and 5 (samples 41-8 and 41-9, respectively). Several *Dulichium arundinaceum* (three-way sedge) were noted in Levels 1-3. All five levels of fill beneath Floorboard 7 yielded *Eleocharis* spp. seeds, indicating spikerush plants. *Eleocharis obtusa* seeds were found in Levels 1-4, while *Eleocharis palustris* seeds were present in Levels 1-3. Level 1 contained the only *Eleocharis quadrangulata* seed, while Level 2 yielded the only *Fimbristylis* sp. seed. Several *Sagittaria* spp. fruits and seeds in Levels 1-3 note the presence of arrowhead. A *Najas guadalupensis* seed and seed fragment in sample F41-9 from Level 5 reflects the aquatic southern naiad, while four *Nymphaea odorata* seed fragments in Level 3 and one fragment in Level 4 indicate an aquatic waterlily. The area on which the warehouse was built appears to have originally been a wetland area that supported growth of these various plants.

Other types of seeds from weedy/local plants are not diagnostic of a wetland, although many of these genera have some species that can grow in wetland areas (Lichvar et al. 2016). Seeds noted in all five levels include *Amaranthus* spp., *Anthemis cotula*, *Cirsium* spp., *Euphorbia* spp., *Polygonum* S, *Polygonum pensylvanicum*-type, *Portulaca oleracea*, and *Rumex* spp. Amaranth, stinking chamomile, thistle, spurge, knotweed, smartweed, purslane, and dock appear to have been common plants in the local vegetation. *Anthemis cotula* is a native of the Mediterranean region. It is thought to have been widely spread through contaminated seed, forage, or ships ballast, and growth of *Anthemis cotula* can be aggressive in wet, poorly-drained environments. Recovery of *Anthemis cotula* seeds in samples from beneath Floorboard 7 in the Carlyle Warehouse indicates the presence of stinking chamomile in the United States prior to construction of the warehouse in 1755. *Polygonum* spp., *Polygonum* – triangular, and *Polygonum aviculare* seeds occurred in Levels 1-4, also attesting to the presence of knotweed/smartweed plants. Asteraceae seeds in Levels 1-4, *Ambrosia* spp. seeds in Levels 2-4, *Bidens* spp. and *Eutrochium* spp. seeds in Levels 2 and 3, and *Lactuca biennis*-type seeds in Level 4 reflect other members of the sunflower family. *Rumex* spp. fruit fragments were also noted in Levels 1-3.

Poaceae florets were present in all five levels of Unit 11, indicating the presence of grasses. Grasses included panicgrass/witchgrass, paspalum/crowngrass, bristlegrass/millet, and the introduced goose grass, as evidenced by uncharred *Panicum* spp. and *Paspalum* spp. florets in Levels 1-3, uncharred *Setaria* spp. florets in Levels 2 and 3, and uncharred *Eleusine indica* caryopses in Levels 1, 2, 4, and 5. *Eleusine indica* is noted to have been introduced to the United States around the 1800s. If samples from Unit 11 reflect plants present in the local vegetation at the time of the Carlyle Warehouse construction in 1755, recovery of uncharred *Eleusine indica* caryopses in these samples suggests an earlier introduction for this plant. One uncharred Poaceae C caryopsis in Level 2 and two uncharred Poaceae C caryopses in Level 4 reflect the presence of grasses with small-sized caryopses, such as *Agrostis* (bentgrass), *Muhlenbergia* (muhly grass), *Phragmites australis* (common reed), *Poa* (bluegrass), etc.

Levels 2-5 contained uncharred *Mollugo verticillata* seeds, while Levels 1-4 contained uncharred *Verbena* spp. seeds, suggesting that carpetweed and verbena/vervain were also commonly found. Uncharred *Chenopodium* spp., *Hypericum* spp., *Hypericum gentianoides*, and *Lycopus americanus* seeds were found in Levels 1-3, indicating the presence of goosefoot, St. Johnswort, orangegrass, and American water horehound. Numerous probable uncharred Orchidaceae seeds were noted in Levels 2 and 3, suggesting the presence of a member of the orchid family. Other seed types were present less frequently, including a few uncharred *Acalypha* spp. seeds in Levels 1 and 3; uncharred *Verbascum thapsus* seeds in Levels 1 and 4; an uncharred *Hypoxis*-type seed in Level 4; uncharred *Linum* spp. seeds, *Linum* spp. fruit fragments, and a Solanaceae seed in Level 3; an uncharred *Liriodendron tulipifera* seed and a few seed fragments, an uncharred *Oxalis* sp. seed, an uncharred probable *Pinus* sp. seed fragment, an uncharred *Thalictrum* sp. seed, and three uncharred *Trifolium* sp. seeds in Level 2; and two uncharred *Sida* spp. fruits, an uncharred *Silene* sp. seed fragment, and an uncharred *Solanum* sp. seed fragment in Level 1.

Various unidentified seeds and a few anther, leaf, moss branch, thorns, periderm, and root fragments were also present. The majority of the samples from beneath Floorboard 7 yielded moderate amounts of sclerotia, suggesting that trees with mycorrhizal fungi grew in the area. Alternatively, sediment from forest areas might have been transported to the building site to create somewhat firmer ground on which to build.

Charcoal fragments in the samples from Unit 11 beneath Floorboard 7 were small and might represent ash from a stove or fireplace present in sediments deposited in this area. *Quercus* spp. charcoal was recovered in all five levels, with *Quercus – Leucobalanus* group and *Pinus* spp. charcoal noted in Levels 1, 2, 3, and 5. Levels 1, 4, and 5 yielded *Pinus* charcoal from a member or members of the southern pine group. Level 3 also contained *Juglans* sp., *Robinia pseudoacacia*, and partially charred hardwood twig charcoal, while a piece of hardwood charcoal too small for further identification was noted in Level 2. A charred periderm fragment in Level 5 indicates that some of the burned wood contained adhering bark.

Wood fragments in the Unit 11 samples were larger and more abundant than the charcoal fragments. Pieces of *Quercus – Leucobalanus* group wood in all five levels and *Pinus* spp. wood in Levels 1-4 again suggest use of a member of the white oak group and pine as construction materials. A few pieces of *Pinus strobus* wood in Levels 1, 3, 4, and 5 represent eastern white pine, while wood from a member of the southern pine group was recovered in Level 5. Levels 1, 3, and 4 yielded fragments of *Quercus* spp. wood. Pieces of *Fraxinus* spp. wood were found in Levels 3 and 4, a single piece of *Castanea* sp. wood was noted in Level 1, and Level 5 contained two fragments of unidentified hardwood root and uncharred periderm.

The Unit 11 samples contained relatively few non-floral remains indicative of cultural trash. These are limited to a few coal fragments in all five levels, hair fragments in Level 1, and an oyster shell fragment in Level 5. Numerous insect chitin fragments, numerous insect larva fragments, and several insect puparium fragments in Levels 1-3, as well as a few insect eggs in Levels 2 and 3, indicate insect activity in this area. Insect chitin fragments were also noted in Levels 4 and 5, but in lesser amounts than the upper three levels. A few rodent fecal pellets in

Level 4 indicate rodent activity, while a few termite fecal pellets in Levels 4 and 5 suggest the presence of wood-dwelling termites.

Feature 53

Feature 53 is the hull of an oceangoing vessel, likely a portion of the starboard side. This hull portion was intentionally broken, submerged, and filled with sediment as part of the banking out process along the waterfront to create usable land prior to 1798. Four samples from between framing elements were examined.

Sample F53-1 represents fill between Frames 6 and 7. This sample contained three uncharred *Fragaria* spp. seeds, two uncharred *Gaylussacia* spp. seeds, two uncharred *Morus rubra* seeds, an uncharred *Rubus* spp. seed and seed fragment, two uncharred *Vaccinium* spp. calyx fragments, an uncharred *Vaccinium* sp. seed, and four uncharred *Vitis* spp. seed fragments (Table 5 and Table 3), suggesting that strawberries, huckleberries, mulberries, a member of the raspberry group, blueberries, and grapes were eaten. These remains might represent night soil and/or kitchen trash used as part of the infilling process to create land. An uncharred *Physalis* sp. seed fragment could represent either cultivated tomatillo or native groundcherry. Four uncharred Lamiaceae seeds and a seed fragment might indicate use of a member of the mint family. Two uncharred probable *Humulus lupulus* seed fragments suggest the presence of common hop, possibly used by someone in Alexandria to brew beer. Six uncharred *Carex* spp. seeds, an uncharred *Eleocharis* sp. seed, and two uncharred *Typha* spp. seeds note the presence of sedge, spikerush, and cattails found in wetland habitats. A variety of uncharred seeds likely represent weedy plants, including two *Amaranthus* spp. seeds and a seed fragment, a *Chenopodium* spp. seed and seed fragment, a *Datura stramonium* seed, one *Euphorbia* sp. seed, a Poaceae floret fragment, three *Polygonum* spp. seeds and seed fragments, four *Polygonum* – triangular seeds, a *Polygonum lapathifolium*-type seed and seed fragment, two *Polygonum pensylvanicum*-type seed fragments, several *Portulaca oleracea* seeds, a *Rumex* sp. seed, four *Solanum* spp. seeds and a seed fragment, and two *Verbena* spp. seed fragments. A single uncharred *Liriodendron tulipifera* seed notes the presence of a tuliptree. The charcoal record was dominated by *Quercus* – *Leucobalanus* group, reflecting a member or members of the white oak group. Fewer pieces of *Quercus* spp., *Fraxinus* sp., *Juglans* sp., and *Pinus* spp. charcoal suggest burning oak, ash, walnut, and pine wood. The sample yielded large chunks of *Quercus* – *Leucobalanus* group wood, suggesting that the hull frames were made from a member of the white oak group. A few pieces of *Quercus* spp., *Pinus* spp. and *Taxodium distichum* wood were also present. Charred and uncharred bone fragments likely represent kitchen trash. Recovery of charred fish vertebrae and a moderate amount of fish scale, including ctenoid fish scales, indicates use of fish. A moderate amount of coal, a piece of clinker, and numerous shell fragments likely also represent kitchen trash. A moderate amount of coral-like material was present in the sample that might represent a cold-water coral. In addition to the well-known corals of tropical coral reefs, the majority of corals live in deep, cold waters from a variety of marine environments, including inland fjords, continental shelves, slopes, offshore banks, seamounts, and the abyssal plain (Roberts et al. 2009:1). Other non-floral remains include several insect chitin fragments, a rodent molar, depressed snail shells, and sand concretions with embedded wood, coal, etc.

Table 5. Macrofloral Remains in Samples from Feature 53, Site 44AX0229, Virginia.

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F53-1	Volume Floated						
Frame 6/ Frame 7	Light Fraction Weight						
	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			2	1	
	<i>Carex</i> spp.	Seed			6		
	<i>Chenopodium</i> spp.	Seed			1	1	
	<i>Datura stramonium</i>	Seed			1		
	<i>Eleocharis</i> sp.	Seed			1		
	<i>Euphorbia</i> sp.	Seed			1		
	<i>Fragaria</i> spp.	Seed			3		
	<i>Gaylussacia</i> spp.	Seed			2		
	cf. <i>Humulus lupulus</i>	Seed				2	
	Lamiaceae	Seed			4	1	
	<i>Liriodendron tulipifera</i>	Seed				1	
	<i>Morus rubra</i>	Seed			2		
	<i>Physalis</i> sp.	Seed				1	
	Poaceae	Floret				1	
	<i>Polygonum</i> spp.	Seed			4		
	<i>Polygonum</i> – triangular	Seed			4		
	<i>Polygonum lapathifolium</i> - type	Seed			1	1	
	<i>Polygonum</i> <i>pensylvanicum</i> -type	Seed				2	
	<i>Portulaca oleracea</i>	Seed			11		
	<i>Rubus</i> spp.	Seed			1	1	
	<i>Rumex</i> sp.	Seed			1		
	<i>Solanum</i> spp.	Seed			4	1	
	<i>Typha</i> spp.	Seed			2		
	<i>Vaccinium</i> spp.	Calyx				2	
	<i>Vaccinium</i> sp.	Seed			1		
	<i>Vitis</i> spp.	Seed				4	
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						0.500 g
	<i>Fraxinus</i> sp.	Charcoal		1			0.009 g
	<i>Juglans</i> sp.	Charcoal		1			0.005 g
	<i>Pinus</i> spp.	Charcoal		2			0.009 g
	<i>Quercus</i> spp.	Charcoal		7			0.024 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		29			0.199 g
	Total wood ≥ 4 mm						19.078 g
	<i>Pinus</i> sp.	Wood				3	0.060 g
	<i>Quercus</i> spp.	Wood				3	1.843 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				33	8.691 g
	<i>Taxodium distichum</i>	Wood				1	0.012 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F53-1	<u>Non-Floral Remains:</u>						
Frame 6/	Bone \geq 2 mm					6	0.041 g
Frame 7	Bone < 2 mm					X	Few
	Bone \geq 2 mm			5			0.105 g
	Bone < 2 mm			X			Few
	Fish vertebrae \geq 2 mm		1	1			0.012 g
	Fish vertebrae < 2 mm						
	Fish vertebrae – calcined						
	Clinker \geq 4 mm					1	0.053 g
	Coal					X	Moderate
	Coral-like material \geq 2 mm					3	0.192 g
	Coral-like material < 2 mm					X	Moderate
	Fish scale \geq 2 mm					6	0.005 g
	Fish scale < 2 mm					X	Moderate
	Fish scale – ctenoid \geq 2 mm					2	0.002 g
	Fish scale – ctenoid < 2 mm				X	X	Few
	Insect	Chitin				104	
	Rock/Gravel					X	Moderate
	Sand					X	Abundant
	Sand concretions					X	Few
	Rodent molar					1	0.001 g
	Shell \geq 4 mm					7	0.624 g
	Shell < 4 mm					X	Numerous
	Snail shell – depressed				7	1	0.017 g
FS53-2	Volume Floated						1.00 L
Frame 10	Light Fraction Weight						5.241 g
	<u>Floral Remains:</u>						
	<i>Pinus</i> sp.	Bark scale				1	
	<i>Polygonum</i> sp.	Seed			1		
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 1 mm						0.020 g
	<i>Quercus</i> spp.	Charcoal		3			0.006 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		5			0.007 g
	Unidentified hardwood	Charcoal		4			0.007 g
	Total wood \geq 2 mm						1.786 g
	<i>Liriodendron tulipifera</i>	Wood				5	0.307 g
	<i>Quercus</i> spp.	Wood				7	0.141 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				28	0.563 g
	<u>Non-Floral Remains:</u>						
	Clinker < 2 mm					X	Few
	Coal \geq 2 mm					4	0.020 g
	Coal < 2 mm					X	Few
	Insect	Chitin				6	
	Insect	Larva				1	
	Rock/Gravel					X	Few
	Sand					X	Abundant

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
FS53-2	Sand concretions					X	Few
Frame 10	Sea urchin	Spine				1	0.005 g
	Shell \geq 4 mm					9	0.235 g
	Shell < 4 mm					X	Few
FS53-3	Volume Floated						2.30 L
Frame 13	Light Fraction Weight						65.673 g
	<u>Floral Remains:</u>						
	<i>Carex</i> spp.	Seed			3		
	<i>Polygonum</i> spp.	Seed			1	1	
	<i>Portulaca oleracea</i>	Seed			1		
	<i>Rubus</i> spp.	Seed			8		
	<i>Rumex</i> sp.	Seed			1		
	<i>Solanum</i> spp.	Seed			2		
	Leaf – deciduous					X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 2 mm						0.020 g
	Conifer-small	Charcoal		1			<0.001g
	<i>Pinus</i> spp.	Charcoal		2			<0.001g
	<i>Quercus</i> spp.	Charcoal		10			0.014 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		9			0.005 g
	Total wood \geq 2 mm						21.990
	<i>Pinus</i> spp.	Wood				9	0.629 g
	<i>Quercus</i> spp.	Wood				6	0.429 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				25	4.163 g
	<u>Non-Floral Remains:</u>						
	Bone \geq 2 mm					1	0.038 g
	Bone < 2 mm			X		X	Few
	Coal \geq 1 mm					7	0.059 g
	Coal < 1 mm					X	Few
	Coral-like material \geq 2 mm					2	0.136 g
	Coral-like material < 2 mm					X	Few
	Fish scale – ctenoid \geq 1 mm				2	1	<0.001 g
	Insect	Chitin				101	
	Insect	Larva				1	
	Rock/Gravel					X	Few
	Sand					X	Abundant
	Sand concretions					X	Moderate
	Sea urchin \geq 2mm	Spine				1	0.012 g
	Sea urchin < 2mm	Spine				X	Few
	Shell \geq 4mm					4	0.240 g.
	Shell > 4 mm					X	Numerous
FS53-4	Volume Floated						2.10 L
Frame 14/	Light Fraction Weight						13.800 g
Frame 15	<u>Floral Remains:</u>						
	<i>Citrullus lanatus</i>	Seed				1	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
FS53-4	<i>Rubus</i> sp.	Seed			1		
Frame 14/	<i>Scirpus</i> -type	Seed			1		
Frame 15	Unidentified R	Seed			1		
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 1 mm						0.006 g
	Conifer – small	Charcoal		1			<0.001 g
	<i>Quercus</i> spp.	Charcoal		5			0.003 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		4			0.002 g
	Total wood \geq 2 mm						3.856 g
	<i>Liriodendron tulipifera</i>	Wood			1		0.004 g
	<i>Pinus</i> sp.	Wood			1		0.093 g
	<i>Quercus</i> spp.	Wood			22		0.760 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood			16		0.525 g
	<u>Non-Floral Remains:</u>						
	Brick \geq 2mm				4		0.111 g
	Coal \geq 2mm				6		
	Coal < 2mm				X		Moderate
	Coral-like material \geq 2mm				13		0.195 g
	Coral-like material < 2mm				X		Numerous
	Fish scale \geq 1mm			1			<0.001 g
	Fish scale – ctenoid \geq 1 mm			4			<0.001 g
	Fish scale – ctenoid < 1 mm				X		Few
	Insect	Chitin			354*		
	Insect	Larva			2		
	Insect	Puparium			1		
	Rock/Gravel				X		Few
	Sand				X		Abundant
	Sand concretions				X		Few
	Sea urchin	Spine			1		0.005 g
	Shell \geq 2mm				27		0.334 g
	Shell < 2mm				X		Numerous

W = Whole

F = Fragment

g = grams

X = Presence noted in sample

grp. = group

*Indicates an estimated frequency based on the sort of a portion of the total sample

Sample F53-2 was taken around Frame 10. This sample yielded numerous thin, deteriorated wood fragments, as well as identifiable pieces of *Quercus* – *Leucobalanus*-type, *Quercus* spp., and *Liriodendron tulipifera* wood. An uncharred *Pinus* sp. bark scale fragment, an uncharred *Polygonum* sp. seed, and a few small fragments of *Quercus* – *Leucobalanus*-type, *Quercus* spp., and unidentified hardwood charcoal were also present. Non-floral remains include

a few clinker and coal fragments, a few shell fragments, a sea urchin spine fragment, six insect chitin fragments, an insect larva fragment, and sand concretions.

Sample F53-3 was recovered from around Frame 13 of the vessel hull. Eight *Rubus* seeds represent a member of the raspberry group. These seeds, along with a few charred and uncharred bone fragments, a few coal fragments, and a few ctenoid fish scales, suggest the presence of kitchen trash. Three uncharred *Carex* spp. seeds, an uncharred *Polygonum* sp. seed and seed fragment, an uncharred *Portulaca oleracea* seed, one uncharred *Rumex* sp. seed, two uncharred *Solanum* sp. seeds, and a few uncharred leaf fragments note the presence of sedge, smartweed/knotweed, purslane, dock, and nightshade plants. The few, small charcoal fragments consisted of *Quercus* spp., *Quercus* – *Leucobalanus* group, *Pinus* spp., and conifer. In addition, the sample contained a few fragments of coral-like material, numerous insect chitin fragments, an insect larva fragment, a few sea urchin spine fragments, numerous shell fragments, and a moderate amount of sand concretions.

Fill between Frames 14 and 15 was collected as sample F53-4. This sample contained an uncharred *Citrullus lanatus* seed fragment and an uncharred *Rubus* sp. seed, reflecting watermelons and a member of the raspberry group. An uncharred *Scirpus*-type seed and an Unidentified R seed likely represent local plants. The sample also contained several fragments of *Quercus* spp. and *Quercus* – *Leucobalanus* group wood, a piece of *Pinus* sp. wood, a piece of *Liriodendron tulipifera* wood, and a few, small fragments of *Quercus* spp. charcoal, *Quercus* – *Leucobalanus* group charcoal, and a piece of conifer charcoal too small for further identification. Non-floral remains include four brick fragments, a moderate amount of coal, a charred fish scale fragment, a few ctenoid fish scales, numerous shell fragments, a sea urchin spine fragment, numerous pieces of coral-like material, numerous insect chitin fragments, two insect larva fragments, an insect puparium, and a few worm castings.

Feature 56

Feature 56 is a large, rectangular, wood-lined privy that might be associated with the Carlyle Warehouse. This feature is located north of the warehouse and north of the 1788 shoreline, indicating that the feature was used after the infilling process created usable land in this area. Numerous artifacts and seeds were noted in the feature fill. Samples were collected from eight levels in the south half of the feature.

Macrofloral analysis indicates that the users of Feature 56 consumed a variety of fruits. Uncharred *Ficus carica*, *Fragaria* spp., *Rubus* spp., and *Vitis* spp. seeds/seed fragments were present in all eight levels of the privy, indicating that figs, strawberries, members of the raspberry group, and grapes were commonly eaten (Table 6 and Table 3). Several uncharred *Citrullus lanatus*, *Gaylussacia* spp., and *Prunus* spp. – cherry seeds/seed fragments were noted in Levels 2-8, with several uncharred *Vaccinium* spp. seeds present in Levels 3-8, indicating that watermelon, huckleberry, cherries, and blueberries were also commonly eaten. An uncharred *Vaccinium* sp. calyx (toothed ring on the fruit) fragment in Level 4 and three fragments in Level 6 also note the presence of blueberries. A few uncharred *Morus rubra* seeds in Levels 1, 2, 3, and 8, as well as several uncharred *Morus rubra* seeds in Levels 5-7, reflect consumption of mulberries. Apples are represented by a few uncharred seeds/seed fragments in Levels 2, 4, 5, 6,

and 7. A few uncharred *Prunus* spp. – plum pits and/or pit fragments in Levels 3-6 indicate that plums were eaten, while single *Prunus persica* pit fragments in Levels 2, 3, and 5 note the presence of peaches. Elderberries are indicated by an uncharred *Sambucus nigra* seed in Level 3, four uncharred seeds in Level 4, and several uncharred seeds in Levels 6 and 7, while currants and serviceberries are represented by a few uncharred *Ribes* spp. seeds in Levels 5-7 and three uncharred *Amelanchier* spp. seeds in Level 7. An uncharred *Cucumis melo* seed fragment in Level 5 and three uncharred seeds in Level 6 reflect melons/cantaloupes. One uncharred *Diospyros virginiana* seed suggests use of persimmons. Three charred *Ficus carica* seeds and a seed fragment in Level 1 (F56-1); a charred *Citrullus lanatus* seed fragment, a charred *Ficus carica* seed, and a charred *Rubus* sp. seed and seed fragment in Level 2; a charred *Gaylussacia* spp. seed in Level 4; six charred *Vitis* spp. seed fragments in Level 3; two charred *Prunus* spp. – cherry pit fragments in Levels 2 and 3; and single charred *Diospyros virginiana* seed fragments in Levels 6 and 7 might represent kitchen trash.

Table 6. Macrofloral Remains in Samples from Privy Feature 56, Site 44AX0229, Virginia.

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-1	Volume Floated						2.30 L
Level 1	Light Fraction Weight						39.419 g
Fill 1	<u>Floral Remains:</u>						
	<i>Datura stramonium</i>	Seed			1		
	<i>Ficus carica</i>	Seed	3	1	68	340*	
	<i>Fragaria</i> spp.	Seed			11		
	<i>Helianthus</i> sp.	Seed			1		
	Lamiaceae	Seed				1	
	<i>Morus rubra</i>	Seed			1		
	<i>Nicotiana tabacum</i>	Seed			1		
	<i>Phytolacca americana</i>	Seed			1		
	<i>Pinus</i> spp. ≥ 2 mm	Bark scale				7	0.106 g
	<i>Pinus</i> spp. < 2 mm	Bark scale				X	Few
	<i>Pinus</i> spp. ≥ 2 mm	Bark scale		6			0.012 g
	<i>Pinus</i> spp. < 2 mm	Bark scale		X			Few
	<i>Polygonum</i> – triangular	Seed			1		
	<i>Polygonum</i> S	Seed			1		
	<i>Portulaca oleracea</i>	Seed			4	1	
	<i>Rubus</i> spp.	Seed			16	9	
	<i>Scirpus</i> -type	Seed			2		
	<i>Typha</i>	Seed			144*	8*	
	<i>Verbena</i> spp.	Seed			1	1	
	<i>Vitis</i> sp.	Seed				1	
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						2.203 g
	<i>Carya</i> sp.	Charcoal			1		0.006 g
	<i>Pinus</i> spp.	Charcoal			7		0.068 g
	<i>Pinus</i> – southern pine grp.	Charcoal			3		0.017 g
	<i>Platanus americana</i>	Charcoal			1		0.017 g
	<i>Quercus</i> spp.	Charcoal			7		0.163 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-1	<i>Quercus – Leucobalanus</i>	Charcoal			15		0.463 g
Level 1	group						
Fill 1	<i>Robinia pseudoacacia</i>	Charcoal			6		0.248 g
	Total wood ≥ 2 mm						
	<i>Fraxinus</i> sp.	Wood				1	0.060 g
	<i>Pinus</i> spp.	Wood				9	0.217 g
	<i>Pinus</i> sp.	Wood				1pc	0.098 g
	<i>Platanus occidentalis</i>	Wood				4	0.487 g
	<i>Quercus</i> sp.	Wood				3	0.035 g
	<i>Quercus – Leucobalanus</i>	Wood				7	5.558 g
	group						
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm (includes fish bone)					38	1.614 g
	Bone < 2 mm					X	Few
	Bone ≥ 2 mm			5			0.283 g
	Bone < 2 mm			X			Few
	Bone – calcined ≥ 2 mm			7			0.981 g
	Bone – calcined < 2 mm			X			Few
	Fish vertebrae ≥ 2 mm					9	0.249 g
	Brick ≥ 2 mm					164	31.611 g
	Brick < 2 mm					X	Moderate
	Brick with white paint					1	0.133 g
	cf. Button – metal					1	0.397 g
	Ceramic with black glaze					1	0.281 g
	Ceramic – white porcelain					3	0.358 g
	Clinker ≥ 2 mm					10	0.358 g
	Clinker < 2 mm					X	Few
	Coal ≥ 2 mm					71	5.208 g
	Coal < 2 mm					X	Numerous
	Eggshell ≥ 2 mm					17	0.091 g
	Eggshell < 2 mm					X	Few
	Eggshell ≥ 2 mm			1			0.010 g
	Eggshell < 2 mm			X			Few
	Fish scale ≥ 2 mm					187	0.211 g
	Fish scale < 2 mm					X	Numerous
	Fish scale – ctenoid ≥ 2 mm				55	5	0.114 g
	Fish scale – ctenoid < 2 mm				X	X	Moderate
	Fish scale – cycloid ≥ 2 mm				4		0.011 g
	Fish scale – cycloid < 2 mm					X	Few
	Glass – clear ≥ 2 mm					3	0.109 g
	Glass – clear < 2 mm					X	Few
	Glass – green ≥ 2 mm					1	0.027 g
	Insect	Chitin				28*	
	Insect	Puparium				3	
	Metal spheres				3		0.017 g
	Mortar ≥ 2 mm					159	56.26 g
	Mortar < 2 mm					X	Mod.
	Nail – rusted				1	2	10.582 g
	Rock/Gravel					X	Moderate

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-1	Sand					X	Few
Level 1	Sand concretions					X	Few
Fill 1	Shell – oyster \geq 4 mm				1	2	78.030 g
	Shell \geq 2 mm					70	1.452 g
	Shell < 2 mm					X	Few
F56-2	Volume Floated						1.90 L
Level 2	Light Fraction Weight						53.04 g
Fill 2	<i>Amaranthus</i> sp.	Seed			1		
	<i>Capsicum annuum</i>	Seed			1		
	<i>Carex</i> sp.	Seed			1		
	<i>Citrullus lanatus</i>	Seed		1		124*	
	<i>Coriandrum sativum</i>	Seed				1	
	<i>Cucurbita</i> spp.	Seed			2	3	
	<i>Eleusine indica</i>	Caryopsis			1		
	<i>Ficus carica</i>	Seed	1		234*	112*	
	<i>Fragaria</i> spp.	Seed			424*	32*	
	<i>Gaylussacia</i> spp.	Seed			3		
	<i>Helianthus</i> sp.	Seed			1		
	<i>Juglans nigra</i>	Seed		1			0.059 g
	<i>Liriodendron tulipifera</i>	Seed			1		
	<i>Malus</i> sp.	Seed			1		
	<i>Morus rubra</i>	Seed			9		
	<i>Pinus</i> spp.	Bark scale				13	0.135 g
	<i>Pinus</i> spp.	Bark scale		4			
	<i>Portulaca oleracea</i>	Seed			10		
	<i>Prunus</i> spp. – cherry	Pit		2	9	5	
	<i>Prunus persica</i>	Pit				1	0.453 g
	<i>Rubus</i> spp.	Seed	1	1	116*	8*	
	<i>Scirpus</i> -type	Seed			1		
	<i>Solanum</i> spp.	Seed			3		
	<i>Solanum lycopersicum</i>	Seed			1		
	<i>Typha</i> spp.	Seed			3152*		
	<i>Vitis</i> spp.	Seed			21*	8*	
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 2 mm						8.140 g
	<i>Pinus</i> spp.	Charcoal		12			0.974 g
	<i>Pinus strobus</i>	Charcoal		3			0.488 g
	<i>Pinus</i> – southern pine grp.	Charcoal		5			0.241 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		20			3.067 g
	Total wood \geq 2 mm						3.817 g
	<i>Pinus</i> spp.	Wood				21	0.529 g
	<i>Pinus strobus</i>	Wood				7	0.437 g
	<i>Pinus</i> – southern pine grp.	Wood				1	0.047 g
	<i>Quercus</i> spp.	Wood				4	0.355 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				2	0.055 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-2	Periderm					5	1.216 g
Level 2	<u>Non-Floral Remains:</u>						
Fill 2	Bone ≥ 2 mm (includes fish bone)					192	3.898 g
	Bone < 2 mm					X	Numerous
	Bone ≥ 2 mm			23			0.341 g
	Bone < 2 mm			X			Few
	Bone - calcined ≥ 2 mm			5			0.175 g
	Fish vertebrae ≥ 2 mm				2	9	0.165 g
	Fish vertebrae < 2 mm					X	Few
	Fish vertebrae ≥ 2 mm		2	8			0.337 g
	Fish vertebrae – calcined ≥ 2 mm			1			0.005 g
	Brick ≥ 4 mm					18	32.598 g
	Brick < 4 mm					X	Moderate
	Ceramic					2	0.321 g
	Clinker ≥ 4 mm					5	2.032 g
	Clinker < 4 mm					X	Few
	Coal ≥ 2 mm					97	4.789 g
	Coal < 2 mm					X	Moderate
	Eggshell ≥ 2 mm					17	0.137 g
	Eggshell < 2 mm					X	Few
	Eggshell ≥ 2 mm			3			0.023 g
	Fish scale ≥ 2 mm					140	0.153 g
	Fish scale < 2 mm					X	Moderate
	Fish scale – ctenoid ≥ 2 mm				39	3	0.115 g
	Fish scale – ctenoid < 2 mm				X	X	Few
	Fish scale – cycloid ≥ 2 mm				4		0.006 g
	Glass – clear ≥ 2 mm					11	2.067 g
	Glass – clear < 2 mm					X	Moderate
	Glass – green ≥ 2 mm					1	0.045 g
	Insect	Chitin				436*	
	Insect	Larva			8*	2	
	Insect	Puparium			13	226*	
	Metal – rusted ≥ 4 mm					6	8.354 g
	Mortar ≥ 4 mm					39	18.023 g
	Mortar < 4 mm					X	Moderate
	Rock/Gravel					X	Few
	Shell – oyster ≥ 4 mm					4	113.276 g
	Shell ≥ 4 mm					16	3.162 g
	Shell < 4 mm					X	Moderate
	Slag					X	Few
	Woven material					3	0.017 g
F56-3	Volume Floated						1.60 L
Level 3	Light Fraction Weight						72.429 g
Fill 2	<u>Floral Remains:</u>						
	<i>Amaranthus</i> sp.	Seed			1		
	<i>Citrullus lanatus</i>	Seed			5	18	
	<i>Ficus carica</i>	Seed			368*	96*	
	<i>Fragaria</i> spp.	Seed			1122*	16*	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-3	<i>Gaylussacia</i> spp.	Seed			446*	60*	
Level 3	<i>Helianthus</i> sp.	Seed				1	
Fill 2	<i>Juglans nigra</i>	Seed				1	0.646 g
	Lamiaceae	Seed			6		
	<i>Morus rubra</i>	Seed			6		
	Periderm \geq 4 mm					13	1.450 g
	<i>Phytolacca americana</i>	Seed			1		
	<i>Polygonum pennsylvanicum</i> -type	Seed			1		
	<i>Portulaca oleracea</i>	Seed			20*		
	<i>Prunus</i> spp. – cherry	Pit		2	80	82*	
	<i>Prunus</i> spp. – plum	Pit			4		
	<i>Prunus persica</i>	Pit				1	0.446 g
	<i>Rubus</i> spp.	Seed			492*	20*	
	<i>Sambucus nigra</i>	Seed			1		
	<i>Typha</i> spp.	Seed	16*		2880*		
	<i>Solanum lycopersicum</i>	Seed					
	<i>Vaccinium</i> spp.	Seed			68*		
	<i>Vitis</i> spp.	Seed		6	42	48*	
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 4 mm						8.791 g
	<i>Castanea dentata</i>	Charcoal		1			0.070 g
	<i>Juniperus virginiana</i>	Charcoal		1			0.137 g
	<i>Pinus</i> – southern pine grp.	Charcoal		30			4.185 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		8			0.766 g
	Total wood \geq 4 mm						29.032 g
	<i>Chamaecyparis thyoides</i> (shingle-like fragment)	Wood				1	8.514 g
	<i>Gleditsia triacanthos</i>	Wood				1pc	3.672 g
	<i>Pinus</i> spp.	Wood				13	6.365 g
	<i>Pinus strobus</i>	Wood				11	3.317 g
	<i>Quercus</i> spp.	Wood				2	2.497 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				4	2.624 g333
	<u>Non-Floral Remains:</u>						
	Bone disc - cf. Bead				1		0.317 g
	Bone \geq 2 mm (includes fish bone)					35	1.529 g
	Bone < 2 mm					X	Numerous
	Bone \geq 2 mm		25				0.977 g
	Bone < 2 mm		X				Moderate
	Bone – calcined \geq 2 mm		48				3.263 g
	Bone – calcined < 2 mm		X				Moderate
	Fish vertebrae \geq 2 mm					1	0.016 g
	Fish vertebrae \geq 2 mm		2				0.015 g
	Fish vertebrae < 2 mm		X				Few
	Fish vertebrae – calcined \geq 2 mm		8				0.126 g
	Brick \geq 4 mm					11	28.342 g
	Brick < 4 mm					X	Few

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-3	Ceramic					1	0.084 g
Level 3	Coal \geq 2 mm					8	0.180 g
Fill 2	Coal < 2 mm					X	Few
	Eggshell \geq 2 mm					43	0.410 g
	Eggshell < 2 mm					X	Moderate
	Eggshell \geq 2 mm			287			2.520 g
	Eggshell < 2 mm			X			Numerous
	Fish scale \geq 2 mm					33	0.078 g
	Fish scale < 2 mm			X		X	Few
	Fish scale – ctenoid \geq 2 mm					6	0.009 g
	Fish scale – ctenoid < 2 mm					X	Few
	Glass – clear \geq 2 mm					9	0.400 g
	Glass – clear < 2 mm					X	Few
	Glass – green \geq 2 mm					2	0.170 g
	Insect	Chitin				344*	
	Insect	Larva			32*	86*	
	Insect	Puparium					
	Mortar \geq 2 mm					32	13.772 g
	Mortar < 2 mm					X	Few
	Shell – oyster \geq 4 mm					12	70.839 g
	Shell < 4 mm					X	Numerous
F56-4	Volume Floated						1.40 L
Level 4	Light Fraction Weight						136.070 g
Fill 3	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed				56*	
	<i>Capsicum annuum</i>	Seed				1	
	<i>Chenopodium</i> sp.	Seed				1	
	<i>Citrullus lanatus</i>	Seed				9	5
	<i>Cucumis sativus</i>	Seed					6
	<i>Eleusine indica</i>	Caryopsis				12	
	<i>Ficus carica</i>	Seed				476*	32*
	<i>Fragaria</i> spp.	Seed				1082*	16*
	<i>Gaylussacia</i> spp.	Seed	1			70*	8*
	Lamiaceae	Seed				4	
	<i>Malus</i> spp.	Seed				3	2
	<i>Mollugo verticillata</i>	Seed				1	
	Periderm			X			Few
	Periderm					X	Numerous
	<i>Pinus</i>	Cone scale				1	0.217 g
	<i>Polygonum</i> sp.	Seed				1	
	<i>Portulaca oleracea</i>	Seed				16*	
	<i>Prunus</i> spp. – cherry	Pit				42	120*
	<i>Prunus</i> spp. – plum	Pit				1	1
	<i>Rosa</i> spp.	Seed				3	
	<i>Rubus</i> spp.	Seed				124*	
	<i>Sambucus nigra</i>	Seed				4	
	<i>Solanum</i> spp.	Seed				2	
	<i>Typha</i> spp.	Seed				51072*	64*

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-4	<i>Vaccinium</i> sp.	Calyx				1	
Level 4	<i>Vaccinium</i> spp.	Seed			24*		
Fill 3	<i>Vitis</i> spp.	Seed			50*	92*	
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 4 mm						1.754 g
	<i>Juniperus virginiana</i>	Charcoal			1		0.016 g
	<i>Pinus</i> spp.	Charcoal			5		0.070 g
	<i>Pinus strobus</i>	Charcoal			2		0.112 g
	<i>Pinus</i> – southern pine grp.	Charcoal			2		0.158 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal			8		0.743 g
	<i>Taxodium distichum</i>	Charcoal			2		0.024 g
	Total wood ≥ 4 mm						14.834 g
	<i>Chamaecyparis thyoides</i>	Wood				1	0.389 g
	<i>Pinus</i> spp.	Wood				9	3.136 g
	<i>Pinus strobus</i>	Wood				11	4.147 g
	<i>Pinus</i> – southern pine grp.	Wood				4	0.942 g
	<i>Quercus</i> sp.	Wood				1	0.086 g
	Salicaceae	Wood				1	0.945 g
	<i>Taxodium distichum</i>	Wood				3	0.472 g
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm (includes fish bone)					20	0.695 g
	Bone < 2 mm					X	Moderate
	Bone ≥ 2 mm			6			0.306 g
	Bone < 2 mm			X			Few
	Bone - calcined ≥ 2 mm			7			0.084 g
	Bone - calcined < 2 mm			X			Few
	Fish bone (rib) ≥ 2 mm				6		0.306 g
	Interneural fish spine ≥ 2 mm					8	0.085 g
	Interneural fish spine < 2 mm					X	Few
	Fish vertebrae ≥ 2 mm				1	9	0.207 g
	Fish vertebrae < 2 mm					X	Few
	Brick ≥ 2 mm					20	1.050 g
	Brick < 2 mm					X	Few
	Ceramic					5	2.746 g
	Coal ≥ 2 mm					6	0.372
	Coal < 2 mm					X	Few
	Cordage – S-twist					1	<0.001 g
	Eggshell ≥ 2 mm					15	0.157 g
	Eggshell < 2 mm					X	Few
	Eggshell ≥ 2 mm			37			0.388 g
	Eggshell < 2 mm			X			Few
	Fish scale ≥ 2 mm					5	0.005 g
	Fish scale < 2 mm			X		X	Few
	Fish scale – ctenoid ≥ 2 mm					16	0.050 g
	Fish scale – ctenoid < 2 mm						
	Glass – clear ≥ 2 mm					2	0.087 g
	Glass – green ≥ 2 mm					1	0.019 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-4	Insect	Chitin					4190*
Level 4	Insect	Larva					11
Fill 3	Knitted material						2 0.014 g
	Mortar ≥ 2 mm						35 1.281 g
	Mortar < 2 mm						X Few
	Shell – oyster ≥ 2 mm						21 24.491 g
	Shell < 2 mm						X Few
	Slag ≥ 4 mm						1 0.515 g
F56-5	Volume Floated						1.00 L
Level 5	Light Fraction Weight						103.950 g
Fill 3	<i>Capsicum annuum</i>	Seed			3		
	<i>Carex</i> sp.	Seed			1		
	<i>Chenopodium</i> spp.	Seed			4		
	<i>Citrullus lanatus</i>	Seed			6	50*	
	<i>Coriandrum sativum</i>	Seed				2	
	<i>Cucumis melo</i>	Seed				1	
	<i>Cucumis sativus</i>	Seed				12	
	<i>Cucurbita</i> spp.	Seed			3	1	
	<i>Diospyros virginiana</i>	Seed			1		0.090 g
	<i>Euphorbia</i> sp.	Seed			1		
	<i>Ficus carica</i>	Seed			260*	80*	
	<i>Fragaria</i> spp.	Seed			610*	24*	
	<i>Gaylussacia</i> spp.	Seed			42*		
	<i>Juglans nigra</i>	Nutshell				1	0.101 g
	<i>Juniperus virginiana</i>	Leaf				X	Few
	Lamiaceae	Seed			3		
	<i>Linum</i> cf. <i>usitatissimum</i>	Seed				1	
	<i>Malus</i> spp.	Seed			4	16	
	<i>Morus rubra</i>	Seed			40*		
	<i>Pinus</i> ≥ 2 mm	Bark scale				2	0.030 g
	<i>Pinus</i> spp.	Bark scale		22			0.157 g
	Poaceae	Floret			1		
	<i>Eleusine indica</i>	Caryopsis			24		
	<i>Setaria</i> sp.	Caryopsis			1		
	<i>Polygonum</i> S	Seed			1		
	<i>Portulaca oleracea</i>	Seed			4		
	<i>Prunus</i> spp. – cherry	Pit			26	78	
	<i>Prunus</i> spp. – plum	Pit				1	0.102 g
	<i>Prunus persica</i>	Pit				1	1.082 g
	<i>Ribes</i> spp.	Seed			2		
	<i>Rosa</i> spp.	Seed			7		
	<i>Rubus</i> spp.	Seed			88*		
	<i>Solanum</i> spp.	Seed			2		
	<i>Typha</i> spp.	Seed			37,058*		
	<i>Vaccinium</i> spp.	Seed			40*		
	<i>Vitis</i> spp.	Seed			17	28*	
	Unidentified A	Seed			1		

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-5	<u>Charcoal/Wood:</u>						
Level 5	Total charcoal ≥ 2 mm						2.460 g
Fill 3	<i>Acer</i> sp.	Charcoal		1			0.088 g
	<i>Carya</i> sp.	Charcoal		1			0.098 g
	<i>Pinus</i> – southern pine grp.	Charcoal		16			0.346 g
	<i>Pinus strobus</i>	Charcoal		5			0.292 g
	<i>Quercus</i> – <i>Erythrobalanus</i> group	Charcoal		5			0.442 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		12			0.259 g
	Total wood ≥ 4 mm						8.768 g
	<i>Pinus</i> spp.	Wood		12			1.785 g
	<i>Pinus</i> – southern pine grp.	Wood		5			0.622 g
	<i>Pinus strobus</i>	Wood		11			2.764 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood		2			0.277 g
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm					66	0.717 g
	Bone < 2 mm					X	Few
	Bone – calcined ≥ 2 mm			6			0.070 g
	Bone – calcined < 2 mm			X			Few
	Bone ≥ 2 mm			10			0.066 g
	Bone < 2 mm			X			Few
	Fish rib bone					2	0.213 g
	Fish vertebrae ≥ 2 mm					8	0.268 g
	Fish vertebrae < 2 mm					X	Few
	Fish vertebrae – calcined ≥ 2 mm			2			0.048 g
	Interneural fish spine					6	0.135 g
	Brick ≥ 2 mm					23	0.873 g
	Brick < 2 mm					X	Few
	Ceramic – white ≥ 2 mm					1	0.170 g
	Coal ≥ 2 mm					192	7.775 g
	Coal < 2 mm					X	Few
	Eggshell ≥ 2 mm- uncharred					2	0.018 g
	Eggshell < 2 mm-uncharred					X	Few
	Eggshell ≥ 2 mm			4			0.021 g
	Fibers – S-twist			1			< 0.001 g
	Fish scale ≥ 2 mm					48	0.046 g
	Fish scale < 2 mm					X	Few
	Fish scale – ctenoid ≥ 2 mm					70	0.228 g
	Fish scale – ctenoid ≤ 2 mm					X	X
	Fish scale – cycloid ≥ 2 mm					10	0.033 g
	Fish scale – cycloid ≥ 2 mm					X	X
	Insect	Chitin					1066*
	Insect	Larva				16*	58*
	Insect	Puparium				5	320*
	Metal					2	16.132 g
	Mortar ≥ 2 mm					44	3.793 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-5	Mortar < 2 mm					X	Few
Level 5	Shell ≥ 2 mm					10	0.660 g
Fill 3	Shell < 2 mm					X	Few
	Snail < 2 mm					X	Few
F56-6	Volume Floated						1.00 L
Level 6	Light Fraction Weight						72.429 g
Fill 3	<u>Floral Remains:</u>						
	<i>Alnus serrulata</i>	Seed			1		
	<i>Amaranthus</i> spp.	Seed			5		
	<i>Capsicum annuum</i>	Seed			5		
	<i>Carex</i> sp.	Seed			1		
	<i>Citrullus lanatus</i>	Seed			8	64*	
	<i>Cucumis melo</i>	Seed			3		
	<i>Cucumis sativus</i>	Seed				6	
	<i>Cyperus</i> sp.	Seed			1		
	<i>Diospyros virginiana</i>	Seed	1				0.268 g
	<i>Ficus carica</i>	Seed			168*	76*	
	<i>Fragaria</i> spp.	Seed			1062*	48*	
	<i>Gaylussacia</i> spp.	Seed			236*	24*	
	<i>Juniperus virginiana</i>	Leaf				4	0.014 g
	Lamiaceae	Seed			5	1	
	<i>Linum</i> cf. <i>usitatissimum</i>	Seed				1	
	<i>Malus</i> spp.	Seed			1	5	
	<i>Morus rubra</i>	Seed			104*	24*	
	<i>Pinus</i> spp.	Bark scale		4			0.011 g
	Poaceae	Floret			1		
	<i>Eleusine indica</i>	Caryopsis			16		
	<i>Polygonum</i> sp.	Seed			1		
	<i>Portulaca oleracea</i>	Seed			16*	8*	
	<i>Prunus</i> spp. – cherry	Pit			26	32*	
	<i>Prunus</i> spp. – plum	Pit			2	1	0.472 g
	<i>Ribes</i> spp.	Seed			4		
	<i>Rosa</i> spp.	Seed			2		
	<i>Rubus</i> spp.	Seed			424*	8*	
	<i>Sambucus nigra</i>	Seed			24*		
	<i>Trifolium</i> sp.	Seed			1		
	<i>Typha</i> spp.	Seed			7614*		
	<i>Vaccinium</i> spp.	Calyx				3	<0.001 g
	<i>Vaccinium</i> spp.	Seed			136*		
	<i>Vitis</i> spp.	Seed			34	46*	
	Unidentified D	Seed			3	1	
	Unidentified J	Seed			1		
	Unidentified R	Seed			4	5	
	Vitrified tissue			1			0.004 g
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						2.839 g
	<i>Aesculus</i> sp.	Charcoal		1			0.011 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-5	<i>Pinus</i> – southern pine grp.	Charcoal		5			0.081 g
Level 5	<i>Quercus</i> – <i>Erythrobalanus</i> group	Charcoal		4			0.895 g
Fill 3	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		29			1.260 g
	<i>Taxodium distichum</i>	Charcoal		1			0.006 g
	Total wood \geq 4 mm						19.451 g
	<i>Juniperus virginiana</i>	Wood				1	0.049 g
	<i>Liriodendron tulipifera</i>	Wood				1	0.070 g
	<i>Pinus</i> sp.	Wood				1	0.061 g
	<i>Pinus strobus</i>	Wood				1	0.530 g
	<i>Quercus</i> – <i>Erythrobalanus</i> group	Wood				2	2.253 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				6	15.314 g
	<i>Taxodium distichum</i>	Wood				8	0.619 g
	<u>Non-Floral Remains:</u>						
	Bone \geq 2 mm (includes fish bone)					76	0.904 g
	Bone < 2 mm					X	Numerous
	Bone – calcined \geq 2 mm			1			0.005 g
	Bone – calcined < 2 mm			X			Few
	Fish vertebrae \geq 2 mm				10	2	0.331 g
	Fish vertebrae < 2 mm			X		X	Few
	Fish vertebrae – calcined		1	1			0.023 g
	Brick \geq 2 mm					10	1.709 g
	Brick < 2 mm					X	Few
	Coal \geq 2 mm					4	0.034 g
	Coal < 2 mm					X	Few
	Eggshell \geq 2 mm			2			0.014 g
	Eggshell < 2 mm			X		X	Few
	Fish scale \geq 2 mm					13	0.013 g
	Fish scale < 2 mm					X	Few
	Fish scale – ctenoid \geq 2 mm				25	2	0.058 g
	Fish scale – ctenoid < 2 mm				X	X	Moderate
	Fish scale – cycloid				1		0.001 g
	Fish scale – cycloid					X	Few
	Glass – clear \geq 2 mm					3	0.873 g
	Glass – clear < 2 mm					X	Few
	Glass – green \geq 2 mm					2	0.098 g
	Insect	Chitin				908*	
	Insect	Larva			24*	20*	
	Insect	Puparium				46*	
	Mortar \geq 2 mm					17	45.098 g
	Mortar < 2 mm					X	Moderate
	Shell < 2 mm					X	Few

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-7	Volume Floated						1.00 L
Level 7	Light Fraction Weight						34.820 g
Fill 4	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed			3	1	
	<i>Amelanchier</i> spp.	Seed			3		
	<i>Capsicum annuum</i>	Seed			7		
	<i>Carex</i> sp.	Seed			1		
	<i>Carex comosa</i> -type	Seed			1		
	<i>Citrullus lanatus</i>	Seed			10	56*	
	<i>Coriandrum sativum</i>	Seed				4	
	<i>Cucumis sativus</i>	Seed				6	
	<i>Cyperus</i> sp.	Seed			1		
	<i>Cyperus strigosus</i>	Seed			1		
	<i>Diospyros virginiana</i>	Seed			1		
	<i>Eleusine indica</i>	Caryopsis			6		
	<i>Ficus carica</i>	Seed			92*	80*	
	<i>Fragaria</i> spp.	Seed			632*	16*	
	<i>Gaylussacia</i> spp.	Seed			160*		
	<i>Juniperus virginiana</i>	Leaf				4	
	<i>Lactuca sativa</i>	Seed			1		
	Lamiaceae	Seed			1		
	<i>Linum</i> cf. <i>usitatissimum</i>	Seed			2		
	<i>Malus</i> spp.	Seed			5	20*	
	<i>Morus rubra</i>	Seed			104*	16*	
	<i>Pinus</i> spp.	Bark scale				7	0.731 g
	<i>Pinus</i> spp.	Bark scale		3			0.015 g
	<i>Polygonum</i> – triangular	Seed			1		
	<i>Polygonum</i> S	Seed			2		
	<i>Portulaca oleracea</i>	Seed			5		
	<i>Prunus</i> spp. – cherry	Pit			17	62*	
	<i>Ribes</i> spp.	Seed			4		
	<i>Rosa</i> sp.	Seed			1		
	<i>Rubus</i> spp.	Seed			324*		
	<i>Sambucus nigra</i>	Seed			16*	40*	
	<i>Typha</i>	Seed			7010*		
	<i>Vaccinium</i> spp.	Seed			152*		
	<i>Vitis</i> spp.	Seed			12	12*	
	Unidentified A	Seed			2		
	Unidentified G	Seed			1		
	Unidentified R	Seed			7	6	
	Sclerotia				X	X	Few
	<u>Charcoal/Wood:</u>						
	Total charcoal \geq 2 mm						1.158 g
	<i>Carya</i> spp.	Charcoal		3			0.062 g
	<i>Pinus</i> spp.	Charcoal		2			0.021 g
	<i>Pinus</i> – southern pine grp.	Charcoal		1			0.004 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		23			0.840 g
	Salicaceae	Charcoal		1			0.002 g

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-7	Total wood ≥ 2 mm						13.302 g
Level 7	<i>Chamaecyparis thyoides</i> (shingle-like fragment)	Wood				1	9.718 g
Fill 4	<i>Pinus</i> spp.	Wood				6	0.214 g
	<i>Pinus</i> – southern pine grp.	Wood				1	0.039 g
	<i>Pinus strobus</i>	Wood				5	1.058 g
	<i>Quercus</i> spp.	Wood				3	0.368 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				4	1.265 g
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm (includes fish bone)					89	0.503
	Bone < 2 mm					X	Moderate
	Bone – charred ≥ 2 mm			3			0.021 g
	Bone – charred < 2 mm			X			Few
	Bone – calcined ≥ 2 mm			1			0.022 g
	Bone – calcined < 2 mm			X			Few
	Fish vertebrae ≥ 2 mm				2	5	
	Fish vertebrae < 2 mm					X	Few
	Fish vertebrae – charred ≥ 2 mm		1	1			0.013 g
	Fish vertebrae – calcined < 2 mm			X			Few
	Brick ≥ 2 mm					3	1.696 g
	Brick < 2 mm					X	Few
	Clinker ≥ 2 mm					1	
	Coal ≥ 2 mm					16	0.311 g
	Coal < 2 mm					X	Few
	Eggshell ≥ 2 mm		1				0.006 g
	Fish scale ≥ 2 mm					32	0.048 g
	Fish scale < 2 mm					X	Few
	Fish scale ≥ 2 mm		6 pc				0.009 g
	Fish scale < 2 mm		X				Few
	Fish scale – ctenoid ≥ 2 mm				11	9	0.022 g
	Fish scale – ctenoid < 2 mm				X	X	Few
	Fish scale – cycloid ≥ 2 mm				1		0.003 g
	Fish scale – cycloid < 2 mm					X	Few
	Glass ≥ 2 mm – clear					5	1.566 g
	Glass < 2 mm					X	Few
	Insect	Chitin				600*	
	Insect	Larva				1	
	Insect	Puparium			1	70*	
	Mortar ≥ 2 mm					29	3.447 g
	Mortar < 2 mm					X	Few
	Sand					X	Few
	Shell ≥ 2 mm				1	4	0.269 g
	Shell < 2 mm					X	Few
F56-8	Volume Floated						1.000 L.
Level 8	Light Fraction Weight						14.642 g
Fill 5	<u>Floral Remains:</u>						
	<i>Amaranthus</i> spp.	Seed				4	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-8	<i>Citrullus lanatus</i>	Seed				2	
Level 8	<i>Datura stramonium</i>	Seed			1		
Fill 5	<i>Eleusine indica</i>	Caryopsis			1		
	<i>Ficus carica</i>	Seed			47	25	
	<i>Fragaria</i> spp.	Seed			89	1	
	<i>Gaylussacia</i> spp.	Seed			32		
	<i>Juniperus virginiana</i>	Leaf				X	Few
	Lamiaceae	Seed				3	
	<i>Morus rubra</i>	Seed			5		
	Periderm			X		X	Few
	<i>Portulaca oleracea</i>	Seed			11	3	
	<i>Prunus</i> spp. – cherry	Pit		1	8	3	
	<i>Rubus</i> spp.	Seed			42	2	
	<i>Rumex</i> spp.	Seed			2		
	<i>Setaria</i> sp.	Floret			1		
	<i>Typha</i> spp.	Seed			32*		
	<i>Vaccinium</i> spp.	Seed			2	2	
	<i>Vitis</i> spp.	Seed			3	4	
	Unidentified D	Seed			1		
	Sclerotia				X	X	Numerous
	<u>Charcoal/Wood:</u>						
	Total charcoal ≥ 2 mm						1.546 g
	<i>Carya</i> sp.	Charcoal		1			0.024 g
	<i>Pinus</i> sp.	Charcoal		1			0.012 g
	<i>Pinus</i> – southern pine grp.	Charcoal		1			0.028 g
	<i>Quercus</i> – <i>Erythrobalanus</i> group	Charcoal		1			0.017 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Charcoal		35			0.726 g
	<i>Robinia pseudoacacia</i>	Charcoal		1			0.013 g
	Total wood ≥ 2 mm						0.704 g
	<i>Pinus</i> sp.	Wood				1	0.007 g
	<i>Pinus strobus</i>	Wood				5	
	<i>Quercus</i> spp.	Wood				11	0.244 g
	<i>Quercus</i> – <i>Leucobalanus</i> group	Wood				11	0.154 g
	<i>Taxodium distichum</i>	Wood				2	0.015 g
	<u>Non-Floral Remains:</u>						
	Bone ≥ 2 mm					16	0.359 g
	Bone < 2 mm					X	Few
	Brick ≥ 2 mm					8	0.559 g
	Brick < 2 mm					X	Few
	Coal ≥ 2 mm					46	2.393 g
	Coal < 2 mm					X	Few
	Fish scale ≥ 2 mm					7	0.004 g
	Fish scale ≥ 2 mm					X	Few
	Glass – clear ≥ 2 mm					2	0.501 g
	Glass – clear < 2 mm					X	Few
	Insect ≥ 2 mm	Chitin				72	

Sample Number	Identification	Part	Charred		Uncharred		Weights/ Comments
			W	F	W	F	
F56-8	Insect	Egg			X	X	Few
Level 8	Insect	Puparium				3	
Fill 5	Mortar \geq 2 mm					45	3.987 g
	Mortar $<$ 2 mm					X	Few
	Rock/Gravel					X	Few
	Sand					X	Few
	Shell \geq 2 mm					10	5.697 g
	Shell $<$ 2 mm					X	Few

W = Whole

F = Fragment

g = grams

X = Presence noted in sample

grp. = group

*Indicates an estimated frequency based on the sort of a portion of the total sample

The macrofloral record from Feature 56 also yielded evidence for use of a few vegetables. A few uncharred *Capsicum annuum* seeds in Levels 2-7 indicate that peppers were eaten. Cucumbers are represented by uncharred *Cucumis sativus* seed fragments in Levels 4-7, while a few *Cucurbita* spp. (squash/pumpkin) seeds and seed fragments were present in Levels 2 and 5. A *Solanum lycopersicum* seed in Level 2 indicates the presence of tomatoes. Garden lettuce is represented by an uncharred *Lactuca sativa* seed in Level 7.

