

INTERPRETATIONS

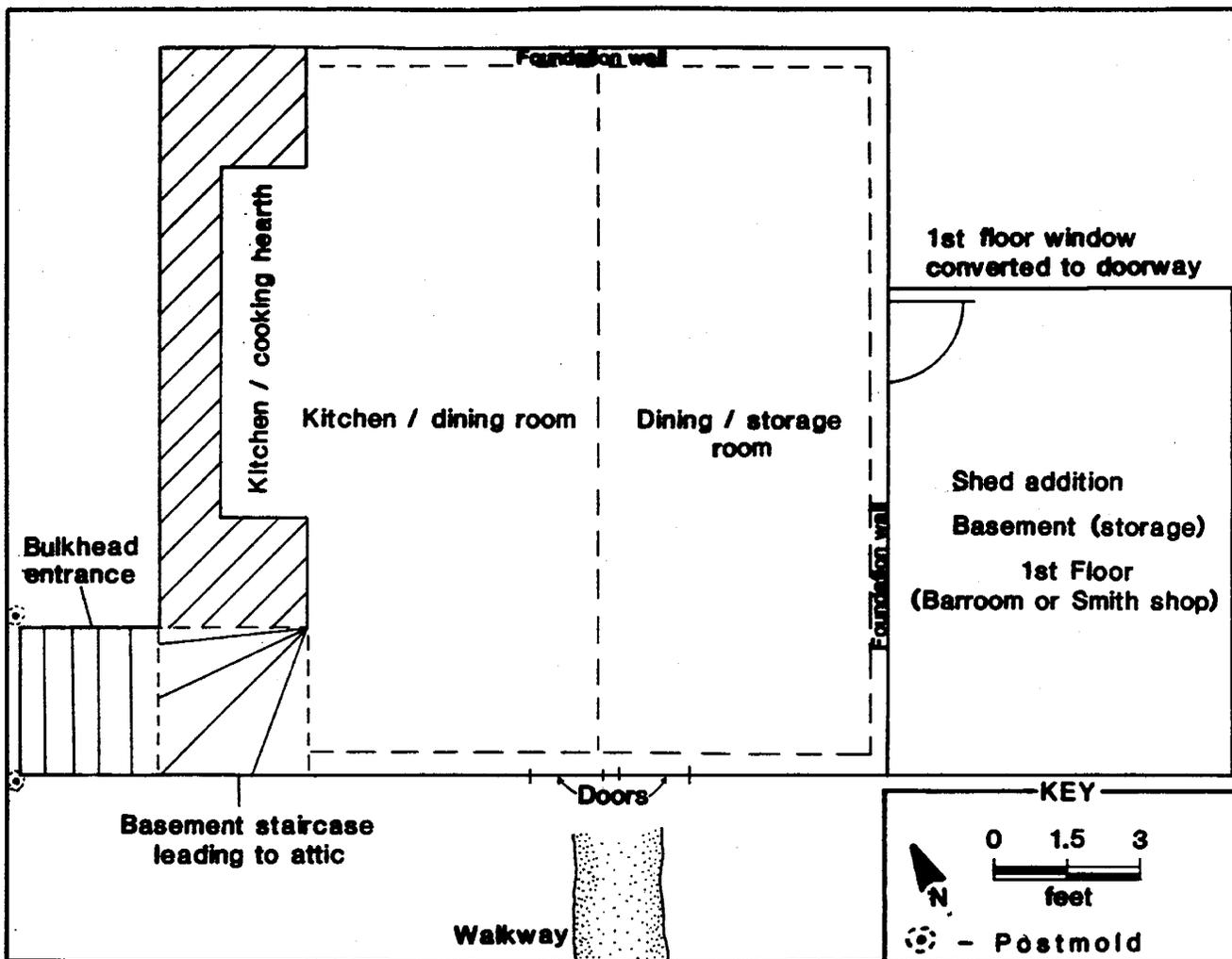
No postholes or molds were located either within the cellar of Structure 1, or around the edge of the cellar hole. The absence of these features gives solid evidence that the structure was not a hole-set frame building nor a puncheon building (Carson et al. 1981). The presence of the fairly continuous trenches along the cellar walls also provides no evidence for the existence of a framed building on hole-set blocks. The method of construction of the building could have been based on known eighteenth century construction techniques, a fully framed structure rising from ground-laid sills, a plank-framed construction where planks are set vertically and fastened to a ground laid sill or frame structure rising from a masonry foundation. The total amounts of both brick and stone suggest that the structure had neither stone or brick walls. Building skills and costs for these building types were in the seventeenth and eighteenth centuries very dissimilar, plank framed houses being constructed by "the poorest" who set up East Jersey while most hole-set buildings were constructed for middle class households (Carson et al. 1981). Brick or stone walled houses within this area are indicative of upper status residences. Horizontal log walling and stone or block foundations are very common during the eighteenth century throughout Delaware (Herman 1987).

The last possibility suggested a frame structure erected upon a stone foundation wall (Dr. Bernard Herman, personal communication 1987). The trenches located by the excavation would have functioned as builder's trenches with a dry-laid or clay mortared wall laid up above from the bottom of the cellar up through the cellar and raised above the ground surface. Upon this wall would have been constructed, based on a statistical analysis of eighteenth century records, a frame structure probably of horizontally-placed logs (Dr. Bernard Herman, personal communication 1987). Based on this interpretation, the stone found along the western wall of the cellar (Feature 4) would represent the unsalvaged lowermost portion of a former continuous foundation wall. When the location of the bulkhead entrance is also considered, it is likely that this feature represents the unlotted remains of the chimney pile which formed a major portion of the western wall. Based on architectural comparisons of extant and non-extant eighteenth century structures, it is common to have the bulkhead entrance placed against the hearth wall (Dr. Bernard Herman, personal communication 1987).

The presence of Feature 8, a segment of a mid-eighteenth century walkway, indicates that doorways were most likely located center front and probably center rear (Figure 49). A window was most likely located on the east (gable) end wall. Archaeological evidence; i.e., the fact that Feature 9 (trench feature) extends into the western addition area, places the construction of this 10' X 7' addition after the initial construction of the main 18' X 15' block. It is likely that during construction of the

FIGURE 49

Conjectural Floorplan of the Ogletown Tavern
(Basement and First Floor Plans Combined)



addition, the east gable end window was converted to a doorway to allow access to this hypothesized shed addition. Based on the location of the site's only intact artifacts in the floor of this addition, the cellar of the addition probably functioned as a storage area, while the first floor area above would have functioned as a barroom, customarily in eighteenth century taverns set off from the main dining and kitchen area (Rice 1983). Besides this distinct room function of the shed addition, it is likely that a central partition wall was present separating the western kitchen room from an eastern dining or social room. Thus the method of construction and the floorplan of the structure can be interpreted from archaeological, historical documents and extant buildings.

The presence of the gray-green clay throughout the bottom of floor area, especially in and surrounding Feature 4, suggests two structural possibilities. Excavations at the Narbone House (Moran 1982) found lenses of charcoal-flecked clay below floor joists and against the foundation wall. The deposit was interpreted as clay mortar which not only bound the foundation, but also packed the builder's trench on the exterior of the building. Other excavations of late seventeenth and eighteenth century sites have noted the presence of packed clay floors, especially in tenant-occupied structures (Carson et al. 1981). The presence of a clay floor was not linked to this status; however, Barratt's Chapel in central Delaware (Clark and Herson 1984) retained a dirt floor for the years after its founding. At the Middle Plantation site ca. 1730, full cellars were walled with split puncheons driven into the floor and lined on the inside with 1" plank. The packed clay was then added. As mentioned earlier, there is a possibility that this method of construction was used at the Ogletown Tavern.

The other possible inference to be drawn from the results of the excavation concerns the usually oriented trenches located in the east addition area. At Middle Plantation, these trenches were interpreted to have housed sleepers upon which platforms were constructed to hold rows of wooden casks. It is possible that Features 2 and 3 performed the same function at the Ogletown Tavern.

The presence of a wooden floor in the cellar of the Ogletown Tavern is also uncertain. If a continuous stone foundation wall is assumed, ground-laid joists would have been let into the wall at specific intervals. The trenches however showed no signs of intercepting floor joists upon which flooring could have been nailed. Based on research at the St. John's site, the attachment of joists to the sill was not always present (Carson et al. 1981). However, most of the original joists were seen to have been laid in shallow slots in the topsoil. Also possible was the direct placement of floorboards on a previously packed floor.

