

# EXCAVATIONS AT THE ROSENSTOCK VILLAGE SITE (18FR18), FREDERICK COUNTY, MARYLAND: A PRELIMINARY REPORT

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## Abstract

The Rosenstock site (18FR18), a Late Woodland village characteristic of the Montgomery Complex, was excavated by the Archeological Society of Maryland, Inc. in cooperation with the Maryland State Archeologist's office in 1979 and 1990-1992. The 1.5-acre site, located on a bluff overlooking the Monocacy River, is roughly circular as indicated by an arcing line of trash-filled pits. No palisade has been found at the site despite concerted efforts to locate such a feature. Likewise, postmold patterns for domestic structure have yet to be discerned, although some household features point to general house locations. Two semi-subterranean "keyhole" structures—presumably sweatlodges—have been identified. The artifact assemblage is predominated by Shepard ware ceramics, as well as implements of quartz, rhyolite, and bone. Subsistence evidence includes carbonized corn and beans and faunal remains of mammals, birds, reptiles, and fish. Radiocarbon dates roughly place the site in the A.D. 1335-1400 time period, although the Rosenstock chronology is nagged by vexing questions.

Much of the material recovered from the site remains uncataloged and unanalyzed, and the prospects for such work being completed soon are dim. As an interim measure, the present report is intended to summarize the nature and extent of the work undertaken at Rosenstock, and to offer general observations made during the excavations. It is hoped that this will set the basis for future analysis of Rosenstock, and provide some initial comparative data that would assist researchers working at other Montgomery Complex sites in Maryland and Virginia.

## Introduction

The Rosenstock site is a Late Woodland village located atop a 7-meter-high bluff overlooking the Monocacy River (Figure 1). The bluff itself is a narrow, level promontory bounded by a deep ravine on the north, the river on the west, and a small stream on the south. The site, known since just after the turn of the century, has remained uncultivated since 1913 and currently is wooded. Since an initial exploration in the early 1900s, the Rosenstock site lay largely forgotten until the site was reported to the State Archeolo-

gist in 1970. Subsequently, the State Archeologist's office, in cooperation with the Archeological Society of Maryland, Inc. (ASM), carried out systematic testing of the site in 1979, and more extensive excavations in 1990-1992. Each of these projects was undertaken as part of the ASM Annual Field Session in Maryland Archeology.

The purpose of the present report is to describe the four seasons of ASM Field Session work at Rosenstock in general terms. To date, the only published accounts of this archeological work have been limited to "summaries" found in the ASM newsletters (Bastian 1979; Curry and Kavanagh 1990a, 1991a, 1992a) and a report on the site's bone tools (Moore 1994). Although the roughly 360 square meters excavated during the Field Sessions represent only about 7% of the estimated total site area, the quantities of artifacts yielded from this sample are overwhelming. Despite the best intentions of all involved, logistical problems in processing the artifacts, the disruption caused by consolidation of the state's two archeological programs into a single Office of Archeology, the relocation of the state artifact collections (twice), and the re-assignment of staff duties have all combined to hinder analysis and reporting of this important late prehistoric site. Given the realization that analysis of the Rosenstock materials will not be completed in the near future, and the recent ASM investigation



FIGURE 1. Aerial photograph showing site location.



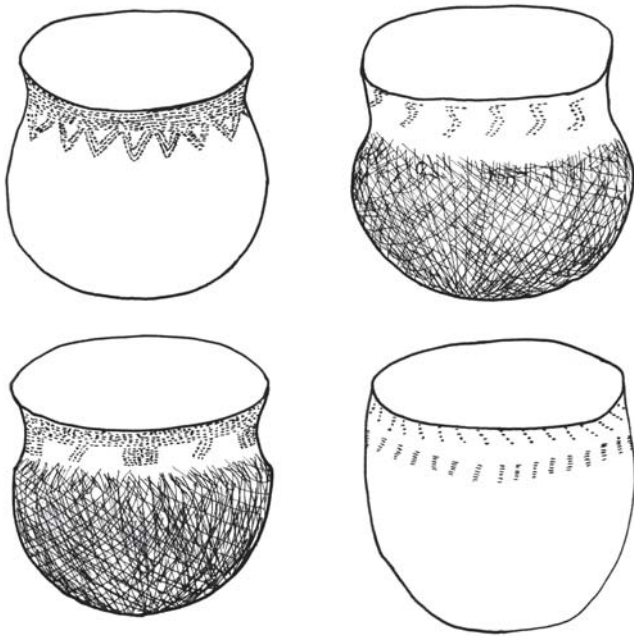


FIGURE 3. Goldsborough's "restored" pots from Rosenstock.

by a Dennis Murphy as of 1979. A small sample of ceramic sherds collected from Rosenstock by Dudley Page is curated by the Maryland Historical Trust. The Rosenstock material excavated by Goldsborough may be included in an artifact display which he prepared for the Maryland School for the Deaf in Frederick, although the location of the bulk of his collections—reported to have been stored in open boxes at the school—is now unknown. Spencer Geasey's surface-collected material from Rosenstock is included in the extensive collections he donated to the Maryland Historical Trust in 1992.

### Rosenstock in Context

The Rosenstock site is part of a larger cultural complex referred to as the Montgomery Complex (see Slattery et al. 1966; Slattery and Woodward 1992). This complex is composed of a series of Late Woodland sites located along the middle Potomac River and major streams feeding into the middle Potomac, such as the Monocacy and Shenandoah Rivers. In general, Montgomery Complex villages consist of an oval pattern of trash pits surrounding an open plaza, and cover an area of 1 to 2 acres. Subsistence relied on hunting (especially white-tailed deer) and cultivation of the maize-beans-squash complex. Burials are usually single, semi-flexed or flexed, and seldom contain grave goods. The artifacts associated with the

complex include Shepard cord-marked ceramics; clay and [rarely] stone pipes; bone, stone, and shell beads; rhyolite and quartz triangular points; and bone and antler tools.

Examination of the Rosenstock site during the ASM Field Sessions was aimed at clarifying a number of unresolved questions regarding the Montgomery Complex. The first problem relates to chronology. Traditionally, the Montgomery Complex was thought to date to around A.D. 1000-1300, although this was based mainly on only a few radiocarbon dates. Securing more radiocarbon samples to confirm these dates was a major goal of the ASM excavation for several reasons. First, there is the question of when and from where the Montgomery Complex groups arrived in this area. The lack of an identifiable Middle Woodland resident group in the Piedmont virtually rules out the possibility of in situ cultural development. Presumably—given the similarities of Shepard ware to early Owasco ceramics from New York state (Ritchie 1969)—the Montgomery Complex groups are a result of expansion of northern agricultural groups into the Monocacy and Potomac Piedmont region at around A.D. 900-1000 [corresponding to the earliest date for a Montgomery Complex component at the Mason Island II site (Pardi and Newman 1980; Franklin 1979)]. Related to this question of when the groups arrived is when the cultivation of corn and other domesticates began. Did it arrive in A.D. 900-1000 as part of an established Owasco-related subsistence system, or did it develop later?

Another aspect of the Montgomery Complex targeted by the ASM investigations was that of community patterning, including the arrangement of houses, refuse pits, the presence of a palisade. As mentioned above, the typical Montgomery Complex village is marked by an oval pattern of trash pits (often intersecting one another). What is not clear is whether or not a palisade is present at any of the Montgomery Complex sites. Presumably the early-Owasco-related groups moved into virtually uninhabited territory and would have had little need for a palisade. However, on the late end of the Montgomery Complex sequence, incursions by other groups may have necessitated such a defensive structure. Determination of the house types present at Rosenstock was another aspect of community structure and layout requiring study. Indications from other Montgomery Complex sites are that the houses were round, but evidence is slim and details are lacking.

It was with this perspective, and with these questions in mind, that the 1979 testing and the 1990-1992 excavations were approached.



## ASM Excavations

### *Archeological Methods*

In general terms, the excavations at the Rosenstock site focused on determining the site limits, ascertaining community patterns through the locations of features such as hearths, pits, and postmolds, and retrieving floral and faunal materials which will allow reconstruction of Late Woodland dietary patterns. The excavations were also designed to produce a controlled collection of Shepard component ceramic and lithic artifacts to better characterize the material culture of the Montgomery Complex. To maintain spatial control over the data, excavations consisted of a series of one-meter squares, or multiples thereof, employing the following general procedures:

- A cartesian coordinate grid system was established at the site to maintain horizontal control of the excavations. A north–south baseline (E0) was established at the western edge of the site along the bluff edge, roughly paralleling the Monocacy River; this grid baseline is aligned 24.5° west of magnetic north. The entire site is contained within the northeast quadrant of the grid. All one-meter excavation units are designated by the grid coordinate of the unit’s southwest corner.
- A permanent datum (Prime Datum), consisting of a brass survey marker set in concrete, was established at the southern end of the site (N5E5); all elevation measurements are in relation to the top of this marker. For convenience, a secondary datum (Datum #1) was established closer to the main excavation area. Datum #1 consisted of a nail driven into a white oak tree located at N90.5E0; it is situated 79 cm below Prime Datum. Ultimately, a second brass survey marker was placed in concrete at N80E0 to allow easy re-establishment of a north–south baseline, and served as Datum #2; it is 116 cm below Prime Datum.
- For each one-meter square, the plowzone (typically around 20 cm thick) was removed as a unit using a shovel. All plowzone soil was screened through ¼-inch hardware cloth.
- Artifacts were segregated by material (chipped stone, fire-cracked rock, ceramic, bone) into separate bags marked with identical provenience (site number, unit designation, and stratigraphic level).
- Immediately below the plowzone, intact subsoil was encountered in most squares. The top of subsoil was carefully scraped clean using a trowel, so that darker features such as pits and postmolds could be discerned.
- After scraping the floor clean, if no features were present, at least 5 cm of subsoil were removed (by

flat shovelling or trowel-shaving) and screened. Below the plowzone, diagnostic artifacts such as points and larger pieces of pottery were left in place for mapping and accurate below datum measurements prior to removal.

- Any features (stains, hearths, chipping clusters, etc.) encountered below the plowzone were left in place for mapping and photographing prior to removal.
- Features were cross-sectioned and excavated in natural layers or arbitrary 10-cm levels, with a portion of feature fill reserved for flotation.
- Excavation progress for each square was recorded on standardized level and feature forms.

All records generated during the ASM excavations at Rosenstock are curated at the Maryland Historical Trust in Crownsville. The artifacts recovered from the site are permanently stored at the Maryland Archaeological Conservation Laboratory located at Jefferson Patterson Park and Museum in Calvert County.

### *Site Soils*

The soil at Rosenstock is classified as belonging to the Duffield series (Matthews 1960) and is characterized as a well-drained soil developed from impure limestones. The specific soil type at the site is Duffield silt loam (DeB2)—composed of soils “so productive that most of them have been used intensively for more than 200 years...and are still excellent soils” (Matthews 1960:64). A typical Rosenstock soil profile exhibits a 21-cm-thick dark greyish-brown silt loam plowzone underlain by a meter or more of yellowish-brown heavy silt loam/silty clay loam subsoil. For the most part, the sub-plowzone soils are culturally sterile, except for where intrusive features have penetrated the subsoil. The depth of soil varies across the site, and in some areas limestone bedrock is exposed at the surface.

### *1979 Excavations*

The Rosenstock site was initially tested by the Maryland Geological Survey’s Division of Archeology as part of ASM’s 9<sup>th</sup> Annual Field Session in Maryland Archeology. Work was carried out from April 27 through May 10, 1979 (although much of the last weekend was spent testing the nearby Factory Farm site), and was directed by Donald W. Peck (assisted by Maureen Kavanagh), under the supervision of Tyler Bastian.

The objectives of the 1979 testing were as follows (Peck 1979a:2):

- To more accurately delineate the location and spatial extent of the site.
- To evaluate the eligibility of the site to the National Register of Historic Places.

- To refine the dating of cultural phases in the Monocacy region through radiocarbon age determination on organic samples (preferably charred wood) associated with pottery.
- To determine if stratigraphy is present at the site.
- To refine our understanding of the characteristics of cultural phases represented at the site.

The testing consisted of 23 one-meter squares spaced in a grid pattern about 12 meters apart (see Figure 4; the heavy vegetation at the site necessitated some variation in the square placement), and units were expanded when features were encountered to allow definition of feature limits. In all, 35.5 m<sup>2</sup> were excavated.

Based on the 1979 test excavations, the extent of the site was estimated at 90 by 50 meters, with a core area marked by a high density of artifacts and bone and measuring 30 by 30 meters (see Figure 5). Six features (Features 1-6) were identified, and included trash-filled pits and reddened areas indicating hearths (the latter appear to resemble the 1- to 3-foot-diameter areas of burned red clay described by Goldsborough n.d., 1911:30).

### *1990-1992 Excavations*

The 20<sup>th</sup> through 22<sup>nd</sup> Annual Field Sessions in Maryland Archeology were held on May 11-21, 1990, May 24-June 3, 1991, and May 15-25, 1992, respectively. The excavations were directed by Dennis C. Curry and Maureen Kavanagh, under the supervision of Tyler Bastian (all originally with the Maryland Geological Survey's Division of Archeology, and then transferred to the Maryland Historical Trust's Office of Archeology following the 1990 Field Session).

The primary goals of the 1990-1992 ASM Annual Field Sessions were as follows (Curry and Kavanagh 1990b, 1991b, 1992b):

- Determine the site boundaries and establish the presence or absence of a palisade.
- Complete the excavation of features that were only partially excavated during the 1979 field session, and, later, continue sampling of the pit features.
- Recover floral and faunal materials to reconstruct dietary patterns.
- Expose large areas of the site so as to determine community patterning within the village.

In general, the 1990 excavations (109 m<sup>2</sup>) were focused along the northern edge of the site. These were designed to further investigate a large trash-filled pit (Feature 5) encountered during the 1979 testing, to search for and sample additional features, and to detect the presence of any palisade on the northwest edge of the site. The 1991 excavations (117.5 m<sup>2</sup>) examined the eastern and southwestern portions of the site, seeking additional com-

ponent features of the "arcing line of pits" recognized in 1990, and again attempting to find evidence for the existence of a palisade (this time along the southern limits of the site). The 1992 excavations (96.25 m<sup>2</sup>) were designed to investigate the center of the village, largely inside the ring of pits, to determine whether a central plaza existed and, if so, how it was used. These excavations also encountered and attempted to define the limits of a large sheet midden on the eastern side of the site.

### **Archeological Features**

More than three dozen features have been identified during the various ASM excavations (Table 1). A summary of the individual features is presented below. Refer to Figure 6 for the feature locations.

**Feature 1.** Found in 1979, Feature 1 was a roughly oval reddish area measuring approximately 20 x 16 cm and extending 2 cm into the subsoil. The feature fill consisted of hardened red clay (more brittle than the surrounding subsoil) mixed with charcoal flecks, and may represent a hearth.

**Feature 2.** Immediately north of Feature 1, the south half of Feature 2 was exposed and excavated in 1979, and the remainder was defined and dug during the 1990 investigation. The bulk of the feature consisted of a roughly two-meter circular area, with a 90 x 30-cm extension on the north side. Feature fill extended 8-12 cm into the subsoil, and a series of postmolds encircled the feature. A small (30 x 20 x 20 cm) concentration of charcoal was located in the western half of the feature. Feature 2 is interpreted as a semi-subterranean "keyhole" structure, possibly a sweatlodge.

**Feature 3.** Feature 3 was a small (40 x 32 cm) red area found in 1979 adjacent to the west edge of Feature 2. The feature fill extended 1-2 cm into the subsoil, and consisted of reddened, slightly brittle, clay. A possible postmold extended from the bottom of Feature 2 about 20 cm into the subsoil. The feature is considered a possible hearth.