Black walnuts appear to have been utilized, as evidenced by a charred *Juglans nigra* nutshell fragment in Level 2 and single uncharred nutshell fragments in Levels 3 and 5. A few uncharred *Coriandrum sativum* seed fragments in Levels 2, 5, and 7 suggest use of coriander as a seasoning. A few uncharred Lamiaceae seeds and/or seed fragments in Levels 1 and 3-8 might also reflect use of a member or members of the mint family as a seasoning, for teas, as a medicinal resource, etc. Single uncharred *Phytolacca americana* seeds in Levels 1 and 3 might reflect use of pokeweed or its presence in the local vegetation. A few uncharred *Rosa* spp. seeds in Levels 4-7 might indicate use of rose hips, roses grown as an ornamental, and or wild roses growing nearby. An uncharred probable *Linum usitatissimum* seed fragment in Levels 5 and 6, as well as two seeds in Level 7, suggest the presence of common flax. An uncharred *Nicotiana tobacum* seed in Level 1 indicates the presence of tobacco.

A variety of seeds were present from plants growing in the local vegetation. Recovery of a few uncharred *Typha* sp. seeds in sample F53-1 from the fill around the frames of the oceangoing vessel hull indicates the presence of cattails in wetland areas around Alexandria at the time of occupation. The presence of uncharred *Typha* spp. seeds in all eight levels of Feature 56, especially the large quantities noted in Levels 2-7 (with extremely large quantities in Levels 4 and 5), suggest that cattail down might have been used as an absorbent material and subsequently discarded in the privy. Level 3 yielded a few charred *Typha* spp. seeds. In addition to *Typha*, evidence for wetland plants includes uncharred *Scirpus*-type seeds in Levels 1 and 2, an uncharred *Cyperus strigosus* seed in Level 7, single uncharred *Cyperus* sp. seeds in Levels 6

and 7, an uncharred *Carex comosa*-type seed in Level 7, and uncharred *Carex* sp. seeds in Levels 2, 5, 6, and 7.

A single uncharred *Pinus* sp. cone scale fragment in Level 4 might indicate use of pine nuts. Alternatively, a pine cone might have been discarded in the privy. Single *Helianthus* sp. seeds in Levels 1 and 2, as well as a seed fragment in Level 3, reflect sunflowers that might have been intentionally grown or found as weedy plants in the local vegetation community. Several uncharred *Portulaca oleracea* seeds were also noted in all eight levels of the privy, suggesting that purslane was a common plant in the area. A few uncharred *Amaranthus* spp. seeds in Levels 2, 3, 6, 7, and 8, as well as several uncharred *Amaranthus* spp. seeds in Level 4, reflect amaranth in the local vegetation. Smartweed/knotweed also appears to have been fairly common, as evidenced by single uncharred *Polygonum* sp. seeds in Levels 4 and 6; *Polygonum* – triangular seeds in Levels 1, 3, and 7; *Polygonum* S seeds in Levels 1, 5, and 7; and a *Polygonum pensylvanicum*-type seed in Level 3. Single uncharred *Eleusine indica* caryopses in Levels 2 and 8, as well as several uncharred caryopses in Levels 4-7, suggest that goosegrass was a common weedy grass in this area. An uncharred *Setaria* sp. floret in Level 8, an uncharred *Setaria* sp. caryopsis in Level 5, and single uncharred Poaceae florets in Levels 5 and 6 also note the presence of bristlegrass/millet. Other weedy plants are represented by uncharred *Chenopodium* spp. seeds in Levels 4 and 5, single uncharred *Datura stramonium* seeds in Levels 1 and 8, an uncharred *Euphorbia* sp. seed in Level 5, uncharred *Rumex* spp. seeds in Levels 3 and 8, an uncharred *Trifolium* sp. seed in Level 6, an uncharred *Verbena* sp. seed and seed fragment in Level 1, a variety of uncharred seeds in Levels 5-8, and a few uncharred *Solanum* spp. seeds in Levels 2, 4, and 5.

An uncharred *Alnus serrulata* seed in Level 6, a few uncharred *Juniperus virginiana* leaf fragments in Levels 5-8, and an uncharred *Liriodendron tulipifera* seed in Level 2 indicate the presence of hazel alder, eastern red cedar, and tuliptree. All but Level 5 yielded sclerotia, noting the presence of tree roots with associated mycorrhizal fungi. Charred and uncharred *Pinus* spp. bark scale fragments in many of the Feature 56 samples, as well as charred and uncharred periderm fragments, reflect use of pine and other woods with adhering bark.

A variety of charcoal taxa were present in the privy samples. Recovery of *Pinus* – southern pine group and *Quercus* – *Leucobalanus* group charcoal in all eight levels of the privy suggests that members of the southern pine and white oak groups were often burned as fuel. Other pines and oaks, including eastern white pine and a member of the red oak group, were also burned, as evidenced by *Pinus* spp. charcoal in Levels 1, 2, 4, 7, and 8; *Pinus strobus* charcoal in Levels 2, 4, and 5; *Quercus* – *Erythrobalanus* group charcoal in Levels 5, 6, and 8; and *Quercus* spp. charcoal in Level 1. A piece of *Acer* sp. charcoal in Level 5, *Aesculus* sp. charcoal in Level 6, *Castanea* sp. charcoal in Level 3, *Platanus occidentalis* charcoal Level 1, *Juniperus virginiana* charcoal in Levels 3 and 4, *Robinia pseudoacacia* charcoal in Levels 1 and 8, Salicaceae charcoal in Levels 6 and 7, and *Taxodium distichum* charcoal in Levels 4 and 6 reflect maple/box elder, buckeye, chestnut, American sycamore, eastern red cedar, black locust, a member of the willow family, and bald cypress.

Several of these taxa were also present as uncharred wood in the privy samples. *Pinus* spp. wood fragments were noted in all eight privy levels, *Pinus strobus* wood was present in all

but Level 1, and *Pinus* wood from members of the southern pine group occurred in Levels 2, 4, 5, and 7. Level 1 contained a partially charred piece of *Pinus* sp. wood. Oak wood is represented by *Quercus* spp. wood in Levels 1-4, 7, and 8; *Quercus* – *Leucobalanus* group wood in all but Level 4; and *Quercus* – *Erythrobalanus* group wood in Level 6. A piece of Salicaceae wood was noted in Level 4; a single fragment of *Juniperus virginiana* wood was present in Level 6; a few fragments of *Platanus occidentalis* wood occurred in Levels 1, 7, and 8; and a few fragments of *Taxodium distichum* wood were found in Levels 4, 6, and 8. Large fragments of *Chamaecyparis thyoides* wood in Levels 3 and 7 appear to represent shingle fragments. *Chamaecyparis thyoides* wood was also noted in Level 4. In addition, a piece of *Fraxinus* sp. wood in Level 1, a piece of partially charred *Gleditsia triacanthos* wood in Level 3, and a *Liriodendron tulipifera* wood fragment in Level 6 represent ash, honey locust, and tuliptree.

The samples from Feature 56 also yielded numerous remains representing cultural trash. Pieces of coal in all eight samples from the privy, as well as fragments of charcoal and pieces of clinker in Levels 1, 2, and 7, suggest that the privy deposits contain remains cleaned out of stoves, furnaces, heaters, fire places, etc. Uncharred, charred, and/or calcined bone fragments were present in all eight levels, noting the importance of meat. Fish appears to have been an important resource, as evidenced by recovery of fish bone; uncharred fish vertebrae in all but Level 8; charred fish vertebrae in Levels 2, 3, 6, and 7; calcined fish vertebrae in Levels 2, 3, 5, and 6; interneural spine fragments in Levels 4 and 5; uncharred fish scale fragments in all eight levels; charred fish scale fragments in Levels 3, 4, and 7; ctenoid fish scales and scale fragments in all but Level 8; and cycloid fish scales in Levels 1, 2, 5, 6, and 7. Uncharred eggshell fragments in Levels 1-6 and charred eggshell fragments in Levels 1-7 indicate that eggs were also eaten. Larger oyster shell fragments were found in Levels 1-4, while smaller shell fragments were present in samples from all eight levels. Each of the eight levels also contained brick and mortar fragments, and a piece of brick with white paint was noted in Level 1. Pieces of clear glass were found in all but Level 5, while fragments of green glass were recovered from Levels 1-4 and Level 6. Ceramic fragments occurred in Levels 1-5. Cultural remains infrequently encountered include a bone disk in Level 3 that might represent a bead, a probable metal button in Level 1, cordage/fibers in an S-twist from Levels 4 and 5, metal fragments in Levels 2 and 5, small metal spheres and rusted nails in Level 1, and a few pieces of slag in Levels 2 and 4. Numerous insect chitin fragments in all eight levels, as well as insect larva in Levels 2-7, a few insect eggs in Level 8, and insect puparium in Levels 1-2 and 5-8, indicate insect activity in this area.

DISCUSSION

Macrofloral analysis of samples from features at Alexandria, Virginia, yielded numerous seeds from edible/economic plants, as well as from plants likely growing in the local vegetation communities.

Fruits

The residents in this part of Alexandria ate a variety of fruits. *Rubus* was the most ubiquitous seed type, found in 17 of the 24 samples and 5 of the 6 features examined for this project. The *Rubus* group includes raspberries, blackberries, dewberries, cloudberrries, salmonberries, thimbleberries, loganberries, and boysenberries. These plants are mainly low growing to upright shrubs called brambles, most often with thorns, that produce aggregate fruits made up of several small fruits or drupes attached to a central core. Some dewberry species grow on trailing vines. *Rubus* fruits are also called caneberries because many of the branches are in the form of long, thin, thorny stalks called canes. Hundreds of species of blackberry are native to both Europe and the Americas. Ripe blackberries separate from the cane at the bottom of the flower base so that the central core (receptacle) stays attached to the fruit. Red raspberry (*Rubus idaeus*) is native to Asia, Europe, and North America; while black raspberry (*Rubus occidentalis*) is native only to eastern and central North America. Both species are cultivated, and many varieties exist with fruits that can be red, yellow, amber, purple, and black. When red raspberries are picked, the central core stays attached to the plant. The hollow core makes the fruit more fragile and shortens the shelf life of fresh berries. Boysenberry (*Rubus x ursinus*) and loganberry (*Rubus x loganobaccus*) are hybrids of the raspberry and blackberry. Many species of *Rubus* are native to the United States and are found in a variety of habitats, including dense thickets, on hillsides, along roadsides, at the edges of woods, on disturbed soil, and near fresh water. In Fairfax County, Virginia, native species include *R. allegheniensis* (Allegheny blackberry), *R. argutus* (sawtooth blackberry), *R. flagellaris* (northern dewberry), *R. hispidus* (bristly dewberry), *R. leviculus* (bottomland dewberry), *R. occidentalis* (black raspberry), *R. odoratus* (purple flowering raspberry), *R. pensylvanicus* (Pennsylvania blackberry), and *R. rosaries* (James River blackberry). *Rubus* berries are eaten fresh or made into jams, sauces, puddings, cobblers, and pie fillings. They contain numerous seeds, up to several thousand per 100 grams. Blackberries are good sources of potassium and contain magnesium, calcium, iron, phosphorus, beta carotene, and vitamin C. The roots, leaves, and inner bark contain tannins and can be used to make an astringent decoction useful for treating adult diarrhea. Blackberry tea has been used to stop bleeding and to treat dysentery, fevers, and sore throats. Raspberries also provide calcium, phosphorus, iron, and vitamin C, as well as vitamin A, vitamin B-complex, volatile oil, sugars, citric and malic acids, pectin, and silicon. A raspberry-root decoction and a raspberry-leaf infusion are good tonics for the entire female reproductive system. It is a common pregnancy herb, and a leaf tea is prescribed to strengthen, tone, and relax smooth muscles of the uterus; shorten labor; and ease delivery. The tea is mildly astringent and is safe for treating dysentery and children's diarrhea. It also makes a good wash for sore throats, canker sores, loose gums, sores, ulcers, and raw surfaces. Raspberries and loganberries produce ellagic acid, which does not break down with cooking. Preliminary research suggests that this substance might help prevent certain types of cancer (Brill and Dean 1994:96-98; 112-115; Hedrick 1972:507-509; Hutchens 1991:158-159; Kartesz 2016; Margen 1992:208-212; McGee 2004:361-362; National Geographic Society 2008:123-125; USDA Natural Resources Conservation Service 2017).

Vitis seeds/seed fragments were noted in 15 samples and in all six features examined. Species of *Vitis* (grape) are woody, high-climbing vines with forked tendrils, large toothed or lobed leaves, and sweet, edible fruit that can be purple, blue, black, or amber. *Vitis vinifera* (wine grape) is the major source of wine and table grapes and is the world's largest fruit crop. It is a

native of Eurasia that was first cultivated about 6000 years ago, and today there are an estimated 15,000 varieties. Wine grapes produce relatively small fruit clusters and contain tartaric acid, which helps control the yeast fermentation, while table grapes produce large clusters and are sweeter. Raisin grapes produce loose clusters with thin skins and a high sugar content. Grapes were first introduced to the Americas by Christopher Columbus. Spanish missionaries later established vineyards in California, where about 97 percent of all European varieties of grapes in the United States are now produced. Cultivation of *Vitis vinifera* in other parts the United States failed. *Vitis labrusca* (fox grape) is an American native especially abundant in the eastern United States. This species is also the origin of many varieties, including Concord grapes from which American grape jelly, grape juice, and northeastern wines are made. About 50 species of *Vitis* are native to North America and found along streams and river banks and in low wetlands, open woods, and thickets. In Fairfax County, Virginia, native species of *Vitis* include *V. aestivalis* (summer grape), *V. cinera* (graybark grape), *V. labrusca*, *V. riparia* (riverbank grape), and *V. vulpina* (frost grape). Generally, wild grapes are less sweet than commercial varieties but with more flavor and can be made into juice, jelly, preserves, pie, and wine. The fruits contain potassium, beta carotene, fructose, tartaric acid, quercitrin, tannin, malic acid, gum, potassium bitartrate, and some vitamin C. The fruit is diuretic and, if eaten in quantity, can increase the flow of urine and help with problems of water retention. Fruit skins contain resveratrol, which prevents cardiovascular disease by reducing the tendency for blood clots and increasing high density lipoprotein cholesterol. The large leaves can be gathered in the spring and cooked as greens or used to wrap meat for baking. They are a good source of beta carotene and niacin. Grape leaves soaked in water were used as a poultice for wounds, while leaves were taken internally to cure snake bites and disorders of the internal organs. A leaf or seed infusion is astringent and can be used for bleeding and diarrhea. Sap can be drained from large vines as an emergency water source (Brill and Dean 1994:165-168; Elias and Dykeman 1982:214-215; Hedrick 1972:603; Kartesz 2016; Kirk 1975:263-265; Margen 1992:223-227; McGee 2004:363, 722, 726; USDA Natural Resources Conservation Service 2017).

Eleven samples from four features yielded *Ficus carica* seeds. *Ficus carica* (common fig) originated in western Asia and the Himalayan region. It is one of the most ancient cultivated fruits and has been an important food source for thousands of years. Spanish missionaries brought figs to the Americas, and fig trees now grow in parts of California, Texas, and the southern and eastern United States. Hundreds of varieties exist today. The fruits range in color from green to brown to purplish black with a pale pink to red flesh. Ripe figs contain 80% water, making them highly perishable. As a result, figs are most often preserved by drying. Figs are spreading, deciduous trees or large shrubs with large leaves and milky sap. The fruit is a fleshy, swollen flower base (syconium) with an open pore. The “seeds” are actually inner female florets that develop into small, individual, dry fruits. Tiny wasps crawl through the open pore and pollinate the florets. Although many varieties will set fruit and produce “seeds” without pollination, fig experts claim that fertilization will produce different flavors. Other varieties require fertilization for fruit production. Figs contain about 50 percent invert sugar, as well as pectin, organic acids, fat, albumin, dietary fiber, potassium, iron, calcium, and vitamins A and B. Figs also contain large amounts of phenolic compounds, including some antioxidants. Latex vessels in the fruit walls carry a protein-digesting enzyme, ficin, and tannin cells. Fresh figs are eaten raw and made into jam, tarts, and compotes. Dried figs can be used in cakes, puddings, and compotes. Figs are mildly purgative and slightly expectorant and have been used to treat

constipation and coughs (Blackburne-Maze 2003:207; Margen 1992:218-220; McGee 2004:370-371; National Geographic Society 2008:118).

A total of 11 samples from the oceangoing vessel hull and from privy Features 35, 36, and 56 yielded *Fragaria* seeds. Species of *Fragaria* (strawberry) are small, low, perennial plants with red berries. About 20 species of *Fragaria* can be found in the Northern Hemisphere, in both Eurasia and the Americas. The fruit is actually a swollen flower base, and the “seeds” are small, dry fruits (achenes) found on the outside. European species produce smaller berries that are not as flavorful as the berries from American *Fragaria virginiana* (wild strawberry) and *Fragaria vesca* (wood strawberry). Cultivated strawberries eaten today (*Fragaria x ananassa*) are the result of a hybrid between the North American *Fragaria virginiana* and a Chilean species, *Fragaria chiloensis*. These two species were being grown in France around 1750 by a man named Frézier when an accidental hybridization occurred. Several varieties are now produced commercially. Berries from the two native American species are smaller than cultivated varieties and are more flavorful. The fruits can be eaten raw or cooked to make compotes, relishes, preserves, jams, jellies, sauces, and pies. Fruits can also be preserved by drying, freezing, or canning. Both cultivated and native species are an excellent source of vitamin C and fiber and a good source of potassium. Wild fruits also contain manganese, iron, sodium, calcium, sulfur, silicon, beta carotene, malic acid, and citric acid. Strawberry fruits contain ellagic acid, which does not break down with cooking. Preliminary research suggests that this substance might help prevent certain types of cancer. The fruit is a mild laxative. A leaf tea is mildly astringent and can help treat hematuria and diarrhea. Native species in the United States prefer shady areas with rich soil (Brill and Dean 1994:92-93; Kershaw 2000:128-129; Margen 1992:208-213; McGee 2004:264-265; Moore 2003:239-241; National Geographic Society 2008:119). *Fragaria virginiana* (Virginia strawberry) is the only native species found in Fairfax County (USDA Natural Resources Conservation Service 2017).

Prunus – cherry pits were noted in ten samples from Features 35, 41, and 56. Four samples from Feature 56 also contained *Prunus* – plum pits and three samples yielded *Prunus persica* (peach) pit fragments. The *Prunus* group includes cherries, plums, apricots, peaches, nectarines, and almonds. These fruits are called stone fruits or drupes, and most contain large, hard seeds (pits). Cherry, plum, peach, nectarine, and apricot pits all contain glycosides which break down into cyanide or prussic acid, although the acids are destroyed by cooking. While many species of native plums and cherries are found in the United States, most cultivated varieties are natives of Europe, west Asia, and Caucasus. Numerous species, subspecies, varieties, and cultivars of plums and cherries exist today, with more varieties of plum (over two thousand) than any other stone fruit. Many of these fruits have been cultivated for thousands of years. Cultivated species include *Prunus avium* (sweet cherry), *Prunus cerasus* (sour cherry), *Prunus domestica* (cultivated plum), and *Prunus salicina* (Asian plum). The small fruits of the European *Prunus spinosa* (sloe) are steeped to make sloe gin. The fleshy fruits of cherries and plums are eaten fresh, dried, canned, or made into pies, cakes, jams, jellies, sauces, and preserves. Cherry fruit colors range from red to black, with some yellow varieties. Plum fruits can be red, reddish-orange, yellow, or purple-black. An infusion of the inner bark of cherry trees is useful for treating coughs and sore throats, and a cherry bark tea has been used as a blood tonic, decongestant, expectorant, astringent, and disinfectant. Plum fruits provide beta carotene and potassium and contain some phosphorus, magnesium, B-complex vitamins, and vitamin C.

Prunes are dried plums and are well-known laxatives. The inner bark and twigs yield an astringent decoction used to treat mouth sores and sore throats. Most wild cherry and plum species in the United States are shrubs or small trees and can be found growing in woods, prairies, fields, pastures, thickets, swamps, and along roadsides, fences and streams. Wild cherry branches are thorn-less, while wild plums often have spine-tipped branches. The black cherry (*Prunus serotina*) is a medium to large tree growing up to 90 feet and is common throughout eastern North America (Angell 1981:44-48; Blackburne-Maze 2003:933-101; Brill and Dean 1994:110-112, 119-123; Foster and Duke 2014:379; McGee 2004:358-359; Readers Digest Association 1986:334). Native species of *Prunus* found in Fairfax County include *P. americana* (American plum), *P. angustifolia* (Chickasaw plum), *P. hortulana* (hortulan plum), *P. munsoniana* (wild goose plum), *P. serotina* (black cherry), and *P. susquehanae* (Susquehanna sand cherry) (USDA Natural Resources Conservation Service 2017).

Peaches and nectarines (*Prunus persica*) are natives of the China/Korea/Manchuria region where they were known to be cultivated in the 10th century B.C. They have been cultivated in Europe since the first century A.D. Spanish explorers brought peaches to the Americas in the 16th century, and the Massachusetts Bay colony in New England requested peach seeds in 1629. Peach trees quickly established themselves in the United States. Nectarines are a variety of peach with smooth skin produced by a recessive genetic mutation. They are often smaller, firmer, more aromatic, and have more of a red coloring in the skin. Nectarines and peaches can sometimes be found on the same tree. Peaches and nectarines have either white or yellow flesh and are classified as “freestone,” where the fruit separates easily from the pit, or “clingstone,” where the fruit adheres to the pit. The many varieties of peaches are now primarily grown in the United States, South Africa, and Australia, and more peaches are canned than any other fruit. Peaches are also eaten fresh, baked, preserved, and in jellies, jams, pies, and cobblers (Blackburne-Maze 2003:104-105; Hedrick 11972:462-464; McGee 2004:359; National Geographic Society 2008:82).

A total of nine samples from three features contained *Citrullus lanatus* (syn. *Citrullus vulgaris*) seeds. Watermelons originated in North Africa and India, and slave traders brought watermelons to the United States in the early seventeenth century. It is an annual vine (climber or trailer) that produces heavy fruits, up to 60 pounds or more, which are about ninety percent water. The pink to red flesh is crisp and thirst-quenching. In the southern United States, watermelons were frequently planted in rows with other crops to refresh workers in the field. The red flesh is due to the carotenoid pigment lycopene, an antioxidant. It is also high in vitamins A and C. Some varieties of watermelon have yellow-orange flesh. Normal varieties are filled with numerous dark seeds that can be roasted and salted like nuts. “Seedless” melons contain small, undeveloped seeds. Watermelons do not ripen after they have been removed from the vine, so they should not be picked until fully mature. The flesh is most often eaten fresh, although it can also be pickled and candied or cooked down into a thick syrup or puree. The thick rind can also be pickled or made into sweet preserves. Today, the main exporters of watermelons are the Mediterranean countries, the southern United States, and Mexico. Watermelons need hot and dry growing conditions, but with plenty of water at their roots (Blackburne-Maze 2003:219, 222, 247; McGee 2004:369; National Geographic Society 2008:131).

Uncharred *Vaccinium* seeds were noted in one sample from Feature 41, one sample from Feature 53, and six samples from Feature 56. Four samples from these three features contained fragments of the calyx. Species of *Vaccinium* (blueberry, bilberry) are natives of North America and Europe that can grow from 8 inches to 15 feet or more in height. Blueberry bushes require moist, acidic soil and are usually found in open woods and clearings, although some species are found in bogs, tundras, and barrens. The twigs are covered with fine, warty speckles. Berries ripen from June through September and are usually blue but can be white, red, purple, or black, often coated with a white powder. All species have a five-parted calyx or “crown” at the opposite end of the stem attachment. The berries contain numerous small seeds and can be eaten fresh, cooked, or dried. Berries are often used in muffins, pies, jellies, and jams. Berries freeze well and retain their shape when used in baking. Blueberries are rich in phenolic antioxidants and anthocyanin pigments. Eating blueberries can ease intestinal discomfort. American Indians and European settlers used a root decoction or leaf infusion to facilitate childbirth. A blueberry leaf infusion contains neomyrtlicine, which reduces blood-sugar levels and is good for treating diabetes. It is also astringent and helpful for treating urinary tract infections. Blueberries and huckleberries (*Gaylussacia* spp.) are very similar and may hybridize (Angell 1981:108; Blackburne-Maze :164-167, Brill and Dean 1994:98-100; McGee 2004:362). Native species of *Vaccinium* found in Fairfax County include *V. caesariense* (New Jersey blueberry), *V. corymbosum* (highbush blueberry), *V. fuscatum* (black highbush blueberry), *V. pallidum* (Blue Ridge blueberry), and *V. stamineum* (deerberry) (USDA Natural Resources Conservation Service 2017; Kartesz 2017).

One sample from the ship’s hull and seven samples from the large privy (Feature 56) yielded *Gaylussacia* spp. seeds. *Gaylussacia* (eastern huckleberry) is a native of North America found in sandy or rocky soil, in dry or moist woods, thickets, clearings, swamps, bogs, and coastal dunes. Eastern huckleberries include *G. baccata* (common huckleberry), *G. frondosa* (dangleberry), and *G. dumosa* (dwarf huckleberry), of which *G. baccata* and *G. frondosa* are found in Fairfax County. Huckleberries of the western United States belong to the *Vaccinium* genus. Huckleberry leaves are covered with small drops of yellow resin. Berries ripen in late summer and can remain on the plants in the fall. The blackish-blue or reddish-black berries contain a few, hard seeds and are most often cooked and strained to remove the seeds, then made into preserves, syrups, sauces, jams, jellies, wine, and filling for pies, muffins, pancakes, and tarts. Berries are also eaten fresh. Like blueberries, a huckleberry leaf infusion contains neomyrtlicine and is good for treating diabetes (Angell 1981:110, 198; Brill and Dean 1994:99-100; Hedrick 1972:288; Small 2014:387-392; USDA Natural Resources Conservation Service 2017).

One sample from Feature 53 and seven samples from Feature 56 also contained uncharred *Morus rubra* seeds, reflecting mulberries that were eaten. *Morus rubra* (red mulberry) trees are natives of the eastern and Midwestern United States found in moist but well drained soils of deciduous forests, forest edges, valleys, floodplains, moist hillsides, pastures, and along the edges of fields. The fruits resemble blackberries and are red when immature and black or deep purple when fully ripe. Berries ripen in late spring and early summer, but don’t last for more than a couple of days after being picked. They are juicy and sweet and can be eaten fresh or stewed and made into syrup, preserves, jelly, jam, wine, liqueur, or used in pies, tarts, muffins, bread, and cakes. Young, unopened leaves can be boiled and eaten as greens. Uncooked leaves

and unripe berries are toxic and mildly hallucinogenic. Berries crushed and squeezed to make a drink believed to be beneficial for reducing fever, as well as a sedative. Fruit was also eaten as a laxative. The inner bark was boiled into a syrup or tea used as a purgative or laxative. The outer bark was boiled into an extract used to expel parasitic worms. In 1623, King James I required tobacco farmers to Virginia to raise silk, and imposed a fine on those planters who did not cultivate at least 10 mulberry trees for every 100 acres of estate. For several years, the New World produced hundreds of kilograms of silk annually (Angell 1981:164; Angier 2008:122; Brill and Dean 1994:126-128; McGee 2004:364; Small 2014:557-561).

Sambucus nigra (elderberry) seeds were present in one sample from Feature 41 and four samples from Feature 56. *Sambucus nigra* subsp. *canadensis* (syn. *Sambucus canadensis*) is a deciduous shrub in the eastern and central United States. Although elder shrubs can grow in a variety of soils and climatic conditions, they prefer rich damp soil and full sun. They are often found along streams and rivers, in thickets, swamps, marshes, roadside ditches, woodlands, fencerows, old fields, and pastures. The fruits are small and seedy and range in color from red to purple-black to black. Fresh berries are tart, and as a result they are usually cooked and made into jams, jellies, juice, sauces, and homemade wine. Dried berries can be used in pie fillings and muffins. Elderberries are high in vitamins A and C, potassium, beta carotene, calcium, phosphorus. The flowers can be fried in batter to make “fritters.” The flowers are also used to make tea and wine. Flowers and berries were used medicinally. An infusion is astringent and diaphoretic and is good for colds, flu, asthma, excessive mucus, and sore throats. Berries yield a deep red and purple dye, while the flowers boiled in vinegar yield a black hair dye. Flutelike whistles can be made from the pithy stems. The leaves, roots, and bark contain a bitter alkaloid and glycoside that can change into cyanide. Dried, crumbled leaves make a natural insecticide (Angell 1981:210-212; Brill and Dean 1994:103-105; Foster and Duke 2014:316-317; McGee 2004:365; Small 2014:287-292).

Five samples from Feature 56 contained *Malus* spp. seeds, noting consumption of apples. The *Malus* genus contains 35 species. In temperate regions, apples (and its closest relative, the pear) are the tree fruits grown in the greatest quantities, both commercially and in gardens. They are eaten throughout the world. Apples originated in Central Asia in the Fertile Crescent area. Most of the eating apples are *Malus x domestica*, which is believed to have originated in the mountains of Kazakhstan and was one of the first fruits to be cultivated. Domesticated apples spread throughout the Middle East and into the Mediterranean region. The Romans introduced the apple to the rest of Europe. Cultivated varieties were introduced to the Americas in the 17th century. Today, numerous varieties and cultivars exist, and they can be divided into the following four main groups: cider apples, desert or eating apples, cooking apples, and dual-purpose apples. Cultivated apple trees come from grafts of existing trees, whereas wild apple trees are found throughout most of North America in forests, overgrown fields, thickets, and cultivated areas. *Malus angustifolia* (southern crab apple) is a native apple found in Fairfax County. Wild apples often have rough or papery, unwaxed skins. *Malus sylvestris* (European common apple) was planted from Pennsylvania to Illinois by Jonathan Chapman (Johnny Appleseed), who distributed seeds from cider presses for nearly 50 years. Both apples and crabapples are good sources of cell-wall pectin, which can remove heavy metals from the body, reduce blood cholesterol, and slow the absorption of sugars and carbohydrates in the intestine. Apples also contain potassium, magnesium, iron, and beta carotene. Malic and tartaric acid in

apples assist digestion of rich foods. Apples are eaten raw, made into cider and preserves, dried, and cooked in pies, jams, jellies, dumplings, cakes, apple Charlotte, apple brown Betty, and applesauce. Blossoms can be added to salads or used to make apple blossom wine (Blackburne-Maze 2003:19-31; Brill and Dean 1994:151-153; McGee 2004:354-356; National Geographic Society 2008:86-87; USDA Natural Resources Conservation Service 2017).

Three samples from the lower levels of privy Feature 56 yielded *Ribes* seeds, suggesting that the privy users ate currants and/or gooseberries. Species of *Ribes* are small bushes of northern Europe and North America with arching branches and racemes of globular, translucent fruit that ripen in the summer. Most gooseberries have thorny stems and bristly fruit, while most currants are thornless. The fruits can be red, orange, yellow, brown, purple, or black. The fruits are high in vitamins A and C, potassium, phosphorus, and calcium, and they contain malic acid, citric acid, and pectin. Fruits can be eaten fresh or made into jams, jellies, preserves, pies, sauces, juice, and syrup. The berry juice is astringent, diuretic, and diaphoretic and used to treat sore throats, burns, and fevers. A gooseberry root decoction was given to women with menstrual or uterine problems caused by bearing too many children. *Ribes* bushes grow where there is moisture, especially moist woods, prairies, hillsides, canyons, and ravines. Some species are grown as ornamentals (Angell 1981:146-150; Brill and Dean 1994:101-102; McGee 2004:363; Small 2014:319-322). No native species of *Ribes* currently grow in Fairfax County, indicating that currants/gooseberries would have been either grown in a garden or brought into the city. Several species are noted to grow in the northeastern United States, including the native *Ribes americanum* (eastern black currant), *Ribes aureum* var. *villosum* syn. *Ribes odoratum* (clove currant), *Ribes cynosbati* (eastern prickly gooseberry, dogberry), *Ribes glandulosum* (skunk currant), *Ribes hirtellum* (wild gooseberry, hairystem gooseberry), *Ribes lacustre* (prickly currant), and *Ribes triste* (swamp red currant), as well as the introduced *Ribes nigrum* (European black currant), *Ribes rubrum* (cultivated currant), and *Ribes uva-crispa* (European gooseberry) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

Three samples from Feature 56 also contained *Diospyros virginiana* seeds. *Diospyros virginiana* (persimmon) is found in dry woods and rocky hillsides of the eastern United States. A deciduous fruit tree reaching heights of 15-100 feet, the persimmon produces an edible plum-like fruit about one inch in diameter. The green, unripe fruit is highly astringent, becoming much sweeter after exposure to frost or when the pulp has turned to mush. Ripe persimmons could be eaten fresh or dried, baked into cakes or breads, and made into preserves or puddings. They were fermented to make beer and wine. Confederate soldiers boiled the seeds as a coffee substitute (Peattie 2013:458). Persimmons are one of the most filling and highly caloric fruits. They are a great source of vitamin C, potassium, calcium, and phosphorus, as well as the digestive enzymes papain and bromelain. Both bark and fruit are high in tannic acid. The unripe fruits were used medicinally in tinctures, syrups, and teas for bowel complaints. The bark was used to make a wash, while a bark poultice treated warts (Brill 1904:178-180; Foster and Duke 2014: 372; Hedrick 1972:244; McGee 2004:366-367; National Geographic Society 2008:85).

Three uncharred *Amelanchier* spp. seeds in a single sample from Feature 56 suggest that someone using this privy ate serviceberries. *Amelanchier* (serviceberry, juneberry) is a deciduous shrub or small tree that produces a blue-black edible berry resembling a blueberry. The various species favor different habitats, such as hillsides, lowlands, coastal areas, along rivers and

streams, in woods or clearings, mountains, and as a cultivar in parks and urban areas. The fruit varies from blueberry to crabapple size and can be eaten fresh, but more often they are made into preserves, pies, and sauces. The fruit is higher in vitamin C than citrus fruits (Brill and Dean 1994:123-124; Foster and Duke 2014:378; Hendrikson 1981:217-218). Species found in Fairfax County include *A. arborea* (common serviceberry), *A. canadensis* (Canadian serviceberry), *A. sanguinea* (roundleaf serviceberry), and *A. spicata* (running serviceberry) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

Uncharred *Cucumis melo* seed seeds were noted in two of the large privy samples, noting the presence of melons. *Cucumis melo* (melon, muskmelon, cantaloupe) originated in the Near East and were cultivated in the Nile Valley and beyond since ancient times. Melons were not introduced to Europe until the early 15th century and reached the New World via European explorers late in the 15th century. Muskmelons are usually called cantaloupes; however, true cantaloupes have a hard, rough, warty or scaly rind and are not commercially available. Honeydew melons have a smoother surface than muskmelons and require a longer growing season. Related to squashes but treated as a fruit because of their sweetness, melons have a high water content, are high in vitamin C and potassium, and the orange-flesh varieties are a good source of beta-carotene. They are eaten raw with the seeds removed (Hedrick 1972:202-207; Margen 1992: 235-240; National Geographic Society 2008:132-133).

Vegetables

In addition to fruits, the occupants of Alexandria consumed a variety of foods thought of as vegetables. Six samples from the large privy (Feature 56) contained *Capsicum annuum* seeds, reflecting use/consumption of peppers. *Capsicum annuum* are extremely varied annuals or perennials with smooth or slightly hairy stems, lanceolate leaves, and small white flowers. The plants reach a height of approximately 3 feet or less, and the peppers are hollow berries with thin, crisp walls of varying colors, shapes, and flavors. These fruits ripen to green, red, yellow, orange, purple, or brown, but most are green when immature. *Capsicum* is a native of South America, and it was cultivated there and in Mexico for several thousand years before it was introduced to Europe, India, and Asia by explorers. It is now a staple of many world cuisines. Of the five domesticated species in the genus, most vegetable types derive from *C. annuum*, and those can be divided into two types: sweet and hot. Hot peppers include the Anaheim, jalapeno, cayenne, poblano, and serrano. The presence and amount of the alkaloid capsaicin determines the heat of the pepper. Capsaicin levels are affected by the weather and degree of the fruits maturity—the warmer the weather, the hotter the pepper. Hot peppers grow best in drier tropics and warm summer weather. There are many varieties mild enough to be eaten as a vegetable rather than a condiment. Sweet peppers such as bell, banana, and cherry peppers are sweet and not hot due to the absence of capsaicin. Bell peppers can grow in more temperate climates and are the more popular choice in northern Europe and the United States. All peppers can be picked and eaten when green. When fully mature, many varieties become red and their pungency increases. Dried and fresh peppers make a good thickener when pureed for a soup or sauce. Fresh, they can be eaten raw as a condiment or a vegetable, in salads and salsas, on sandwiches, or they can be baked, roasted, sautéed, stuffed with meats or cheese, battered and fried. The green fruits and the mature yellow fruits are rich in lutein, a carotenoid that helps prevent eye damage. Mature red

peppers are very high in carotenoids and vitamin C. Capsaicin is useful as an anticoagulant, an anti-inflammatory, and has numbing properties when applied to the skin, although the capsaicinoids are very volatile and can irritate skin and mucous membranes (Foster and Duke 2014:59-60; Margen 1992:136-145; McGee 2004:331-332; National Geographic Society 2008:192-193; Phillips and Rix 1993:164-171).

Four samples from the privy also yielded *Cucumis sativus* seeds. Varieties of *Cucumis sativus* (cucumber) are trailing or climbing annual vines with edible flowers and a green-skinned, cylindrical fruit that varies in size from 3-20 inches long. They grow best in temperate climates with rich, well-drained soil in full sun. The cucumber is an ancient cultigen of the pumpkin family domesticated in India about 2500 B.P. (McGee 2004:334). They were present in Virginia by 1584 and are noted as being cultivated there in 1609 (Hedrick 1972:208). Their mild, crispy, refreshing taste, distinctive aroma, and high water content make the cucumber attractive for eating raw and for juicing, and they are often paired with spicy foods. The gherkin or dwarf cucumber is a smaller variety, popular for pickling in a seasoned brine. Cucumbers have a long history of use in cosmetic products such as skin lotions, toners, and washes (Brill and Dean 1994:123-124; National Geographic Society 2008:195; Phillips and Rix 1993:194-195; Schneider 2001:239-245).

Two of the privy samples contained *Cucurbita* seed fragments. There are 27 species of *Cucurbita* (squash, pumpkin, gourd). These are herbaceous vining or climbing annuals and perennials bearing mostly large fruits. All species are native to warm climates, and the vines, seeds, and flowers of all are edible, in addition to their fruit. Plants have been domesticated from five species. *Cucurbita pepo* is a trailing annual with angular stems, triangular lobed leaves, and yellow, edible flowers. Subgroups of *C. pepo* include zucchini, pumpkins, summer squash, crookneck squash, spaghetti squash, and some gourds. *C. maxima* includes some varieties of pumpkin that produce the largest fruits in the world (Phillips and Rix 1993:176) and a wide array of winter squash including acorn, buttercup, hubbard, banana, and turban. These fruits are useful because they can be stored for months in a cool dry place. Native to the Americas, *C. moschata* is most likely the earliest cultivated species, found in Tehuacan and Peru as early as 3,400 B.C.E. A long vining plant with yellow leaves and smooth-skinned, orange-fleshed fruits that keep well, there are three main groups of this species. They are the bottle-shaped butternut, the smooth-skinned crookneck, and the 'large cheese', a round flattened squash. *C. ficifolia* (fig-leaf gourd, Malabar gourd, black seed squash, cidra) is one of the most widely distributed species, found in Mexico and South America as far south as Chile. It has been grown in Europe since at least 1613, when an illustration appears in the book *Hortus Eystettensis* (Phillips and Rix 1993:176). *C. argyrosperma* syn. *C. mixta* (pumpkin, green-striped cushaw, silverseed gourd) is a native of Mexico and Central America. The large fruit is striped with dark green, with a hard cork-like stalk, unflared where it meets the skin. Species of *Cucurbita* are prepared in a variety of ways. Softer-skinned varieties of summer squash were picked ripe and eaten within a few weeks. Their spongy flesh is well-suited for broiling, roasting, and in sauté, soups, breads, and cakes. Former presidents George Washington and Thomas Jefferson were known to be enthusiastic growers of summer squash (Margen 1992:192). Zucchini and pattypan are high in vitamin C and beta-carotene if the skins are consumed. The firmer winter squash, harvested when fully mature, require more thorough cooking by boiling or steaming. The cooked flesh can be used for puddings, pies, soups, breads, and cakes. Winter squashes are high in beta-carotene and vitamin

A, even more so after storage. Seeds are often dried, roasted, and salted for a snack or shelled and added to salads, breads, and other dishes. Seeds are high in protein and fat. Flowers can be eaten fresh or stuffed, battered, and fried. Some *Cucurbita* species have been used as antiparasitics (Margen 1992:162-171; McGee 2004:332-334; National Geographic Society 2008:196-198; Nee 1990; Phillips and Rix 1993:174; Schneider 2001:597-608).

A single *Solanum lycopersicum* (tomato) seed occurred in Level 2 of Feature 56. *Solanum lycopersicum* is a member of the nightshade (Solanaceae) family with erect, hairy stems, green lobed leaves, yellow star-shaped flowers, and a fleshy berry of varying size and color, depending on the variety. It is a short-lived perennial that is grown as an annual food crop, although it will sometimes self-seed. Tomatoes grow best in temperate to hot climates, and the fruit development and flavor are negatively affected by cold. The word tomato comes from the Nahuatl word “tomatl,” meaning “plump fruit,” and it was in Mexico that this fruit was first cultivated. Tomatoes are native to western South America, and today’s modern cultivars likely came from the South American cherry tomato. The Aztecs were growing them by the time of the Spanish conquistadors, who brought them back to Spain, and from there they spread across the Mediterranean and northern Europe. Tomatoes were first recorded in Europe by Italian botanist Matthioli in 1544 (Phillips and Rix, 150) and now, hundreds of years later, are one of the most widely used and highly valued culinary plants in the world. President Jefferson was said to be growing them in Virginia by 1781. North American varieties could have come north from Mexico as well as arrived by ship from across the ocean. Tomatoes are eaten raw in salads and salsas, and cooked in soups, stews and sauces. They contain vitamin C and the compound lycopene, which has been found to inhibit the growth of certain cancers, especially prostate cancer (McGee 2004:329-331; National Geographic Society 2008:202; Johnson et al. 2010: 266-269; Phillips and Rix 1993:150-157; Hedrick 1972:343-348).

Two samples from beneath Floorboard 7 in the Carlyle Warehouse yielded uncharred *Zea mays* cupules. Domesticated from the wild grass teosinte in Central America 6-8000 years ago, *Zea mays* (corn, maize) has changed over time. It was the primary food plant of many early Americans including the Incas of Peru, the Mayas and Aztecs of Mexico, the early Pueblos and cliff-dwellers of the Southwest, the Mississippi mound-builders, and many others. By 1492, it was a genetically diverse food crop cultivated from Argentina to Quebec with many varieties and kernel colors. Columbus brought kernels back to Europe with him, and within a single generation, it was being grown throughout Europe. Cultivation was noted to have been well-established in Virginia by 1610 (Hedrick 1972:613). Corn is now the third largest food crop in the world, grown on six continents in thousands of varieties. It is eaten boiled, baked, fried, grilled and roasted, in batters, chowders, succotash, breads, chips, and popped as a snack food. It provides corn starch for thickening fillings and sauces, syrup for confections, mash for making whiskey, and oil for cooking. It is also fermented for alcohol and used in animal feed (Hedrick 1972:608-617; McGee 2004:337-339, 477-481; National Geographic Society 2008:228-229; Boutard 2012; Phillips and Rix 1993:256-263; Rhoades 1993:92-117).

A single sample from Level 7 fill of the large privy contained a *Lactuca sativa* (garden lettuce) seed. Lettuce is a member of the Asteraceae (sunflower family) and the most popular leafy salad vegetable in the world. It is an annual or biennial that ranges in color from green to rust-red to purple. Cultivated by the ancient Egyptians for more than 6,000 years, it spread to

Europe and China long before the settlers brought it to America before 1500. It is most often eaten fresh, though it can also be braised, stewed, or stir-fried. The Romans would eat lettuce before a meal to stimulate the appetite and afterwards to promote sleep. Wild lettuce and cultivated lettuce, to a lesser degree, contains a milky sap that contains a mild sedative. Most lettuces are good sources of vitamin C and beta-carotene, as well as calcium, iron, and fiber (Brill and Dean 1994:246-247; Hedrick 1972:321-324; Margen 1992:107-115; National Geographic Society 2008:180).

Two samples from the Carlyle Warehouse and a single sample from the ocean-going vessel hull (Feature 53) contained *Physalis* spp. seeds. These seeds might represent one of the native species to Fairfax County growing as a weed or grown as an ornamental, such as clammy groundcherry (*P. heterophylla*), longleaf groundcherry (*P. longifolia*), husk tomato (*P. pubescens*), and Virginia groundcherry (*P. virginiana*). *Physalis* are herbaceous annuals or perennials of the Solanaceae (nightshade family) with medium-sized triangular leaves on branching stems. Flowers are generally yellow, with the fruit resembling a small tomato of green, yellow, orange, red, purple or brown, enclosed by a lantern-shaped papery husk. Ground cherries grow in warm, dry conditions in burnt areas and cultivated fields, where they are considered a weed. Alternatively, the residents of Alexandria might have been using cultivated tomatillo as a vegetable (*P. philadelphica* syn. *P. ixocarpa*). Tomatillo, or Mexican husk tomato, is native to Mexico, where it was first domesticated by the Aztecs and remains an important vegetable in Mexican cuisine. Groundcherries have a uniquely tart flavor and can be used as a vegetable or a fruit, blanched or boiled and mashed in sauces or salsas, relishes, jams, puddings, and pies (Brill and Dean 1994:91-92; National Geographic Society 2008:208; Phillips and Rix 1993:158-159; Schneider 2001:667-668).

Another plant possibly used as a vegetable and/or fruit by the occupants of Alexandria is *Phytolacca americana* (pokeweed). Uncharred seeds were noted in two samples from the Carlyle Warehouse and two samples from the Feature 56 privy. *Phytolacca americana* (pokeweed, pokeberry) is a perennial, strong-smelling, bushy herb with a large taproot; succulent, usually hollow, reddish or purplish stems; and shiny, purple black berries. *Phytolacca* is native to the eastern United States from Minnesota to Quebec and south from Florida to Texas and northeastern Mexico. It is common in rich, moist soil along fence rows, railroads, and roads, as well as in thickets, meadows, cultivated fields, pasture lands, clearings, open woods, waste places, and disturbed ground. Roots, green berries, seeds, mature stems, and leaves are poisonous due to the presence of oxalic acid, saponins (phytolaccotoxin and phytolaccigenin), and the alkaloid phytolaccin. Despite this, American Indians and European colonists used the berries, leaves, and young shoots as food. The young shoots are rich in vitamin C and were boiled and eaten like asparagus. The peeled shoots can also be pickled. Greens are also cooked like spinach or fried in bacon grease. Ripe berries can be cooked and made into wine, pies, and jellies. Although less common than in the past, pokeweed consumption continues as a tradition in the Deep South of the United States. *Phytolacca* plants have also been used medicinally to treat a variety of conditions and illnesses. The root has been used as an emetic, to reduce inflammation, and to treat fevers, rheumatism, arthritis, skin parasites, and other illnesses. Dried root poultices can be applied to inflamed joints, varicose ulcers, and hemorrhoids. Berry juice has been used to treat cancer, hemorrhoids, and tremors, as well as an ink for writing. Roots and berries are also narcotic. Fresh leaf poultices were applied to scabs, while dried leaves were applied to swellings,

ulcers, carbuncles, and wounds (Angell 1981:142; Angier 2008:138-139; Brill and Dean 1994:39-41; Small 2014:539-541).

Nuts

Recovery of *Juglans nigra* nutshell fragments in three samples from the large privy (Feature 56) suggest that black walnuts were eaten. *Juglans nigra* trees grow in the rich soil of bottomlands and on fertile hillsides, favoring a good deal of water, sunshine, and space to reach its full height of up to 150 feet and a diameter of up to six feet. A North American relative of the English walnut, the black walnut is smaller with a harder shell and a stronger aroma. Once, black walnuts were commonly used to make baked goods and ice cream, but as the nut is smaller and more difficult to extract than the English walnut, it has fallen into disuse as a food source. The nuts contain a high amount of the Omega-3 linolenic acid that makes them valuable nutritionally but prone to becoming rancid. *Juglans nigra* trees produce beautiful lumber for furniture, paneling, and cabinets and is the most valuable furniture and cabinet timber of the United States; however, black walnut trees are found as isolated trees and never in dense stands. The bark is used in tanning, while the husks yield a yellow-brown dye (Brill and Dean 1994:160-163; McGee 2004: 512-513; National Geographic Society 2008:244; Peattie 2013:166-168; Petrides 1972:135).

Spices/Medicines

A variety of seeds suggest use of spices and/or medicines by the inhabitants of Alexandria. Three samples from the Carlyle Warehouse, one sample from Feature 53, and seven samples from the large privy yielded Lamiaceae seeds, suggesting use of members of the mint family. The Lamiaceae is a family of annual or perennial herbs and subshrubs with square stems and often hairy leaves that secrete volatile oils from glands in their epidermis. There are more of our well-known herbs in this plant family than in any other. It includes a wide array of economically important and ornamental plants, including *Lavandula* (lavender), *Marjorana hortensis* (marjoram), *Mentha piperita* (peppermint), *Mentha spicata* (spearmint), *Ocimum basilicum* (basil), *Rosemarinus* (rosemary), *Salvia officinalis* (sage), and *Thymus vulgaris* (thyme). Species of Lamiaceae are used for perfumes, as culinary herbs, and in cosmetic and medicinal applications (Hickey and King 1988:391; McGee 2004:403-404; Zomlefer 1994:265-270).

Six other members of the mint family were present only in samples from the Carlyle Warehouse (Feature 41). *Thymus vulgaris* (thyme) seeds occurred in five samples. It is a small, low-growing herbaceous perennial found growing wild along roadsides, in fields, and in disturbed habitats. *Thymus vulgaris* is a native of the Mediterranean, cultivated there and in northern Europe for centuries before it was recorded in England in the mid-sixteenth century. A standard in culinary applications, thyme is used with meats and vegetables, in stuffings, salads, and steeped in vinegar. Thyme leaves, flowers, and stems are useful in an infusion for treating respiratory infections, coughs, colds, sinusitis, as well as in deodorants, mouthwashes and skin products. Thyme contains B-complex vitamins as well as vitamins C and D, trace minerals, and

the powerful medicinal thymol, a proven antibiotic, antiseptic, antifungal, and antiparasitic (Brill and Dean 1994:54-55; Foster and Duke 2014:305-306; Hedrick 1972:570-571; McGee 2004:405-406).

Four samples yielded *Marrubium vulgare* seeds, suggesting use of horehound. Horehound grows well in sunny, dry fields, roadsides, and disturbed areas. It has also been cultivated as a garden plant. A perennial herb with hairy, hollow stems, it is a native of Britain. Horehound is sometimes used as a condiment in Europe, but it is more popular as a medicinal remedy. All of the flowering plant can be used for medicinal purposes. The fragrant, bitter leaves are a popular ingredient in cough syrups and lozenges and are effective as an expectorant, throat soother, and in the treatment of upper-respiratory problems. Horehound is a renowned folk remedy for aiding digestion, reducing pain and inflammation, and as an antidote for poisoning (Foster and Duke 2014:98-99; Grieve 1971b:415-416; Hedrick 1972:355).

Lycopus americanus seeds were present in three samples. *Lycopus americanus* (American bugleweed, cut-leaved water horehound) is a perennial herb found in wet places throughout eastern and central North America, including Fairfax County, Virginia. Medicinally, it is used as a substitute for *Lycopus virginicus* (bugleweed). An extract of the leaves and roots has been used historically as a mild sedative for conditions of the heart, lung, and thyroid, as well as a treatment for Graves' disease (Foster and Duke 2014:96-97; USDA Natural Resources Conservation Service 2017).

Two samples contained *Pycnanthemum* spp. seeds. *Pycnanthemum incanum* (hoary mountain mint) is substituted for horsemint (*Monarda* spp.) in the United States. *P. virginianum* (Virginia mountain mint) is a perennial, growing two to four feet tall, found in dry thickets in the eastern to central United States. The flowers and their buds were used as a flavoring for meats and soups. A tea made of *Pycnanthemum* leaves was taken for colds, coughs, fevers, cramps, and colic. It was believed to relieve gas and induce sweating (Foster and Duke 2014:95-96; Grieve 1971b:546).

A single *Mentha* sp. seed was noted beneath Floorboard 7. The *Mentha* (mint) genus contains about 25 species and 600 varieties native to the wetter regions of Europe and Asia. These plants are small, herbaceous perennials with square stems and opposite leaves. Most are fragrant. Spearmint (*Mentha spicata*) is found in damp areas along roadsides, ditches, and in meadows. The sweet leaves make a fragrant tea or garnish. Spearmint leaves are high in vitamin C and beta-carotene. It is an astringent, a diuretic, and an effective remedy for flatulence and stomachache. Peppermint (*Mentha piperita*) grows wild along ditches, streams, and meadows where there is ample moisture and light, well-drained soil. Its effects are cooling, and it is the most powerful mint in the treatment of digestive disorders. Peppermint is used internally to treat colds, fevers, arthritis, and headaches. It is a common ingredient in tooth care and mouthwashes. Peppermint is also used externally in baths, liniments and oils. Peppermint is a powerful analgesic, antispasmodic, and anti-microbial agent. Spearmint (*Mentha spicata*) and peppermint (*Mentha piperata*) are the mints most commonly used in the kitchen, as a flavoring for confections, gum, and to repel mice (Brill and Dean 1994:50-53; Grieve 1971b:533-546; McGee 2004:403-404).

A single sample from the warehouse yielded two probable *Scutellaria* seeds. *Scutellaria* (skullcap) is an indigenous North American perennial of the Lamiaceae family with erect, branching stems that can reach one to three feet tall. The small, blue or pale purple flowers bloom from July to September on the top third of the stem. *Scutellaria* is found all over the North American continent, favoring the sunny borders of woods, thickets, swamps, and meadows throughout the United States and Canada. The entire plant is harvested while in bloom. Historically an important medicinal herb, skullcap tea has been used to calm the nerves and encourage sleep. It is also an antispasmodic. During the 18th and 19th centuries, skullcap was a well-known cure for canine rabies (Foster and Duke 2014:250-251; Grieve 1971b:724-725; Johnson et al. 2010:45-47; Reader's Digest Association 1986:298). Species of *Scutellaria* noted in Fairfax County include *S. elliptica* (hairy skullcap), *S. integrifolia* (helmet flower), *S. lateriflora* (blue skullcap), *S. nervosa* (veiny skullcap), *S. ovata* (heartleaf skullcap), *S. parvula* (small skullcap), *S. saxatilis* (smooth rock skullcap), and *S. serrata* (showy skullcap) (USDA Natural Resources Conservation Service 2017).

Three samples from Feature 56 yielded *Coriandrum sativum* seed fragments, suggesting use of coriander/cilantro. *Coriandrum sativum* (coriander, cilantro) is an herbaceous annual member of the Apiaceae (celery/carrot/parsley family), reaching up to three feet in height with lobed, tender leaves and small whitish-purple flowers atop a slender stalk. They prefer warmer climates and well-drained soils, often found in waste places and escaping from cultivation. *Coriandrum sativum* was cultivated and used since ancient times in the Far East, brought to England by Romans before the Normans conquered it, and grown in American gardens before 1670. Coriander is an aromatic herb that is prized for its dried fruits and its leaves, which have very different flavors. The fruits (coriander), which are commonly referred to as seeds, have a distinctive floral, citrus-like aroma and are often paired with other spices in cooking meats and other savory dishes, in pickling, brewing, and in baking. The leaves (cilantro) are more pungent and generally used fresh as a garnish or in condiments, especially in Latin America, Asia, and the Middle East (Hedrick 1972:191-192; Grieve 1971a:221-222; McGee 2004:414; National Geographic Society 2008:256).

Other Plants of Probable Economic Value

Other seeds represent plants of economic value such as *Helianthus* spp., *Linum* cf. *usitatissimum*, *Nicotiana tabacum*, and probable *Humulus lupulus*. Recovery of *Helianthus* spp. seeds only in three samples from Feature 56 might indicate use of sunflower seeds. *Helianthus* is a yellow composite flower with a brown or purple central disk. About 60 species can be found in North and South America, widely distributed in dry open ground, waste places, fields, and prairies. It is the only North American native to become a significant world crop. Sunflowers were cultivated by native peoples in the American Southwest long before the arrival of Europeans. The sunflower was introduced to Europe as a decorative plant in 1509, and large crops were being grown in France and Bavaria in the 1700s for vegetable oil. Large crops are now cultivated in many parts of the world to provide oil, stock feed, and seeds that are roasted and eaten. The whole seed can also be roasted and used as a substitute for coffee. Sunflower "seeds" are actually complete fruits and contain 47% fat, 24% protein, and 20% carbohydrates. Seeds also contain linoleic acid, calcium, phosphorous, iron, sodium, riboflavin, and vitamin C.