INTER-SITE ARTIFACT COMPARISON

Previous historical research has demonstrated that, while circumstantial evidence leads to a conclusion that the John Ruth Inn Site location was the site of a tavern operating in the mid-eighteenth century, other interpretations are certainly possible. Another interpretation would be that the Feature 1 fill is not the refuse accumulated during the occupation of the site, but rather was transported from an occupation some distance from the site. In some cases, historical archaeologists have also encountered similar problems in the determination of site function based on the artifact assemblage. In order to test the hypothesis that the John Ruth Inn artifact assemblage was indeed created by tavern activities, the artifact assemblage obtained from the Component 1 cellar fill at the John Ruth Inn Site was compared to known tavern assemblages. Similar comparative

analyses can be found in Feister (1975), and Bragdon (1981). Early eighteenth century tavern assemblages have been defined by Bragdon (1981), Noel-Hume (1969), Rice (1983), Earle (1905), Feister (1975), and Ekholm and Deetz (1971). Common among these assemblages are (Bragdon 1981):

1. Vessels for the consumption of alcohol, including mugs, pots, cups, tankards, wine glasses, beakers and drinking vessels such as tumblers;
2. Serving vessels, including platters, bowls, bottles, pitchers, and jugs;
3. Clay tobacco pipes for smoking, a most prevalent eighteenth century activity; and,
4. Bottles, which were available but were not an important part of early eighteenth century tavern assemblages.

Based on the work of Rockman and Rothschild (1984), an inter-assemblage comparison among John Ruth Inn and several other seventeenth and eighteenth century tavern assemblages was also undertaken. The goal of this study was the identification of an urban versus a rural character for the tavern based on the analysis of the relative frequency of those artifact types (ceramics, pipes, and bottle glass) assumed to suggest activities such as eating, drinking, and food preparation. The basic assumption of the study was that an urban tavern would generate archaeological remains different from those from a rural tavern. The activities reflected by an urban tavern would include eating, but more frequently smoking and drinking, or activities in which people engage while socializing and exchanging information. Thus functional differences reflecting these activities should be visible in the artifact assemblages (Rockman and Rothschild 1984).

A sample of ten archaeological sites was compiled for the inter-site analysis. The Ogletown Tavern component (ca. 1730 - ca. 1780) of the John Ruth Inn Site was the primary assemblage employed in all inter-site analyses. The sample selection included sites documented to have functioned as taverns (Wellfleet, Lovelace, Jamestown, Earthy's, Riseing Son, McCrady's, Man-Loaded-With-Mischief, Vereberg, and Searight Taverns) and of residential sites of a similar mid-eighteenth century occupation period (John Hick's, Bray, Littleton Quarter, Kingsmill Quarter). The Whitten Road Site (Shaffer et al. 1988), a late eighteenth - mid-nineteenth century farmstead located approximately two miles from the John Ruth Inn Site, was also included in the comparison. The following discussion presents a summary description of each of the sites used in the comparison. For further site specific information, reference should be made to the original publications.

Wellfleet Tavern, located on Great Island, Cape Cod, Massachusetts was used by whalers during the late seventeenth and early eighteenth century (ca. 1690-1740) and presumably functioned as a gathering spot for the local fishing community. A large quantity of artifacts, including a high percentage of wine bottle glass and wine glass fragments were recovered from cellar fill, sheet refuse, and extensive midden deposits (Ekholm and Deetz 1971, Bragdon 1981, Rockman and Rothschild 1984). Lovelace Tavern, located on Lower Manhattan functioned as an urban social and governmental center during the period from 1670-1706. Little else is known about the site (Rockman and Rothschild 1984). Jamestown Tavern, located in Jamestown, Virginia was occupied during the late seventeenth century and during that period functioned as the primary social and governmental center for the early capital of Virginia. Excavations recovered artifacts from a cellar hole, kitchen, refuse pits, two wells, and sheet middens (Cotter 1958, Rockman and Rothschild 1984). Earthy's Tavern, located in Pemaquid, Maine, was occupied during the last quarter of the seventeenth century. Other than the fact that the tavern served a small community no other data on the site is available (Bragdon 1981, Rockman and Rothschild 1984).

Riseing Son Tavern, located in Stanton, Delaware, operated as a tavern from the early-mid eighteenth century until the middle of the nineteenth century (Thompson 1987). Two distinct artifact proveniences were identified at the site. The earliest, a feature interpreted to be a cobble-lined French Drain was infilled with a mid-eighteenth century deposit. The second represents the remaining site assemblage consisting of artifacts representative of the late-eighteenth and nineteenth century occupation of the site. McCrady's Tavern, located in Charleston, South Carolina, was operated as a tavern from 1778 until 1788. The tavern, which served as an important social function was investigated through archaeological excavation of several backyard deposits (Zierden et al. 1982). Man-Loaded-With-Mischief Tavern, located within the Franklin Court area of Philadelphia, operated from the time of the Revolutionary War until well into the nineteenth century (Feister 1975; Huey 1966). Excavations at this site concentrated on walkway and backyard areas of the site. Vereberg Tavern, located in upstate New York, operated as a tavern from ca. 1750 until approximately the end of the nineteenth century. Excavations recovered artifacts from exterior areas (principally walkways) and also interior areas (two fireplaces) (Feister 1975). Searight Tavern, located on the National Road in Western Pennsylvania operated from the early nineteenth century to the early twentieth century. The assemblage employed in the present intersite comparison was obtained from the excavation of several outbuildings in the rear yard of the tavern (Michael 1971).

The Captain John Hick's House, located in St. Mary's City, Maryland was the initial residence of an English mariner. The 40' X 16' structure was constructed in 1720 and demolished ca. 1745. The artifact assemblage was obtained from the structure's

earth-walled cellar, which was infilled during the demolition process (Stone, Little, and Israel 1973). Bray Plantation, located within the Kingsmill Plantation area, Virginia, consisted of an early eighteenth century 29' X 53' double-pile, brick mansion, four hole-set outbuildings surrounding the mansion house, and a number of agricultural outbuildings. Artifacts related to the upper status occupations were obtained from a variety of contexts (Kelso 1984). Littleton and Kingsmill Quarters, also located within the Kingsmill Plantation complex, Virginia, were both interpreted to be slave-occupied residences with mid-eighteenth century occupation dates. The artifact assemblages were obtained from cellars, root cellars, and structural features (Kelso 1984).

As discussed previously in the research design, several levels of artifact and assemblage analysis were carried out. First, at the sherd level of analysis, the Ogletown Tavern assemblage was compared to other tavern sites in order to determine its similarity to other tavern assemblages. The results of this comparison, indicating a strong tavern component led to the application of techniques to determine the 'urban' vs. 'rural' nature of the assemblage. The final analysis consisted of an intersite functional comparison at the vessel level of analysis.

The sherd level analysis was composed of two separate types of comparison. Initially, the assemblage as a whole was subjectively compared to assemblages from sites known to have functioned as taverns/inns and the John Ruth Inn assemblage seemed to be very similar to those of known tavern sites. Based on this initial impression, a further and more detailed comparison with other tavern assemblages seemed warranted. The first method of comparison selected was based on a similar study (Feister 1975). The percentage distribution of each general ceramic type from within the Feature 1 assemblage was calculated and added to data compiled in Feister (Figure 50). Based on published data, ceramic type percentages were also calculated for two additional taverns, Riseing Son (Thompson 1987), and McCrady's (Zierden et al. 1982), and these were also employed in the comparison. When comparing the ceramic assemblages among the tavern sites, it is important to systematically compare the frequencies of the ceramic types among all sites to assess their similarities and differences. Such systematic comparisons have not been part of past studies of tavern sites (eg. - Thompson 1987) and these studies have tended to underestimate assemblage variability. In order to avoid this shortcoming, a difference-of-proportion test (Parsons 1974:445-449) was applied to paired combinations of taverns for each ceramic type. The difference-of-proportion test is appropriate to apply in this case because it does not require normally distributed data. Rather, application of the difference-of-proportion test is based on the fact that the sampling distribution of estimated sample proportions is normally distributed (Parsons 1974:433-436).

