METHODOLOGY

ARCHIVAL METHODS

The Phase I and II archival research conducted by Lothrop et al. (1987), focused on the property owned by Jacob B. Cazier and his mansion, Mount Vernon Place. The census records for the Jacob B. Cazier household in 1870 and 1900 were examined to identify tenants, but the only non-family individuals included in Cazier's household were his domestic servants living at the mansion. Phase III archival research focused on the tenant dwelling itself and on providing more detailed historical data about the site's occupants and function through time.

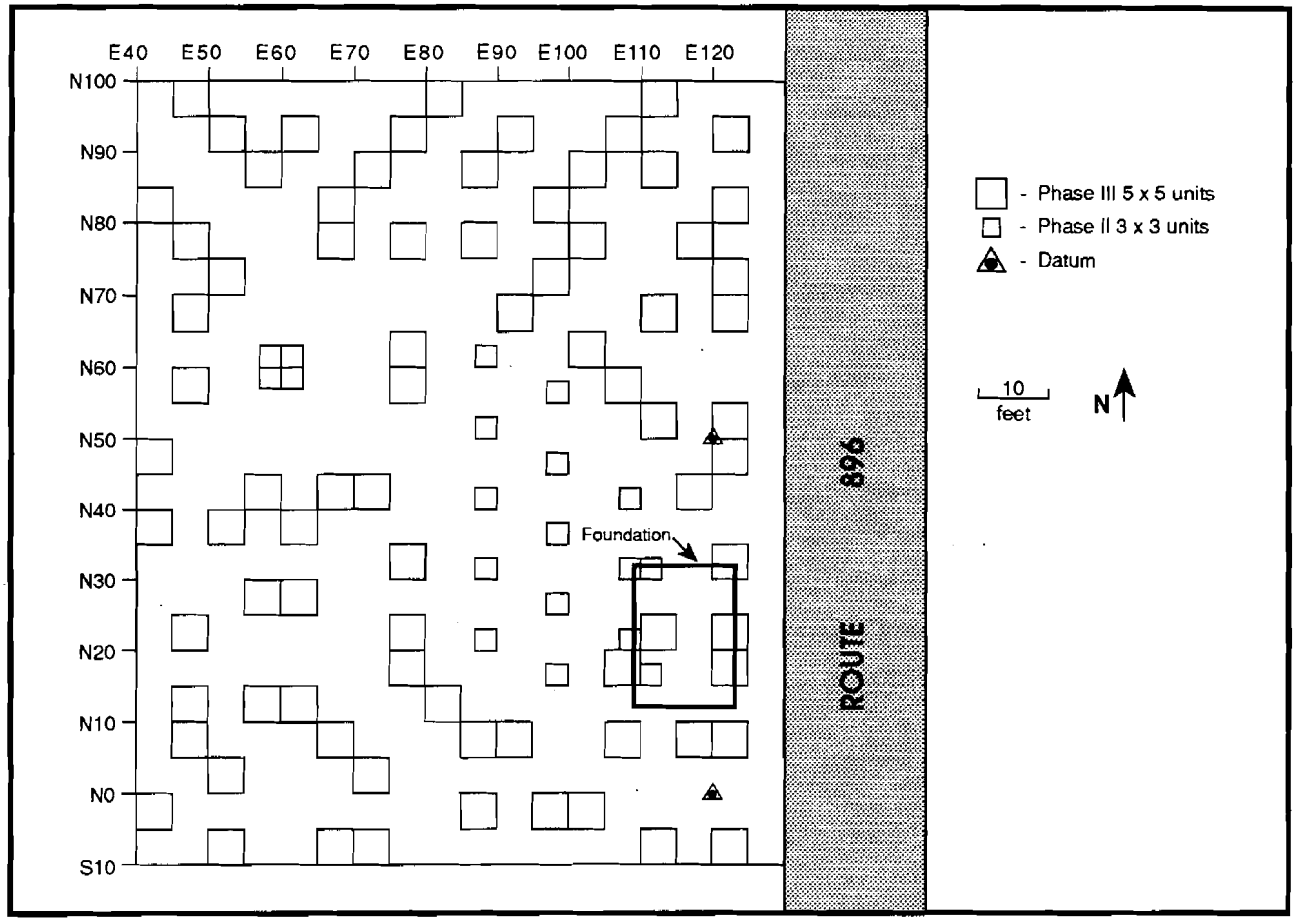
FIELD METHODS

Field investigations at the Cazier site began with the re-establishment of the Phase II site grid. The grid measured 120' north/south and 90' east/west and was further divided into 10' x 10' sub-units. One random 5' x 5' test unit was then excavated from within each of the 10' x 10' sub-units, providing a 25 percent stratified, systematic, unaligned random sample of the plow zone (Figure 7; Plate 2). This sampling technique was implemented based on the results of the Whitten Road sample simulation (Shaffer et al. 1988) demonstrating that a 25 percent excavation of plow zone deposits provided a representative sample of artifacts and a reliable view of their distribution. Larger samples did not provide significantly more reliable data. Nineteen of the 10' x 10' sub-units already contained 3' x 3' test units completed during the Phase II investigation of this site. The artifact totals from the 3' x 3' units were statistically adjusted to conform with the artifact totals from the 5' x 5' units, thus enabling the totals to be used in the artifact analysis.