Seeds from wild sunflower plants are smaller than those from cultivated plants, but they are just as good and can be prepared in the same ways. Sprouted seeds can be used as snacks or included in salads, soups, or cooked vegetable dishes (Brill and Dean 1994:93; Hedrick 1972:298; Kirk 1975:135). Species of *Helianthus* found in Fairfax County include *H. decapetalus* (thinleaf sunflower), *H. divaricatus* (woodland sunflower), *H. giganteus* (giant sunflower), *H. grosseserratus* (sawtooth sunflower), *H. laetiflorus* (cheerful sunflower), *H. maximilliani* (Maximilian sunflower), *H. mollis* (ashy sunflower), *H. occidentalis* (fewleaf sunflower), *H. strumosus* (paleleaf woodland sunflower), and *H. tuberosus* (Jerusalem artichoke) (USDA Natural Resources Conservation Service 2017).

Three samples from Feature 56 contained probable *Linum usitatissimum* seeds, suggesting use of common flax or flaxseed. *Linum usitatissimum* is a tall, erect annual with sky-blue blossoms that does well in deep, moist loams rich in organic matter. It is a plant of great economic importance in human history. Flaxseed has been cultivated for more than 7,000 years in all temperate and tropical regions of the world. Flax provided the fibers that were spun into the linen worn by the ancient Egyptians and Israelites and the linseed oil used in the great paintings of the Renaissance. Flax has been used as a food source in breads and cereals, but is rumored to cause indigestion and flatulence. Linseed tea was used as a demulcent in home remedies for colds and coughs and to treat conditions of the urinary tract. When crushed, the seeds can be applied as a poultice that relieves pain and irritation. The oil from the pressed seed can be taken internally as a laxative and used externally as an emollient. The cakes that remain after pressing are fed to cattle for fattening. Economically and medicinally, the seed is the plant part valued the most (Foster and Duke 2014:239-240; Grieve 1971a:317-319; McGee 2004:513).

A probable *Humulus lupulus* seed fragment was noted in one sample from Feature 53, the ocean-going vessel hull. *Humulus lupulus* (hops) is a vining perennial of the hemp family (Cannabaceae) native to Europe and North America. Hops are found cultivated and escaped from cultivation in rich, moist soils of temperate climates worldwide. The tender shoots were eaten like asparagus by the Romans and the tops steamed as potherbs. The first certain reference for use of hops in beer brewing is from texts dating to 822 A.D. The oils humulone and lupulone from the resin lupulin found in the ripened cones of the female flower provided a bittering agent for flavor and aroma, served as a preservative and sterilizer, and tannins acted as a clarifier. Hops proved to be so useful and palatable as a preservative that within a few hundred years it became a staple ingredient in the brewing process. Today, beer made from hops is the third most popular beverage in the world after water and tea. Hops have also been used medicinally to treat a variety of ailments. A tincture or infusion is used in bitters or tonics for heart disease, liver, irritable bladder, stomachache, indigestion, and as a sedative and anti-anxiety remedy. Applied externally as a wash or a poultice, it is an effective analgesic and anti-inflammatory (Foster and Duke 2014:273-274; Grieve 1971a:411-415; McGee 2004:420, 741, 744-745; Unger 2004:5, 55, 102; Zanoli and Zavatti 2008:384-385).

A single *Nicotiana tabacum* seed appeared in Level 1 of privy Feature 56. *Nicotiana tabacum* (tobacco) is a large annual of the Solanaceae family native to North America. The plant was introduced to England by Sir Walter Raleigh in 1586. John Rolfe brought the seeds of mandated tobacco inspection stations and warehouses were built. The tobacco crop dominated the economy and the land of Virginia for over 300 years (Grymes 1998-2017). The leaves are

dried and smoked alone or in combination with other herbs as the Native Americans did in ritual and other contexts. A leaf tea was used as an emetic, a diuretic, and a laxative; poultices were made of the leaves to treat snakebites, insect stings, and boils. Tobacco is a highly addictive narcotic and a powerful insecticidal poison. Tobacco was so valuable that it was used as currency during colonial times to pay taxes and to purchase goods from overseas, servants, slaves, and even wives (Foster and Duke 2014:205-206; Grieve 1971: 817-818; McGee 2004:412; Salmon and Salmon 2013).

Recovery of *Rosa* spp. seeds in one sample from the Carlyle Warehouse and four samples from Feature 56 might reflect the presence of wild roses or roses that were cultivated by the occupants of Alexandria. Species of *Rosa* (rose) are mostly deciduous and sometimes evergreen shrubs and vines, the most widely planted and highly valued plants in all temperate regions of the world. They are prized for their flowers, available in a vast array of colors and forms due to centuries of hybridizing. Origins of the genus *Rosa* are unknown, but it is one of the oldest flowers in cultivation. Fossil findings confirm their existence in very ancient times as far north as Alaska and Norway and south to Mexico. The literature of the ancient Chinese, Greeks, Romans, Egyptians, and Phoenicians all mention the rose frequently. All rose species available before 1867 are called Old Garden Rose or heirloom roses, and there are several classes of these. *Rosa bracteata* (Macartney rose) is a white rose that was brought to England from China by Lord Macartney in 1793. English colonists brought it with them to the Americas, and it has become naturalized in the United States from Virginia to Florida and east Texas. It is considered an invasive species. There are 200 species of wild rose, preferring full-sun and well-drained soil, and roughly 35 are considered native to the United States. *Rosa palustris* (swamp rose) is the most common rose in the Chesapeake Bay region, found in freshwater marshes and sometimes planted in water gardens. Roses also have a long tradition of medicinal use. Rose hips are valued as an important source of vitamin C, and are still used in commercial vitamin tablets, teas, syrups, and fruit drinks. A rose leaf tea is astringent, while an infusion of rose petals makes a soothing eyewash (Beales et al. 1988:16-20; Brenzel 2001:579-587; Musselman and Knepper 2012:189; Ody 1993:90-91; Silverthorne 1996:162-173). Species of wild rose found in Fairfax County include *R. blanda* (smooth rose), *R. carolina* (Carolina rose), *R. palustris* (swamp rose), and *R. virginiana* (Virginia rose), as well as the introduced *R. canina* (dog rose), *R. chinensis* (Chinese rose), *R. cinnamomea* (cinnamon rose), *R. gallica* (French rose), *R. laevigata* (Cherokee rose), *R. multiflora* (multiflora rose), *R. rugosa* (rugosa rose), and *R. wichuraiana* (memorial rose) (USDA Natural Resources Conservation Service 2017).

Wetland Plants

A variety of seeds from plants growing locally were also present in these samples, especially in Feature 41. The area appears to have supported a wetland, as evidenced by several types of seeds from plants typically found in wetland environments, again most often in Feature 41. *Typha* are common wetland plants, and *Typha* seeds were noted in 12 samples. The large numbers of *Typha* seeds noted in the samples from Feature 56 suggest that cattail down with the attached seeds was utilized, possibly as an absorbent material. *Typha* (cattail) are perennial marsh or aquatic plants with creeping rhizomes that usually grow with their base standing in water. Cattails form dense stands in marshes, swamps, wet meadows, ponds, sloughs, fens,

ditches, shallow stagnant water, and along streams, lakeshores, and seaside estuaries. *Typha latifolia* (common cattail, broad-leaved cattail) is the most widespread species in the United States, found from tropical to northern areas and from sea level to over 6600 feet in altitude. *Typha angustifolia* (narrow-leaved cattail) has a smaller distribution from southeastern Canada to southern Saskatchewan, along the Atlantic coast to South Carolina and Florida, and in the Midwest and north-central Great Plains to Oregon and Canada. *Typha domingensis* (southern cattail) is found in the southern half of the United States, along the Atlantic coast, and in warm-temperate and tropical regions. *Typha x glauca* (glaucous cattail) is a hybrid of *Typha latifolia* and *Typha angustifolia*. Cattails are one of the most important and common wild foods and was a staple for native groups. Every part of the cattail is edible, very tasty, and highly nutritious. The young shoots and stalks provide beta carotene, niacin, riboflavin, thiamin, potassium, phosphorus, and vitamin C. They can be eaten in the spring before the flower forms. The Cossacks of the Don River marshes in Russia ate young cattail shoots as a raw vegetable and other people followed suite, calling them “Cossack’s asparagus.” The male portions of the immature, green flower head are reported to taste vaguely like corn. The protein-rich pollen can be gathered in the summer and used like flour. The rhizomes or rootstocks can be collected in the fall, winter, and early spring. These are peeled and the starchy core is crushed to obtain the starch, which can be used like flour. The cottony fluff of the fruiting bodies has been used for thousands of years to treat skin disorders, burns, and as an absorbent or stuffing material (Brill and Dean 1994:67-71; Peterson 2014:406-407; Small 2014:205-211).

Other wetland indicators include seeds from several members of the Cyperaceae (sedge family), *Sagittaria* (arrowhead), *Najas guadalupensis* (southern waternymph), and *Nymphaea odorata* (American white water-lily). A single Cyperaceae seed not identified to genus was noted in Feature 41. Members of the Cyperaceae are perennial or sometimes annual, grass-like herbs with three-ranked leaves, creeping rhizomes, and often triangular stems. Most species grow in damp to marshy habitats; some grow on barren soil and in alpine environments. The Northern Hemisphere contains 26 genera. Members of the Cyperaceae with edible economic importance include *Cyperus esculentus* (chufa) and *Eleocharis dulcis* syn. *Eleocharis tuberosa* (water chestnut). The stems and leaves of *Cyperus* (flatsedge) and *Scirpus* (bulrush) provide weaving materials. *Carex*, *Cyperus*, and *Eleocharis* are grown as ornamental plants for pools (Reid 1987:54; Zomlefer 1994:347).

A total of 13 samples contained *Carex* spp. seeds. The *Carex* (sedge) genus is the largest genus of plants in eastern North America and contains one-third to one-half of all species in the Cyperaceae family. Most prefer moist to wet soils in wetland habitats, although some are found in well drained to dry soils in upland, forested, and alpine habitats. All species of *Carex* are perennial with either a thick rootstock or a creeping underground stem. Most species form dense stands or clumps (Musselman and Knepper 2012:135-136; Leopold 2005:63-66; Zomlefer 1994:347). Over 70 species of *Carex* are native in Fairfax County, with about 50 species of native and introduced sedges found in the Chesapeake Bay area (Kartesz 2017; Musselman and Knepper 2012:135; USDA Natural Resources Conservation Service 2017).

One sample from Feature 56 yielded a *Carex comosa*-type seed. *Carex comosa* (longhair sedge) is a tall (up to 5’), yellow-green sedge with flowers and fruiting stems that droop. Longhair sedge is found in open sunny areas in swamps and on the borders of ponds in the

eastern United States, including Fairfax County, Virginia, as well as Texas and the West Coast (Britton and Brown 1970:438; Musselman and Knepper 2012:138).

A *Carex crinita*-type seed was noted in a single sample from Feature 41. *Carex crinita* (fringed sedge) is one of the most common sedges in the United States. Fringed sedge reaches heights of 5', grows in dense clumps, and has many drooping flower clusters. It is a popular ornamental grass in modern times. Fringed sedge is found in a range of habitats including swamps and damp woods in the eastern half of North America, especially in coastal and wetland margin areas like Fairfax County, Virginia (Britton and Brown 1970:425; Musselman and Knepper 2012:138).

Four samples from Feature 41 contained *Carex lupulina* seeds. *Carex lupulina* (flatsedge, nutgrass, umbrella sedge) is stout and leafy, upright or reclining, and growing to a height of three feet. This plant is found in swamps and ditches in the eastern half of the United States including Fairfax County, Virginia and in southern Canada (Britton and Brown 1970:440; Knobel 1980:64).

Six samples yielded *Cyperus* spp. seeds, with the largest numbers present in samples from Feature 41. Species of *Cyperus* (flatsedge, nutgrass) are grass-like perennials found in moist ground, especially in damp sandy soil, meadows, damp thickets, bogs and marshes, as well as in fertile, loose, or sandy soils and waste places. The genus contains about 600 species, although only 50 species are found in the United States. Many species possess hard, underground tubers that can reproduce even if the top of the plant is cut off, making them a serious weed. These tubers are also edible (Elias and Dykeman 1982:130; Holm et al. 1991; Martin 1987:30). Eighteen species of native and introduced *Cyperus* are found in Fairfax County (Kartesz 2017; USDA Natural Resources Conservation Service 2017). *Cyperus strigosus* (straw-colored flatsedge) is a native plant found in meadows, damp thickets, bogs, marshes, and along wet shores (Fernald 1970:244-245).

The introduced varieties of *Cyperus esculentus* (yellow nutsedge) are common weeds, found on all continents in 21 types of agricultural crops. *Cyperus esculentus* is common in low wet soils of ditches, moist fields, heavily irrigated crops, along river banks and roadsides, and at the margins of ponds and streams. The hard, nearly rounded tubers are rich in starch, sugar, and fat. They can be eaten raw, boiled, candied, or dried and ground into flour. Tubers can also be roasted until dark brown, ground, and used as a coffee substitute (Bailey and Bailey 1997:356; Elias and Dykeman 1982:130; Holm et al. 1991:125). *Cyperus esculentus* var. *macrostachyus* is a native yellow nutsedge found in Fairfax County.

Holm et al. (1991:8-9) claim that the introduced *Cyperus rotundus* (nutgrass, nutsedge) is the world's worst weed, appearing as a weed in 52 crops in 92 countries. It been reported from more countries, regions, and localities than any other weed in the world, and can grow in almost every soil type. It is common in cultivated fields, neglected areas, on roadsides, at the edges of woods, and on the banks of irrigation canals and streams.

Four samples from Feature 41 also contained *Dulichium arundinaceum* seeds. *Dulichium arundinaceum* (three-way sedge, dulichium) has round, hollow stems and can be found at the

margins of ponds or streams or in open wet places such as bogs, marshes, and swamps. This perennial can be found in the eastern half of the United States, including Fairfax County, as well as Texas, California, and the Pacific Northwest (Fernald 1970:248; Gleason and Cronquist 1963:125-126; Knobel 1980:54; USDA Natural Resources Conservation Service 2017).

Seven samples from Feature 41 and a single sample from Feature 53 yielded *Eleocharis* spp. seeds. *Eleocharis* (spikerush) stems are leafless, with the stem performing photosynthesis and producing flowers at its tip. Spikerushes are wetland plants found growing in marshes and along shores. Several species have been used for making mats and for weaving. Water chestnuts (*Eleocharis dulcis* syn. *Eleocharis tuberosa*) are a popular Chinese vegetable (Gleason and Cronquist 1963:126; Musselman and Knepper 2012:71-73; Zomlefer 1994:347). Several species of *Eleocharis* are found in Fairfax County including *E. acicularis* (needle spikerush), *E. engelmannii* (Engelmann's spikerush), *E. erythropoda* (bald spikerush), *E. flavescens* (yellow spikerush); *E. obtusa* (blunt spikerush), *E. olivacea* (bright green spikerush), *E. palustris* (common spikerush), *E. quadrangulate* (squarestem spikerush), and *E. tenuis* (slender spikerush) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

Eleocharis obtusa seeds were noted in four samples from Feature 41. *Eleocharis obtusa* (blunt spikerush) is a tufted annual with fibrous roots found in muddy or wet places. It is most common in the eastern half of the United States and along the northern West Coast (Britton and Brown 1970:313; Fernald 1970:254; USDA Natural Resources Conservation Service 2017).

Four samples from Feature 41 also contained *Eleocharis palustris* seeds. *Eleocharis palustris* (common spikerush) is a caespitose perennial with often conspicuous rhizomes and stems reaching three feet in height. It is found throughout the United States, although it is most common in ponds and marshes of the northern and western states (Gleason and Cronquist 1963:127; Knobel 1980:56; USDA Natural Resources Conservation Service 2017).

A single sample from Feature 41 contained *Eleocharis quadrangulata* seeds. *Eleocharis quadrangulata* is the only species of spikerush (in Chesapeake Bay flora) that has a square stem and terminal flowering heads that are equal in width to the stem. It is most common in the southern and eastern United States, often in tidal pools and creeks (Fernald 1970:252; Gleason and Cronquist 1963:127; Musselman and Knepper 2012:70-73).

A single *Fimbristylis* sp. seed was noted in Feature 41. Species of *Fimbristylis* (fimbry) are annual or perennial sedges with triangular stems and a flat leaf blade. There are 250-300 species of *Fimbristylis* worldwide. In North America, species of *Fimbristylis* are found in wet areas and sandy or barren soils of the eastern United States and southeastern Canada. Only *F. annua* syn. *F. baldwiniana* (annual fimbry) and *F. autumnalis* (slender fimbry, autumnal fimbry) are noted in Fairfax County (Fernald 1970:262; Hickey and King 1988:448; Kartesz 2017; USDA Natural Resources Conservation Service 2017; Zomlefer 1994:347).

One sample from Feature 53 and the upper two samples from Feature 56 contained *Scirpus*-type seeds. *Scirpus*-type (bulrush) plants are annual or mostly perennial herbs with triangular or circular stems found in woods, thickets, meadows, pastures, rice fields, ditches, swamps, bogs, marshes, and in other low, wet places. Studies of the *Scirpus* genus by

taxonomists have resulted in the creation of several new genera, such as *Amphiscirpus*, *Bolboschoenus*, *Isolepis*, *Shoenoplectus*, and others. At one point, the *Scirpus* genus held almost 300 species; however, many of the species once assigned to this genus have been reassigned to the new genera, and the *Scirpus* genus now holds an estimated 120 species. In general, bulrushes have cylindrical, bullwhip-like stems, while threesquares have triangular stalks. Leaves and stems provide weaving materials. Species of *Bolboschoenus* and *Schoenoplectus* are common bulrushes in the Chesapeake Bay area, often the dominant plants of the brackish and freshwater marshes (Britton and Brown 1970:326; Martin 1987:31; Musselman and Knepper 2012:55-57; Zomlefer 1994:347).

Two samples from Feature 41 contained *Bolboschoenus fluviatilis* seeds. *Bolboschoenus fluviatilis* syn. *Scirpus fluviatilis* (river bulrush) has sharply triangular stems growing up to 4½ feet high. The elongated rhizome has thick, corm-like enlargements. River bulrush can be found in small patches to large stands in wetland margins, marshes, and shorelines. It is native to most of the United States, including Fairfax County, Virginia (Knobel 1980:59; Fernald 1970:271; Martin 1987:31; Musselman & Knepper 2012:55-57; USDA Natural Resources Conservation Service 2017).

Recovery of *Sagittaria* spp. seeds in four samples and *Sagittaria* sp. fruit fragments in three samples from Feature 41 indicates the presence of arrowhead. Species of *Sagittaria* (arrowhead) are aquatic perennials with arrow-shaped leaves found in bogs, swamps, tidal flats, and shallow waters throughout eastern and central North America. The starchy corms of several species of arrowhead have been used for food by North American Indians, as well as in China and Japan, eaten raw, dried, or baked. *Sagittaria* has been used as a diuretic and a remedy for scurvy (Britton and Brown 1970:98-204; Foster and Duke 2014:23; Grieve 1971a:57; Musselman and Knepper 2012:118-119). Species native to Fairfax County, Virginia, include *S. brevirosta* (shortbeak arrowhead), *S. calycina* (hooded arrowhead), *S. latifolia* (broad-leaf arrowhead), and *S. subulata* (awl-leaf arrowhead) (USDA Natural Resources Conservation Service 2017).

A *Najas guadalupensis* seed and seed fragment were found in a single sample under the floorboard of Feature 41. *Najas guadalupensis* (southern waternymph) is a submerged marine or freshwater annual herb with long, thin branching stems and long, slender, toothed leaves. The southern waternymph is found in canals, springs, ponds and lakes throughout the United States, including Fairfax County, Virginia (Britton and Brown 1970:90; Musselman and Knepper 2012:116-117; USDA Natural Resources Conservation Service 2017).

Nymphaea odorata seed fragments were noted in two samples from Feature 41. *Nymphaea odorata* (American white water-lily, fragrant water-lily) is an aquatic perennial with large, round, dark green leaves that float on the water's surface and stemless support a large, fragrant white blossom. Thick horizontal rootstocks anchor the leaf or lily pad. The American white waterlily is a native of freshwater ponds and slow-moving waters across most of North America including Fairfax County, Virginia. Medicinally the roots are valued as having astringent, demulcent, anodyne, and anti-scrofulous properties. Once used to treat a variety of conditions such as dysentery, diarrhea, gonorrhoea and tuberculosis. A poultice of the leaves and roots has been used to treat boils, tumors, and other inflammations of the skin. An infusion of the

leaves and roots can be used as a gargle to treat ulcerations of the mouth and throat (Britton and Brown 1970: 79; Foster and Duke, 2014:21; Grieve 1971b:484; Musselman and Knepper 2012:108-109)

Weedy Plants

A variety of other seeds most likely represent plants growing as weeds and/or growing in the local vegetation of Alexandria. A total of 20 samples from Features 36, 37, 41, 53, and 56 yielded *Portulaca oleracea* seeds, suggesting that purslane was a common component of local vegetation in the city. It is also edible and could have been utilized as a vegetable. *Portulaca oleracea* is a weedy annual with small black seeds and fleshy, often purplish-red leaves that forms large mats. It is commonly found in gardens, cultivated fields, lawns, disturbed areas, and waste places, mostly on rich soils. The leaves and stems are rich in iron and contain vitamins A and C, calcium, phosphorous, riboflavin, and omega-3 fatty acids. The entire plant can be cooked like spinach or added raw to salads. Because the leaves have a high water content, they can be eaten raw to quench thirst (Brill and Dean 1994:28-29; Gleason and Cronquist 1963:286; Kirk 1975:46).

All nine samples from Feature 41, one sample from Feature 53, and six samples from Feature 56 contained *Amaranthus* spp. seeds, suggesting that amaranth was also a common component of the local vegetation. Species of *Amaranthus* (amaranth, pigweed) are weedy, leafy, herbaceous annuals with light green or reddish stems that can grow up to eight feet tall. There are just under 40 species of *Amaranthus* found all across North America in a variety of habitats with abundant sunlight, exposed soil, and average to high moisture levels. Common habitats include desert washes, river floodplains, muddy shorelines, and disturbed ground. Species of amaranth have become some of the most abundant, widespread, and aggressive agricultural weeds. Amaranths are also nutritious wild food plants. Young stems and leaves can be eaten fresh or cooked as greens. Amaranth greens are high in vitamin A, vitamin C, calcium, iron, beta carotene, niacin, potassium, and riboflavin. Seeds have been used as a staple food source for thousands of years by many cultures. Amaranths were gathered from the wild and cultivated, and some species are still grown today. Seeds are rich in the amino acid lysine and high in protein. Seeds also contain vitamin E and B-complex. Some species cultivated as ornamentals, including *A. cruentus* (red amaranth, prince's feather), *A. tricolor* (Joseph's-coat, flaming fountain), and *A. caudatus* (love-lies-bleeding). Most species of *Amaranthus* are considered weeds of late spring and summer (Brill and Dean 1994:1450147; Schneider 2001:7-8; Thayer 2010:215-225; Turner and Wasson 1997:86-87). Species of *Amaranthus* found in Fairfax County include the native *A. blitoides* (mat amaranth), *A. cannabinus* (tidalmarsh amaranth), *A. hybridus* (slim amaranth), *A. retroflexus* (redroot amaranth), and *A. spinosus* (spiny amaranth), as well as the introduced *A. albus* (prostrate pigweed), *A. blitum* (purple amaranth), *A. cruentus* (red amaranth), and *A. deflexus* (largefruit amaranth) (USDA Natural Resources Conservation Service 2017).

Several samples yielded Poaceae florets, including samples from Features 41, 53, and 56. Small Poaceae C caryopses were noted in two samples from Feature 41. The Poaceae (grass family) is one of the most widely distributed families in the world. Grasses are annual or perennial herbs with fibrous roots that often form dense tufts or mats and erect to creeping stems

(culms) that can be occasionally woody and often have hollow internodes and jointed nodes. There are around 10,000 species of grasses worldwide, with about 231 genera in North America. The Poaceae is a large and complex family, and it is likely the most economically important group of angiosperms. Staple food crops include *Avena sativa* (oat), *Hordeum vulgare* (barley), *Oryza sativa* (rice), *Secale cereale* (rye), *Panicum miliaceum* (common millet), *Triticum* spp. (wheat), and *Zea mays* (corn). Sugar and molasses are made from *Saccharum officinarum* (sugarcane) and *Sorghum vulgare*. Alcoholic beverages are made using *Oryza* (saké) and *Saccharum* (rum), as well as *Hordeum*, *Secale*, and *Zea mays* (whiskeys). *Bambusa* spp. (bamboo) is used as a building material and for other economic uses. Several genera are grown as forage/fodder for animals or as ornamentals. Grasses are used in lawns and other turf areas, especially *Agrostis* spp. (bentgrass), *Festuca* spp. (fescue), *Lolium* spp. (ryegrass), *Cynosurus* spp. (dogstail grass), and *Poa* spp. (bluegrass). Grasses have diverse floral and vegetative structures with their own set of terminology for vegetative and floral parts. Grasses are found in a variety of habitats, sometimes becoming troublesome weeds (Gleason and Cronquist 1963:45-120; Harrington 1977:1-3; Hickey and King 1988:481-482; Zomlefer 1994:350-353).

Four samples from Feature 41 and six samples from Feature 56 yielded florets from the introduced *Eleusine indica* (goosegrass, yardgrass). *Eleusine indica* is a widespread, fast-growing, tufted annual grass, prostrate and spreading. It is one of the most common agricultural and environmental weeds of tropical and sub-tropical regions, common in forest margins, grasslands, marshes, stream banks, coastal areas, cultivated areas, gardens, lawns, vacant lots, along roads, and in other disturbed areas. It can be found growing on a wide range of soil types, and it thrives in full sunlight and wet areas. *Eleusine indica* is most conspicuous in annual row crops such as cereals, legumes, tobacco, and vegetable crops. A single plant has the potential to produce more than 50,000 seeds. *Eleusine indica* is believed to have been introduced into the United States around the 1800s (CABIb 2017; Gleason and Cronquist 1963:91; Holm et al. 1977:47-53; Martin 1987:19).

Three samples from Feature 41 contained *Panicum* spp. florets. *Panicum* (panic grass, millet) is a large genus common to temperate and tropical regions, with 160 species found in the United States. The many species are annuals or perennials of various habitats and are most abundant in the Southeast. *P. miliaceum* (common millet) is cultivated to a limited extent for forage in the United States and for food in Europe. *Panicum amarum* (beach panic grass) is one of the most common grasses on dunes. The plant often has a bluish tint (Fernald 1970:195; Gleason and Cronquist 1963:101-113; Martin 1987:24; Musselman and Knepper 2012:27). Species of *Panicum* in Fairfax County include *P. anceps* (beaked panicgrass), *P. capillare* (witchgrass), *P. dichotomiflorum* (fall panicgrass), *P. flexile* (wiry panicgrass), *P. philadelphicum* (Philadelphia panicgrass), *P. rigidulum* (redtop panicgrass), and *P. virgatum* (switchgrass) (USDA Natural Resources Conservation Service 2017).

Three samples from Feature 41 also contained *Paspalum* spp. florets. Species of *Paspalum* (paspalum, crowngrass) are also perennials or annuals of tropical and warm-temperature regions. The various species are found in a variety of habitats, from shallow water, swamps, and muddy shores to sandy soils, dry or wet woods, dry or moist fields, pastures, and waste ground (Fernald 1970:191; Gleason and Cronquist 1963:99-101; Knobel 1980:14). *Paspalum floridanum* (Florida paspalum), *P. fluitans* (horsetail paspalum), *P. laeve* (field

paspalum), and *P. setaceum* (thin paspalum) are found in Fairfax County (USDA Natural Resources Conservation Service 2017).

Setaria spp. florets were noted in two samples from Feature 41 and one sample from Feature 56, while a single caryopsis was also noted in one sample from Feature 56. Species of *Setaria* (bristlegrass, foxtail) are native and introduced annual or perennial grasses found in moist ground, salt marshes, wet coastal areas, seashores, meadows, rich soils, dry ground, fields, gardens, pastures, lawns, and waste places. European species are especially troublesome weeds, although their seeds are important resources for wild birds. *S. italica* (Italian or foxtail millet) is one of the oldest cultivated cereal grains and is still cultivated for its grain and as a fodder plant in China, India, Russia, Africa, and the United States. In Europe, it was cultivated as a summer crop until the 17th century. The seeds contain proteins, carbohydrates, minerals, phosphorous, iron, thiamine, and riboflavin. Seeds are cooked and eaten like rice. Seeds are also used medicinally as an astringent, digestive, emollient, and to treat stomach problems. Wild types are annual weeds common in temperate areas. *S. palmifolia* (palm grass) is a native of tropical Asia that is grown as an ornamental plant (Brill and Dean 1994:147-148; Gleason and Cronquist 1963:115-116; Kattamanchi et al. 2015:31-32; Martin 1987:26; Oelke et al. 1990; Turner and Wasson 1997:840). *Setaria parviflora* (marsh bristlegrass) is the only native species found in Fairfax County. Introduced species include *S. faberi* (Japanese bristlegrass), *S. italica*, *S. pumila* (yellow foxtail), and *S. viridis* (green bristlegrass) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

A total of nine samples from Feature 41, three samples from Feature 53, and six samples from Feature 56 contained *Polygonum* seeds, suggesting that smartweed/knotweed plants were common in the local vegetation. Species of *Polygonum* are cosmopolitan weeds, with about 300 species worldwide of annual or perennial herbs found in many habitats including moist, dry, saline, rocky, sunny, or shady. Some species have peppery leaves that can be used as a seasoning, while the leaves of other species can be eaten raw in salads or cooked as greens. Plants such as *P. bistortoides* (American bistort) and *P. viviparum* (alpine bistort) have starchy roots that can be eaten raw, boiled, or roasted. *P. sachalinense* (giant knotweed) is an Asian introduction that was cultivated in Europe and occasionally in the United States as a garden vegetable. *Polygonum tinctorium* syn. *Persicaria tinctoria* (Japanese indigo) is a source of blue dye. *P. baldschuanicum* (Bukhara fleecyflower) and *P. aubertii* syn. *Fallopia baldschuanica* (silver lace vine) are vigorous climbers frequently planted in gardens. *P. periscaria* (spotted ladysthumb) is an introduced plant that is now a common weed in the United States in cultivated areas and waste places, along roadsides, and near ponds and ditches (Hickey and King 1988:88-89; Kirk 1975:56; Martin 1987:40-42). Native species of *Polygonum* found in Fairfax County include *P. amphibian* (water knotweed), *P. avifolium* (halberdleaf tearthumb), *P. erectum* (erect knotweed), *P. hydropiperoides* (swamp smartweed), *P. lapathifolium* (curlytop knotweed), *P. pennsylvanicum* (Pennsylvania smartweed), *P. punctatum* (dotted smartweed), *P. sagittatum* (arrowleaf tearthumb), *P. setaceum* (bog smartweed), *P. tenue* (pleatleaf smartweed), and *P. virginianum* (jumpseed).

Four samples from Feature 41 contained *Polygonum aviculare* seeds. *Polygonum aviculare* (prostrate knotweed) is a much-branched annual that can be prostrate to erect. It is native to Europe but has been extensively introduced and is now a widespread weed in nearly all

the temperate regions of the world. *Polygonum aviculare* is a highly polymorphic species with numerous genetic variations, resulting in several subspecies. It is a common weed along streets and salt marshes, on beaches, and in lawns and waste areas (Gleason and Cronquist 1963:268; Holm et al. 1977:289; Meerts 1995:414; Meerts and Garnier 1996:438).

A *Polygonum lapathifolium*-type seed and seed fragment were noted in a single sample from Feature 53. *Polygonum lapathifolium* (curlytop knotweed, pale persicaria) is a branched, erect, herbaceous, annual plant growing up to seven feet. It is a widespread and variable species with several subspecies found mainly in moist soils throughout temperate North America and in the Old World. It has the potential to be a damaging weed in spring-sown crops (Fernald 1970:583; Gleason and Cronquist 1963:269; Holm et al. 1977:398).

Five samples from Feature 41 and single samples from Feature 53 and 56 yielded *Polygonum pensylvanicum*-type seeds. *Polygonum pensylvanicum* (Pennsylvania smartweed) is an erect, branching annual growing up to six feet in height. It is found in cultivated fields, damp shores, thickets, clearings, and disturbed areas, especially in rich, moist soil (Fernald 1970:583; Gleason and Cronquist 1963:269).

A single *Polygonum virginianum* seed was also noted in a single sample from Feature 41. *Polygonum virginianum* (jumpseed) is an erect perennial with rhizomes found in moist woods. (Britton and Brown 1970:665; Gleason and Cronquist 1963:271).

Euphorbia spp. seeds were found in six samples from Feature 41, one sample from Feature 53, and one sample from Feature 56. The *Euphorbia* (spurge) genus contains over 2000 species of trees, shrubs, succulents, and annual or perennial herbs with milky acrid sap. Herbaceous spurges are found throughout the United States in a variety of habitats including along roadsides and in fields, meadows, pastures, waste places, gardens, and yards, often becoming weeds. Some species, especially *E. pulcherrima* (poinsettia), are grown as ornamentals. Although most species are considered poisonous, some species have been used to treat snake bites, asthma, and bronchial congestion (Fernald 1970:963-972; Hickey and King 1988:266; Kirk 1975:32; Zomlefer 1994:109). Species of *Euphorbia* found in Fairfax County include the native *E. commutata* (tinted woodland spurge), *E. corollata* (flowering spurge), *Euphorbia dentata* var. *dentata* (toothed spurge), *E. marginata* (snow on the mountain), *E. pubentissima* (false flowering spurge), and *E. spathulata* (warty spurge) as well as the introduced *E. cyparissias* (cypress spurge) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

Three samples from Feature 41 contained *Rumex* spp. fruit fragments, and *Rumex* spp. seeds were present in seven samples from Feature 41, two samples from Feature 53, and two samples from Feature 56. Species of *Rumex* (dock, sorrel) are perennials, annuals, or biennials with edible leaves and leaf stems, although some species are more tart or bitter than others. Some species are native to the United States, while others were introduced from Europe. Native species can become weeds in meadows and pastures, especially on low, wet ground. *Rumex* plants are widespread in a variety of habitats including meadows, pastures, fields, lawns, swampy or marshy places, dry or sandy places, disturbed areas, and along roadsides. *R. acetosa* (sour dock, garden sorrel) is a European dock that is sometimes grown in gardens as a potherb. The roots of dock are noted to have astringent, laxative, alterative, and mildly tonic properties. The various species of dock have been used as a purgative, gentle laxative, and blood cleanser, as well as to

treat jaundice, scurvy, boils, chronic skin diseases, piles, ulcers, and diarrhea. Leaves of *Rumex obtusifolius* (bitter dock) were applied to burns, scalds, blisters, and nettle stings. Yellow dock (*Rumex crispus*) has been used to treat diphtheria and cancer (Gleason and Cronquist 1963:262-265; Grieve 1971b:752-754; Hedrick 1972:892-895; Kirk 1975: 53-54; Martin 1987:37-39). Native species of *Rumex* found in Fairfax County include *R. altissimus* (pale dock, water dock), *R. crispus* (curly dock), *R. obtusifolius* (bitter dock), and *R. pulcher* (fiddle dock). *Rumex acetosella* (common sheep sorrel), is a Eurasian introduction that has become naturalized throughout most of North America (Gleason and Cronquist 1963:263; USDA Natural Resources Conservation Service 2017).

Six samples from Feature 41 and one sample from Feature 53 contained *Mollugo verticillata* seeds. *Mollugo verticillata* (green carpetweed, Indian chickweed) is a small, branchy, prostrate annual that forms carpet-like circular mats up to 40 cm in diameter. The plant can be used as a potherb. Carpetweed is a common weed found in fields, gardens, and lawns throughout temperate North America, including Fairfax County, Virginia (Gleason and Cronquist 1963:285; Kirk 1975:50; Martin 1987:51; Uva et al. 1997: 88-89).

Five samples from Feature 41, one sample from Feature 53, and one sample from Feature 56 yielded *Verbena* spp. seeds. *Verbena* (vervain) includes over 250 species of native and introduced, herbaceous annuals or perennials found in grasslands, old fields, pastures, moist meadows, lawns, and waste places. Some species have pink, purple, or red flowers and are popular garden plants. A Mediterranean species, *V. officinalis* (herb of the cross), has been used as a nerve tonic, liver stimulant, urinary cleanser, to encourage milk flow, to stimulate contractions, and as a mouthwash. A poultice can be applied to insect bites, sprains, and bruises, and the ointment used on eczema and wounds. Species of vervain will often hybridize with other species (Britton and Brown 1970: 94-97; Gleason and Cronquist 1963:79-581; Grieve 1971b:831-832; Ody 1993:112; Turner and Wasson 1997:914-915). Native species of *Verbena* found in Fairfax County include *V. hastata* (swamp vervain), *V. simplex* (narrowleaf vervain), *V. urticifolia* (white vervain), *V. x blanchardii* (a hybrid of *V. hastata* and *V. simplex*), and *V. x engelmannii* (a hybrid of *V. hastata* and *V. urticifolia*), as well as the introduced *V. officinalis* (herb of the cross) (USDA Natural Resources Conservation Service 2017).

A single seed representing a member of the Solanaceae was noted in a sample from Feature 41. The Solanaceae (nightshade family) consists of about 2,900 species of annual, biennial, or perennial herbs, as well as a few shrubs or trees, found in tropical and temperate regions. The majority of these species are found in Central and South America. The Solanaceae contains a variety of food plants, including *Solanum lycopersicum* (tomato), *Solanum tuberosum* (potato), *Capsicum annuum* (sweet pepper), *Capsicum frutescens* (cayenne pepper), *Solanum melongena* (eggplant, aubergine), *Physalis philadelphica* (tomatillo), *Physalis peruviana* (Peruvian groundcherry), and species of *Cyphomandra* (tree tomato). Species of *Nicotiana* (tobacco) are also of great economic importance. Some species are considered poisonous due to the presence of various alkaloids. Some of these provide drugs used in medicine, such as *Atropa belladonna* (deadly nightshade), *Hyoscyamus niger* (henbane), species of *Datura* (jimsonweed, datura), *Mandragora* (mandrake), and *Scopolia carniolica* (Russian belladonna). Ornamental plants include *Physalis alkekengi* (Chinese lantern) and *Nicandra physalodes* or *Physalodes physalodes* (apple-of-Peru), as well as popular annuals like *Petunia* (petunia), *Salpiglossis* (painted tongue), *Schizanthus* (butterfly flower, poor man's orchid), and *Browallia* (amethyst

flower, bush violet). *Datura stramonium*, species of *Physalis* (ground cherry), and species of *Solanum* (nightshade) are common weedy plants (Britton and Brown 1970:154; Hickey and King 1988:365; Turner and Wasson 1997; Zomlefer 1994:213-215).

Solanum spp. seeds were found in two samples from Feature 41, two samples from Feature 53, and three samples from Feature 56. *Solanum* (nightshade) is the largest genus of angiosperms, comprising about 1500 native and non-native species, that includes important food plants such as tomatoes, potatoes, and eggplant. The weedy nightshades can be annuals or perennials that vary a great deal as to size and habit, but all will have alternate, toothed leaves and white or yellow flowers. They produce red, black, or yellow berries that may or may not be spiny. Many species contain solanine, which is a poisonous alkaloid, and many can be troublesome weeds. Nightshades can be found in a variety of habitats widely distributed across the United States, including open woods, fields, pastures, meadows, prairies, yards, gardens, clearings, along roadsides, fencerows, banks of streams or ditches, and in waste places (Gleason and Cronquist 1963:609-610; Martin 1987:104-105; Zomlefer 1994:213-215). Species native to Fairfax County are *S. carolinense* (Carolina horsenettle), *S. ptycanthum* (West Indian nightshade), and *S. rostratum* (buffalobur) (USDA Natural Resources Conservation Service 2017).

One sample from Feature 53 and two samples from Feature 56 yielded *Datura stramonium* seeds. *Datura stramonium* (jimsonweed, thornapple) is a branching, bushy annual of the nightshade family (Solanaceae). It is easily identified by its large, smooth, gray-green leaves with a rank odor and white or purple, trumpet-shaped flowers that bloom in the evening. Seedpods are spiny and egg-shaped. *Datura stramonium* is a familiar weed of cultivated areas, barnyards, roadsides, and waste places. Opinions differ about its native status, but it is widely distributed throughout the warmer parts of the world, including all but the Northwest and northern Great Plains of the United States. Nearly all species of *Datura* are used in local medicine and share the basic properties of *D. stramonium*. Since ancient times in many cultures, it has been used in religious ceremony to induce visions and produce prophecies. In America, the common name of “devil’s apple” is thought to have been bestowed by the first settlers in Virginia after they experienced its unusual effects. The plant is very toxic due to the presence of tropane alkaloids including atropine, hyoscamine, and scopolamine, which are found throughout the plant but are most concentrated in the leaves and seeds. A variety of other alkaloids are also present. *Datura* is used as an anti-spasmodic for asthma and bronchial coughs, as an anti-inflammatory, analgesic, to dilate the eyes, to treat dandruff, as a cancer remedy, and as an insect repellent. Use can cause dry mouth, extreme thirst, nausea, vomiting, increased heart rate, blurred vision, loss of motor coordination, delirium, hallucinations, seizures, and loss of consciousness. Despite the dangers associated with it, *D. stramonium* is cultivated in many parts of the world (Foster and Duke 2014:27-28, 244-245; Gaire and Subedi 2013:73-79; Grieve 1971a:47, 802-807; Soni et al. 2012:1002-1006; Uva et al. 1997:312).

Three samples from Feature 41, one sample from Feature 53, and two samples from Feature 56 contained *Chenopodium* spp. seeds. *Chenopodium* (goosefoot) are annual or perennial herbaceous plants found in a variety of habitats. The small, black seeds and leaves of all species are edible. Seeds provide protein, calcium, phosphorus, potassium, and niacin. Leaves are a good source of beta carotene, calcium, potassium, and iron and provide trace minerals, B-complex

vitamins, vitamin C, and fiber. *Chenopodium ambrosioides* (wormseed) is a native of Eurasia that was introduced to North America from Mexico and South America. This plant yields oil of chenopodium, which is an effective cure for intestinal worms. In the 19th century, official medicine in North America recognized wormseed as the most effective cure for roundworm and hookworm. It was extensively cultivated in Maryland, although it escaped cultivation and has now established itself throughout much of North America. Species of *Chenopodium* are opportunistic weeds, often establishing themselves rapidly in disturbed areas (Brill and Dean 1994:47; Hutchens 1991:229; Kirk 1975:56-57; Reader's Digest Association 1986:347). Species of *Chenopodium* found in Fairfax County include the native *C. album* (lambsquarters), *C. simplex* (mapleleaf goosefoot), and *C. standleyanum* (Standley's goosefoot), as well as the introduced *C. glaucum* (oakleaf goosefoot) and *C. murale* (nettleleaf goosefoot) (USDA Natural Resources Conservation Service 2017).

Samples from Feature 41 contained a variety of seeds from the Asteraceae (aster, composite, or sunflower family). This is the largest family of flowering plants and includes annual to perennial herbs, shrubs, and trees. About 346 genera are found in North America. Important food plants in this family include *Lactuca* (lettuce), *Helianthus* (sunflower), *Carthamus* (safflower), *Cynara* (artichoke), *Artemisia dracunculus* (tarragon), *Cichorium intybus* (chicory), and *Cichorium endivia* (endive). Medicinal plants include *Matricaria chamomilla* (chamomile), *Artemisia* (wormwood), *Arctium* (burdock), *Echinacea* (coneflower), *Tragopogon* (goatsbeard), and *Tussilago* (colt's-foot). Tanacetin oil has been distilled from *Tanacetum vulgare* (tansy) and used as an insect repellent. Many plants (more than 200 genera) are grown as ornamentals. Popular ornamentals include *Aster* (aster), *Solidago* (golden rod), *Erigeron* (daisy), *Bellis* (daisy), *Wyethia*, *Coreopsis*, *Tagetes* (marigold), *Helianthus* (sunflower), *Chrysanthemum*, *Cosmos*, *Dahlia*, *Zinnia*, *Centaurea* (cornflower), *Anthemis tinctoria* (yellow chamomile), *Calendula*, *Rudbeckia* (Mexican hat), *Senecio* (groundsel), and *Arnica*. The Asteraceae also contains many of the weed species with world-wide distributions. The spread and colonization of these weedy species are due in part to very effective pollination arrangements and to special adaptations on fruits and achenes (seeds) that allow for dispersal by workers, animals, wind, and water (Angier 2008; Holm et al. 1991:185; Turner and Wasson 1997; Zomlefer 1994:203-209).

Six samples contained *Cirsium* spp. seeds. The *Cirsium* genus contains about 350 species of stout, annual, biennial, or perennial herbs with spiny stems, leaves, and fruits. About 120 species are native to North America. Some species are planted as ornamentals. The flower head clusters of disk florets can be pink, red, purple, yellow, pale blue, or white. Some species, most notably *Cirsium arvense* (Canadian thistle), have extensive rhizome systems that allow thistles to form large colonies from a single plant. Almost any part of the root can start a new plant. Species of *Cirsium* are often troublesome, invasive weeds, able to survive in a wide range of soil types and moisture conditions. They are common in fields, meadows, roadsides, and disturbed areas. Many introduced species are now widespread throughout the United States. Roots of first-year plants (without stems) can be boiled, then sliced and fried until brown. Boiled roots can also be dried and ground into flour. Peeled young stems can be eaten raw in salads or boiled as greens. A leaf tea is diuretic and was once used internally to treat tuberculosis and externally for skin eruptions, skin ulcers, and poison ivy rash. A root tea was used to treat dysentery and diarrhea (Elias and Dykeman 1982:115; Foster and Duke 2014:221; Holm et al. 1991:217-224; Martin

1987:144-145; Turner and Wasson 1997:229; Uva et al. 1997:132-135). *Cirsium vulgare* syn. *vulgaris* (bull thistle, spear thistle) is believed to have been introduced to North America during colonial times, and *Cirsium arvense* has been found in North America since the 17th century, probably brought in as an impurity in farm seed in both the English and French colonies (Hansen 1918:3-4; Moore and Frankton 1974:25-27; Moore 1975:1038). Native species of *Cirsium* in Fairfax County include *C. altissimum* (tall thistle), *C. discolor* (field thistle), *C. muticum* (swamp thistle), and *C. pumilum* (pasture thistle) (Kartesz 2016; USDA Natural Resources Conservation Service 2016).

Anthemis cotula seeds were present in five samples from Feature 41. *Anthemis cotula* (stinking chamomile, dog fennel, mayweed) is a strong-smelling annual with white ray flowers and yellow center disk flowers. It is a native of the Mediterranean region that can now be found in all parts of the United States, especially on rich moist soil or barnyards, fallow fields, cultivated fields, pastures, meadows, roadsides, ditches, and other disturbed areas. *Anthemis cotula* is believed to have spread through contaminated seed, forage, or ships ballast. Although not particularly invasive, its growth can be aggressive in wet, poorly-drained areas. Each plant produces thousands of single, ribbed seeds with no pappus. *Anthemis cotula* has been used medicinally as a tonic, anti-spasmodic, emmenagogue, and emetic. An infusion of the dried herb was drunk to treat sick fevers and convalescence from fevers, as well as to treat scrofula and hysteria (CABla 2017; Graham and Johnson 2004; Grieve 1971a:188; Martin 1987:140; Smith 1987; Turner and Wasson 1997:98).

Four samples yielded *Ambrosia* spp. seeds. *Ambrosia* (ragweed) is an erect annual commonly found in waste places. The flowers produce large amounts of wind-dispersed pollen, and pollen from species of *Ambrosia* is responsible for approximately 90% of pollen-induced allergies in the United States. The essential oil contains antibacterial and antifungal components. The pollen is harvested, then manufactured into pharmaceutical preparations for ragweed allergy treatments. Both *A. artemisifolia* (common ragweed) and *A. trifida* (giant ragweed) are native to Fairfax County, Virginia. *A. artemisifolia* is a weed of most cultivated crops, landscapes, orchards, nurseries, meadows, and roadsides. Although it prefers heavy, moist soils, it grows in both clay and sandy soils. It was formerly used as a substitute for quinine. *A. trifida* is a weed of cultivated agronomic and horticultural crops and most commonly found in cultivated alluvial, fertile soils, as well as drainage ditches, roadsides, and other disturbed sites. Common ragweed has been used medicinally as an astringent and to stop bleeding. A leaf tea was used to treat prolapsed uterus, leucorrhea, diarrhea, dysentery, fevers, and nosebleeds. It was also gargled for mouth sores (Foster and Duke 2014:288-289; Martin 1987:130-131; USDA Natural Resources Conservation Service 2017; Uva et al. 1997:108-110).

Three samples contained *Bidens* spp. seeds. The numerous species of *Bidens* (beggarticks, tickseed, bur-marigold) represent annuals, perennials, subshrubs and shrubs mostly native to Mexico and the Americas. The majority of species have leafy, erect stems with mostly yellow flowers, although some species also have flowers that can be white, pink, red, or purple. The numerous seeds are armed with 2-4 barbed awns that stick to fur and clothing, facilitating their dispersal. About 25 species are found in the United States, mostly in the East and in moist or wet soils, although several species can be found in relatively dry soil and a few are widespread. Many plants are common weeds of landscapes, gardens, and cultivated areas,

although plants also grow in roadsides, pastures, and waste areas. *Bidens bipinnata* (Spanish needles) has been shown to have anti-diarrheal, liver-protective, and anti-inflammatory properties. Plant juice was once used for eye drops and as a styptic (Foster and Duke 2014:165; Gleason and Cronquist 1963:683-685; Holm et al. 1991:185-187; Martin 1987:135; Turner and Wasson 1997:144; Uva et al. 1997:122-123). Native species found in Fairfax County include *B. aristosa* (bearded beggarticks), *B. bipinnata*, *B. cernua* (nodding beggartick), *B. discoidea* (small beggarticks), *B. frondosa* (devil's beggartick), *B. laevis* (smooth beggartick), *B. triparita* (threelobe beggarticks), and *B. vulgata* (big devil's beggartick) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

Eutrochium spp. seeds were present in two samples. *Eutrochium* (syn. *Eupatorium*) species (joe pye weed, trumpetweed) are perennials found in orchards, agricultural fields, pastures, landscapes, thickets, roadsides, abandoned fields, and wet meadows. The plants often have purple or reddish-purple stem bases, leaf nodes, or spotted stems with clusters of pale pink to purple flowers. A root tea was once used for fevers, colds, chills, diarrhea, liver and kidney ailments, and to treat sore wombs after childbirth. Rheumatism was treated externally with a leaf tea wash. A tea made from the leaves and roots of *Eutrochium purpureum* (sweetscented joe pye weed) was traditionally used to eliminate urinary tract stones and to treat urinary incontinence in children, dropsy, gout, uterine prolapse, rheumatism, impotence, asthma, and chronic coughs (Foster and Duke 2014:218-219; Martin 1987:117; Uva et al. 1997:140). In Fairfax County, native species include *E. dubium* (coastal plain joe pye weed), *E. fistulosum* (trumpetweed), and *E. purpureum* (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

A *Lactuca biennis*-type seed and six seed fragments were noted in a single sample from Feature 41. *Lactuca biennis* is a robust annual or perennial found in moist places most often in the northern United States and Canada. In the eastern U.S., its range extends south into western North Carolina and eastern Tennessee (Gleason and Cronquist 1963:763; USDA Natural Resources Conservation Service 2017).

Three samples from Feature 41 also yielded *Acalypha* spp. seeds. *Acalypha* (copperleaf) is a summer annual herb or shrub in the Euphorbiaceae (spurge family) with erect, hairy, branching stems and copper-tinted leaves. In most of the eastern two-thirds of the United States, from Maine to Florida, it can be found in fields, thickets, and woods; along roadsides and stream banks; and in croplands of various soil types and moisture levels. There are an estimated 250 species of *Acalypha*. Those native to Fairfax County, Virginia, include *A. gracilens* (slender threeseed mercury), *A. rhomboidea* (common threeseed mercury), and *A. virginica* (Virginia threeseed mercury) (Britton and Brown 1970:457-458; Uva et al. 1997:223-223).

Hypericum spp. seeds were noted in four samples from Feature 41, while *Hypericum gentianoides* seeds were present in three samples from Feature 41. *Hypericum* (St. Johnswort, Klamathweed) is a large and varied genus of 400 species, with 55 found in North America. These plants are annuals, perennials, shrubs, and a few small trees with yellow, flesh-colored, or purplish flowers. They are found in many habitats, from wet shores, marshes, and swamps to mountains, cliffs, and woods, most often in full-sun and well-drained soils. *H. gentianianoides* (orangegrass) prefers sterile, sandy soils. Several species are planted as ornamentals. *Hypericum perforatum* is an European introduction that has become an abundant weed in fields, meadows,

and along roads in much of the United States and southern Canada. It was a common medicinal herb for treating a variety of ailments such as dysentery, diarrhea, bleeding of the lungs, worms, jaundice, suppressed urine, hysteria, nervous irritability, and irregular menstruation. Species of *Hypericum* were especially important medicinal plants used in Russia (Gleason and Cronquist 1963:468-470; Hutchens 1991:257-260; Turner and Wasson 1997:461-463; Zomlefer 1994:75). Species found in Fairfax County include *H. canadense* (lesser Canadian St. Johnswort), *H. gentianoides* (orangegrass), *H. gymnathum* (claspingleaf St. Johnswort), *H. hypericoides* (St. Andrew's cross), *H. mutilum* (dwarf St. Johnswort), *H. prolificum* (shrubby St. Johnswort), *H. punctatum* (spotted St. Johnswort), and the introduced *H. perforatum* (common St. Johnswort) (USDA Natural Resources Conservation Service 2017).

Trifolium spp. seeds were found in one sample from Feature 37, two samples from Feature 41, and one sample from Feature 56, noting the presence of clover. The *Trifolium* genus contains about 300 species of annual, biennial, or perennial herbs with leaves in sets of three found in a variety of habitats including old fields, roadsides, prairies, dry woods, gardens, and lawns. Many species have been introduced from Europe, although others are native to North America. *T. repens* (white clover, four-leaf clover) is a familiar weed found in lawns. It is a native of Eurasia that has escaped from cultivation and is widely distributed in North America. *T. pratense* (red clover) is one of the most common perennial clovers and is planted as a hay and pasture crop. Clovers are edible. They are high in protein and can be eaten raw or best when boiled or soaked in salt water for several hours. Seeds can also be eaten. A tea can be made by steeping fresh or dried flowers in hot water. A tea made from flowers and leaves is anti-inflammatory, calming, expectorant, and antispasmodic. It has been used to treat cancer for centuries (Brill and Dean 1994:24-26; Fernald 1970:891-894; Kirk 1975:100-101; Zomlefer 1994:163). Several introduced species of *Trifolium* are found in Fairfax County, as well as the native *Trifolium carolinianum* (Carolina clover) (USDA Natural Resources Conservation Service 2017).

Numerous possible Orchidaceae seeds were present in three samples from Feature 41. The Orchidaceae (orchid family) is one of the largest, most complex plant families ranging from thimble-sized plants to vines reaching 100 feet. Most are perennial herbs with mycorrhizal roots. The orchid family contains 730 genera and 25,000 species widely distributed throughout the world from sea level to high mountain slopes, absent only from deserts. Of these, 45 species can be found in Fairfax County, Virginia. Orchids in temperate regions are terrestrial with rhizomes or corms and fleshy to tuberous roots. Epiphytic orchids are mostly found in the tropics. Exploration fueled the distribution of these exotic plants. Orchids were first cultivated in Europe at the end of the 17th century in the Netherlands. Today, orchid breeders have created over 50,000 varieties. Salep is the name for some European and Indonesian species whose dried tubers contain gum and starch that was used in medicines as a soothing agent. The tubers were imported to England, dried, powdered, and mixed with milk to make a nutritious hot beverage. Salep was considered a valuable diet for children and invalids, and was part of sailing ship's stores on long voyages. The most commercially valuable of all orchids is the vanilla orchid (*Vanilla planifolia*), the source of one of our most popular flavorings (Britton and Brown 1970:547-548; Silverthorne 1996:115-121; Leroy-Terquem and Parisot 1991; USDA Natural Resources Conservation Service 2017; Zomlefer 1994:293-296).

Two samples from Feature 41 contained *Oxalis* spp. seeds. The *Oxalis* (wood sorrel) genus includes about 500 species of wildflowers, ornamentals, and weeds distributed throughout the eastern third of the United States and the West Coast in rich, damp woods, banks, prairies, roadsides, fields, waste places, and open woods. The leaves have a pleasantly acidic taste due to the presence of oxalic acid. They can be used fresh in salads and sauces or steeped in water to make a healing beverage. A decoction of the leaves given when there is high fever will cool the fever and quench the thirst. Wood sorrel is said to be a blood cleanser and appetite strengthener. The juice of the leaves is effective in reducing inflammation and stanching wounds (Fernald 1970:943-946; Foster and Duke 2014:136; Gleason and Cronquist 1963:428-429; Grieve 1971b:751-752). *Oxalis corniculata* (creeping woodsorrel), *O. dillenii* (slender yellow woodsorrel), *O. grandis* (great yellow woodsorrel), and *O. violacea* (violet woodsorrel) are noted in Fairfax County, Virginia USDA Natural Resources Conservation Service 2017).

Two samples from Feature 41 also contained single *Ranunculus* sp. seeds. *Ranunculus* (buttercup) are annual or perennial herbs growing from 2-3 feet tall with golden, red, or white flowers. All buttercups, especially *R. acris* (common buttercup, showy buttercup), are potentially toxic and can cause irritation and blistering of the skin and mouth. There are about 275 species of buttercup found in temperate and cool regions, moist meadows and woods, marshes, swamps, roadsides, and waste places across North America (Britton and Brown 1970:104-115; Foster and Duke 2014:150-151; Grieve 1971b:149-150, 179-182, 235-236, 757-758). Species of *Ranunculus* found in Fairfax County include the native *R. abortivus* (littleleaf buttercup), *R. ambigens* (waterplantain spearwort), *R. hederaceus* (ivy buttercup), *R. hispidus* (bristly buttercup), *R. micranthus* (rock buttercup), *R. pusillus* (low spearwort), *R. recurvatus* (blisterwort), and *R. sceleratus* (cursed buttercup), as well as the introduced *R. acris* (showy buttercup), *R. bulbosus* (St. Anthony's turnip), *R. ficaria* (fig buttercup), and *R. repens* (creeping buttercup) (USDA Natural Resources Conservation Service 2017).