FIGURE 50
Distribution of Ceramic Sherds by Type at Six Tavern Sites

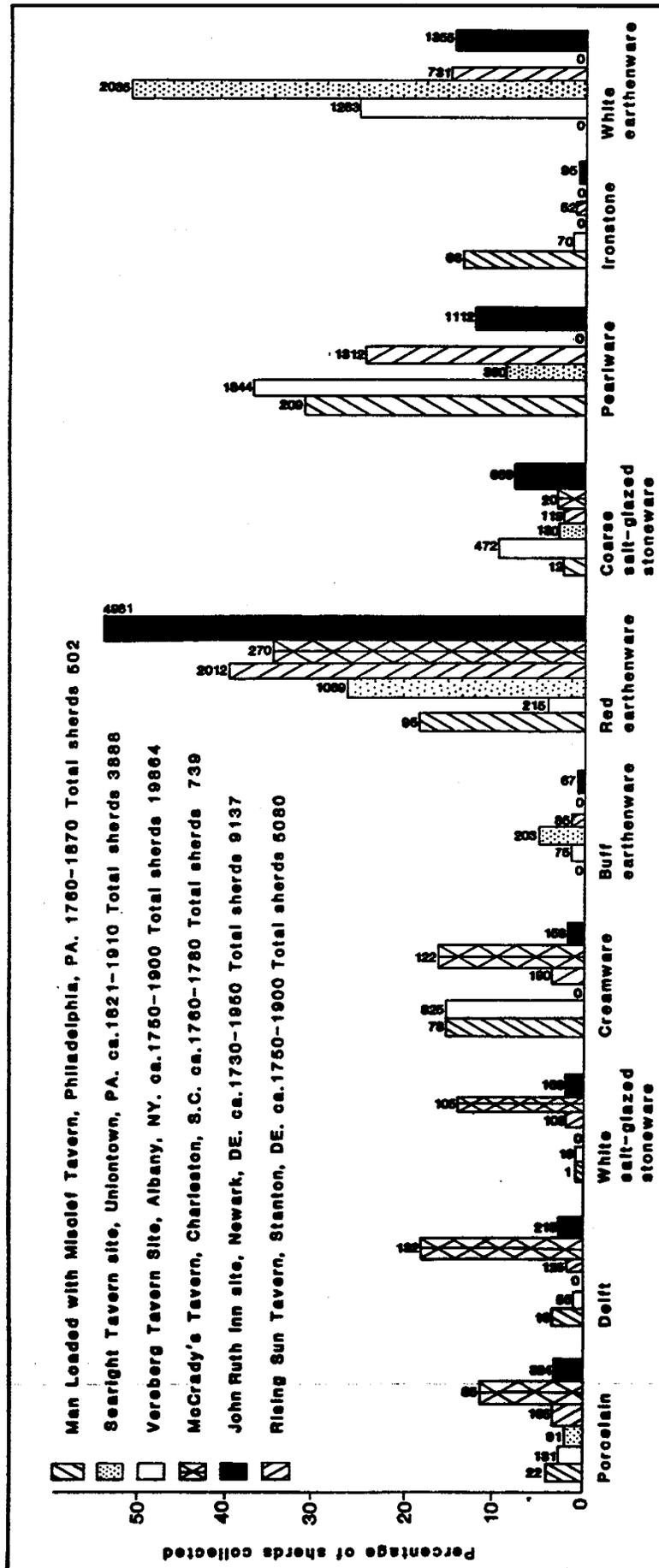


TABLE 14

CERAMIC FREQUENCIES AT SIX TAVERN SITES

VARIABLE	TAVERN					
	Man Loaded With Mischief	Vereberg	Searight	Rising Sun	McCrary's	John Ruth Inn
Porcelain	22 (4%)	131 (3%)	91 (2%)	165 (3%)	85 (12%)	334 (4%)
Delft	19 (4%)	55 (1%)	0 (0%)	125 (2%)	132 (18%)	213 (2%)
White Salt- Glazed						
Stoneware	1 (1%)	16 (1%)	0 (0%)	106 (2%)	105 (14%)	163 (2%)
Creamware	78 (15%)	825 (17%)	0 (0%)	190 (4%)	122 (16%)	158 (2%)
Buff Earth- enware	0 (0%)	75 (2%)	203 (5%)	85 (2%)	0 (0%)	67 (1%)
Red Earth- enware						
Coarse Salt- Glazed	95 (19%)	215 (4%)	1069 (27%)	2012 (40%)	270 (37%)	4981 (55%)
Stoneware	12 (2%)	472 (9%)	130 (3%)	119 (2%)	20 (3%)	659 (7%)
Pearlware	209 (42%)	1844 (37%)	360 (9%)	1312 (26%)	0 (0%)	1112 (12%)
Ironstone	66 (13%)	70 (1%)	0 (0%)	52 (1%)	0 (0%)	95 (1%)
White Earth- enware	0 (0%)	1283 (26%)	2035 (52%)	731 (14%)	0 (0%)	1355 (15%)
Total	502	4986	3888	5080	739	9137
Ceramics						

TABLE 15

SUMMARY OF DIFFERENCE-OF-PROPORTION TESTS - CERAMIC TYPES AMONG TAVERNS

VARIABLE	TAVERNS COMBINATIONS														
	Vere H/M	Sea	RS	McC	JRI	Vere Sea	RS	McC	JRI	Sea RS	McC	JRI	ES McC	JRI	McC JRI
Porcelain	2.27	2.71	1.35	4.38	.84	.86	1.84	11.82	3.27	2.56	11.93	3.87	10.34	1.27	10.18
Delft	4.96	12.16	1.78	7.45	2.06	6.56	5.14	23.92	5.11	9.85	26.74	9.60	19.04	.49	22.12
White Salt- Glazed	.47	2.78	2.94	8.67	2.67	3.54	8.09	24.49	7.43	9.06	23.77	8.38	16.47	1.27	19.99
Stoneware	.58	24.79	11.79	.45	19.49	26.63	21.33	.02	33.07	12.19	25.68	8.25	14.39	7.44	23.28
Creamware	2.76	5.24	2.92	0	1.92	9.97	.67	3.35	4.38	9.44	6.35	16.45	3.54	5.22	2.34
Buff Earth- enware	13.52	4.09	9.12	6.68	15.55	30.80	42.65	29.36	59.13	11.97	4.97	28.29	1.58	17.04	9.42
Red Earth- enware	5.33	1.13	.07	.34	4.13	11.38	15.20	6.12	4.72	2.86	.89	8.47	.61	12.23	4.66
Coarse Salt- Glazed	2.05	20.32	7.59	19.23	18.69	29.99	12.06	20.08	34.64	19.96	8.61	4.80	15.69	20.75	10.07
Pearlware	16.13	22.78	18.01	10.13	20.61	7.42	1.74	3.24	1.93	6.33	0	6.38	2.76	.09	2.78
Ironstone	12.98	22.13	9.12	0	9.31	25.70	14.22	15.65	15.88	38.56	26.27	44.65	11.03	.71	11.27
White Earth- enware															

Values greater than 1.96 indicate significant differences.

KEY:

- M/M - Man Loaded with Mischief
- Vere - Vereberg
- Sea - Searight
- RS - Rising Sun
- McC - McCrady's
- JRI - John Ruth Inn

Table 14 shows the percentage values and artifact frequencies for the tavern sites, Figure 50 shows a graph of the varied percentages, and Table 15 shows all test statistics for each paired tavern comparison for each ceramic type. Test statistic values larger than 1.96 indicate significant differences of proportions and it can be seen that there are many significant differences among the ceramic assemblages from the taverns. Table 16 shows the frequencies of significant differences among each pair of tavern sites and lower values indicate which taverns are the most similar. Out of the 150 pair-wise comparisons made, over 70% show significant differences among the ceramic types from the sample of sites. The results obtained by the difference-of-proportion test are very different than that determined by subjective observation of Figure 50.

At the sherd level of analysis the two factors that would cause ceramic types to be similar between sites could be due to either: 1) a site assemblage of similar occupation date in which the ceramic type availability would be similar; or, 2) a functionally specific ceramic type present in all sites, possibly represented by a high proportion of storage/preparation vessels manufactured from red earthenware. It was hoped that based on the above assumptions, a generalized vessel level interpretation could be obtained from the sherd level analysis.

Based on the simple count of significant differences among ceramic percentages, the two pairs of taverns most similar to one another are McCrady's and Man-Loaded-With-Mischief, and John Ruth Inn and Riseing Son. Three pairs of taverns show the greatest differences from one another: John Ruth Inn and Searight, John Ruth Inn and McCrady's, and Riseing Son and Searight. Table 17 provides a summary of the ceramic types which showed similarities among pairs of tavern sites.

The close similarity between the John Ruth Inn and Riseing Son Taverns was not unexpected. Both sites were occupied during similar time periods, were located in semi-rural areas, and presumably participated in similar commercial networks. It is interesting to note that the sites show significant similarities between ceramic types from both the eighteenth and nineteenth century occupations. The same factors of similar occupation period, location, in this case in an urban setting, and the related extensive commercial exchange network can be used to interpret the similarities between McCrady's and Man-Loaded-With-Mischief. While Man-Loaded-With-Mischief was occupied throughout the nineteenth century and McCrady's during only the late eighteenth century, it is the early component ceramics of Man-Loaded-With-Mischief and the corresponding lack of significant nineteenth century ceramics which generates the similarity to McCrady's Tavern.