Plow zone test units were excavated in one soil level down to, but not including, the subsoil. All soils were screened through 1/4 inch wire mesh and all artifacts recovered were bagged according to test unit provenience and grid coordinates. Following the sampling of the plow zone, the remaining plow zone was carefully removed mechanically, and all subsurface features were identified and mapped. Artifacts recovered from the plow zone and subsoil surface during and after mechanical stripping were bagged as unprovenienced surface collections. All subsurface features were then mapped, fully excavated, and recorded. All feature soils were dry screened through 1/4" screen. All artifacts were separated by provenience. Soil samples were collected from selected features, each of the 5' x 5' plow zone test units, and from the southwest corner of each 10' x 10' grid point of the subsoil. Chemical analyses of the soil samples were conducted by the Soils Laboratory of the University of Delaware, College of Agriculture. Features, soil profiles, and plan views were visually recorded using black and white photographs, 35-mm color slides, and videotape.

FIGURE 7

Plow Zone Sample Units



LABORATORY METHODS AND ARTIFACT ANALYSIS

Prior to a detailed artifact analysis, standard artifact processing procedures of the Delaware Bureau of Museums were applied to all artifacts recovered from the data recovery excavations. All artifacts, bone, and shell were cleaned with plain water or, as in the case of deteriorating bone, were damp-brushed. Bone and shell were then placed in labeled bags, while other artifacts were themselves labeled with site numbers and a three-digit provenience number. Historical artifacts were sorted into categories for cataloging based on their material composition; i.e., ceramics, bone, shell, nails, and glass. Prehistoric artifacts were processed and cataloged following the Island Field Museum guidelines. All lithic artifacts were cataloged according to raw material and functional categories including projectile point/knives, early and late stage bifaces, flake tools, debitage, and fire-cracked rocks (FCR). Total artifact counts of both historical and prehistoric artifacts for each unit and feature are provided in Appendix I.

Ceramics recovered from all features, with special attention given to Feature 32 (brick cellar), Features 37, 37A, 65 (trash midden), and Feature 170 (privy), were sorted as to ware type, and vessel reconstruction and cross-mending were carried out to arrive at minimum vessel estimates. Vessels were then coded to a set of standard descriptive terms for analytical purposes.

PLATE 2

Plow Zone Sampling

In the designation of the South number for sherds and vessels, an effort was made to maintain South's original numbering scheme (South 1977), and additional numbers were obtained from Carlson (1983) (Appendix II). Mean ceramic dates (MCDs) were obtained from South (1977) or from the adjusted dates found in Carlson (1983). The time-sensitive attributes and use-related descriptive vessel attributes were entered into a computer data base program. The artifact data generated by the data recovery excavations of the Cazier site were organized into the functional group and classification system developed by South (1977), but no comparative analysis of artifact patterns was attempted (Majewski and O'Brien 1987).

Attributes recorded for each ceramic sherd and/or minimum vessel, if identified, were:

WARE: a combination of paste and glaze characteristics that serve to separate types of ceramics on a basic level.

PLASTIC DECORATION: records decorations involving paste of the ceramic item. Examples include bat-molded plate rim treatments such as shell- and feather-edging and overall ribbed decoration such as that found on some teapots.

COLOR OF DECORATION: refers to the color of painted, or otherwise applied decoration, including slips and glazes.

APPLIED DECORATION: includes all non-plastic decorations having to do with applied color.

VARIETY: records certain types of decoration, for instance a specific named transfer print such as the "Willow" pattern.

SOUTH TYPE NUMBER: Stanley South codified the ceramics described by Noel-Hume in A Guide to the Artifacts of Colonial America (Noel-Hume 1978). Additional ceramic codification and dating were obtained from Brown (1982) and Carlson (1983). These types are useful as chronological markers and are used in generating South's Mean Ceramic Date Formula. The numbered types found in the Cazier ceramic assemblage are contained in Appendix II.

USE/SHAPE/FUNCTION: these codes classify sherds according to the shape of the vessels they belong to and the use to which the vessels are put. Examples are chamber pot and milk pan.

COUNT: sherd counts according to their position on the vessel; rim, base, body, or other, including handles and spouts, and totals.

VESSEL NUMBER: in addition to provenience labeling, reconstructed vessels were assigned unique numbers to identify groups of mended sherds.

DATE RANGE: range of time during which a particular type or variety was manufactured.

MEDIAN DATE: median date of manufacture, from South (1977), and Brown (1982), used to calculate Mean Ceramic Dates for early nineteenth century contexts. Carlson (1983) has refined some of these dates, particularly for later nineteenth century wares, and these refined dates are used in this report.