Samples F41-5 and F41-8 from the Carlyle Warehouse yielded *Verbascum thapsus* seeds. *Verbascum thapsus* (common mullein) was introduced to North America by European settlers and is now abundant throughout most of temperate North America, especially in fields, along roadsides, and in disturbed areas. It is especially common near the seashore in dry, sandy conditions. This biennial weed has a basal rosette of large, fuzzy, grayish-green leaves and a stout, erect flower stalk with yellow flowers that can reach heights of eight feet. The stems with their seed clusters can persist for over a year after their death, and seeds remain viable for decades. A tea made from the leaves and flowers is a very old remedy used for respiratory problems, prized for its ability to soothe irritated membranes, relieve congestion, and break up phlegm. It was a common folk medicine for treating coughs, colds, bronchitis, and asthma. Mullein tea contains vitamins B₂, B₅, B₁₂, and D, as well as choline, hesperidin, PABA, sulfur, magnesium, mucilage, and saponins. The tea also is astringent and demulcent and can be used to treat diarrhea and in a compress for hemorrhoids. Migraine headaches can be treated with a flower tincture, while an oil extract of the flowers has been used to treat ear infections. Dried leaves were smoked to treat bronchitis and asthma. Fresh leaf poultices were applied to slow-healing wounds, and flower infusions were applied externally to sores, burns, and fungal infections (Brill and Dean 1994:247-249; Britton and Brown 1970:173-174; Foster and Duke 2014:158-159; Gleason and Cronquist 1963:619; Grieve 1971b:563; Johnson et al. 2010:83-85).

A single *Hypoxis*-type seed was noted in one sample from Feature 41. The *Hypoxis* (star-grass) genus contains around 150 species of perennials found in Africa, Australia, tropical Asia, and North America. These stemless herbs exhibit grassy, usually hairy leaves and slender flower scapes with one or more starry, usually bright-yellow flowers. In North America, star-grass is found in dry, open woods, meadows, hammocks, pinelands, bogs, and sandy soils, especially on coastal plains (Fernald 1970:454-455; Gleason and Cronquist 1963:216-217; Turner and Wasson 1997:463). *Hypoxis hirsuta* (common goldstar) is the only species of star-grass found in Fairfax County, Virginia (USDA Natural Resources Conservation Service 2017).

Linum spp. fruit fragments and seeds were noted in a single sample from Feature 41. *Linum* (flax) are annual or perennial herbs with erect, branching stems, sometimes woody at the base, narrow leaves, and five-petaled flowers. They thrive in temperate to warm regions, in partial to full shade, and in light, well-drained soils. Species of *Linum* found in Fairfax County include native *L. floridanum* (Florida yellow flax), *L. intercursum* (sandplain flax), *L. medium* (stiff yellow flax), *L. striatum* (ridged yellow flax), and *L. virginianum* (woodland flax), as well as the introduced *L. perenne* (blue flax) and *L. usitatissimum* (common flax) (Brenzel 2001:436-437; Britton and Brown 1970:435-436; Kartesz 2017; USDA Natural Resources Conservation Service 2017).

Four Nyctaginaceae seeds were noted in a single sample from Feature 41. The Nyctaginaceae (four-o'clock) family consists of 30 genera of annual or perennial herbs, shrubs, and trees, with 16 genera found in North America. Genera with the largest numbers of species include *Mirabilis* (four-o'clock, umbrella wort), *Abronia* (sand verbena), and *Boerhavia* (spiderling). *Pisonia* (catchbirdtree) leaves and the leaves and roots of *Boerhavia* are edible, while *Mirabilis* spp. roots were used medicinally. Plants used as ornamentals include species of *Abronia*, *Bougainvillea*, *Mirabilis*, *Nyctaginia* (scarlet musk-flower), and *Pisonia* (Bogle 1974; Turner and Wasson 1997:38, 149, 684; Zomlefer 1994:63-65).

One sample from Feature 41 contained two *Sida* spp. fruit fragments and a single *Silene* sp. seed fragment. *Sida* (fanpetals) are herbaceous annuals or perennials with 200 species found worldwide in tropical or subtropical areas. Approximately 16 native and introduced species can be found in the United States. They grow from 1-2 feet tall and are commonly found along rivers and roadsides, and in fields, gardens, and waste places (Britton and Brown 1970:519-521; Gleason and Cronquist 1963:464; Martin 1987:84; Zomlefer 1994:90). *S. hermaphrodita* (Virginia fanpetals) and *Sida spinosa* (prickly fanpetals) are native to Fairfax County (USDA Natural Resources Conservation Service 2017).

The *Silene* (catchfly, campion) genus contains about 500 species of annuals, biennials, or perennials with pink, pinkish purple, or white flowers that are widely distributed throughout the Northern Hemisphere. In the United States, both native and introduced species can be found along roadsides and railroads and in fields, meadows, clearings, prairies, thickets, gardens, alpine areas, gravelly shores, and open woods. Many are widespread or casual weeds in disturbed areas. Other species are grown as ornamentals, especially the introduced *S. armeria* (Sweet William) that was once much cultivated. Some species exude a sticky gum that will trap passing flies (Fernald 1970:631-635; Gleason and Cronquist 1963:297-299; Turner and Wasson 1997:841-842; Zomlefer 1994:54). Species found in Fairfax County include the native *S. antirrhina* (sleepy

silene), *S. caroliniana* (sticky catchfly), *S. nivea* (evening campion), and *S. stellata* (widowsfrill), as well as the introduced *S. armeria* (sweet William silene), *S. latifolia* (bladder campion), and *S. vulgaris* (maidenstears) (USDA Natural Resources Conservation Service 2017).

A single *Thalictrum* sp. seed was noted in one sample from Feature 41. Species of *Thalictrum* (windflower, rue anemone, meadow-rue) are delicate, low-growing perennials with white or pink flowers that bloom in spring and summer. The numerous species are found in woods, thickets, ravines, bluffs, alluvial terraces, prairies, shores, wet meadows, swamps, and streambanks in most temperate regions of the northern hemisphere, extending south into South America, South Africa, and New Guinea. Several species are cultivated for their showy flowers. The Cherokee used the roots to make a tea for treating vomiting and diarrhea. The roots were thought to be edible but are now considered potentially toxic. Physicians once used a preparation of the root experimentally to treat hemorrhoids. (Fernald 1970:656-659; Foster and Duke 2014:65; Turner and Wasson 1997:882). Species of *Thalictrum* found in Fairfax County, Virginia, include *T. clavatum* (mountain meadow-rue), *T. coriaceum* (maid of the mist), *T. dioicum* (early meadow-rue), *T. pubescens* (king of the meadow), *T. revolutum* (waxy leaf meadow-rue), and *T. thalictroides* (rue anemone) (USDA Natural Resources Conservation Service 2017).

Remains from Trees

Seeds and leaves from trees in the Alexandria samples note the presence of these trees in the local vegetation. Three samples from Feature 41, one sample from Feature 53, and one sample from Feature 56 yielded *Liriodendron tulipifera* seeds. *Liriodendron tulipifera* (tulip tree, yellow poplar) is an ornamental tree found in rich soils of the eastern United States. It commonly grows 150 feet or higher, often being the tallest deciduous tree. Lumber (often called poplar or whitewood) has been used for furniture, cabinetwork, boxes, crates, millwork, coffins and caskets, television and radio cabinets, and other miscellaneous items such as kitchen utensils, toys, patterns, and cigar boxes (Fernald 1970:676; Lanzara and Pizzetti 1978:23; Panshin and de Zeeuw 1980:584-585; Turner and Wasson 1997:534).

Four samples from Feature 56 contained *Juniperus virginiana* leaf fragments. *Juniperus virginiana* (eastern redcedar) is found in the eastern half of the United States and Washington state. It is a moderately-sized evergreen that self-seeds and grows rapidly, reaching 100 feet in ideal conditions. Many varieties are grown as ornamentals. Prior to European colonization, eastern redcedars probably formed extensive groves. It is common in poor soils and grows best in limestone regions. It is also a colonizer of abandoned fields. Early colonists planted eastern redcedars along fences and roads and utilized the wood extensively for fences, shingles, benches, tables, coffins, log cabins, and boat superstructures. The wood is also used for fuel, lumber, in closets as a substitute for cedar wood, and pencils. Oil of cedar is extracted and used in perfumes and for medicinal purposes. Cedars host the fungus *Gymnosporangium juniperi-virginianae* (cedar-apple-rust), which also infests apple trees. In the early 1900s, apple growers of Virginia and West Virginia persuaded state legislatures to enact cedar-eradication laws, resulting in clashes between apple orchardists and redcedar owners (Brockman 2001:64; Lanzara and Pizzetti 1978:23; Peattie 2013:130-134).

A probable *Pinus* sp. seed fragment was present in one sample from Feature 41, while one sample from Feature 56 contained a *Pinus* sp. cone scale. Species of *Pinus* (pines) are resinous, coniferous trees with evergreen needles in bundles of one to five and woody female cones containing winged or unwinged seeds borne in pairs at the base of the cone scales. About 35 species of pine are found throughout temperate continental North America and are characteristic of acid soils, often sprouting after a fire. Species of pine are separated into two groups based on wood and other features: soft pines and hard pines. All species of *Pinus* produce edible nuts, and the oily seeds are high in protein and fat. Turpentine and pine tar are extracted by distillation. People in the eighteenth and nineteenth centuries used these for treating worms, chronic rheumatism, skin diseases, and various other ails; however, they can be dangerous and carcinogenic if taken in large quantities. Pine lumber has been used for boxes and crates, pallets, millwork, building construction, plywood, pulpwood, signs, posts, poles, piano keys and organ pipes, matches, caskets and coffins, mine timbers, railroad ties, siding, railroad car decking, furniture, fences, shingles, ship- and boat-building, agricultural implements, tanks and silos, trunks, toys, woodenware, and novelties. For 300 years, *Pinus strobus* (eastern white pine) was the number one timber-producing tree in the United States. Prior to European colonization, eastern white pines were like the most abundant species throughout its range, forming pure or nearly pure stands with trees growing 150 feet tall. White pine timber was the main export of early New England, valued as a mastwood for its lightness and strength. The wood has also been used for doors, interior finish, furniture, loom heddles, and bridges (Brill and Dean 1994:217-219; Brockman 2001:22-34; Panshin and de Zeeuw 1980:435-453; Peattie 2013:26-36). Species of native pines found in Fairfax County include *P. echinata* (shortleaf pine); *P. pungens* (Table Mountain pine), *P. strobus*, *P. taeda* (loblolly pine), and *P. virginiana* (Virginia pine) (Kartesz 2017; USDA Natural Resources Conservation Service 2017).

A single *Alnus serrulata* seed was recovered in one sample from Feature 56. *Alnus serrulata* (hazel alder, brookside alder) is a shrub or small tree with smooth bark found in swamps, wet woods, and along streams in the eastern United States. It is common in riparian areas and within fresh-water tidal and nontidal wetlands throughout the Chesapeake Bay watershed. The ability to use atmospheric nitrogen and convert it into a usable form makes alders an important component of wetlands (Brockman 2001:108; Fernald 1970:538-539; Musselman and Knepper 2012:186-187).

Charcoal/Wood

Members of the *Leucobalanus* (white oak) group were the most ubiquitous charcoal type and uncharred wood present in the Alexandria samples, noted in 22 and 20 of the samples examined, respectively. *Quercus* spp. charcoal was present in 14 samples, and *Quercus* spp. wood was found in 18 samples. Less common was *Quercus* – *Erythrobalanus* (red oak group) charcoal (three samples) and wood (one sample). Some form of *Quercus* charcoal was noted in all six features examined. Oaks were likely a common component of the local vegetation community, with 12 species currently found in Fairfax County, Virginia. Historic ranges likely included additional species. A total of 17 samples representing all six features also contained *Pinus* spp. charcoal, with *Pinus* charcoal identifiable as *Pinus strobus* present in three samples

from Feature 56 and *Pinus* – southern pine group charcoal noted in Feature 35, six samples from Feature 41, and eight samples from Feature 56. Uncharred *Pinus* spp. wood was also ubiquitous, present in 19 samples from four features. Both Features 41 (the Carlyle Warehouse) and 6 (the large privy) contained pieces of uncharred *Pinus strobus* and *Pinus* – southern pine group wood. These trees were both present locally and important lumber woods.

Other charcoal and wood types were present less frequently. Feature 35 and four samples from Feature 56 contained *Carya* spp. – hickory charcoal, while four samples from Feature 41 and one sample from Feature 53 yielded *Juglans* spp. (walnut) charcoal. Pieces of *Robinia pseudoacacia* (black locust) were found in Feature 35, two samples from Feature 41, and two samples from Feature 56. Three samples from Feature 41 and one sample from Feature 53 yielded fragments of *Fraxinus* spp. (ash) charcoal. One sample from Feature 35 and one sample from Feature 56 contained fragments of *Acer* spp. (maple) charcoal. Pieces of *Juniperus virginiana*, *Taxodium distichum*, and Salicaceae charcoal in two samples each from Feature 56, as well as *Aesculus* sp., *Castanea* sp. and *Platanus occidentalis* in single samples from Feature 56, suggest that eastern redcedar, bald cypress, buckeye, chestnut, American sycamore, and a member of the willow family such as willow, cottonwood, and/or poplar were burned. One sample from feature 41 and one sample from Feature 56 contained *Ulmus americana* (American elm) charcoal, while a single fragment of *Liriodendron tulipifera* charcoal was noted in one sample from Feature 41. Many of these taxa were also present in the samples as uncharred wood fragments. One exception is *Chamaecyparis thyoides* (Atlantic white cedar). Three samples from Feature 56 contained large, flat pieces about 1 cm thick that might represent shingles or another type of lumber. A few pieces of unidentified hardwood charcoal and root wood, as well as charred and uncharred periderm were also present.

SUMMARY AND CONCLUSIONS

Macrofloral analysis was conducted on 24 samples from 6 features excavated at the 220 South Union Street (Indigo Hotel) site (44AX0229) in Alexandria, Virginia. The residents of this urban waterfront had access to a variety of foods, some of which would have been imported and some of which could have been available locally. A variety of fruits were eaten, including a member or members of the raspberry group, grapes, figs, strawberries, cherries, plums, peaches, huckleberries, blueberries, mulberries, watermelons, apples, elderberries, currants, melons such as cantaloupe, serviceberries, and possibly persimmons. Fewer vegetable seeds were present in these samples. Vegetables that appear to have been eaten include squash/pumpkin, cucumber, peppers, tomatoes, and garden lettuce. Corn (technically a grain) is also usually thought of as a vegetable and appears to have been available to the Alexandria residents. Black walnuts likely were eaten. Uncharred *Physalis* seeds might represent use of the cultivated tomatillo or the native groundcherry. Pokeweed might have been utilized for its greens and/or berries, while rosehips might have been utilized and/or roses grown as an ornamental. Coriander seeds appear to have been used as a flavoring. Members of the mint family might have been used as flavoring or medicinal resources. Other plants of economic importance appear to have included flax, hops, tobacco, and possibly sunflower.

A variety of plants that likely were components of the local vegetation community are represented in these samples. A wetland area appears to have been nearby, especially in the area of the Carlyle Warehouse (Feature 41), as evidenced by recovery of seeds from members of the sedge family, including several species of sedge, flatsedge, three-way sedge, spikerush, and fimbry, as well as bulrush, cattail, waternymph, waterlily, arrowhead, and hazel alder. Other plants represented in the macrofloral record have species that can be found in wetland/marshy habitats, such as amaranth, goosegrass, paspalum, bristlegrass, knotweed/smartweed, dock, spurge, St. Johnswort, buttercup, meadow-rue, skullcap, elderberry, huckleberry, wild cherry and plum, and rose. Other components of the local vegetation include copperleaf, ragweed, stinking chamomile, beggarticks, thistle, joe pye weed, wild lettuce, other members of the aster family, goosefoot, orangegrass, star-grass, carpetweed, a member of the four-o'clock family, a possible member of the orchid family, wood sorrel, panic grass and other grasses, purslane, fan petals, catchfly, Jimsonweed, nightshade, clover, mullein, and vervain. Pine, eastern red cedar, and tulip trees also grew in the area.

The charcoal record notes a variety of woods burned as fuel, although various oaks and pines were the most ubiquitous charcoal and wood types present in these samples. Other charcoal types suggest burning hickory, walnut, black locust, ash, maple, eastern red cedar, baldcypress, a member of the willow family, buckeye, chestnut, American elm, tuliptree, American sycamore, and possibly honeylocust wood. Fragments of uncharred Atlantic white cedar wood in three samples from the large privy were shaped in such a way as to suggest they represent shingle fragments.

Large amounts of bone, as well as fish bone and fish scale, reflect fish and other meats that were eaten. The occupants of Alexandria also appear to have eaten a significant number of oysters and possibly other shellfish, as well as eggs. Other types of cultural trash include brick, mortar, ceramics, clinker, coal, glass, metal fragments, nails, knitted material, other cordage/fibers, a bead, and a possible metal button.

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Appendix VIII
Pollen, Parasite, Starch, and Phytolith Analysis - PaleoResearch Institute



POLLEN, PARASITE, STARCH, AND PHYTOLITH ANALYSIS OF SAMPLES FROM
HISTORIC FEATURES AT SITE 44AX0229,
ALEXANDRIA, ALEXANDRIA COUNTY, VIRGINIA

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INTRODUCTION

In anticipation of construction of Hotel Indigo, 220 South Union Street (Site # 44AX0229), Alexandria, Virginia, excavations were conducted to ascertain the extent of archaeological resources affected within the project area. A series of trenches, shovel test pits, and test units yielded several features suspected to date to the 18th and 19th centuries, during the time of Alexandria's development and early economic use. Several privies were sampled (Features 35, 36, 37, and 56) and examined for pollen, parasite eggs, starch, and phytoliths. Additionally, the floor of a 1756 public warehouse (Feature 41) was located. Sediment beneath the floorboards was sampled and submitted for pollen and starch analyses. Results of these analyses contribute to understanding diet and parasite load of the population using these privies and warehouse.

METHODS

Pollen, Starch, and Parasite

Sediments present unique challenges for pollen preservation and recovery. A chemical extraction technique based on flotation is the standard preparation technique used in this laboratory for recovering pollen grains from sediments. This particular process was developed for extracting pollen from soils where the preservation has been less than ideal and the pollen density is lower than in peat. It is important to recognize that it is not the repetition of specific and individual steps in the laboratory but rather mastery of the concepts of extraction and how the desired result is best achieved, given different sediment matrices, that results in successful recovery of pollen for analysis.

Hydrochloric acid (10%) was used to remove calcium carbonates present in the sediment samples, after which, they were screened through 250-micron mesh. Multiple water rinses until neutral employ Stoke's Law for settling time. After settling the supernatant was poured off. A small quantity of sodium hexametaphosphate was mixed into each sample to suspend clay-sized particles prior filling the beakers with water. Again, multiple rinses employing Stoke's Law and decanting facilitated clay removal. Treatment with sodium hexametaphosphate was repeated, as necessary, to remove clay. This process was repeated with ethylenediaminetetraacetic acid (EDTA), which removes clay, soluble organics, and iron. Finally, the samples were freeze-dried under vacuum.

Once dry, the samples were mixed with sodium polytungstate (SPT), at a density of 1.8 g/ml, and centrifuged to separate the organic material including pollen and starch, which floats, from the inorganic remains and silica, which do not float. The supernatant containing pollen and organic remains was decanted and retained. The sodium polytungstate process was repeated to recover all of the organics. Once the organics were recovered, the accumulated supernatant was centrifuged at 1,500 rpm for 10 minutes to allow small-sized silica to be separated from the organics. This supernatant was decanted into a 50-ml conical tube and diluted with reverse osmosis deionized (RODI) water and centrifuged at 3,000 rpm to concentrate the organic fraction in the bottom of the tube. This pollen-rich organic fraction was rinsed, then all samples received a short (25 minute) treatment in hot hydrofluoric acid to remove remaining inorganic particles. The samples were acetylated for 10 minutes to remove extraneous organic matter. The samples were rinsed with RODI water to neutral. Following this

a few drops of potassium hydroxide (KOH) were added to each sample which was then stained lightly with safranin. Due to the presence of large quantities of minute organic debris, the samples were centrifuged at high speeds for short intervals to remove this debris for better viewing.

A light microscope was used to count pollen at a magnification of 500x. Pollen preservation in these samples varied from good to poor. An extensive comparative reference housed at PaleoResearch Institute aided pollen identification to the family, genus, and species level, where possible.

Pollen aggregates were recorded during pollen identification. Aggregates are clumps of a single type of pollen and may be interpreted to represent either pollen dispersal over short distances or the introduction of portions of the plant represented into an archaeological setting. The aggregates were included in the pollen counts as single grains, as is customary. An "A" next to the pollen frequency on the percentage pollen diagram notes the presence of aggregates. The percentage pollen diagram was produced using Tilia 2.0 and TGView 2.0.2. Total pollen concentrations were calculated in Tilia using the quantity of sample processed in cubic centimeters (cc), the quantity of exotics (spores) added to the sample, the quantity of exotics counted, and the total pollen counted and expressed as pollen per cc of sediment.

"Indeterminate" pollen includes pollen grains that are folded, mutilated, or otherwise distorted beyond recognition. These grains were included in the total pollen count since they are part of the pollen record. The microscopic charcoal frequency registers the relationship between pollen and charcoal. The total number of microscopic charcoal fragments was divided by the pollen sum, resulting in a charcoal frequency that reflects the quantity of microscopic charcoal fragments observed, normalized per 100 pollen grains.

Pollen extraction retains starch granules. Since starch analysis was requested for these samples, not only were starches recorded as part of the pollen count, an additional search for starches was conducted. Starch granules are a plant's mechanism for storing carbohydrates. Starches are found in numerous seeds, as well as in starchy roots and tubers. The primary categories of starches include the following: with or without visible hila, hilum centric or eccentric, hila patterns (dot, cracked, elongated), and shape of starch (angular, ellipse, circular, or lenticular). Some of these starch categories are typical of specific plants, while others are more common and tend to occur in many different types of plants.

Parasite eggs are recovered using the pollen extraction technique. Parasite eggs are counted while examining the sample for pollen and starches. Results of the parasite counts are presented on the pollen diagrams.

Phytolith and Starch

Extraction to recover both phytoliths and starch grains from the sediment samples is based primarily on our phytolith extraction method. Fifteen ml of sediment from the sandiest samples, and five ml of sediment from the remaining samples were placed in beakers with bleach. After being agitated the samples were covered and allowed to stand overnight. The next day the beakers containing samples were filled with water and allowed to settle by gravity for one and one-half hours, after which the supernatant was poured off. Rinses were repeated

four times to remove the bleach, after which the samples were screened through 250-micron mesh. The samples then were freeze-dried using a vacuum system, which freezes out all moisture at -107 °C and < 10 millitorr. The dried samples were mixed with sodium polytungstate (SPT, density 2.1 g/ml) and centrifuged to separate the phytolith and starch grain fraction, which will float, from most of the inorganic silica fraction, which will not. The light fraction of each sample was retained and rinsed to remove the heavy liquid. The phytolith- and starch-rich fraction of each sample was rinsed in alcohol to remove any remaining water, after which the samples were mounted on a microscope slide, and then mixed with optical immersion oil when they were dry for counting with a light microscope at a magnification of 500x. A percentage and/or frequency diagram was produced using Tilia 2.0 and TGView 2.0.2.

PHYTOLITH REVIEW

Phytoliths are silica bodies produced by plants when soluble silica in the ground water absorbed by the roots is carried up the plant's vascular system. Evaporation and metabolism of this water result in precipitation of silica in and around cellular walls. Opal phytoliths, which are distinct and decay-resistant plant remains, are deposited in soil as the plant or plant parts die and break down. However, they are subject to mechanical breakage, erosion, and deterioration in high pH soils. Usually, phytoliths are introduced directly into the soils in which plants decay. Phytolith transportation occurs primarily through animal consumption, human plant gathering, or wind, water, or ice soil erosion or transportation. Phytoliths produced in roots/tubers deteriorate at the level of those roots/tubers and are not represented on the growing surface. Therefore, roots/tubers phytolith recovery from stratigraphic sediments does not necessarily represent vegetation coeval with that represented by phytoliths produced in leaves or other above ground vegetative parts.

Three major types of grass short-cell phytoliths include festucoid, chloridoid, and panicoid. Smooth elongate phytoliths provide no aid interpreting either paleoenvironmental conditions or the subsistence record, because all grasses, various other monocot plants, and several dicots produce them. Phytoliths tabulated to represent "total phytoliths" include the grass short-cells, bulliform, trichome, elongate, and dicot forms. All other silica and non-silica body recovery frequencies are calculated by dividing the number of each type recovered by the "total phytoliths."

The festucoid class of phytoliths is ascribed primarily to the subfamily Pooideae and occurs most abundantly in cool, moist climates. They grow well in shady areas and during cooler spring and fall months. They are the first grasses to "green up" in the spring, going dormant in the summer, then growing again in the fall. Brown (1984) notes that festucoid phytoliths are produced in small quantity by nearly all grasses (mostly rondel-type phytoliths, which exhibit an approximately circular shape). Therefore, while these typical phytolith forms are produced by the subfamily Pooideae, they are not exclusive to this subfamily. Trapeziform phytoliths are tabular and may be thin or thick. Their outer margins may be smooth, slightly spiny, or sinuate.

Warm season or summer grasses are divided into the group that thrives in dry conditions (chloridoid) and those that grow best in humid conditions (panicoid) or that grow along sources of water. Chloridoid saddle phytoliths are produced by the subfamily Chloridoideae, a warm-season grass that grows in arid to semi-arid areas and requires less available soil moisture

(Gould and Shaw 1983:120). They thrive in hot, dry conditions of summer. Twiss (1987:181) notes that some members of the subfamily Chloridoideae also produce both bilobate (panicoid) and festucoid phytoliths. Also, saddles may be produced in non-chloridoid grasses. Bilobates and polylobates (lobates) are produced mainly by panicoid (tall) grasses, although a few festucoid grasses also produce these forms. Panicoid or tall grasses prefer the warmth of summer and thrive in humid conditions or grow next to water such as creeks, rivers, and lakes. More than 97% of the native U.S. grass species (1,026 or 1,053) are divided equally among three subfamilies: Pooideae, Chloridoideae, and Panicoideae (Gould and Shaw 1983:110).

Bulliform phytoliths are produced in grass leaf cells that control leaf rolling in response to drought. Only cuneiform or triangular forms are included under this name. These cells often silicify under wet or moist conditions and increase in abundance as grass leaves age. Trichomes represent silicified hairs, which may occur on the stems, leaves, and the glumes or bran surrounding grass seeds.

Bulky or blocky phytoliths are a category that includes square to rectangular phytoliths typical of grasses and sedges and also blocky forms from dicots. Conifers produce opal silica phytoliths in their inner bark and needles. Polyhedral phytoliths are reported to be observed in leaves (Bozarth 1993), and at PaleoResearch Institute we have observed blocky forms in bark reference samples. Blocky and angular forms also are noted in many dicots.

Terms applied to phytoliths in this study use the International Code for Phytolith Nomenclature (ICPN) (Madella et al. 2005). Phytolith reference samples prepared and curated at PaleoResearch Institute were consulted when identifying phytoliths recovered in this study.

Other Siliceous Microfossils

Diatoms and/or sponge spicules were noted. Pennate diatoms are cosmopolitan, occurring in many sediments, and indicate at least some soil moisture. Sponge spicules represent fresh water sponges. Diatoms are single-celled algae with a siliceous cell wall. They grow in a wide range of aerophilous habitats, including on wet plants and rocks, in damp soils, marshes, wetlands, mudflats, and various standing and flowing aquatic habitats. Often, their silica cells are preserved in sedimentary deposits. Individual taxa have specific growth requirements and preferences with respect to water chemistry. Thus, the presence (and subsequent identification to the species level) of diatoms in paleoenvironmental contexts can provide information about the nature of the local environment, including water chemistry, hydrologic conditions, and substrate characteristics. These data, coupled with input about local geology, hydrology, soil characteristics, pollen and phytoliths, provide evidence of the paleoenvironmental setting. In these phytolith samples, diatoms are noted, but not identified beyond the split of "pennate" and "centric" forms. Often, centric diatoms indicate wet conditions, while some of the pennate diatoms are cosmopolitan, occurring nearly everywhere. Both diatoms and sponge spicules can be transported with sediment. As an illustration, recovery of sponge spicules in upland soils is noted to accompany loess deposits derived from Illinois floodplains (Jones and Beavers 1963).

ETHNOBOTANIC REVIEW

Use of historic documents referring to plant use is particularly relevant to the study of remains from the historic era. Ethnobotanic literature, as well as historic records of various types, provides evidence for the exploitation of numerous plants in historic times, both by broad categories and by specific example. We consulted a broad range of ethnographic sources, both inside and outside the study area, to permit a more exhaustive review of potential plant uses. Ethnographic sources document that with some plants, the historic use was developed and carried from the past. A plant with medicinal qualities very likely was discovered in prehistoric times and the usage persisted into historic times. There is, however, likely to have been a loss of knowledge concerning the utilization of plant resources as cultures moved from subsistence to agricultural economies and/or were introduced to European foods during the historic period. References on plant domestication, cooking, and food cultures are often consulted when describing plants whose evidence we encounter in the pollen, phytolith, and/or macrofloral records. Plants represented by pollen, phytoliths, and macrofloral remains are discussed in the following paragraphs to provide an ethnobotanic background for discussing the remains. Many plants represent by pollen, phytoliths, and/or starch are potential and/or probable food resources, while others are weedy and/or ornamental plants that probably grew nearby.

Edible and Economically Important Plants

Apiaceae (Parsley Family)

Members of the Apiaceae (parsley family) are biennial or perennial, mostly herbaceous plants with stout stems, and often aromatic. Many species in this family are of economic importance, including *Anethum graveolens* (dill), *Anthriscus cerefolium* (chervil), *Carum carvi* (caraway), *Coriandrum sativum* (coriander), *Cuminum cyminum* (cumin), *Daucus carota* (carrot), *Foeniculum vulgare* (fennel), *Pastinaca sativa* (parsnip), *Petroselinum crispum* (parsley), and *Pimpinella anisum* (anise). Several members are poisonous, such as *Conium maculatum* (poison-hemlock) and species of *Cicuta* (water-hemlock). Members of the Apiaceae are found primarily in the temperate northern hemisphere (Hickey and King 1981:298-299; Muenscher 1980:321-331; Smith 1977:177).

Brassicaceae (Mustard Family)

The Brassicaceae (mustard family) is a large family of annual to perennial herbs or, rarely, small shrubs (Fernald 1950). None of the mustards are poisonous, although they all are pungent-tasting. Mustards are high in calcium, potassium, vitamin B₁, and vitamin B₂ and contain isothiocyanates (mustard oil), beta carotene, vitamin C, and fiber and the flower buds are high in protein. Young plants can be eaten raw or cooked as potherbs, which were highly nutritious and contained significant amounts of vitamins A, B, and C (Tilford 1997:158). Brassicaceae seeds begin to ripen in early summer and some species are available into fall. Seeds of this family stimulate production of digestive juices and aid in digestion (Hodgson 2001:98-99; Kirk 1975; Sweet 1976:56; Tilford 1997:158). Wet *Descurainia* and *Lepidium* seeds have a gelatinous coating that slows digestion and may prevent development of diabetes (Hodgson 2001:98).

Cultivated members of the *Brassica* (mustard) group include broccoli, cauliflower, cabbage, brussels sprouts, collards, kale, kohlrabi, turnips, mustards, rutabagas, and rape. Many varieties were introduced from Europe and Asia, such as *B. nigra* and *B. oleracea*. *B. nigra* (black mustard) is one of the most widespread mustards in the United States and is the chief source of commercial mustard. Cabbage, brussels sprouts, broccoli, cauliflower, kohlrabi, and kale are all different varieties of *B. oleracea*. Mustards are annual, winter annual, or biennial herbs with yellow, four-petaled flowers. The young leaves are rich in Vitamins A, B1, B2, and C, and may be boiled as greens. Seeds are used whole as seasonings in pickle recipes or ground to make hot mustard. Some weedy species can cause damage to grain and flax crops (Hedrick 1972:100; Martin 1972:64-65; McGee 1984:196; Muenscher 1980:232-236; Peterson 1977:64).

Cerealia

Cerealia is a term used in palynology to denote the major grass cereals including *Triticum* (wheat), *Avena sativa* (oat), *Hordeum vulgare* (barley), and *Secale cereale* (rye). Other major cereals around the world include *Oryza sativa* (rice), *Zea mays* (maize), *Setaria italica* (foxtail millet), *Panicum miliaceum* (proso millet, common millet), and *Sorghum bicolor* (sorghum). Of these, *Oryza* and *Zea mays* pollen grains may be distinguished and are not usually lumped with Cerealia. *Setaria*, *Panicum*, and *Sorghum* pollen are lumped in Poaceae. The cereals were named for *Ceres*, the Roman goddess of agriculture. These seeds are noted to "have played a crucial role in human nutrition and cultural evolution" (McGee 1984:226). Grains are used to make beer and bread, which have been staples in the human diet since at least 3000 B.C. Cereal grains are concentrated sources of protein and carbohydrates and continue to provide the majority of the caloric intakes for much of the world's population. Wheat, barley, rye, and oats have been the most important grain in the Middle East and Europe; rice in Asia; maize or corn in the prehistoric New World; sorghum and millets in Africa, and wheat and rice in Asia (Hickey and King 1981:436; McGee 1984:227-232).

Ericaceae (Heath Family)

Members of the Ericaceae (heath family) include trees, shrubs, subshrubs, and perennial herbs that thrive in acidic soils. Many of the leaves are evergreen. Members of the heath family in the eastern United States include primarily blueberry (*Vaccinium* spp.), cranberry (*Vaccinium* spp.), sparkleberry (*Vaccinium arboreum*) and huckleberry (*Gaylussacia* spp.).

Gaylussacia (Huckleberry)

Gaylussacia (huckleberry) is a native of North America. This small, deciduous shrub has blue or black berries that ripen from July through September. Huckleberries and blueberries are noted to have been a favorite of Native Americans. Huckleberries, which are mealier than blueberries, were eaten fresh, cooked, or dried. Black huckleberry (*G. baccata*) is the most widespread and common huckleberry, especially in the eastern United States. Black huckleberry is noted to have been an important food for the Iroquois. Berries were eaten fresh, dried for winter use, made into a drink, and used as a medicine for the liver and blood. The leaves also were smoked (Bye 1970; Erichsen-Brown 1979:187). Hoffman (1885) notes that huckleberries formed "one of the chief articles of trade during the summer" for the Ojibwa. A huckleberry leaf infusion is good for treating diabetes and urinary-tract inflammations. Huckleberries are found in dry or moist ground with acidic soils in woods, thickets, and clearings (Angell 1981:110, 198; Brill and Dean 1994:98-100; Peterson 1977:220; Schopmeyer 1974:427-428).

Vaccinium (Blueberry, Cranberry, Sparkleberry)

Vaccinium (blueberry, billberry, cranberry, sparkleberry) is a native of North America and other temperate and arctic regions of the world. They are deciduous or evergreen shrubs that are found in the wild in North America and Europe (Schopmeyer 1974:840). Blueberries and other berries of this genus may be red, black, or purple, but are usually blue, often with a white powder on their skins. Berries are eaten raw, cooked, dried, in breads or cakes, alone or combined with nuts or grains, and added to pemmican. Dried they could be put aside and stored for the winter. Cranberries are less sweet than blueberries and bilberries. Its abundance and ease of harvest made it a very popular food. American Indians used the leaves in tea as a blood purifier; also for colic, labor pains, and as a tonic after miscarriage. The fumes of the burning dried flowers were inhaled to deter madness. *Vaccinium* plants like wet or dry acidic soils and grow on peaty or fire-blackened land, and in bogs, tundras, barrens, woods, or thickets (Angell 1981:72, 108; Brill and Dean 1994:198-200; Foster and Duke 1990:248; Peterson 1977:102, 220).

***Fragaria* (Strawberry)**

Fragaria (strawberry) are perennial herbs growing in meadows, fields, woods, on hillsides, and at forest edges in Eurasia and the Americas (Angell 1981:20; Kirk 1975:90). During the eighteenth century, Frezier, a French engineer, brought America's species valued for their larger berries to Europe and started breeding modern varieties (McGee 1984:183-184). The smaller wild berries provide more flavor than domesticated ones. *Fragaria* leaves and berries are rich in vitamin C. A leaf tea helped prevent scurvy and treated diarrhea. When applied to the skin, crushed wild strawberries whiten the complexion, remove freckles, and treat mild sunburn (Ody 1993:60). Often consumed fresh, cooked strawberries are eaten in pies, jams, jellies, and preserves.

Lamiaceae (Mint Family)

Lamiaceae consists of approximately 180 genera of plants, many of which are aromatic herbs used in cooking including *Ocimum basilicum* (basil), *Majorana hortensis* (marjoram), *Origanum vulgare* (oregano), *Mentha piperita* (peppermint), *Mentha spicata* (spearmint), *Rosmarinus officinalis* (rosemary), *Salvia officinalis* (sage), *Satureja* (savory), and *Thymus vulgaris* (thyme). *Lamiaceae* members were utilized by Native groups as potherbs, seasonings, flours, and medicines.

Medicinal use of *Lamiaceae* plants were widespread and various. *Mentha* tea relieved stomach pain, gas, and intestinal disorders and was a colic remedy for infants (Tilford 1997:60). *Trichostema* foliage has a penetrating acrid odor. Chewed leaves were put in an aching tooth cavity. Fresh leaves were mashed and thrown into streams to stupefy fish. The plant also was used to keep insects away (Moerman 1986:487; Sweet 1976:29). *Agastache* and *Stachys* leaves were mashed and applied as poultices to sores, swellings, joint pain, and sprains. *Stachys* leaves also were applied to earaches (Kirk 1975:83; Moerman 1986:21, 468; Moore 1993:145-147). *Monarda* is regarded as the most potent mint. An oil extract was used as a liniment, and fresh leaves were crushed, soaked in water, and drunk to ease back pain. *Monarda* (beebalm, wild oregano) remedied coughs, sore throats, kidney diseases, stomach pain, and induced sweating (Angier 1978:173; Hutchens 1991:203; Tilford 1997:18). *Prunella* root, leaf, and blossom decoctions were taken for the heart, and plant juice was rubbed on boils

(Gunther 1973:45; Moerman 1986:439). *Salvia* leaf decoctions was taken for gas pain and pneumonia, made into a wash for headaches and eye inflammation, and poulticed and applied to the chest for coughs, colds, and fevers (Moerman 1986:370, 433-435, 445-446). *Scutellaria* (skullcap) tonic is a nervine and antispasmodic. It is valuable for controlling nervous irritation. Skullcap is often used with other plants to treat weak hearts nervous conditions, hydrophobia, insomnia, and cramps (Hutchens 1991:249-251).

Rhamnaceae (Buckthorn Family)

Woody Rhamnaceae (buckthorn family) growing in the eastern United States include *Berchemia*, *Rhamnus*, and *Ceanothus*. *Ceanothus americanus* and *C. ovatus* are the only two *Ceanothus* species growing in the eastern United States (Fernald 1950:993-994). Medicinal properties of *Ceanothus* are recognized today, as *Ceanothus* contains chemicals used as a blood coagulant, as a remedy for coughing and tonsillitis, and as a stimulant for mucous membranes (Sweet 1976:19).

Ceanothus (Ceanothus, New Jersey tea)

Ceanothus (ceanothus, buckbrush, deerbrush) are shrubs or small trees, growing between 2 and 20 feet in height, that yield white through blue to lavender blossoms and edible seeds. The wood burns hot and long and can be used as fuel and for lighting. Tea is made from leaves and flowers. Astringents and tonics are made from bark and roots. Also, red dye is made from the red roots. Medicinal properties of this plant are recognized today, as *Ceanothus* contains chemicals used as a blood coagulant, as a remedy for coughing and tonsillitis, and as a stimulant for mucous membranes. Also, it is used for overcoming indigestion and to treat acute inflammation of the liver and spleen (Kirk 1975:113; Moerman 1998:144-146; Sweet 1976:19).

Ceanothus americanus (New Jersey tea) is the only species of this genus growing as far south as Virginia in the eastern United States. The plant treated syphilis and was used as an injection to treat gonorrhea and gonorrheal discharge. New Jersey tea is antispasmodic and astringent, was used to treat dysentery, and was a gargle and mouthwash. Also, it was an expectorant and sedative, used to treat asthma, bronchitis, whooping-cough, and consumption (Grieve 1982:673).

Rhamnus (Buckthorn) and Frangula (Buckthorn – previously included in Rhamnus)

Rhamnus (buckthorn) are shrubs or small trees with red or black berries. The bark of all species of *Rhamnus* contains *cascarin* and provides a gentle, effective laxative. The nutritious red berries of *R. crocea* were eaten raw or cooked, although it is reported that the fruits will temporarily turn skin red if eaten in quantity. *Rhamnus* grows in open coniferous forests, chaparral, rocky canyons, on hills and mountain slopes, and along streams from about 4000 to 7000 feet in elevation (Angell 1981:62, 192; Elmore 1976:118-119; Kearney and Peebles 1960:531-532; Kirk 1975:265-266; Sweet 1976:19).

Frangula, previously included in *Rhamnus*, now encompasses shrubs to small trees with red, black, or green berries growing in a variety of environments from dry, rocky coastal areas to moist, high-elevation areas. Medicinal uses are diverse, including a decoction of the leaves as an antidote to poison (particularly poison oak), berries and inner bark as a laxative, crushed berries to stop bleeding, and a decoction of bark used to treat mania

(Moerman 1998:236-237; Munz and Keck 1973:972-973).

Buckthorn (Alder) bark is an irritant to the gastrointestinal canal, and therefore was dried for at least a year before medical consumption in order to reduce adverse affects. Once dried, it was boiled into a gently purgative extract, intestinal tonic, and to relieve piles. Also, the extract was mixed with ale to treat jaundice (Grieve 1982:136).

***Vitis* (Grape)**

Native both to Asia Minor and North America, *Vitis* (grape) is cultivated for wine-making and to eat fresh. First cultivated over 6000 years ago by the Egyptians, today most wine and table grapes are varieties of the European species, *Vitis vinifera* (McGee 1984:187). Columbus introduced *Vitis vinifera* to the New World, where cultivation dates to 1494 in Haiti and the early seventeenth century in the English Colonies. Cultivation of *Vitis vinifera* in the United States ultimately failed due to the harsher climate, new diseases, and pests to which the European grape had no resistance. Subsequently, it was hybridized with native North American *Vitis* species to increase its hardiness (Kiple and Ornelas 2000:734-737) (Hedrick 1972:603-604). In the United States, jelly, grape juice, and northeastern wines utilize Concord grapes, a variety of the native species *Vitis labrusca* (fox grape) (McGee 1984:187). In addition, many other native *Vitis* species produce edible fruit that appear purple, blue, black, or amber. Often too tart for raw consumption, wild grapes were made into cooked jams, jellies, and juices. Generally, wild grapes need more sweetening than cultivated grapes and contain high pectin amounts before fully ripening. Young grape leaves are consumed as greens or used to wrap meat for baking (Medsger 1966:53-59; Peterson 1977:198). In addition, leaves were consumed or applied externally as a poultice treating internal organ disorders, snake bites, and other wounds. Wild grapes grow throughout the United States in thickets and at edges of woods (Kirk 1975:263).

***Zea mays* (Maize, Corn)**

Zea mays (corn, maize), a New World cultigen in the grass family, evolved in the southern highlands of Mexico from the annual grass teosinte. By at least 4,000 years ago, maize reached what is now the United States' Southwest region, providing an important food staple (Stevenson 1915:73). Maize demonstrates great variability in kernel color, size, and shape; in ear size and shape; and in maturation time. Endosperm composition allows identification of five different maize types. Pop and flint corn have a hard, dense starchy endosperm and a high protein content. Dent corn has a soft, waxy endosperm deposit at the crown of the kernel. Flour corn contains little protein and mostly waxy starch, while sweet corn stores more sugar than starch (McGee 1984:241). Experimental processing reveals maize pollen in both shelled maize and maize flour.

Heiser (1990:89) reports that at European contact, "maize was the most widely grown plant in the Americas, extending from southern Canada to southern South America, growing at sea level in some places and at elevations higher than eleven thousand feet in others". Green corn was eaten raw or boiled, while mature ears were eaten roasted or wrapped in corn husks and boiled. Kernels were popped, parched, boiled, or ground and made into meal. To make hominy, individuals soaked kernels in water mixed with *Juniperus* (juniper) wood ashes. *Atriplex* (saltbush) ashes added color to cornmeal. Black corn's dark pigment proved useful as a basketry and textile dye, as well as a body paint.

In North America, corn is grown in smaller or garden plots, as well as large commercial farms, as in the Midwest “corn belt.” Often consumed fresh when in season, canned or frozen kernels provide corn the remainder of the year. In addition, ground, dried kernels produce cornmeal. The kernels of a variant, popcorn, are heated and popped before consumption. Fermented corn yields bourbon whiskey (Rhoades 1993:92-117).

PARASITE REVIEW

***Ascaris lumbricoides* (Intestinal Roundworm)**

Ascaris lumbricoides (intestinal roundworm) is a large parasite and commonly coexists in the intestine with *Trichuris trichiura* (whipworm) (Beck and Davies 1976:86). It is common in the mountainous areas of the southeastern United States, as well as on the fringes of many of the southern cities even in modern populations. The adult female averages 30 centimeters (nearly 12 inches) in length, while the adult male averages 20 centimeters (8 inches) in length. Both are approximately 5 millimeters (nearly 1/4 inch) in diameter. Eggs produced by the female may be either fertile or infertile. The fertile eggs are rounder in shape than are the infertile eggs. Both types were noted in this study. Infertile eggs might be the result of faulty fertilization, egg laying prior to fertilization, or absence of males. An adult female intestinal roundworm can produce 200,000 eggs per day. These eggs are passed with the feces and thus can be introduced into soils.

Larvae appear within the eggs usually within three weeks if conditions are ideal. Hatching takes place only after ingestion of the eggs. Eggs hatch in the small intestine where they burrow into the intestinal wall and enter the circulatory system. The small worms migrate to the heart and lungs, usually within seven days after infection. While in the lungs, the roundworms grow considerably in size and are then not able to pass back across the capillary walls. Instead, they migrate along the bronchial tree and trachea to the pharynx, where they are swallowed. Gravid females are noted in the intestine between five and eight weeks after initial infection. Both male and female roundworms have relatively short life cycles, surviving only a year, at most, before being passed from the intestinal tract. The eggs, which have heavy shell layers, are resistant to environmental changes within the soil. Both heat and desiccation, however, will kill roundworm ova. Careless defecation habits spread viable eggs to local soils, which can remain infective for five years. Children playing in areas of contaminated soil usually become infected through contact of invariably dirty hands with the mouth. If night soil is used as fertilizer, infections can be contracted through eating raw vegetables. Transmission through water can be caused by improper drainage of surface waters, thus polluting wells and local water sources, such as rivers. Use of privies or indoor toilets, as opposed to promiscuous defecation close to the home, is important in preventing infections (Beck and Davies 1976:87-90).

Symptoms accompanying *Ascaris* (intestinal roundworm) infection include fever and cough, occasional bloody sputum, and pneumonitis, particularly with a heavy infection and during the stages when the larvae migrate from the intestinal tract into the lungs or through the lungs. The condition can be referred to as *Ascaris* pneumonia. No eggs are present in the stool at this point, since the worms are immature and have not yet reached the intestinal tract. Most symptoms are associated with the presence of the adult worms in the intestinal tract. Protein malnutrition can result from a heavy worm burden, particularly in growing children, if the diet is

poor. Occasionally, worms can group and ball up, causing intestinal obstruction, again usually in children. Because roundworms have an affinity for small orifices, they can migrate into the common bile duct or pancreatic duct, or block the airway if they migrate into the larynx or trachea. Death can be caused by *Ascaris* infestation through severe pulmonary invasion or an unrecognized migration of worms that result in asphyxia or obstruction of an essential organ (Beck and Davies 1976:87-90).

Trichuris trichiura (Whipworm)

Trichuris trichiura (whipworm) resembles a buggy whip and can average 40 millimeters (nearly 16 inches) in length for the female. *Trichuris* eggs have thinner walls than do *Ascaris* eggs. Unlike *Ascaris* (roundworm), which lives free and unattached in the small intestine, whipworm lives primarily in the cecum, where it attaches itself to the intestinal wall. In heavy infestations, however, they can be found along the entire colon including the rectum. Whipworms are longer lived than roundworms, living for several years and producing eggs for discharge in the feces. The eggs develop into an infective larval stage within the eggshell in three to six weeks. Adverse conditions can delay development for several months or even years. Once the embryos are ingested, the larvae hatch in the jejunum, penetrating the intestinal villus, where it will develop for three to ten days. The adolescent worm moves into the cecum, where it develops into an adult. Ninety days are required between ingestion and production of a gravid female (Beck and Davies 1976:84-86).

Infections are common in areas of high humidity and hard clay soils, which hold moisture. Dense shade and warm climate are both necessities. Infection usually is heaviest among children, since hand to mouth contact in areas of soil pollution is a common vector in spreading these parasites. Whipworm eggs are less resistant to environmental changes, so infection can be more spotty than with *Ascaris* (roundworm), with which it often co-occurs (Beck and Davies 1976:84-86).

Light infestations with whipworm may produce no symptoms. Abdominal pain sometimes mimicking appendicitis, vomiting, constipation, fever, distension and flatulence, headache, backache, anorexia, and weight loss all have been associated with infestation by this parasite. If the infection is heavy, bloody diarrhea and emaciation can result. Prolapse of the rectum also can occur with heavy worm burdens. Fatalities are rare even in malnourished and neglected children. Whipworm is more difficult to treat than roundworm, since the worms are embedded in the intestine (Beck and Davies 1976:84-86).

DISCUSSION

The property at 220 South Union Street is located along the Potomac River in historic Alexandria, Virginia. Originally part of a larger lot, it had several owners between 1749 and 1810 when it was split into smaller parcels of land and disbursed to the last owners' heirs. While the land was undoubtedly utilized by merchants and shopkeepers, given its waterfront location, development of the property is first documented with a public warehouse built by John Carlyle in 1756, and additional buildings were added to the property by the early 1800s. During this development, the property had been "banked out," creating additional usable land that extended into the Potomac. The property was used extensively in the late 18th and 19th centuries by

warehouses, businesses, blacksmiths, carpenters, coopers, grocers, iron foundries, and merchants. In the late 19th century the Bryant Fertilizer Company occupied the entire parcel of land. Notable fires destroyed many buildings on the lot in 1810 and 1897 (Carroll and John P. Mullen 2014). Samples from two barrel privies, a possible privy, and a wood-lined privy were examined for pollen, phytoliths, and starch (Table 1). Samples collected from stratified deposits beneath a floorboard in the Carlyle Warehouse were examined for pollen and starches.

Feature 35

Feature 35, a possible privy, was discovered while leveling the southern portion of the site. The circular feature was excavated and outlined by a one-foot extension on each side of the feature. Some artifacts included brick fragments, nails, shell, and glass. Ceramics, bottles, and stemware, also recovered from the unit, dated to the late 18th and early 19th centuries and were likely associated with a dwelling or business located along Union Street. Sample F35-1, submitted for pollen, parasite, and phytolith analyses, was collected from the east bisection of Feature 35, at an elevation of 6 ft AMSL.

The pollen record yielded moderate quantities of *Quercus*, *Pinus*, Low-spine Asteraceae, Poaceae, Rosaceae, and Cerealia pollen (Figure 1, Table 2) representing oak and pine trees, ragweed and related plants, grass, members of the rose family, and cereal grains. Small quantities of *Acer*, *Betula*, *Castanea*, *Carya*, *Juglans*, *Prunus*, TCT, Amaranthaceae, *Artemisia*, High-spine Asteraceae, Liguliflorae, Cyperaceae, *Eriogonum*, Fabaceae, *Triticum*, *Opuntia*, *Phlox*, Rhamnaceae, and *Typha angustifolia*-type pollen represent maple, birch, chestnut, hickory, walnut, cherry/chokecherry, and juniper and related trees, as well as plants in the goosefoot family, wormwood, plants in the sunflower family, members of the chicory tribe of the sunflower family, sedges, wild buckwheat, legumes, clover, prickly pear cactus, phlox, shrubs in the buckthorn family, and cattails. Pollen that likely represents food includes Apiaceae, Brassicaceae, Cerealia, Lamiaceae, *Vitis*, and *Zea mays* reflecting plants in the celery and mustard families, cereals such as wheat, plants in the mint family, grapes, and corn/maize, suggesting they were part of the diet. Apiaceae pollen might reflect use of a fragrant member of the celery family as food or presence of Queen Anne's lace growing as a weed. No starch was observed in the sample and only a few fern spores were present. No parasite eggs were recorded. Microscopic charcoal was more abundant than were pollen, which were present as approximately 1120 pollen per cubic centimeter (cc) of sediment.

The phytolith record from this probable privy was dominated by festucoid forms (Figure 2) representing cool season grasses, which includes wheat and other cereals. A dendritic sheet and individual dendritic elongates were observed, likely representing cereals. Rondels of various forms, *Stipa*-type bilobates, and trapeziforms combine to represent festucoid grasses. A few chloridoid and panicoid forms represent short and tall warm season grasses. Blocky forms, as stated above, are produced in a variety of monocots (grasses and sedges) and also in some dicots. Therefore, no diagnostic importance is attached to these forms in this or any other feature examined. Although several morphotypes typical of dicots were observed, none were considered diagnostic to even family level. A single palm-type (Arecaceae) phytolith was observed, suggesting use of palm fibers. Cold-hardy palms grow in Virginia today. These forms are produced in abundance in phytoliths, so recovery of few of these phytoliths also suggests the possibility they are part of the background phytolith signature, as discard of palms in a privy should result in a larger quantity of these phytoliths. Sub-angular starch was noted,

which is observed in many types of grass seeds including corn kernels, although to be diagnostic of maize, the starches should be fully angular. This type of starch is not common in wheat and other cereals lumped under Cerealia. Diatoms are typically observed in moist to wet sediments, as are sponge spicules and spherasters.

Feature 36

Feature 36 was a 3.5 ft diameter barrel privy that was partially framed by a 1/4 inch wood lining. It is located in the southwestern quadrant of the site and probably was associated with a business or dwelling along Union Street. Excavation revealed large amounts of glass, ceramics, brick, shell, and bone. Sample F36-1 was recovered from the south bisection of Feature 36, at an elevation of 7 ft AMSL (Level 3) and submitted for pollen, parasite, and phytolith analyses.

The pollen record was dominated by Poaceae pollen, some of which might represent cereals, as the size separation between native grasses and cultivated cereals can be minimal. Like the record from Feature 35, this pollen signature comprises moderate quantities of *Quercus*, *Pinus*, Low-spine Asteraceae, and Rosaceae pollen representing oak and pine trees, ragweed and similar plants, and members of the rose family. In addition, small quantities of *Acer*, *Alnus*, *Carya*, *Tsuga*, TCT, and *Tilia*, representing maple, alder, hickory, hemlock, juniper - type, and basswood trees were found. Recovery of small quantities of Amaranthaceae, *Artemisia*, High-spine Asteraceae, *Cirsium*, *Eriogonum*, Fabaceae, *Trifolium*, and *Plantago* pollen indicates local growth of goosefoot family, wormwood, members of the sunflower family, thistle, wild buckwheat, legumes, clover, and plantain locally. Pollen representing food includes Apiaceae, Brassicaceae, Cerealia, and *Zea mays* representing plants in the celery and mustard families, cereals, and corn/maize. Ferns are represented by trilete spores, and microscopic charcoal was not abundant. Total pollen concentration was nearly 900 pollen per cc of sediment in this barrel privy fill. No parasite eggs were observed.

The phytolith record was very similar to that observed for Feature 35. Differences include recovery of polylobate and dicot angular phytoliths, as well as the absence of dendritic sheet, rondel elongate, dicot bulky, and palm phytoliths. Diatoms and sponge spicules and spherasters were present, but in smaller quantities. The combined pollen and starch records indicate consumption and/or discard of cereals and corn, condiments such as celery seed and/or parsley, and mustard or broccoli or a related plant.

Feature 37

Feature 37, a barrel privy located directly north of Feature 36, also likely was associated with a Union Street dwelling or business. High concentrations of glass, ceramic, brick, oyster shell, wood, coal, metal slag, and unidentified metal fragments were recovered. Sample F37-1 was collected from the east bisection at an elevation of 7 ft AMSL (Level 3) and submitted for pollen, parasite, and phytolith analyses.

This pollen record was more heavily dominated by Poaceae pollen than was the record for Feature 36, also suggesting discard of cereals, as native grass and cereal pollen is difficult to separate. Other pollen taxa were very similar to those observed in features 35 and 36, representing local trees, shrubs, and plants. Pollen that likely represents food includes

Apiaceae, Brassicaceae, Cerealia, and *Zea mays* indicating members of the celery and mustard families, cereal grains, and corn. Consumption of cereals is reflected in the phytolith record by recovery of dendritic elongates and rondels. Corn is reflected by pollen and probably the large quantity of sub-angular starch grains observed in this sample. Only a few diatoms, spherasters, and sponge spicules represent moisture in the privy or perhaps discard of cooking water.

Feature 41

Feature 41 is a segment of the Carlyle Warehouse floor, a public warehouse built by John Carlyle in 1755, and is located in the southeast section of the site. The feature consists of a partial foundation of wooden beams, planks, and piers, as well as a stone curtain wall and pier. Five samples were collected stratigraphically from a 3ft x 3ft test unit (Unit 11), located in the northwest section of the feature, under Floorboard 7, and submitted for pollen and starch analyses.