The difference between the sites noted is less easily interpreted and appears not to be related to different time periods of occupation. Searight Tavern exhibits the lowest number of significant similarities among comparison of ceramic

TABLE 16

SUMMARY OF SIGNIFICANT DIFFERENCES AMONG TAVERN CERAMIC ASSEMBLAGES

M/M	---					
Vere	8	---				
Sea	9	9	---			
RS	7	7	10	---		
McC	6	9	8	8	---	
JRI	8	8	10	5	10	---
	M/M	Vere	Sea	RS	McC	JRI

KEY:

- M/M - Man Loaded With Mischief
- Vere - Vereberg
- Sea - Searight
- RS - Rising Sun
- McC - McCrady's
- JRI - John Ruth Inn

types of all the assemblages. The late nineteenth century occupation of the site coupled with an outbuilding contextual association for the assemblage may be responsible for this. The McCrady's, Riseing Son, and John Ruth assemblage with significant redware percentages identify the earliest period of occupation.

Similarities and differences among tavern sites can also be investigated by ranking them with respect to frequencies of ceramic types. Table 18 lists the rankings and notes which sites can be grouped together or separated due to significant differences. These results also illuminate the chronological separation or distribution among the sample of sites as noted in porcelain, delft, white salt glaze stoneware, buff earthenware, ironstone, and white earthenware ceramic types. Transitional ceramics such as pearlware, coarse salt-glazed stoneware, and red earthenware show very similar ranking based on ceramic type frequencies. The McCrady's, Riseing Son, and John Ruth assemblage with significant redware percentages identify the earliest period of occupation. It is apparent in the Searight assemblage that whiteware had replaced redware as the dominant ceramic type, both in serving and food preparation vessels, although storage vessels were probably still red earthenware. The Man-Loaded-With-Mischief and Vereberg Taverns ceramic assemblage, dominated by creamware and pearlware represents a transitional occupation period between those dominated by redware or whiteware.

Table 19 shows the frequencies with which each pair of inns were grouped together in Table 18. It can be seen that Man-Loaded-With-Mischief and McCrady's and John Ruth Inn and Riseing Son are the most similar, as is consistent from the data in Table 16. Similarly, the greatest differences are noted between the following pairs of taverns: John Ruth Inn and Searight, Searight

TABLE 17

SUMMARY OF SIMILAR VALUES FOR CERAMIC TYPES AT INNS

Variable	Similar Inns
Porcelain	Rising Sun/Man Loaded With Mischief, Searight/Vereberg, Rising Sun/Vereberg, John Ruth Inn/Rising Sun
Delft White Salt- Glazed	Rising Sun/Man Loaded With Mischief, John Ruth Inn/Rising Sun
Stoneware Creamware	Man Loaded With Mischief/Vereberg, John Ruth Inn/Rising Sun Man Loaded With Mischief/Vereberg, Vereberg/McCrary's, Man Loaded with Mischief/McCrary's
Buff Earth- enware	Man Loaded With Mischief/McCrary's, Man Loaded With Mischief/ John Ruth Inn, Rising Sun/Vereberg
Red Earth- enware	McCrary's/Rising Sun
Coarse Salt- Glazed	Man Loaded With Mischief/Searight, Man Loaded With Mischief/McCrary's, Man Loaded With Mischief/Rising Sun, McCrary's/Searight, McCrary's/Rising Sun
Stoneware	NONE
Pearlware Ironstone	Rising Sun/Vereberg, John Ruth Inn/Vereberg, McCrary's/Searight, Rising Sun/John Ruth Inn
White Earth- enware	Man Loaded With Mischief/McCrary's, John Ruth Inn/Rising Sun

TABLE 18

RANKING OF TAVERN SITES BY CERAMIC TYPE FREQUENCIES

Variable	High-->Low
Porcelain	McC/JRI-MM-RS/Vere-Sea
Delft	McC/MM-RS-JRI/Vere/Sea
White Salt-Glazed Stoneware	McC/JRI-RS/MM-Vere/Sea
Creamware	MM-Vere-McC/RS/JRI/Sea
Buff Earthenware	Sea/RS-Vere/JRI-McC-MM
Red Earthenware	JRI/RS-McC/Sea/MM/Vere
Coarse Salt-Glazed Stoneware	Vere/JRI/Sea-McC-MM/RS
Pearlware	MM-Vere/RS/JRI/Sea/McC
Ironstone	MM/Vere-JRI-RS/McC-Sea
White Earthenware	Sea/Vere/RS-JRI/MM-McC

KEY:

- McC - McCrady's
- JRI - John Ruth Inn
- MM - Man Loaded With Mischief
- RS - Rising Sun
- Vere - Vereberg
- Sea - Searight
- / - sites separated by a slash are significantly different
- - sites separated by a dash are similar

and Riseing Son, and John Ruth Inn and McCrady's. Similar results are noted in Table 16. The similar pairs of taverns share numerous characteristics in the ceramic distributions. Man-Loaded-With-Mischief and McCrady's share the characteristics of large amounts of creamware and low proportions of buff earthenware, coarse salt-glazed stoneware, and white earthenware. John Ruth Inn and Riseing Son share the characteristics of low amounts of porcelain, delft, white salt-glazed stoneware, and ironstone.

In addition to the previously noted difference in the intensive occupation period between the two groups of sites, it is probable that locational and socio-economic factors are also responsible for the percentage differences. The Man-Loaded-With-Mischief and McCrady's Taverns contain significant percentages of the more costly porcelain and delft and low percentages of cheaper buff earthenware and coarse salt-glazed stoneware. It appears that a purposeful selection of higher priced ceramics for the taverns' urban, upper class clientele was made at Man-Loaded-With-Mischief and McCrady's. In contrast, at the John Ruth Inn and Riseing Son Tavern, cheaper and locally produced ceramics were extensively used. In sum, comparisons based solely on ceramic sherds seems to indicate sites of similar occupation period but does not provide information amenable to a functional or cultural interpretation. As much as anything the results

TABLE 19

RANKED-PAIR FREQUENCIES - TAVERN CERAMIC DATA

M/M	---					
Vere	3	---				
Sea	1	1	---			
RS	1	2	0	---		
McC	4	1	2	1	---	
JRI	2	1	0	4	1	---
	M/M	Vere	Sea	RS	McC	JRI

KEY:

- M/M - Man Loaded With Mischief
- Vere - Vereberg
- Sea - Searight
- RS - Rising Sun
- McC - McCrady's
- JRI - John Ruth Inn

indicate the extensive variability present in the ceramic assemblage of tavern sites.

In order to provide further comparative information at the sherd level of analysis, the Ogletown Tavern assemblage was compared to six other tavern assemblages using the percentage distribution of tobacco pipes, ceramics, and bottle glass. Other studies (Rockman and Rothschild 1984; Thompson 1987) have undertaken similar analyses using the Brainerd-Robinson Coefficient-of-Agreement, and compared the percentage distribution of these specific functional artifact classes. The Brainerd-Robinson statistic was employed in order to analyze the assemblages to determine their rural or urban nature. Urban taverns, predicted to serve more of a social function would presumably generate more artifacts associated with socializing activities, such as smoking pipes and bottle glass. Rural taverns, functioning more for subsistence of travellers may possess a higher relative percentage of ceramics. Although we use the basic assumptions of the Rockman and Rothschild study, we did not use the Brainerd-Robinson coefficient-of-agreement. The Brainerd-Robinson coefficient was originally developed (Brainerd 1951; Robinson 1951) as a tool for assessing percentage similarities in archaeological seriation studies (Marquardt 1978:263-265) and was not intended for use in other applications (Robinson and Brainerd 1952; Doran and Hodson 1975). Indeed, the coefficient is not even mentioned in basic texts on statistical applications in recent anthropology and archaeology (Orton 1980; Thomas 1976). Furthermore, no matter what its application, the Brainerd-Robinson coefficient-of-agreement does not take into account differences in the sizes of samples that produced the percentages. Therefore, in our analysis of the taverns' data we used the difference-of-proportion test described earlier.