**Feature 4.** Feature 4 was only partially exposed and excavated in 1979. The exposed portion of the feature encompassed approximately 3 m<sup>2</sup> and extended a half-meter into the subsoil (Figure 7). The feature exhibited a series of lenses throughout the feature fill, and included animal bone; large sherds (including rims from multiple vessels); stone projectile points (stemmed and triangular), tools, and flakes; a perforated shark's tooth; a steatite pipe bowl fragment; and an incised clay pipe bowl fragment. Several human vertebrae and phalanges (some of which were articulated) were also recovered from this feature. Charcoal from the upper half of this feature yielded a date of 530±60 B.P.; a charcoal sample from the lower half of the feature was assayed at 615±60 B.P. The excavated por-



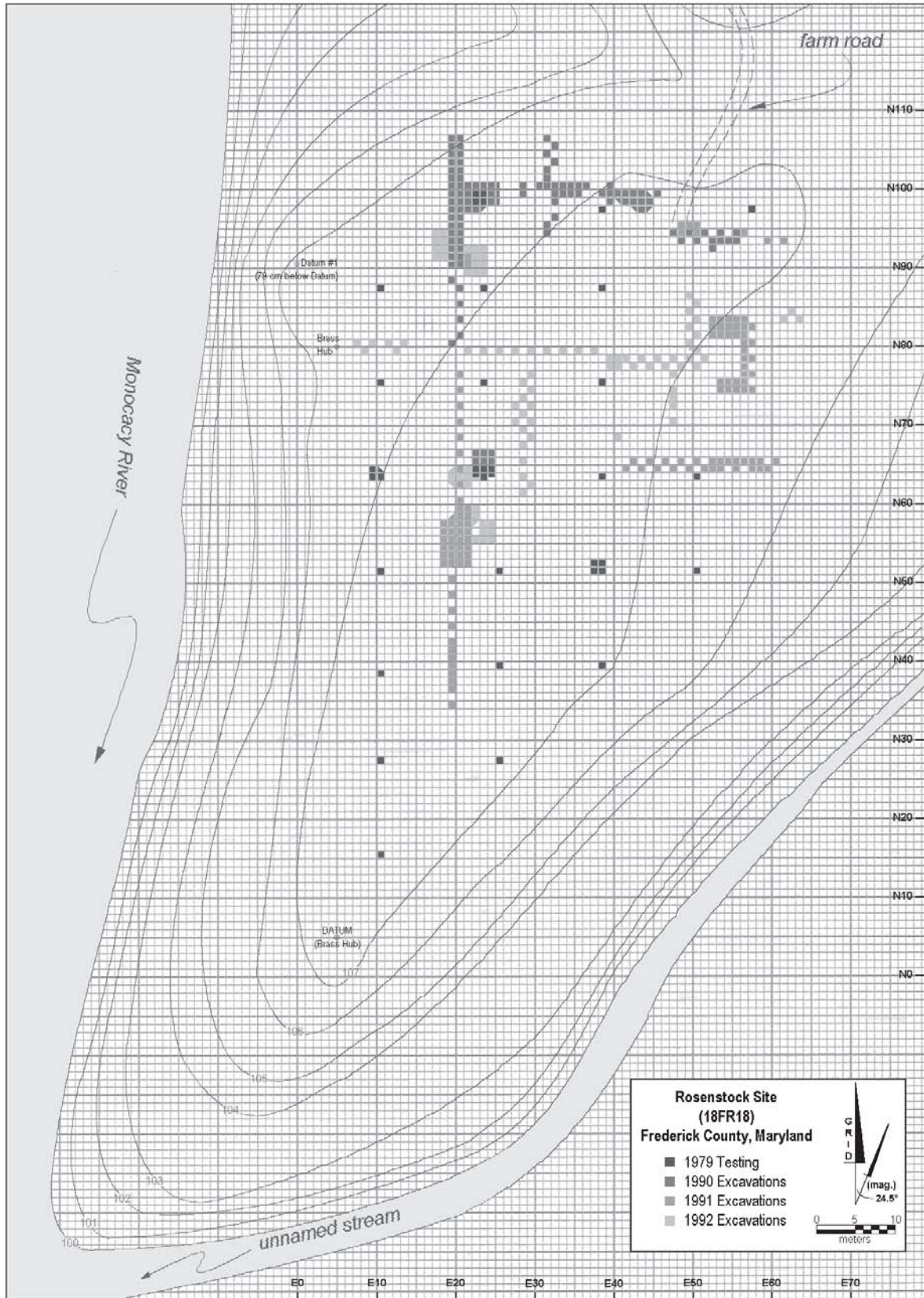


FIGURE 4. Map of excavation units: 1979, 1990-1992.

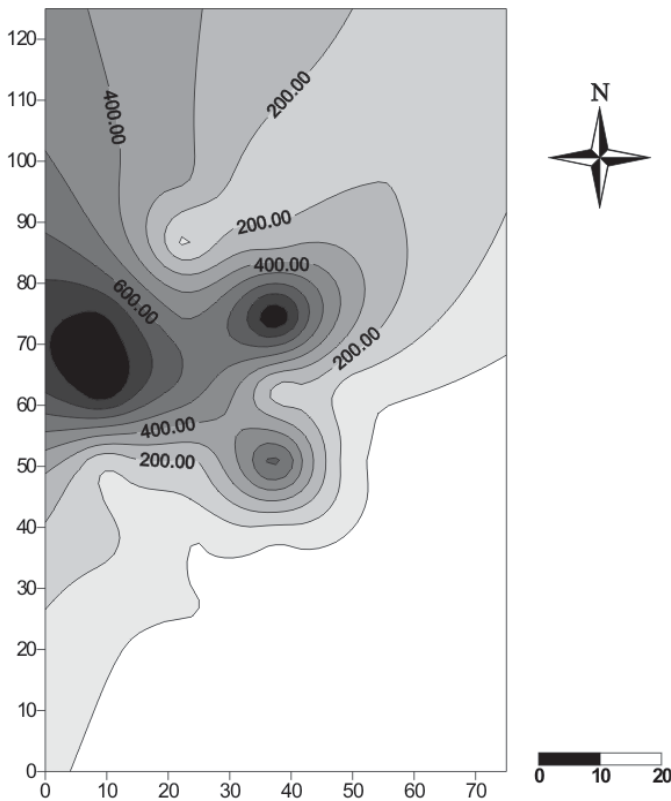


FIGURE 5. Artifact density map, 1979 testing.

tion of the feature seems to represent a trash-filled pit. It is also possible that the feature represents two intersecting (and/or disturbed) pits.

**Feature 5.** Feature 5 was first encountered in N98E22 during the 1979 testing program. Upon removal of the plowzone in that unit, feature fill was revealed across the entire floor of the square. Subsequently, three additional one-meter units were opened in an attempt to discern the limits of the feature. Each unit revealed additional portions of the feature, but only small segments of the feature's edges were exposed. Rather than exploring the horizontal extent of the feature, the exposed portion of Feature 5 was excavated to obtain a sample of the pit's contents and to determine its nature. These excavations, which extended as deep as one meter into the subsoil, revealed numerous large ceramic sherds (including the majority of a large Shepard ware vessel, later reconstructed, and a large rim section of a Shenks Ferry [Heisey 1971] vessel; see Figures 27 and 29), animal bone, flakes and points, and a shell bead. Radiocarbon samples collected from a thin charcoal lens near the center of the feature (later considered to represent charred bark) and from charcoal found just above the base of the feature yielded dates of  $475 \pm 60$  and  $500 \pm 30$  B.P., respectively.

In 1990, excavations were expanded around Feature 5 to expose the entire limits of the feature. It proved to be approximately 5 by 2 meters and protruded up to 1.1 m into the subsoil; volume of the feature fill is estimated at  $12 \text{ m}^3$ . In order to gain some semblance of control over excavation of the feature, it was divided into seven sections (A through G, with Section A being that portion excavated in 1979; see Figure 8). All sections (except previously excavated Section A and Sections B and D) were excavated according to distinguishable lenses within the feature; Sections B and D were excavated in 10-cm arbitrary levels and all feature fill from these levels was subjected to flotation. Sections B-E and G were excavated in 1990; removal of Section F in 1991 completed the three-season excavation of Feature 5.

In terms of pit morphology, Feature 5 should probably be considered two separate, overlapping or intersecting pits (Figure 9). It was treated as a single feature, however, because no division between the two pits was distinguishable in the upper 50 cm of the pit fill. At about 50 cm into the feature near its center, a large hump of subsoil was encountered, and two separate pit basins were distinguished, each of which continued another 50 cm into subsoil. In retrospect, treating Feature 5 as a single feature probably mimics the pits' prehistoric use. Based on the presence of conjoining pieces of ceramic vessels from the lower levels of each separate pit basin—and given that the sheet of charred bark (mentioned above) extended over the subsoil hump separating the two basins and thereby was found in both pits (Figure 10)—it is evident that both halves of Feature 5 were open at the same time. The presence of charred bark in the feature led to speculation that it might have been used as either a pit cover or lining.

Feature 5 yielded literally tens of thousands of flakes, ceramic sherds, and animal bones (Figure 11), in addition to large quantities of flotation material that has yet to be sorted or identified. To give some idea of the material recovered from Feature 5, listed below are a number of unique or noteworthy artifacts recovered from the feature (in addition to the artifacts from the 1979 testing, mentioned above):

- A bone carving depicting an apparent squatting, headless human effigy (see Figure 42).
- Unfired lumps of crushed-rock-tempered clay (see Figure 35).
- Unfired pottery coils apparently pinched off during vessel manufacture.
- A fired lump of clay bearing impressions as if squeezed in one's hand (see Figure 34). (It is easy to imagine a potter, having just finished building up the body of a ceramic vessel, squeezing the left-over clay in her hand and tossing it into a nearby campfire.)
- Elk bones and antler.

TABLE 1. Features from the Rosenstock village.

FEATURE	DIMENSIONS (L/W/D)	EXCAVATED?	TYPE	COMMENTS
1	20 x 16 x 2 cm	Yes (1979)	Hearth	
2	290 x 200 x 12 cm	Yes (1979, 1990)	Keyhole structure/ sweatlodge	Charcoal concentration in western half.
3	40 x 32 x 20 cm	Yes (1979)	Hearth	Possible postmold in center.
4	>160 x 160 x 50 cm	Partial (1979)	Trash-filled pit	Human vertebrae and phalanges. 530±60 B.P., 615±60 B.P.
5	>450 x 200 x 110 cm	Yes (1979, 1990-1991)	Trash-filled pit	Two intersecting, contemporaneous pits. 910±90 B.P., 850±120 B.P., 520±80 B.P., 500±30 B.P., 475±60 B.P. Infant burials. Restored Shepard vessel, Shenks Ferry rim, bone carving, cougar skull, 1000s of sherds and animal bones
6	>170 x 130 x 40 cm	Partial (1979)	Trash-filled pit	935±60 B.P.
7	—	Yes (1990)	Non-cultural	Deeper plowzone
8	>300 x 150 x 20 cm	Partial (1990)	Trash-filled pit(?)	
9	36 x 33 x 13 cm	Yes (1990)	Small pit	
10	>160 x 120 cm	No	Trash-filled pit(?)	May intersect with other features.
11	—	Yes (1990)	Non-cultural	Deeper plowzone
12	350 x 160 x 60 cm	Yes (1990)	Trash-filled pit	Pit extended to bedrock. 860±80 B.P. Charred corn cob and bean, bone fishhook, bear jaw, rouletted pipe bowl, squat vessel with hanging chevrons, many triangles.
13	200 x 140 x 40 cm	Yes (1991)	Trash-filled pit	Discoidal, worked deer antler.
14	—	No	Unknown	Possible human burial.
15	105 x 70 x 15+ cm	Partial (1990)	Infant burial	West half indicates part of feature may have originally been a trash-filled pit. NW edge of Feature 5.
16	—	No	Non-cultural	Remnant of plowzone.
17	600 x 200 x 60 cm	Partial (1991-1992)	Trash-filled pit	Individual lenses very distinct. 740±80 B.P.; 380±70 B.P. Charred beans, deer scapulae, pipe. Tree or rodent disturbance.
18	—	Yes (1991)	Non-cultural	
19	46 x 46 x 32 cm	Yes (1991)	Small pit	
20	—	No	Unknown	Near keyhole structures.
21	35 x 33 x 17 cm	Yes (1991)	Small pit	Limestone slab formed base of pit.
22	35 x 33 x 9 cm	Yes (1991)	Small pit	Pitted hammerstone.
23	50 x 47 x 10 cm	Yes (1991)	Small pit	
24	—	No	Unknown	
25	—	No	Unknown	
26	—	No	Unknown	Possible tree or rodent disturbance.
27	240 x 200 x 14 cm	Yes (1992)	Keyhole structure/ sweatlodge	Sherd and FCR concentration near "keyhole." 700±90 B.P.
28	53 x 40 x 22+ cm	Partial (1992)	Infant burial	On north edge of Feature 17. 720±70 B.P. from just above burial.
29	120 x 114 x 35 cm	Partial (1992)	Trash-filled pit(?)	Only NW quadrant excavated.
30	>77 x 70 x 15 cm	Partial (1992)	Non-cultural	Located beneath sheet midden. Probable tree disturbance.
31	—	No	Unknown	
32	>30 x 27 x 10 cm	Partial (1992)	Small pit	Flat-bottomed pit. Only north half of feature excavated.
33	—	No	Unknown	
34	30 x 27 x 5 cm	Yes (1992)	Small pit	
35	33 x 30 x 12 cm	Yes (1992)	—	Deep pocket of sheet midden.
36	—	Yes (1992)	—	Dark pocket of sheet midden.
37	>57 x 27 cm	No	Unknown	
38	34 x 23 x 29 cm	Yes (1992)	Non-cultural	Root disturbance.
39	36 x 31 x 4 cm	Yes (1992)	Small pit	In SW corner of Feature 27 (keyhole structure).
Sheet Midden	>170 m <sup>2</sup>	Partial (1992)	Sheet midden	Stone maskette, miniature pot.



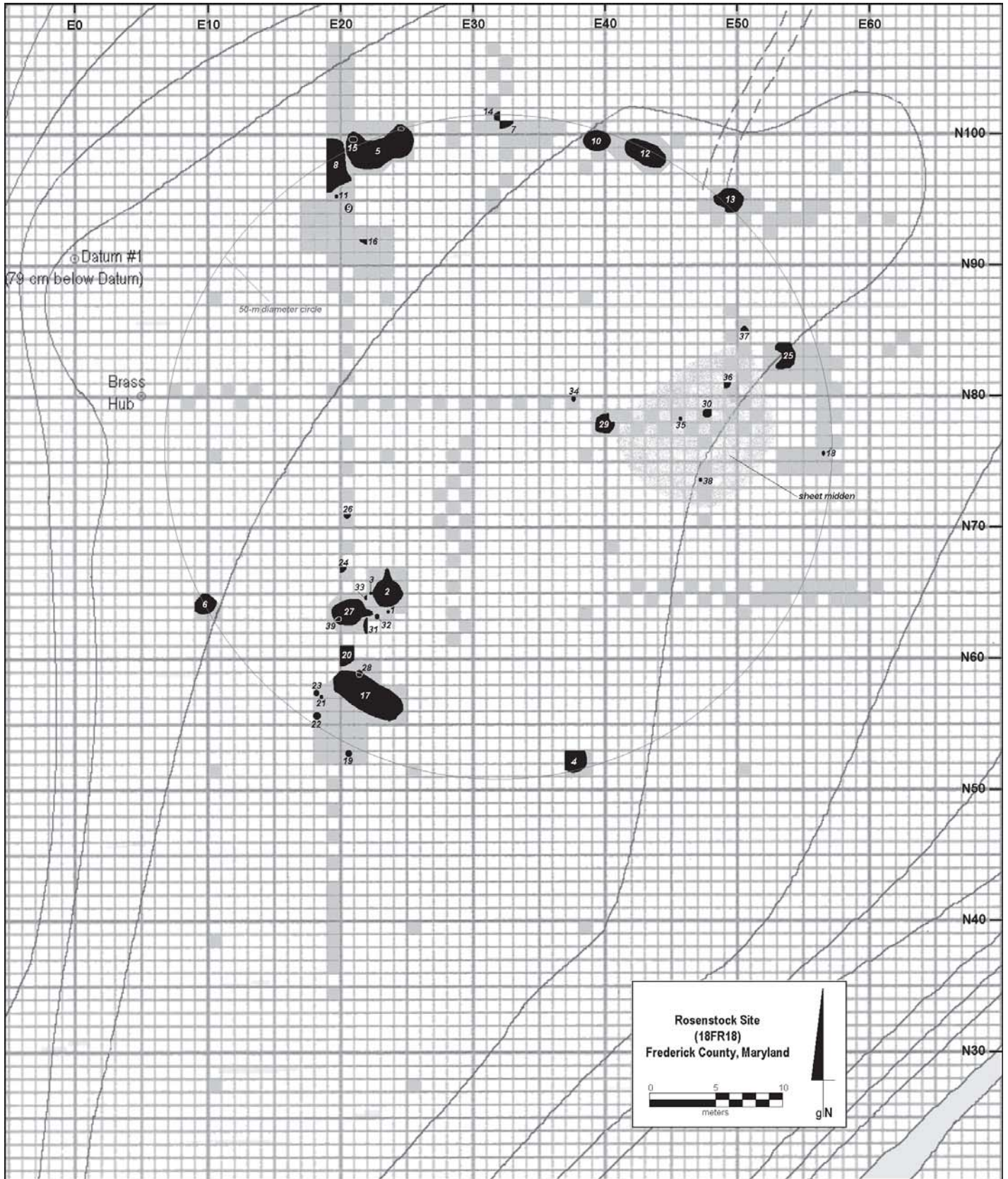


FIGURE 6. Map of features at Rosenstock.