Samples collected stratigraphically from the warehouse floor represent sediment accumulation through five layers of fill spanning nearly three-quarters of a vertical foot (4.1 to 3.4 ft). Patterns observed in the most abundant pollen taxa include reduction in *Quercus* and *Pinus* pollen after the first two fill levels and concomitant increases in Low-spine Asteraceae and Poaceae pollen, representing ragweed and grasses, at the same level. High-spine Asteraceae pollen, representing plants in the sunflower family, peaks in sample F41-8, but otherwise is observed in small quantities. This level also records the smallest Poaceae pollen frequency and a large quantity of *Ceanothus* pollen, representing shrubby New Jersey tea, which has medicinal uses as a tea. Recovery of a large quantity of New Jersey tea pollen in this sample suggests the possibility that tea was prepared and drunk and spilled by someone (or perhaps multiple people) working in the warehouse. If the tea was prepared with the flowers and leaves, pollen would be concentrated in the tea. A small quantity of *Ceanothus* pollen was observed in the lowest sample, but this pollen type does not continue in the middle and upper fill samples of the warehouse.

Pollen representing food was recovered in the warehouse fill samples as it was in the privies. Small quantities of Apiaceae, Cerealia, and *Zea mays* pollen representing plants in the celery family, cereals, and corn, were observed in almost every sample. In contrast, small quantities of Brassicaceae and *Vitis* pollen, representing plants in the mustard family and grapes, were observed only occasionally. Lenticular starch, which is typical of wheat, was noted only in Sample F41-6. No parasite eggs were observed in the warehouse floor fill samples. Total pollen concentration was low in the lowest sample (F 41-9), increasing from 715 to more than 7000 pollen per cc of sediment in Sample F41-8. These two samples document local vegetation including maple, alder, birch, chestnut, oak, hickory, walnut, gum, pine, and juniper-type trees through recovery of *Acer*, *Alnus*, *Betula*, *Castanea*, *Quercus*, *Carya*, *Juglans*, *Liquidambar*, and TCT pollen. Ferns are poorly represented by monolete and trilete spores. Microscopic charcoal is present, but not abundant. Neither of these samples yielded starch.

The upper portion of the warehouse floor pollen record is dominated by Low-spine Asteraceae and Poaceae pollen, reflecting ragweed and grasses. This suggests a weedier appearance around the warehouse. Oak trees might have been cut down, suggested by the reduction in *Quercus* pollen. In addition, other trees might have been cut down or removed. Reductions in *Acer*, *Carya*, *Juglans*, and *Liquidambar* pollen suggest maple, hickory, walnut, and

sweetgum trees might have been used or removed, clearing the landscape. Quantities of microscopic charcoal were minimal in these samples, while total pollen concentration increased from nearly 16,000 to more than 48,000 pollen per cc of sediment from the third to the fourth sample in this stratigraphic sequence. The uppermost sample yielded approximately 31,000 pollen per cc of sediment. These large total pollen concentrations suggest accumulation of pollen during several years with very little additional sediment input, perhaps as a result of protection by the wood floor, which appears to have had sufficient cracks to allow pollen to penetrate to the dirt substrate below the floor.

Feature 56

Feature 56 was a wood-lined, rectangular privy that probably was associated with the Carlyle Warehouse (Feature 41). The vertically-slatted walls were intact on the south and west sides and partially on the north wall, and were finished with Dove-tailed joint construction. Feature fill contained bricks and brick fragments, rocks, glass, ceramic, bone, and fruit seeds and pits. The eight samples were collected from the south bisection of Feature 56 and submitted for pollen, parasite, and phytolith analyses.

The stratigraphic pollen record through this privy fill yielded a record of local trees represented by *Acer*, *Alnus*, *Betula*, *Castanea*, *Quercus*, *Carya*, *Juglans*, *Liquidambar*, *Pinus*, *Tsuga*, TCT, and *Ulmus* pollen representing maple, alder, birch, chestnut, oak, hickory, walnut, sweetgum, pine, hemlock, juniper and related trees, and elm. Some of these pollen taxa were present sporadically in very small quantities suggesting these trees were not abundant on the landscape. Low-spine Asteraceae and Poaceae pollen, representing ragweed and related plants and grasses, were observed in similar frequencies to *Quercus* and *Pinus* pollen. Small quantities of Amaranthaceae, Anacardiaceae, High-spine Asteraceae, *Eriogonum*, Fabaceae, *Trifolium*, *Ilex*, *Phlox*, *Plantago*, *Ceanothus*, Rosaceae, and *Typha angustifolia*-type pollen document local plants in the goosefoot and sumac families, plants in the sunflower family, wild buckwheat, legumes, clover, holly, phlox, plantain, New Jersey tea, plants in the rose family, and cattails, the latter growing in a wetland habitat.

Pollen representing food was particularly abundant in this privy fill. Cerealia pollen dominated this portion of the record, peaking towards the middle of the deposit and indicating the importance of baked goods such as bread in the diet. Brassicaceae pollen, representing mustards, was moderately abundant and was observed in all but the lowermost and uppermost samples. Apiaceae pollen, representing plants in the celery family, was noted only in the lower four samples, then disappeared from this privy record. Ericaceae pollen, representing edible fruits in the heath family such as blueberries, was observed in four samples towards the middle of this stratigraphic record. *Fragaria* pollen, indicating strawberries, was noted intermittently. Lamiaceae pollen, documenting use of plants in the mint family, was recovered in two of the same samples as *Fragaria* pollen. Mint may have been harvested for making mint tea, mint jelly, as a seasoning for lamb, or might have been used medicinally. *Vitis* pollen was recorded in all but the lowest sample, documenting either consumption of grapes or wine. *Vitis* pollen increased in the upper half of the privy deposits. *Zea mays* pollen was noted intermittently in small quantities documenting consumption of corn. It was not as abundant in this privy as in the warehouse floor samples. It is difficult to compare this result with that of the two barrel privies, both of which yielded small quantities of *Zea mays* pollen in the single samples examined.

Ascaris spores were observed in great abundance in many of the wood-lined privy samples. This density of parasite eggs is unusual, as they are often observed as less than 10% of the forms recovered. These large frequencies of *Ascaris* eggs indicate a heavy roundworm parasite load that might have manifested itself as severe coughing and possibly *Ascaris* pneumonia for the people using this privy. While the *Trichuris* egg frequencies are much lower than the *Ascaris* frequencies, their pattern of recovery is similar. Major evidence for infestation falls between sample F56-7 and F56-3 (*Ascaris*) and F56-6 and F56-5 (*Trichuris*), falling off in the upper samples. Microscopic charcoal increases as parasite egg load decreases. Fern spores were observed only occasionally in this privy.

Total pollen concentration in this privy is moderate in the lowermost (F56-8) and uppermost (F56-2 and F56-1) samples. Sample F56-8 yielded a total concentration of more than 4000 pollen per cc of sediment, while Sample F56-1 netted slightly more than 2000 pollen per cc of sediment. Sample F56-2 recorded more than 7000 pollen per cc of sediment. The intervening samples displayed more than 15,000 pollen per cc of sediment, ranging to a high concentration of more than 35,000 pollen per cc of sediment. These large concentrations suggest slow sediment deposition.

The phytolith record for this privy is dominated by rondel and elongate smooth forms. A few rondels may reflect cereals, but most probably represent locally growing cool season grasses. Other festucoid or cool season grass phytoliths include variations on the rondel form including a variant assigned to *Phalaris* (reed grass), which occupies wet areas of the landscape such as water margins. Trapeziforms, also representing cool season grasses, are moderately abundant. Elongate dendritics were most abundant in Samples F56-7, 6, and 5, suggesting greater discard of wheat and/or other cereals in these levels. This corresponds to increasing *Cerealia* pollen frequencies in Samples F56-7 and 6.

Warm season grasses are represented by chloridoid-type saddles indicating short grasses and bilobates, crosses, and other forms indicating tall grasses. Bilobates are most abundant in the lowest sample suggesting the privy was sited in an area that supported tall grasses prior to its construction or possibly that corn debris was thrown into the privy in this level. Corn leaves contain bilobates and crosses, and when they are present, these forms are expected to be observed in greater frequency. Recovery of narrow, oblong phytoliths suggests discard of corn, either on the cob or ground. *Phragmites* saddles were noted in two samples (F56-8 and F56-2), indicating growth of giant reedgrass in a wetland setting locally.

Fabaceae-type rhomboidal calcium oxalate forms were observed in small numbers in Samples F56-6 and 5, then were noted in a large frequency in Sample F56-4 indicating discarding large quantities of remains from a legume, perhaps from shelling peas. No hook-shaped hairs were observed in the sample, which are expected if the pods are hairy, as they are for beans. Therefore, if the rhomboidal calcium oxalate forms represent Fabaceae, they likely indicate a smooth pod. Interestingly, no starches typical of Fabaceae were recovered.

Cyperaceae phytoliths were observed in Samples F56-4, 3, and 2, suggesting the possibility that sedges were part of the local vegetation community and entered the record with grass phytoliths. Alternatively, sedges might have been used elsewhere and discarded into the privy. Recovery of irregular spiny phytoliths in Samples F56-5 and 4 are unusual in this record. Although they cannot be identified to family at this time, further research should identify groups of plants producing this morphotype.

Sub-angular starches were particularly abundant in the upper three samples from this privy and were noted in Sample F56-6. This morphology is typical, but not diagnostic, of corn because it is observed in a variety of native grass seeds as well.

Diatoms were more abundant in the lower than upper samples, as were spherasters, produced by sponges. Sponge spicules were well distributed throughout these privy samples. All point to moist or wet conditions within the privy. A few *Trichuris* parasite eggs remained after destruction of organics in Samples F56-8 and 6, which, when added to the *Trichuris* record from the pollen samples, provides a record of whipworm throughout this privy with the exception of the uppermost sample.

SUMMARY AND CONCLUSIONS

Pollen, phytolith, and starch analysis of samples collected from two barrel privies, a possible privy, and a wood-lined privy provide evidence of local diet and parasite load. In addition, pollen and starch samples collected stratigraphically beneath floorboard 7 of the Carlyle Warehouse provides additional evidence of local vegetation and plants used by historic occupants of this site. The pollen record documents a local forest that consisted primarily of oak and pine trees, and also supported maple, alder, birch, chestnut, hickory, walnut, sweetgum, hemlock, juniper and/or related trees, basswood, and elm. Some of these trees, such as alder and birch, grew close to the water's edge, while others grew farther from the river. Ragweed and/or cocklebur, represented by Low-spine Asteraceae pollen, were part of the local vegetation community in the vicinity of the structures examined, as were grasses. Various other low growing plants, such as goosefoot and/or amaranth, wormwood, other plants in the sunflower family, thistle, dandelion and related plants, sedges, wild buckwheat, legumes including clover, prickly pear cactus, phlox, plantain, and purslane, grew locally. Shrubby holly and members of the buckthorn and rose families also grew nearby. Anacardiaceae pollen might represent vining poison ivy or shrubby sumac. Holly and New Jersey tea might have been planted as ornamentals. Tea made from New Jersey tea appears to have been consumed and spilled in the warehouse. Cattails would have grown at the water's edge.

The phytolith record documents a grass population comprising largely festucoid or cool season grasses that included reed canary grass, needle and thread grasses, among others. Common reed grass, a warm season grass, also grew along the shores. Palms apparently grew in the vicinity of the site.

Foods recorded during pollen, starch, and/or phytolith analyses include at least condiments in the celery family, plants in the mustard family, cereals such as wheat and/or barley, berries in the blueberry family, strawberries, mint, grapes, corn, and legumes.

The wood-lined privy yielded evidence of heavy roundworm infestation and lighter whipworm infestation. This level of parasite egg recovery suggests at least some of the people represented suffered symptoms of roundworm parasitic infection such as fevers, coughing, and perhaps *Ascaris* pneumonia where the larvae migrate into and through the lungs. Parasite eggs were not observed in other privy samples.

TABLE 1
 PROVENIENCE DATA FOR SAMPLES FROM SITE 44AX0229, ALEXANDRIA COUNTY, VIRGINIA

Sample No.	Feature	Unit	Level	Depth (ft. AMSL)	Provenience	Description	Analysis
F35-1	35			6	Possible privy	East bisection	Pollen Parasite Phytolith
F36-1	36		3	7	Barrel privy	South bisection	Pollen Parasite Phytolith
F37-1	37		3	7	Barrel privy	East bisection	Pollen Parasite Phytolith
F41-5	41	11	1	3.4	Carlyle Warehouse, in situ floor, NW corner, underneath Floorboard 7	Fill 1	Pollen Starch
F41-6			2	3.5		Fill 2	Pollen Starch
F41-7			3	3.6		Fill 3	Pollen Starch
F41-8			4	3.9		Fill 4	Pollen Starch
F41-9			5	4.1		Fill 5	Pollen Starch
F56-1	56		1	3	Large wood-lined rectangular privy, south bisection	Fill 1	Pollen Parasite Phytolith
F56-2			2	3.5		Fill 2	Pollen Parasite Phytolith
F56-3			3	3.8		Fill 3	Pollen Parasite Phytolith
F56-4			4	4			Pollen Parasite Phytolith
F56-5			5	4.4			Pollen Parasite Phytolith
F56-6			6	4.8		Pollen Parasite Phytolith	

TABLE 1 (Continued)

Sample No.	Feature	Unit	Level	Depth (ft. AMSL)	Provenience	Description	Analysis
F56-7	56 Cont.		7	5.5	Large wood-lined rectangular privy, south bisection	Fill 4	Pollen Parasite Phytolith
F56-8			8	6.5		Fill 5	Pollen Parasite Phytolith

TABLE 2
 POLLEN TYPES OBSERVED IN SAMPLES FROM SITE 44AX0229, ALEXANDRIA COUNTY, VIRGINIA

Scientific Name	Common Name
ARBOREAL POLLEN:	
<i>Acer</i>	Maple
Betulaceae:	Birch family
<i>Alnus</i>	Alder
<i>Betula</i>	Birch
Fagaceae:	Legume family
<i>Castanea</i>	Chestnut
<i>Quercus</i>	Oak
Juglandaceae:	Walnut family
<i>Carya</i>	Hickory, Pecan
<i>Juglans</i>	Walnut
<i>Liquidambar</i>	Sweetgum
Pinaceae:	Pine family
<i>Pinus</i>	Pine
<i>Tsuga</i>	Hemlock
<i>TCT</i>	Juniper-type (also Cedar or Cypress)
<i>Tilia</i>	Linden, Basswood
<i>Ulmus</i>	Elm
NON-ARBOREAL POLLEN:	
Amaranthaceae	Amaranth family (now includes Chenopodiaceae, these two families were combined based on genetic testing and the pollen category "Cheno-ams")
Anacardiaceae	Sumac family
Asteraceae:	Sunflower family
<i>Artemisia</i>	Sagebrush
Low-spine	Includes Ragweed, Cocklebur, Sumpweed
High-spine	Includes Aster, Rabbitbrush, Snakeweed, Sunflower, etc.

TABLE 2 (Continued)

Scientific Name	Common Name
<i>Cirsium</i>	Thistle
Liguliflorae	Chicory tribe, includes Dandelion and Chicory
Cyperaceae	Sedge family
<i>Eriogonum</i>	Wild buckwheat
Fabaceae:	Bean or Legume family
<i>Trifolium</i>	Clover
<i>Ilex</i>	Holly
<i>Opuntia</i>	Prickly pear cactus
<i>Phlox</i>	Phlox
<i>Plantago</i>	Plantain
Poaceae	Grass family
<i>Portulaca</i>	Purslane
Rhamnaceae:	Buckthorn family
<i>Ceanothus</i>	Ceanothus, New Jersey tea, Buckbrush
Rosaceae	Rose family
<i>Typha angustifolia</i> -type	Narrowleaf cattail
CULTIGENS:	
EDIBLE/ECONOMIC:	
Apiaceae	Carrot or Parsley family
Brassicaceae	Mustard or Cabbage family
Cerealia	Economic members of the Grass family including <i>Triticum</i> (wheat), <i>Avena sativa</i> (oat), <i>Hordeum vulgare</i> (barley), and <i>Secale cereale</i> (rye)
Ericaceae	Heath family
<i>Fragaria</i>	Strawberry
Lamiaceae	Mint family
<i>Vitis</i>	Grape Vine
<i>Zea mays</i>	Maize, Corn
Indeterminate	Too badly deteriorated to identify

TABLE 2 (Continued)

Scientific Name	Common Name
STARCHES:	
Lenticular starch	Typical of starches produced by grass seeds such as those from wheat grass (<i>Agropyron</i>), ryegrass (<i>Elymus</i>), or barley grass (<i>Hordeum</i>)
SPORES:	
<i>Lycopodiella cernua</i> syn. <i>Lycopodium cernuum</i>	Staghorn clubmoss
Monolete - smooth	Fern
Trilete - reticulate "bumpy" on diagram	Fern
Trilete - smooth	Fern
FUNGAL SPORES:	
<i>Sporormiella</i>	Dung fungus
PARASITES:	
<i>Ascaris</i>	Roundworm
<i>Trichuris</i>	Whipworm
OTHER:	
Microscopic charcoal	Microscopic charcoal fragments
Total pollen concentration	Quantity of pollen per cubic centimeter (cc) of sediment

FIGURE 1. POLLEN, STARCH, AND PARASITE DIAGRAM FOR SITE 44AX0229, ALEXANDRIA COUNTY, VIRGINIA.

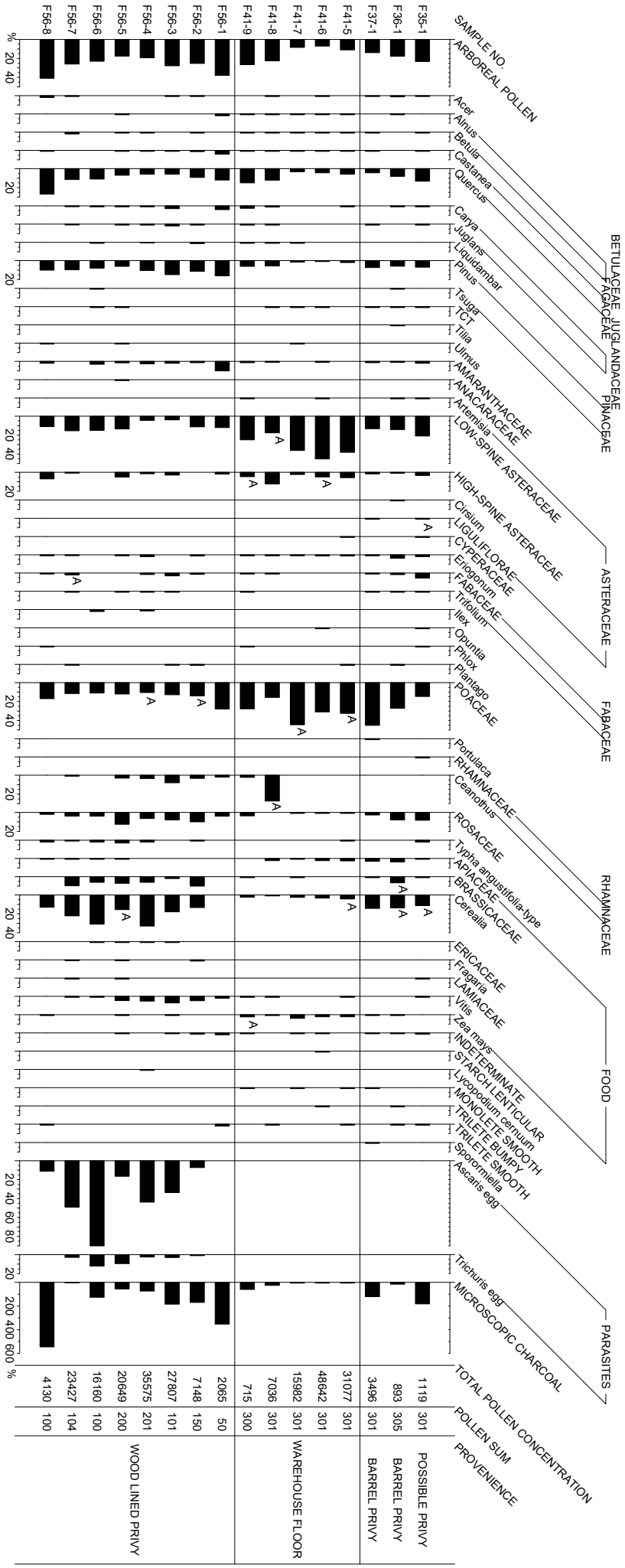
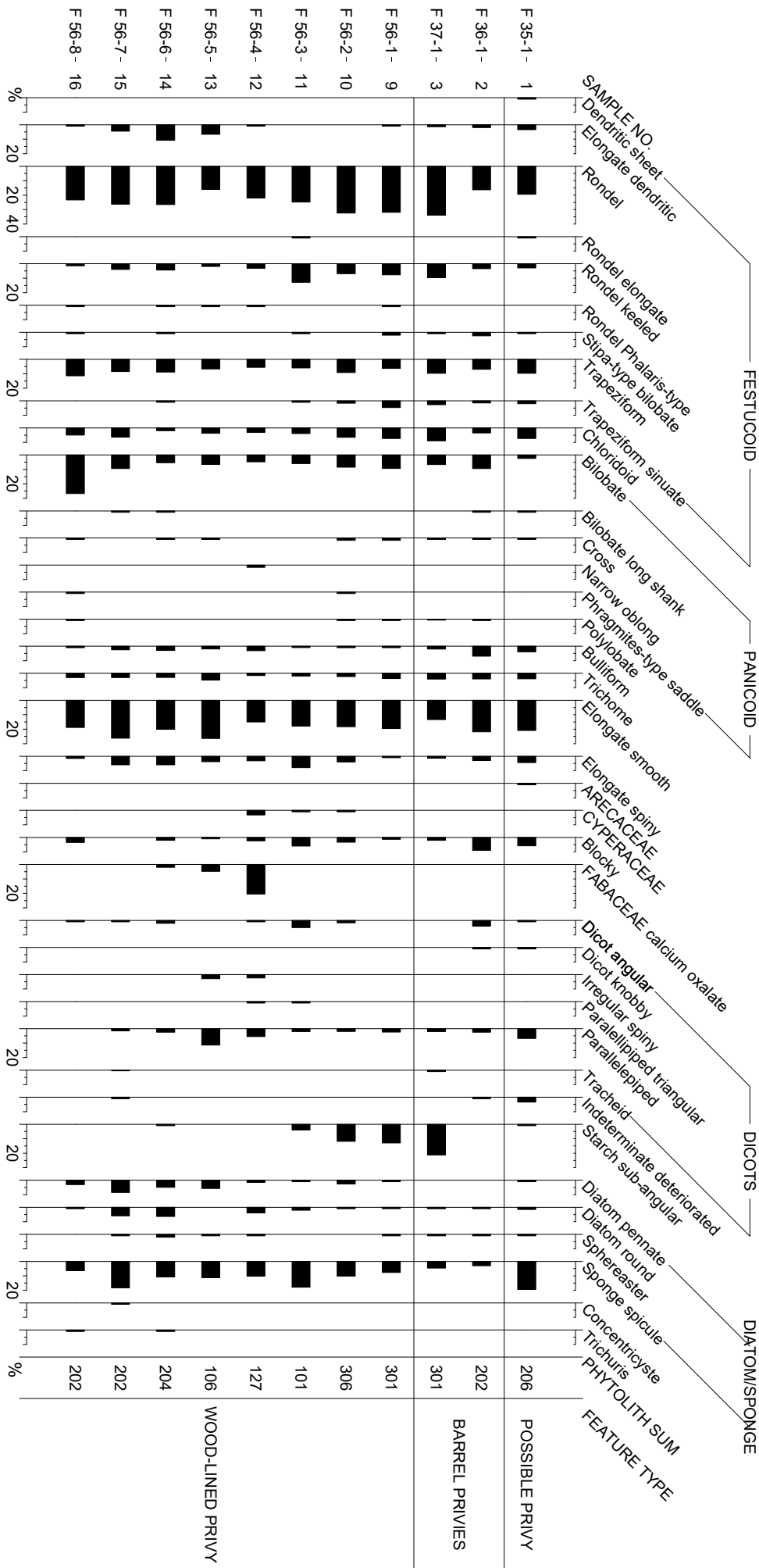


FIGURE 2. PHYTLITH DIAGRAM FOR SITE 44AX0229, ALEXANDRIA COUNTY, VIRGINIA.



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Appendix IX
Faunal Analysis - IdBones

Faunal Analysis for Site 44AX0229

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Introduction

This report describes the zooarchaeological analysis of faunal remains recovered from Site 44AX0229 positioned along the Potomac River in Alexandria, Virginia. In accordance with the City of Alexandria and in preparation for the construction of a new hotel, archaeological investigations were conducted on the waterfront property located at 220 South Union Street. Originally, portions of this property were situated within the river, but steep banks along the shoreline were cut down during the early years of the town to create more land in a process called “banking out.”

This artificially created land was home to numerous businesses and residences during the late eighteenth and nineteenth centuries including “blacksmiths, carpenters, coopers, grocers, iron foundries, and commission merchants” (Carroll and Mullen 2014). One of the buildings that stood on the property was a warehouse ordered by the Alexandria Trustees to be constructed around 1775. While the exact use of the warehouse is not known, historical documents suggest it was built to store supplies for the Braddock expedition which left from Alexandria for their assault on Fort Duquesne in Pittsburgh. John Carlyle, who had been commissioned as the Commissary of Stores and Provisions for the Virginia Regiment of colonial volunteers in 1754, would have been in charge of this warehouse (Carroll and Mullen 2014.).

During the 2015 archaeological excavations conducted on the 220 South Union Street property by Thunderbird Archaeology, evidence of the Carlyle warehouse was discovered making it one of the earliest historical structures excavated within the city of Alexandria. Another unique discovery during archaeological excavations, was the discovery of the hull of a fifty-foot vessel believed to have been sunk sometime between 1788 and 1798 as part of the building out process of the waterfront shoreline. In addition to the warehouse and ship, several privies, postholes, and foundations related to structures from the eighteenth and nineteenth centuries were also uncovered within the research area.

When combined together, all of the features from Site 44AX0229 produced a total of 3,490 faunal remains that were submitted for analysis (see Table 1). Based on the excellent preservation, the lack of major recovery bias, and the percentage of identifiable bones, both parties agreed that all the bones would be analyzed. All bones were analyzed and sorted into 21 different assemblages based on the features where they were recovered. For this report, it was agreed upon that the most significant features (Features 35, 36, 37, 41, 53, and 56) would be analyzed separately and discussed in detail, with the data from the smaller features provided in an appendix to the main report. To determine if there were any significant differences between the privy features, these assemblages would be compared to one another, specifically looking at the biomass totals. Then, to increase the number of bones and provide insight into the dietary patterns of the occupants who utilized this site, all the privy features were to be combined to form a larger assemblage.

The first section of this report will discuss the specific laboratory and analytical techniques that were used to examine the faunal remains from Site 44AX0229. The second section of the report will then examine the results from the faunal analysis of Features 35, 36, 37, 41, 53, and 56, including identified taxa, taphonomic influences, relative dietary importance, element

distribution patterns, and butchery evidence. The third section of the report will briefly discuss the development of markets within urban areas of the Chesapeake region. The fourth section of the report will compare the individual privy assemblages with each other and then be combined together to form a larger assemblage. This section will also examine how this larger assemblage compares to other nineteenth century urban assemblages. Finally, concluding remarks will summarize the findings from Site 44AX0229, make comparisons to other sites when applicable, and make suggestions for further research.

Table 1
Assemblages Analyzed from Site 44AX0229

	Identifiable Bone ¹	Indeterminate Bone	Total Bone
Feature 12/footer hole/20 th century	0	2	2
Feature 17/square stain/19 th century	0	1	1
Feature 18/post hole/19 th century	0	2	2
Feature 19/square post hole/19 th century	7	9	16
Feature 20/square post hole/19 th century	3	0	3
Feature 24/stone foundation/early 19 th century	1	0	1
Feature 27/foundation wall/mid-19 th century	0	7	7
Feature 31/post hole/19 th century	0	1	1
Feature 34/post holes 19 th century	2	1	3
Feature 35/privy/early 19 th century	4	4	8
Feature 36/privy/late 18 th c.	150	764	914
Feature 37/privy/early 19 th century	31	163	194
Feature 41/warehouse/1755	80	154	234
Feature 48/post/18 th century	0	1	1
Feature 53/ship/18 th century	20	8	28
Feature 54/bulkhead warf/18 th century	0	1	1
Feature 56/privy/late 18 th c.	560	1,455	2,015
Trench 1/back fill over Feature 1	2	0	2
Trench 3/Feature 7 fill/20 th century	1	0	1
Trench 6/general collection top of Feature 5/20 th century	1	0	1
Trench 9/Feature 45 fill/18 th and 19 th century	9	46	54
TOTALS	871	2,619	3,490

¹ Identifiable bone is defined as bone identifiable to at least the taxonomic level of Order.

PART ONE: TECHNIQUES and IDENTIFIED TAXA

Recovery Methods

Quarter-inch screening is a standard technique used on prehistoric and historic period sites. As early as 1969, David Hurst Thomas demonstrated in his article on quantitative methods for faunal analysis that screening has an enormous positive influence on the recovery of bone, particularly the recovery of smaller or more fragile elements. The smaller the screen size, the better the recovery rate, but screening through very fine mesh is often cost-prohibitive. Combining flotation sampling and ¼-inch screening is a responsible compromise that allows comparison with a large number of sites that have been excavated similarly.

At Site 44AX0229, some of the soil was screened through 1/4" mesh while other features, such as the privies, were screened through 1/16" mesh. Although most of the faunal material from the sites was very fragmentary and not identifiable to species, the presence of some fish, turtle, bird, small mammals, along with medium and large mammal remains, suggests that a fair sample of the original assemblage was recovered during excavation.

Laboratory Techniques

Analysis of the bones began with sorting the faunal fragments into “identifiable” and “indeterminate” categories. The indeterminate bone—that which could not be taken at least to the taxonomic level of Order—was further sorted into broad taxon groupings such as reptile, amphibian, bird, small mammal, medium mammal, and large mammal. Finally, within their taxon groupings, the bones were sorted into broad element categories such as long bones, teeth, ribs, and skull fragments. All of the indeterminate bones were then counted, weighed, and examined for evidence of burning, butchering, or other types of modification. This data was then entered into a custom-designed microcomputer program developed by Derek Wheeler and Dr. Joanne Bowen.

Each of the identifiable bones was assigned a “unique bone number.” By working with comparative skeletal collections maintained by Dr. Joanne Bowen and Susan Andrews, the “identifiable” bone fragments were identified to the lowest taxonomic level possible. The taxon, bone element, symmetry (side), location, weight, fusion state, tooth type and wear, relative age, butchering marks, and evidence of burning, weathering, and gnawing were recorded and entered into the computer program. Once entered, the data were manipulated to provide the summary information described in this report.

Once these steps were completed, all bones identified to either genus or species were laid out to determine the minimum number of individuals (MNI). Before the bones were returned to their original bags, evidence of butchery and carnivore gnaw marks was recorded.

Analytic Techniques

Relative Dietary Estimates

Zooarchaeologists have devised several methods of quantification to estimate relative dietary importance. These quantification methods include determining the Number of Identified Specimens (NISP), Minimum Number of Individuals (MNI), Usable Meat Weight, and Biomass. The most common goal of these measures is to identify the relative dietary importance, but zooarchaeologists have long debated their relative strengths and weaknesses (Wing and Brown 1979; Reitz and Cordier 1983; Grayson 1984). In our view, each measure provides a different measure of relative importance, and therefore we regularly compute all four estimates, a step that allows us to take advantage of the strengths of each, as well as to make the broadest possible comparisons of our data with the work of others.

NISP

At the simplest level, the Number of Identified Specimens (NISP) is used to calculate the relative abundance of any species within a faunal assemblage. After identification, all the bones within each species are added together to determine the frequency of fragments for each animal. Though still perhaps the most frequently used measure of abundance, this method has several shortcomings, most notably its assumption that the bones being counted are representative of the sampled population, and that each item is independent of every other item. There is no method, however, to demonstrate which bone fragments came from different individuals across an entire faunal sample. Other problems with this method include the unequal numbers of elements per individual in different classes, differential preservation rates, uneven fragmentation rates that occur with different classes and sizes of animals, and misrepresentation of complete skeletons that are often intermixed with fragmented pieces from an indeterminate number of individuals (Grayson 1984).

From an interpretive standpoint, NISP represents only the number of fragments identified to taxon. It does not directly consider the differences in size and meat weight between various classes of animals. For this reason, as well as the potential biases described above, many zooarchaeologists have come to the conclusion that this technique alone cannot provide an accurate assessment of the relative dietary importance of various species.

MNI

One popular method for estimating species abundance is the method called Minimum Number of Individuals (MNI). While NISP attempts to calculate the maximum number of individuals on a site, MNI most often establishes the minimum number of animals by examining the most common element for each taxon. Taking into consideration differences in age, sex, and size for each taxon, the rights and lefts of each of the main elements are carefully matched. Once comparisons are completed, the individual MNI for each element is considered, and by taking into consideration gross size and age differences, a figure representing the entire animal is derived.

The MNI effectively corrects for the differential number of bones found in bird, mammal, and fish skeletons, as it also corrects for the presence of complete skeletons. But the thoroughness of the analyst, the units of aggregation, and the sample size all affect the interpretation of an MNI figure. Accurate estimations of dietary importance based on MNI require a large number of bones, since in small assemblages infrequently occurring animals are over-represented. As Grayson (1984) pointed out, MNI values are intimately tied to units of aggregation, and therefore, in small samples the least common species on a site will be overemphasized. While this problem is greatly diminished in larger samples, the MNIs, no matter how well executed, do not provide a true dietary estimate. For example, one deer and one fish are presented as equally important in dietary terms, despite the differences in pounds of meat (Grayson 1984). Since large and small taxa are given equal weight, this method produces a skewed picture of the relative dietary importance.

Usable Meat Weight

In the 1950s Theodore White introduced to the field a method that would translate MNIs into dietary estimates (White 1953). To obtain a rough estimate of the relative importance of different taxa, the MNI for a given taxon is multiplied by the average amount of usable meat derived from an estimate of meat yield. Average values are based on the average weight of modern wild birds, mammals, and turtles (only rough estimates are given for fish since their weight typically increases as they age). Also, modern domesticated species can be quite large in comparison to colonial animals, therefore we use colonial weights for domesticated species. Since this method relies on MNI directly, usable meat weight estimates suffer from the same problems inherent in the MNI method. In small assemblages, particularly those where even the more frequently occurring taxa are represented by only one or two MNI, the least frequently occurring taxa are grossly inflated.

Biomass

The fourth technique that has become a standard procedure in zooarchaeological analysis is known as the “biomass” or “skeletal mass allometry” method. Developed for zooarchaeology by Elizabeth Reitz and others, this method is based on the biological premise that the weight of bone is related to the amount of flesh it supports. Since two dimensions of an animal grow in a relatively predictable exponential curve, an equation relating the two has been derived. Body size and body weight can then be determined from the size of a bone element, since a specific quantity of bone represents a predictable amount of tissue, which is roughly translated into a ranked dietary importance (Reitz and Cordier 1983; Reitz and Scarry 1985). This estimate, therefore, provides a balance to the NISP and MNI methods. It helps to counter the problem of interdependence, since it accounts for the presence/absence of partial and complete skeletons. An additional advantage is that it does not rely on thoroughness or assemblage composition, and fragmentation is not a problem. It does, however, require that each bone (or group of bones) be weighed individually.

In a later section biomass estimates are used, despite the fact that all of the early analyses by many zooarchaeologists are based on usable meat weight. Recent research by Bowen and others have shown biomass estimates to be far more consistent than meat weight estimates, particularly when large numbers of fish are present in assemblages (Bowen in Walsh et al. 1997). In general,

it allows the weight of the fragments identified only to class to become part of the dietary estimates, it avoids the idiosyncrasies of the MNI method, and it circumvents the “averaging” problem that plagues any assemblage containing a large proportion of fish.

Taphonomy and the Analysis of Butchering

There are many physical, chemical, and biological processes that modify the appearance of bones and affect the interpretations of faunal assemblages from archaeological sites. The study of these mechanisms is known as “taphonomy,” or the study of environmental phenomena and processes that affect organic remains after death (Efremov 1940).

The determination of, for example, which cuts of meat are represented in a faunal assemblage cannot reasonably proceed without the careful analysis of taphonomic modifications. Identifying alterations resulting from natural processes such as temperature variation that can dry out, split, or otherwise degrade bone, carnivores and rodents that gnaw bone, and human feet that can further fragment bone, is the important first step to looking at purposeful modifications such as butchery and intentional burning (Gifford 1981; Lyman 1987a; Bonnicksen and Sorg 1989; Johnson 1985).

During the identification phase of this project, burn marks, evidence of gnawing by carnivores and rodents, weathered appearance, and butchering evidence were recorded. Bones were recorded as “burned” only if they exhibited distinctive charring or scorched marks. Experiments on cooking bones, by either roasting or boiling, has shown that it often takes extreme temperatures to produce burn marks on a bone. The size and density of the bone combined with the temperature and type of cooking, influences the appearance of burn marks on bones (Pearce and Luff 1994).

Evidence of the bones being gnawed can be gathered from puncture holes made by canine teeth or by specific gnawing patterns left on the surface of the bone. Carnivores such as dogs will typically gnaw on the soft ends of long bones to create channels that allow them to get at the marrow. Smaller bones belonging to fish, birds, and small mammals are easily broken and digested by carnivores, so there is rarely any evidence of carnivore gnawing on these bones. Gnaw marks left by rodents are distinguished by a characteristic pattern made by incisor teeth and therefore are recorded separately from carnivore marks.

Bones were recorded as having a weathered appearance if the surface of the bone was cracked or flaking. A weathered appearance on the surface of a bone can occur if bones are left in the open, where they can be exposed to extreme temperatures and the changing elements. Usually if bones are left exposed for a period of time, they are also susceptible to gnawing by animals and fragmentation due to the trampling of feet. Weathering can also occur due to the actual chemistry of the soil, which has a direct influence on bone preservation. Generally speaking, the ideal pH for bone preservation is between 7.8 and 7.9 (Reitz and Wing 1999).

Finally, butchering leaves obvious taphonomic signs on the bone. Butchering marks were carefully recorded, and will be discussed in the taphonomic section in this report.

Identified Taxa and Dietary Estimates

A total of 3,490 bones were submitted for analysis from Site 44AX0229 with at least 24 different species represented among the features excavated from the site. These species include one shell, one crustacean, six fish, one reptile/amphibian, six birds, and nine mammals (see Table 2). The following table shows the breakdown of species between the six larger more significant features, including Features 35, 36, 37, 41, 53, and 56. Appendix A shows which species were represented in the other 15 smaller assemblages. To facilitate discussion of diet and environmental exploitation, a brief general description of each taxon's habitat is given following Table 2.

Table 2
Taxa Identified from Site 44AX0229
And the Distribution of Taxa Among the Features

Taxonomic Name/Common Name	Feat. 35	Feat. 36	Feat. 37	Feat. 41	Feat. 53	Feat. 56
SHELL/CRUSTACEAN						
Class Bivalvia/Clam or Oyster						
<i>Callinectes sapidus</i> /Blue Crab						X
FISH						
Class Osteichthyes/Bony Fish	X	X	X	X		X
<i>Acipenser</i> spp./Sturgeon						X
Family Clupeidae/Herring or Shad	X					X
Family Catostomidae/Sucker						X
<i>Ictalurus catus</i> /White Catfish		X	X	X		X
<i>Perca flavescens</i> /Yellow Perch						
<i>Micropterus</i> spp./Bass				X		
<i>Morone</i> spp./Temperate Bass						X
<i>Morone Americana</i> /White Perch		X		X		X
REPTILES/AMPHIBIANS						
<i>Chrysemys</i> spp./Slider or Cooter						X
BIRDS						
Class Aves/Bird		X	X	X		X
Class Aves-Mammalia III/Bird or Small Mammal		X	X	X		X
Family Ardeidae (Heron or Egret)						X
Goose spp./Goose		X	X			
<i>Anser anser</i> /Domestic Goose						X
Duck spp./Duck		X				
<i>Meleagris gallopavo</i> /Turkey					X	
<i>Gallus gallus</i> /Chicken		X	X	X	X	X
Order Passeriformes/Perching Bird		X				
MAMMALS						
Class Mammalia/Mammal		X	X	X		X
Class Mammalia I/Large Mammal		X	X	X	X	X
Class Mammalia II/Medium Mammal		X	X	X	X	X

Class Mammalia III/Small Mammal			X	X		X
Rabbit spp./Rabbit	X					
<i>Sylvilagus floridanus</i> (Eastern Cottontail)						X
<i>Sciurus carolinensis</i> /Eastern Gray Squirrel						X
<i>Ondatra zibethica</i> /Muskrat	X					
Rat spp./Rat	X					
<i>Rattus</i> spp./Old World Rat	X		X	X		X
<i>Rattus norvegicus</i> /Norway Rat	X	X	X	X		X
Mouse spp./Mouse						X
<i>Canis familiaris</i> /Dog						X
Order Artiodactyla I/Sheep, Goat, Deer, or Pig	X			X		X
<i>Sus scrofa</i> /Domestic Swine	X	X	X	X	X	X
<i>Ovis aries</i> - <i>Capra hircus</i> /Domestic Sheep/Goat	X	X	X	X		X
<i>Bos taurus</i> /Domestic Cattle	X	X	X	X	X	X

Crustacean/Mollusk

Clams or Oysters. Trench 9 produced a single fragment of a shell identified as Class Bivalvia, which includes clams or oysters.

Blue Crab. Feature 56 produced several pincers identified as claw fragments from blue crabs (*Callinectes sapidus*). The blue crab is distributed along the Atlantic coast, and is most prevalent in the Chesapeake area (Lippson and Lippson 1984). Their remains, mostly calcined claws, have been recovered from most colonial-period sites throughout the Chesapeake Bay region. Due to the fragile quality of the claws, crab remains typically survive only if they have been burned. Crabs were harvested from the water primarily during the summer months, but also on a limited basis during spring and fall. They are generally classified as omnivorous scavengers eating both live and decaying plant and animal matter. During the summer months they can typically be found in shallow, tidal freshwaters. As temperatures drop they move out to deeper areas where they bury themselves and remain inactive throughout the winter (Zim and Ingle 1955).

Due to their fragility, the presence of only a few pincers should not be considered an indicator of abundance. Found in faunal assemblages all over the Chesapeake region, it is clear that crabs were a favorite food of early Virginians as they are today.

Fish

The presence of fish species recovered from Site 44AX0229, indicates the richness of the Potomac River and the Chesapeake waterways in the eighteenth and nineteenth centuries. George Washington described the richness of the Potomac in a letter written to Arthur Young in 1793:

This River, which encompasses the land the distance above mentioned, is well supplied with various kinds of fish at all Seasons of the year; and in the Spring with the greatest profusion of Shad, Herring, Bass, Carp, Perch, Sturgeon &ca. Several valuable fisheries appertain to the estate; the whole shore in

short is one entire fishery (“Washington to Young, 12 December 1793” in Hoth 2008:504-514).

Sturgeon. Found only in Feature 56 were at least 29 fragments identified as the remains of sturgeon (*Acipenser* spp.). Sturgeon are among the most easily identified of fish species due to their hard bony “scutes” which lie in five rows along their bodies. The sturgeon is a bottom-dwelling anadromous fish that lives in diverse habitats. The large species, the Atlantic sturgeon (*Acipenser oxyrinchus*), is found in shallow waters along the continental shelf, sometimes entering larger rivers to spawn. The other main species, the shortnose sturgeon (*Acipenser brevirostrum*), is more commonly found in river mouths, tidal rivers, estuaries, and bays. Living up to fifty years, they can become enormously large, averaging six to eight feet in length. They were and are today important commercially; their roe is made into high-quality caviar, their flesh is eaten smoked or fresh, and isinglass is made from their swim bladders (Robbins et al. 1986).

While both species of sturgeon are native to the Chesapeake, intense fishing from more than a century ago caused the rapid decline of the sturgeon in Chesapeake waters. Today only the Atlantic sturgeon has been reported to exist in the waters of the James River, while shortnose sturgeon has recently been recorded as making a comeback in the Potomac River, Susquehanna River, and the Delaware Bay (Blakenship 2006).

During his travels to Virginia in the early 1780s, Frenchman, Marquis d Chastellux, wrote about several methods that were used at the time to procure sturgeon. He wrote:

“I saw two negroes carrying an immense sturgeon, and on my asking them how they had taken it, they told me that at this season, they were so common as to be taken easily in a sean (a sort of fishing net), and that fifteen or twenty were found sometimes in the net” (Chastellux 1787:169-170).

On further discussion with the men he also learned of an additional method of catching sturgeon:

“Two of three negroes proceed in a little boat, furnished with a long cord, at the end of which is a sharp iron crook, which they hold suspended like a log line. As soon as they find this line stopped by some obstacle, they draw it forcible towards them, so as to strike the hook into the sturgeon, which they either drag out of the water, or which, after some struggling, and losing all its blood, floats at length upon the surface, and is easily taken” (Chastellux 1787:169-170).

Herring. Features 35, 41, and 56 produced elements identified only to the broader classification of the herring family (Family Clupeidae). The biology and the ecology of clupeids are varied: some species live predominately in freshwater, and some only enter fresh water to feed or spawn. Although this family comprises of at least 180 species, only 10 species are known to frequent waterways associated with the Chesapeake Bay. Some of the more common species include the alewife (*Alosa pseudoharengus*), the American shad (*Alosa sapidissima*), and the Atlantic herring (*Clupea harengus*).

The alewife and Atlantic herring spawn from late March through April in locations of large rivers and small streams, returning to the ocean by summer. The springtime presence of herring in the tributaries of the Chesapeake, including the Potomac River, was described by Robert Beverly in 1705:

In the Spring of the Year, Herrings come up in such abundance into their Brooks and Foards, to spawn, that is almost impossible to ride through, without treading on them. Thus do those poor Creatures expose their own Lives to some Hazard, out of their Care to find a more convenient Reception for their Young, which are not yet alive (Beverly 1855:117).

While herring and shad could have been eaten fresh, they were most commonly salted down during the seventeenth and eighteenth centuries. As early as 1626, the early colonists had more than 58,000 pounds of salt fish on hand and over the course of the following century, salt herring played a major role in the diet of servants, slaves, and land owners (Noel Hume, 1978).

Suckers. Identified bones from Feature 56 include elements from fish belonging to the sucker family (Family Catostomidae). The suckers are a numerous and varied group of fish represented by approximately 75 different species. Although they are typically found in freshwater, the three species found in the Chesapeake region can also be found in brackish waters with salinities of less than 5%. These species include the quillback (*Carpionodes cyprinus*), the white sucker (*Catostomus commersoni*), and the shorthead redhorse (*Moxostoma macrolepidotum*). All of these species typically ascend small creeks in the spring where they prefer to spawn in swiftly moving waters. Although suckers are quite bony fish, they are considered to be a fairly good food fish (Hildebrand and Schroeder 1972).

White Catfish. Elements from Features 36, 37, 41, and 56 were identified as the remains of white catfish (*Ictalurus catus*), a common freshwater species of catfish in the waters of the Chesapeake. Freshwater catfish are abundant in all Chesapeake Bay tributaries and can be found in lakes, rivers, ponds, streams, and estuarine waters where they feed on a variety of insects, fishes, and crustaceans. The white catfish is usually found in tidal tributaries of rivers, but during the spring and early summer they move upstream to spawn (Lippson and Moran 1974).

The remains of catfish are frequent in historical faunal assemblages from the Chesapeake suggesting their importance in the diet of its inhabitants. According to studies on the energy value of fish, the amount of calories that a fish can provide a person is directly related to the fat content of the fish. When that is considered, catfish provide some of the highest calories per pound for fish species, around a 1,000 calories per pound (Sauer 1968). In addition to their fat content, white catfish were and still are praised as a fine fish for eating due to their lack of small bones.

Yellow Perch. Yellow perch (*Perca flavescens*) was identified in the assemblages from Features 36 and 56. Distributed from Canada to South Carolina, the yellow perch is abundant in most tributaries of the Chesapeake Bay including the Potomac River. While they typically inhabit the upper portions of estuaries, they will migrate even further upstream to spawn in small shallow

streams in late February. They are considered excellent for eating and are commonly caught with baited hook during their spring spawning runs (Murdy et al. 1997).

Freshwater Bass. Feature 41 produced a single element that could only be identified to the family of freshwater basses (*Micropterus* spp.), including the largemouth bass (*Micropterus salmoides*) and the smallmouth bass (*Micropterus dolomieu*). While the largemouth bass is common and abundant in all tributaries of the Chesapeake Bay, the smallmouth bass is common in tributaries from the Rappahannock River northward (Hidlebrand and Schroeder 1972).

Temperate Bass and White Perch. A single element from Feature 56 was identified only to the category of temperate bass (*Morone* spp.). Members of the temperate bass family include moderate to large-sized fish that occur in marine, brackish, and freshwater habitats. The two most prevalent species found in Virginia include the white perch (*Morone americana*) and the striped bass (*Morone saxatilis*).

Identified in the assemblages from Features 36, 41, and 56 were the remains of white perch (*Morone americana*). This white perch is an abundant year-round resident found in all tributaries of the Chesapeake Bay. Preferring level bottoms of silt, sand, mud, or clay, white perch migrate to fresh or low-salinity waters of large rivers to spawn from April through June. After spawning, adults move back downstream toward the Bay to spend the summer feeding in richer waters, while the young gradually move down to join them. Due to their value as a food fish, white perch have long been one of the most important recreational and commercial fishes in the Chesapeake Bay (Murdy et al. 1997).

Reptiles/Amphibians

Water Turtle. The only presence of turtle was indicated from a single carapace fragment from Feature 56. It was identified as the remains of a member of the water turtle family of sliders and cooters (*Chrysemys* spp.). These turtles typically inhabit sluggish rivers, shallow streams, marsh areas, lakes, and ponds with aquatic vegetation. Some prefer soft bottom habitats while others use areas that support overhangs for sunning (Ernst and Barbour 1972). One species frequent in the waters of the Chesapeake is the red-bellied turtle (*Chrysemys rubiventris*). This species prefers to bask near deep water where they feed on snails, crayfish, tadpoles, and aquatic vegetation (Behler and King 1995).

Wild Birds

The Chesapeake Bay is the largest estuary in North America, providing a primary wintering area for waterfowl along the Atlantic flyway. Its location, size, habitat diversity, and waters provide both submerged vegetation and shellfish. In addition, brackish marshes and river estuaries, such as the Potomac River, are also abundant with wild rice and seed-bearing plants, providing food for many species of birds.

Heron or Egret. Two bones from Feature 56 were identified as belonging to the family of herons and egrets (Family Ardeidae). This family includes wading birds with long legs, necks, and bills used for stalking food in shallow water. They are commonly found in marshes, swamps, ponds, and along the edges of rivers where they are often seen perching in trees. Some members of this family can only be found in the Chesapeake region during the spring and summer months. These species include the least bittern (*Ixobrychus exilis*), yellow-crowned night heron (*Nyctanassa violacea*), and the green-backed heron (*Butorides striatus*). Other species can be found in the waters of the Chesapeake all year around including the black-crowned heron (*Nycticorax nycticorax*), the little blue heron (*Egretta caerulea*), the snowy egret (*Egretta thula*), the great egret (*Casmerodius albus*), and the great blue heron (*Ardea herodias*) (National Geographic Society 1983). The length of these long bones suggests these remains are probably from a great blue heron.

Goose. The faunal assemblages from Features 36 and 37 produced at least three elements identified only as goose (Goose spp.), since there were not enough distinguishing attributes to determine the specific species. The size of these bones suggests they are probably from a smaller wild species such as the Canada goose (*Branta canadensis*) or the brant goose (*Branta bernicula*). Preferring to breed in open or forested areas near water, the Canada goose is the most common and familiar wild goose. When they migrate, the flocks usually fly in a V-formation, and stop to feed in wetlands, grasslands, or cultivated fields. The Canada goose is a common visitor to tributaries in the Chesapeake region (National Geographic Society 1983).

In addition to the goose elements from Features 36 and 37, Feature 56 also produced domestic goose bones which will be discussed in the Domestic Bird section of this report.

Duck. At least seven bones from Feature 36 were identified as the remains of duck. Unfortunately, the elements were not complete enough or contained enough distinguishing features to determine the exact species, so they were categorized as duck spp. The Chesapeake Bay and its tributaries are a primary wintering areas for a large variety of duck species because of its diverse habitats and its ample supply of food. Ducks found in the waters of the Chesapeake are primarily subcategorized into the genus of dabbling ducks (*Anas* spp.) or the genus of diving ducks (*Aythya* spp.).

The dabbling or surface-feeding ducks feed by tipping tail-up to reach aquatic plants, seeds, and snails. They can be found primarily in freshwater shallows, but in winter they can also be found in salt marshes. Some of the more common dabbling ducks include the Chesapeake include the mallard (*Anas platyrhynchos*), the American Black Duck (*Anas rubripes*), the gadwall (*Anas strepera*), the green-winged teal (*Anas crecca*), and the American widgeon (*Anas penelope*) (National Geographic Society 1983).

The diving ducks or pochards have legs set far back to assist in their ability to dive for food and heavy bodies that require them to have a running start on water for take-off. There are five species of pochards that can be found wintering in the Chesapeake area including the canvasback (*Aythya valisineria*), the redhead duck (*Aythya americana*), the ring-necked duck (*Aythya collaris*), the greater scaup (*Aythya marila*), and the lesser scaup (*Aythya affinis*) (National Geographic Society 1983).

Perching Bird. At least one bone from Feature 37 was identified as the remains of a perching bird (Order Passeriformes). Since the bones were not complete enough to identify a specific species, they were recorded in the broad category of perching birds. Perching birds are common and widespread throughout the Chesapeake region in both forest and urban habitats. Although it is not clear whether this bird is the remains of food or an accidental visitor that found its way into the privy, it is known that small songbirds were commonly kept in cages as pets. In Peter Kalm's travel accounts from 1770, he notes that the robin "sings very melodiously, is not very shy, but hops on the ground quite close to the houses. In Philadelphia it is kept in a cage for its singing" (Benson 1987:256).

Domestic Birds

Domestic Goose. Feature 56 produced at least four elements identified as domestic goose (*Anser anser*). The domestic goose is a rather large bird, weighing about seven pounds (Miller 1984), which is quite larger than their wild counterparts. Domestic geese were typically raised for their feathers but could also be fattened and killed for food.

Chicken. As the most frequently identified bird species, chicken (*Gallus gallus*) is represented in all the assemblages from Features 34, 36, 37, 41, 45, and 56. During the eighteenth and nineteenth centuries, chickens were raised on many rural farms and even on some urban properties. Chickens were easy to raise and though often kept in hen houses, they were also allowed to roam free. The chickens and their eggs could have been prepared in a number of ways including roasted, boiled, fried, broiled, and minced (Noël Hume 1978).

It is known that George Washington allowed his slaves to have their own chickens and even sell them in the market of Alexandria. This was documented by Julian Ursyn Niemcewicz, a Polish Visitor to Mount Vernon in 1798, who observed the slaves selling their chickens in order to "procure for themselves a few amenities" (Niemcewicz 1965).

Turkey. Several bones from Feature 56 were identified as the remains of turkey (*Meleagris gallopavo*). The turkey is essentially a woodland bird. When Europeans first colonized North America, the turkeys inhabited wide forests, preferring wooded swamps and open hardwood forests. As the land became cleared they adapted to open fields, savannas, and meadows as they foraged for insects, berries, and other foods (Bent 1963). Wild turkeys were taken to Europe, domesticated, and reintroduced to North America. Since they continued to breed with their wild progenitor, it is not surprising that no osteological distinction can be made between wild and domestic animals. For the purpose of this analysis, however, they have been considered domestic and therefore have been included with domesticated fowl in the relative dietary estimates.

Commensal Species

Commensal species are those that live near or with another species and share its food, both animals possibly benefiting from each other through this association (Davis 1987). For the

purpose of this report, this category also includes mammals that were identified in the assemblages but are not considered a source of food.

Rats. The remains of rats were recovered from Features 35, 36, 37, 41, and 56. Some of these bones could only be identified as Old World rats (*Rattus* spp.), but the majority of the remains were identified as Norway rat (*Rattus norvegicus*). Arriving on ships bound for the New World, the Norway rat quickly spread along the eastern coast of North America during the late eighteenth century. They feed on organic garbage, grains, plant material, and other animals including poultry, birds, rabbits, and even their young. Preferring to live close to humans where adequate food, water, and shelter are available to them, they are often found in homes, wood piles, compost heaps, farm dwellings, dumps, slaughterhouses, food-processing plants, animal stalls, and sewers (Webster et al. 1985). Regarded as vermin then as they are today, rats transmit plague and murine typhus, among other diseases, and consequently were at least part of the reason that cats were kept as pets in both urban and rural environments during the eighteenth and nineteenth century.

Mouse. Four bones from Feature 4 were recorded as the remains of mice (Mouse spp.) There are several species of mouse that can be found throughout Virginia, including the eastern harvest mouse (*reithrontomys humulis*), the white-footed mouse (*Peromyscus leucopus*), and the golden mouse (*Ochrotomys nuttalli*). Considering these bones were found associated with a privy, the bones are probably the remains of a house mouse (*Mus musculus*), a species of mouse introduced from Europe during the American Revolution. This species is typically found in close proximity to humans and can be found in man-made structures where food and space are available. House mice consume anything edible and can be highly destructive to stored grains and food. Due to their highly reproductive rate, their adaptability, and their destructive habits, these small mammals are typically controlled with traps, poison, and cats (Webster et al. 1985).

Dog. Feature 56 also produced at least fourteen bones identified as the remains of a domestic dog (*Canis familiaris*). While dogs were most commonly kept for companionship, they were also kept for practical purposes such as hunting, herding, and protection.

Wild Mammals

Rabbit and Eastern Cottontail. At least eight bones from Feature 56 were identified as the remains of an eastern cottontail (*Sylvilagus floridanus*). Eastern cottontails prefer a vegetative habitat of perennial grasses or a dense, low growing environment. They are herbivores, preferring grasses and a wide variety of plants that provide a basic nutritional balance (Chapman et al. 1982). They were hunted not only for their meat but also for their fur.

A single long bone from Feature 36 was identified only as rabbit spp. Due to its larger size, this bone may be from a domesticated breed of rabbit, raised to supply the local market with meat.