FIGURE 51
Proportions of Pipes and Ceramics
at Seven Tavern Sites

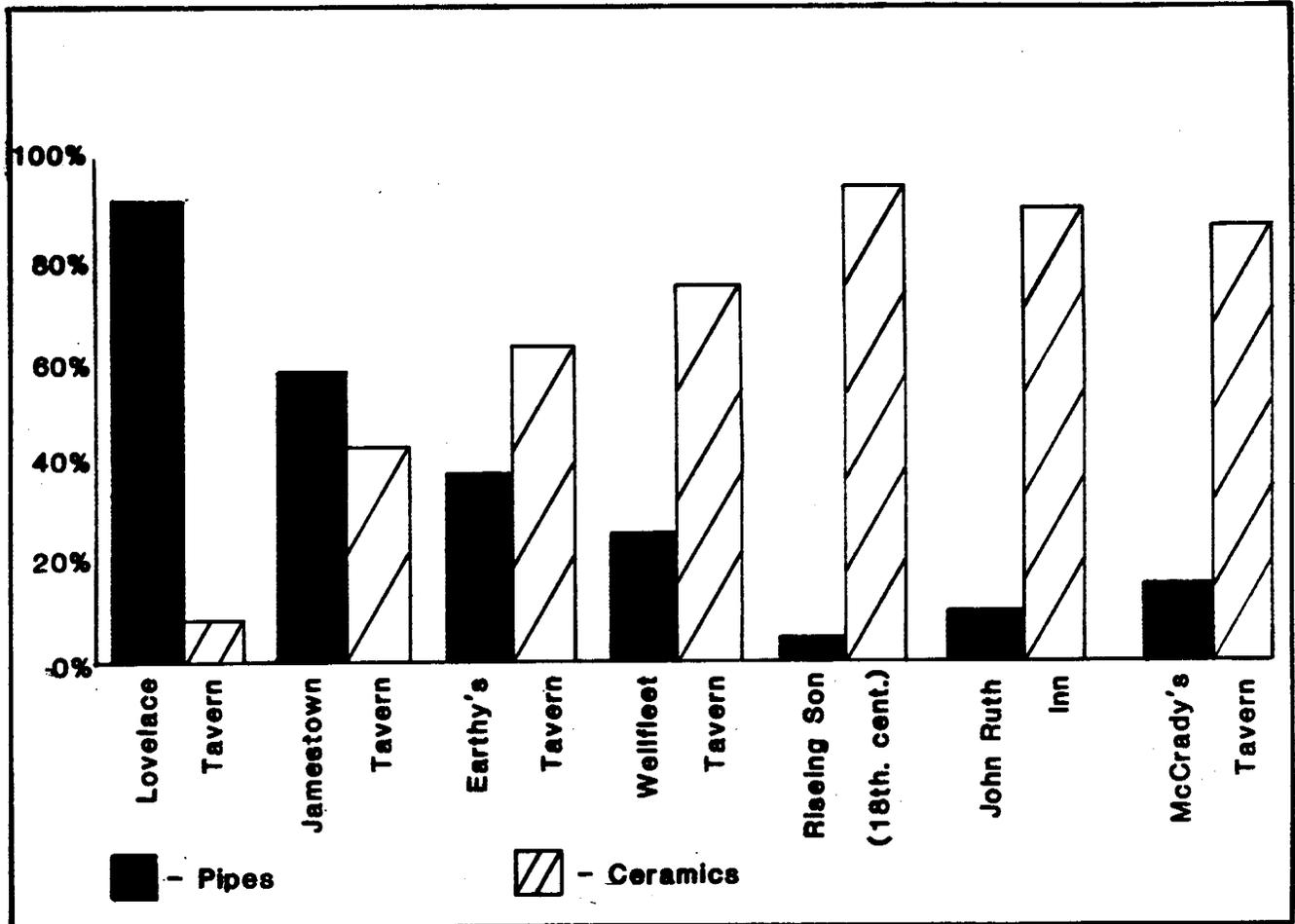


Figure 51 shows a bar graph with the percentages of pipes and ceramics at the seven tavern sites considered, and Table 20 lists the counts of pipes, ceramics and bottles for the same seven sites. Table 21 summarizes the results of the difference-of-proportion tests among the seven sites for the three artifact categories. Almost all of the differences in percentages are statistically significant and allow the ranking of the tavern sites by frequency of artifact types shown in Table 22. Within the rankings, Jamestown and Earthy's taverns showed insignificant differences in frequencies of pipes, Wellfleet and McCrady's taverns showed insignificant differences in the frequencies of ceramics, and Riseing Son and Wellfleet taverns showed insignificant differences in frequencies of bottles. Thus, the difference-of-proportion test for comparisons between sites for pipes, ceramics, and bottle glass, disclosed a large percentage (99%) of significant differences. The amount of actual variability between the tavern assemblages is thus much greater than identified in previous studies employing the Brainerd-

TABLE 20

ARTIFACT QUANTITIES - SEVEN TAVERNS

Site	Pipes	%	Ceramics	%	Bottles	%	Total	%
Lovelace Tavern	4220	65.57%	388	6.03%	1828	28.40%	6436	100.00%
Jamestown Tavern	543	35.03%	411	26.52%	596	38.45%	1550	100.00%
Earthy's Tavern	2863	37.07%	4769	61.75%	91	1.18%	7723	100.00%
WellFleet Tavern	9090	24.12%	26336	69.89%	2255	5.98%	37681	100.00%
Rising Son (18th)	46	4.72%	857	87.90%	72	7.38%	975	100.00%
John Ruth Inn	1049	9.22%	9137	80.31%	1190	10.47%	11376	100.00%
McCrary's Tavern	144	13.42%	739	68.88%	190	17.70%	1073	100.00%

TABLE 21

**SUMMARY OF DIFFERENCE-OF-PROPORTION TESTS -
PIPES, CERAMICS, AND BOTTLES**

Tavern Pair	Pipes	Ceramics	Bottles
Lovelace/Jamestown	21.99	24.13	7.72
Lovelace/Earthy's	33.77	68.61	47.12
Lovelace/Well Fleet	66.94	96.89	57.35
Lovelace/Rising Sun	35.83	63.72	14.01
Lovelace/John Ruth Inn	79.15	95.49	30.66
Lovelace/McCrady's	32.05	53.36	7.32
Jamestown/Earthy's	1.52*	25.49	15.13
Jamestown/Well Fleet	9.78	35.93	48.26
Jamestown/Rising Sun	17.53	30.03	17.23
Jamestown/John Ruth Inn	29.01	45.23	29.96
Jamestown/McCrady's	12.38	21.50	11.40
Earthy's/Well Fleet	23.53	14.03	17.38
Earthy's/Rising Sun	20.17	16.09	13.47
Earthy's/John Ruth Inn	46.80	28.30	25.17
Earthy's/McCrady's	15.30	4.52	28.85
Well Fleet/Rising Sun	14.08	12.15	1.81*
Well Fleet/John Ruth Inn	34.40	21.78	16.37
Well Fleet/McCrady's	8.11	.72*	15.59
Rising Sun/John Ruth Inn	4.75	5.78	3.04
Rising Sun/McCrady's	6.78	10.37	6.99
John Ruth Inn/McCrady's	4.47	8.85	7.23

* - $p > .10$, no significant difference

Robinson statistic (Rockman and Rothschild 1984, Thompson 1987). As noted, only three out of the 66 pair wise comparisons of the difference-of-proportion test showed percentages which were not significantly different.

Based on Tables 21 and 22, the pipe assemblage from the earlier sites are seen to loosely group together. The ceramic grouping of similar sites indicates not unexpectedly, that on a percentage basis, sites of similar time period group together. Grouping of sites are noted so that the seventeenth and early eighteenth century sites contain a low percentage of ceramics and a corresponding high frequency of bottle glass. When the location of these assemblages (urban vs. rural) was considered for the pipe, ceramic, and bottle assemblage comparisons, there exists a somewhat significant group of urban versus rural sites, especially for bottle glass but less distinct for pipes and ceramics. As noted, this grouping appears to be more a factor of similar occupation period than of similar locational or functional factors. However, similarity noted throughout the comparisons between the John Ruth Inn and the Riseing Son Tavern seems to indicate that geographical location is a major causative factor and that more relevent and realistic comparisons could be made among geographically close tavern assemblages.

TABLE 22

RANKING OF TAVERN SITES BY ARTIFACT TYPE FREQUENCY

High----->Low

PIPES

Lovelace Tavern/Jamestown-Earthy's/Well Fleet/McCrady's/John Ruth Inn/Rising Sun

CERAMICS

Rising Sun/John Ruth Inn/Well Fleet-McCrady's/Earthy's/Jamestown/Lovelace

BOTTLES

Jamestown/Lovelace/McCrady's/John Ruth Inn/Rising Sun-Well Fleet/Earthy's

In summary, the difference-of-proportion test employing the seven tavern assemblages indicated greater differences among the assemblages than previously noted. In fact, such a great range of variability was noted, that the concept of a Mid-Atlantic tavern artifact pattern or even a rural versus urban artifact pattern must be questioned.

VESSEL LEVEL ANALYSIS

Only the Wellfleet tavern ceramic assemblage had been analyzed at the vessel level; therefore, intersite comparisons used residential sites of comparable age (John Hicks and Bray), two documented slave occupied sites of comparable occupation period (Littleton, Kingsmill Quarter), and one residential site (Whitten Road) within close proximity to the Ogletown Tavern. The site assemblages were compared on the basis of the proportions of hollowwares and flatwares (Figure 52), storage/preparation and serving vessel proportions (Figure 53) and cups and drinking vessel proportions (Figure 54). Table 23 shows the artifact frequencies used in the analysis. The goal of the comparisons was to compare and contrast the Ogletown assemblage with general trends and characteristics of eighteenth century ceramic vessel use and function originally identified by Otto (1975), and further described by Kelso (1984). These studies analyzed vessel form frequencies in order to identify differences in lifestyle across economic and social classes through time (Kelso 1984). At most residential sites, the flatware/hollowware ratio is indicative of food consumption of roasted prime meat cuts versus stews or porridges by the site's inhabitants. In this relationship, a high percentage of distribution of flatware is assumed to represent a higher status site or a prosperous economic climate over a range of sites occupied by varied economic classes.