FIGURE 7. Cross-section of Feature 4.

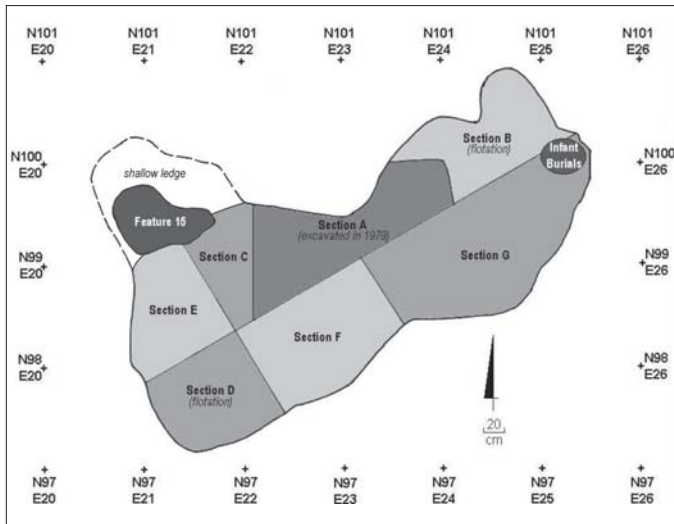


FIGURE 8. Plan map of Feature 5.

- Bone beads and awls.
- A turtle shell cup or scoop.
- Pipe stems and bowls.
- A netsinker.
- A drilled chunky stone.
- An enigmatic piece of shale with two holes drilled in it (reminiscent of the drilled shale discs reported by Snyder n.d.; see Figure 40a).
- The posterior half of a cougar or mountain lion skull from the floor of the western pit basin. This unique find was clearly the first thing deposited in the pit (see Figure 12), and it is possible that its disposal in this fashion held some significance, ritual or otherwise.

While excavating a lip or shallow ledge (identified as an amorphous reddish-brown mottled area) in Section G

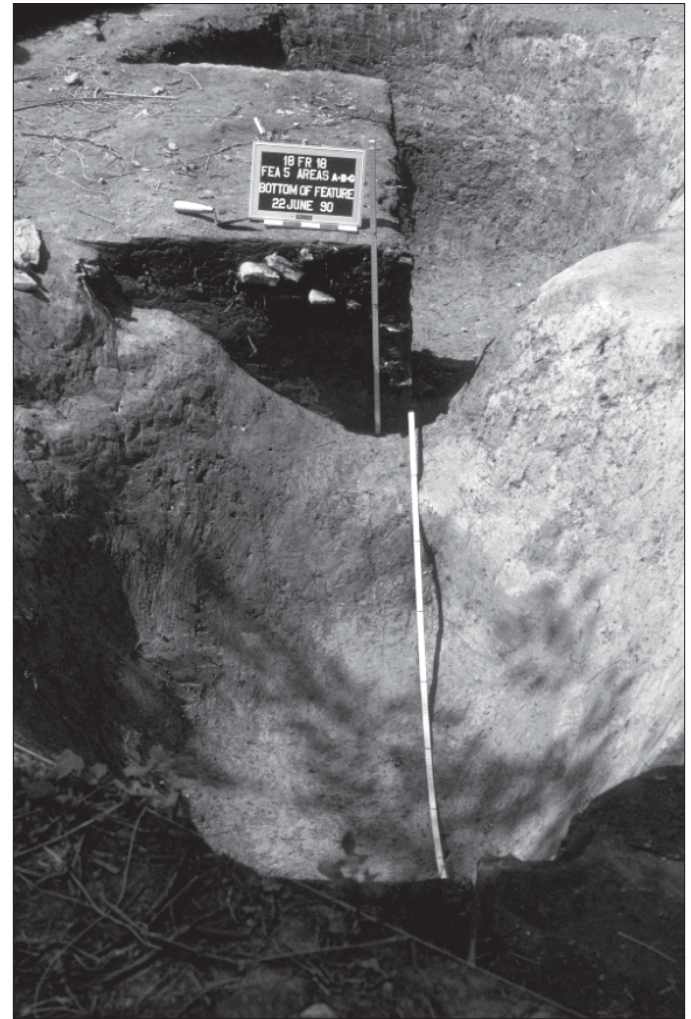


FIGURE 9. East and west halves of Feature 5 showing connecting “hump.”

on the northeast edge of Feature 5, two infant burials were encountered (see Figure 8). The first burial was partially exposed and mapped. The second burial was encountered as excavations shifted from the initial infant burial to the remaining portion of the feature ledge. Almost immediately, adjacent to the east side of the initial infant, two infant femurs and additional long bones were exposed, and excavations were halted. Any displaced bones were returned to the burial area and the burials were carefully recovered; both burials remain interred at the site. A third infant burial was found along the northwest edge of Feature 5. It was originally defined as an oval stain within Feature 5, designated Feature 15, and was excavated as a separate feature. This burial also remains interred in situ at the site (see Feature 15, below).

To supplement the radiocarbon dates obtained from the 1979 testing, three additional charcoal samples were





FIGURE 10. Charred bark spanning both halves of Feature 5.



FIGURE 11. Feature 5 excavation in progress, showing ceramics and animal bone.



FIGURE 12. Cougar skull at base of Feature 5.

submitted for assay. These included a larger sample of charred bark excavated in 1990 ( $520 \pm 80$  B.P.), and samples from the bottom of the feature in both its east ( $850 \pm 120$  B.P.) and west ( $910 \pm 90$  B.P.) halves.

**Feature 6.** A 1.3 x 1.7-meter section of this feature was exposed and excavated in 1979; the feature extended into unexcavated areas to the west and northeast. The feature matrix consisted of an unlayered dark fill mixed with charcoal, and extended 30 to 40 cm into the subsoil. Artifacts included ceramics, rhyolite and quartz flakes, large triangular rhyolite points, and animal bone (mostly deer). Charcoal from this feature yielded a date of  $935 \pm 60$  B.P. The feature represents an oval trash-filled pit.

**Feature 7.** Most of the north half of N100E32 (excavated in 1990) was designated Feature 7 based the darker nature of the fill encountered below the plowzone, although the plowzone-subsoil transition was less marked here than in surrounding areas. The “feature” extended into the north, east, and west walls of the excavation unit.



Subsequent excavation to the east and west revealed a clearer plowzone–subsoil transition and no evidence of a feature. Feature 7 appears to have been merely a slightly deeper area of plowzone.

**Feature 8.** In 1990, a 3 x 1.5-meter section of a large feature was exposed just to the west of Feature 5. Feature 8 extended westward into unexcavated areas, and its actual dimensions are unknown. Artifacts visible at the top of the feature included lithics, ceramics, and bird and mammal bone. Partial excavation of a small section in the southeast portion of the exposed feature indicated that the depth of the feature was increasing towards the northwest. The excavation was terminated at a depth of approximately 20 cm, and the feature was backfilled. Feature 8 likely represents a deep trash-filled pit.

**Feature 9.** Feature 9 was a shallow (13 cm) 36 x 33 cm basin-shaped pit feature. Artifacts included ceramics, flakes, bone, and a possible ceramic bead.

**Feature 10.** Feature 10 is a partially exposed feature measuring in excess of 1.6 by 1.2 meters. The feature extends to the northwest into an unexcavated area of the site, and there was some indication that it may intersect with additional features to the north and west. Feature 10, presumably a trash-filled pit, was backfilled and remains unexcavated.

**Feature 11.** This irregular 40 x 30 cm stain is presumed to be a slightly deeper pocket of plowzone.

**Feature 12.** This oval feature measured 3.5 by 1.6 meters, and penetrated the subsoil some 60 cm (in some areas actually exposing limestone bedrock; see Figure 13). Some lensing was observed in the feature fill, but generally the fill consisted of a fairly uniform dark matrix. Artifacts recovered from the feature included several dozen triangular projectile points (quartz, rhyolite, and chert); hundreds of sherds, including large nested portions of a squat vessel decorated with hanging chevrons below its neck (see Figure 30); hundreds of animal bones, including a bear jaw with its canine tooth intact (Figure 14); charred corn cob fragments; a charred bean fragment; a bone fishhook; an antler tine punch; and a rouletted pipe bowl. A charcoal sample from the southwest quadrant of this trash-filled pit feature, just above the bottom of the pit, yielded a radiocarbon date of 935±60 B.P.

**Feature 13.** Feature 13, found in 1990 and excavated in 1991, was a roughly oval dark stain measuring 2.0 by 1.4 meters. The feature extended some 40 cm into the subsoil and, as with Feature 12, had been excavated to the limestone bedrock. Considerable rodent disturbance was observed in the feature fill. Recovered artifacts included a discoidal fragment, a worked deer antler, and a quartz triangular point. The feature represents a trash-filled pit.

**Feature 14.** Feature 14 was located in the unit adjacent to the northwest of Feature 7, which was determined to be a slightly deeper pocket of plowzone. Feature



FIGURE 13. Feature 12 after excavation, showing limestone bedrock.



FIGURE 14. Bear jaw from Feature 12.

14 appeared to be half of a small (25 cm wide) oval feature found in the southeast quadrant of N101E31. The feature extended eastward into an unexcavated portion of the site; its total extent is unknown and the feature remains unexcavated. The recovery of human skull fragments, phalanges, and teeth from the plowzone in this vicinity poses the possibility that Feature 14 may be a human burial.

**Feature 15.** Originally mapped as part of Feature 5 and thought to be a lip along that trash-filled pit's northwest edge, Feature 15 was recognized as a distinct feature after additional troweling of the upper surface of Feature 5. The feature appeared as a roughly oval to sub-rectangular stain measuring 105 by 70 cm. Excavation revealed what seemed to be two separate episodes of pit construction. The west half of Feature 15 appeared to be a shallow (10-11 cm) pit, possibly the base of a trash-filled pit. The east half was slightly deeper (15+ cm) and appeared to represent a later excavation in which an infant was interred. The burial was encountered while cross-sectioning the north half of the feature, and excavation was terminated when the top portion of the burial was encountered; it remains interred at the site.

**Feature 16.** Feature 16 was defined as an area of dark feature fill in the northeast corner of N91E21. However, subsequent excavation of the three adjacent units failed to reveal any evidence of a feature. A 5-cm elevation difference between the northwest and northeast corners of N91E21 suggest that the plowzone had not been fully removed from the northeast corner, and the dark area labeled Feature 16 was actually a plowzone remnant.

**Feature 17.** This large sub-rectangular feature was encountered on the southwestern side of the site in 1991, and was partially excavated in 1992. The total extent of the feature (6 by 2 meters) was discerned, although a 1.5-m<sup>2</sup> area in the center of the feature was not exposed in order to avoid removal of two trees. The western half of the feature was arbitrarily divided into six sections (A through F), and alternating sections (A, C, E; see Figure 15) were excavated to obtain a data sample; the eastern half of the feature remains completely unexcavated. Excavation of the 25% feature sample revealed that the pit extended 60 cm into the subsoil. Distinct lenses (possibly indicating individual basket-loads of fill) were quite evident (Figure 16), and these lenses preserved apparent one-time events such as a small, discrete pocket of charred beans (Figure 17). Two charcoal samples taken from Section C in Level 3 (40-50 cm below surface) and Levels 6&7 (75-85 cm below surface) yielded radiocarbon dates of 380±70 B.P. and 740±80 B.P., respectively. Artifacts included a nearly complete elbow pipe typical of the Montgomery Complex (see Figure 32a), one Hellgrammite and various triangular projectile points, a shale "doodad" (see Figure 38), abundant animal bone (including a disproportionate number of deer scapulae), turtle shells, and both intact and

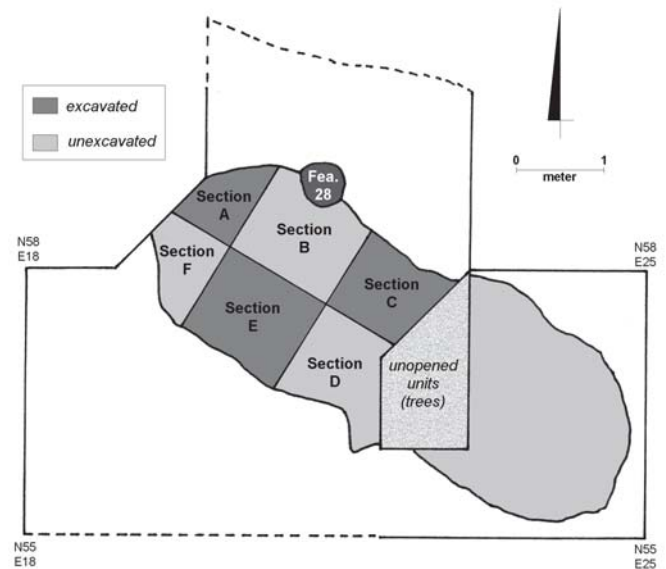


FIGURE 15. Plan map of Feature 17.



FIGURE 16. Cross-section of Feature 17 showing lenses of fill.

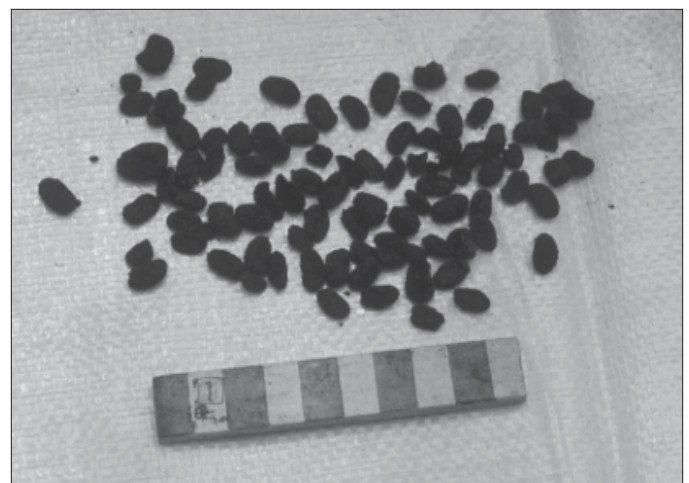


FIGURE 17. Charred beans from Feature 17.



cut antler specimens. An infant burial (Feature 28) was located and excavated on the northwest edge (Section B) of this large trash-filled pit (see below).

**Feature 18.** Excavation of Feature 18, which appeared as a small (30 cm) circular feature with dark loam fill less compact than in the surrounding subsoil, revealed a probable tree or rodent disturbance.

**Feature 19.** Feature 19 was a small (46 x 46 x 32 cm) basin-shaped pit feature. Artifacts included ceramics, flakes, and burned bone and antler.

**Feature 20.** Less than a meter north of Feature 17, Feature 20 appeared as a dark stain encompassing the north half of N59E20, and extending to the north, east, and west. Subsequent excavation of N60E20 revealed that the feature encompassed virtually the entire unit, again extending to the north, east, and west. The total extent of Feature 20 is unknown, and the feature remains unexcavated. It may represent another trash-filled pit adjacent to Feature 17, although—given its proximity to Feature 2 and 27, both keyhole structures—it is possible that Feature 20 may represent a third keyhole structure.

**Feature 21.** Feature 21 appeared as a small (33-35 cm) round to oval stain, and penetrated 17 cm into the subsoil. Excavation revealed a nearly straight-walled pit that was virtually devoid of artifacts (several small bone fragments and one sherd). The base of the pit was formed by a flat limestone slab (Figure 18).

**Feature 22.** Located approximately one meter south of Feature 21, Feature 22 proved to be nearly identical. It appeared as a roundish dark stain measuring 35 x 33 cm, and extended 9 cm into the subsoil. Two bone fragments and a pitted hammerstone (see Figure 40b) were recovered from the pit fill.

**Feature 23.** Feature 23 was located adjacent to Feature 21 and, like Features 21 and 22, was a small pit feature. It measured 50 by 47 cm, was 10 cm deep, and was more basin-shaped than either Feature 21 or 22. Ar-

tifacts included several small bone fragments, one sherd, and one piece of fire-cracked rock.