Eastern Gray. In the Feature 56 assemblage, a single bone was identified as the remains of an eastern gray squirrel (*Sciurus carolinensis*). The gray squirrel prefers a mature hardwood habitat

with dense undergrowth. Its range may vary depending on food availability, population size, and age. They consume a diversity of foods including acorns, a variety of nuts, fruits, seeds, certain tree barks, fungi, and insects (Flyer and Gates 1982). Squirrels were and still are often hunted for their meat, which can be served boiled, stewed, or barbecued.

Domestic Livestock

Swine. The remains of swine (*Sus scrofa*) were recorded in the assemblages from Features 36, 37, 41, 45, 53, and 56. Although the ranking of pork among early diets may be argued by some, it is clear that the domestic swine was an important food source from the initial years of settlement on through the twentieth century. A prolific breeder that thrived on mast, roots, and tubers in an open woodland setting, they were born in the spring and by the next winter had grown to a good slaughter weight. In comparison to cattle that provided only about 50-60% of dressed meat per individual after slaughter, swine provided 65-80% and its flesh when salted was perfect for use as a year-round source of preserved meat (Reitz, Gibbs, and Rathbun 1985; Bowen 1990a, 1990b).

Archaeologically swine are omnipresent, and in every faunal assemblage their remains account for a substantial proportion, either in terms of NISP, MNI, usable meat weight, or biomass. From the early years, pork contributed 10% of the biomass, by 1620-50 anywhere from 6 to 17%, by 1660-1700 an average of 11%, and throughout the eighteenth century on rural plantations anywhere from 12 to 17% (Walsh et al. 1997:351).

As a prolific breeder of swine, George Washington raised pigs on all of his farms in the Chesapeake region, including farms close to Alexandria. His diaries give an indication to the amount of pork produced at Mount Vernon. For example, in 1785, it was recorded that 128 hogs had been slaughtered to produce approximately 17,385 pounds of meat. After handing out rations to his hired laborers and slaves, he still had over 15,000 pounds of meat that was to be used by the family over the coming year or sold in the local markets such as those found in Alexandria (Thompson 2012).

Cattle. The remains of domestic cattle (*Bos taurus*) were also identified in the faunal assemblages from Features 34, 36, 37, 41, 45, 53, and 56. By 1608, and possibly earlier, cattle arrived on Jamestown Island. They flourished in the woodland environment, and as early as the 1620s, herds had become so large that beef became the mainstay of the colonists' diet, a pattern that stood firm throughout the colonial period (Miller 1984; Bowen 1990a). Throughout the colonial period cattle provided primarily meat, but also some milk and dairy products, and beginning in the late-seventeenth and early-eighteenth centuries they were used to plow fields (Miller 1984; Bowen 1994). In terms of their contribution to the meat diet, in c. 1610 cattle contributed 14% to the total biomass, by 1620-1650 anywhere from 37 to 57%, by 1660-1700 47%, and throughout the eighteenth century anywhere from 34 to 56% of the total biomass (Walsh et al. 1997:351). For a more complete discussion of cattle husbandry, see *Provisioning Early American Towns. The Chesapeake: A Multidisciplinary Case Study* (Walsh et al. 1997).

Caprines. Features 36, 37, 41, and 56 from Site 44AX0229 also produced bones from either a sheep (*Ovis aries*) or goat (*Capra hircus*). These species, despite their outward appearance, are usually grouped together by faunal analysts because they are almost skeletally indistinguishable.

Starting in the mid-seventeenth century sheep were more commonly raised. While pigs and cows were allowed to roam free, sheep never became really profitable since they were unable to defend themselves from predators and would not freely reproduce (Reitz 1979). It was not until the 1690s that it became viable to raise sheep, because of the decline in the wolf population (Walsh et al. 1997). While sheep were raised primarily for their wool, the by-product, mutton, remained a relatively small but important meat in the diet of individuals throughout the colonial period (Noël Hume 1978; Walsh et al. 1997).

Goats were introduced to the New World, possibly with the first arrivals, but certainly with the first supplies. Goats were hardy, they browsed on undergrowth, and they were better able to protect themselves from predators than sheep (Dandoy 1997; Walsh et al. 1997). With the first years of colonization, they supplied both milk and meat, but as fields were established and predators brought under better control, sheep were introduced in increasingly large numbers. By the mid-seventeenth century sheep had begun to replace most of the goats, though occasionally they still were raised primarily for their milk (Walsh et al. 1997).

PART TWO: Summary of Faunal Data from Features 35, 36, 37, 41, 53, and 56

Taphonomic Influences

As mentioned earlier in this report, all of the bones from Site 44AX0229 were examined for taphonomic influences. For the purpose of this discussion, the identifiable domestic mammal bones from Features 35, 36, 37, 41, 53, will be discussed in this section.

Feature 35.

There were no identified domestic mammal bones in the assemblage from Feature 35.

Feature 36/19th c. Privy

Out of the 116 identified domestic mammal bones from Feature 36, several cattle and swine bones exhibit signs of taphonomic influences (see Table 3). While there were no bones with scorch marks or signs of weathering, at least four swine bones appears have gnaw marks. Two of these bones have gnaw patterns consistent with rodent chewing, while the other two appear to have been gnawed by a carnivore. Carnivores such as dogs will typically gnaw on the soft ends of long bones to create channels that allow them to get to the marrow. Smaller bones belonging to fish, birds, and small mammals are easily broken and digested by carnivores, so there is rarely any evidence of carnivore gnawing on these bones.

Evidence of butchering was the most frequently recorded taphonomic influence from the Feature 36 assemblage. The butchering marks on at least seven cattle and eight swine bones suggest the bones were hacked with either an ax or a cleaver. In addition to the hacked bones, there are also three cow bones that appear to have been sawn with a hand saw. A more detailed description of the butchery evidence will be discussed in later section of this report.

Table 3
Taphonomic Influences
Feature 36/19th c. Privy

Taxon	Total	Gnawed		Hacked		Sawn		Weathered		Burned	
	Count	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Cattle	54	0	0.0%	7	12.9%	3	5.5%	0	0.0%	0	0.0%
Swine	41	4	9.7%	8	19.5%	0	0.0%	0	0.0%	0	0.0%
Sheep/Goat	21	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Feature 37/19th Privy

Feature 37 only produced a total of 18 domestic mammal bones. While none of the swine or sheep/goat bones exhibited any signs of taphonomic influences, at least eight cattle bones were recorded as having been butchered (see Table 4). Seven of these bones were hacked with either an ax or a cleaver and a single innominate bone was recorded as having been sawn with a hand saw. A more detailed discussion of the butchering cuts will be discussed in a later section.

Table 4
Taphonomic Influences
Feature 37/19th c. Privy

Taxon	Total Count	Gnawed		Hacked		Sawn		Weathered		Burned	
		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Cattle	10	0	0.0%	7	70.0%	1	10.0%	0	0.0%	0	0.0%
Swine	5	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Sheep/Goat	3	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Feature 41/18th c. Warehouse

The 61 domestic mammal bones from Feature 41 show no signs of weathering, suggesting the bones were not exposed to the elements for an extended period of time (see Table 5). Burning was only seen on three cattle, two swine, and two sheep/goat bones. It must be kept in mind that it takes extreme temperatures to leave scorch marks on bones, so the burning is not necessarily an indication of cooking practices.

In terms of gnaw marks, two swine bones, and a single sheep/goat scapula have distinctive marks consistent with rodent incisors. For the cattle bones, four of them appear to have been gnawed by rodents and one has marks made by a carnivore.

Butchering from either an ax or a cleaver was seen on at least 63.6% of the cattle bones, 18.2% of the swine bones, and 50.0% of the sheep/goat bones. In addition to the hacked bones, there is also one cow innominate that has marks left by a hand saw. A more detailed description of the butchery and cuts of meat will be discussed in a later section.

Table 5
Taphonomic Influences
Feature 41/18th c. Warehouse

Taxon	Total Count	Gnawed		Hacked		Sawn		Weathered		Burned	
		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Cattle	44	5	11.4%	28	63.6%	1	2.3%	0	0.0%	3	6.8%
Swine	11	2	18.2%	2	18.2%	0	0.0%	0	0.0%	2	18.2%
Sheep/Goat	6	1	16.7%	3	50.0%	0	0.0%	0	0.0%	2	33.3%

Feature 53/18th c. Ship

With only fourteen cattle bones and three swine bones, the faunal assemblage from the eighteenth century ship shows only a few taphonomic influences (see Table 6). These taphonomic influences include a single cow rib that has gnaw marks consistent with a human and five cattle bones that appear to have been hacked with either an ax or a cleaver.

Table 6
Taphonomic Influences
Feature 53/18th c. Ship

Taxon	Total Count	Gnawed		Hacked		Sawn		Weathered		Burned	
		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Cattle	14	1	7.1%	5	35.7%	0	0.0%	0	0.0%	0	0.0%
Swine	3	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%
Sheep/Goat	0	0	0.0%	0	0.0%	0	0.0%	0	0.0%	0	0.0%

Feature 56/18th Privy

The Feature 56 assemblage produced a total of 92 domestic mammal bones that were analyzed for taphonomic influences (see Table 7). Evidence of burning was seen on at least three swine bones and a single sheep/goat bone. In addition to burning, gnaw marks recorded on three cattle bones suggests one was made by a rodent, one by a carnivore, and one by a human.

Like the other assemblages, butchering was the most recorded taphonomic influence on the Feature 56 assemblage. Fifteen cattle, eight sheep/goat, and seven swine bones appear to have been hacked with either an ax or a cleaver during the butchering process. There are also fifteen cattle bones that have the distinct appearance of being butchered with a hand saw. The use of saws or a combination of saw and cleavers for butchering domestic mammals has been first seen in late eighteenth and early nineteenth sites. A more complete description of the use of saws and the butchering evidence from Feature 56 will be discussed in the butchery section.

Table 7
Taphonomic Influences
Feature 56/18th c. Privy

Taxon	Total Count	Gnawed		Hacked		Sawn		Weathered		Burned	
		No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.	No.	Pct.
Cattle	42	3	7.1%	15	35.7%	15	35.7%	0	0.0%	0	0.0%
Swine	25	1	4.0%	7	28.0%	0	0.0%	0	0.0%	3	12.0%
Sheep/Goat	25	0	0.0%	8	32.0%	0	0.0%	0	0.0%	1	4.0%

Relative Dietary Importance

The following section will examine Features 35, 36, 37, 41, 53, and 56, discussing the relative dietary importance of each taxon based on each of the four main quantification methods mentioned earlier in the “Analytic Techniques” section of this report. It must be realized that these are relative measures and they do not reflect anything absolute about the amount of meat provided.

Feature 35 (Early 19th C. Privy)

As the smallest of the features, Feature 35 only produced eight bones identifiable to only two different species (see Table 8). At least half of the bones were indeterminate fish remains, while the remaining 50% of the assemblage is identifiable to herring (25.0%), old world rat (12.50%), and Norway rat (12.50%).

The MNI numbers show that only two individuals are represented in the assemblage including one herring fish and one Norway rat. Neither of these species contribute any significant amount to the meat weight totals. Also, with so few bones, it is not possible to accurately access the biomass totals.

Table 8
Bone Summary
Feature 35/19th c. Privy
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
<u>Fish</u>								
Order Osteichthyes (Bony Fish, Indeterminate)	4	50.0	—	—	—	—	0.000	0.00
Family Clupeidae (Herring)	2	25.0	1	50.0	0.0	0.0	0.005	21.58
<u>Commensal Mammal (Non-Food)</u>								
<i>Rattus</i> spp. (Old World Rat)	1	12.5	—	—	—	—	0.009	39.21
<i>Rattus norvegicus</i> (Norway Rat)	1	12.5	1	50.0	0.0	0.0	0.009	39.21
<u>Totals</u>								
Fish	6	75.0	1	50.0	0.0	0.0	0.005	21.58
Commensal Mammal (Non-Food)	2	25.0	1	50.0	0.0	0.0	0.018	78.42
Wild	6	75.0	1	50.0	0.0	0.0	0.005	21.58
Domestic	0	0.0	0	0.0	0.0	0.0	0.000	0.00
Identified	4	50.0	2	100.0	0.0	0.0	0.023	100.00
Indeterminate	4	50.0	—	—	—	—	0.000	0.00
Totals	8	100.0	2	100.0	0.0	100.0	0.023	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

Feature 36 (Late 18th C. Privy)

A total of 914 bones make up the faunal remains for the Feature 36 assemblage. From this late eighteenth century privy, at least 16.4% of the elements are identifiable to 12 different species (see Table 9). From the identifiable faunal material, cattle remains are the greatest contributor to the NISP totals at 5.9%, followed by domestic swine at 4.5%, and sheep/goat at 2.3%. All remaining identified species contribute less than 1.0% to the NISP totals.

The MNI numbers show that fish make up the greatest percentage accounting for 33.3% of the assemblage or at least five individuals. Domestic mammals and domestic birds are represented by at least six individuals, while wild mammals and wild birds are represented by three individuals. Although wild species dominate the MNIs, it is the domestic species that contribute the greatest percentage (98.2%) to the meat weight totals. Individually, domestic cattle accounts for 84.6%, while domestic swine contributes 10.6% to the domestic meat weight totals.

Finally, the biomass figures also show domestic cattle making up the greatest amount with 37.9% of the totals, followed by swine at 12.2%, and sheep/goat contributing 4.1% to the overall diet. As mentioned previously, the domestic mammal biomass figures can be somewhat masked by the "other mammal" category, composed of indeterminate mammal bones that are almost certainly mostly cattle, swine, and sheep/goat which are simply too fragmentary to identify to species. For this assemblage the indeterminate medium mammal bones make up 6.5% of the biomass totals, while the indeterminate large mammal bones make up 21.1% of the total biomass.

Table 9
Bone Summary
Feature 36/19th c. Privy
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
<u>Fish</u>								
Order Osteichthyes (Bony Fish, Indeterminate)	25	2.7	—	—	—	—	0.056	0.19
<i>Ictalurus catus</i> (White Catfish)	4	0.4	1	6.7	2.0	0.3	0.029	0.10
<i>Perca Flavescens</i> (Yellow Perch)	8	0.9	3	20.0	3.0	0.5	0.015	0.05
<i>Morone americana</i> (White Perch)	1	0.1	1	6.7	1.0	0.2	0.004	0.01
<u>Wild Bird</u>								
Duck spp. (Duck)	2	0.2	1	6.7	2.0	0.3	0.009	0.03
cf. Duck spp. (Duck)	5	0.5	—	—	—	—	0.007	0.02
<u>Domestic Bird</u>								
Class Aves (Bird, Indeterminate)	7	0.8	—	—	—	—	0.030	0.10
cf. Goose spp. (Goose)	1	0.1	1	6.7	7.0	1.1	0.028	0.10
<i>Gallus gallus</i> (Chicken)	5	0.5	1	6.7	2.0	0.3	0.038	0.13
cf. <i>Gallus gallus</i> (Chicken)	2	0.2	—	—	—	—	0.013	0.04
<u>Wild Mammal</u>								
Rabbit spp. (Rabbit)	1	0.1	1	6.7	2.0	0.30	0.017	0.06
cf. <i>Ondatra zibethica</i> (Muskrat)	1	0.1	1	6.7	2.0	0.30	0.003	0.01
<u>Commensal Mammal (Non-Food)</u>								
Rat spp. (Rat)	1	0.1	—	—	—	—	0.003	0.01
<i>Rattus norvegicus</i> (Norway Rat)	3	0.3	1	6.7	0.0	0.00	0.029	0.10
<u>Domestic Mammal (Livestock)</u>								
Class Mammalia I (Large Mammal, Indeterminate)	93	10.2	—	—	—	—	6.126	21.06
Class Mammalia II (Medium Mammal,								

Indeterminate)	67	7.3	—	—	—	—	1.889	6.49
Order Artiodactyla I (Sheep, Goat, Deer, or Swine) (Indeterminate)	2	0.2	—	—	—	—	0.108	0.37
<i>Sus scrofa</i> (Domestic Swine)	37	4.1	2	13.3	200.0	30.5	3.294	11.32
cf. <i>Sus scrofa</i> (Domestic Swine)	4	0.4	—	—	—	—	0.248	0.85
<i>Bos taurus</i> (Domestic Cattle)	49	5.4	1	6.7	400.0	60.9	9.908	34.05
cf. <i>Bos taurus</i> (Domestic Cattle)	5	0.5	—	—	—	—	1.134	3.90
<i>Ovis aries/Capra hircus</i> (Domestic Sheep/Goat)	20	2.2	1	6.7	35.0	5.3	1.070	3.68
cf. <i>Ovis aries/Capra hircus</i> (Domestic Sheep/Goat)	1	0.1	—	—	—	—	0.116	0.40
Other Bone Identified to Class								
Class Aves/Mammalia III (Bird/Small Mammal, Indeterminate)	16	1.8	—	—	—	—	0.000	0.00
Class Mammalia (Mammal, Indeterminate)	554	60.6	—	—	—	—	4.923	16.92
Totals								
Fish	38	4.2	5	33.3	6.0	0.9	0.104	0.36
Wild Bird	7	0.8	1	6.7	2.0	0.3	0.054	0.18
Domestic Bird	15	1.6	2	13.3	9.0	1.4	0.109	0.37
Wild Mammal	2	0.2	2	13.3	4.0	0.6	0.020	0.07
Commensal Mammal (Non-Food)	4	0.4	1	6.7	0.0	0.0	0.032	0.11
Domestic Mammal (Livestock)	278	30.4	4	26.7	635.0	96.8	23.893	82.11
Other Bone Identified to Class	570	62.4	—	—	—	—	4.923	16.92
Wild	47	5.1	8	53.3	12.0	1.8	0.140	0.48
Domestic	293	32.1	6	40.0	644.0	98.2	24.002	82.48
Identified	150	16.4	15	100.0	656.00	100.0	15.965	54.87
Indeterminate	764	83.6	—	—	—	—	13.132	45.13
Totals	914	100.0	15	100.0	656.00	100.0	29.097	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

Feature 37 (Early 19th C. Privy)

The Feature 37 assemblage includes 194 faunal remains recovered from an early nineteenth century privy. This assemblage includes at least thirty-one bones identifiable to eight different species (see Table 10). As with the others assemblages, indeterminate remains are the most frequently identified bones making up 84.0% of the NISP figures. The remaining 15.9% of the NISP total consists mainly of cattle bones (5.2%) and domestic swine bones (2.6%). All other identified species contribute less than 2.0% to the NISP totals.

The MNIs show that domestic species contributed the greatest number making up 66.6% of the totals, while wild species only made up 22.2% of the MNIs. When the species are looked at individually, all species are represented by one individual with the exception of cattle which are represented by at least two individuals.

The biomass results reveal that adult cattle dominated the overall diet of the individuals who utilized this privy, making up 50.7% of the biomass percentage. Domestic swine are the second greatest contributors 4.4%, followed by sheep/goat at 2.1%. As mentioned previously, the domestic mammal biomass figures can be somewhat masked by the "other mammal" category, composed of indeterminate mammal bones that are almost certainly mostly cattle, swine, and sheep/goat which are simply too fragmentary to identify to species. Indeterminate large mammals make up 32.9% and medium mammals make up 4.3% of the biomass figures. In this assemblage, wild species contributed less than 1.0% to the overall diet.

Table 10
Bone Summary
Feature 37/19th c. Privy
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
<u>Fish</u>								
Order Osteichthyes (Bony Fish, Indeterminate)	7	3.6	—	—	—	—	0.014	0.10
<i>Ictalurus catus</i> (White Catfish)	3	1.6	1	11.1	2.0	0.2	0.027	0.20
<u>Wild Bird</u>								
Order Passeriformes (Perching Bird)	1	0.5	1	11.1	0.0	0.0	0.005	0.04
<u>Domestic Bird</u>								
Class Aves (Bird)	3	1.6	—	—	—	—	0.013	0.10
Goose spp. (Goose)	2	1.0	1	11.1	7.0	0.7	0.040	0.30
<i>Gallus gallus</i> (Chicken)	1	0.5	1	11.1	2.0	0.2	0.020	0.15
<u>Commensal Mammal (Non-Food)</u>								
<i>Rattus</i> spp. (Old World Rat)	1	0.5	—	—	—	—	0.003	0.02
cf. <i>Rattus</i> spp. (Old World Rat)	2	1.0	—	—	—	—	0.003	0.02
<i>Rattus norvegicus</i> (Norway Rat)	3	1.6	1	11.1	0.0	0.0	0.019	0.14
<u>Domestic Mammal (Livestock)</u>								
Class Mammalia I (Large Mammal, Indeterminate)	24	12.4	—	—	—	—	4.433	32.95
Class Mammalia II (Medium Mammal, Indeterminate)	15	7.7	—	—	—	—	0.582	4.32
<i>Sus scrofa</i> (Domestic Swine)	4	2.1	1	11.1	100.0	10.6	0.582	4.32
cf. <i>Sus scrofa</i> (Domestic Swine)	1	0.5	—	—	—	—	0.009	0.07
<i>Bos taurus</i> (Domestic Cattle)	10	5.2	2	22.2	800.0	84.6	6.821	50.71
<i>Ovis aries</i> / <i>Capra hircus</i> (Domestic Sheep/Goat)	3	1.6	1	11.1	35.0	3.7	0.277	2.06
<u>Other Bone Identified to Class</u>								
Class Aves/Mammalia III (Bird/Small Mammal, Indeterminate)	3	1.6	—	—	—	—	0.000	0.00
Class Mammalia III (Small Mammal, Indeterminate)	3	1.6	—	—	—	—	0.003	0.02
Class Mammalia (Mammal, Indeterminate)	108	55.7	—	—	—	—	0.600	4.46
<u>Totals</u>								
Fish	10	5.2	1	11.1	2.0	0.2	0.041	0.30
Wild Bird	1	0.5	1	11.1	0.0	0.0	0.005	0.04
Domestic Bird	6	3.1	2	22.2	9.0	0.9	0.073	0.54
Commensal Mammal (Non-Food)	6	3.1	1	11.1	0.0	0.0	0.025	0.19
Domestic Mammal (Livestock)	57	29.4	4	44.4	935.0	98.8	12.704	94.44
Other Bone Identified to Class	114	58.8	—	—	—	—	0.603	4.48
Wild	11	5.6	2	22.2	2.0	0.2	0.046	0.34
Domestic	63	32.5	6	66.6	944.0	99.8	12.777	94.90
Identified	31	15.9	9	100.0	946.00	100.0	7.807	58.03
Indeterminate	163	84.0	—	—	—	—	5.645	41.96
Totals	194	100.0	9	100.0	946.00	100.0	13.452	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

Feature 41 (18th C. Warehouse)

The Feature 41 assemblage represents faunal material associated with an eighteenth century warehouse along the Alexandria waterfront. The assemblage is made up 234 bones, of which 34.2% are identifiable to at least nine different species (see Table 11). As the NISP numbers reveal, indeterminate remains make up 65.8% of the assemblage with indeterminate fish bones accounting for 21.8% of this number. Most of the identified species make up less than 1% of the NISP numbers with the exception of cattle at 18.8%, domestic swine at 4.7%, sheep/goat at 2.6%, herring at 3.0%, and Norway rat at 1.7%.

According to the MNI values, the majority of the species are represented by one or two individuals. Exceptions to this include chicken with three individuals, domestic cattle and sheep/goat with four individuals, and domestic swine with five individuals. When the meat weight for each species is considered, cattle make up the greatest percentage accounting for 56.7% of the useable meat. Domestic swine are the next highest contributor at 22.7%, followed by domestic sheep/goat at 6.3%, and white-tailed deer and sturgeon each with 4.5%. Each of the remaining species accounts for 1% or less of the useable meat weight totals.

When the bone weight is taken into account, domestic cattle contribute the greatest amount to the biomass percentages accounting for 78.8% of the total diet. Other significant contributors to the diet include domestic sheep/goat at 3.4%, and domestic swine at 2.9%. All other species contribute less than 1% to the biomass totals. It must also be kept in mind that the mammal figures can be somewhat masked by the "other mammal" category, composed of indeterminate mammal bones that are simply too fragmented to identify to species. Indeterminate medium mammal remains make up 3.0% and large indeterminate mammals make up 10.9%.

It is also interesting and unusual to note this assemblage also included an intact cow skull.

Table 11
Bone Summary
Feature 41/18th c. Warehouse
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
<u>Fish</u>								
Order Osteichthytes (Bony Fish, Indeterminate)								
	51	21.8	—	—	—	—	0.034	0.05
Family Clupeidae (Herring)	4	1.7	1	10.0	0.0	0.0	0.017	0.02
cf. Family Clupeidae (Herring)	3	1.3	—	—	—	—	0.008	0.01
<i>Ictalurus catus</i> (White Catfish)	1	0.4	1	10.0	2.0	0.2	0.006	0.01
<i>Morone americana</i> (White Perch)	2	0.9	1	10.0	1.0	0.1	0.010	0.01
<i>Micropterus</i> spp. (Bass)	1	0.4	1	10.0	2.0	0.2	0.007	0.01
<u>Domestic Bird</u>								
Class Aves (Bird, Indeterminate)								
cf. <i>Gallus gallus</i> (Chicken)	2	0.9	—	—	—	—	0.007	0.01
	2	0.9	1	10.0	2.0	0.2	0.035	0.05
<u>Commensal Mammal (Non-Food)</u>								
<i>Rattus</i> spp. (Old World Rat)	2	0.9	—	—	—	—	0.012	0.02
<i>Rattus norvegicus</i> (Norway Rat)	3	1.3	1	10.0	0.0	0.0	0.024	0.03
cf. <i>Rattus norvegicus</i> (Norway Rat)	1	0.4	—	—	—	—	0.009	0.01
<u>Domestic Mammal (Livestock)</u>								

Class Mammalia I (Large Mammal, Indeterminate)	30	12.8	—	—	—	—	7.633	10.86
Class Mammalia II (Medium Mammal, Indeterminate)	33	14.1	—	—	—	—	2.093	2.98
Order Artiodactyla I (Sheep, Goat, Deer, or Swine) (Indeterminate)	1	0.4	—	—	—	—	0.092	0.13
Sus scrofa (Domestic Swine)	10	4.3	1	10.0	100.0	10.6	1.722	2.45
cf. Sus scrofa (Domestic Swine)	1	0.4	—	—	—	—	0.288	0.41
Bos taurus (Domestic Cattle)	38	16.2	2	20.0	800.0	84.9	53.141	75.61
cf. Bos taurus (Domestic Cattle)	6	2.6	—	—	—	—	2.273	3.23
Ovis aries/Capra hircus (Domestic Sheep/Goat)	6	2.6	1	10.0	35.0	3.7	2.402	3.42
Other Bone Identified to Class								
Class Aves/Mammalia III (Bird/Small Mammal, Indeterminate)	5	2.1	—	—	—	—	0.000	0.00
Class Mammalia (Mammal, Indeterminate)	31	13.3	—	—	—	—	0.466	0.66
Class Mammalia III (Small Mammal, Indeterminate)	1	0.4	—	—	—	—	0.003	0.00
Totals								
Fish	62	26.5	4	40.0	5.0	0.5	0.082	0.12
Domestic Bird	4	1.7	1	10.0	2.0	0.2	0.042	0.06
Commensal Mammal (Non-Food)	6	2.6	1	10.0	0.0	0.0	0.045	0.06
Domestic Mammal (Livestock)	125	53.4	4	40.0	935.0	99.3	69.644	99.01
Other Bone Identified to Class	37	15.8	—	—	—	—	0.469	0.67
Wild	62	26.5	4	40.0	5.0	0.5	0.082	0.12
Domestic	129	55.1	5	50.0	937.0	99.5	69.686	99.15
Identified	81	34.6	10	100.0	942.00	100.0	59.954	5.30
Indeterminate	153	65.4	—	—	—	—	10.329	14.69
Totals	234	100.0	10	100.0	942.00	100.0	70.283	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

Feature 53 (18th C. Ship)

From the excavations of the eighteenth century ship, a total of twenty eight bones were recovered that are identifiable to at least three different species. As Table 12 shows, this assemblage is different from the other analyzed features in that identifiable bones make up the greatest amount of the NIPS totals, making up 71.4% of the assemblage. Cattle remains were the most frequently identified specie making up 50.0% of the NISP, followed by domestic swine and chicken making up 10.7% of the NISP. Indeterminate remains contribute the remaining 28.5% of the NISP totals.

The MNI numbers show only four individuals are represented in the assemblage including two cows, one swine, and one chicken. With no wild species identified in the assemblage, domestic species dominate not only the MNIs but also the meat weight totals. Not surprisingly, cattle are the greatest contributor to the meat weight figures making up 88.7% of the total. Domestic swine contributes 11.1% to the meat weight totals, followed by chicken at .2%.

When the weight of the bone is considered, the biomass results reveal that cattle also dominated the biomass totals for this assemblage accounting for 88.5%. Domestic swine are the second greatest contributors with 7.7%, followed by chicken at 0.3%. As mentioned previously, the domestic mammal biomass figures can be somewhat masked by the "other mammal" category, composed of indeterminate mammal bones that are almost certainly mostly cattle, swine, and

sheep/goat which are simply too fragmentary to identify to species. Indeterminate large mammals make up 3.2% and medium mammals make up 0.3% of the biomass figures.

Table 12
Bone Summary
Feature 53/18th c. Ship
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
Domestic Bird								
<i>Gallus gallus</i> (Chicken)	3	10.7	1	25.0	2.0	0.2	0.059	0.29
Domestic Mammal (Livestock)								
Class Mammalia I (Large Mammal, Indeterminate)	6	21.4	—	—	—	—	0.668	3.24
Class Mammalia II (Medium Mammal, Indeterminate)	2	7.1	—	—	—	—	0.053	0.26
<i>Sus scrofa</i> (Domestic Swine)	3	10.7	1	25.0	100.0	11.1	1.586	7.69
<i>Bos taurus</i> (Domestic Cattle)	11	39.3	2	50.0	800.0	88.7	16.955	82.19
cf. <i>Bos taurus</i> (Domestic Cattle)	3	10.7	—	—	—	—	1.307	6.34
Totals								
Domestic Bird	3	10.7	1	25.0	2.0	0.2	0.059	0.29
Domestic Mammal (Livestock)	25	89.3	3	75.0	900.0	99.8	20.568	99.71
Wild	0	0.0	—	—	—	—	0.000	0.00
Domestic	28	100.0	4	100.0	902.0	100.0	20.568	100.0
Identified	20	71.4	4	100.0	902.00	100.0	19.907	96.50
Indeterminate	8	28.6	—	—	—	—	0.721	3.50
Totals	28	100.0	4	100.0	902.00	100.0	20.628	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

Feature 56 (late 18th c. Privy)

As the largest of the assemblages, Feature 56 produced a total of 2,015 bones, including 591 bones (29.3%) that are identifiable to at least 20 species (see Table 13). As the NISP numbers reveal, indeterminate remains make up the largest percentage of the assemblage, totaling 70.7%. The majority of these indeterminate bones (51.5%) consist of fish remains that were not able to be identified to specie. In terms of identifiable bones, herring are the highest contributors to the NISP at 5.8%, followed by freshwater catfish at 5.7%, white perch at 3.9%, and cattle at 2.1%. The remaining identified species each contribute less than 2.0% to the total NISP numbers.

When looking at the MNI values, wild species contribute at least 33 individuals including 28 fish. Domestic mammals and birds, on the other hand, only contribute a total of 14 individuals. In terms of meat weight, however, domestic mammals and domestic birds make up the greatest percentage (88.4%) of the useable meat weight figures. When looking at the species individually, it is not surprising that domestic cattle have the greatest amount of useable meat weight (65.7%), followed by domestic swine (15.5%), and sheep/goat (7.3%). The highest contributors to the meat weight totals for the wild species are sturgeon at 7.7% and white catfish making up 2.0% of the totals.

When the bone weight is taken into account, domestic cattle also contribute the greatest amount to the biomass percentages accounting for 46.6% of the total diet. Sheep/goat make up 7.3% of the biomass totals, while domestic swine contributes 6.5%. When looking at the wild species only white catfish made a significant contribution to the overall biomass at 1.5%. It must also be kept in mind that the domestic mammal figures can be somewhat masked by the "other mammal" category, composed of indeterminate mammal bones that are almost certainly cattle, swine, and sheep/goat which are simply too fragmented to identify to species. Indeterminate mammal remains make up 1.3%, large mammals make up 24.2% and medium mammals make up 3.2% of the biomass figures.

Table 13
Bone Summary
Feature 56/18th c. Privy
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
<u>Crustacean or Shell</u>								
<i>Callinectes sapidus</i> (Bony Crab)	4	0.2	1	1.8	0.0	0.00	0.000	0.00
<u>Fish</u>								
Order Osteichthytes (Bony Fish, Indeterminate)	1037	51.5	—	—	—	—	0.811	1.25
<i>Acipenser</i> spp. (Sturgeon)	29	1.4	1	1.8	100.0	7.7	0.173	0.27
Family Clupeidae (Herring)	115	5.7	4	7.3	0.0	0.0	0.258	0.40
cf. Family Clupeidae (Herring)	2	0.1	—	—	—	—	0.012	0.02
Family Catostomidae (Sucker)	16	0.8	2	3.6	2.0	0.2	0.161	0.25
cf. Family Catostomidae (Sucker)	1	0.1	—	—	—	—	0.005	0.01
<i>Ictalurus catus</i> (White Catfish)	114	5.7	13	23.6	26.0	2.0	0.994	1.53
cf. <i>Ictalurus catus</i> (White Catfish)	1	0.1	—	—	—	—	0.004	0.01
<i>Perca flavescens</i> (Yellow Perch)	2	0.1	1	1.8	1.0	0.1	0.007	0.01
cf. <i>Perca flavescens</i> (Yellow Perch)	2	0.1	—	—	—	—	0.013	0.02
<i>Morone</i> spp. (Temperate Bass)	1	0.1	—	—	—	—	0.013	0.02
<i>Morone americana</i> (White Perch)	78	3.9	7	12.7	7.0	0.5	0.215	0.33
cf. <i>Morone americana</i> (White Perch)	1	0.1	—	—	—	—	0.004	0.01
<u>Reptile/Amphibian</u>								
Water Turtle spp. (Slider or Cooter)	1	0.1	1	1.8	3.0	0.2	0.040	0.06
<u>Wild Bird</u>								
Family Ardeidae (Heron or Egret)	2	0.1	1	1.8	8.0	0.6	0.323	0.50
<u>Domestic Bird</u>								
Class Aves (Bird, Indeterminate)	8	0.4	—	—	—	—	0.044	0.07
<i>Anser anser</i> (Domestic Goose)	4	0.2	1	1.8	6.0	0.5	0.383	0.59
<i>Meleagris gallopavo</i> (Turkey)	4	0.2	1	1.8	8.0	0.6	0.313	0.48
cf. <i>Meleagris gallopavo</i> (Turkey)	4	0.2	—	—	—	—	0.083	0.13
<i>Gallus gallus</i> (Chicken)	34	1.7	4/1	9.1	9.0	0.7	0.923	1.42
cf. <i>Gallus gallus</i> (Chicken)	5	0.3	—	—	—	—	0.007	0.01
<u>Wild Mammal</u>								
<i>Sylvilagus floridanus</i> (Eastern Cottontail)	7	0.4	1	1.8	2.0	0.2	0.218	0.34
cf. <i>Sylvilagus floridanus</i> (Eastern Cottontail)	1	0.1	—	—	—	—	0.006	0.01
<i>Sciurus carolinensis</i> (Eastern Gray Squirrel)	1	0.1	1	1.8	1.0	0.1	0.024	0.04
<u>Commensal Mammal (Non-Food)</u>								
<i>Rattus</i> spp. (Old World Rat)	20	1.0	—	—	—	—	0.112	0.17
cf. <i>Rattus</i> spp. (Old World Rat)	4	0.2	—	—	—	—	0.000	0.00
<i>Rattus norvegicus</i> (Norway Rat)	26	1.3	6	10.9	0.0	0.0	0.306	0.47
cf. <i>Rattus norvegicus</i> (Norway Rat)	2	0.1	—	—	—	—	0.003	0.01
Mouse spp. (Mouse)	4	0.2	1	1.8	0.0	0.0	0.012	0.02
<i>Canis familiaris</i> (Dog)	13	0.7	1	1.8	0.0	0.0	0.854	1.32
cf. <i>Canis familiaris</i> (Dog)	1	0.1	—	—	—	—	0.042	0.07

Domestic Mammal (Livestock)

Class Mammalia I (Large Mammal, Indeterminate)	77	3.8	—	—	—	—	15.759	24.27	
Class Mammalia II (Medium Mammal, Indeterminate)	87	4.3	—	—	—	—	2.112	3.25	
Order Artiodactyla I (Sheep, Goat, Deer, or Swine) (Indeterminate)	10	0.5	—	—	—	—	0.637	0.98	
Sus scrofa (Domestic Swine)	18	0.9	2	3.6	200.0	15.5	3.405	5.24	
cf. Sus scrofa (Domestic Swine)	7	0.4	—	—	—	—	0.802	1.24	
Bos taurus (Domestic Cattle)	35	1.7	2/1	5.6	850.0	65.7	26.931	41.41	
cf. Bos taurus (Domestic Cattle)	7	0.4	—	—	—	—	2.418	3.72	
Ovis aries/Capra hircus (Domestic Sheep/Goat)	23	1.1	2	3.6	70.0	5.4	4.462	6.86	
cf. Ovis aries/Capra hircus (Domestic Sheep/Goat)	2	0.1	—	—	—	—	0.310	0.48	
Other Bone Identified to Class									
Class Aves/Mammalia III (Bird/Small Mammal, Indeterminate)	29	1.4	—	—	—	—	0.000	0.00	
Class Mammalia (Mammal, Indeterminate)	173	8.6	—	—	—	—	0.836	1.29	
Class Mammalia III (Small Mammal, Indeterminate)	3	0.2	—	—	—	—	0.056	0.09	

Totals

Crustacean or Shell	4	0.2	1	1.8	0.0	0.0	0.000	0.00
Fish	1399	69.4	28	50.9	136.0	10.5	2.670	4.10
Amphibian/Reptile	1	0.1	1	1.8	3.0	0.2	0.040	0.06
Wild Bird	2	0.1	1	1.8	8.0	0.6	0.323	0.50
Domestic Bird	59	2.9	6/1	12.7	23.0	1.8	1.709	2.62
Wild Mammal	9	0.4	2	3.6	3.0	0.2	0.248	0.38
Commensal Mammal (Non-Food)	70	3.5	8	14.5	0.0	0.0	1.329	2.05
Domestic Mammal (Livestock)	266	13.2	6/1	12.7	1120.0	86.6	57.773	88.96
Other Bone Identified to Class	205	10.2	—	—	—	—	0.892	1.37
Wild	1415	70.2	33	60.0	150.0	11.6	3.281	5.04
Domestic	325	16.1	12/2	25.5	1143.0	88.4	59.482	91.50
Identified	591	29.3	53/2	100.0	1293.00	100.0	44.774	68.85
Indeterminate	1424	70.7	—	—	—	—	20.255	31.14
Totals	2015	100.0	53/2	100.0	1293.00	100.0	65.029	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

Element Distributions

Many historical zooarchaeologists have focused their analysis of faunal remains on determining the social and economic status of households (Schulz and Gust 1983; Lyman 1987a; Crader 1984; Crader 1990; Reitz 1987; Bowen 1992). By looking at the presence or absence of various cuts of meat in an assemblage, they have concluded the presence of feet and heads, which are considered less valuable cuts, are indicators of low social and economic status. Consequently, the presence of fleshier cuts of meat, indicated by body elements, is considered to be more valuable and therefore, an indicator of a household with high status (Crader 1984; Miller 1984). Bowen (1992; 1994), however, demonstrated that preferences for heads and feet as cuts of meat have changed throughout history. For example, heads, particularly those of swine and calves, were often considered to be delicacies and therefore could not necessarily be considered a less valuable cut of meat.

In general, zooarchaeologists have not been able to identify distinctive characteristics of ethnic groups or high- and low-status diets (Bowen 1992; 1994). Particularly in seventeenth- and eighteenth-century assemblages, “low” and “high” quality cuts of meat are found intermingled in both high- and low-status assemblages. In his comparisons of known high-status and low-status seventeenth-century sites in Virginia, Henry Miller found very few differences in the distribution of particular elements. Similar species and cuts of meat were present in similar proportions on both types of sites, and in both, elements from “high-quality” cuts made up the majority of the bones (Miller 1984:360).

In studies of slave diet, where the assumption has been that slaves (presumably “low status”) were provided the cuts of meat the white owners did not like, attempts have been made to demonstrate that “low-status” cuts such as the heads and feet were the cuts of meat most commonly consumed. Diana Crader looked for the presence of different cuts of meat to define the status of slave households associated with Monticello. In her comparative study of slave households associated with Thomas Jefferson’s household and a slave household, she found a greater number “low-quality” cuts in the slave assemblage and a greater number of “high-quality” cuts in the main household assemblage. But like Miller, Crader found both high-quality cuts in the slave assemblage and low-quality cuts in the main household assemblage (Crader 1984, 1990).

The analysis of the cuts of meat represented in an assemblage is based on NISP, and is performed by comparing the distribution of elements found in a normal skeleton with those present in the faunal assemblage. When the distributions are similar it is interpreted that the entire animal was consumed, while dissimilarities are interpreted to mean that certain parts of the carcass were being selected over others. The following paragraphs will examine the element distribution figures for the domestic mammal remains recovered from Features 35, 36, 37, 41, 53 and 56 from Site 44AX0229.

Cattle Element Distribution

Analysis of cattle element distributions from sites located in the Virginia has shown that from the early seventeenth century through the nineteenth century, rural households consumed all parts of

the animal, even heads and feet. Urban assemblages dating from 1700 to 1800 have also shown that residents consumed all parts of cattle but in different percentages than their rural neighbors. Urban sites typically contain a greater than normal proportion of body cuts, a slightly less than normal proportion of head elements, and a far less than normal proportion of foot elements (Walsh et al. 1997).

As Table 14 shows, the majority of the analyzed features from both the eighteenth and nineteenth centuries have body elements dominating the remains of cattle with percentages higher than the normal distribution of cattle remains. In Features 37 and 56, body elements make up over 90% of the identified bones from cattle, while in Feature 41 body elements make up over 65% of the cattle remains. Exception to this include Feature 36 and Feature 53 where bones from the body were the second most identified elements in percentages less than the normal distribution patterns. In Feature 36, elements from the head are slightly higher than body elements, while in Feature 53, elements of the feet were the most frequently identified elements. It must also be kept in mind that some of these assemblages with less than 15 identified cattle elements, may not be an accurate representation of the cattle element distribution patterns as compared to the other features with greater amounts of cattle remains.

Table 14
Site 44AX0229
Element Distribution for Adult Domestic Cattle Remains

	Head		Body		Feet		NISP
	No.	%	No.	%	No.	%	
Cattle Normal		29.7		42.2		28.1	
Feature 35/early 19 th c. Privy	0	0.0	0	0.0	0	0.0	0
Feature 36/late 18 th c. Privy	24	44.4	22	40.7	8	14.8	54
Feature 37/early 19 th c. Privy	0	0.0	9	90.0	1	10.0	10
Feature 41/18 th c. Warehouse	12	27.3	29	65.9	3	6.8	44
Feature 53/18 th c. Ship	3	21.4	4	28.6	7	50.0	14
Feature 56/late 18 th c. Privy	2	4.8	40	95.2	0	0.0	42

It is clear from the distribution patterns that while all portions of cattle may have been available to the individuals who utilized this site from the eighteenth through the nineteenth centuries, body elements from cattle were the most frequently consumed cuts of meat.

Swine Element Distribution

The element distributions for swine has shown that urban and rural assemblages dating from the eighteenth and early nineteenth centuries are very similar to each other in the Virginia. Possible interpretations for these similarities include the idea that urban residents may have been obtaining swine from their own personal rural connections, or that they may have raised and slaughtered their own swine within the city limits. Another possibility is that hogs were brought to town and sold to individuals in the fall and early winter, which the family could salt the meat themselves. Whatever the conditions were the element distributions for swine does suggest that urban residents were not only purchasing individual cuts of meat but also had access to larger

portions of the animal. Rural occupants of the Chesapeake appear to have had access to the entire animal (Walsh et al. 1997).

As Table 15 shows, Features 37, 41, and 53 produced very limited amounts of swine remains, making it difficult to accurately access the distribution patterns for swine elements in these features. Features 36 and 56 produced a greater amount of swine bones, showing bones from the body were the most frequently identified elements for swine. In both of these features, bones and teeth from the head were the second most frequently identified elements, followed by bones from the feet in smaller than normal proportions.

Table 15
Site 44AX0229
Element Distribution for Domestic Swine Remains

	Head		Body		Feet		NISP
	No.	%	No.	%	No.	%	
Swine Normal		28.2		34.5		37.3	
Feature 35/early 19 th c. Privy	0	0.0	0	0.0	0	0.0	0
Feature 36/late 18 th c. Privy	17	41.5	18	43.9	6	14.6	41
Feature 37/early 19 th c. Privy	1	20.0	2	40.0	2	40.0	5
Feature 41/18 th c. Warehouse	5	45.4	4	36.4	2	18.2	11
Feature 53/18 th c. Ship	2	66.7	1	33.3	0	0.0	3
Feature 56/late 18 th c. Privy	8	32.0	14	56.0	3	12.0	25

Like the cattle elements, the distribution patterns for swine suggest that while all parts of the body may have been available, body elements were the most frequently consumed portions of the animal. It should also be kept in mind, this distribution pattern does not reflect the possible bacon and salt pork that may have also been available to the occupants who utilized these features.

Sheep/Goat Element Distribution

Typically, the element distributions of domestic mammals for rural eighteenth century sites reflects the pattern seen in a complete skeleton, while urban sites typically show greater percentages of body elements. While variability in the percentages does exist, for the most part this is often related to sample size and the percentages still show that all parts of the animal were consumed by everyone.

Only four of the analyzed features from Site 44AX0229 have sheep/goat bones (see Table 16). Unfortunately, Features 37 and 41 have less than ten elements, making it difficult to measure element distribution patterns. Features 36 and 56 have more sheep/goat elements with 21 and 25 bones, but it is still not enough to accurately assess the element distribution patterns. Although these features are limited in what they can reveal about the sheep/goat element patterns, it is interesting to note that these two features are quite different in their distribution of sheep/goat bones. At least 80.9% of the sheep/goat bones from Feature 36 are elements from the head, while in Feature 56 84.0% of the sheep/goat bones are from body elements.

It is not unusual to have a large percentage of teeth fragments because they are more durable than bones and tend to survive better. They are also less likely to be effected by butchery while the

body elements can become highly fragmented and unidentifiable. Since both of these features are from approximately the same time period, it seems apparent that head and body elements were available to the occupants who utilized these privies.

Table 16
Site 44AX0229
Element Distribution for Domestic Sheep/Goat Remains

	Head		Body		Feet		NISP
	No.	%	No.	%	No.	%	
Sheep/Goat Normal		29.7		42.2		28.1	
Feature 35/early 19 th c. Privy	0	0.0	0	0.0	0	0.0	0
Feature 36/late 18 th c. Privy	17	80.9	3	14.3	1	4.8	21
Feature 37/early 19 th c. Privy	2	66.7	1	33.3	0	0.0	3
Feature 41/18 th c. Warehouse	0	0.0	4	66.7	2	33.3	6
Feature 53/18 th c. Ship	0	0.0	0	0.0	0	0.0	0
Feature 56/late 18 th c. Privy	2	8.0	21	84.0	2	8.0	25

Kill-Off Patterns

Aging methods were employed to the domestic mammal bones recovered from all features from Site 44AX0229 in order to help understand the husbandry techniques that underlay the availability of food. To accurately assess the kill-off patterns from an assemblage, large numbers of elements are needed in proportions that are roughly even to that of a normal skeleton. Unfortunately when looking at each feature separately, the cattle, swine, and sheep/goat remains did not produce enough bones to make any conclusive statements about their kill-off patterns. In fact, there were less than ten bones per species in each feature. For the purpose of future comparative work, the epiphyseal fusion tables for all of the major feature assemblages are included in Appendix B, Tables 19-30.

Butchery and Cuts of Meat

Although every zooarchaeologist must deal with butchery on a daily basis when analyzing faunal remains, few working with historical sites have dealt with butchery-related problems in print. With notable exceptions such as Lyman (1987b, 1996) and Crader (1990), zooarchaeologists have tended to leave their observations as only a laboratory function. Yet butchering data holds fascinating information on the transformation in foodways that occurred during the eighteenth and early nineteenth centuries, along with the commercialization and industrialization of food production, distribution, processing, and consumption of foods.

As faunal assemblages have come through Colonial Williamsburg's Zooarchaeology Laboratory, it has become apparent that a fundamental change occurred in butchering techniques during the seventeenth, eighteenth, and early nineteenth centuries. By working closely with the archaeologists to create tightly dated assemblages, we have had the opportunity to observe when the butchering technique shifted from chopping to sawing and formulate ideas on how and why this change occurred. Specifically, extensive research on sites such as Harper's Ferry in Virginia, has helped to reveal how butchering methods evolved as the marketing of meat became increasingly commercialized (Bowen and Manning 1993).

In his illustrative encyclopedia, Diderot (1762-1777/1978) depicts butchers in the seventeenth century with cleavers, knives, and broad axes, but no saws. Drawings of markets and butcher shops from eighteenth-century London also show broad axes and cleavers, not saws. Saws begin to appear only during the late eighteenth century or early nineteenth century. In fact, the earliest evidence of a saw is a 1799 drawing of Philadelphia, where a butcher is holding a saw (Bowen and Manning 1993).

Assemblages that we have seen have shown us that the earliest sawn food remains appear in urban sites (Bowen and Brown 1994). In an assemblage dating to the turn of the century, the Narbonne House in Salem, Massachusetts, there are several sawn veal bones (Bowen 1982). In every nineteenth century faunal assemblage there are sawn bones, mixed in varying proportions with chopped bone. It appears that in the nineteenth century saws were increasingly used to butcher meat, particularly cattle bones and occasional pig and sheep/goat bones. In the early nineteenth century, the bones appear to have been sawn into cuts that were much like the large cuts common during the previous century, but over the century meat cuts decreased into smaller pieces closely resembling the thin steaks and chops that we find in the grocery stores today (Bowen and Manning 1993).

During the nineteenth century, cuts of meat gradually became "sanitized," losing any resemblance to the live animal it came from. Classically, chopping followed the internal structure of the mammalian skeleton, so that even stress breaks tended to follow the natural contours of the bone. Saw, on the other hand, allowed butchers to slice through joints, long bones, and other compact bones to produce "neat" individual portions, so much so that today only the most skeletally-aware urban consumer can distinguish the fragment of bone imbedded in a ham or a roast. This method of butchering also removed the last trace of the live animal from the dinner table—bone chips that had been the by-product of the chopping technique were gone. No longer did diners have to either consume bone chips or extract them from their mouths.

As the bones from the Site 44AX0229 assemblages were identified, any evidence of butchering was recorded for identified species, including whether the bones had been chopped or sawn. The following paragraphs will discuss evidence of butchering on cattle, pig, and sheep/goat elements for Features 35, 36, 37, 41, 53, and 56. As discussed earlier in the "Analytic Techniques" section of this report, almost all of the faunal remains from Site 44AX0229 had been butchered, resulting in many highly fragmented bones that were simply too small to identify to species or to element. Those butchered domestic mammal bones that could be identified to element and species were recorded and are discussed in the following paragraphs.

Feature 35

There were no domestic mammals identified from Feature 35 so no butchery evidence was recorded for this feature.

Feature 36

From the 116 domestic mammal bones, at least 18 elements were recorded as having been butchered including ribs, vertebrae, long bones, and innominate bones.

Rib. Although there were probably many butchered ribs in the assemblage, the majority of these bones were fragmented and could only be identified as the remains of either medium or large mammals. Only one rib fragment identified as the remains of a cow was recorded as having been hacked with either an ax or a cleaver transversely along the proximal portion of the bone. This cut is probably the result of separating the rib section from the vertebra.

Vertebrae. In addition to the butchered rib, there are also several butchered cattle bones from the vertebrae column. From the cattle remains, there are at least two lumbar vertebrae, one thoracic vertebra, and two cervical vertebrae hacked with either an ax or a cleaver. Generally speaking, the cuts were made longitudinally in a method to split the carcass in half, either along the center line or along either side of the centrum.

Long Bones. In addition to the hacked rib fragments, the cattle bones also produced a single humerus fragment that had been hacked with either an ax or a cleaver. Butchered humeri, radii, and ulnae were the most identified butchered elements from the swine bones. From these eight adult swine bones, four humeri, one radius, and one ulna had been hacked with either an ax or a cleaver with the intention of separating the joints. Most often the cuts were made below the proximal epiphysis through the shaft or above the distal epiphysis through the shaft. There were also a few bones that had been butchered mid-shaft. Experiments conducted by students and staff members working in Colonial Williamsburg's Zooarchaeological Lab have demonstrated the ease with which these cuts can be made. Two hits of a cleaver are enough to snap the long bone in two; one well-aimed hit of an axe will snap a joint in two. These cuts are part of the primary butchering process, not simply cuts made by those attempting to release the marrow from inside the shaft. In addition to the hacked bones, there is also one femur, one humerus, and one innominate cattle bone with the characteristic marks left by a hand saw.

Innominate. Butchered innominate bones from cattle and swine mammals were also identified in the Feature 36 assemblage. These include one swine innominate that had been hacked with either an ax or a cleaver through the proximal end of the bone. The other butchered innominate is a cow bone which had been sawn on one end of the cut and hacked on the other end of the bone.

Feature 37

From the eighteen identified domestic mammal bones, there are at least five cattle long bones, one cattle vertebra, and a single lower leg cattle bone recorded as having butchery marks.

Vertebrae. A single thoracic vertebra appears to have been hacked with either an ax or a cleaver. The cut, made on one side of the centrum, was made longitudinally in a method to split the carcass in half.

Long Bones. The butchered long cattle bones include two humeri, one tibia, and two ulna hacked with either an ax or a cleaver. There is also a single femur bone that had been sawn

through either end of the shaft. Most of these bones were butchered transversely through the shaft near one of the epiphyses, often including the epiphysis in the cut. There was also at least one bone that had been butchered mid-shaft. As mentioned previously, experiments conducted by students and staff members working in Colonial Williamsburg's Zooarchaeological Lab have demonstrated the ease with which these type of cuts can be made. It only takes two hits of a cleaver or one hit from an ax to cut a long bone in two. These cuts are part of the primary butchering process, not simply cuts made by those attempting to release the marrow from inside the shaft.

Lower Legs and Feet. One metatarsal bone from a cow was recorded as having been butchered with either an ax or a cleaver. This bone contains the proximal epiphyses and had been chopped through the middle of the shaft. This cut would have ensured a large amount of meat remained on the bone.

Feature 41

A total of sixty-one domestic mammal bones were identified from Feature 41 with butchery marks identified on at least twenty-nine cattle remains, two swine bones, and three sheep/goat bones.

Heads. Some of the butchered cattle remains are bones found in the head region of the animal, including two premaxilla bones, and one mandible. All of these bones had been hacked with either an ax or a cleaver with the cuts being primarily perpendicularly to the axis.

Vertebrae. In addition to the small number of butchered cattle head elements, there is also a single sacrum element butchered on two sides with either an ax or a cleaver. The bone has been butchered longitudinally on either side of the axis, suggesting this cut may have been made when the carcass was split in half. There are also at least two lumbar vertebrae hacked longitudinally along the center of the bone. The lack of swine and sheep/goat vertebrae may suggest these animals were being butchered elsewhere or only certain parts of these animals were being kept for consumption.

Rib. Although there were probably many butchered ribs in the assemblage, the majority of these bones were fragmented and could only be identified as the remains of either medium or large mammals. Four rib fragments, positively identified as cattle remains, were hacked transversely along the proximal portion of the bone. This cut is probably the result of separating the rib section from the vertebrae.

Scapulae. A single cow scapula was recorded as having been butchered with either an ax or a cleaver. The bone was cut transversely through the neck, just below the glenoid, and again through the blade. The goal of these two cuts seems to have been to sever the shoulder from the front leg, and secondly to bisect the shoulder itself. Since the flat bone of the blade is so fragile, there were also many fragments that appeared to have been broken due to stress fractures.

Long Bones. Like the other assemblages, butchered humeri, radii, ulnae, femora, and tibiae were the most identified butchered elements from the domestic mammal bones in the Feature 41 assemblage. From the cattle remains there are at least two humeri, four femora, one ulna, five radii, and two tibiae recorded as having been hacked with either an ax or a cleaver. The butchered swine and sheep/goat long bones each include a single tibia bone hacked through the shaft. As previously mentioned, experiments in Colonial Williamsburg's Zooarchaeological Lab have shown the ease with which these cuts can be made. Two hits of a cleaver are enough to snap the long bone in two; one well-aimed hit of an axe will snap a joint in two. These cuts

are part of the primary butchering process, not simply cuts made by those attempting to release the marrow from inside the shaft.

Innominate. Evidence of butchering was also noted on two innominates from the domestic cattle remains found in the Feature 41 assemblage. Like the scapula, the innominate bones are vulnerable to breakage. The bone is comprised of a soft cancellous bone that is covered by a thin layer of compact bone which is easily gnawed upon by dogs and broken by feet. Two of these innominates had been hacked through the ilium which is found on the proximal end of the bone. Another innominate was also butchered through the ilium but with a hand saw, suggesting a late eighteenth/early nineteenth century deposit.

Lower Legs and Feet. One metacarpal bone and one metatarsal bone from the sheep/goat elements were recorded as butchered with either an ax or a cleaver. Both of these bones contain one of the epiphyses and were chopped through the middle of the shaft. This cut would have ensured a large amount of meat remained on the bone.

Feature 53

Feature 53 only produced a total of seventeen domestic mammal bones, with only five cattle bones exhibiting evidence of butchering.

Head. Butchered bones from the head include two cattle mandible fragments which were both hacked in the posterior portion of the bone with either an ax or a cleaver. While one of the bones was cut longitudinally, the other bone was cut in multiple directions.