Table 24 shows the results of a series of paired difference-of-proportion tests among the seven sites with respect to percentages of flatware, hollowware, storage/preparation vessels, serving vessels, cups, and mugs and jugs. These systematic percentage comparisons were thought to be more revealing than simple ratio comparisons. There is a preponderance of significant percentage differences; however, there are also numerous similarities among the assemblages. Table 25 shows rankings of the sites for each vessel form category and Table 26 shows the frequencies of significant similarities among each pair of sites; higher values indicate sites that are most similar. Out of 126 pair-wise comparisons, approximately 65% shows significant differences. Again it should be noted that the results of the difference-of-proportion tests show results very different from those obtained from simple ratio comparisons. The groupings obtained by the difference-of-proportion tests also differ widely from visual bar graph comparisons.

FIGURE 52
Comparison of Percentages of Flatwares to Hollowwares

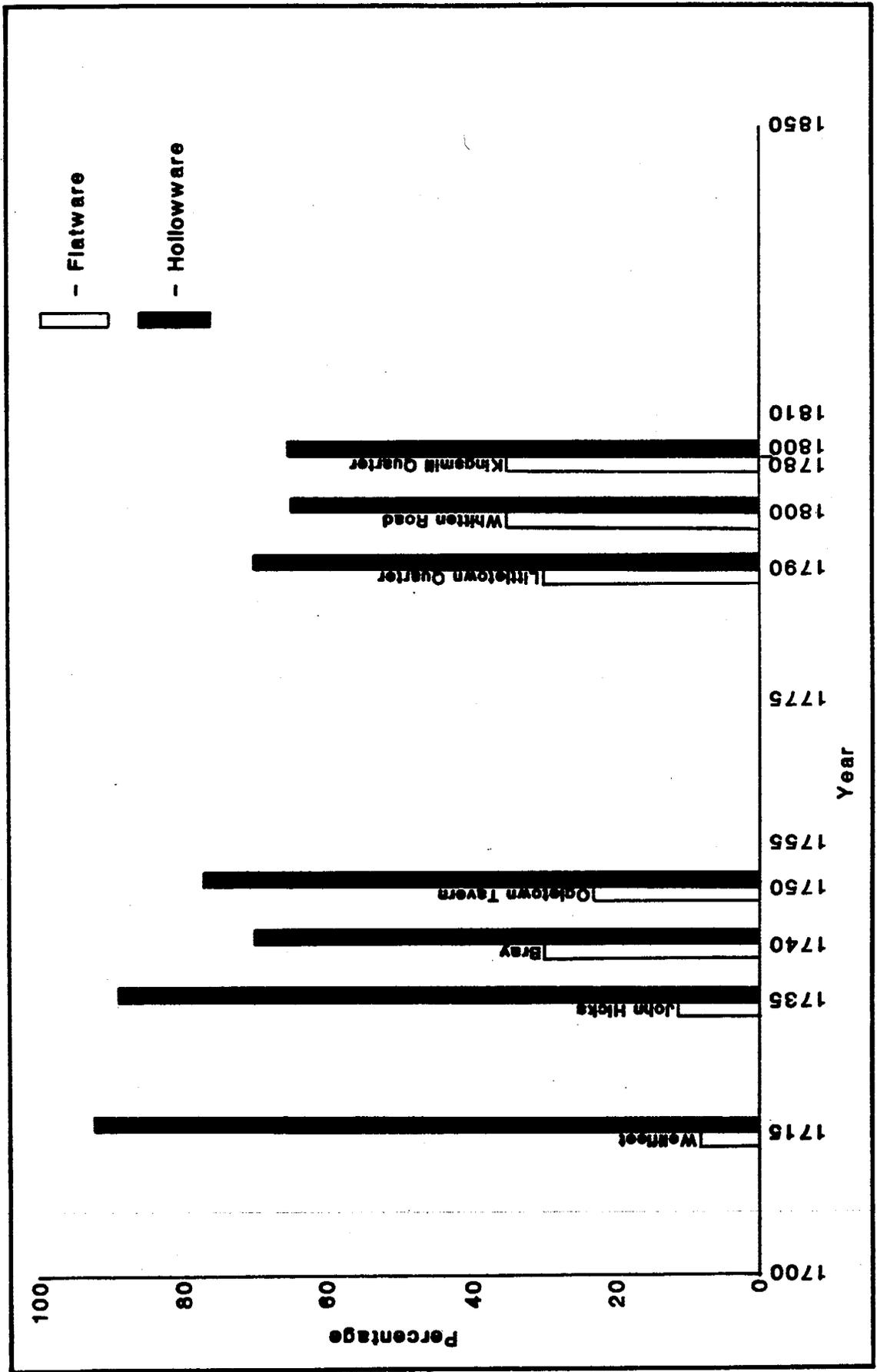


FIGURE 53

Comparison of Percentages of Storage/Preparation Vessels to Serving Vessels

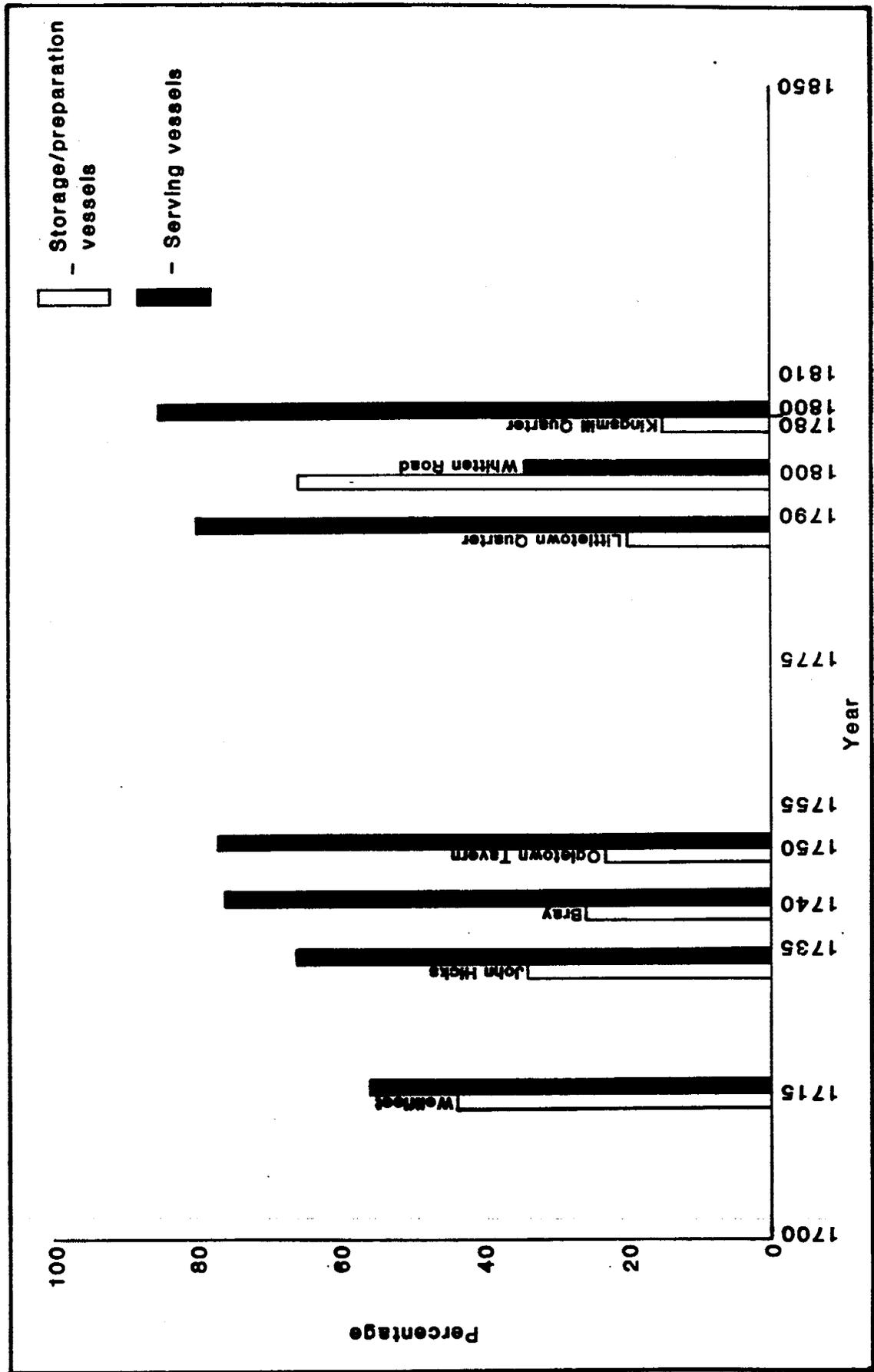


FIGURE 54
Comparison of Percentages of Cups and Drinking Vessels to Serving Vessels