**Feature 24.** Located in the northwest corner of N66E20, Feature 24 extended into three adjacent, unexcavated units; its extent and nature are unknown.

**Feature 25.** Feature 25 was an irregular and indistinct dark stain measuring at least 1.5 by 1.1 meters. The feature was not entirely exposed and it remains unexcavated.

**Feature 26.** Feature 26 was an irregular dark stain along the north edge of N70E20. The central portion of the feature measured approximately 30-35 cm in diameter, and at least three linear projections extended from this core area. The feature was not completely exposed and it remains unexcavated, but it appeared likely to be a tree or rodent disturbance.

**Feature 27.** Located only a meter southwest of Feature 2 (keyhole structure/sweatlodge), Feature 27 proved to be a similar semi-subterranean keyhole structure (Figure 19). As with Feature 2, the main body of Feature 27 consisted of a roughly circular two-meter area that extended 14 cm into the subsoil, surrounded by a series of postmolds; a 30-cm extension is located on the east side of the structure (situated at a 90° angle from the orientation of Feature 2). A concentration of ceramic sherds and fire-cracked rock near the keyhole entrance may bolster the interpreted use of this structure as a sweatlodge. A charcoal sample from this feature yielded a radiocarbon date of 700±90 B.P. Feature 39 (see below) is located in the southwest corner of Feature 27.

**Feature 28.** Feature 28 was located on the northwest edge of, and slightly intruding into, Feature 17, a large trash-filled pit (Figure 20). The feature measured 53 x 40 cm, and extended 22 cm into subsoil before excavation was halted. Prior to excavation, it was suspected that this feature might represent an infant burial akin to those found



FIGURE 18. Limestone slabs lining floor of Feature 21.

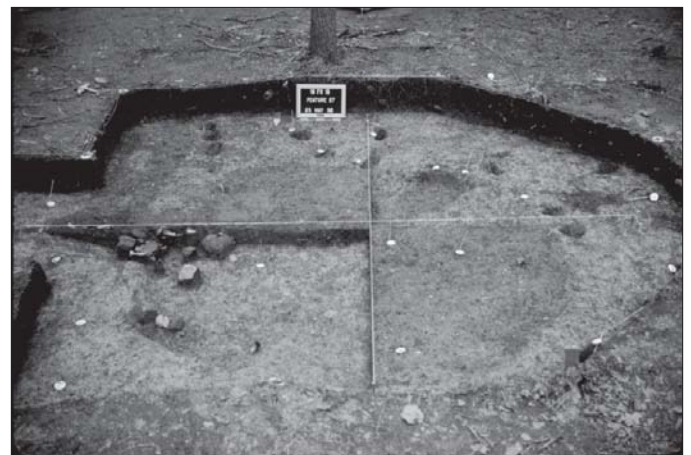


FIGURE 19. Cross-section of Feature 27, “keyhole” structure.



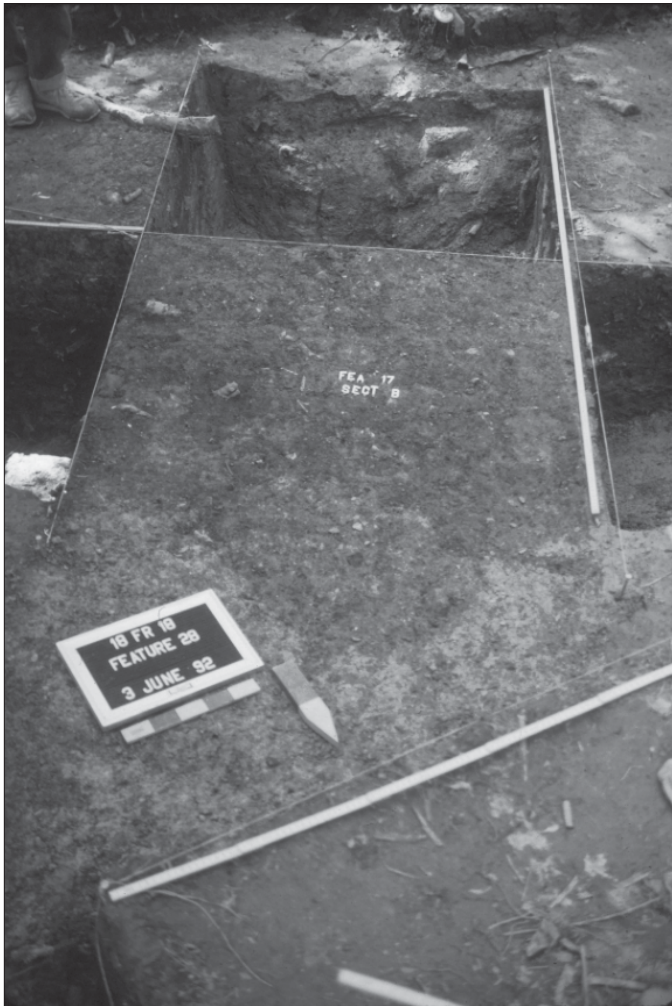


FIGURE 20. Feature 28 (infant burial) intersecting the edge of Feature 17.

along the northeast and northwest (Feature 15) edges of Feature 5. As such, excavation proceeded carefully and slowly, and all pit fill was retained for backfilling in the event our assumptions were correct. Feature excavation did, indeed, reveal an infant burial, which was exposed just enough to determine orientation and character of the remains. The burial was loosely flexed, with the cranium pointing south, facing west (Figure 21). *In situ* measurements were taken on various skeletal elements in an attempt to determine the age of the infant (femur=82 mm; tibia=71 mm; fibula=68 mm; metatarsals=15 mm [avg.]; pelvis=33 mm [max.]; crown–pelvis=299 mm). Based on these measurements (and especially the development of the pelvic bones), it was estimated that the infant died at or shortly after birth (Bass 1971:148-149). A charcoal sample taken from just above the burial yielded a radiocarbon date of  $720 \pm 70$  B.P. The burial remains in place at the site.

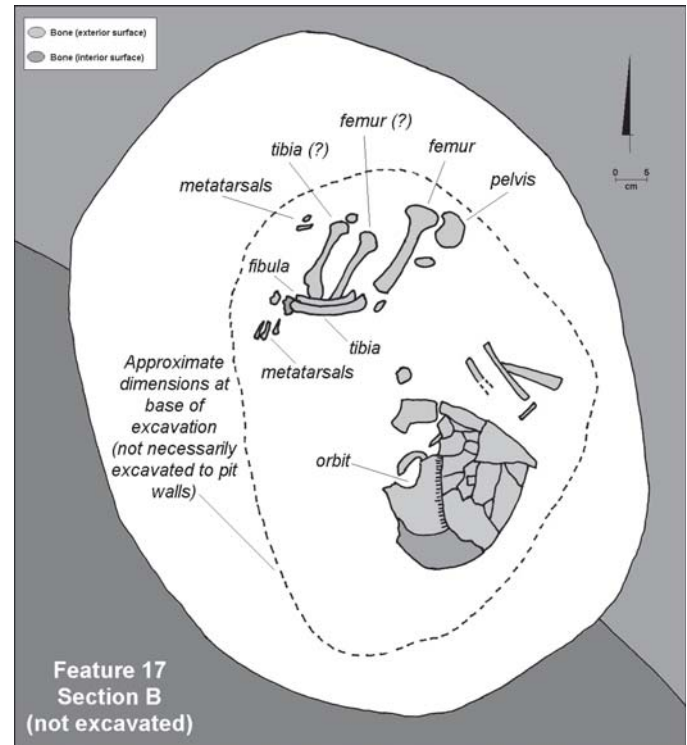


FIGURE 21. Plan map of Feature 28 (infant burial).

**Feature 29.** Feature 29 appeared as a kidney-shaped stain measuring 120 by 114 cm. The feature was quarter-sectioned, with the northwest quadrant removed, revealing that it extended 35 cm into the subsoil. Artifacts included flakes, ceramics, bone, a turtle shell, and fire-cracked rock. The feature is presumed to be a small trash-filled pit.

**Feature 30.** Located beneath the large sheet midden on the east side of the site, Feature 30 appeared as a dark stain with charcoal and reddened soil in the northeast portions of N78E47. The feature was not completely exposed and its extent is unknown. Upon excavation of the portion of feature found in N78E47, the feature was found to be fairly shallow (15cm) although two pockets (one 50 cm and irregular; one 12 cm) extended an additional 12 cm into subsoil. Artifacts recovered from the feature included a deer antler-and-skull fragment, an antler beam, ceramics, quartz flakes, and burnt bone. Given the irregular nature of the base of this feature, it is tentatively interpreted as the result of tree root disturbance. The artifacts are believed to have been displaced from the overlying sheet midden.

**Feature 31.** Feature 31 was recognized as an oblong area of mottled soil, some with red staining. The feature is located at the east end of Feature 27 (keyhole structure), and its north edge abuts Feature 27. Within Feature 31, the concentration of red-stained soils is most

prominent at its north end (closest to Feature 27). Feature 31 was not completely exposed, and neither its extent nor function is known. It remains unexcavated.

**Feature 32.** Located about 50 cm east-southeast of the eastern tip of Feature 27 (keyhole structure), Feature 31 was defined as a circular (ca. 30 cm) dark stain. The total extent of the feature is unknown, as it extends southward into an unexcavated unit. Cross-sectioning of the feature, during which only the north half was removed, revealed a shallow (10 cm) flat-bottomed pit containing ceramics, bone, shell, and charcoal. The feature's function is unknown.

**Feature 33.** Feature 33 was defined in 1992 as an area of light brown soil located between Features 2 and 27 (keyhole structures). The feature appeared to extend to the east, into a unit excavated in 1979, although any extension was not noticed in 1979. Feature 3, a reddened patch of clay excavated on the west edge of Feature 2 in 1979, would have been adjacent to Feature 33, and it is possible that Feature 33 represents plow-smearing of Feature 3. Nonetheless, Feature 33 was not excavated, and its nature and function remain unknown.

**Feature 34.** Feature 34 is a small (27 by 30 cm), round basin-shaped pit exposed in N79E37. Excavation revealed the feature to be very shallow (extending only 5 cm into subsoil), and contained a few ceramic sherds and some charcoal. Its function is unknown.

**Feature 35.** Located beneath the sheet midden on the east side of the site, Feature 35 was originally defined as a dark area (33 x 30 cm) with a deer bone and ceramic sherd cluster. The bone was found in three clusters of one to two bones each, and individual bones were sitting up vertically; within these was noticed a concentration of ceramic sherds. Prior to excavation, it was speculated that the bones served as a tripod used to support a ceramic vessel. Upon excavation, Feature 35 was found to be about 10 cm deep, except along its east edge where a root disturbance extended down an additional 8 cm before turning perpendicular. Based on the root disturbance, Feature 35 is considered to be a deep pocket of sheet midden, and the artifacts were displaced from above by root action.

**Feature 36.** Also located in the sheet midden area of the site, Feature 36 was defined as a dark area in the upper portions of the midden itself in unit N80E49. The feature extended to the west, northwest, and north into unexcavated units. Excavation of the feature revealed an irregular shallow basin thought to be a dark pocket of the sheet midden.

**Feature 37.** Feature 37 is a small (57- by 27-cm section exposed) stain along the south wall of N85E50. The feature extends southward into an unexcavated unit, and remains unexcavated. Its extent and nature are unknown.

**Feature 38.** Feature 38 appeared as a very dark stain beneath the sheet midden in the northwest corner of N73E47. Excavation revealed a deep (29 cm) funnel-shaped cross-section characteristic of a root disturbance.

**Feature 39.** Located in the southwest corner of the floor of Feature 27 (keyhole structure), Feature 39 appeared as a sub-rectangular area (36 x 31 cm) of dark soil with lighter reddish mottles. The feature appeared at the base of (below the floor of) Feature 27, and extended an additional 4 cm into the subsoil. Feature 39 abutted the wall of the keyhole structure, and may have intruded 2-3 cm into the wall/lip of Feature 27. One bone fragment and two quartzite fragments were recovered from this flat-bottomed pit feature. The function of Feature 39, other than a possible storage feature associated with the keyhole structure, is unknown.

**Sheet Midden.** A large (at least 170 m<sup>2</sup>) area of trash-filled midden was encountered on the eastern side of the Rosenstock village. This sheet midden was differentiated from the overlying plowzone largely on the basis of color (a dark yellowish brown clay loam versus the very dark greyish brown clay loam of the plowzone), and occasionally by the presence of distinct plow scars at the base of the plowzone. Large pieces of animal bone and comparatively larger ceramic sherds also helped define the top of the midden (Figure 22). The midden generally averaged 10-15 cm in thickness, tending to pinch out at the edges, and appeared more or less continuous (the midden was sampled using a checkerboard layout of excavations units). Although the midden is presumed to have built up over time as trash was discarded on the surface, no natural stratification or lensing was observed within the midden fill (nonetheless, excavation of the midden areas in 5-cm levels was aimed at providing a finer level of vertical control). The sheet midden—sealed beneath the plowzone—yielded data comparable to that obtained for the more discrete trash-filled pits found on the site. Some of the more distinctive



FIGURE 22. Portion of sheet midden during excavation, showing large sherds and miniature pot.



artifacts recovered from the sheet midden include a complete miniature pot (see Figure 31) from N79E50; a stone maskette (see Figure 37) from N77E48; numerous pipe fragments; bone and shell beads; a piece of worked bone (Figure 41d), possibly used as a shuttle in weaving or basketry; bone awls; several deer antlers; various turtle shells; a limestone disc and a portions of a ceramic and a shell disc; several chunky stone fragments; two celt fragments; and numerous triangular projectile points.

## Artifacts

### Ceramic

**Ceramic Vessels.** The ceramics at the Rosenstock site are almost exclusively Shepard Cord-Marked, a type of ceramic first defined by Schmitt (1952). A recent report by Slattery and Woodward (1992) has summarized information on the Shepard ceramics found on four Montgomery Complex villages along the Potomac River, and much of the descriptive material here draws from that publication.

Shepard ceramics are constructed in a variety of forms, ranging from small cup-like vessels to large storage vessels. Tempering material is either crushed quartz or a crushed igneous rock resembling granite. Paste of the vessels is compact and clayey. Surface treatment is almost exclusively cord-marked, and interiors are smoothed. Approximately 75% of the assemblage has an applied strip of clay on the exterior of the rim (Figures 23 and 24). Vessel shape is that of an extended globular body, with a rounded to conical base, slightly constricted neck, and straight to outflaring rim. Lip form is usually flattened. Decoration occurs on almost 90% of the vessels. The two most frequently used techniques are cord-wrapped dowel (74%) and incising (21%).

The most common decorative motifs and decorative zones are illustrated, compiled from Slattery and Woodward (1992) and Peck (1979b). There are five zones of decoration on Shepard vessels: the lip, the rim/collar, base of collar, neck, and shoulder (Figures 25 and 26). Lip decoration includes occasional cord-wrapped dowel impressions. On the collar, motifs include (1) horizontal rows of cord-wrapped dowel, incising or direct cord impressions, usually from 3 to 6 rows; (2) vertical columns of cord-wrapped dowel or incising; or (3) a herringbone pattern. The base of the collar is frequently decorated, almost exclusively with oblique right to left cord-wrapped dowel or incised lines, rarely vertical or left to right. Decoration in this zone probably had a functional purpose as well in affixing the collar to the vessel more securely. In the neck area, a common decoration is a series of cord-wrapped dowel impressions circling the vessel, up to as many as 12, or also a series of plats of cord-wrapped dowel impressions on a partially smoothed neck area. Finally, hanging chevrons executed



FIGURE 23. Typical Shepard ware rimsherds from Rosenstock.



FIGURE 24. Rim and body sections from typical Shepard ware vessels at Rosenstock.

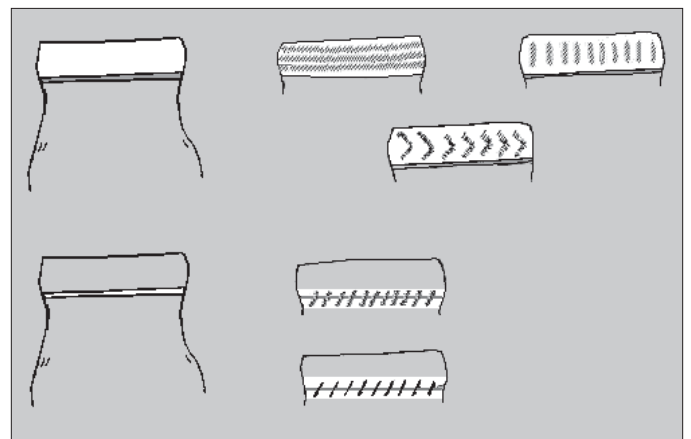


FIGURE 25. Zones of decoration found on Shepard ware.