Rib. Although there were probably many butchered ribs in this assemblage, the majority of these bones were fragmented and could only be identified as the remains of either medium or large mammals. Two rib fragments, positively identified as cattle remains, were hacked with either an ax or a cleaver transversely along the proximal portion of the bone. These cuts are probably the result of separating the rib section from the vertebra.

Innominate. A single cow innominate bone was butchered through the proximal end of the bone through the ilium. Marks left on the bone indicate it was cut with either an ax or a cleaver. As mentioned previously, the pelvic bone is vulnerable to breakage. Once butchered, the soft cancellous bone that makes up the interior of the innominate is susceptible to the trampling of feet and gnawing by dogs.

Feature 56

As the largest feature, Feature 56 did produce the greatest amount of butchered elements including thirty cattle, seven swine, and eight sheep/goat bones

Vertebrae. Butchered vertebrae from this feature include one cow lumbar vertebra, one sheep/goat thoracic vertebra, one sheep/goat cervical vertebra, and one sheep/goat lumbar vertebra. All of the vertebrae had primarily been longitudinally through the center of the bone, leaving only half of the vertebrae. As mentioned in the descriptions of butchered vertebrae from the other features, this is probably the result of splitting the carcass in half. In addition to these hacked bones, there is also a single cow thoracic vertebra that appears to have been sawn with a hand saw.

Rib. Although there were probably many butchered ribs in the assemblage, the majority of these bones were fragmented and could only be identified as the remains of either medium or large mammals. At least three rib fragments were identified as cattle remains and were recorded as

having been hacked transversely along the proximal portion of the bone. This cut is probably the result of separating the rib section from the vertebra. An additional cow rib was recorded as having been sawn below the proximal end of the bone with a hand saw.

Scapulae. In terms of butchered scapula, there are at least four cattle bones that exhibit the distinct appearance of having been sawn with a hand saw. One scapula was sawn below the proximal end probably as a result of severing the shoulder from the front leg. The other scapula were fragments of the shaft probably sawn when the shoulder itself was bisected. Since the flat bone of the blade is so fragile, there may have been other fragments that were broken due to stress fractures.

Long Bones. Like the other assemblages, the majority of the butchered remains from Feature 56 are butchered long bones including humeri, radii, ulnae, femora, and tibiae. In total there are eight adult cattle long bones, five swine long bones, and two sheep/goat long bones all hacked with either an ax or a cleaver. The majority of the cuts were made below the proximal epiphysis or just above the distal epiphysis, often including one of the epiphyses in the cut. Some bones were hacked mid-shaft and several bones were just shaft fragments with no epiphyses. Butchery marks on the long bones are probably the result of separating the joints. In addition to these bones, there are also three femurs, one humerus, and one radius cow bone all butchered using a hand saw.

Innominate bones. Butchered innominate bones from Feature 56 include at least six cow bones, one swine bone, and one sheep/goat bone. The swine, sheep/goat, and at least two of the cattle innominates were all hacked using either an ax or a cleaver. The pelvic bone is similar to the scapula in that it is vulnerable to breakage. Once butchered, the soft cancellous bone that makes up the interior of the innominate is susceptible to the trampling of feet and gnawing by dogs. The remaining four innominate cow bones were butchered using a hand saw.

PART THREE: History of Markets in the Chesapeake and the Development of a Provisioning System in the Washington, D.C./Alexandria, Va. Area

Markets in the Chesapeake

Markets were part of the Chesapeake scenery as early as 1649 when Jamestown was granted the right to hold a weekly market on Wednesday and Saturday. Unfortunately these first markets were not successful and the local burgesses were forced to look for another place to establish a market. It was not until the capital was moved from Jamestown to Williamsburg that an act, providing for twice-weekly market days in town, was passed in 1705. The market in Williamsburg was also slow to be established, despite the urging of government officials and the local population that swelled during public times. It would not be until 1757 that a market house was finally completed and a more regulated market system was entrenched (Walsh et al. 1997).

Although a market house was finally built, it did not ensure the market functioned smoothly and produced quality foodstuffs. As evidence of the problems that were occurring in the Williamsburg market, “Timothy Telltruth” wrote a revealing description of the market in the *Virginia Gazette* in 1768. He described of “meat for poverty not fit to eat, and sometimes almost spoiled” since it hung in the market for hours. Not only were the goods questionable but the vendors were known for charging what they liked, “which is generally exorbitant enough, especially on publick times, or when little meat is at market.” He also compared the Williamsburg market to the Norfolk market where the prices and the quality of goods were regulated by government officials. As an example, “Timothy Telltruth” wrote that butchers in the Norfolk market only charged a farthing to cut meat into smaller portions, while in Williamsburg they charged an extra penny (Walsh et al 1997).

Another comparison written by a James City County resident in 1770 suggests the Williamsburg market was not reliable as a consistent supply for provisions. She remarked in her diary that the Baltimore market was “very fine,” and was “surprised to see the number of People there & the variety of things for Sale.” She was told there was not “seven Gardens in the Whole Town” and for this reason, “nothing can be thought of which is not brought in plenty to market (Walsh et al. 1997).”

Like Williamsburg, Annapolis also had problems establishing and maintaining a quality market. When it became unlawful to sell goods door to door in 1716, Annapolis had their merchants meet weekly at the state house until a market house could be built. Although a market house was built before the mid-century, it was sold and moved to a more convenient location in 1752. That market house was destroyed in 1775 and a new building was not built until 1784 (Walsh et al. 1997).

As part of the District of Columbia, Washington and nearby towns, like Alexandria, make up a fairly new chapter in the overall history of markets and provisioning systems in the Chesapeake. When the government of the United States moved from Philadelphia to Washington in 1800, newcomers to the area found themselves living in a farming region. While the city developed, most of the newly transplanted residents found themselves either employed by government agencies or supplying the city with goods and services. The acquisition and preparation of food quickly became a necessity for the local inhabitants and several means of food procurement were developed. Some of the more wealthy inhabitants, for instance, utilized their outlying farms and nearby plantations to supply their foodstuffs. Other inhabitants may have been raising livestock

within the urban setting for their own subsistence. However, as the nineteenth century progressed, laws and regulations that were being passed in other urban areas, such as Philadelphia and Boston, were probably also being passed in Washington to restrict the ability residents had on raising their own livestock. For instance, by 1833, Boston had passed an act that repealed all rights to pasturage on the common grounds, which signaled the end of livestock-rearing in the city. Although it is not known exactly how long or to what extent animals were being raised within the city limits of Washington and Alexandria, at least one restrictive covenant was imposed on a Washington neighborhood called Uniontown in 1854 forbidding boiling soap and raising pigs (Walsh et al.).

While nineteenth century Washington and Alexandria may have seen the decline of livestock rearing in the city, it also saw the development of market buildings, grocers, and the beginnings of a more specialized provisioning system. Washington directories from 1822 to 1830 show the growth of commercialism as grocers increased from eighty-eight to one hundred, bakers doubled from five to ten, and wine merchants from two to five (Carson 1990). Markets were also established beginning with the Central Market, which opened at 7th and Pennsylvania in 1801. Several other markets quickly followed as observed by a British traveler in 1818 who counted “three market-houses in Washington, and I believe, four market days per week.” (Fearon 1969). Markets became the center of commercial development in growing communities. Urban residents in the mid-nineteenth century, whether they were rich or poor, rarely had to travel very far to acquire the goods and the provisions they needed.

Although the markets in the Chesapeake region varied depending on the quality of goods and when and where they met to sell the goods, all markets depended upon three factors to ensure their success. Consumers were needed to buy the products, public regulations were needed to monitor the quality and price of the goods, and producers were needed to bring the items to market. Although farmers were the primary suppliers of the market, a number of petty entrepreneurs also provided goods to be sold. Most often these individuals were considered the fringes of society such as slaves, free blacks, impoverished people, and women of varying stations (Walsh et al. 1997).

Slaves were such common figures in the Chesapeake markets that a law was passed in Norfolk in 1773 prohibiting “Indians, mulattoes or negroes Bound or free from selling any kind of dressed meat, Bread, or bakes, or retailing any kind of Beer or spiritous Liquors.” The fact this law was repealed in 1783 suggests slaves and other marginal individuals were too important in the local market system to be prohibited (Walsh et al. 1997). Slaves also played a significant role in the Washington market system as one visitor noted “Negroes are the chief sellers” (Fearon 1969).

Market days were a chance for the slaves to travel freely, to bring items they or their owners had for sale, and to visit with other slaves from around the area. The overwhelming presence of slaves on market days also caused local authorities to become increasingly concerned about their movements in and out of town. In 1810, the constable of Alexandria began to demand that slaves would disperse from the Sunday market by 9 o'clock. Specifically, their task was to “see the negroes from Maryland go over the river, to prevent the riotous play of boys of every description, and of negroes on that day, and if country negroes, to cause them to leave town” (Walsh et al. 1997).

Since slaves and other marginal individuals played such a dominant force in the Washington market, it is not surprising men and trusted servants became the primary shoppers and buyers of merchandise in the early nineteenth century. The role of men as the main consumers in the market represents a change that occurred during the early nineteenth century. During the eighteenth century women of all classes were predominately the shoppers for the household and in 1770 a visitor to Baltimore commented “Ladys here all go to markt to supply their pantry.” By the 1820s, however, the male heads of household with servants mixed with some women could be seen shopping in the markets of Alexandria and Philadelphia. As one servant described in the 1820s, “Your employer will generally attend to going to market, to suit himself, but your experience, if you should be called upon to do this duty, is of the utmost consequence” (Carson 1990). Caroline Gilman also referred to men in the marketplace in *Recollections of a Housekeeper* where she commented that husbands could be seen “haggling with the butchers at their stalls, or balancing raw meat in the open streets” (Gilman 1843).

While the shift from women to men as the main shoppers in the market may be a reflection of cultural changes it may also be related to the shift that occurred in who was selling items in the market. In the early nineteenth century farmers were no longer the primary sellers but middlemen, such as slaves and other petty entrepreneurs, became the primary merchants in the market. As early as 1763, one woman described that the pushing and shoving in the New York market caused “all that are weak and peaceable like myself, to have been excluded from purchasing in the market, by rudeness and force” (Walsh et al. 1997). Markets may have become a less savory place and men were obliged to take over the responsibilities of the daily shopping.

No matter who did the shopping, accounts concerning the Washington market indicate that a wide array of items were available to the local consumer. As one writer commented in 1819, “We have good markets and high prices but not the culinary results” (Carson 1990). Although the Washington market presented a good selection of goods, it was similar to the early market of Williamsburg where prices would increase during public times. Detailed accounts written by Thomas Jefferson’s French maitre d’hotel Etienne Lemarie indicate prices in the Washington market also swelled when congress was in the session. Lemarie’s accounts also provide a specific list of some of the wide range, high-end products that the Washington area markets carried for a population that entertained seasonally during the year. In 1806, Lemaire purchased speciality meats including a suckling pig, guinea fowls, partridges, squirrels, veal head and liver, guinea fowl, rabbits, pheasants, a pair of muscovy ducks, as well as numerous quantities of beef, mutton, lamb, and veal (Walsh et al. 1997).

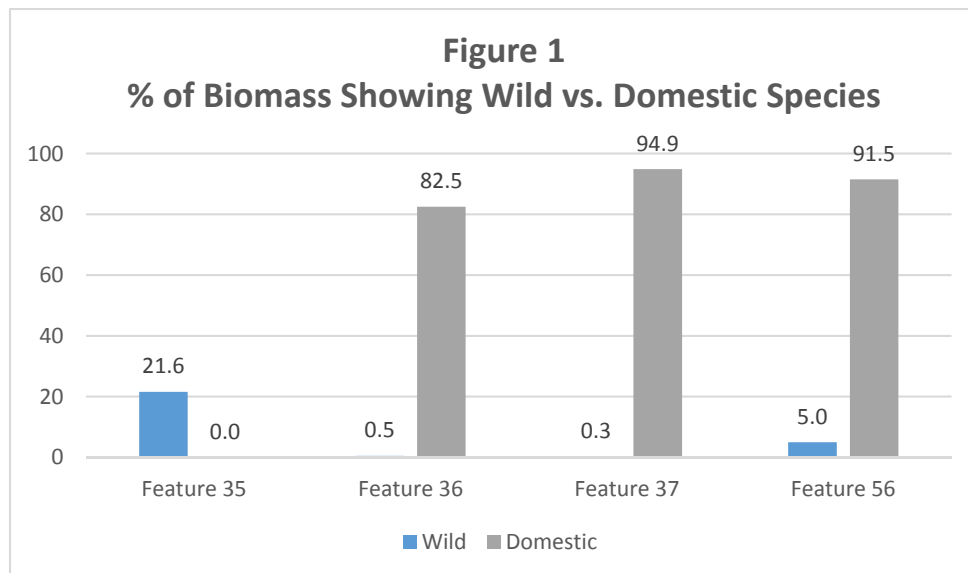
Although the individuals who utilized the features from Site 44AX0229 during the late eighteenth and early nineteenth century may not have been purchasing such high-end foodstuffs as Jefferson was, the local market provided a centralized provisioning system to sustain the urban inhabitants of Alexandria. As part of the urban cultural landscape, public markets were frequented by a broad cross-section of urban society and their influence can be seen in the faunal remains that are left behind. The following section will examine and compare the faunal assemblages from the four excavated privies from Site 44AX0229 to each other and to other comparable sites.

PART FOUR: Comparison of Faunal Data from the Privies (Features 35, 36, 37, and 56) and Comparisons to Other Sites

The following section compares the biomass figures from the four privy assemblages (Features 35, 36, 37, and 56) to determine if there are any significant differences between the features. Then, to provide a larger assemblage for analysis, all the privy assemblages were combined together to provide some insights into animal husbandry being practiced in Alexandria during the end of the eighteenth and the beginning of the nineteenth centuries. This assemblage was then compared to other urban assemblage from the early nineteenth century.

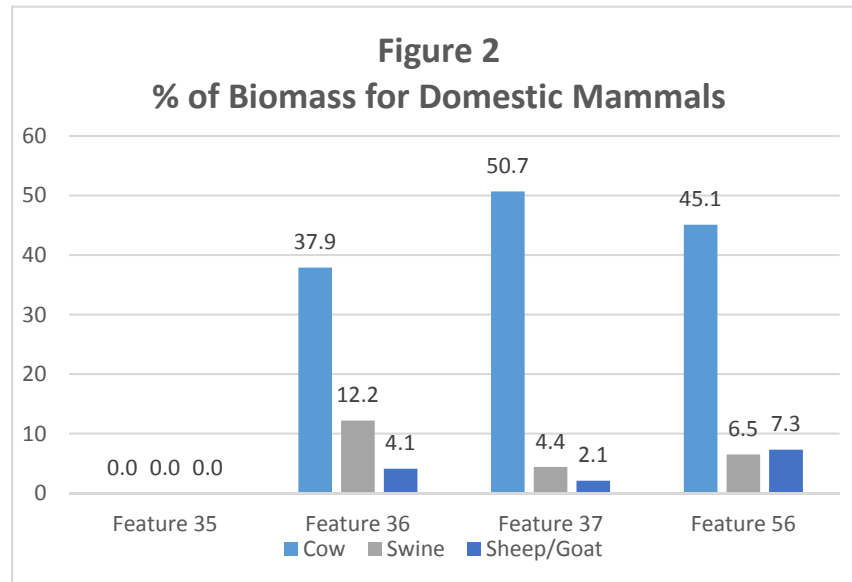
Comparison of Individual Privy Features

When looking at the individual assemblages from Site 44AX0229, it is clear to see that domestic species dominated the faunal material from the privies. The only exception to this was Feature 35 which only had eight bones identified as fish and rat remains. The remaining privies all have domestic species contributing between 82-92% of the biomass totals. Feature 56 has the greatest amount of wild species making up 5% of the biomass, while Features 36 and 37 have wild species making up less than 1% of the biomass figures. The greater percentage of wild species in Feature 56 is due to the high number of fish remains that make up 4.1% of the biomass totals. At least six different species of fish were identified from the 1,399 fish bones which make up 69.4% of the NISP numbers for Feature 56. Fish remains also contribute the greatest amount to the wild species in Feature 36 (.4%) and Feature 37 (.3%).



In terms of the biomass percentages for the individual privy assemblages, it is clear to see that beef dominated the diet of the individuals who were utilizing these features. Beef accounted between approximately 37-50% of the overall diet with swine and sheep/goat making up between 2% and 12% of the remaining biomass totals. While swine are typically the second greatest contributor to the diet in urban assemblages dating from the late eighteenth and early

nineteenth centuries, it is interesting to note that sheep/goat actually contribute a slightly greater percentage than swine to the biomass totals in Feature 56. With sheep/goat contributing 7.3% and swine contributing 6.5% it is clear that both domestic species were significant to the diet of the individuals who utilized this feature.



Overall, when the four privies from Site 44AX0229, are compared to one another there are no significant differences in the biomass percentages. All of the privies have domestic species contributing the greatest amount to the diet with beef being the main source of meat. Pork and mutton were also important in the diet but in lower percentages. One of the only differences that is noted between the assemblages is the percentage of wild species in Feature 56. The high number of fish remains accounts for wild species contributing at least 5% to the overall biomass, a percentage higher than the other privies. Does this reflect the type of cuisine that may have been served in one of the nearby taverns or is it just a result of preservation influences? Also, the lack of faunal material in Feature 35 does raise the question of why this privy was not being utilized as the others were or could it also be related to preservation issues.

Combined Privies and Comparisons to Other 19th Sites

To assist in the interpretation of Site 44AX0229 and to increase the size of the faunal assemblage, all the privy assemblages were combined together to make one large assemblage of 3,150 bones. This data from this assemblage was then compared to the data from other early nineteenth century faunal assemblages including Harpers Ferry Hotel Yard (Bowen and Manning 1993), Harpers Ferry Hotel Privy (Bowen and Manning 1993), and a Washington, D.C. Residence (Andrews 2000).

Combined Privies Assemblage

When all the privy assemblages were combined they produced a large assemblage consisting of 3,191 bones that were identifiable to at least 23 species (see Table 17). As the NISP numbers reveal, indeterminate remains make up the largest percentage of the assemblage, totaling 75.2%. The majority of these indeterminate bones were either fish remains (34.1%) that were not able to be identified to specie or fragmented mammal bones (39.5%) that were considered indeterminate. In terms of identifiable bones, herring and catfish are the highest contributors to the NISP at 3.8% and 3.9%. Other significant contributors to the NISP include cow at 3.6%, white perch at 2.6%, and swine at 2.3%. The remaining identified species each contribute less than 2.0% to the total NISP numbers.

When looking at the MNI values, wild species contribute at least 42 individuals including 30 individual fish. Domestic mammals and birds, on the other hand, only contribute a total of 16 individuals. In terms of meat weight, however, domestic mammals and domestic birds make up the greatest percentage (88.9%) of the useable meat weight figures. When looking at the domestic species individually, it is not surprising that domestic cattle have the greatest amount of useable meat weight (58.5%), followed by domestic swine (24.1%), and sheep/goat (4.8%). The highest contributors to the meat weight totals for the wild species are sturgeon at 6.9% and white catfish making up 1.9% of the totals.

When the bone weight is taken into account, domestic cattle also contribute the greatest amount to the biomass percentages accounting for 49.3% of the total diet. Swine are the second highest contributor of the meat weight totals at 7.9%, followed by sheep/goat at 5.3%. All remaining species each contribute less than 1% to the biomass totals. It must also be kept in mind that the domestic mammal figures can be somewhat masked by the "other mammal" category, composed of indeterminate mammal bones that are almost certainly cattle, swine, and sheep/goat which are simply too fragmented to identify to species. Indeterminate mammal remains make up 5.3%, large mammals make up 21.8% and medium mammals make up 3.7% of the biomass figures.

Table 17
Bone Summary
Combined Privies (Features 35, 36, 37, and 56)
Site 44AX0229

	NISP		MNI		Meat Weight		Biomass	
	No.	Pct.	MNI	Pct.	Lbs.	Pct.	Kg	Pct.
Crustacean or Shell								
<i>Callinectes sapidus</i> (Bony Crab)	4	0.1	1	1.5	0.0	0.00	0.000	0.00
Fish								
Order Osteichthytes (Bony Fish, Indeterminate)	1073	34.1	—	—	—	—	0.840	0.75
<i>Acipenser</i> spp. (Sturgeon)	29	0.9	1	1.5	100.0	6.9	0.173	0.16
Family Clupeidae (Herring)	117	3.7	4	6.1	0.0	0.0	0.259	0.23
cf. Family Clupeidae (Herring)	2	0.1	—	—	—	—	0.012	0.01
Family Catostomidae (Sucker)	16	0.5	2	3.0	2.0	0.1	0.161	0.14
cf. Family Catostomidae (Sucker)	1	0.1	—	—	—	—	0.005	0.00
<i>Ictalurus catus</i> (White Catfish)	121	3.8	14	21.2	28.0	1.9	1.039	0.93
cf. <i>Ictalurus catus</i> (White Catfish)	1	0.1	—	—	—	—	0.004	0.00
<i>Perca Flavescens</i> (Yellow Perch)	10	0.3	4	6.1	4.0	0.3	0.020	0.02
cf. <i>Perca Flavescens</i> (Yellow Perch)	2	0.1	—	—	—	—	0.013	0.01
<i>Morone</i> spp. (Temperate Bass)	1	0.1	—	—	—	—	0.013	0.02

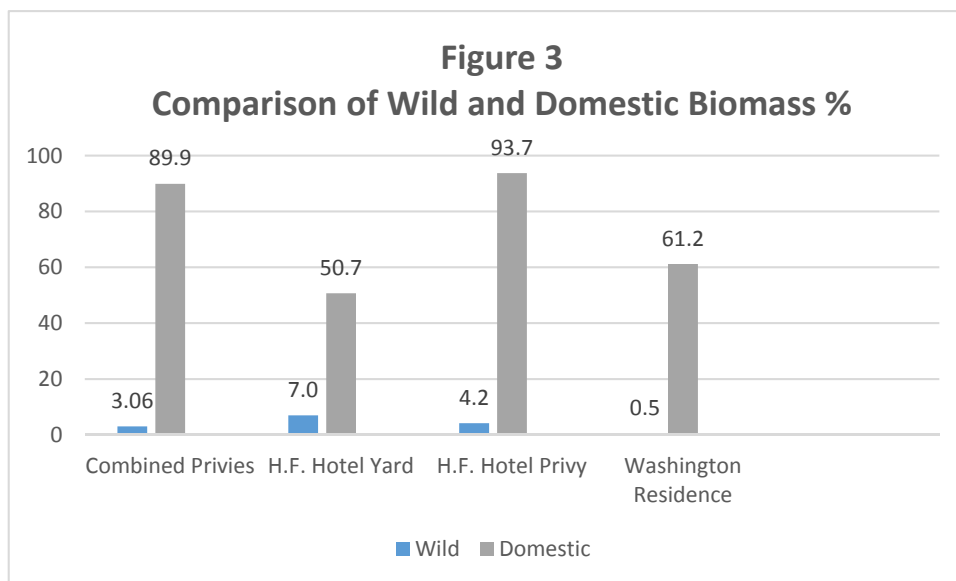
<i>Morone americana</i> (White Perch)	79	2.5	9	13.6	9.0	0.6	0.217	0.19
cf. <i>Morone americana</i> (White Perch)	1	0.1	—	—	—	—	0.004	0.00
<u>Reptile/Amphibian</u>								
Water Turtle spp. (Slider or Cooter)	1	0.1	1	1.5	3.0	0.2	0.040	0.04
<u>Wild Bird</u>								
Family Ardeidae (Heron or Egret)	2	0.1	1	1.5	8.0	0.5	0.323	0.29
Duck spp. (Duck)	2	0.1	1	1.5	2.0	0.1	0.009	0.01
cf. Duck spp. (Duck)	5	0.2	—	—	—	—	0.007	0.01
Order Passeriformes (Perching Bird)	1	0.1	1	1.5	0.0	0.0	0.005	0.00
<u>Domestic Bird</u>								
Class Aves (Bird, Indeterminate)	18	0.6	—	—	—	—	0.079	0.07
Goose spp. (Goose)	2	0.1	—	—	—	—	0.040	0.04
cf. Goose spp. (Goose)	1	0.1	—	—	—	—	0.028	0.02
<i>Anser anser</i> (Domestic Goose)	4	0.1	1	1.5	6.0	0.4	0.383	0.34
<i>Meleagris gallopavo</i> (Turkey)	4	0.1	1	1.5	8.0	0.5	0.313	0.28
cf. <i>Meleagris gallopavo</i> (Turkey)	4	0.1	—	—	—	—	0.083	0.07
<i>Gallus gallus</i> (Chicken)	43	1.4	4/1	7.6	9.0	0.6	1.002	0.90
cf. <i>Gallus gallus</i> (Chicken)	7	0.2	—	—	—	—	0.019	0.02
<u>Wild Mammal</u>								
Rabbit spp. (Rabbit)	1	0.1	—	—	—	—	0.017	0.01
<i>Sylvilagus floridanus</i> (Eastern Cottontail)	7	0.2	1	1.5	2.0	0.1	0.218	0.20
cf. <i>Sylvilagus floridanus</i> (Eastern Cottontail)	1	0.1	—	—	—	—	0.006	0.01
<i>Sciurus carolinensis</i> (Eastern Gray Squirrel)	1	0.1	1	1.5	1.0	0.1	0.024	0.02
cf. <i>Ondatra zibethica</i> (Muskrat)	1	0.1	1	1.5	2.0	0.2	0.003	0.00
<u>Commensal Mammal (Non-Food)</u>								
<i>Rattus</i> spp. (Old World Rat)	22	0.7	—	—	—	—	0.120	0.11
cf. <i>Rattus</i> spp. (Old World Rat)	6	0.2	—	—	—	—	0.003	0.00
<i>Rattus norvegicus</i> (Norway Rat)	33	1.3	6	9.1	0.0	0.0	0.344	0.31
cf. <i>Rattus norvegicus</i> (Norway Rat)	2	0.1	—	—	—	—	0.003	0.00
Mouse spp. (Mouse)	4	0.2	1	1.5	0.0	0.0	0.012	0.01
<i>Canis familiaris</i> (Dog)	13	0.4	1	1.5	0.0	0.0	0.854	0.77
cf. <i>Canis familiaris</i> (Dog)	1	0.1	—	—	—	—	0.042	0.04
<u>Domestic Mammal (Livestock)</u>								
Class Mammalia I (Large Mammal, Indeterminate)	199	6.3	—	—	—	—	24.241	21.76
Class Mammalia II (Medium Mammal, Indeterminate)	169	5.4	—	—	—	—	4.157	3.73
Order Artiodactyla I (Sheep, Goat, Deer, or Swine) (Indeterminate)	12	0.4	—	—	—	—	0.716	0.64
<i>Sus scrofa</i> (Domestic Swine)	60	1.9	3/1	6.1	350.0	24.1	7.799	7.00
cf. <i>Sus scrofa</i> (Domestic Swine)	12	0.4	—	—	—	—	1.001	0.90
<i>Bos taurus</i> (Domestic Cattle)	102	3.2	2/1	4.6	850.0	58.5	50.757	45.56
cf. <i>Bos taurus</i> (Domestic Cattle)	14	0.4	—	—	—	—	4.126	3.70
<i>Ovis aries</i> / <i>Capra hircus</i> (Domestic Sheep/Goat)	46	1.5	2	3.0	70.0	4.8	5.456	4.90
cf. <i>Ovis aries</i> / <i>Capra hircus</i> (Domestic Sheep/Goat)	3	0.1	—	—	—	—	0.402	0.36
<u>Other Bone Identified to Class</u>								
Class Aves/Mammalia III (Bird/Small Mammal, Indeterminate)	48	1.5	—	—	—	—	0.000	0.00
Class Mammalia (Mammal, Indeterminate)	835	26.5	—	—	—	—	5.957	5.35
Class Mammalia III (Small Mammal, Indeterminate)	48	1.5	—	—	—	—	0.000	0.00
<u>Totals</u>								
Crustacean or Shell	4	0.1	1	1.5	0.0	0.0	0.000	0.00
Fish	1453	46.1	34	51.5	143.0	9.8	2.760	2.47
Amphibian/Reptile	1	0.1	1	1.5	3.0	0.2	0.040	0.04
Wild Bird	10	0.3	3	4.5	10.0	0.7	0.344	0.31
Domestic Bird	83	2.6	6/1	10.6	23.0	1.6	1.947	1.75
Wild Mammal	11	0.3	3	4.5	5.0	0.3	0.268	0.24

Commensal Mammal (Non-Food)	81	2.6	8	12.1	0.0	0.0	1.378	1.23
Domestic Mammal (Livestock)	617	19.6	7/2	13.6	1270.0	87.3	98.253	88.19
Other Bone Identified to Class	931	29.6	—	—	—	—	6.359	5.71
Wild	1479	46.9	42	63.6	161.0	11.1	3.412	3.06
Domestic	700	22.2	13/3	24.2	1293.0	88.9	100.200	89.93
Identified	789	24.7	64/2	100.0	1454.00	100.0	75.361	67.64
Indeterminate	2402	75.2	—	—	—	—	36.048	32.35
Totals	3191	100.0	64/2	100.0	1454.00	100.0	111.409	100.00

Note: NISP= Number of identified specimens; MNI=Minimum number of individuals. "2/2" under MNI means 2 adult, 2 immature; "1" means 1 adult.

To serve as a comparison to this larger assemblage, data from three other early nineteenth century assemblages were used. These assemblages include a privy and yard refuse excavated from a hotel located in Harper's Ferry, West Virginia (Bowen and Manning 1993), and yard waste excavated from a residence located in Washington, D.C. (Andrews 2000).

The first comparison that was made was an examination of the biomass figures for wild and domestic species. When the faunal summary from the combined privy assemblage are compared to the Harper's Ferry and the Washington residence faunal summaries, the biomass percentages of wild and domestic species are very similar with percentages close to the Harpers Ferry Hotel privy. These assemblages are consistent with what has been found in other assemblages from the eastern seaboard. Every site dating back to the first half of the seventeenth century confirms this basic reliance on domestic meats (Miller 1984). Even sites, like those from Alexandria, Va., with direct access to the many wild species found in and around the Chesapeake Bay, demonstrate the dominance of domestic species in the diet.



When the element distribution percentages for domestic mammals were analyzed, the centralization of the Alexandria provisioning system became evident. In the combined privies assemblage, the majority of the cattle, swine, and sheep/goat bones were from the body elements such as the meat-bearing long bones (see Table 18). The disproportionate distribution of cattle elements suggests the residents who utilized these privies did not typically have access to the entire animal, a reflection of the commercialization of the local food system. As food production and processing was removed from the home and into business enterprises, the availability of certain cuts of meat, as well as its appearance, was forever changed (Bowen and Manning 1993). As the cattle element distribution percentages suggest, Alexandria residents and proprietors would have relied heavily on the local markets and stores for the majority of their meats.

Besides the large percentage of body elements, the low percentages of head and foot bones from cattle may another reflection of the provisioning system that was evolving in Alexandria by the late eighteenth and early nineteenth centuries, including the disposal of waste parts. Other urban areas, like Washington and Boston, required butchers to dispose of cattle feet and other waste parts from their stalls. Even in the early nineteenth century, butchers in Boston began to sell cattle feet for oil and glue production. They also sold cattle heads to Poor Houses and pig farmers as a meat source, and to sugar boilers for the purpose of making animal carbon for the refining of sugar (Colman 1839:73). Perhaps the butchers in Alexandria were treating waste parts similarly, resulting in the small percentages of these elements in the privies.

Table 18
Site 44AX0229
Element Distribution for Adult Domestic Mammal Remains
Combined Privies (Features 35, 36, 37, and 56)
Compared to Other Early 19th Century Urban Features

	Head		Body		Feet		NISP
	No.	%	No.	%	No.	%	
Cattle Normal		29.7		42.2		28.1	
Combined Privies	29	25.0	73	62.9	14	12.1	116
Harper's Ferry Hotel Yard	7	36.8	10	52.6	2	10.5	19
Harper's Ferry Hotel Privy	17	8.8	152	78.4	25	12.9	194
Washington, D.C. Residence	9	9.1	81	81.8	9	9.1	99
Swine Normal		28.2		34.5		37.3	
Combined Privies	26	36.1	35	48.6	11	15.3	72
Harper's Ferry Hotel Yard	47	79.7	10	16.9	2	3.4	59
Harper's Ferry Hotel Privy	68	15.1	280	62.2	102	22.7	450
Washington, D.C. Residence	33	21.3	77	49.7	45	29.0	155
Sheep/Goat Normal		29.7		42.2		28.1	
Combined Privies	21	42.9	25	51.0	3	6.1	49
Harper's Ferry Hotel Yard	0	0.0	1	50.0	1	50.0	2
Harper's Ferry Hotel Privy	6	15.0	24	60.0	10	25.0	40
Washington, D.C. Residence	9	5.8	109	69.9	38	24.4	156

In addition to the element distribution patterns and the biomass results, an attempt was also made to examine and compare the kill-off data from the combined privies. Unfortunately, even when

the privy assemblages were combined, they still produced only 16 cattle, 11 swine, and 10 ageable sheep/goat bones, making any type of detailed analysis very difficult. As mentioned earlier, it takes a large number of ageable bones to accurately provide information on animal husbandry practices and the local agricultural economy. Although there was not enough data, the tables for cow, swine, and sheep/goat from the combined privies can be found in Appendix B, Tables 31-33.

PART FIVE: Summary Remarks

Summary

The previous sections of this report discussed identified taxa, the taphonomic influences on the bones, the element distributions of domestic animals, cuts of meat on the bones, an overview of the development of markets in the Chesapeake region, and some general comparisons to other early nineteenth century sites. By examining these important key pieces of evidence, the faunal assemblages from Site 44AX0229 can provide insights into the provisioning system of late eighteenth and early nineteenth century Alexandria and how it affected the availability of foods for its residents. Specifically, to what degree were the occupants of the site utilizing the local market system and how much control did the market have over the type of foods that were available to the consumer? The results from this analysis will also be added to the growing database of faunal assemblages from the Chesapeake in order that a better understanding can be gained on the role of provisioning systems of the region. Finally, the findings from this site will also provide useful comparisons not only to the Chesapeake region, but also to assemblages from other urban centers along the East Coast, such as Philadelphia, Boston, and New York.

As previously mentioned, when the markets and grocers began to flourish in the Washington area in the nineteenth century, farmers began to simultaneously change their animal husbandry practices from a subsistence-oriented economy to a more commercially-oriented economy. Influenced by the existence and the demands of urban areas, such as Washington and Alexandria, farmers responded by managing their livestock to produce the greatest profit. Kill-off data from faunal assemblages can provide a glimpse into the changing patterns in animal husbandry practices. Unfortunately, Feature 2-4 (Site 44AX0212) did not produce enough domestic mammal bones to analyze for age data.

Although there is not enough kill-off data, evidence of the centralization of Alexandria's provisioning system can also be found in some of the element distributions. For example, the cattle element distributions indicate the occupants of the site preferred or had access to primarily body elements such as the meat-bearing long bones and ribs. While this might suggest personal preference of the individual consumer, it may also suggest new health laws were occurring in Alexandria and Washington, as they were in other urban areas such as Boston, where butchers were required to dispose of feet and other waste parts from their stalls (Marten 1980).

While kill-off patterns and element distributions can provide insights into the animal husbandry patterns practiced by farmers and the choices that were available to the consumer in the market, evidence of butchering techniques can also be an indication of the growing commercialization of the Alexandria market. Butchers were an important component in the market place and by the nineteenth century most were licensed and charged fees to rent stalls in the market houses. Since they were typically considered lower-level craftsmen, not much has been recorded of the day-to-day workings of butchers. Instead, much of the information concerning the practices of individual butchers has come from accounts of their debts, crimes, and lack of wealth. Complaints about butchers have also revealed some of the problems that consumers faced. Specifically, some butchers would add fat to meat and kidneys in order to hide the poor quality or add weight to the portions including one market butcher in Richmond, Virginia who was put on probation for forestalling meat (Walsh et al. 1997).

Gathering information about specific butchers in Washington and Alexandria is also difficult, although there were a number of them scattered around the town. What is known is that butchering was not allowed directly in the city of Washington so most of the butchering probably took place somewhere on the edge of town. Clues as to how butchers went to market, how food was displayed, and the costs involved in being a seller in the local market can be found in an inventory taken in 1820. John Krause, a butcher, owned “Weights & Scales & Butchers Work Tools” valued at \$15, “1 Cart & Gear” at \$20, and another “old Cart” at \$2. His appraisers also valued a lease on a “Stall in market House” at \$20 and “2 meat Stands & tops” at \$4” (Carson 1990). Unfortunately though, inventories like these often do not specify exactly which tools butchers owned and what tools and methods they preferred to use on specific animals.

During the late eighteenth and early nineteenth century, a transformation of butchering techniques was occurring in large cities, including Alexandria and Washington, throughout the United States. Meals were no longer consisting of large cuts of meat that were roasted and shared in trenchers, instead, the increased use of saws allowed for bones to be cut into individual pieces. Exactly how and when butchering techniques transformed from chopping tools to the use of saws is an ongoing research question that faunal assemblages from urban nineteenth sites are beginning to help shed some light on. What is known is although saw cuts begin to appear in assemblages dating from the late eighteenth and early nineteenth century, both instruments continued to be used by professional butchers throughout the nineteenth century. Catalogue’s that displayed butcher’s supplies show even in 1900 pork cleavers, beef splitters, market cleavers, and lamb cleavers were advertised along with various types of saws including the high flat steel back for use on heavy beef, the pork packers saws, and dehorning saws (Bowen and Manning 1993). Bulletins issued by the U.S. Department of Agricultural have also indicated home producers used saws, cleavers, and axes even until the early twentieth century. The archaeological record, however, suggests during the nineteenth century the saw became gradually more important and eventually replaced axes and cleavers as the professional tool of choice (Bowen and Manning 1993).

The butchering evidence from the Site 44AX0229 assemblages shows a mixture of butchering techniques with at least 20 cattle remains and 14 indeterminate large mammal ribs showing evidence of being sawn with a hand saw. All other cow bones appear to have been hacked with an ax or a cleaver. The majority of the sawn elements (29 bones) came from Feature 56 with additional sawn bones identified in Features 36, 37, and 41. In all of the features, butchered swine and sheep/goat remains were all hacked with a chopping tool. Although this mixture of butchering techniques may be an indication of primary and secondary butchering by the butchers and the consumers, it is more likely this is a reflection of the local provisioning system of the professional butcher. Other urban faunal assemblages from the nineteenth century show a similar pattern of both chopped and sawn bones. For example, analysis of faunal remains from nineteenth century sites from Harpers’s Ferry and Boston have typically exhibited pig and sheep/goat bones that had been chopped and cattle remains that were both chopped and sawn (Bowen and Manning 1993; Bowen and Brown 1994). Beef was one of the most important meats sold by grocers and professional butchers so it is not surprising a highly organized system of butchery was first adopted for adult cattle.

In conclusion, assemblages such as those analyzed from Site 44AX0229 contain important information on the changes in foodway patterns that occurred in Alexandria during the late eighteenth century and early nineteenth century. During this time provisioning systems all over the Chesapeake were evolving from a small face-to-face market system into one driven by middlemen and controlled by municipal regulations. By examining the element distributions and the butchering remains from nineteenth century sites a better understanding can be gained on how and when the development of the large-scale market took place.

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APPENDIX A:
Smaller Features from Site 44AX0229 with a List of
Bones within each Feature

List of Bones within the Smaller Features

Feature 12

- 1 indeterminate Class Mammalia (mammal) fragment
- 1 indeterminate Class Mammalia II (medium mammal) limb bone fragment

Feature 17

- 1 indeterminate Class Mammalia II (medium mammal) limb bone fragment

Feature 18

- 1 indeterminate Class Mammalia (mammal) fragment
- 1 indeterminate Class Mammalia II (medium mammal) limb bone fragment

Feature 19

- 7 *Sus scrofa* (swine) femur fragments
- 4 indeterminate Class Mammalia (mammal) fragments
- 1 indeterminate Class Mammalia I (large mammal) vertebra fragment
- 2 indeterminate Class Mammalia II (medium mammal) rib fragments
- 2 indeterminate Class Mammalia III (small mammal) limb bone fragments

Feature 20

- 3 *Sus scrofa* (swine) sacrum fragments

Feature 24

- 1 Goose spp. tarsometatarsus fragment

Feature 27

- 7 indeterminate Class Mammalia (mammal) fragments

Feature 31

- 1 indeterminate Class Mammalia I (large mammal) tooth fragment

Feature 34

- 1 *Gallus gallus* (chicken) coracoid fragment
- 1 *Bos taurus* (cow) lower premolar
- 1 indeterminate Class Mammalia (mammal) fragment

Feature 48

- 1 indeterminate Class Mammalia I (large mammal) vertebra fragment

Feature 54

- 1 *Sus scrofa* (swine) scapula fragment

Trench 1

- 2 *Bos taurus* (cow) scapula fragments

Trench 3

- 1 *Bos taurus* (cow) radius fragment

Trench 6

- 1 *Sus scrofa* (swine) scapula fragment

Trench 9

- 1 Class Bivalvia (clam or oyster) shell fragment
- 1 *Gallus gallus* (chicken) tibiotarsus fragment
- 1 *Sus scrofa* (swine) radius fragment
- 1 *Sus scrofa* (swine) innominate fragment
- 1 *Sus scrofa* (swine) metatarsal fragment
- 1 *Sus scrofa* (swine) first phalanx fragment
- 1 *Bos taurus* (cow) tibia fragment

2 *Bos taurus* (cow) radius fragments
1 *Bos taurus* (cow) first phalanx fragment
19 indeterminate Class Mammalia (mammal) fragments
1 indeterminate Class Mammalia I (large mammal) rib fragment
1 indeterminate Class Mammalia I (large mammal) limb bone fragment
7 indeterminate Class Mammalia II (medium mammal) limb bone fragments
7 indeterminate Class Mammalia II (medium mammal) rib fragments
5 indeterminate Class Mammalia II (medium mammal) vertebrae fragments
5 indeterminate Class Aves/Class Mammalia III (bird or small mammal) limb bone fragments

APPENDIX B:

Age Data Tables

Table 19
Age Distribution Based on Epiphyseal Fusion
Feature 36/late 18th c. Privy
***Bos taurus* (Domestic Cattle)**
N=3

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - distal	0	0
Radius - proximal	0	0
First Phalange - proximal	1	0
Second Phalange - proximal	1	0
	2	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 36 to 48 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	1
Ulna - proximal	0	0
Ulna - distal	0	0
Radius - distal	0	0
Femur - proximal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
Calcaneus	0	0
	0	1
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 20
Age Distribution Based on Epiphyseal Fusion
Feature 36/late 18th c. Privy
***Sus scrofa* (Domestic Swine)**
N=8

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus – distal	1	0
Radius - proximal	3	0
Second phalange - proximal	0	0
	4	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
First phalange - proximal	1	0
Tibia - distal	0	0
	1	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Calcaneus	0	0
Metatarsal	0	0
Fibula - distal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	1
Radius - distal	0	1
Ulna - proximal	0	0
Ulna - distal	0	0
Femur - proximal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
Fibula - proximal	0	0
	0	2
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 21
Age Distribution Based on Epiphyseal Fusion
Feature 36/late 18th c. Privy
***Ovis aries/Capra hircus* (Domestic Sheep or Goat)**
N=2

Age of Fusion - 6 to 10 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus - distal	0	0
Radius - proximal	0	1
	0	1
Percent of Age Range	0.0%	100.0%

Age of Fusion - 12 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Ulna - proximal	0	0
Ulna - distal	0	0
Metacarpal	0	0
Femur - proximal	0	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
Calcaneus	0	0
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	1
Femur - distal	0	0
Tibia - proximal	0	0
	0	1
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 22
Age Distribution Based on Epiphyseal Fusion
Feature 37/early 19th c. Privy
***Bos taurus* (Domestic Cattle)**
N=1

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - distal	0	0
Radius - proximal	0	0
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 36 to 48 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	1	0
Ulna - proximal	0	0
Ulna - distal	0	0
Radius - distal	0	0
Femur - proximal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
Calcaneus	0	0
	0	0
Percent of Age Range	100.0%	0.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 23
Age Distribution Based on Epiphyseal Fusion
Feature 37/early 19th c. Privy
***Sus scrofa* (Domestic Swine)**
N=1

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus – distal	0	0
Radius - proximal	0	0
Second phalange - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
First phalange - proximal	0	0
Tibia - distal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Calcaneus	1	0
Metatarsal	0	0
Fibula - distal	0	0
	1	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	0
Ulna - proximal	0	0
Ulna - distal	0	0
Femur - proximal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
Fibula - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 24
Age Distribution Based on Epiphyseal Fusion
Feature 37/early 19th c. Privy
***Ovis aries/Capra hircus* (Domestic Sheep or Goat)**
N=1

Age of Fusion - 6 to 10 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus - distal	0	0
Radius - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Ulna - proximal	0	0
Ulna - distal	0	0
Metacarpal	0	0
Femur - proximal	0	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
Calcaneus	0	0
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	1
Femur - distal	0	0
Tibia - proximal	0	0
	0	1
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 25
Age Distribution Based on Epiphyseal Fusion
Feature 41/18th c. Warehouse
***Bos taurus* (Domestic Cattle)**
N=6

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - distal	1	0
Radius - proximal	1	0
First Phalange - proximal	1	0
Second Phalange - proximal	0	0
	3	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
Tibia - distal	1	0
Metatarsal	0	0
Metapodial	0	0
	1	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 36 to 48 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Ulna - proximal	0	0
Ulna - distal	0	0
Radius - distal	0	0
Femur - proximal	0	1
Femur - distal	1	0
Tibia - proximal	0	0
Calcaneus	0	0
	0	1
Percent of Age Range	50.0%	50.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 26
Age Distribution Based on Epiphyseal Fusion
Feature 41/18th c. Warehouse
***Ovis aries/Capra hircus* (Domestic Sheep or Goat)**
N=1

Age of Fusion - 6 to 10 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus - distal	0	0
Radius - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Ulna - proximal	0	0
Ulna - distal	0	0
Metacarpal	1	0
Femur - proximal	0	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
Calcaneus	0	0
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	0	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 27
Age Distribution Based on Epiphyseal Fusion
Feature 53/18th c. Ship
***Bos taurus* (Domestic Cattle)**
N=6

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - distal	0	0
Radius - proximal	0	0
First Phalange - proximal	2	0
Second Phalange - proximal	0	0
	2	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	3	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
	3	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 36 to 48 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Ulna - proximal	0	0
Ulna - distal	0	0
Radius - distal	0	0
Femur - proximal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
Calcaneus	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 28
Age Distribution Based on Epiphyseal Fusion
Feature 56/ late 18th c. Privy
***Bos taurus* (Domestic Cattle)**
N=7

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	1	0
Innominate	2	0
	3	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - distal	0	0
Radius - proximal	2	0
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	2	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Age of Fusion - 36 to 48 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Ulna - proximal	0	1
Ulna - distal	0	0
Radius - distal	0	0
Femur - proximal	0	1
Femur - distal	0	0
Tibia - proximal	0	0
Calcaneus	0	0
	0	2
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 29
Age Distribution Based on Epiphyseal Fusion
Feature 56/late 18th c. Privy
***Sus scrofa* (Domestic Swine)**
N=2

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus - distal	0	0
Radius - proximal	0	0
Second phalange - proximal	1	0
	1	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	3	0
First phalange - proximal	0	0
Tibia - distal	0	0
	3	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Calcaneus	0	0
Metatarsal	4	1
Fibula - distal	0	0
	4	1
Percent of Age Range	80.0%	20.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	0
Ulna - proximal	0	0
Ulna - distal	0	0
Femur - proximal	0	1
Femur - distal	0	0
Tibia - proximal	0	0
Fibula - proximal	0	0
	0	1
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 30
Age Distribution Based on Epiphyseal Fusion
Feature 56, late 18th c. Privy
***Ovis aries/Capra hircus* (Domestic Sheep or Goat)**
N=6

Age of Fusion - 6 to 10 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	1	0
Humerus - distal	3	0
Radius - proximal	0	0
	4	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 12 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Ulna - proximal	0	0
Ulna - distal	0	0
Metacarpal	0	0
Femur - proximal	0	1
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
Calcaneus	0	1
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	0	2
Percent of Age Range	0.0%	100.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	0
Femur - distal	0	0
Tibia - proximal	0	0
	0	0
Percent of Age Range	0.0%	0.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 31
Age Distribution Based on Epiphyseal Fusion
Combined Privies (Features 35, 36, 37, and 56)
***Bos taurus* (Domestic Cattle)**
N=16

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	1	0
Innominate	2	0
	3	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - distal	0	0
Radius - proximal	2	0
First Phalange - proximal	3	0
Second Phalange - proximal	1	0
	6	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	2	0
Tibia - distal	0	0
Metatarsal	1	0
Metapodial	0	0
	3	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 36 to 48 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	1	1
Ulna - proximal	0	1
Ulna - distal	0	0
Radius - distal	0	0
Femur - proximal	0	1
Femur - distal	0	0
Tibia - proximal	0	0
Calcaneus	0	0
	1	3
Percent of Age Range	25.0%	75.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 32
Age Distribution Based on Epiphyseal Fusion
Combined Privies (Features 35, 36, 37, and 56)
***Sus scrofa* (Domestic Swine)**
N=11

Age of Fusion - 0 to 12 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	0	0
Humerus – distal	1	0
Radius - proximal	3	0
Second phalange - proximal	1	0
	5	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 12 to 24 Months

Bone and Epiphysis	Fused	Not Fused
Metacarpal	0	0
First phalange - proximal	1	1
Tibia - distal	0	0
	1	1
Percent of Age Range	50.0%	50.0%

Age of Fusion - 24 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Calcaneus	1	0
Metatarsal	0	0
Fibula - distal	0	0
	0	0
Percent of Age Range	100.0%	0.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	1	0
Radius - distal	0	1
Ulna - proximal	0	0
Ulna - distal	0	0
Femur - proximal	0	1
Femur - distal	0	0
Tibia - proximal	0	0
Fibula - proximal	0	0
	0	2
Percent of Age Range	33.3%	66.6%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

Table 33
Age Distribution Based on Epiphyseal Fusion
Combined Privies (Features 35, 36, 37, and 56)
***Ovis aries/Capra hircus* (Domestic Sheep or Goat)**
N=10

Age of Fusion - 6 to 10 Months

Bone and Epiphysis	Fused	Not Fused
Scapula	0	0
Innominate	1	0
Humerus - distal	3	1
Radius - proximal	0	0
	4	1
Percent of Age Range	80.0%	20.0%

Age of Fusion - 12 to 36 Months

Bone and Epiphysis	Fused	Not Fused
Ulna - proximal	0	0
Ulna - distal	0	0
Metacarpal	0	0
Femur - proximal	0	1
Tibia - distal	0	0
Metatarsal	0	0
Metapodial	0	0
Calcaneus	0	1
First Phalange - proximal	0	0
Second Phalange - proximal	0	0
	0	2
Percent of Age Range	0.0%	100.0%

Age of Fusion - 36 to 42 Months

Bone and Epiphysis	Fused	Not Fused
Humerus - proximal	0	0
Radius - distal	0	2
Femur - distal	0	0
Tibia - proximal	0	1
	0	3
Percent of Age Range	0.0%	100.0%

Source of Fusion Ages: Silver 1969; Chaplin 1970; Maltby 1979.

APPENDIX C:

Bone Measurements of Domestic Mammals (Livestock)

Key to Bone Measurements
From
A Guide to the Measurement of Animal Bones
From Archaeological Sites
By Angela Von Den Driesch

Cranium

- 21 – Length of the cheektooth row (sheep/goat)
- 22 – Length of the molar row (sheep/goat)
- 23 – Length of the premolar row (sheep/goat)
- 28 – Length of the molar row/maxilla (swine)
- 31 – Breadth of molar 3 near base of crown (swine)

Mandible

- 3- Length: Gonion caudale – aboral border of the alveolus of molar 3
- 5 – Length: Gonion caudale – oral border of the alveolus of molar 3
- 6 – Length: Gonion caudale – the most aboral indentation of the mental foramen
- 7 – Length of the cheektooth row, along the alveoli
- 7a – Length of the molar row, measured along the alveoli
- 8 - Length of the molar row
- 9 – Length of the premolar row
- 10 – Length and breadth of premolar 3
- 12 – Aboral height of the vertical ramus
- 13 – Middle height of the vertical ramus
- 14 – Oral height of the vertical ramus
- 15a and 16a - Height of the mandible behind Molar 3
- 15b and 16b – Height of the mandible in front of Molar 1
- 15c and 16c and 22c– Height of the mandible in front of Premolar 2

Scapula

- GLp – Greatest length of the Processus articularis
- LG – Length of the glenoid cavity
- BG – Breadth of the glenoid cavity
- SLC – Smallest length of neck of scapula

Humerus

- Bp – Greatest breadth of the proximal end
- Bd – Greatest breadth of the distal end
- SD – Smallest breadth of the diaphysis
- BT – Greatest breadth of the trochlea (equids and ruminants)

Radius

- Bp – Greatest breadth of the proximal end
- BFp – Greatest breadth of the Facies articularis proximalis
- Bd – Greatest breadth of the distal end

SD – Smallest breadth of the diaphysis

Ulna

DPA-Depth across the Processus anconaeus

SDO – Smallest depth of the olecranon

BPC-Greatest breadth across the coronoid process

Innominate

LA-Length of the acetabulum including the lip

LAR – Length of the acetabulum on the rim

SB – Smallest breadth of the shaft of ilium

Femur

Bp – Greatest breadth of the proximal end

Bd – Greatest breadth of the distal end

SD – Smallest breadth of the diaphysis

Tibia

Bp – Greatest breadth of the proximal end

Bd – Greatest breadth of the distal end

SD – Smallest breadth of the diaphysis

Astragalus

GLI – Greatest length of the lateral half

GLm – Greatest length of the medial half

DI – Greatest depth of the lateral half

Dm – Greatest depth of the medial half

Bd – Greatest breadth of the distal end

Calcaneus

GL – Greatest length

GB – Greatest breadth

Metapodials

GL – Greatest length

B – Breadth in the middle of the diaphysis

Bp – Greatest breadth of the proximal end

SD – Smallest breadth of the diaphysis

Bd – Greatest breadth of the distal end

Phalanx I

GL – Greatest length

GLpe – Greatest length of the peripheral half

Bp – Greatest breadth of the proximal end

SD – Smallest breadth of the diaphysis

Bd – Greatest breadth of the distal end

Phalanx II

GL – Greatest length

GLpe – Greatest length of the peripheral half

Bp – Greatest breadth of the proximal end

SD – Smallest breadth of the diaphysis

Bd – Greatest breadth of the distal end

Phalanx III

DLS – Greatest diagonal length of the sole

Ld – Length of the dorsal surface

MBS – Middle breadth of the sole

Table 34
Bone Measurements

UBNo.	ER#	Taxon	Element	Description	Measurement (mm)
993	F56/SBisect Lv.1 FF1	<i>Bos taurus</i>	Radius	Bp	84.4
				BFp	76.9
				SD	46.8
672	F56/SBisect Lv.6 FF3	<i>Bos taurus</i>	Scapula	GLP	72.8
				LG	61.4
				BG	52.2
452	F53/Top of Feature	<i>Bos taurus</i>	Metacarpal	Bp	55.8
				SD	34.4
				Bd	58.4
456	F53/Planking 4.3 LV. 3	<i>Bos taurus</i>	Metacarpal	Bp	54.1
				SD	30.5
457	F53/Planking 3.3 LV3	<i>Bos taurus</i>	Metacarpal	Bp	47.3
				SD	26.6
				Bd	46.8
466	F53/Gen. Coll.	<i>Bos taurus</i>	Metacarpal	Bp	50.3
				SD	27.8
				Bd	50.7
467	F53/Gen. Coll.	<i>Bos taurus</i>	Metacarpal	Bp	53.8
				SD	30.5
468	F53/Gen. Coll.	<i>Bos taurus</i>	Metatarsal	Bp	33.5
				SD	23.8
				Bd	45.7
470	F53/Gen. Coll.	<i>Bos taurus</i>	Phalanx I	Bd	45.3
				Glpe	55.4
				Bp	23.8
471	F53/Gen. Coll.	<i>Bos taurus</i>	Phalanx I	SD	21.4
				Bd	22.1
				Glpe	58.2
				Bp	24.4
				SD	19.9
				Bd	22.5

464	F53/Gen. Coll.	<i>Sus scrofa</i>	Tibia	SD	20.9
510	F56/NBisect	<i>Ovis aries/</i>	Radius	SD	18.6
	Lv.2 FF2	<i>Capra hircus</i>			
509	F56/NBisect	<i>Ovis aries/</i>	Humerus	SD	17.6
	Lv.2 FF2	<i>Capra hircus</i>		Bd	35.0
782	F56/SBisect	<i>Ovis aries/</i>	Humerus	SD	17.4
	Lv.7 F42	<i>Capra hircus</i>		Bd	31.3
919	F56/SBisect	<i>Ovis aries/</i>	Humerus	SD	16.4
	Lv.2 FF2	<i>Capra hircus</i>		Bd	32.7
586	F56/NBisect	<i>Ovis aries/</i>	Metacarpal	Bp	21.9
	Lv.6 FF3	<i>Capra hircus</i>		SD	12.2

Appendix X
Dendrochronology Analysis - Oxford Tree-Ring Laboratory

**Oxford Tree-Ring Laboratory
Report 2016/12**

**The Tree-Ring Dating of the
Alexandria Shipwreck and Wharf,
Alexandria, Virginia**

Michael J. Worthington and Jane I. Seiter



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December 2016

Summary:

Alexandria Shipwreck and Wharf, 220 South Union Street, Alexandria, Virginia (38.802157, -77.040313)

- | | |
|----------------------|------------------------------------|
| A) Shipwreck Timbers | <i>Felling date: After 1741</i> |
| B) Wharf Timbers | <i>Felling date: Winter 1773/4</i> |

- A) Floors (0/2); Frames (3/9) 1726 (15NM), 1712 (24NM), 1704 (12NM).
Site Master 1603-1726 (oak) ALEXx1 ($t = 6.96$ OCP; 6.40 WACHU; 6.16 OGC).
- B) Posts (3/3) 1773 (C), 1753 (6NM), 1726.
Site master 1638-1773 (oak) ALEXx2 ($t = 6.66$ MTVx1; 6.64 DC-AREA2; 6.48 EYREHALL).