Attributes that were recorded for each ceramic vessel that was reconstructed were:

A) Number of sherds per vessel
B) Mean Ceramic date on (A) above
C) Vessel Form, i.e.,
    1) flatware or hollowware
       drinking form - cups, or mugs and jugs
D) Vessel Function
    1) dining (tableware)
    2) drinking (tea and coffeeware)
    3) drinking (mugs and goblets)
    4) food preparation
    5) food storage
    6) medicinal (chamber pots, etc,)
    7) decorative
    8) food storage or dining
    9) condiment containers
    10) food preparation or storage
    11) toys

The data set derived from the ceramic vessel analysis of the Cazier site was basic to intra-site and inter-site ceramic assemblage comparisons, which will be explained more fully later in this report.

Glass, excluding window, from all features was sorted as to type, and vessel reconstruction and cross-mending were carried out to arrive at minimum vessel estimates. Vessels were coded to a set of standard descriptive terms for analytical purposes. Date ranges were obtained from vessel type comparisons with known glass vessel manufacturing dates. The time-sensitive attributes and use-related descriptive glass vessel attributes were entered into a computer data base program. The glass vessel data generated by the data recovery excavations of the Cazier site were organized into a functional group and classification system modeled after the ceramic vessel classification system developed by South (1977).

Attributes recorded for each glass sherd and/or minimum vessel, if identified were:

TYPE: refers to the vessel shape and style.

COLOR: refers to the color of the glass, which is dependent on various chemical and metal contaminates or additives mixed with the silica.

MARKINGS/DECORATIONS: refers to embossed figures, lines, numbers, etc., or baked-on enamel labels evident on the vessel body or base.

MOLD SEEMS: refers to small ridges on vessel exterior formed during the manufacturing process, and indicates edges of mold parts. The location and number of mold seams are characteristics of special manufacturing techniques that are easily dated.

SIZE: refers to the dimension measurements of the vessel.

USE/SHAPE/FUNCTION: these codes classify fragments according to the shape of the vessels they belong to and the use to which the vessels are put.

COUNT: fragment counts according to their position on the vessel; rim, base, body, or other, including handles and spouts, and totals.

VESSEL NUMBER: in addition to provenience labeling reconstructed vessels were assigned unique numbers to identify groups of mended fragments.

DATE RANGE: range of time during which a particular vessel style, closure, or variety was manufactured.

Attributes that were recorded for each glass vessel that was reconstructed were:

A) number of fragments per vessel
B) Vessel Function
    1) Alcoholic Beverage
    2) Non-alcoholic Beverage
    3) Medicinal
    4) Condiments
    5) Chemical
    6) Drinking
        a) Tumbler
        b) Stemmed
        c) Mug/Other
    7) Other Table
        a) Dining
        b) Serving
    8) Decorative
    9) Lighting
    10) Personal
    11) Mirror
    12) Preserves/Storage

The data generated from the glass vessel analysis of the Cazier site was basic to intra-site and inter-site glass assemblage comparisons and will be explained more fully later in the report.

Since a variety of construction mortars dating from the nineteenth through the twentieth centuries were recovered from the Cazier site, mortar and plaster fragments excavated from several features, with focus on Feature

32 (Cellar), were subjected to mortar analysis testing developed by Alan Tabachnick of Cultural Heritage Research Services Incorporated (1988:1-7). Lime-sand mortars dominated construction until 1880, after which cement mortars were most common (McKee 1980:62-69). The ratio of lime, clay, and sand was used to determine the mortar formula used in construction of a foundation. Differences in mortar formulas were used with some success to provide relative sequences of structure construction, as was used by Cultural Heritage Resource Services (CHRS) Inc. at the Allen site in Christiana (Basalik et al. 1988:105-108). No absolute dates from the mortar formulas, however, could be determined.

The following attributes were recorded for each mortar sample:

WEIGHT OF SAMPLE: refers to the weight of the mortar sample after being ground to a coarse powder.

RESIDUE: refers to the amount of residue separated from the sand during the testing process. The residue is inspected for amounts of clay, cement and lime.

SAND: commonly used as a filler or grit in mortar.

CLAY MORTAR: consists mainly of mud and clay, strengthened by straw and horse or hog hair, also called "wattle or daub". This is used in regions where lime was difficult to obtain.

LIME-SAND MORTAR: most common type of mortar used in structures until the late nineteenth century. It is a mix of lime, sand and water, in a variety of proportions.

PORTLAND CEMENT: manufactured in the U.S. after 1871, known for its strength, low absorbency and hardness. It became a major ingredient in mortar after 1880. Common proportions were one part cement to 6-10 parts sand to 1/2 to 2 parts lime paste.

PLASTER: used to cover exterior and interior walls and ceilings. Clay plaster was used for chinking frame and log houses, composed mainly of clay, hay, lime, and hair. Lime plaster was a mixture of lime, sand, hair, and/or other binding materials. The data generated from the analysis of mortar fragments from the Cazier site were used in the intra-site interpretations and is explained more fully later in this report.