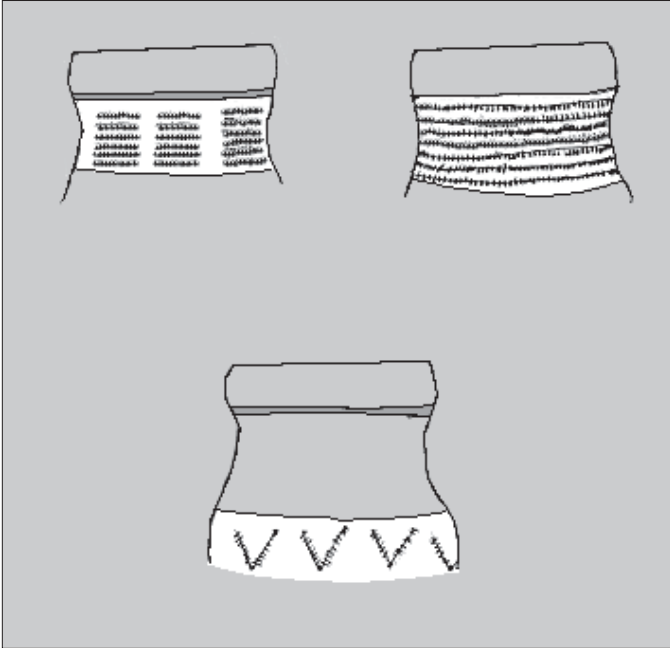


FIGURE 26. Zones of decoration found on Shepard ware.

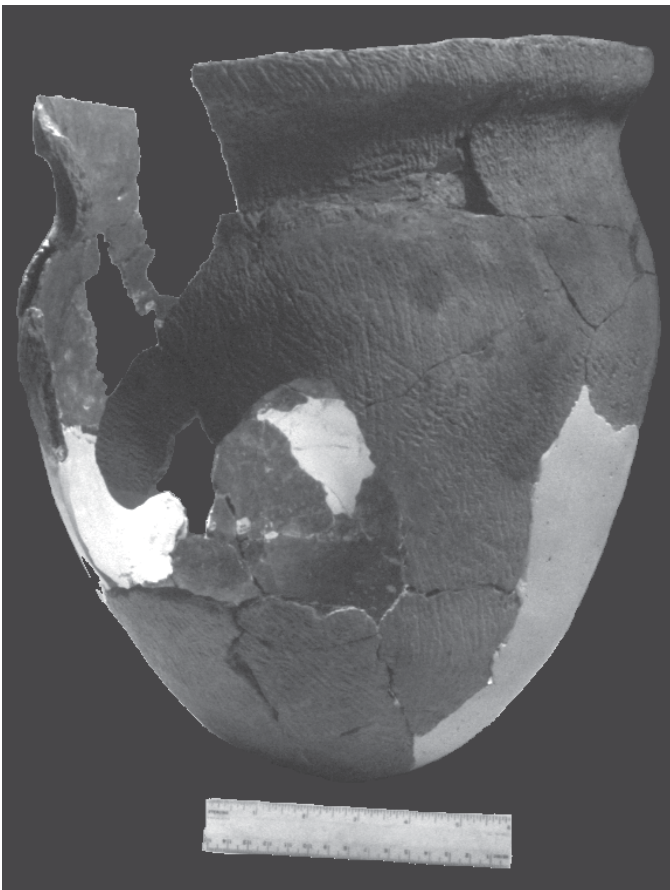


FIGURE 27. Partially restored Shepard vessel from Feature 5.



FIGURE 28. Interior of restored Shepard vessel shown in Figure 27, illustrating slab construction of base.

with cord-wrapped dowel or by incising occur infrequently on the shoulder.

Two of the more notable partial vessels recovered from the Rosenstock excavations came from Feature 5. The first is a large, semi-conical vessel with a rounded base and slightly constricted neck measuring approximately 36 cm in height and 30-36 cm in diameter (Figure 27). The vessel is tempered with crushed igneous rock, has an applied collar, and is undecorated. Surface treatment is with a cord-wrapped paddle, with some paddle-edge impressions toward the base. From the break pattern, it appears as though the lower portion of the vessel is constructed with slabs, with a base section approximately 10 cm in diameter, then 8 or 9 fairly equally-sized sections approximately 14 cm by 8 cm (Figure 28). This vessel likely served for storage of food or water.

The second notable vessel recovered from Feature 5 is much smaller. The tempering agent is quartz, and the surface is cord-marked. The estimated size is approximately 11 cm in height and has a mouth diameter of 11 cm. The vessel is globular, with a rounded base, a constricted neck and a flaring collar (Figure 29). Unlike Shepard vessels, however, the collar is not an applied strip of clay, but is part of the main vessel body. The collar is flattened, smoothed, and incised with two carefully executed horizontal lines. There are also five similar incised lines on the smoothed neck below the rim. The vessel was identified as Shenks Ferry (Jay Custer, personal communication, 1980). This well-finished, decorated, small vessel may have had any of a number of functions, and given the apparent absence of other Shenks Ferry vessels on the site, may have been a trade item.



FIGURE 29. Portion of Shenks Ferry vessel from Feature 5.

An unusual vessel was recovered from Feature 12. This vessel is quartz-tempered, with a cord-marked surface, and measures approximately 17 cm in height and has an 18 cm mouth diameter. The vessel has a rounded base, a shortened globular body, a long constricted neck, and an outflaring rim. Decoration was executed with a cord-wrapped dowel or stick and consists of a series of hanging chevrons decorating the shoulder, 15-16 horizontal lines on the neck, and a herringbone pattern around the rim. The decoration, paste, tempering and surface treatment place this vessel within the Shepard type, but the shape is unusual among reported Shepard ceramics (Figure 30).

A miniature vessel (Figure 31) was recovered from the sheet midden. It is approximately 9 cm in height, and has an 11 cm mouth diameter. Temper is crushed igneous rock, and the surface is cord-marked. A large piece of the vessel had spalled off, and that may have been the reason the vessel was discarded.

**Pipes.** Pipe fragments have not been catalogued, so only a few specimens are described here. The majority of pipes appear to be undecorated with a short, rounded stem and slightly bulbous bowl, commonly referred to as “elbow” pipes. Several fragments of this type of pipe are illustrated (Figure 32).

Five decorated pipe bowl fragments are also illustrated. Two are decorated with fine incising, one in a geometric pattern of nested squares (Figure 33a), the other with a cross-hatched rectangle (Figure 33b). Three of the pipes have rouletted designs: one is a very fine rouletting with no discernible pattern (Figure 33c), one has horizontal lines top and bottom and has a triangular zoned design (Figure 33d), and the third has a hanging chevron pattern (Figure 33e).

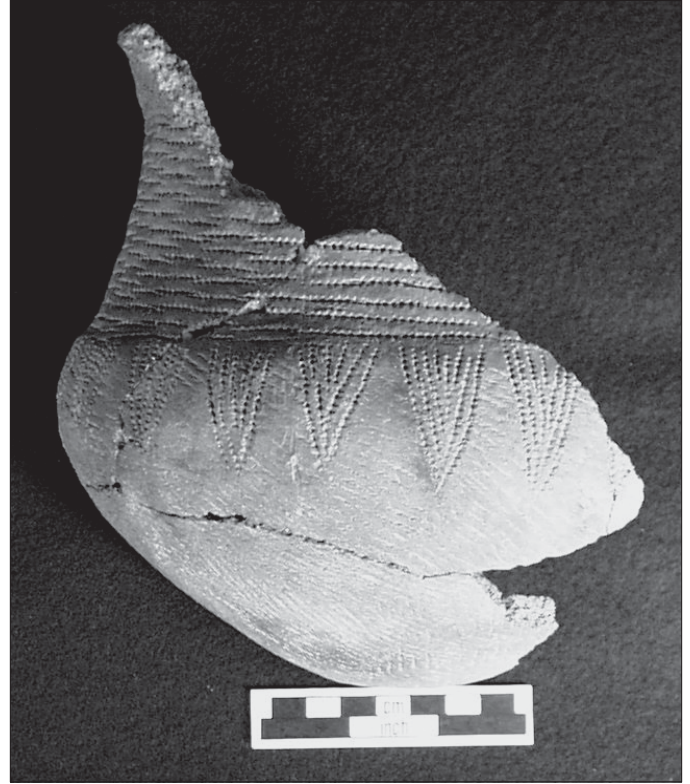


FIGURE 30. Unusual Shepard vessel with hanging chevron decoration, from Feature 12.



FIGURE 31. Miniature pot recovered intact from the sheet midden.





FIGURE 32. Clay tobacco pipes. *a*, complete “elbow” pipe (with broken bowl) from Feature 17; remaining specimens are stem portions.



FIGURE 33. Decorated clay tobacco pipe bowl fragments. *a*, incised nested squares; *b*, incised cross-hatched rectangle; *c*, rouletted design (pattern not discernible); *d*, rouletted bands encompassing zoned triangular design; *e*, rouletted hanging chevron design.

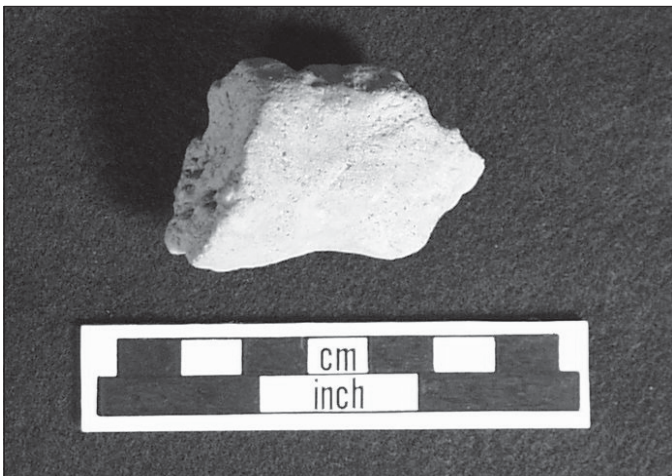


FIGURE 34. Lump of clay which has been squeezed in someone’s hand and then thrown into a firing pit.



FIGURE 35. Lump of unfired, quartz-tempered clay exposed in Feature 5.

**Other Ceramics.** Some material indicative of pottery-making was found on the site. One is a fired clay “squeeze,” a piece of clay which was squeezed in the hand and then tossed into the firing pit (Figure 34). Also, in Feature 5, unfired prepared clay with quartz temper fragments was found while excavating (Figure 35). This prepared clay was apparently tossed into the refuse pit without firing.

A portion of a ceramic disc (see Figure 41e)—reminiscent of the stone discoidals found on the site—was recovered from the sheet midden, and a possible ceramic bead was found in Feature 9.

### Lithic

**Projectile Points.** Although the complete assemblage of projectile points from Rosenstock has yet to be tabulated or analyzed, an informal record of point finds assembled from field records provides a reasonably representative sample. Triangular (primarily Levanna; see Figure 36) arrowpoints clearly predominate this artifact class (roughly 70%), as would be expected from a Late Woodland village. Likewise, the lithic material usage observed for triangles (71% rhyolite, 22% quartz, 5% chert, 2% quartzite) roughly approximates the usage pattern for all types of points. In both the case of Late Woodland triangular points and projectile points as a whole, the preferential use of local lithic materials is demonstrated. Aside from triangular points, other identified point types include LeCroy, Savannah River, Lehigh/Koens-Crispin, Hellgrammite, Selby Bay, and Jack’s Reef.

**Maskette.** A small maskette or human face carved from steatite (Figure 37) was found in the sheet midden on the east side of the site. The face depicted on the maskette appears to be unfinished (lacking at least final smoothing), and drill holes started at the top and bottom of the artifact are uncompleted. Slight grooves on either





FIGURE 36. Typical triangular projectile points from Rosenstock.



FIGURE 37. Carved stone (steatite) maskette from the sheet midden. Drill holes were begun at the top and bottom of this presumed pendant (as if for a hole for a suspension cord), but were not completed.

side of the nose are reminiscent of “weeping eye” maskettes, although the grooves may simply be a function of the carving process. The unfinished drill holes indicate that the object was intended as a pendant which would have hung from a cord inserted through the central axis of the maskette, much as similar effigy pendants were used by groups such as the Susquehannocks and the Lenape (Cadzow 1936:107-109; Kent 1984:163-164; Fogelman 1984; Kraft 1986:170-173) and possibly by groups further afield based on a strikingly similar object from Georgia (Knoblock 1939:Plate 106).



FIGURE 38. Notched shale “doodad” (note unfinished drill hole along bottom edge).

**Doodad.** A casually notched flat piece of shale from Rosenstock was originally thought to be a whimsical doodad. On one face, a perforation hole was started, but not finished, near the middle along one margin (Figure 38). The object’s function is still unknown, but its uncanny resemblance to a notched item from Isturitz, a French Aurignacian site, suggests possible use as a bullroarer (cf. Schuster and Carpenter 1996:67). Such musical instruments, usually made of wood, are known for a number of North American native groups, and were often used in conjunction with rituals.

**Other Lithic Tools and Objects.** A number of other stone tools and objects have been recovered from Rosenstock, including celts (Figure 39c), drills, knives, scrapers, pitted hammerstones (Figure 39b,d), discoidals or chunky stones (Figure 39a-b), gorgets (Figure 39d), soapstone bowl fragments, soapstone pipe fragments (of-

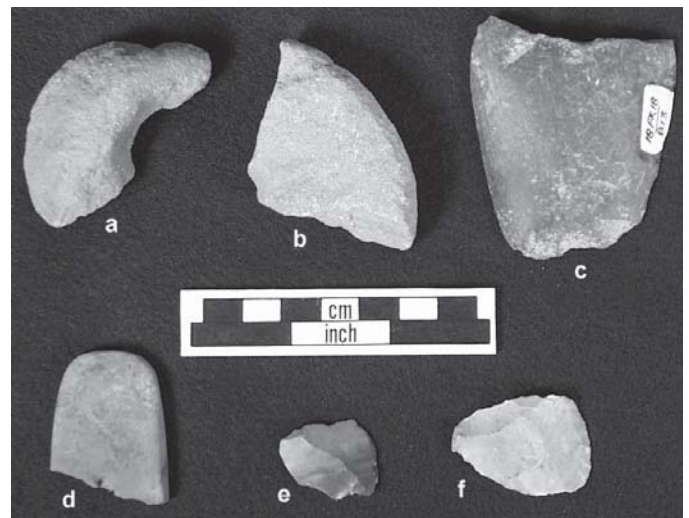


FIGURE 39. Miscellaneous stone artifacts. *a-b*, chunky stone fragments; *c*, spall from a celt; *d*, drilled gorget fragment; *e-f*, utilized flakes.





FIGURE 40. Miscellaneous stone artifacts. *a*, piece of drilled shale from Feature 5; *b*, pitted hammerstone from Feature 22; *c*, limestone disc; *d*, pitted stone.

ten decorated), and shale or limestone discs (Figure 40c). The function of the latter—initially reported by Snyder at the time of site discovery—is unknown, although they may be related to, or a variation of, chunky stones.

Although the debitage from Rosenstock has not yet been analyzed, a small sample from the site (i.e., the flakes recovered from the four trash-filled pits tested in 1979) provides some interesting insight. While most (70%) of the projectile points were manufactured from rhyolite, 80-90% of the debitage from the 1979 sample was quartz. This would appear to suggest that locally available quartz was being used for most expedient tools.

### Bone

**Faunal Remains.** Although the bulk of the faunal remains have yet to be analyzed, a sample of animal bone recovered from the features tested in 1979 was examined by Dr. Henry Miller (Historic St. Mary's City). This small sample was overwhelmingly predominated by deer, but also included elk, bear, red fox, raccoon, dog, rabbit, woodchuck, beaver, fox squirrel, grey squirrel, frog, box turtle, snapping turtle, cooter, snake, turkey, Canadian goose, passenger pigeon, and fish. The fish consisted primarily of sucker, bowfin, and catfish; the wide range of sizes of fish observed during post-1979 excavations would seem to imply the use of nets and or weirs in addition to line fishing with bone fishhooks.