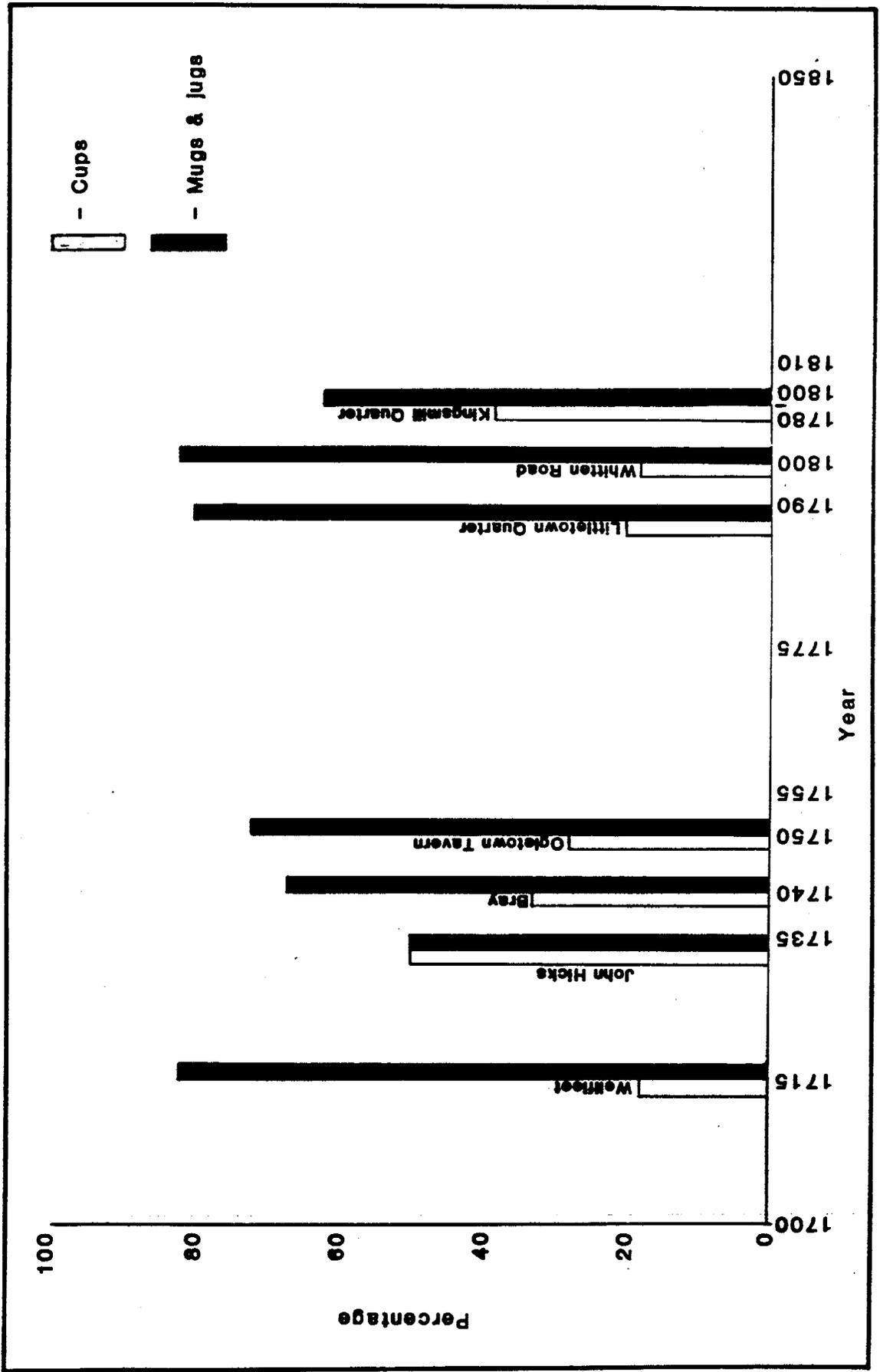


TABLE 23

FREQUENCIES OF VESSEL FORMS AT SEVERAL TAVERN SITES

Sites	Flatware	Hollowware	Storage/ Preparation	Serving	Cups	Mugs and Jugs
Well Fleet	33 (14%)	207 (86%)	98 (41%)	142 (59%)	16 (17%)	80 (83%)
John Hicks	44 (16%)	233 (84%)	87 (32%)	181 (68%)	58 (50%)	59 (50%)
Bray	35 (30%)	81 (70%)	28 (27%)	76 (73%)	13 (39%)	20 (61%)
Ogletown	62 (23%)	204 (77%)	56 (23%)	186 (77%)	29 (28%)	73 (72%)
Littleton	23 (30%)	53 (70%)	15 (20%)	59 (80%)	5 (19%)	21 (81%)
Whitten Road	118 (41%)	168 (59%)	104 (52%)	95 (48%)	37 (71%)	15 (29%)
Kingsmill	63 (34%)	123 (66%)	23 (15%)	134 (85%)	20 (31%)	44 (69%)

TABLE 24

VESSEL FORM COMPARISONS - DIFFERENCE-OF-PROPORTION TESTS

	Flatware	Holloware	Storage/ Preparation	Serving	Cups	Mugs and Jugs
Well./Hicks	.68	.68	1.95	1.95	5.02*	5.02*
Well./Bray	3.69*	3.69*	2.46*	2.46*	2.69*	2.70*
Well./Ogle.	2.75*	2.75*	4.16*	4.16*	1.97*	1.97*
Well./Little.	3.28*	3.28*	3.22*	3.22*	5.31*	.31
Well./Whitten	6.95*	6.95*	2.39*	2.39*	6.60*	6.60*
Well./Kings.	4.93*	4.93*	5.54*	5.54*	2.16*	2.16*
Hicks/Bray	3.22*	3.22*	1.04	1.03	1.03	1.03
Hicks/Ogle.	2.18*	2.18*	2.34*	2.34*	3.19*	3.19*
Hicks/Little.	2.83*	2.83*	2.03*	2.03*	2.82*	2.82*
Hicks/Whitten	6.64*	6.64*	4.30*	4.30*	2.61*	2.61*
Hicks/Kings.	4.50*	4.50*	4.04*	4.04*	2.37*	2.37*
Bray/Ogle.	1.41	1.41	.75	.75	1.18	1.18
Bray/Little.	.13	.13	1.02	1.02	1.67	1.67
Bray/Whitten	2.07*	2.07*	4.22*	4.22*	2.89*	2.90*
Bray/Kings.	.67	.67	2.45*	2.45*	.80	.80
Ogle./Little.	1.23	1.24	.52	.52	4.95*	.95
Ogle./Whitten	4.49*	4.49*	6.33*	6.33*	5.07*	5.06*
Ogle./Kings.	2.47*	2.47*	2.08*	2.08*	.38	.39
Little./Whitten	1.74	1.74	4.74*	4.73*	4.34	4.34*
Little./Kings.	.56	.56	1.08	1.08	1.15	1.15
Whitten/Kings.	1.61	1.61	7.36*	7.36*	4.27*	4.28*

*Test Value > 1.96, $p < .05$

KEY:

Well. - Well Fleet
Hicks - John Hicks
Ogle. - Ogletown
Little. - Littletown
Whitten - Whitten Road
Kings. - Kingsmill

TABLE 25

RANKINGS OF SITES BY VESSEL FORM CATEGORIES

	Flatware	Hollowware	Storage/ Preparation	Serving	Cups	Mugs and Jugs
Most	Whitten Kingsmill Littletown Bray Ogletown	Well Fleet John Hicks Ogletown Bray Littletown Kingsmill Whitten	Whitten Well Fleet John Hicks Bray Ogletown Littletown	Kingsmill Littletown Ogletown Bray John Hicks Well Fleet Whitten	Whitten John Hicks Bray Kingsmill Ogletown Littletown	Well Fleet Littletown Ogletown Kingsmill Bray John Hicks Whitten
Least	John Hicks Well Fleet					

KEY:

] - Brackets list similar sites

TABLE 26

SUMMARY OF SIGNIFICANT SIMILARITIES
AMONG VESSEL FORM COMPARISONS

WF	--						
H	3	--					
O	0	2	--				
L	1	0	3	5	--		
WR	1	1	2	2	2	--	
KM	0	0	4	5	4	2	--
	WF	H	B	O	L	WR	KM

KEY

WF - WellFleet Tavern L - Littleton
H - Hicks Tavern WR - Whitten Road
O - Ogletown Tavern KM - Kings Mill Quarter
Generally, it appears that the tavern assemblages are most

similar not to themselves, but to high status sites, Wellfleet with Hicks (three similarities) and Ogletown with Bray (four similarities). The Ogletown Tavern is also very similar to the Bray and Littleton Quarter sites and similar, but less so, to the Kingsmill site (two similar variables). The most distinctive site identified by the analysis was the Whitten Road Site which contained anomalously high percentages of flatwares, storage/preparation vessels, and cups.