Archaeological excavations carried out prior to the construction of a hotel in downtown Alexandria, Virginia, revealed the remains of a shipwreck and a nearby wharf in 2015. A dendrochronological study was undertaken in an attempt to date the primary construction phase of each structure. It was also hoped that dendro-provenancing might be able to determine where the ship was originally built.

Dendrochronological analysis has shown that the ship was built from timbers that were grown in Massachusetts. One of the timbers used to construct the ship produced a felled-after date of 1741, indicating that the ship was constructed sometime after this date. One of the posts used to construct the wharf was felled in the winter of 1773/4, suggesting that the wharf was built at this time or sometime after this date.

- | | |
|---------------------------|---|
| Date sampled: | January 4, 2016 |
| Commissioner: | John P. Mullen, Principal Archeologist/Assistant Manager,
Thunderbird Archeology |
| Street address: | 220 South Union Street, Alexandria, VA 22314 |
| Summary published: | www.dendrochronology.com |

How Dendrochronology Works

Dendrochronology has over the past few decades become one of the leading and most accurate scientific dating methods. While not always successful, when it does work, it is precise, often to the season of the year. Tree-ring dating to this degree of precision is well known for its use in dating historic buildings and archaeological timbers. However, more ancillary objects such as doors, furniture, panel paintings, and wooden boards in medieval book-bindings can sometimes be successfully dated.

The science of dendrochronology is based on a combination of biology and statistics. In temperate zones, a tree puts on a new layer of growth underneath the bark every year, with the effect being that the tree grows wider and taller as it ages. Each annual ring is composed of the growth which takes place during the spring and summer and continues until about November, when the leaves are shed and the tree becomes dormant for the winter period. For the two principal American oaks, the white and red (*Quercus alba* and *Q. rubra*), as well as for the black ash (*Fraxinus nigra*) and many other species, the annual ring is composed of two distinct parts: the spring growth or early wood, and the summer growth, or late wood. Early wood is composed of large vessels formed during the period of shoot growth which takes place between March and May, before the establishment of any significant leaf growth. This is produced by using most of the energy and raw materials laid down the previous year. Then, there is an abrupt change at the time of leaf expansion around May or June when hormonal activity dictates a change in the quality of the xylem, and the summer growth, or late wood, is formed. Here the wood becomes increasingly fibrous and contains much smaller vessels. Trees with this type of growth pattern are known as ring-porous, and are distinguished by the contrast between the open, light-colored early wood vessels and the dense, darker-colored late wood.

Other species of tree, such as tulip poplar (*Liriodendron tulipifera* L.), are known as diffuse-porous. Unlike the ring-porous trees, the spring vessels consist of very small spring vessels that become even smaller as the tree advances into the summer growth. The annual growth rings are often very difficult to distinguish under even a powerful microscope, and one often needs to study the medullary rays, which thicken at the ring boundaries.

Dendrochronology utilizes the variation in the width of the annual rings as influenced by climatic conditions common to a large area, as opposed to other more local factors such as woodland competition and insect attack. It is these climate-induced variations in ring widths that allow calendar dates to be ascribed to an undated timber when compared to a firmly-dated sequence. If a tree section is complete to the bark edge, then when dated a precise date of felling can be determined. The felling date will be precise to the season of the year, depending on the degree of formation of the outermost ring. Therefore, a tree with bark that has the spring vessels formed but no summer growth can be said to be felled in the spring, although it is not possible to say in which particular month the tree was felled.

Another important dimension to dendrochronological studies is the presence of sapwood and bark. This is the band of growth rings immediately beneath the bark and comprises the living growth rings which transport the sap from the roots to the leaves. This sapwood band is distinguished from the heartwood by the prominent features of color change and the blocking of the spring vessels with tyloses, the waste products of the tree's growth. The heartwood is generally darker in color, and the spring vessels are usually blocked with tyloses. The heartwood is dead tissue, whereas the sapwood is living, although the only really living, growing, cells are in the cambium, immediately beneath the bark. In the American white oak (*Quercus alba*), the difference in color is not generally matched by the change in the spring vessels, which are often filled by tyloses to within a year or two of the terminal ring. Conversely, the spring vessels in the American red oak (*Q. rubra*) are almost all free of tyloses, right to the pith. Generally the sapwood retains stored food and is therefore attractive to insect and fungal attack once the tree is felled and therefore is often removed during conversion.

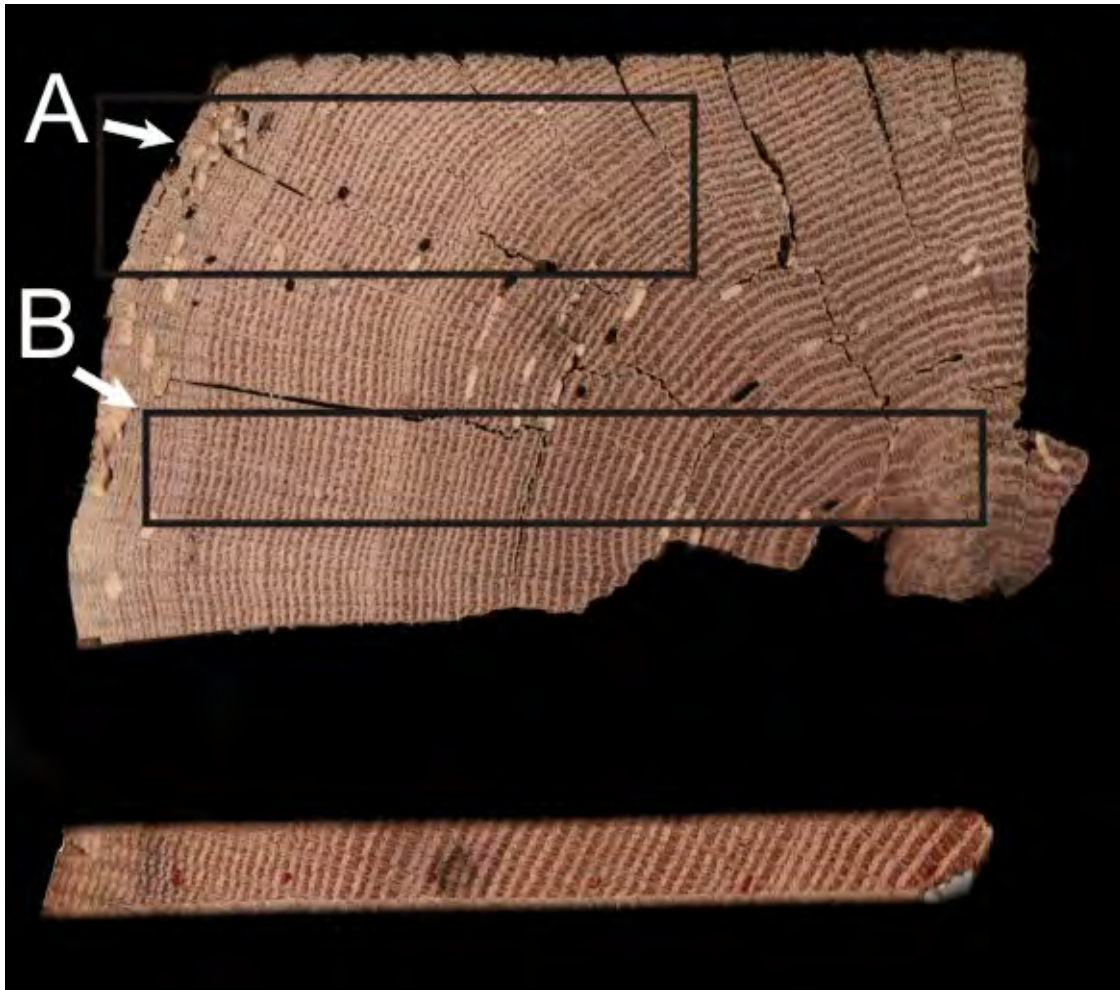


Figure 1. A cross-section of an oak timber with sapwood rings on the left-hand side (above). The boxes illustrate conversion methods resulting in **A**) a precise felling date and **B**) a *terminus post quem* or felled after date. Also pictured is a core showing complete sapwood (below).

Methodology: The Dating Process

All samples were from what appeared to be primary first-use timbers. Timbers that looked most suitable for dendrochronological purposes—those with complete sapwood or reasonably long ring sequences—were selected. *In-situ* timbers in the shipwreck were sampled through coring, using a 5mm increment borer, while sections from the wharf timbers were cut by Thunderbird Archaeology and provided to Oxford Tree-Ring Laboratory.

The dry samples were sanded on a linisher, or bench-mounted belt sander, using 60 to 1200 grit abrasive paper, and were cleaned with compressed air to allow the ring boundaries to be clearly distinguished. They were then measured under a x10/x30 microscope using a travelling stage electronically displaying displacement to a precision of 0.01mm. Thus each ring or year is represented by its measurement which is arranged as a series of ring-width indices within a data set, with the earliest ring being placed at the beginning of the series, and the latest or outermost ring concluding the data set.

As indicated above, the principle behind tree-ring dating is a simple one: the seasonal variations in climate-induced growth as reflected in the varying width of a series of measured annual rings is compared with other, previously dated ring sequences to allow precise dates to be ascribed to each ring. When an undated sample or site sequence is compared against a dated sequence, known as a reference chronology, an

indication of how good the match is must be determined. Although it is almost impossible to define a visual match, computer comparisons can be accurately quantified. While it may not be the best statistical indicator, Student's (a pseudonym for W S Gosset) t -value has been widely used among dendrochronologists. The cross-correlation algorithms most commonly used and published are derived from Baillie and Pilcher's CROS program (Baillie and Pilcher 1973).

Generally, t -values over 3.5 should be considered significant, although in reality it is common to find demonstrably spurious t -values of 4 and 5 because more than one matching position is indicated. For this reason, dendrochronologists prefer to see some t -value ranges of 5, 6, or higher, and for these to be well replicated from different, independent chronologies with local and regional chronologies well represented. Users of dates also need to assess their validity critically. They should not have great faith in a date supported by a handful of t -values of 3s with one or two 4s, nor should they be entirely satisfied with a single high match of 5 or 6. Examples of spurious t -values in excess of 7 have been noted, so it is essential that matches with reference chronologies be well replicated, and that this is confirmed with visual matches between the two graphs. Matches with t -values of 10 or more between individual sequences usually signify having originated from the same parent tree.

In reality, the probability of a particular date being valid is itself a statistical measure depending on the t -values. Consideration must also be given to the length of the sequence being dated as well as those of the reference chronologies. A sample with 30 or 40 years growth is likely to match with high t -values at varying positions, whereas a sample with 100 consecutive rings is much more likely to match significantly at only one unique position. Samples with ring counts as low as 50 may occasionally be dated, but only if the matches are very strong, clear, and well replicated, with no other significant matching positions. This is essential for intra-site matching when dealing with such short sequences. Consideration should also be given to evaluating the reference chronology against which the samples have been matched: those with well-replicated components that are geographically near to the sampling site are given more weight than an individual site or sample from far away.

It is general practice to cross-match samples from within the same phase to each other first, combining them into a site master, before comparing with the reference chronologies. This has the advantage of averaging out the "noise" of individual trees and is much more likely to obtain higher t -values and stronger visual matches. After measurement, the ring-width series for each sample is plotted as a graph of width against year on log-linear graph paper. The graphs of each of the samples in the phase under study are then compared visually at the positions indicated by the computer matching and, if found satisfactory and consistent, are averaged to form a mean curve for the site or phase. This mean curve and any unmatched individual sequences are compared against dated reference chronologies to obtain an absolute calendar date for each sequence. Sometimes, especially in urban situations, timbers may have come from different sources and fail to match each other, thus making the compilation of a site master difficult. In this situation samples must then be compared individually with the reference chronologies.

Therefore, when cross-matching samples with each other, or against reference chronologies, a combination of both visual matching and a process of qualified statistical comparison by computer is used. For this study, the ring-width series were compared on an IBM compatible computer for statistical cross-matching using a variant of the Belfast CROS program (Baillie and Pilcher 1973).

Ascribing and Interpreting Felling Dates

Once a tree-ring sequence has been firmly dated in time, a felling date, or date range, is ascribed where possible. For samples that have sapwood complete to the underside of, or including, bark, this process is relatively straight forward. Depending on the completeness of the final ring, i.e. if it has only the early wood formed, or the latewood, a *precise felling date and season* can be given. Where the sapwood is partially missing, or if only a heartwood/sapwood transition boundary survives, then the question of when

the tree was felled becomes considerably more complicated. In the European oaks, sapwood tends to be of a relatively constant width and/or number of rings, and it is possible to estimate the approximate number of sapwood rings that are missing from any given timber.

Unfortunately, it has not been possible to apply an accurate sapwood estimate to either the white or red oaks at this time. Primarily, it would appear that there is a complete absence of literature on sapwood estimates for oak anywhere in the country (Grissino-Mayer, *pers comm*). The matter is further complicated in that the sapwood in white oak (*Quercus alba*) occurs in two bands, with only the outer ring or two being free of tyloses in the spring vessels (Gerry 1914; Kato and Kishima 1965). Out of some 50 or so samples, only a handful had more than 3 rings of sapwood without tyloses. The actual sapwood band is differentiated sometimes by a lighter color, although this is often indiscernible (Desch 1948). In archaeological timbers, the lighter colored sapwood does not collapse as it does in the European oak (*Q rober*), but only the last ring or two without tyloses shrink tangentially. In these circumstances the only way of being able to identify the heartwood/sapwood boundary is by recording how far into the timber wood boring beetle larvae penetrate, as the heartwood is not usually susceptible to attack unless the timber is in poor or damp conditions. Despite all of these drawbacks, some effort has been made in recording sapwood ring counts on white oak, although the effort is acknowledged to be somewhat subjective.

As for red oaks (*Quercus rubra*) it will probably not be possible to determine a sapwood estimate as these are what are known as “sapwood trees” (Chattaway 1952). Whereas the white oak suffers from an excess of tyloses, these are virtually non-existent in the red oak, even to the pith. Furthermore, there is no obvious color change throughout the section of the tree, and wood-boring insects will often penetrate right through to the center of the timber. Therefore, in sampling red oaks, it is vital to retain the final ring beneath the bark, or to make a careful note of the approximate number of rings lost in sampling, if any meaningful interpretation of felling dates is to be made. Similarly, no study has been made in estimating the number of sapwood rings in tulip-poplar, black ash, or any of the pines.

Therefore, if the bark edge does not survive on any of the timbers sampled, only a *terminus post quem* or *felled after* date can be given. The earliest possible felling date would be the year after the last measured ring date, adjusted for any unmeasured rings or rings lost during the process of coring.

Some caution must be used in interpreting solitary precise felling dates. Many instances have been noted where timbers used in the same structural phase have been felled one, two, or more years apart. Whenever possible, a group of precise felling dates should be used as a more reliable indication of the construction period. It must be emphasized that dendrochronology can only date when a tree has been felled, not when the timber was used to construct the structure under study. However, it is common practice to build timber-framed structures with green or unseasoned timber and therefore construction usually took place within twelve to eighteen months of felling (Miles 1997).

Details of Dendrochronological Analysis

The results of the dendrochronological analysis for the buildings under study are presented in a number of detailed tables. The most useful of these is the summary **Table 1**. This gives most of the salient results of the dendrochronological process, and includes details for each sample, such as its species, location, and felling date, if successfully tree-ring dated. This last column is of particular interest to the end user, as it gives the actual year and season when the tree was felled, if bark or bark edge is present. If bark edge is not present, it gives a *terminus post quem* or date after which the timber was felled. Often these *terminus post quem* dates begin far earlier than any associated precise felling dates. This is simply because far more rings have been lost in the initial conversion of the timber. If the sapwood was complete on the timber but some was lost during coring, an estimated date range can sometimes be given.

It will also be noticed that often the precise felling dates will vary within several years of each other. Unless there is supporting archaeological evidence suggesting different phases, all this would indicate is either stockpiling of timber, or of trees that had been felled or died at varying times but were not cut up until the commencement of the particular building operations in question. When presented with varying precise felling dates, one should always take the latest date for the structure under study, and it is likely that construction will have been completed for ordinary vernacular buildings within twelve or eighteen months from this latest felling date (Miles 1997).

Table 2 gives an indication of the statistical reliability of the match between one sequence and another. This shows the t -value over the number of years overlap for each combination of samples in a matrix table. It should be born in mind that t -values with less than 80 rings overlap may not truly reflect the same degree of matching and that spurious matches may produce similar values.

First, multiple radii have been cross-matched with each other and combined to form same-timber means. These are then compared with other samples from the site and any which are found to have originated from the same parent tree are again similarly combined. Finally, all samples, including all same timber and same tree means, are combined to form one or more site masters. Again, the cross-matching is shown as a matrix table of t -values over the number of years overlaps. Reference should always be made to **Table 1** to clearly identify which components have been combined.

Table 3 shows the degree of cross-matching between the site master(s) and a selection of reference chronologies. This shows the state or region from which the reference chronology originated, the common chronology name, the publication reference, and the years covered by the reference chronology. The number of overlapping years between the reference chronology and the site master is also shown together with the resulting t -value. It should be noted that well replicated regional reference chronologies, which are shown in **bold**, will often produce better matches than individual site masters or indeed individual sample sequences.

Figures include a bar diagram that shows the chronological relationship between two or more dated samples from a phase of building and any plans showing sample locations, if available.

Publication of all dated sites for English buildings occurs annually in *Vernacular Architecture*, but regrettably there is at the present time no vehicle available for the publication of dated American buildings. However, a similar entry is shown on the summary page of the report, which could be used in any future publication of American dates. This does not give as much technical data for the samples dated, but does give the t -value matches against the relevant chronologies, provides a short descriptive paragraph for each building or phase dated, and gives a useful short summary of samples dated. These summaries are also listed on the web-site maintained by the Laboratory, which can be accessed at www.dendrochronology.com. The Oxford Tree-Ring Laboratory retains copyright of this report, but the commissioner of the report has the right to use the report for his or her own use so long as the authorship is quoted. Primary data and the resulting site master(s) used in the analysis are available from the Laboratory on request by the commissioner and bona fide researchers. The samples form part of the Laboratory archives, unless an alternative archive, such as the Colonial Williamsburg Foundation in association with the Oxford Tree-Ring Laboratory, has been specified in advance.

Sampling

Archaeological excavations carried out prior to the construction of a hotel in downtown Alexandria, Virginia, revealed the remains of a shipwreck and a nearby wharf in 2015. A dendrochronological study was undertaken in an attempt to date the primary construction phase of each structure. It was also hoped that dendro-provenancing might be able to determine where the ship was originally built.

Shipwreck

Summary of Dating

The timbers of the shipwreck were found to be very soft, making collecting complete cores very difficult and retaining the sapwood impossible. Although fifteen timbers in total were sampled from the shipwreck, all of white oak, only eleven were found to have sufficient structural integrity to be used in the analysis. Samples from the shipwreck were given the code **alex** (for Alexandria) and numbered 1 to 11 (see table 1a). The position of each sample was noted at the time of sampling (see figure 2).

Multiple samples were taken from three of the timbers in order to maximize the chances of retaining a complete core. Multiple samples from one of the timbers were found to match together and were combined to form a new individual sample sequence, **alex5**, which was used in the rest of the analysis (see table 2). The multiple samples from the other two timbers were not found to match together and were used individually in all subsequent analysis.

All of the timber sequences were compared with each other. Three of the timbers (**alex4**, **alex5**, and **alex10**) were found to match each other, allowing them to be combined into the 124-year site master **ALEXx1**. The site master and the remaining unmatched samples were compared with more than eight hundred master chronologies from the East Coast of the United States. **ALEXx1** was found to date spanning the years 1603 to 1726 (see table 3a).

Interpretation

The tree-ring analysis has resulted in the successful dating of the shipwreck. The three timbers that formed the dated site master **ALEXx1** were all from the primary phase of the ship; none retained complete sapwood so only a “felled-after” date could be assigned (see figure 4). The last measured ring from **ALEXx1** was from sample **alex10**; although this ring dated to 1726, there were a further 15 rings in the sample that were too distorted to measure accurately, indicating that the tree from which the timber was constructed was felled sometime after 1741 and thus that the ship was originally constructed sometime after this date. However, large amounts of sapwood surviving on the timbers was too soft to core at the time it was analysed. If, in the future, it becomes possible to take sections from these timbers, it may be possible to refine this date.

The tree-ring analysis has also been successful in establishing where the timbers used in the ship were grown. All of the master chronologies that **ALEXx1** matched against originated from Massachusetts, suggesting that the ship was built in New England.

Wharf

Summary of Dating

Three timbers in total were sampled from the wharf, all posts made of white oak. Samples from the wharf were given the code **post** and numbered 1 to 3 (see table 1b). The position of each sample was noted at the time of sampling (see figure 3).

Bark edge survived on one timber deemed suitable for analysis. Two sections were cut from this post in the hope of retaining the bark edge. The multiple samples from this post were found to match together and were combined to form one new individual sample sequences, **post2**, which was used in the rest of the analysis (see table 2).

All of the timber sequences were compared with each other. All three timbers (**post1**, **post2**, and **post3**) were found to match each other, allowing them to be combined into the 136-year site master **ALEXx2**.

The site master was compared with more than eight hundred master chronologies from the East Coast of the United States. **ALEXx2** was found to date spanning the years 1638 to 1773 (see table 3b).

Interpretation

The tree-ring analysis has resulted in the successful dating of the wharf timbers. Only one of the timbers retained complete sapwood, which provided a precise felling date of the winter of 1773/4 (see figure 4). This felling date suggests that the wharf was constructed in the winter of 1773/4 or sometime after that date.

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Table 1a: Summary of tree-ring dating

ALEXANDRIA SHIPWRECK, 220 SOUTH UNION STREET, ALEXANDRIA, VIRGINIA

Sample number & type	Species	Timber and position	Dates AD spanning	Last Ring	No of rings	Mean width mm	Std devn mm	Mean sens mm	Felling seasons and dates/date ranges
alex1a	c	QUAL		h/w only	97	0.77	0.15	0.127	
alex1b1	c	QUAL		h/w only	12	1.10	0.28	0.128	
alex1b2	c	QUAL		h/w only	46	0.90	0.26	0.131	
alex1b3	c	QUAL		5nm	73	0.84	0.13	0.127	
alex1c	c	QUAL		h/w only	40	0.70	0.17	0.187	
alex2	c	QUAL		7nm	70	1.19	0.45	0.176	
alex3	c	QUAL		h/w only	62	0.67	0.14	0.160	
* alex4	c	QUAL	1603-1704	12nm	102	0.76	0.23	0.156	After 1716
alex5a	c	QUAL	1622-1712	24nm	91	0.90	0.27	0.156	
alex5b	c	QUAL	1622-1712	24nm	91	0.90	0.26	0.138	
* alex5	m	Mean of alex5a + alex5b	1622-1712	24nm	91	0.90	0.27	0.145	After 1736
alex6	c	QUAL		18nm	98	0.77	0.28	0.175	
alex7	c	QUAL		h/w only	94	0.73	0.20	0.154	
alex8a	c	QUAL		h/w only	49	1.50	0.34	0.158	
alex8b	c	QUAL		9nm	100	1.12	0.39	0.126	
alex8c	c	QUAL		7nm	95	1.20	0.84	0.256	
alex9	c	QUAL		5nm	24	2.06	0.39	0.141	
* alex10	c	QUAL	1638-1726	15nm	89	0.85	0.31	0.132	After 1741
alex11	c	QUAL		9nm	109	0.65	0.33	0.243	
* = ALEXx1 Site Master			1603-1726		124	0.88	0.27	0.135	

Key: *, †, § = sample included in site-master; c = core; mc = micro-core; s = slice/section; g = graticule; p = photograph; ¼C, ½C, C = bark edge present, partial or complete ring;

¼C = spring (last partial ring not measured), ½C = summer/autumn (last partial ring not measured), or C = winter felling (ring measured), h/w only = heartwood only; nm = number of unmeasured rings; std devn = standard deviation; mean sens = mean sensitivity; QUAL = *Quercus alba* (white oak)

Table 1b: Summary of tree-ring dating

ALEXANDRIA WHARF, 220 SOUTH UNION STREET, ALEXANDRIA, VIRGINIA

Sample number & type	Species	Timber and position	Dates AD spanning	Last Ring	No of rings	Mean width	Std devn	Mean sens	Felling seasons and dates/date ranges
* post1	s	QUAL Post 1	1638-1753	6NM	116	0.80	0.19	0.168	
* post2a	s	QUAL Post 2	1698-1771	2NM	74	1.25	0.31	0.153	
* post2b	s	QUAL ditto	1703-1773	C	71	1.27	0.29	0.139	
* post2	m	Mean of post2a + post2b	1698-1773	C	76	1.26	0.28	0.133	Winter 1773/4
* post3	s	QUAL Post 3	1663-1726	h/w only	64	1.49	0.46	0.194	

* = **ALEXx2 Site Master**

1638-1773

136

1.08

0.26

0.151

Key: *, †, § = sample included in site-master; c = core; mc = micro-core; s = slice/section; g = graticule; p = photograph; ¼C, ½C, C = bark edge present, partial or complete ring;

¼C = spring (last partial ring not measured), ½C = summer/autumn (last partial ring not measured), or C = winter felling (ring measured); h/w only = heartwood only; nm = number of unmeasured rings; std devn = standard deviation; mean sens = mean sensitivity; QUAL = *Quercus alba* (white oak)

Explanation of terms used in Table 1

The summary table gives most of the salient results of the dendrochronological process. For ease in quickly referring to various types of information, these have all been presented in Table 1. The information includes the following categories:

Sample number: Generally, each site is given a two or three letter identifying prefix code, after which each timber is given an individual number. If a timber is sampled twice, or if two timbers were noted at time of sampling as having clearly originated from the same tree, then they are given suffixes 'a', 'b', etc. Where a core sample has broken, with no clear overlap between segments, these are differentiated by a further suffix '1', '2', etc.

Type shows whether the sample was from a core 'c', or a section or slice from a timber's'. Sometimes photographs are used 'p', or timbers measured *in situ* with a graticule 'g'.

Species gives the four-letter species code used by the International Tree-Ring Data Bank, at NOAA. These are identified in the key at the bottom of the table.

Timber and position column details each timber sampled along with a location reference. This will usually refer to a bay or truss number, or relate to compass points or to a reference drawing.

Dates AD spanning gives the first and last measured ring dates of the sequence (if dated),

H/S bdry is the date of the heartwood/sapwood transition or boundary (if identifiable).

Sapwood complement gives the number of sapwood rings, if identifiable. The tree starts growing in the spring during which time the earlywood is produced, also known also as spring growth. This consists of between one and three decreasing spring vessels and is noted as *Spring* felling and is indicated by a ¼ C after the number of sapwood ring count. Sometimes this can be more accurately pin-pointed to very early spring when just a few spring vessels are visible. After the spring growing season, the latewood or summer growth commences, and is differentiated from the preceding spring growth by the dense band of tissue. This summer growth continues until just before the leaves drop, in about October. Trees felled during this period are noted as *summer* felled (½ C), but it is difficult to be too precise, as the width of the latewood can be variable, and it can be difficult to distinguish whether a tree stopped growing in autumn or *winter*. When the summer

growth band is clearly complete, then the tree would have been felled during the dormant winter period, as shown by a single C. Sometimes a sample will clearly have complete sapwood, but due either to slight abrasion at the point of coring, or extremely narrow growth rings, it is impossible to determine the season of felling.

Number of rings: The total number of measured rings included in the samples analysed.

Mean ring width: This, simply put, is the sum total of all the individual ring widths, divided by the number of rings, giving an average ring width for the series.

Mean sensitivity: A statistic measuring the mean percentage, or relative, change from each measured yearly ring value to the next; that is, the average relative difference from one ring width to the next, calculated by dividing the absolute value of the differences between each pair of measurements by the average of the paired measurements, then averaging the quotients for all pairs in the tree-ring series (Fritts 1976). Sensitivity is a dendrochronological term referring to the presence of ring-width variability in the radial direction within a tree which indicates the growth response of a particular tree is "sensitive" to variations in climate, as opposed to complacency.

Standard deviation: The mean scatter of a population of numbers from the population mean. The square root of the variance, which is itself the square of the mean scatter of a statistical population of numbers from the population mean. (Fritts 1976).

Felling seasons and dates/date ranges is probably the most important column of the summary table. Here the actual felling dates and seasons are given for each dated sample (if complete sapwood is present). Sometimes it will be noticed that often the precise felling dates will vary within several years of each other. Unless there is supporting archaeological evidence suggesting different phases, all this would indicate is either stockpiling of timber, or of trees which have been felled or died at varying times but not cut up until the commencement of the particular building operations in question. When presented with varying precise felling dates, one should always take the *latest* date for the structure under study, and it is likely that construction will have been completed for ordinary vernacular buildings within twelve or eighteen months from this latest felling date (Miles 1997).

Table 2: Matrix of *t*-values and overlaps for same-timber means and site masters

Components of timber mean **alex5**

Sample: **alex5b**
Last ring 1622-1712
date AD:

alex5a 21.84
 1622-1712 91

Components of site master **ALEXx1**

Sample: **alex5** **alex10**
Last ring 1622-1712 1638-1726
date AD:

alex4 3.43 5.86
 1603-1704 83 67

alex5 2.39
 75

Components of timber mean **post2**

Sample: **post2b**
Last ring 1703-1773
date AD:

post2a 6.95
 1698-1771 69

Components of site master **ALEXx2**

Sample: **post2** **post3**
Last ring 1698-1773 1663-1726
date AD:

post1 2.81 4.84
 1638-1753 56 64

post2 3.96
 29

Table 3a: Dating of site master **ALEXx1** (1603-1726) against reference chronologies

State or region:	Chronology name:	Short publication reference:	File name:	Spanning:	Overlap:	t-value:
Massachusetts	The Old Castle, Pigeon Cove, Rockport	Miles and Worthington 2004/07	OCP	1563-1710	108	6.96
Massachusetts	Mt. Wachusett + Boston Area 6/2003	Cook and Krusic unpublished	WACHU	1363-1997	124	6.40
Massachusetts	Old Garrison House, Rockport	Miles and Worthington 2004/07	OGC	1563-1710	108	6.16
Massachusetts	Boston Master Chronology	Miles et al. 2002/06	BOSTON2	1454-1769	124	5.95
Massachusetts	John Quincy Adams Birthplace	Miles and Worthington 2005/11	JQA	1559-1716	114	5.76
Massachusetts	Whipple House, Ipswich	Miles et al. 2005/09	ALC6	1480-1689	87	5.43
Massachusetts	Haskell House, Beverly	Miles et al. 2005/09	BEV	1546-1723	121	5.37
‡ Massachusetts	Capen House Milton + Iron Works House Saugus	Miles et al. 2002/06	ALC4	1537-1687	85	5.34

Chronologies in **bold** denote regional masters

‡ = Component of **BOSTON2**

Table 3b: Dating of site master **ALEXx2** (1638-1773) against reference chronologies

#	State or region:	Chronology name:	Short publication reference:	File name:	Spanning:	Overlap:	t-value:
	Virginia	Mt. Vernon Spinning House	Miles and Worthington 2005/29	MTVx1	1555-1764	127	6.66
	Maryland and Virginia	DC Area Oak Master Chronology made from sites within a 100-mile radius of Washington DC	Worthington 2013	DC-AREA2	1536-1892	136	6.64
#	Virginia	Eyre Hall, Cheriton	Miles and Worthington 2003/08	EYREHALL	1514-1806	136	6.48
	Virginia	Virginia Master Chronology	Worthington 2011	VA2011	932-1985	136	6.36
	New York	Abraham Hasbrouck House, New Paltz	Cook et al. 2002	npzny	1449-1806	136	6.24
*#	Virginia	<i>Ex-situ</i> timbers from Yates Schoolhouse, Albemarle County	Miles and Worthington 2008/05	HQFx2	1643-1815	131	6.21
	Virginia	Wellington House - Primary Phase Oak	Worthington and Seiter 2012/08	WRNVx1	1611-1763	126	6.14
	Maryland	Stagg Hall, Port Tobacco	Worthington and Seiter 2015/18	STAGx1	1541-1766	129	5.94

Chronologies in **bold** denote regional masters

* = Component of **DC-AREA2**

= Component of **VA2011**

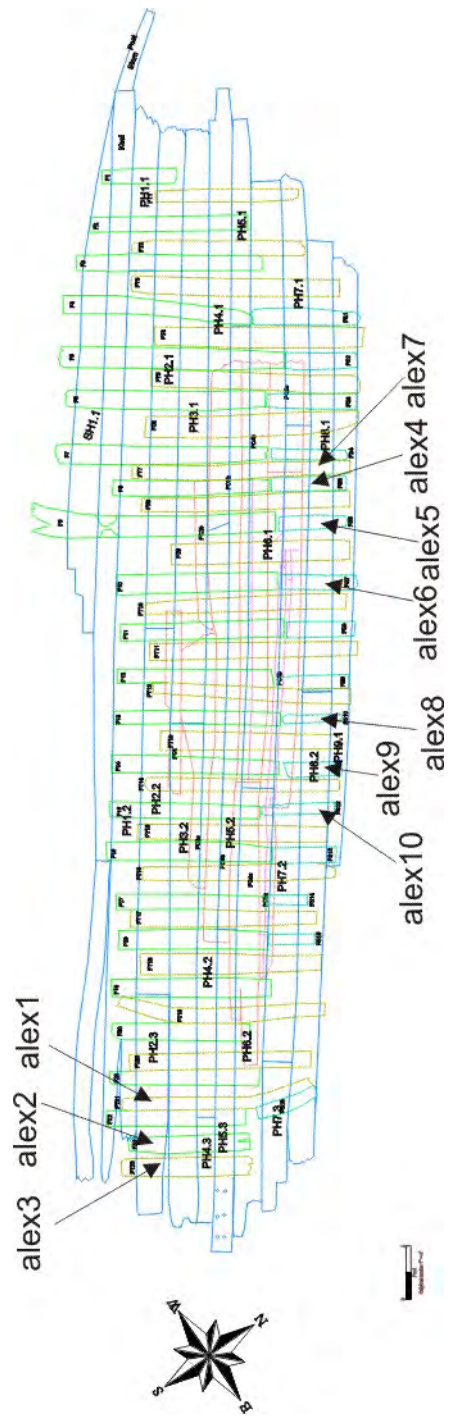


Figure 2. Sketch drawing of the Alexandria shipwreck showing sample locations (plan courtesy of Thunderbird Archeology).



Figure 3. Photograph showing location of samples taken from the Alexandria wharf (photograph credit: Thunderbird Archeology).

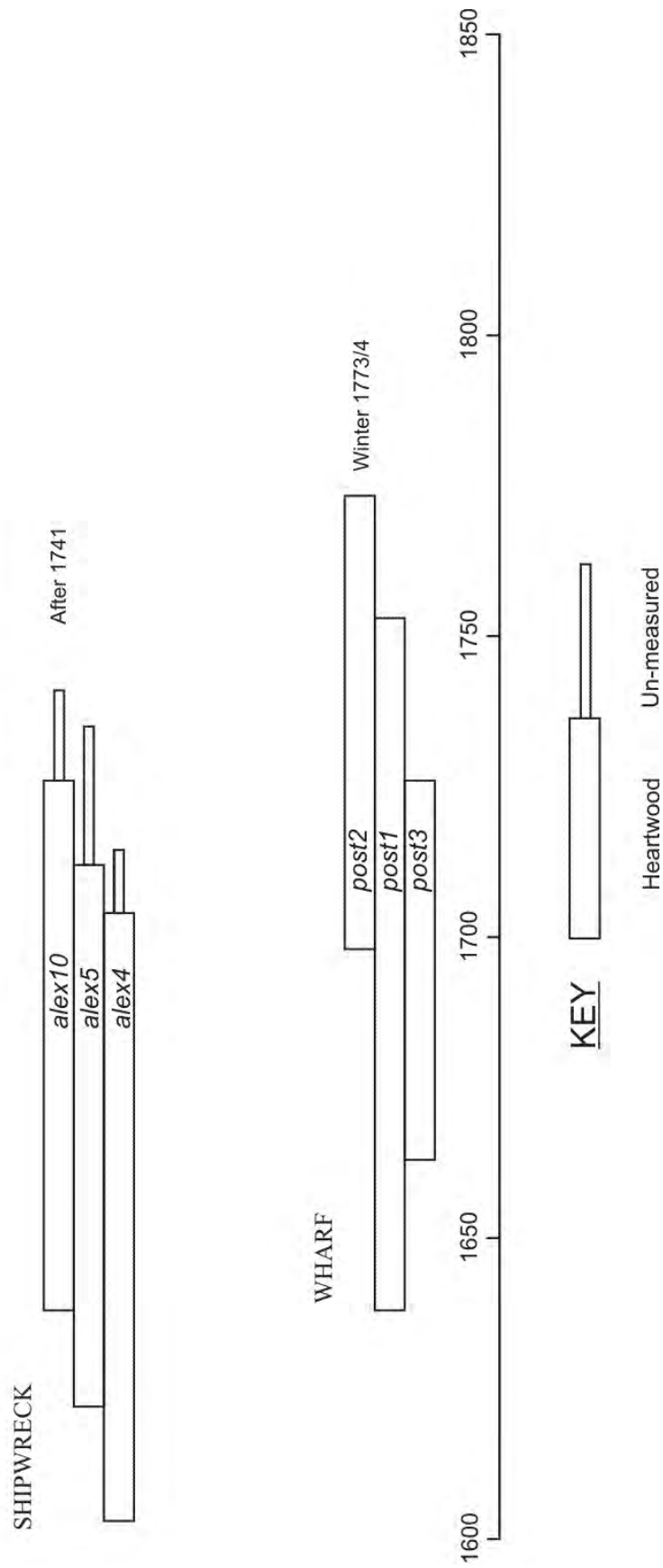


Figure 4. Bar diagram showing dated timbers in chronological order.

Appendix XI
Artifact Photograph Plates



Plate 1: Creamware Overglaze Polychrome Hand Painted Lid (1764-1825) - Feature 35



Plate 2: Pearlware Blue Hand Painted Punch Bowl (Interior) (1780-1830) - Feature 35



Plate 3: Pearlware Blue Hand Painted Punch Bowl (Exterior) (1780-1830) - Feature 35



Plate 4: Pearlware Polychrome Annular Bowl (1790-1839) - Feature 35



Plate 5: Pearlware Polychrome Annular Jug (1790-1839) - Feature 35



Plate 6: Glass Contact Mold Wine Bottles (1810-1880) - Feature 35





Plate 7: Glass Freeblown Stemware (pre-1860) - Feature 35



Plate 8: Glass Freeblown Medicinal Bottle (pre-1860) - Feature 35



Plate 9: Representative Refined Ceramics - Feature 36

Row 1: Molded and Blue Hand Painted (1775-1810) Hard Paste Porcelain; Blue and Green Shell Edge (1780-1830), Sponge Painted (1780-1830), and Polychrome Hand Painted (1780-1835) Pearlware

Row 2: Polychrome Hand Painted (1780-1835) and Mocha (1795-1890) Pearlware



Plate 10: Blue (1780-1830) and Polychrome (1780-1835) Hand Painted Pearlware - Feature 36



Plate 11: Polychrome Sponge Painted Pearlware (1780-1830) Hollow Vessel - Feature 36



Plate 12: Alexandria Redware Chamber Pot (1792-1809) - Feature 36

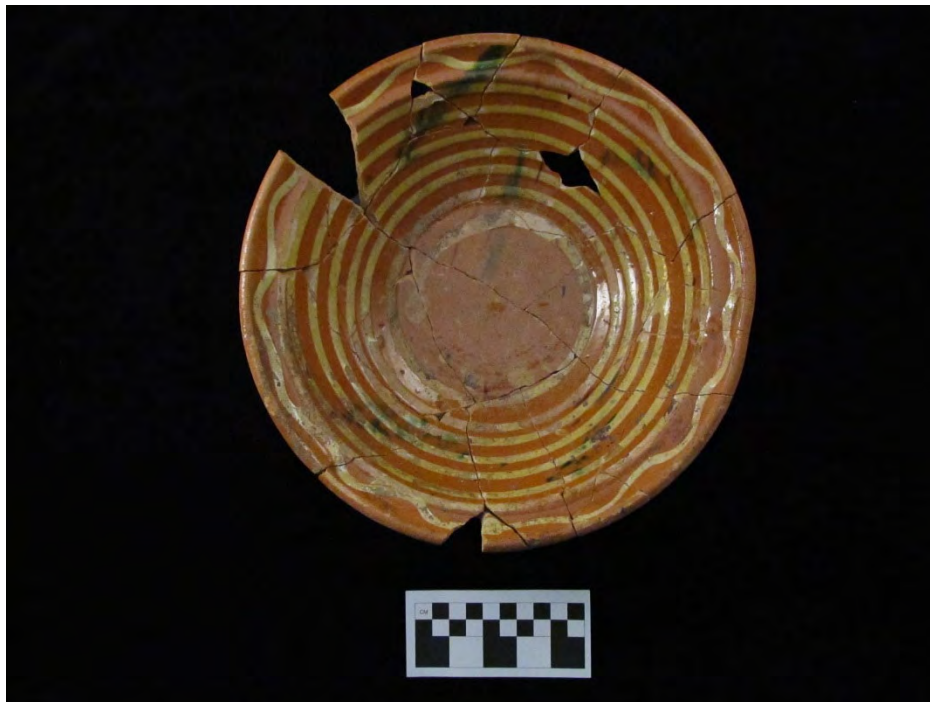


Plate 13: Alexandria Redware Milk Pan (1792-1809) - Feature 36



Plate 14: Freeblown Case and Wine Bottles (pre-1860) - Feature 36

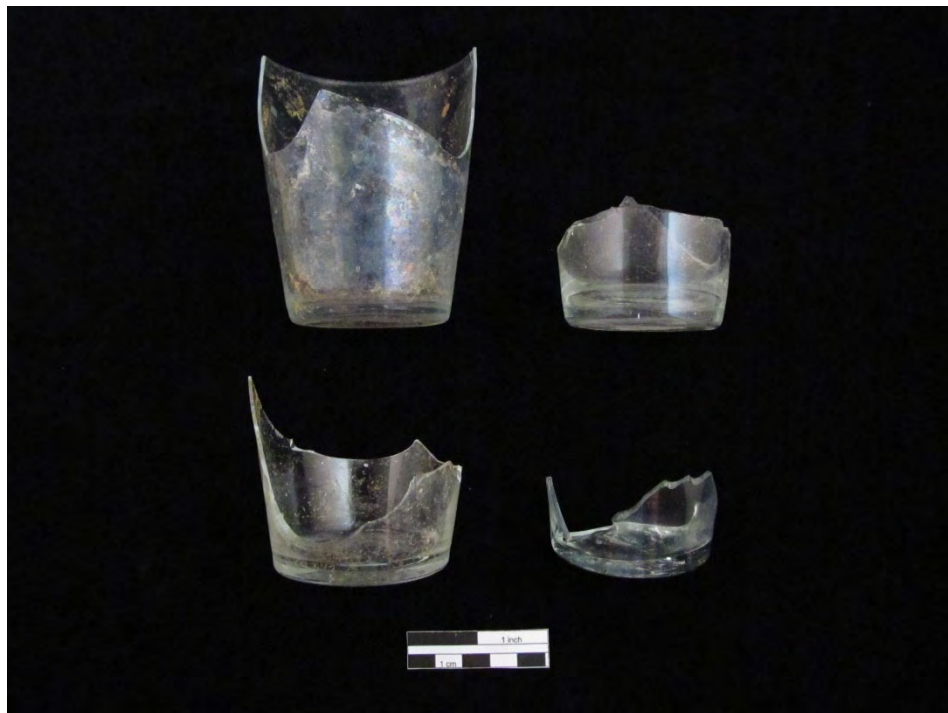


Plate 15: Glass Freeblown Tumblers (pre-1860) - Feature 36



Plate 16: Glass Freeblown Copper Wheel Etched Tableware (pre-1860) - Feature 36



Plate 17: Glass Freeblown Decanter (pre-1860) - Feature 36



Plate 18: Copper Alloy Watch Fob with Glass Intaglio (Obverse) - Feature 36
Photograph Courtesy of the Maryland Archaeological Conservation Lab



Plate 19: Copper Alloy Watch Fob with Glass Intaglio (Reverse) - Feature 36
Photograph Courtesy of the Maryland Archaeological Conservation Lab



Plate 20: Representative Refined Ceramics - Feature 37

Row 1: Westerwald (1700-1775), Two Nottingham (1700-1810), Transfer Printed (1765-1815) and Overglaze Enamel Hand Painted (1765-1825) Creamware

Row 2: Molded (1780-1830), Blue and Green Shell Edge (1780-1830) and Blue Hand Painted (1780-1830) Pearlware

Row 3: Polychrome Hand Painted (1780-1835) and Sponge Painted (1780-1835) Pearlware; Overglaze Enamel Hand Painted Hard Paste Porcelain (1765-1810)



Plate 21: Alexandria Redware Plate (1792-1809) - Feature 37



Plate 22: Glass Freeblown Tumbler (pre-1860) - Feature 37





Plate 23: Kaolin Pipe Bowls and Stems - Feature 37

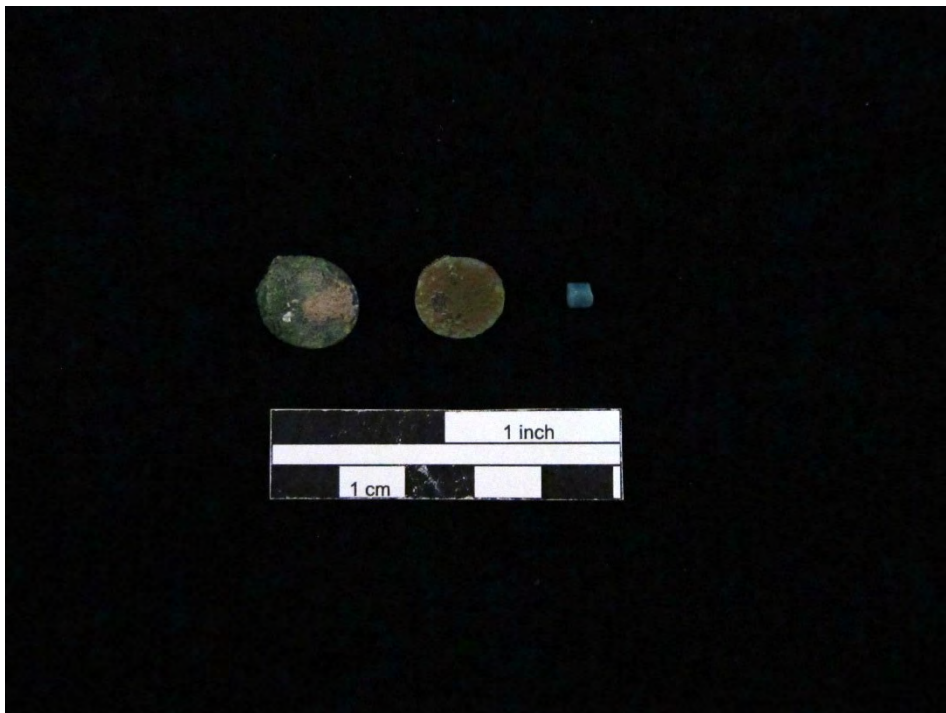


Plate 24: Clothing Artifacts Including Two Brass Buttons and One Glass Bead - Feature 37





Plate 25: White Salt-Glazed Stoneware Plate (1740-1775) - Feature 41



Plate 26: Representative Redware and Stoneware Ceramics - Feature 41
Row 1: Two Buckley (1720-1775), Two English Brown Stoneware (1690-1775), One Trail Slipped Redware
Row 2: Buckley (1720-1775), English Brown Stoneware (1690-1775), Red-Bodied Slipware



Plate 27: Representative Refined Ceramics - Feature 41

- Row 1: Two Underglaze and Overglaze Enamel Hand Painted and One Undecorated Hard Paste Porcelain, One Tin glazed earthenware (1700-1800), Two Westerwald (1700-1775)**
Row 2: Two Molded (1720-1805) and One Debased Scratch Blue (1740-775) White Salt Glazed Stoneware
Row 3: One Blue (1780-1830) and One Polychrome (1780-1835) Hand Painted; and Three Dipped (late 18th century) Pearlware



Plate 28: Freeblown Medicine Bottle Fragments (pre-1860) and Cork - Feature 41



Plate 29: Freeblown Wine Bottles - Feature 41



Plate 30: Kaolin Pipe Fragments - Feature 41



Plate 31: Clothing and Personal Artifacts - Feature 41
One Wood and Two Bone Buttons, Four Brass Straight Pins, Brass Buckle, and Clay Marble (41-18)



Plate 32: Artifacts Below Floor Board 13 - Feature 41
Row 1: Ferrous Metal Ring with Cotter Pin, Ferrous Metal Pulley
Row 2: Wooden Peg and Wooden Bung



Plate 33: Tools and Hardware - Sub-Features Within Feature 41
Row 1: Ferrous Metal Rod with Spike (41-05), Axe (41-01), and Reaming Iron (41-05)
Row 2: Possible Ferrous Metal Scupper (41-05)
Row 3: Wooden Cleat (41-06-03)



Plate 34: Architectural Artifacts - Feature 41



Plate 35: Leather Shoe Fragments - Feature 41-12
Photograph Courtesy of Alexandria Archaeology Museum



Plate 36: Representative Refined Ceramics - Feature 56

Row 1: Westerwald (1700-1775), Tin Glazed Earthenware (1700-1800), Two Nottingham (1700-1810), and Molded White Salt Glazed Stoneware (1740-1765),

Row 2: Molded (1762-1820), Black Transfer Printed (1765-1815) and Overglaze Enamelled Hand Painted (1765-1825) Creamware; Blue (1775-1810) and Overglaze Enamelled Polychrome (1765-1810) Chinese Export Hard Paste Porcelain

**Row 3: Two Dipped (1770's- Early 20th century) and Blue and Green Shell Edged Pearlware (1780-1830),
Row 4: Two Sponge Painted, Blue Hand Painted (1780-1830), and Annular (1780-1839) Pearlware**



Plate 37: Black Basalt (1750-1820) Teaware - Feature 56



Plate 38: Hard Paste Porcelain Polychrome and Gilt Hand Painted Teapot - Feature 56



Plate 39: Hard Paste Porcelain Teawares - Feature 56
Chinese Export Overglaze Enameled Polychrome Hand Painted Bowls and Teacups (1765-1810)



Plate 40: Creamware Overglaze Polychrome Hand Painted Cup (1765-1810) - Feature 56



Plate 41: Creamware (1762-1820) Vessels - Feature 56



**Plate 42: Pearlware Shell Edge Decorated Plates - Feature 56
Green Neoclassically-Inspired Symmetrical (1780-1830) and Blue Rococo (1775-1830) Scalloped Shell
Edge**



Plate 43: Prattware (1775-1830) Plate - Feature 56



Plate 44: Pearlware Blue Transfer Printed Creamer (1787-1840) - Feature 56



Plate 45: Pearlware Polychrome Hand Painted (1780-1835) Punch Bowl - Feature 56



Plate 46: Pearlware Polychrome Hand Painted (1780-1835) Saucer - Feature 56



Plate 47: Pearlware Polychrome Hand Painted (1780-1835) Hollow Vessel - Feature 56



Plate 48: Pearlware Polychrome Hand Painted (1780-1835) Lid - Feature 56



Plate 49: Pearlware Polychrome Hand Painted (1780-1835) Bowl - Feature 56



Plate 50: Pearlware Birds of Britain Spike Pattern (1800-1815) Plates - Feature 56



Plate 51: Pearlware Slipped and Hand Painted (1795-1890) Dutch Jug - Feature 56



Plate 52: Alexandria Redware Pot (1792-1809) - Feature 56





Plate 53: Alexandria Earthenwares (1792-1809) - Feature 56

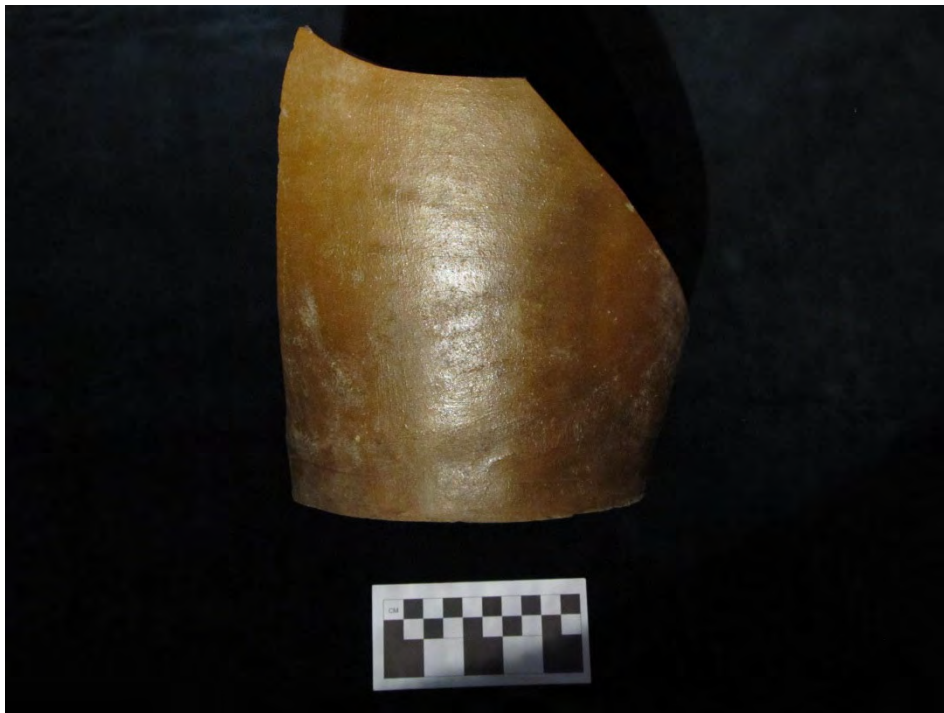


Plate 54: Stoneware Crock - Feature 56



Plate 55: Freeblown Wine and Liquor Bottles (pre-1860) - Feature 56



Plate 56: Freeblown Wine Bottle Fragments (pre-1860) - Feature 56





Plate 57: Freeblown Condiment and Medicine Bottles (pre-1860) - Feature 56



Plate 58: Tableware Clear Lead Base Fragments - Feature 56

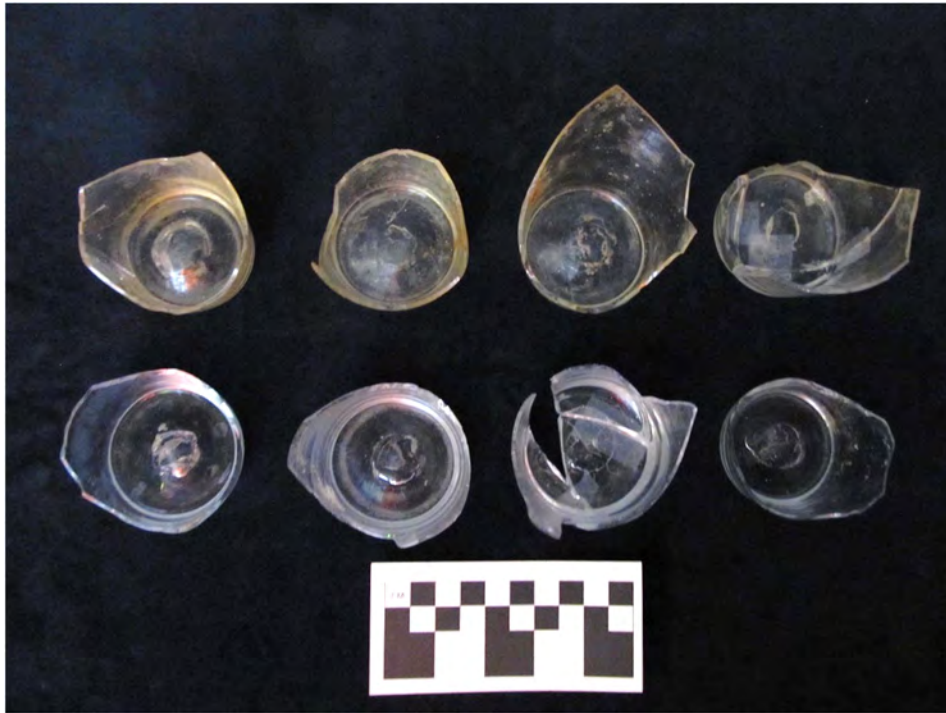


Plate 59: Tableware Freeblown Tumbler Base Fragments (pre-1860) - Feature 56



Plate 60: Tableware Freeblown Flip Cup (pre-1860) - Feature 56





Plate 61: Tableware Freeblown Copper Wheel Etched Flip Cup (pre-1860) - Feature 56



Plate 62: Tableware Freeblown Copper Wheel Etched Stemware (pre-1860) - Feature 56



Plate 63: Tableware Freeblown Stemware Fragments (pre-1860) - Feature 56



Plate 64: Tableware Freeblown Decanter Fragments (pre-1860) - Feature 56



Plate 65: Tableware Freeblown Mug and Lid Fragments (pre-1860) - Feature 56



Plate 66: Bone and Carbon Steel Flatware (Mid-18th-19th century) - Feature 56



Plate 67: Cherry seeds - Feature 56



Plate 68: Squash seeds - Feature 56



Plate 69: Rind Fragments - Feature 56



Plate 70: Brass Spigot and Grommet Hardware - Feature 56





Plate 71: Ferrous Metal Shovel Blade - Feature 56



Plate 72: Kaolin Pipe Fragments - Feature 56



Plate 73: Brass Concertina Reeds - Feature 56





Plate 74: Clothing Artifacts - Feature 56
Row 1: Brass Buttons
Row 2: One Shell and Four Bone Buttons
Row 3: Bone buttons
Row 4: Glass Beads
Row 5: Brass Straight Pin



Plate 75: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 76: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 77: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 78: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 79: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 80: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 81: Leather Shoe Fragment - Feature 56
Photograph Courtesy of Alexandria Archaeology Museum



Plate 82: Leather Shoe Display at Alexandria Archaeology Museum
Photograph Courtesy of Alexandria Archaeology Museum