Seasonal indicators (abundant turkey, deer antlers attached to skulls, migratory species such as passenger

pigeon and Canadian goose) seem to point to late fall/early winter occupation, but these may merely be more notable occurrences observable in an overall year-round pattern. What is clear, even without a rigorous analysis of the faunal remains, is that the entire range of available animal species was utilized by the Rosenstock inhabitants.

**Bone Tools.** Analysis of the animal bone tools and decorative items from Rosenstock was undertaken by Dr. Elizabeth Moore (then with the Smithsonian Institution's Center for Archaeobiological Research), and is reported in detail elsewhere (Moore 1994). A summary of those results is presented in Table 2 and representative examples are included in Figure 41.

TABLE 2. Summary of bone and antler tools from Rosenstock.

TOOL FUNCTION	QTY	SPECIES UTILIZED
Abrader	1	Undetermined
Antler tip	16	Deer, elk
Awl	30	Beaver, deer, dog, raccoon, turkey
Bead/decorative	23	Bird, deer, shark, shellfish
Beamer	25	Deer
Chisel	13	Beaver, deer
Cup	1	Turtle
Fishhook	5	Deer
Flintknapping	3	Deer
Needle	2	Undetermined
Projectile point	10	Deer
Scraper	2	Undetermined

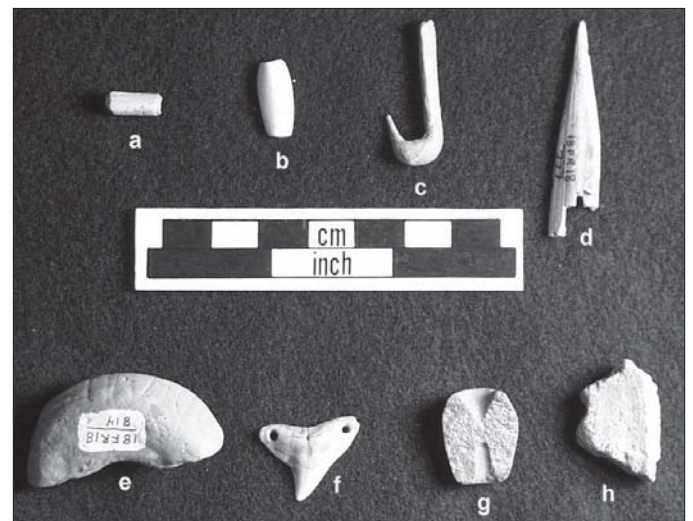


FIGURE 41. Miscellaneous artifacts. *a*, bird bone bead; *b*, columella shell bead; *c*, bone fishhook; *d*, notched/drilled worked bone, possibly used as a shuttle or toggle; *e*, ceramic disc fragment; *f*, drilled shark's tooth; *g*, stone bead (broken lengthwise) showing incomplete drill holes; *h*, worked soapstone fragment with portion of a drill hole (left edge).



FIGURE 42. Bone carving of a squatting, headless human figure (“hocker”) from Feature 5.

**Bone Carving.** An unusual bone carving was recovered from a flotation sample taken from Feature 5 in 1991 (Figure 42). The figure is carved in bas-relief on bone (presumably a deer epiphysis) and appears to represent a squatting, headless human effigy. The artifact is broken along its left side, following the carved edge of the figure’s torso. The perforating holes surrounding the figure are drilled from both sides, although two (near the figure’s “calf”) were started only on the carved face and not completed. It is unclear whether the large hole on the right was intentional, or if it was an intended small hole that “punched out.” It is also unclear whether the holes were intended as part of the decorative motif, or whether they were drilled in preparation for removal of background material in filigree fashion.

A charcoal sample (Beta-51754) from the level at which the bone figure was recovered was radiocarbon-dated to A.D. 1040±90, calibrated to A.D. 1125. Other corrected dates from this feature are A.D. 1190±120, 1395±30, and 1460±60 (see Table 3).

The late Robert Funk and George Hamell (personal communications, 1992) of the New York State Museum provided identification for this specimen. The squatting figure is termed a “hocker,” and is found in both the Old and New Worlds. Hockers are apparently rare east of the Mississippi River, although they are common in Seneca Iroquois art (especially on bone combs) during the period from A.D. 1670 to 1700. Funk (personal communication, 1992) reports that—even at the late end of the Rosenstock date sequence, ca. A.D. 1450—the Rosenstock hocker would represent one of the earliest specimens ever found in the East. Hamell (1979; personal communication, 1992) states that the earliest specimen of which he is aware comes from the northern Iroquoian region of New York. That specimen consists of continuous bas-relief hockers (a frog alternating with a headless human) around the bowl of a

ceramic elbow pipe, representative of Canandaigua Phase Owasco, ca. A.D. 1130.

In their study of ancient symbolism, Schuster and Carpenter (1996:82-83) view hockers, especially when used as part of a repeated design, as an element depicting genealogy. Each hocker represents an ancestor, and the headless nature of some hockers is seen as deliberate and symbolic, i.e., ancestors, in general, are dead. They (Schuster and Carpenter 1996:104, 113) also discuss the use of “excerpts” where a single figure taken from a genealogical pattern is used as a medallion and, in some societies, assigned the name of a deceased person. The applicability of this social symbolism to the Rosenstock hocker is speculative, but it does provide some context for considering its possible function and meaning.

**Shark’s Teeth.** Several drilled fossil shark’s teeth (both large [4-5 cm] and small [1-2 cm] varieties) have been recovered at Rosenstock (see Figure 41f). These have had either one or two holes perforating the root end of the teeth, presumably for suspension from a cord or stitching to clothing as decorative items. It has been suggested (Potter 1993:226) that the serrated edges of shark’s teeth were used to imprint designs (such as the “running deer” motif) found on clay tobacco pipes; if so, it is possible that the drilled holes might facilitate hafting such a tool to a handle. At the Cahokia site in Illinois, drilled shark’s teeth have been found attached to a wooden handle, forming a “war club” (Perino 1950:66-67). Nonetheless, these fossil teeth were most likely used as ornaments by the inhabitants of Rosenstock.

One of the shark’s teeth was tentatively identified by David Bohaska (Calvert Marine Museum) as a lemon shark, possibly from an Eocene locality. The nearest such source would be around Popes Creek in Charles County, some 75 miles distant.

### Shell

In addition to the presence of freshwater mussel shells at Rosenstock, artifacts manufactured from marine shell also occur. These include columella shell beads (see Figure 41b), as well as a shell disc bead.

### Botanical

Evidence for domestication of plant foods includes the presence of charred corn kernels and cob fragments as well as charred beans. These remains were observed during excavation and none have been analyzed. In addition, large quantities of flotation samples from the site remain unsorted and unidentified. It is anticipated that these samples will yield further evidence of domesticated plants in addition to abundant remains of a variety of gathered wild plants.



### Human Remains

The only intact human burials encountered at the Rosenstock site have been the graves of infants. In each case, these were located at the edges of large trash-filled pits (two at the east edge of Feature 5, one at the west edge of Feature 5 [designated Feature 15], and one on the northwest edge of Feature 17 [designated Feature 28]). Often, the infant graves were indistinguishable from the adjacent trash-filled pits, and were initially thought to be part of (e.g., shallow ledges) the trash pits. Only Feature 28 was recognized as a distinct feature (and suspected to be a burial prior to excavation), based on a slightly lighter and more mottled soil matrix. It appears that no artifacts were associated with any of the infant interments, although none of the burials were completely excavated, so the absence of artifacts is not conclusive.

Human remains were recovered from two additional areas of the site. The partially excavated Feature 4, a trash-filled pit on the southern edge of the site, yielded

human vertebrae and some articulated phalanges. There was some indication that two pits intersected at this location, so it is possible that a burial feature intruded into Feature 4 (or vice versa). It is also possible that the feature had been disturbed, or that a burial had been largely exhumed, in the past.

On the northern edge of the site, a number of human skeletal elements were recovered from the plowzone of several excavation units. These included 3 phalanges from N100E32, a skull fragment from N100E33, and teeth in N100E34 and N100E36. Based on this evidence, it is suspected that a plow-disturbed burial (or burials) exists at or in the vicinity of Feature 14. However, this feature was neither completely exposed nor excavated.

### Radiocarbon Dates

Thirteen radiocarbon dates have been compiled from the Rosenstock site, ranging from around A.D. 1000 to nearly A.D. 1600 (see Table 3). At the very least, this

TABLE 3. Radiocarbon Dates from the Rosenstock Village (18FR18).

SAMPLE SOURCE	SAMPLE NO.	RADIO-CARBON YEARS (B.P.)	RADIO-CARBON AGE (A.D.)	CALIBRATED DATE RANGES (A.D.) <sup>a</sup>				MEAN CALIBR. DATE (A.D.) <sup>a</sup>
				-2σ	-1 σ	+1 σ	+2 σ	
Feature 6 (0-35 cm below plowzone)	SI-4582	935±60	1015	998	1031	1159	1220	1105
Feature 5 (west half, Lens VIII, 101 cm BD)	Beta-51754	910±90	1040	987	1033	1208	1277	1125
Feature 12 (SW quad, Level 5, 67 cm BD)	Beta-51756	860±80	1090	1026	1045	1257	1279	1140
Feature 5 (east half, Lens IV-D, 110 cm BD)	Beta-51755	850±120	1100	979	1041	1276	1390	1190
Feature 17 (Section C, Levels 6 and 7)	Beta-55786	740±80	1210	1063	1194	1386	1403	1240
Feature 28 (west half, above infant burial)	Beta-55048	720±70	1230	1164	1222	1386	1401	1295
Feature 27 (Quad B, 3+ cm below plowzone)	Beta-55047	700±90	1250	1159	1244	1394	1427	1320
Feature 4 (35-52 cm below plowzone)	SI-4579	615±60	1335	1285	1301	1397	1418	1355
Feature 4 (20-31 cm below plowzone)	SI-4578	530±60	1420	1299	1324	1440	1465	1375
Feature 5 (57-100 cm below plowzone)	SI-4581	500±30	1450	1333	1413	1436	1446	1395
Feature 5 (east half, charred bark)	Beta-55044	520±80	1430	1290	1305	1450	1621	1425
Feature 5 (20-27 cm below plowzone)	SI-4580	475±60	1475	1310	1401	1479	1627	1460
Feature 17 (Section C, Level 3)	Beta-55045	380±70	1570	1426	1445	1627	1647	1540

<sup>a</sup>Stuiver and Reimer 1993 (version 4.4); Stuiver et al. 1998





Feature 17, likewise, presents a conundrum. This very large trash-filled pit exhibited extremely distinct lenses (to the point where individual basket-loads appeared discernible), and seemed to represent a sealed, undisturbed context. Two charcoal samples from Feature 17 yielded mean radiocarbon dates of A.D. 1240 (from near the base of the pit) and A.D. 1540 (from near the center of the pit). The sample yielding the earlier date was combined from individual samples from Levels 6 and 7 in order to provide sufficient charcoal for dating. It is possible that this combining of samples introduced some margin of error. However, the sample yielding the later date (A.D. 1540) was taken from a distinct charcoal-rich lens immediately adjacent to a discrete, undisturbed pocket of charred seeds and beans. Yet, these two mean dates—from seemingly pristine short-term contexts—fail to overlap, even at two standard deviations. And the later date, from an almost certain single-episode context, is inconsistent with more than half of the remaining dates from Rosenstock.

So, where does radiocarbon dating at Rosenstock leave us? One could posit a number of scenarios:

- Rosenstock was occupied sporadically or continuously from A.D. 1100 to 1540 (with the possibility of occupation ranging from A.D. 1000 to 1650 at the 95% confidence level).
- Two major occupations took place at Rosenstock: around A.D. 1150±50 and around 1400±50.
- There is an unexplained source of contamination affecting the Rosenstock dates.

Based on apparent contradictory archeological evidence, none of these scenarios is really satisfactory. Perhaps the best way to summarize the radiocarbon dating of Rosenstock is to look at the zone of maximum date overlap (Figure 43) which yields a date range from A.D. 1335 to

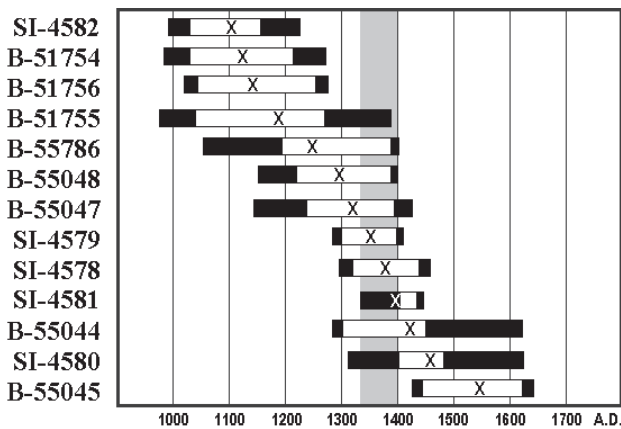


FIGURE 43. Date ranges (two standard deviations) of radiocarbon dates from Rosenstock. Shaded area represents zone of maximum overlap.

1400, which comports fairly well with the best, primary-context mean date from the site (i.e., charred bark from Feature 5, A.D. 1425). A date range of A.D. 1335-1400 would still place Rosenstock at the late end of the Montgomery Complex continuum, but not unexplainably late.

### Discussion

The discussion that follows can best be characterized as a series of impressions. Most are based on field observations, and should be considered speculative, certainly not conclusive. Some will stand the tests of time and analyses, others will not. Many of the observations pose more questions than they answer. But we hope they will help provide a framework for future studies—at Rosenstock and at other Montgomery Complex villages (cf. Figure 44).

**Chronology.** Seven Montgomery Complex sites have produced radiocarbon dates. [All dates in this discussion have been corrected using CALIB 4.4 (Stuiver and Reimer 1993).] The Fisher site (44LD4), located on the west bank of the Potomac River in Loudon County, Virginia, yielded a relatively early date of A.D. 1030±70 (Slattery and Woodward 1992:144), although this assay was run on an animal bone sample—rather than the preferred charcoal—which may have affected the accuracy of the date.

The Biggs Ford site (18FR14), located along the Monocacy River some 5.5 km (3.5 mi) north of Rosenstock,

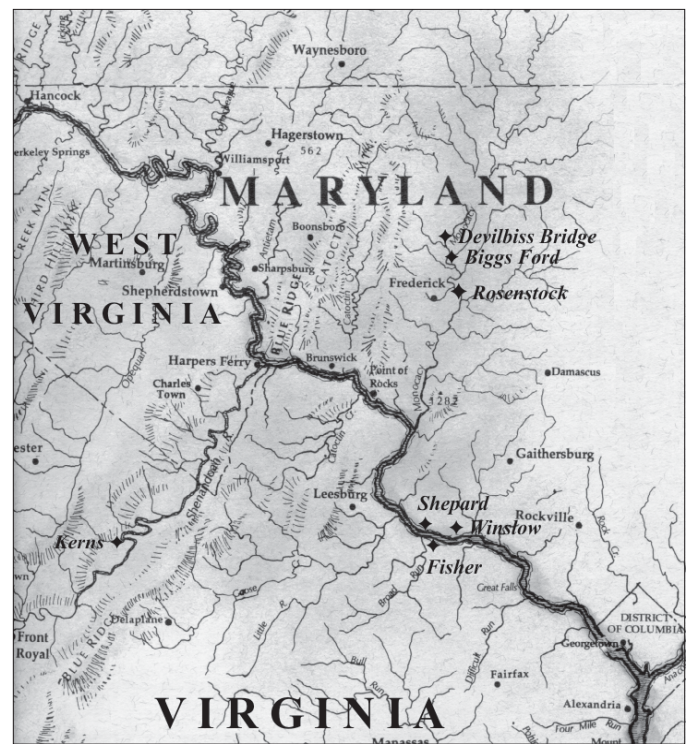


FIGURE 44. Map showing locations of Montgomery Complex village sites.

encompasses a large Luray Complex village and a smaller Montgomery Complex occupation. Charcoal from an elongated trash-filled pit attributed to the Montgomery Complex component produced a date of A.D. 1140±60 (Kavanagh 1982:71, 2001:8). Another 3.1 km (2.0 mi) up the Monocacy, the Devilbiss Bridge site (18FR38) yielded a date of A.D. 1145±85 from a pit feature containing Shepard ware ceramics (Peck and Bastian 1977:8). A nearly identical date of A.D. 1145±70 is reported for the Kerns site (44CK3), a Montgomery Complex village located along the Shenandoah River in Virginia (Slattery and Woodward 1992:144).