In the specific flatware/hollowware comparison two groups of similar sites are obvious from Table 25. Hicks and Wellfleet group together based on their low percentage of flatwares and corresponding high percentage of hollowwares. The other group of assemblages exhibit flatware/hollowware ratios ranging around 2:1. This supports the observation by Kelso (1984) that in the eighteenth century the hollowware/flatware ratio becomes 2:1 and is consistent for both landowner, slave, and tenant-occupied sites. Based on this analysis, it appears that site function or economic status has a variable effect on the flatware/hollowware ratio.

When the storage/preparation versus serving vessels are compared between assemblages a different grouping of sites was obvious. Four separate assemblage groupings were noted based on storage/preparation vessels and three groups of assemblages based on similar percentages of serving vessels. The grouping of the two high status sites (Hicks and Bray) is again significant as is the anomalous percentages at the Kingsmill Quarter and Whitten

Road sites. Based on the known socio-economic data on these sites which indicates low status occupants, these differences are greater than expected. The grouping of the Littleton Quarter with the Ogletown Tavern is unusual and difficult to explain. It is possible that functional factors at the Ogletown Tavern and economic factors at Littleton produced the similarity. The mixture of slave, white tenant, owner-occupied, and commercial sites seems to indicate that based on this vessel type ratio, no significant pattern differences exist that can be linked to overall site function or status.

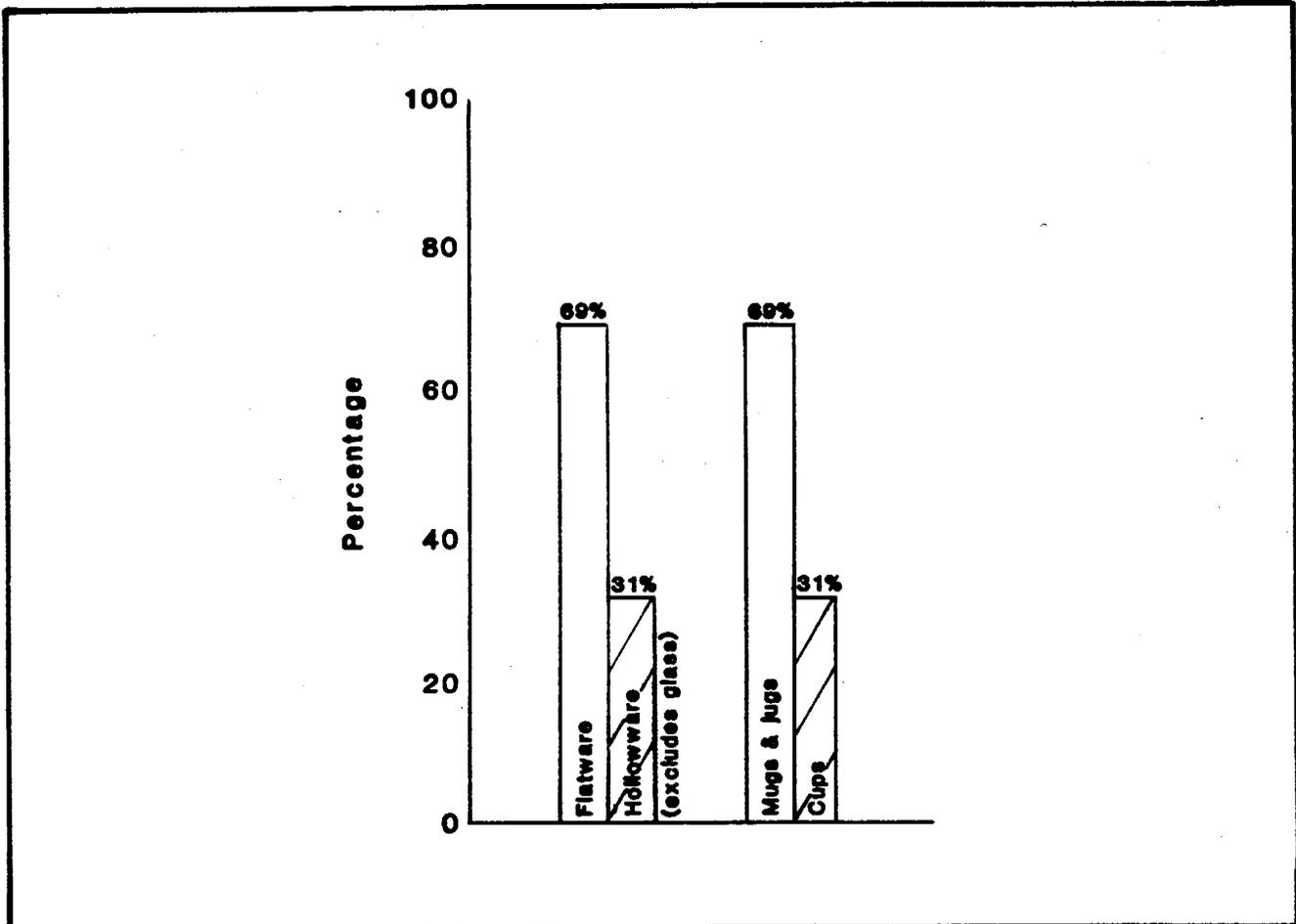
When the ranking of sites based on cups vs. mugs and jugs is examined, groupings different than the previous two analyses are produced. Different groupings of sites were also noted for cups and mugs, and jugs. Within cups, the upper class Hicks and Bray sites group together due to their common significantly high percentage of cups. The Whitten Road assemblage again is anomalous due to a very high percentage of cups. There is a significant grouping of the tavern assemblages (Wellfleet and Ogletown) and slave sites (Kingsmill Quarter and Littleton Quarter) based on their similar low percentages of cups and high percentages of mugs and jugs. It appears from this analysis that these vessel forms most accurately characterize the true social conditions of the sites' occupants and/or the function of the site. While the Wellfleet assemblage contains an anomalously high percentage of mugs and jugs to cups, a 1:4 ratio in fact, especially when compared to the 1:2 ratio for the Ogletown Tavern, those sites seem to form the parameters of a functionally and socio-economically distinct assemblage grouping. Further comparative research based on these vessel forms will most likely yield the most significant results.

DELAWARE TAVERN RECORDS AND OGLETOWN TAVERN ASSEMBLAGE COMPARISON

The final analysis to be discussed was a comparison of the archaeological artifact assemblage and the assemblage expected based on the tavern records research. In order to make such a comparison possible, bar graphs identical to those used in the inter-site artifact comparisons were generated from the archival data (Figure 55). Table 27 shows flatwares, hollowware, and cups and drinking vessel proportions based on an average percentage distribution obtained from Table 23. Significant differences are noted between the archive and archaeological assemblages with respect to flatware and hollowware vessel forms, but no differences are noted with respect to cups, mugs, and jugs. The comparison of flatware/hollowware ratios between the Ogletown Tavern assemblage (Figure 52) and the documentary derived percentages shows an almost perfect inverse relationship of an excavated assemblage approximately 1:3 and a documentary ratio of 2:1. Thus, a significantly lower number of flatware vessels were recovered from the excavation than would have been expected based on archival research. The reason for the discrepancy can be traced to the extensive presence of use of pewter as a flatware form in all tavern inventories sampled. Pewter plates would be

FIGURE 55

Vessel Data from Tavern Inventory Research



very unlikely to be included within the archaeological assemblage and the flatware percentages of the archaeological assemblage are thus unrealistically lowered. When the archivally derived cup/drinking vessel ratio is compared to the archaeologically assemblage ratio (Figure 54), an almost identical percentage distribution was noted with an archivally derived ratio of 31% cups, 69% drinking vessels versus an archaeological distribution of 28% cups and 72% drinking vessels. This almost perfect correlation between the two information sources can be related to the almost exclusive presence of cups and drinking vessels of earthenware or other ceramic types as noted in the inventories. Unlike pewter, these forms would be highly susceptible to breakage and incorporation in the future archaeological assemblage. Therefore, based on archival documents, the Ogletown Tavern assemblage represents an almost exact sample of the true distribution of these forms present historically in Delaware taverns and it is unlikely that the Feature 1 fill was derived from a non-tavern context.