The Shepard site (18MO3)—the type site for Shepard ware and located along the middle Potomac in Montgomery County, Maryland—has produced a series of radiocarbon dates (Boyce and Frye 1986:14). One date, from the general site midden, was determined to be “modern” and is excluded from this discussion. Two early dates (A.D. 400±280 and A.D. 720±280) are somewhat problematic, although the large standard deviations and the possibility of contamination from earlier components at the site may account for these presumably erroneous dates (cf. Slattery and Woodward 1992:144-145). Two final dates from Shepard (A.D. 1260±50 and A.D. 1300±60) are more reasonable for the Montgomery Complex, and provide a mean date of around A.D. 1280 for the site.

The Winslow site (18MO9), located 3.5 km (2.5 mi) downstream on the Potomac from the Shepard site, has also produced a series of radiocarbon dates. One early date (A.D. 815±75)—from a unique bell-shaped pit containing charred bark, matting, walnuts, and hickory nuts along with an Early Woodland steatite-tempered sherd and “Late Woodland” sherds (Slattery and Woodward 1992:19-22, 144)—has been questioned by the original investigators, and may date an earlier component at the site. Two additional dates from early excavations (A.D. 1275±100 and A.D. 1345±80; Slattery and Woodward 1992:144) and two identical dates (A.D. 1370±40; Dent 2003a:4) from within a house pattern identified in 2002 provide a mean occupation date for this site of A.D. 1340.

As discussed above, the radiocarbon dates from Rosenstock (A.D. 1105-1540) do not clarify the Montgomery Complex chronology very well. On the face of it, the suite of Rosenstock dates would seem to indicate two main occupations (at around A.D. 1150 and A.D. 1400), although the archeological evidence at the site seems incongruent with this scenario. Using a zone of maximum date range overlap (see Figure 43), a best estimate of occupation from A.D. 1335 to 1400 (or a mean date of A.D. 1370) has been suggested for the site. Regardless of how the radiocarbon dates are interpreted, however, it is apparent that the Rosenstock site (or at least a component of it) falls near the late end of the Montgomery Complex.

The problem with dates from Montgomery Com-

plex sites most likely stems from two sources: the multi-component nature of most of the sites and the ways in which charcoal samples are collected at the sites. The presence of multiple, often overlapping, components at the sites presents the obvious opportunity for older (or even younger) charcoal being introduced into Montgomery Complex features. And, given the possibility of charcoal from various time periods being present at a site, the collection of composite charcoal samples from features (assembling small flecks of charcoal to achieve a sample large enough for assay) increases the possibility for a compromised sample. Since we do not yet clearly understand how most of these pit features were filled (see below), even individual charcoal lumps sufficient for dating may not accurately date the primary pit fill (i.e., charcoal from non-contemporaneous features may have been introduced at some time in the past; this is the most logical explanation for the dating discrepancies noted for the seemingly pristine Feature 17 at Rosenstock). To address these problems, archeologists working at Montgomery Complex sites will need to focus their attention on identifying and recovering samples from single-event contexts, such as the charred sheet of bark found in Feature 5. Other examples of these would include one of the charred beans from the discrete pocket of beans found in Feature 17 at Rosenstock, or individual potsherds with charred organic-encrusted interior surfaces (cf. Curry and Kavanagh 1993). Another possible strategy would be to concentrate on smaller pit features (such as the household pits dated at Winslow; Dent 2003a). This might decrease the possibility of intrusion into (or by) features from other periods, and would avoid the problems associated with large pits—presumably originally excavated for one function, and later re-excavated(?), filled, and abandoned for another purpose.

**Pit Features.** Perhaps the most distinctive characteristic exhibited by Montgomery Complex villages is the circular arrangement of trash-filled pits. It has long been presumed that these pits were originally excavated as storage receptacles in which harvested crops and gathered nuts and seeds could be stockpiled; each was then subsequently filled with refuse at the end of the pit’s useful life. While this assumption may be acceptable at first blush, it is not without problems which at least warrant discussion.

The first and most obvious discrepancy with the “ring of storage pits” assumption is that none of these features has been found as a storage facility—they are all known in their presumed final form (i.e., trash-filled pits). Almost certainly, this arcing line of pits was laid out intentionally as part of a preconceived village plan (see below), and many, if not all, of the pits were put to use simultaneously. As a resource storage strategy, this would make sense, especially in an egalitarian village setting: all communal resources would have been securely stored in public view. However, the pits at Rosenstock (as well as other



Montgomery Complex sites) afford an enormous amount of concurrent storage space (estimated at upwards of 200 m<sup>3</sup>). And even more mind boggling than sufficient food surplus (more than 5000 bushels) to fill these storage pits is the ability to fill these pits with refuse. Where was all of this garbage during the time the pits were filled with food-stuffs? Even sequential excavation/storage/filling does not logically explain these pits. This scenario would pose the unlikely excavation of a line of pits in near-perfectly circular alignment over the course of the village's lifespan, perhaps with storage pits excavated and used for one season, then relegated to trash disposal during the next season (when new storage pits would be excavated [in alignment], starting the cycle anew). Artifact cross-mends between these features and the failure to find any of these features in either their storage or empty configuration argue against such a probability.

These pit features also fail to conform to several defining characteristics of storage pits. In the upper Delaware Valley, the lower Susquehanna Valley, and elsewhere, storage pits are often silo- or bell-shaped and lined with bark or grasses (Cadzow 1936:160; Kraft 1986:141; Bendremer et al. 1991). Some of the larger such features (5-6 ft. in diameter, 7-8 ft. deep) had puddled clay walls and contained postmolds indicative of ladders, racks, or roofing (Mounier 2003:152). In addition to providing some natural drainage/water diversion and smaller openings to be covered, silo- and bell-shaped pits also minimize food decomposition through low surface-to-volume ratios (DeBoer 1988:3). In contrast, the pits at Rosenstock present extremely large openings to cover, and are shaped such that water would tend to be funneled into the basin-like features.

The pits at Rosenstock also fail to meet quantifiable criteria established by Schroedl (1980) based on his investigation of historic Cherokee storage pits. Schroedl (1980:33) contends that storage features should have a minimum volume of 1.12 m<sup>3</sup> and a minimum depth-to-diameter ratio of 0.40. Examination of Table 5 reveals that none of the Rosenstock features (with the possible exception of Feature 10) meet Schroedl's conditions, and only slightly more than half of all of the known Montgomery Complex arcing pits would be classified as storage features under this system.

On the other hand, smaller storage features are known at Rosenstock, as well as at other Montgomery Complex sites. The smallest of these have been encountered inside domestic structures at the Winslow site (Dent 2003a) and in presumed house areas at Rosenstock (e.g., Features 19, 21-23). All of these have contained little in the way of artifacts (a single pitted hammerstone was found in Feature 22 at Rosenstock) and they are assumed to represent day-to-day storage features much like modern kitchen cabinets. At least one medium-sized indisputable

TABLE 5. Volume and depth-to-diameter ratio comparison for "ring of pits" from Montgomery Complex sites.

PIT/FEA. NO.	VOLUME(M <sup>3</sup> )	DEPTH:DIAMETER
<i>Rosenstock (average pit volume = 3.99 m<sup>3</sup>)</i>		
4	(2.60)	(<0.313)
5	9.90	0.338
6	(1.80)	(<0.267)
10	(1.92)	(<0.750)
12	3.36	0.235
13	1.12	0.235
17	7.20	0.150
<i>Biggs Ford (average pit volume = 5.36 m<sup>3</sup>)</i>		
4	5.63	0.348
11	2.57	0.170
24	0.98	0.200
40	(12.25)	(0.229)
<i>Winslow (average pit volume = 4.63 m<sup>3</sup>)</i>		
1	0.36	1.585
2*	3.71	0.638
4*	3.72	0.589
5*	5.07	0.663
6*	5.88	0.446
9*	6.64	0.670
10*	5.38	0.654
11*	2.62	0.596
12*	3.03	0.719
13*	5.09	0.833
14*	1.98	1.011
15*	2.62	0.474
16*	3.95	0.533
17*	6.80	0.500
20*	3.88	0.599
21*	2.13	1.122
22*	5.47	0.534
27	6.05	0.311
31	17.2	0.274
32*	3.57	0.818
33*	2.02	0.516
<i>Fisher (average pit volume = 2.56 m<sup>3</sup>)</i>		
1	(5.50)	(0.369)
2*	2.94	0.503
3*	2.67	0.548
4*	4.03	0.704
6	0.36	0.329
8	(1.08)	(0.837)
9*	(1.78)	(0.655)
12	0.90	0.377
19*	(2.04)	(0.600)
20*	(2.94)	(0.500)
21	(6.37)	(0.300)
23	(0.96)	(0.271)
31*	(1.65)	(0.610)

Numbers in parentheses are estimated due to incomplete data. Starred (\*) features meet "storage pit" criteria set forth by Schroedl (1980:33) [volume > 1.12 m<sup>3</sup>, depth:diameter > 0.40].

storage feature has been excavated at Winslow (Slattery and Woodward 1992:19-22). Here, Feature 25 was found to be a bell-shaped pit, lined with grass matting and bark, and containing walnuts and hickory nuts. This feature had a depth-to-diameter ratio of 0.636, but its volume was just 0.242 m<sup>3</sup>, thereby failing Schroedl's (1980) definition. However, Feature 25 is located in an area that almost certainly was adjacent to a third house at Winslow, the pattern of which eluded early excavators. The significance of this feature is that it hints at the presence of individual household storage at Montgomery Complex sites.

In sum, Rosenstock and other Montgomery Complex sites exhibit at least three types of pit features: very large basin-shaped communal features comprising the "ring of pits," presumably originally used for some type of storage or processing, but eventually filled with refuse; medium-sized, silo- or bell-shaped storage pits with grass and/or bark lining and likely serving a single household's storage requirements; and small, in-the-house storage facilities designed to meet day-to-day needs. Future investigation of these sites should pay particular attention to the various types of pit features, determining their true functions, establishing the relationships among features so as to better explicate prehistoric storage technologies, and assessing settlement/subsistence strategies (e.g., seasonal abandonment versus year-round occupation).

**Perishable Artifacts.** Much is missing from the archeological record at Rosenstock. Despite the excellent bone and antler preservation at the site, objects made of wood, fiber, and hide do not survive, although all are known to have been used. The prehistoric artwork preserved in bone, clay, and stone at Rosenstock must offer just a glimpse of that which must have been carried out in wood. Each of the hundreds (perhaps thousands) of arrowpoints manufactured at Rosenstock required shafts, bows, and quivers. The impressions of cordage preserved on clay vessels only hint at a much wider fiber and hide industry (which surely included nets, snares, and traps; basketry and bags; clothing and textiles; and moccasins and sandals). Turtle carapace examples of spoons and scoops were likely less common variations of wooden bowls, mortars, and ladles.

Even where rare examples are preserved, they leave questions unresolved. Remains of cultigens (corn, beans, and squash) and nuts have been noted during excavation at Rosenstock and other Montgomery Complex sites, and analysis of flotation samples will likely identify a wide range of gathered plants like chenopodium and amaranth. And yet, all of these remains combined would not fill a few hands. Why are these so rarely found? Is it a sampling error? Is it poor preservation? Were these resources of relatively low importance? Surely if the Montgomery Complex "ring of pits" originated to store crops, many more examples of corn and beans should have been found (especially if Kraft [1986:139-141] is correct in assuming that

fires were used to annually "clean" the storage pits).

The point here is that archeologists need to carefully consider their interpretations, to not be influenced by long-held assumptions, and to not make generalizations without sufficient supporting evidence. Just as the archeological absence of wooden artifacts at Rosenstock does not negate their certain use, the recovery of cultigens does not confirm a full-blown, settled agricultural community.

**Village Layout.** Based on the work conducted to date, the generalized layout of the village at Rosenstock appears to be as follows. The core of the village is made up of a plaza area with little evidence of any specific activity. Presumably this was a common area used for traversing the village, possibly a recreational area where villagers could congregate, relax, and talk, and perhaps an area for ceremonies and communal feasting. Further out from the village center, but still within the arcing line of pits, at least two keyhole structures (southeast area of the site) and a large sheet midden (eastern edge of the site) are known. Presumably, the keyhole structures represent sweatlodges that were used during purification rites. The sheet midden obviously represents a surface accumulation of refuse built up over time (although why this method was used as opposed to the ultimately trash-filled pits—or even simply disposing of unwanted material over the riverside bluff—is unclear). Yet further (25 m) from the village center is the arcing line of trash-filled pits. Its alignment forms a near perfect circle (Feature 17 is off line a few meters), although it may not be complete (extensive testing east of the sheet midden in the expected path of this arc failed to reveal any pits). Associated with these large trash-filled pits are a number of infant burials. Outside the arcing line of pits is the probable location of domestic structures. Supporting evidence for this are the small household-like features (Feature 19, 21-3) southeast of Feature 17; unfortunately, postmold patterns for such structures have yet to be discerned at Rosenstock. [Admittedly, during the 1990-1992 excavation seasons, the houses were presumed to be located *inside* the line of pits, and excavation strategies were designed accordingly. When the small domestic features *outside* Feature 17 were excavated in 1991, our presumptions were so strong that we actually considered the possibility of a second occupation in that area. It was not until the incontrovertible evidence for house placement at Winslow (Dent 2003a) that we began to recognize the same probable pattern at Rosenstock.] Based on the recovery of stray elements of adult human skeletons (e.g., near Feature 14), it is possible that adult burials are located in or near the individual houses. No evidence for a palisade encircling the village has been found. This "absence" of a palisade at Rosenstock could be due to the more limited sampling in the peripheral areas of the village, or to the fact that a palisade was unnecessary given the site's topographic setting atop a high bluff.



In an attempt to both compare and synthesize the data from the best known Montgomery Complex sites (Rosenstock, Winslow, Fisher, and Biggs Ford), the site maps for each were uniformly scaled and then overlain on a single map, using the “center point” of each village’s ring of pits as the tie-point (see Figure 45). This overall patterning agrees with the generalizations made above, and illustrates the strong similarities between these sites. Winslow and Fisher seem to exhibit a ring of pits with a circa-40-meter diameter; Rosenstock is slightly larger, with a 50-meter diameter; surprisingly, the ring of pits at Biggs Ford measures a meager 25-meter diameter. The house placement found at Winslow would indicate a comfortable arrangement for 8 to 10 structures and yard areas, perhaps as many as 15 houses, if “crowded;” using the same “crowded” arrangement, a maximum of 20 houses might be expected at Rosenstock. Only the Fisher site contains any features (including two burials) in the presumed open plaza area at the village center. And the palisade line confirmed at Winslow seems to indicate a total village diameter of around 70-75 meters. (This would seem to indicate that any palisade at Rosenstock could have a diameter as large as 80-85 meters, an area beyond most of the excavations carried out at the site, and beyond the limits of land area available to the west [bluff] and north [ravine].)

Thus, the pattern that seems to be emerging from Montgomery Complex villages is one in which both communal and individual spaces have been defined (see Figure 46). The core of the village is an open plaza presumably devoted to communal leisure, ritual, and/or feasting, but devoid of evidence of day-to-day activities. At the periphery of the plaza are sweatlodges, again indicating ceremonial use of the area. The entire core of the village is circumscribed by the circular alignment of trash-filled pits, the original purpose of which was probably communal storage and/or processing of some sort. Outside the communal core of the village lies a series of roughly 8 to 20 individual household units, each of which consists of an oval domestic structure with a surrounding yard area comprised of family activity areas, short-term household storage facilities, and burial plots (both human and canine). Encircling the individual household areas—confirmed in at least one case and suspected in others—is a simple palisade consisting of upright posts that may have been interwoven with branches. Interestingly, if Montgomery Complex palisades serve more to separate the cultural world from the natural world than to fend off village attackers as posited by Dent et al. (2002:25-27), these features can be viewed as the ultimate communal feature, literally serving to embrace and define the village community.

**Population and Group Dynamics.** Estimating village population can be approached using both the size of individual houses and the overall size of the village. Kent (1984:361) estimates that 13.2 ft<sup>2</sup> of house space is needed

for each individual. Since the Montgomery Complex houses at Winslow average 165 ft<sup>2</sup>, one could expect each domestic structure to house 12.5 people. Carrying this further, the 8 to 20 houses expected in a Montgomery Complex village would indicate a total village population of 100-250 people. Using total village area (averaging data from the Schultz and Strickler sites in the lower Susquehanna Valley), Kent (1984:365) has calculated an average population density of one person per each 147 ft<sup>2</sup>. This would project populations of 408 (Winslow, ~60,000 ft<sup>2</sup>) to 531 (Rosenstock, ~78,000 ft<sup>2</sup>) people for Montgomery Complex villages. However, Kent’s figures were devised for 17<sup>th</sup> century Susquehannock villages with densely-packed longhouses, and the scattered oval houses of a Montgomery Complex village would suggest lower densities (Dent [2003b:20] estimates 450 ft<sup>2</sup> per person, thereby suggesting a range of 133-173 individuals). Regardless of the method employed, it is quite evident that Montgomery Complex villages were relatively small, with populations of probably no more than around 200 people, and indicating a total Montgomery Complex population of only 1000-1500 at any given time (assuming the unlikely possibility that all known villages were occupied simultaneously).

While village sites have been the traditional focus of Montgomery Complex sites, other types of sites also require consideration. MacCord (1992) has summarized the most likely major components known for the Montgomery Complex (see Figure 47). These include village sites, rockshelters, and less well-defined occupations, and cluster in the middle Potomac and Monocacy valleys, ranging as far north as the mouth of Conococheague Creek and as far south along the Shenandoah River as Front Royal (and possibly to Harrisonburg). Also expected, however, might be small hamlets and even individual farmsteads scattered across the landscape. Using “Shepard ware” as a defining characteristic, a database search of the Maryland Archeological Site Survey files revealed the presence of some three dozen (presumably Montgomery Complex) components which may represent these smaller, outlier sites. Future research will need to examine these sites, both in relation to each other and to the village sites, before we can understand how Montgomery Complex groups were organized.

Also needed is some sense of seriation among Montgomery Complex sites. We need a better understanding of where the various village sites fall along the A.D. 1000-1400 timeline if we expect to decipher Montgomery Complex social development, the comings and goings of these people, and their interrelationships with other groups occupying the circum-middle-Potomac region. And ultimately, the possible relationship of the Piedmont’s Montgomery Complex to the Coastal Plain’s subsequent Potomac Creek Complex—first noted by Schmidt (1952:68)—needs to be explicated.

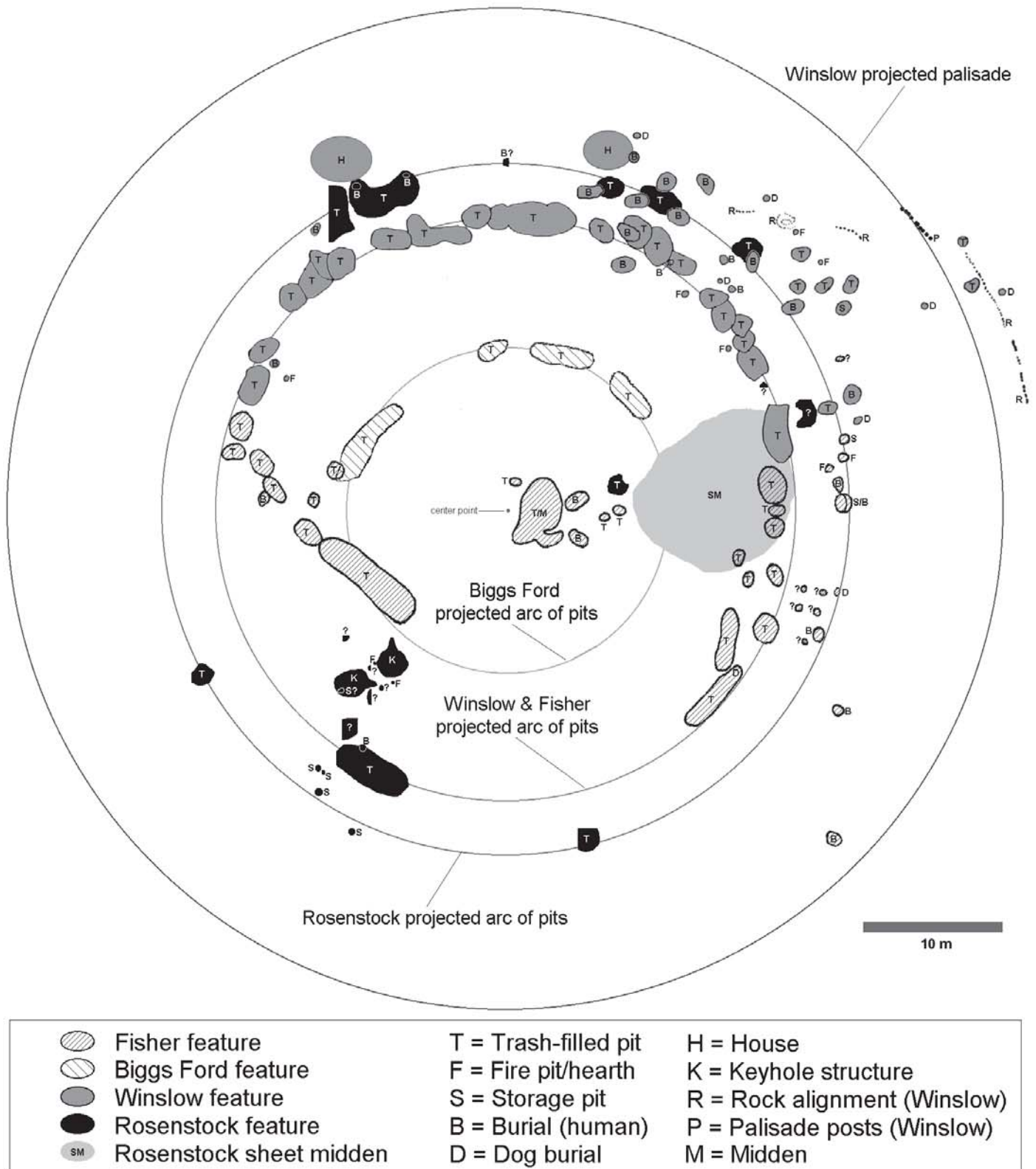


FIGURE 45. Comparison of four Montgomery Complex village layouts.



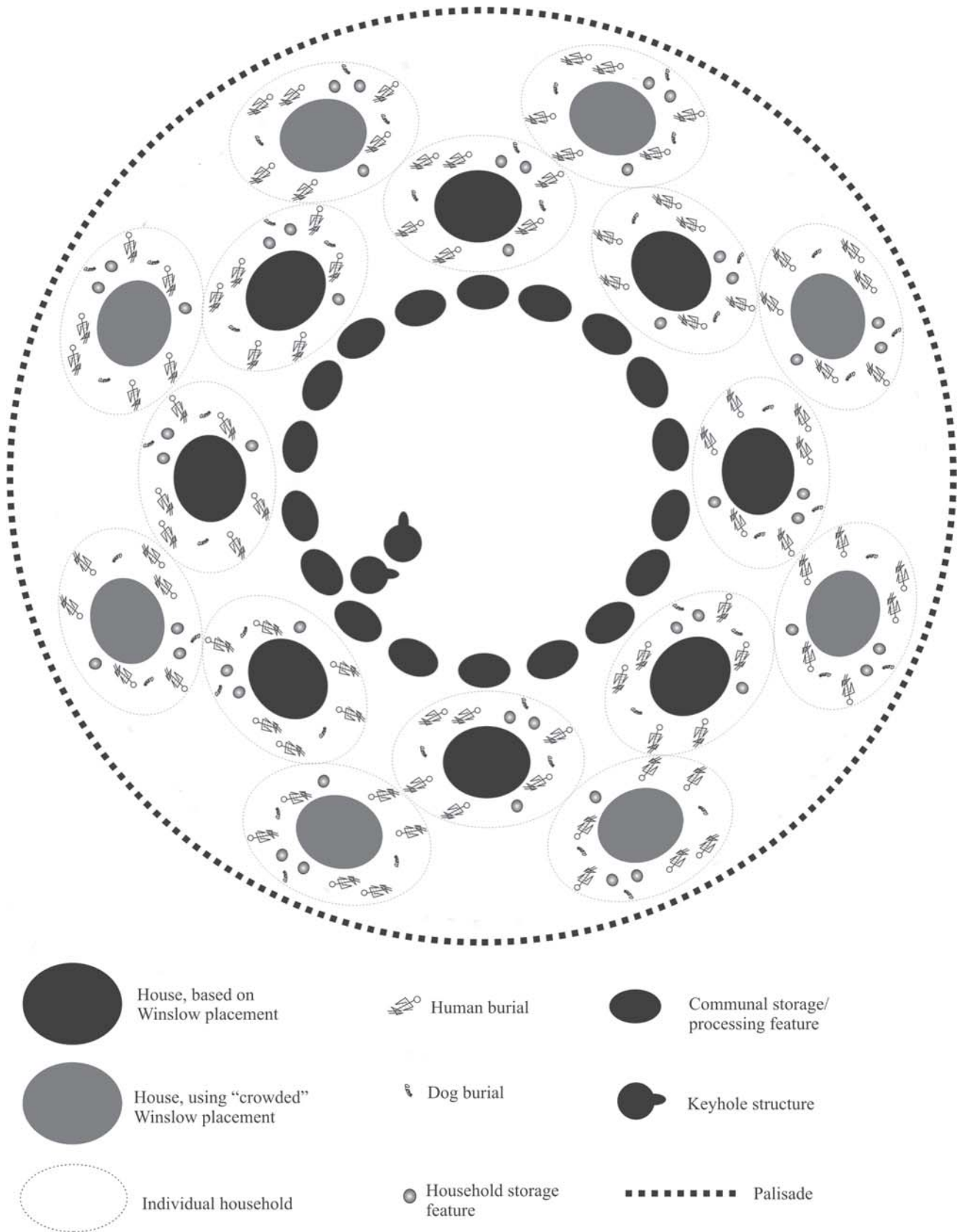


FIGURE 46. Idealized Montgomery Complex village layout.

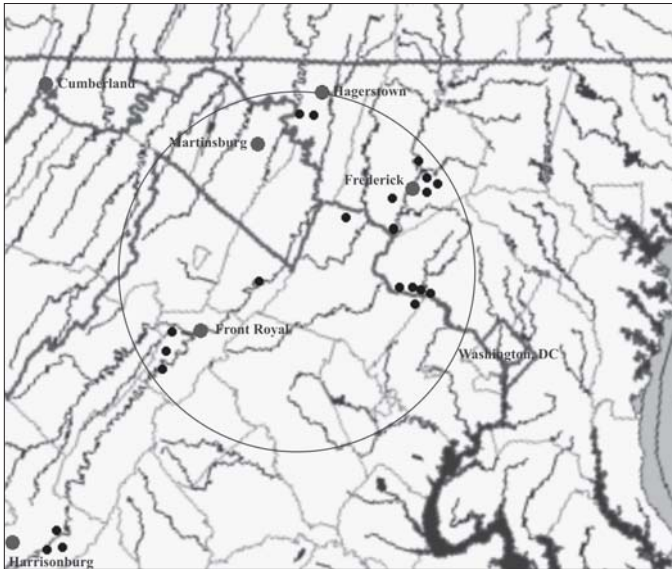


FIGURE 47. Known Montgomery Complex components (after MacCord 1992).

### Summary

The Rosenstock site is an important example of what is becoming recognized as a typical Montgomery Complex village, although it is slightly larger, and arguably later, than other known examples. The village layout consists of an open plaza area at its core, surrounded by a distinctive ring of trash-filled pits, and a series of individual household areas. No palisade has been discerned at Rosenstock, although such a feature was found at Winslow and is suspected at several other villages. The only burials found at Rosenstock have been the graves of infants, and these have all occurred in shallow pits at the edges of large trash-filled pits forming the village's distinctive ring of pits. Adults—based on scattered finds of human skeletal elements at Rosenstock and known burial locations at other Montgomery Complex sites—are presumed to have been buried in or near the domestic structures. Unique aspects of the Rosenstock village include a large sheet midden area and the presence of two semi-subterranean keyhole structures thought to represent sweatlodges. The artifact assemblage at Rosenstock is dominated by Shepard ware ceramics and also includes clay tobacco pipes and a wide range of stone and bone tools and ornaments. The presence of charred corn and bean remains at Rosenstock confirms the group's agricultural pursuits, although the faunal remains at the site indicate that hunting and fishing were still clearly important (and perhaps more important) subsistence activities.

Clearly more research is needed—at Rosenstock and elsewhere—before we can fully comprehend the Montgomery Complex, but it is hoped that this preliminary re-

port will aid in that work. In the end, prehistorians should have a better handle on the shift from hunting–foraging–horticulture and simple egalitarian villages (e.g., Rosenstock and the Montgomery Complex as a whole) to full-blown agriculture and large, socially complex villages with ranked leadership and religious elite (e.g., the Piscataway and other chiefdoms) during the 400 years leading up to Contact (cf. Dent 2003c).

### Acknowledgements

Permission to excavate at the Rosenstock site was graciously provided by J. O'Neill Jenkins, J&R Limited Partnership, and the law firm of Weinberg & Weinberg. Bob Kampfe, Ron Jackson, and Tom Crutchley of the Frederick Golf Course provided access to the site and mechanized back-filling in 1990 and 1991. Meals and lodging were provided by Mar-Lu-Ridge (1990 and 1992) and the Frederick County 4-H Camp and Activity Center (1991). Kudos are deserved by numerous ASM members who assisted with various aspects of the Field Sessions: Gary Grant, Berry Nall, Bob Newbury, and Don Seitz (crew chiefs); Varna Boyd and Pat Ward (field lab); Iris McGillivray and Norma Wagner (registration); Ned Ward (site logistics); Gary Grant (camp logistics); Pat Seitz and Gretchen Seielstad (school groups); George and Eleanor Wilcox and Roy Brown (t-shirt designs); Laurie Terry and Sarah Smart (annual feast); and Charlene Pietra (sales). Ron Orr processed a ton (literally) of flotation samples. David Foltz (Frederick Community College) ably arranged for local facilities in which to hold a public lecture in 1991. Some very preliminary specialist examinations were provided by Henry Miller (animal bones), Elizabeth Moore (bone tools), and Dave Bohaska (shark's teeth). A host of speakers and workshop presenters shared their knowledge, including Bill Barse, Tyler Bastian, Roy Brown, Wayne Clark, Jay Custer, Joe Dent, Carol Ebright, Spencer Geasey, Chris Goodwin, Jim Herbstritt, Chris Jirikowic, Howard MacCord, Elizabeth Moore, Chris Polglase, Stephen Potter, Richard Gates Slattery, and Bob Wall. Representatives from the media took a strong interest in our work at Rosenstock, including Frank Roylance (*Baltimore Sun*), Christie Barnes (*Frederick News-Post*), Marian Koubek (WPOC radio), Jamie Costello (WMAR-TV), John Derr (WHAG-TV), Kevin McManus (WFMD radio), Susan Nicol (*Frederick News-Post*), Eugene Meyer (*Washington Post*), Julia Robb (*Frederick News-Post*), and Mike Misulia (*Frederick County Mirror*); their accurate and enthusiastic reporting is greatly appreciated.

Joe Dent's 2002-2003 work at the Winslow site provided a huge impetus for completing this preliminary report on Rosenstock. Our thoughts on the Montgomery Complex in general have greatly benefited from many engaging conversations on the subject with Joe.



More recently, Kate Dinnel produced the map shown in Figure 5, and Becky Morehouse arranged access to the Rosenstock artifacts now curated at the MAC Lab.

Our greatest debt of gratitude, however, is due the many folks who volunteered their time to assist with the

excavations and lab work at Rosenstock. The Rosenstock investigations witnessed some of the largest ASM Field Session crews ever (168 in 1990, 159 in 1991, 157 in 1992), and without these tireless volunteers our research would not have been possible. Our sincere thanks to all of you:

### 1979 Rosenstock Crew

Kalpana Ahmed	Neftali Fernandez	Deborah Johnson	Frank Newton	Dolores Soul
Louise Akerson	Gordon Fine	Doris Katzenstein	Amy Ollendorf	Hugh Stabler
Lloyd Anderson	Ben Fischler	Phyllis Kehnemuyi	Dan Ollendorf	Dean Staley
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Ward Clark	Delmas Gruver	Tim Long	Cliff Reckley	Amy Waser
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Rosalind Colvin	Theodore Hoffman	Muriel Lynch	Marjorie Richmond	Carolyn Weaver
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Jennifer Cooper  
Jennifer Cramer  
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